Industria y Comercio

SUPERINTENDENCIA

QP

Delegatura de propiedad Industrial

División de Nuevas Creaciones

PCT

SOLICITUD

PATENTE DE INVENCIÓN

21 **EXPEDIENTE No** 06-30672

54 **TÍTULO** INSECTICIDA AGRICOLA / HORTICOLA Y METODO PARA USO DEL MISMO

51 **CLASIFICACIÓN INTERNACIONAL**

71 **SOLICITANTE** MITSUI CHEMICALS, INC.

DOMICILIO Tokio, Japón

74 **APODERADO** EMILIO FERRERO
cc 438 019 de Usaquén

22 **BOGOTÁ, D C,**

(FORMA P 10)

Industria y Comercio
SUPERINTENDENCIA

PETITORIO

SUPERINDUSTRIA Y COMERCIO
Radicacion : 06630672 00000000 Folios: 597
Fecha (AMD): 2006-01-28 17:18:12
Tramite : 011 PCT-PATENT 378 FASE NACI 411 PRESENTA
Dependencia: 2020 DIVISION DE NUEVAS CREACIONES

FORMULARIO UNICO DE SOLICITUD DE PATENTE PCT ENTRADA EN FASE NACIONAL

SOLICITUD DE:

1. ☒ Patente de Invención. ☐ Patente de Modelo de Utilidad.
☒ Capítulo I. ☐ Capítulo II.

2. SOLICITANTE (71)

Nombre: **MITSUI CHEMICALS, INC.** sociedad constituida y existente bajo las leyes del Japón.

Dirección: 5-2, Higashi-Shimbashi 1-chome Minato-Ku, Tokio 105-7171 Japón

Domicilio: Tokio, Japón

IDENTIFICACIÓN
C.C. ☐ NIT ☐
C.E. ☐ Otro ☐
Cual ____
Número ____

3. REPRESENTANTE O APODERADO

Nombre: EMILIO FERRERO
Dirección: Carrera 4ª. No. 72-35
Teléfono: 347 36 11
Fax: 211 86 50
E-mail: clientes@camvp.com.
Domicilio: Bogotá, Colombia.

IDENTIFICACIÓN
C.C. ☒ NIT ☐
C.E. ☐ Otro ☐
Cual ____
Número 438.019 T.P 31.929

4. INVENTOR (ES) (72)

1. **KEI YOSHIDA**
c/o Mitsui Chemicals, Inc.
1144, Togo, Mobara-shi
Chiba 297-0017
Japón
2. **TAKEO WAKITA**
c/o Mitsui Chemicals, Inc.
1144, Togo, Mobara-shi
Chiba 297-0017
Japón
3. **HIROYUKI KATSUTA**
c/o Mitsui Chemicals, Inc.
1144, Togo, Mobara-shi
Chiba 297-0017
Japón
4. **AKIYOSHI KAI**
c/o Mitsui Chemicals, Inc.
1144, Togo, Mobara-shi
Chiba 297-0017
Japón
5. **YUTAKA CHIBA**
c/o Mitsui Chemicals, Inc.
1144, Togo, Mobara-shi
Chiba 297-0017
Japón
6. **KIYOSHI TAKAHASHI**
c/o Mitsui Chemicals, Inc.
1144, Togo, Mobara-shi
Chiba 297-0017
Japón
7. **HIROKO KATO**
c/o Mitsui Chemicals, Inc.
1144, Togo, Mobara-shi
Chiba 297-0017
Japón
8 **NOBUYUKI KAWAHARA**
c/o Mitsui Chemicals, Inc.
1144, Togo, Mobara-shi
Chiba 297-0017
Japón
9. **MICHIKAZU NOMURA**
c/o Mitsui Chemicals, Inc.
1144, Togo, Mobara-shi
Chiba 297-0017
Japón
10. **HIDENORI DAIDO**
c/o Mitsui Chemicals, Inc.
1144, Togo, Mobara-shi
Chiba 297-0017
Japón
11. **JUNJI MAKI**
c/o Mitsui Chemicals, Inc.
1144, Togo, Mobara-shi
Chiba 297-0017
Japón
12. **SHINICH BANBA**
c/o Mitsui Chemicals, Inc.
1144, Togo, Mobara-shi
Chiba 297-0017
Japón
13. **ATSUKO KAWAHARA**
c/o Mitsui Chemicals, Inc.
1144, Togo, Mobara-shi
Chiba 297-0017
Japón

5 **PCT (86)**
Solicitud Internacional No. PCT/JP2004/012416 Fecha: 23 de agosto de 2004
Publicación Internacional No. WO 2005/021488 A1 Fecha: 10 de marzo de 2005

6 **Título (54)**
INSECTICIDA AGRÍCOLA/HORTICOLA Y METODO PARA USO DEL MISMO

7 **Clasificación Internacional (51)** C07C 271/28

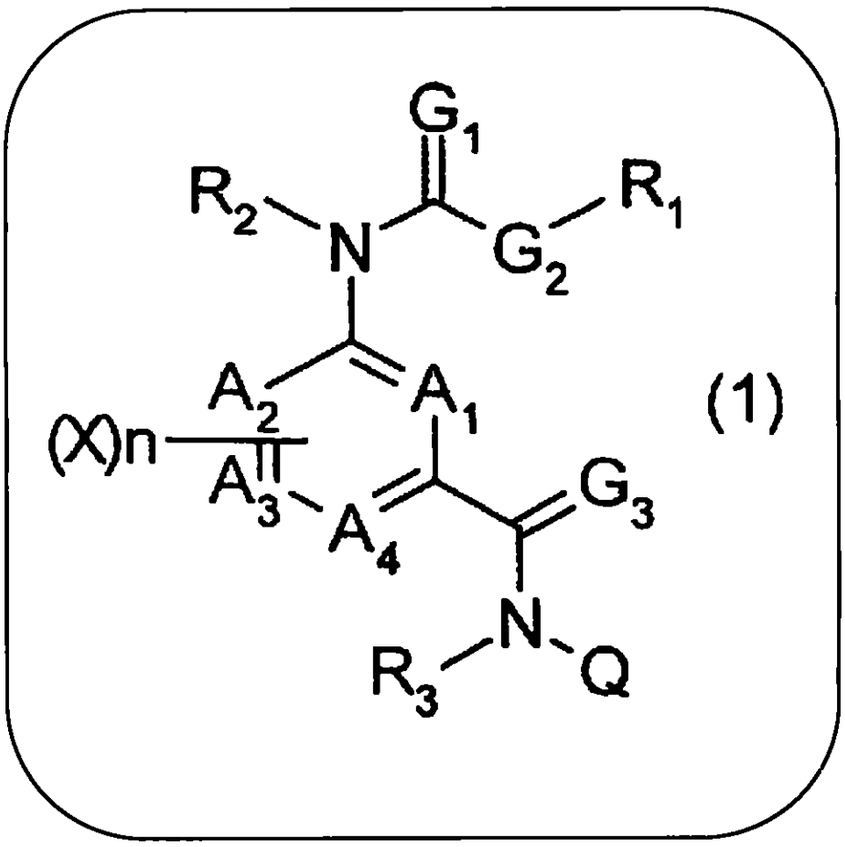
8 **Prioridad** SI☒ NO☐	(33) País de Origen	(32) Fecha	(31) Número de Solicitud
	JP	29 de agosto de 2003	2003/305816

9 **Comprobante de pago No.:** 06 – 19.917 **Fecha:** marzo de 2006

10 **Anexos:**

- ☒ Comprobante de pago de la tasa de presentación de la solicitud por $ 463.000.oo.
- ☐ Comprobante de pago por reivindicación de prioridad.
- ☒ Documento que acredita la existencia y representación legal cuando el solicitante sea persona jurídica.
- ☒ Poderes, si fuere el caso.
- ☐ Documento de cesión del inventor al solicitante o a su causante.
- ☐ Declaraciones.
- ☒ Copia de la solicitud internacional. (Resumen, descripción, reivindicaciones, dibujos)
- ☒ Traducción de la solicitud internacional al castellano. (Resumen, descripción, reivindicaciones, dibujos)
- ☐ Copia del examen preliminar efectuado por la IPEA.
- ☐ Traducción del examen preliminar efectuado por la IPEA.
- ☐ De ser el caso, copia del contrato de acceso.
- ☐ De ser el caso, documento que acredite la licencia o autorización de uso de conocimientos tradicionales de las comunidades indígenas.
- ☐ De ser el caso, certificado de depósito del material biológico.
- ☒ Arte final 12x12
- ☐ De ser el caso, información sobre otras solicitudes de patente o títulos obtenidos en el extranjero por el mismo titular o su causante, relacionadas parcial o totalmente con la invención de esta solicitud.
- ☒ Otros: VER HOJA DE DOCUMENTOS ANEXOS

(11) **FIGURA CARACTERÍSTICA**



(1)

(12) Solicito la concesión de la patente,

NOMBRE: EMILIO FERRERO

FIRMA : _____

C.C. 438.019 de Usaquén T.P. 31.929

ZCA/mrm-Id-26

4

OK

CAVELIER ABOGADOS
EDIFICIO SISKI
CARRERA 4a Nº 72-35
BOGOTA 8 -
COLOMBIA

Representación y Poder con autenticación notarial y Apostille para patentes, modelos de utilidad, diseños industriales, marcas de fábrica, nombres comerciales, enseñas, nombres de dominio, lemas comerciales, licencias.

Representation and Power-of-Attorney with notarial authentication and Apostille for patents, utility models, industrial designs, trademarks, commercial names, trade emblems, domain names, slogans, licenses.

REPRESENTACION Y PODER

REPRESENTATION AND POWER- OF-ATTORNEY

11464
0137

Yo (nosotros), abajo firmado (s)/I (we), the undersigned

MITSUI CHEMICALS, INC.

domiciliado (s) en/of 1-5-2, Higashi-Shimbashi,
Minato-ku, Tokyo 105-7117, Japan

por el presente nombramos a EMILIO FERRERO, tpa 31929; GONZALO PERDOMO. tpa. 831; LUZ CLEMENCIA DE PAEZ, tpa.23555 y GERMAN CAVELIER, tpa. 832, domiciliados en la Carreta 4a Nº 72-35, Bogotá, Colombia, en obedecimiento a lo dispuesto en el parágrafo 1º. del Articulo 543 del Código de Comercio, el primero como principal y los demás como suplentes, en su orden, como mis (nuestros) representantes en todos los asuntos de propiedad industrial con facultad para recibir notificaciones y nombrar apoderados judiciales o extrajudiciales. El primer representante suplente reemplazará al principal en caso de ausencia o impedimento temporal o definitivo de aquél. La misma regla se aplicará cuando el segundo representante suplente haya de reemplazar al primero, o el tercero al segundo. En tales casos, el representante principal, o el primero, o segundo suplente, en su caso, o ambos, declararán su intención de no ejercer la representación mediante declaración autenticada por Notario Público en Colombia, o por Notario u otro Funcionario Público, o Cónsul de Colombia, en el extranjero; y si se tratare de impedimento, con el certificado respectivo. Si alguno de los nombrados faltare definitivamente, el siguiente tomará su lugar. Cuando cesare la ausencia o impedimento del representante principal, o de su primero o segundo suplentes, en su caso, podrán ejercer la representación, en su orden, uno u otros según el caso, asumiéndola por el solo hecho de ejercerla, cesando en ese momento el ejercicio de la representación por el primero, segundo o tercer suplente en su caso. Además, confiero (conferimos) poder a los abogados arriba nombrados, para obtener la protección de mi (nuestra) propiedad industrial y contra la competencia desleal, a cuyo efecto autorizo (amos) a los dichos apoderados para que me (nos) representen ante cualesquiera entidades o personas, ejerzan o no jurisdicción, especialmente ante las del orden administrativo, contencioso- administrativo y judicial, así como los tribunales de arbitramento, en todo lo concerniente a los siguientes asuntos: a) Obtención de patentes de invención, modelos de utilidad y diseños industriales; el registro de marcas de fábrica, colectivas, defensivas, de servicio, lemas comerciales, nombres comerciales, enseñas, nombres de dominio, variedades vegetales y denominaciones de origen; su renovación, traspaso, cambio de nombre o domicilio, cancelación voluntaria; y el registro de licencias de uso de esos derechos; b) Las acciones de competencia desleal, protección del consumidor, oposiciones u observaciones, cancelación administrativa y judicial. nulidad, medidas cautelares, concesión de licencias, la tutela, la protección de secretos industriales, y en general los juicios civiles, penales, administrativos o contencioso administrativos

in due compliance with the terms of paragraph 1st. of article 543 of the Commercial Code, do hereby appoint EMILIO FERRERO, tpa 31929; GONZALO PERDOMO, tpa. 831; LUZ CLEMENCIA DE PAEZ, tpa 23555 and GERMAN CAVELIER, tpa. 832, domiciled at Carrera 4a Nº 72 35, Bogotá, Colombia, the first as principal and the others as alternates, in the order of their appointment, as our representatives for all industrial property matters with faculty to receive notifications and to appoint attorneys in and out of Court. The first alternate shall replace the principal in case of his absence or of temporal or definitive impediment. The same rule will apply when the second alternate representative is to replace the first one, or when the third is to replace the first or second alternates in their turn, or both of them, second. In such cases, the principal representative, or the first or second alternates in their turn, or both of them, shall state their intention not to act as representatives through a declaration given before a Notary Public in Colombia, or before a Notary or another Public Official or a Colombian Consul abroad; and in case of impediment, the appropriate certificate shall suffice. If any of the appointees were to be definitely absent, the following alternate shall take his place. When the absence or impediment of the principal representative, or of the first or second alternate in their turn ceases, the representation will be taken again in their sequence, by the principal, the first or second, depending on case, and the mere fact or its exercise will cause the exercise of the representation by the first, second or third alternate in their turn shall end at such time. In addition, we grant a Power of Attorney in favor of the above named attorneys at law so that they may obtain the protection of my (our) industrial property and against the unfair competition, for which purpose I (we) authorize the said attorneys to represent me (us) before any authorities or persons, with or without jurisdiction, specially those administrative, administrative contentious and judicial, as well as before Arbitration Court, in all matters concerning the following : a) Obtainment of patents, utility models and industrial designs; the registration of trademarks, collective, defensive and service marks, slongans, commercial names, trade emblems, domain names, vegetal varieties and denominations of origin; its renewal, assignment, change of name or domicile, voluntary cancellation; and the registration of licences of use of the above rights; b) Actions of unfair competition, protection to the consumer, oppositions or observations, administrative or Court cancellation, nullity, infringement, granting of licenses, the action for writ mandamus, the protection of trade secrets, and in general the civil, penal, and administrative suits

COPIA CUIDADOSAMENTE EL CIRCULO
FOTOCOPIA CONCIDE CON EL ORIGINAL
27 MAR 2006
JUEZ

CAVELTER AJOGADOS
WPPQDEDI-ISI (MJNTJTÄN°f2ÄJ.2S USA)

relacionados con estos derechos; acciones y procesos que promovamos o se nos promuevan. Y para que en todos los asuntos arriba determinados, puedan sustituir este mandato, transigir, conciliar, admitir los hechos del proceso, desistir, cancelar, recibir, renunciar, y ratificar los actos de agentes oficiosos.

instituted by me (us) or against me (us). And that in all the above matters they may substitute this Power of Attorney, compromise, conciliate, admit the facts of the case, desist, cancel, receive, resign, and ratify acts done by representatives without a power of attorney.

Dado y firmado hoy/Given and signed this December 11, 2003

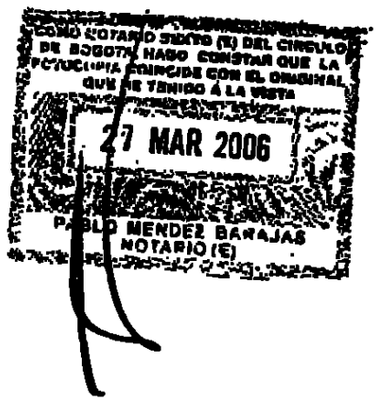
en/In Tokyo, Japan

por/by Tadashi ASANUMA

Firma

Signature

Tadashi ASANUMA
General Manager
Intellectual Property Div.



CAVELTER AJOGADOS
WPPQDEDI-ISI (MJNTJTÃN^{0}I2ÃJ.2S USA)

Registration No. 87 ,2004

N O T A R I A L C E R T I F I C A T E

I, undersigned Notary, do hereby certify that Terue GOTO an agent of Tadashi ASANUMA, General Manager, Intellectual Property Div. of MITSUI CHEMICALS, INC. being legally constituted and existing in accordance with the Laws of Japan and located at 1-5-2, Higashi-Shimbashi, Minato-ku, Tokyo, Japan who has been authorized to sign the attached document, has stated in my very presence that said Tadashi ASANUMA acknowledged himself to have signed the attached document and that his signature is true and genuine.

Dated: on this 19th day of January , 2004 , Tokyo

TOKYO LEGAL AFFAIRS BUREAU
NOTARY
1-1, 2CHOME UCHISAIWAICHO
CHIYODA-KU
TOKYO JAPAN

AKIRA
NOTARY

CONFRONTO SELLO (E) DEL CIRCULO DE BOGOTA, HAGO CONSTAR QUE LA FOTOCOPIA COINCIDE CON EL ORIGINAL QUE ME FUNDO A LA VISTA
27 MAR 2006
MENDEZ BARAJAS
NOTARIO (E)

平成１６年登簿第[illegible]７ 号

認　　証

嘱託人三井化学株式会社知的財産部長浅沼正の代理人後藤輝江は、本公証人に対し、嘱託人が別添文書に署名したことを自認している旨陳述した。

よって、これを認証する。

平成１６年　１　月　１９ 日、本公証人役場において

東京都千代田区内幸町２丁目１番１号　　霞ヶ関公証役場

東 京 法 務 局 所 属

公 証 人

Notary

木谷　明

AKIRA KITANI

証　　明

上記署名は、東京法務局所属公証人の署名に相違ないものであり、かつ、その押印は、真実のものであることを証明する。

平成１６年１　月１９ 日

東 京 法 務 局 長　　石井政治

APOSTILLE

(Convention de La Haye du 5 octobre 1961)

1. Country: JAPAN
   This public document
2. has been signed by AKIRA KITANI
3. acting in the capacity of Notary of the Tokyo Legal Affairs Bureau
4. bears the seal/stamp of AKIRA KITANI
   Certified
5. at Tokyo　　6. JAN 19 2006
7. by the Ministry of Foreign Affairs
8. 04- Nº 000781
9. Seal/stamp:　　10. Signature

CONSULTADO SEXTO (6) DEL CIRCULO DE MADRID, HAGO CONSTAR QUE LA PRESENTE COPIA COINCIDE CON EL ORIGINAL QUE ME FUERA PUESTA A LA VISTA

27 MAR 2006

PABLO MENDEZ MARAJAS NOTARIO (E)

S. Hagiwara

Shinichi HAGIWARA
For the Minister for Foreign Affairs

TRADUCCIÓN OFICIAL 073/2004 DE UN DOCUMENTO ESCRITO EN INGLÉS Y EN ESPAÑOL, REALIZADA POR EDUARDO CALADO NOGUERA, TRADUCTOR OFICIAL APROBADO POR RESOLUCIÓN 541 DEL 27 DE FEBRERO DE 1976 POR EL MINISTERIO DE JUSTICIA Y DEBIDAMENTE REGISTRADO ANTE EL MINISTERIO DE RELACIONES EXTERIORES DE LA REPÚBLICA DE COLOMBIA Y MEDIANTE EL CUAL **MITSUI CHEMICALS, INC.**, EMPRESA DOMICILIADA EN 1-5-2, HIGASHI-SHIMBASHI, MINATO-KU, TOKIO 105-7117, JAPÓN OTORGA PODER A EMILIO FERRERO, TPA 31929, GONZALO PERDOMO, TPA 831; LUZ CLEMENCIA DE PAEZ TPA 23555 Y A GERMÁN CAVELIER, TPA 832. EXPEDIDO Y FIRMADO HOY 11 DE DICIEMBRE DE 2003 EN TOKIO, JAPÓN, POR TADASHI ASANUMA. FIRMADO: TADASHI ASANUMA, GERENTE GENERAL, DIVISIÓN DE PROPIEDAD INTELECTUAL.

CERTIFICACIÓN NOTARIAL

Yo, el notario abajo firmante, por el presente certifico que Terue GOTO, agente de Tadashi ASANUMA, gerente general, División de Propiedad Intelectual de MITSUI CHEMICALS, INC, empresa legalmente constituida y existente en concordancia con las leyes del Japón y situada en 1-5-2, Higashi-Shimashi, Minato-ku, Tokio, Japón, quien ha sido autorizado para firmar el documento adjunto, ha declarado en mi presencia que Tadashi ASANUMA reconoció haber firmado el documento adjunto y que [illegible] auténtica y genuina.

ARNO SEXTO (6) DEL CIRCULO
DE TENIDO A LA VISTA
21 MAR 2000
PABLO MENDEZ BARAJAS
NOTARIO (E)

Fechado hoy 19 de enero de 2004, Tokio.

FIRMADO: AKIRA KITANI, notario

SELLO: OFICINA DE ASUNTOS JURÍDICOS DE TOKIO. NOTARIO. 1-1, 2CHOME, UCHISAIWAICHO, OHIYODA-KU, TOKIO, JAPÓN.

APOSTILLA:

(Convención de La Haya del 5 de octubre de 1961)

1. PAÍS: JAPÓN

Este documento público

2. ha sido firmado por AKIRA KITANI

3. quien actúa en su calidad de NOTARIO DE LA OFICINA DE ASUNTOS JURÍDICOS DE TOKIO

4. lleva el sello de AKIRA KITANI

CERTIFICADO

5. en TOKIO

6. el 19 de enero de 2004

7. por el Ministerio de Asuntos Exteriores

8. Número 04-000781

9. Sello: (dato en blanco)

10. Firma: Shinichi HAGIWARA, a nombre del Ministro de Asuntos Exteriores.

COLO-11464-841-001-6

WPCL002G ID 5448

Bogotá, 17 de marzo de 2004.

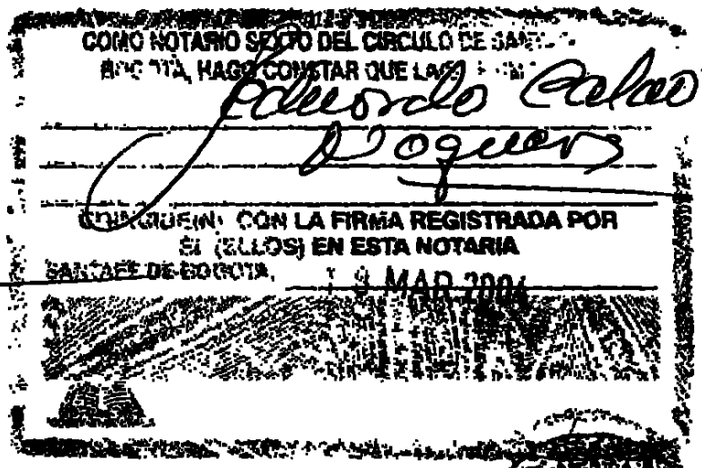
Eduardo Cabal[illegible]

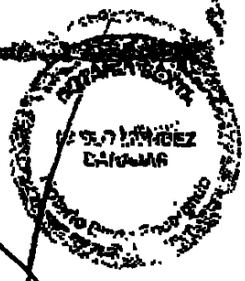
Eduardo [illegible]
"TRADUCTOR OFICIAL
INGLÉS - ESPAÑOL
Res. 54[illegible]

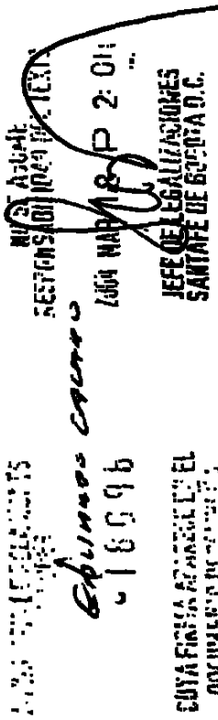
COMO NOTARIO SEXTO (E) DEL CIRCULO DE BOGOTÁ, HAGO CONSTAR QUE LA FOTOCOPIA COINCIDE CON EL ORIGINAL QUE SE TUVO A LA VISTA

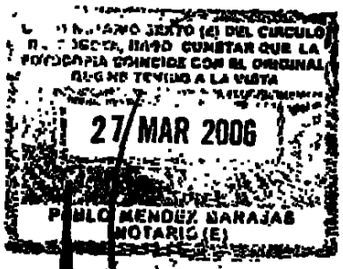
27 MAR 2006

PABLO MENDEZ BARAJAS
NOTARIO (E)


COMO NOTARIO SEXTO DEL CIRCULO DE SANTAFE
BOGOTA, HAGO CONSTAR QUE LA
QUIEN(ES) CON LA FIRMA REGISTRADA POR
SI (ELLOS) EN ESTA NOTARIA
SANTAFE DE BOGOTA, 9 MAR 2006


PABLO MENDEZ
CARAJAS


JEFE DE LEGALIZACIONES
SANTAFE DE BOGOTA D.C.
COTEJA FIRMA ANTERIOR CON EL
DOCUMENTO PRESENTADO
LAS


NOTARIA SEXTA (6) DEL CIRCULO
DE BOGOTA, HAGO CONSTAR QUE LA
FOTOCOPIA COINCIDE CON EL ORIGINAL
QUE HE TENIDO A LA VISTA
27 MAR 2006
PABLO MENDEZ CARAJAS
NOTARIO (E)

10

DOCUMENTOS ANEXOS

1. ☒ Publicación Internacional WO 2005/021488 A1
   Descripción:
   Páginas 256 en el idioma original
   Páginas 255 en español
   Reivindicaciones: 21 Número (s)

2. ☒ **Forma PCT/ISA/210.** Informe de Búsqueda Internacional.

3. ☒Extracto de publicación.

NO SE REALIZARON MODIFICACIONES EN FASE INTERNACIONAL

(12) 許協力条約に基づいて公開された国際出願

(19) 世界知的所有権機関
国際事務局

(43) 国際公開日
2005年3月10日 (10.03.2005)

PCT

(10) 国際公開番号
WO 2005/021488 A1

(51) 国際特許分類7: C07C 271/28, 327/48, 333/08, C07D 213/81, A01N 47/20

(21) 国際出願番号: PCT/JP2004/012416

(22) 国際出願日: 2004年8月23日 (23.08.2004)

(25) 国際出願の言語: 日本語

(26) 国際公開の言語: 日本語

(30) 優先権データ:
特願2003-305816 2003年8月29日 (29.08.2003) JP

(71) 出願人 (米国を除く全ての指定国について): 三井化学株式会社 (MITSUI CHEMICALS, INC.) [JP/JP]; 〒105-7117 東京都 港区 東新橋一丁目5番2号 Tokyo (JP).

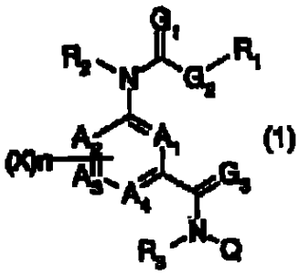
(72) 発明者; および

(75) 発明者/出願人 (米国についてのみ): 吉田 圭 (YOSHIDA,Kei) [JP/JP]; 〒297-0017 千葉県 茂原市 東郷1144 三井化学株式会社内 Chiba (JP). 脇田 健夫 (WAKITA,Takeo) [JP/JP]; 〒297-0017 千葉県 茂原市 東郷1144 三井化学株式会社内 Chiba (JP). 勝田 裕之 (KATSUTA,Hiroyuki) [JP/JP]; 〒297-0017 千葉県 茂原市 東郷1144 三井化学 式会社内 Chiba (JP). 甲斐 章義 (KAI,Akiyoshi) [JP/JP]; 〒297-0017 千葉県 茂原市 東郷1144 三井化 式会社内 Chiba (JP). 千葉 豊 (CHIBA,Yutaka) [JP/JP]; 〒297-0017 千葉県 茂原市 東郷1144 三井化 式会社内 Chiba (JP). 高橋 清 (TAKAHASHI,Kiyoshi) [JP/JP]; 〒297-0017 千葉県 茂原市 東郷1144 三井化学株式会社内 Chiba (JP). 加藤 紘子 (KATO,Hiroko) [JP/JP]; 〒297-0017 千葉県 茂原市 東郷1144 三井化学株式会社内 Chiba (JP). 河原 信行 (KAWAHARA,Nobuyuki) [JP/JP]; 〒297-0017 千葉県 茂原市 東郷1144 三井化学株式会社内 Chiba (JP). 野村 路一 (NOMURA,Michikazu) [JP/JP]; 〒297-0017 千葉県 茂原市 東郷1144 三井化学株式会社内 Chiba (JP). 大同 英則 (DAIDO,Hidenori) [JP/JP]; 〒297-0017 千葉県 茂原市 東郷1144 三井化学株式会社内 Chiba (JP). 槇 準司 (MAKI,Junji) [JP/JP]; 〒297-0017 千葉県 茂原市 東郷1144 三井化学株式会社内 Chiba (JP). 番場 伸一 (BANBA,Shinichi) [JP/JP]; 〒

/続葉有/

(54) Title: INSECTICIDE FOR AGRICULTURAL OR HORTICULTURAL USE AND METHOD OF USE THEREOF

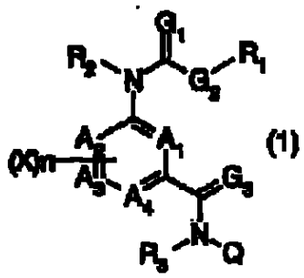
(54) 発明の名称: 農園芸用殺虫剤及びその使用方法



(57) Abstract: An insecticide represented by the following general formula (1). (Symbols in the formula are the same as defined in the description.)

(57) 要約:

本発明の目的は、下記一般式(1)で表される殺虫剤を提供することにある。(式中の記号は、明細書において定義されるとおりである。)



WO 2005/021488 A1

297-0017 千葉県 茂原市 東郷１１４４ 三井化学株式会社内 Chiba (JP). 河原 敦子 (KAWAHARA,Atsuko) [JP/JP]; 〒297-0017 千葉県 茂原市 東郷１１４４ 三井化学株式会社内 Chiba (JP).

(81) 指定国 (表示のない限り、全ての種類の国内保護が可能): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) 指定国 (表示のない限り、全ての種類の広域保護が可能): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), ユーラシア (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), ヨーロッパ (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

添付公開書類:
— 国際調査報告書

２文字コード及び他の略語については、定期発行される各PCTガゼットの巻頭に掲載されている「コードと略語のガイダンスノート」を参照。

DESCRIPTION

AGRICULTURAL/HORTICULTURAL INSECTICIDE AND METHOD FOR USING THE SAME

Technical Field

The present invention relates to compounds represented by formula (1), insecticides containing the compounds as active ingredients, a method for producing the insecticides, and a method for using the insecticides.

Background Art

PCT Japanese Translation Patent Publication No. 11-511442 discloses salicylic compounds similar to compounds of the present invention. However, compounds represented by formula (1) of the present invention do not have a salicylic skeleton, and the compounds disclosed in the above publication are clearly outside the scope of claims of the present invention.

Publication No. WO2003-22806 discloses compounds as production intermediates similar to the compounds of the present invention, but it does not disclose an activity to insects. Also, the compounds disclosed in the publication are clearly outside the scope of claims of the present invention.

J. Org. Chem. 142 (1966) discloses compounds as production intermediates similar to the compounds of the present invention, but it does not disclose an activity to insects. Also, the compounds disclosed in the publication are clearly outside the scope of claims of the present invention.

J. Am. Chem. Soc. 6382 (2000) discloses compounds as production intermediates similar to the compounds of the present invention, but it does not disclose an activity to insects. Also, the compounds disclosed in the publication are clearly outside the scope of claims of the present invention.

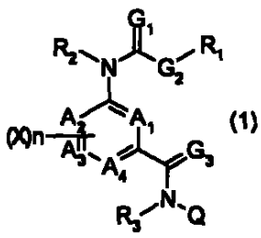
Disclosure of Invention

An object of the present invention is to provide insecticides having high effectiveness.

As a result of intensive research for achieving the object, the inventors found that the compounds of the present invention are novel compounds not disclosed in any document and have an excellent insecticidal effect, and the compounds can be used as new insecticides. It is also found that intermediates in production of the compounds of the present invention are not disclosed in any document and are useful production intermediates. The present invention has been achieved based on these findings.

The present invention provides compounds represented by the following formulae:

[1] Compounds represented by formula (1)



(1)

wherein A_1, A_2, A_3, and A_4 independently represent a carbon atom, a nitrogen atom, or an oxidized nitrogen atom; R_1 represents a C1-C6

alkyl group which may be substituted, a phenyl group which may be substituted, or a heterocyclic group which may be substituted; R_2 and R_3 independently represent a hydrogen atom, a C1-C4 alkyl group which may be substituted, or a C1-C4 alkylcarbonyl group which may be substituted; G_1, G_2, and G_3 independently represent an oxygen atom or a sulfur atom; Xs may be the same or different and each represent a hydrogen atom, a halogen atom, a C1-C4 alkyl group which may be substituted, or an amino group which may be substituted; n represents an integer of 0 to 4; Q represents a phenyl group which may be substituted, a naphthyl group which may be substituted, a tetrahydronaphthyl group which may be substituted, or a heterocyclic group which may be substituted.

[2] Compounds represented by formula (1) wherein A_1, A_2, A_3, and A_4 independently represent a carbon atom, a nitrogen atom, or an oxidized nitrogen atom; R_1 represents the following:

a C1-C6 alkyl group,

a C1-C6 haloalkyl group,

a C2-C6 alkenyl group,

a C2-C6 haloalkenyl group,

a C2-C6 alkynyl group,

a C2-C6 haloalkynyl group,

a C3-C6 cycloalkyl group,

a C3-C6 halocycloalkyl group,

a phenyl group,

a substituted phenyl group having one or more substituents which may be the same or different and which are selected from a halogen atom, a C1-C6 alkyl group, a C1-C6 haloalkyl group, a C3-C8

cycloalkyl group, a C3-C8 halocycloalkyl group, a C1-C6 alkoxy group, a C1-C6 haloalkoxy group, a C1-C6 alkylthio group, a C1-C6 haloalkylthio group, a C1-C6 alkylsulfinyl group, a C1-C6 haloalkylsulfinyl group, a C1-C6 alkylsulfonyl group, a C1-C6 haloalkylsulfonyl group, a cyano group, a nitro group, a hydroxyl group, a pentafluorosulfanyl group, a C1-C4 alkylcarbonyl group, a C1-C4 haloalkylcarbonyl group, a C1-C4 alkylcarbonyloxy group, and a C1-C4 alkoxycarbonyl group,

a naphthyl group,

a substituted naphthyl group having one or more substituents which may be the same or different and which are selected from a halogen atom, a C1-C6 alkyl group, a C1-C6 haloalkyl group, a C3-C8 cycloalkyl group, a C3-C8 halocycloalkyl group, a C1-C6 alkoxy group, a C1-C6 haloalkoxy group, a C1-C6 alkylthio group, a C1-C6 haloalkylthio group, a C1-C6 alkylsulfinyl group, a C1-C6 haloalkylsulfinyl group, a C1-C6 alkylsulfonyl group, a C1-C6 haloalkylsulfonyl group, a cyano group, a nitro group, a hydroxyl group, a pentafluorosulfanyl group, a C1-C4 alkylcarbonyl group, a C1-C4 haloalkylcarbonyl group, a C1-C4 alkylcarbonyloxy group, and a C1-C4 alkoxycarbonyl group,

a heterocyclic group (which represents a pyridyl group, a pyridine-N-oxide group, a pyrimidinyl group, a pyridazyl group, a furyl group, a tetrahydrofuryl group, a thienyl group, a tetrahydrothienyl group, a tetrahydropyranyl group, an oxazolyl group, an isoxazolyl group, an oxadiazolyl group, a thiazolyl group, an isothiazolyl group, a thiadiazolyl group, a pyrrole group, an imidazolyl group, a triazolyl group, a pyrazolyl group,

or a tetrazolyl group),

a substituted heterocyclic group (which represents a pyridyl group, a pyridine-N-oxide group, a pyrimidinyl group, a pyridazyl group, a furyl group, a tetrahydrofuryl group, a thienyl group, a tetrahydrothienyl group, a tetrahydropyranyl group, an oxazolyl group, an isoxazolyl group, an oxadiazolyl group, a thiazolyl group, an isothiazolyl group, a thiadiazolyl group, a pyrrole group, an imidazolyl group, a triazolyl group, a pyrazolyl group, or a tetrazolyl group) having one or more substituents which may be the same or different and which are selected from a halogen atom, a C1-C6 alkyl group, a C1-C6 haloalkyl group, a C3-C8 cycloalkyl group, a C3-C8 halocycloalkyl group, a C1-C6 alkoxy group, a C1-C6 haloalkoxy group, a C1-C6 alkylthio group, a C1-C6 haloalkylthio group, a C1-C6 alkylsulfinyl group, a C1-C6 haloalkylsulfinyl group, a C1-C6 alkylsulfonyl group, a C1-C6 haloalkylsulfonyl group, a cyano group, a nitro group, a hydroxyl group, a pentafluorosulfanyl group, a C1-C4 alkylcarbonyl group, a C1-C4 haloalkylcarbonyl group, a C1-C4 alkylcarbonyloxy group, and a C1-C4 alkoxycarbonyl group,

$-E_1-Z_1-R_4$

(wherein E_1 represents a C1-C4 alkylene group, a C2-C4 alkenylene group, a C3-C4 alkynylene group, a C1-C4 haloalkylene group, a C2-C4 haloalkenylene group, or a C3-C4 haloalkynylene group; R_4 represents a hydrogen atom, a C1-C6 alkyl group, a C2-C6 alkenyl group, a C2-C6 alkynyl group, a C1-C6 haloalkyl group, a C2-C6 haloalkenyl group, a C2-C6 haloalkynyl group,

a C3-C8 cycloalkyl group,

a C3-C8 halocycloalkyl group,

a phenyl group,

a substituted phenyl group having one or more substituents which may be the same or different and which are selected from a halogen atom, a C1-C6 alkyl group, a C1-C6 haloalkyl group, a C3-C8 cycloalkyl group, a C3-C8 halocycloalkyl group, a C1-C6 alkoxy group, a C1-C6 haloalkoxy group, a C1-C6 alkylthio group, a C1-C6 haloalkylthio group, a C1-C6 alkylsulfinyl group, a C1-C6 haloalkylsulfinyl group, a C1-C6 alkylsulfonyl group, a C1-C6 haloalkylsulfonyl group, a cyano group, a nitro group, a hydroxyl group, a pentafluorosulfanyl group, a C1-C4 alkylcarbonyl group, a C1-C4 haloalkylcarbonyl group, a C1-C4 alkylcarbonyloxy group, and a C1-C4 alkoxycarbonyl group,

a naphthyl group,

a substituted naphthyl group having one or more substituents which may be the same or different and which are selected from a halogen atom, a C1-C6 alkyl group, a C1-C6 haloalkyl group, a C3-C8 cycloalkyl group, a C3-C8 halocycloalkyl group, a C1-C6 alkoxy group, a C1-C6 haloalkoxy group, a C1-C6 alkylthio group, a C1-C6 haloalkylthio group, a C1-C6 alkylsulfinyl group, a C1-C6 haloalkylsulfinyl group, a C1-C6 alkylsulfonyl group, a C1-C6 haloalkylsulfonyl group, a cyano group, a nitro group, a hydroxyl group, a pentafluorosulfanyl group, a C1-C4 alkylcarbonyl group, a C1-C4 haloalkylcarbonyl group, a C1-C4 alkylcarbonyloxy group, and a C1-C4 alkoxycarbonyl group,

a heterocyclic group (which represents a pyridyl group, a pyridine-N-oxide group, a pyrimidinyl group, a pyridazyl group, a

furyl group, a tetrahydrofuryl group, a thienyl group, a tetrahydrothienyl group, a tetrahydropyranyl group, an oxazolyl group, an isoxazolyl group, an oxadiazolyl group, a thiazolyl group, an isothiazolyl group, a thiadiazolyl group, a pyrrole group, an imidazolyl group, a triazolyl group, a pyrazolyl group, or a tetrazolyl group), or

a substituted heterocyclic group (which represents a pyridyl group, a pyridine-N-oxide group, a pyrimidinyl group, a pyridazyl group, a furyl group, a tetrahydrofuryl group, a thienyl group, a tetrahydrothienyl group, a tetrahydropyranyl group, an oxazolyl group, an isoxazolyl group, an oxadiazolyl group, a thiazolyl group, an isothiazolyl group, a thiadiazolyl group, a pyrrole group, an imidazolyl group, a triazolyl group, a pyrazolyl group, or a tetrazolyl group) having one or more substituents which may be the same or different and which are selected from a halogen atom, a C1-C6 alkyl group, a C1-C6 haloalkyl group, a C3-C8 cycloalkyl group, a C3-C8 halocycloalkyl group, a C1-C6 alkoxy group, a C1-C6 haloalkoxy group, a C1-C6 alkylthio group, a C1-C6 haloalkylthio group, a C1-C6 alkylsulfinyl group, a C1-C6 haloalkylsulfinyl group, a C1-C6 alkylsulfonyl group, a C1-C6 haloalkylsulfonyl group, a cyano group, a nitro group, a hydroxyl group, a pentafluorosulfanyl group, a C1-C4 alkylcarbonyl group, a C1-C4 haloalkylcarbonyl group, a C1-C4 alkylcarbonyloxy group, and a C1-C4 alkoxycarbonyl group), and

Z_1 represents -O-, -S-, -SO-, $-SO_2-$, -C(=O)-, -C(=O)O-, -OC(=O)-, $-N(R_5)-$, $-C(=O)N(R_5)-$, or $-N(R_5)C(=O)-$ (R_5 represents a hydrogen atom, a C1-C4 alkyl group, a C1-C4 alkylcarbonyl group, a C1-C4

haloalkylcarbonyl group, or a C1-C4 alkoxycarbonyl group)), or

$-E_2-R_6$

(wherein E_2 represents a C1-C4 alkylene group, a C2-C4 alkenylene group, a C3-C4 alkynylene group, a C1-C4 haloalkylene group, a C2-C4 haloalkenylene group, or a C3-C4 haloalkynylene group, and R_6 represents a C3-C8 cycloalkyl group, a C3-C8 halocycloalkyl group,

a cyano group,

a nitro group,

a hydroxyl group,

a phenyl group,

a substituted phenyl group having one or more substituents which may be the same or different and which are selected from a halogen atom, a C1-C6 alkyl group, a C1-C6 haloalkyl group, a C3-C8 cycloalkyl group, a C3-C8 halocycloalkyl group, a C1-C6 alkoxy group, a C1-C6 haloalkoxy group, a C1-C6 alkylthio group, a C1-C6 haloalkylthio group, a C1-C6 alkylsulfinyl group, a C1-C6 haloalkylsulfinyl group, a C1-C6 alkylsulfonyl group, a C1-C6 haloalkylsulfonyl group, a cyano group, a nitro group, a hydroxyl group, a pentafluorosulfanyl group, a C1-C4 alkylcarbonyl group, a C1-C4 haloalkylcarbonyl group, a C1-C4 alkylcarbonyloxy group, and a C1-C4 alkoxycarbonyl group,

a naphthyl group,

a substituted naphthyl group having one or more substituents which may be the same or different and which are selected from a halogen atom, a C1-C6 alkyl group, a C1-C6 haloalkyl group, a C3-C8 cycloalkyl group, a C3-C8 halocycloalkyl group, a C1-C6 alkoxy group, a C1-C6 haloalkoxy group, a C1-C6 alkylthio group, a C1-C6

haloalkylthio group, a C1-C6 alkylsulfinyl group, a C1-C6 haloalkylsulfinyl group, a C1-C6 alkylsulfonyl group, a C1-C6 haloalkylsulfonyl group, a cyano group, a nitro group, a hydroxyl group, a pentafluorosulfanyl group, a C1-C4 alkylcarbonyl group, a C1-C4 haloalkylcarbonyl group, a C1-C4 alkylcarbonyloxy group, and a C1-C4 alkoxycarbonyl group,

a heterocyclic group (which represents a pyridyl group, a pyridine-N-oxide group, a pyrimidinyl group, a pyridazyl group, a furyl group, a tetrahydrofuryl group, a thienyl group, a tetrahydrothienyl group, a tetrahydropyranyl group, an oxazolyl group, an isoxazolyl group, an oxadiazolyl group, a thiazolyl group, an isothiazolyl group, a thiadiazolyl group, a pyrrole group, an imidazolyl group, a triazolyl group, a pyrazolyl group, or a tetrazolyl group), or

a substituted heterocyclic group (which represents a pyridyl group, a pyridine-N-oxide group, a pyrimidinyl group, a pyridazyl group, a furyl group, a tetrahydrofuryl group, a thienyl group, a tetrahydrothienyl group, a tetrahydropyranyl group, an oxazolyl group, an isoxazolyl group, an oxadiazolyl group, a thiazolyl group, an isothiazolyl group, a thiadiazolyl group, a pyrrole group, an imidazolyl group, a triazolyl group, a pyrazolyl group, or a tetrazolyl group) having one or more substituents which may be the same or different and which are selected from a halogen atom, a C1-C6 alkyl group, a C1-C6 haloalkyl group, a C3-C8 cycloalkyl group, a C3-C8 halocycloalkyl group, a C1-C6 alkoxy group, a C1-C6 haloalkoxy group, a C1-C6 alkylthio group, a C1-C6 haloalkylthio group, a C1-C6 alkylsulfinyl group, a C1-C6

haloalkylsulfinyl group, a C1-C6 alkylsulfonyl group, a C1-C6 haloalkylsulfonyl group, a cyano group, a nitro group, a hydroxyl group, a pentafluorosulfanyl group, a C1-C4 alkylcarbonyl group, a C1-C4 haloalkylcarbonyl group, a C1-C4 alkylcarbonyloxy group, and a C1-C4 alkoxycarbonyl group);

R_2 and R_3 independently represent a hydrogen atom, a C1-C4 alkyl group, a C1-C4 alkylcarbonyl group, or a C1-C4 haloalkylcarbonyl group; G_1, G_2, and G_3 independently represent an oxygen atom or a sulfur atom; Xs may be the same or different and each represent a hydrogen atom, a halogen atom, a C1-C4 alkyl group, a C1-C4 haloalkyl group, a C1-C4 alkoxy group, a C1-C4 haloalkoxy group, a C1-C4 alkylthio group, a C1-C4 haloalkylthio group, a C1-C4 alkylsulfinyl group, a C1-C4 haloalkylsulfinyl group, a C1-C4 alkylsulfonyl group, a C1-C4 haloalkylsulfonyl group, a cyano group, a nitro group, an amino group, or an amino group which may be substituted by a C1-C4 alkyl group;

n represents an integer of 0 to 4;

Q represents a phenyl group,

a substituted phenyl group having one or more substituents which may be the same or different and which are selected from a halogen atom, a C1-C6 alkyl group, a C1-C6 haloalkyl group, a C3-C8 cycloalkyl group, a C3-C8 halocycloalkyl group, a C1-C6 alkoxy group, a C1-C6 haloalkoxy group, a C1-C6 haloalkyl group which may be substituted by at least one hydroxyl group, a C1-C6 alkylthio group, a C1-C6 haloalkylthio group, a C1-C6 alkylsulfinyl group, a C1-C6 haloalkylsulfinyl group, a C1-C6 alkylsulfonyl group, a C1-C6 haloalkylsulfonyl group, a C1-C6 haloalkylsulfonyloxy group, a

C1-C4 alkylcarbonyl group, a C1-C4 haloalkylcarbonyl group, a cyano group, a nitro group, a hydroxyl group, a pentafluorosulfanyl group, a phenyl group, a substituted phenyl group (which may have the same or different substituents selected from a halogen atom, a C1-C6 alkyl group, a C1-C6 haloalkyl group, a C3-C8 cycloalkyl group, a C3-C8 halocycloalkyl group, a C1-C6 alkoxy group, a C1-C6 haloalkoxy group, a C1-C6 alkylthio group, a C1-C6 haloalkylthio group, a C1-C6 alkylsulfinyl group, a C1-C6 haloalkylsulfinyl group, a C1-C6 alkylsulfonyl group, a C1-C6 haloalkylsulfonyl group, a C1-C6 haloalkylsulfonyloxy, a cyano group, a nitro group, a hydroxyl group, and a pentafluorosulfanyl group), a thienyl group, and a substituted thienyl group (which may have the same or different substituents selected from a halogen atom, a C1-C6 alkyl group, a C1-C6 haloalkyl group, a C3-C8 cycloalkyl group, a C3-C8 halocycloalkyl group, a C1-C6 alkoxy group, a C1-C6 haloalkoxy group, a C1-C6 alkylthio group, a C1-C6 haloalkylthio group, a C1-C6 alkylsulfinyl group, a C1-C6 haloalkylsulfinyl group, a C1-C6 alkylsulfonyl group, a C1-C6 haloalkylsulfonyl group, a C1-C6 haloalkylsulfonyloxy, a cyano group, a nitro group, a hydroxyl group, and a pentafluorosulfanyl group),

a naphthyl group,

a substituted naphthyl group having one or more substituents which may be the same or different and which are selected from a halogen atom, a C1-C6 alkyl group, a C1-C6 haloalkyl group, a C3-C8 cycloalkyl group, a C3-C8 halocycloalkyl group, a C1-C6 alkoxy group, a C1-C6 haloalkoxy group, a C1-C6 haloalkyl group which may

be substituted by at least one hydroxyl group, a C1-C6 alkylthio group, a C1-C6 haloalkylthio group, a C1-C6 alkylsulfinyl group, a C1-C6 haloalkylsulfinyl group, a C1-C6 alkylsulfonyl group, a C1-C6 haloalkylsulfonyl group, a cyano group, a nitro group, a hydroxyl group, and a pentafluorosulfanyl group,

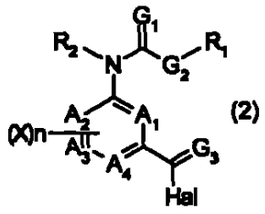
a heterocyclic group (which represents a pyridyl group, a pyridine-N-oxide group, a pyrimidinyl group, a pyridazyl group, a furyl group, a thienyl group, an oxazolyl group, an isoxazolyl group, an oxadiazolyl group, a thiazolyl group, an isothiazolyl group, a thiadiazolyl group, a pyrrole group, an imidazolyl group, a triazolyl group, a pyrazolyl group, or a tetrazolyl group),

a substituted heterocyclic group (which represents a pyridyl group, a pyridine-N-oxide group, a pyrimidinyl group, a pyridazyl group, a furyl group, a thienyl group, an oxazolyl group, an isoxazolyl group, an oxadiazolyl group, a thiazolyl group, an isothiazolyl group, a thiadiazolyl group, a pyrrole group, an imidazolyl group, a triazolyl group, a pyrazolyl group, or a tetrazolyl group) having one or more substituents which may be the same or different and which are selected from a halogen atom, a C1-C6 alkyl group, a C1-C6 haloalkyl group, a C1-C6 alkoxy group, a C1-C6 haloalkoxy group, a C1-C6 haloalkyl group which may be substituted by at least one hydroxyl group, a C1-C6 alkylthio group, a C1-C6 haloalkylthio group, a C1-C6 alkylsulfinyl group, a C1-C6 haloalkylsulfinyl group, a C1-C6 alkylsulfonyl group, a C1-C6 haloalkylsulfonyl group, a cyano group, a nitro group, a hydroxyl group, and a pentafluorosulfanyl group,

a tetrahydronaphthyl group, or

a substituted tetrahydronaphthyl group having one or more substituents which may be the same or different and which are selected from a halogen atom, a C1-C6 alkyl group, a C1-C6 haloalkyl group, a C1-C6 alkoxy group, a C1-C6 haloalkoxy group, a C1-C6 haloalkyl group which may be substituted by at least one hydroxyl group, a C1-C6 alkylthio group, a C1-C6 haloalkylthio group, a C1-C6 alkylsulfinyl group, a C1-C6 haloalkylsulfinyl group, a C1-C6 alkylsulfonyl group, a C1-C6 haloalkylsulfonyl group, a cyano group, a nitro group, a hydroxyl group, and a pentafluorosulfanyl group (excluding a case (1) in which Q represents 3,4-dichlorophenyl when R1 represents a methyl group, a case (2) in which Q represents an unsubstituted phenyl group when R1 represents an ethyl group, and a case (3) in which Q represents an unsubstituted pyridyl group when R1 represents an unsubstituted phenyl group).

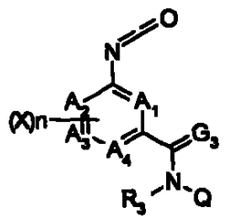
[3] Compounds represented by formula (2)



(2)

wherein A_1, A_2, A_3, A_4, R_1, R_2, R_3, G_1, G_2, G_3, X, and n each represent the same as in formula [1], and Hal represents a halogen atom.

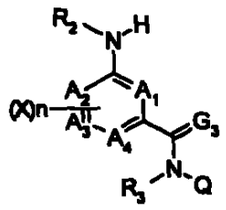
[4] Compounds represented by formula (3)



(3)

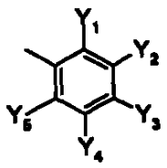
wherein A_1, A_2, A_3, A_4, R_3, G_3, X, n and Q each represent the same as in formula [1].

[5] Compounds represented by formula (4)



(4)

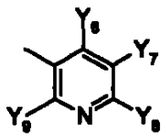
wherein A_1, A_2, A_3, A_4, R_2, R_3, G_3, X, and n each represent the same as in formula [1], and Q represents a group represented by formula (1-2) or (1-3):



(1-2)

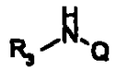
(wherein Y_1, Y_2, Y_4, and Y_5 may be the same or different and each represent a hydrogen atom, a halogen atom, a C1-C6 alkyl group, a C1-C6 haloalkyl group, a C1-C6 alkoxy group, a C1-C6 haloalkoxy group, a C1-C6 alkylthio group, a C1-C6 haloalkylthio group, a C1-C6 alkylsulfinyl group, a C1-C6 haloalkylsulfinyl group, a C1-C6 alkylsulfonyl group, a pentafluorosulfanyl group, a cyano group, or a nitro group, and Y_3 represents a C1-C6 haloalkyl group, a C1-C6 haloalkoxy group, a C1-C6 haloalkyl group which may be substituted by at least one hydroxyl group, a C1-C6 haloalkylthio group, a C1-C6 haloalkylsulfinyl group, a C1-C6 haloalkylsulfonyl

group, or a pentafluorosulfanyl group, but only one of Y_1 and Y_5 represents a hydrogen atom)


(1-3)

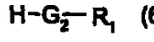
(wherein Y_6, Y_7, and Y_9 may be the same or different and each represent a hydrogen atom, a halogen atom, a C1-C6 alkyl group, a C1-C6 haloalkyl group, a C1-C6 alkoxy group, a C1-C6 haloalkoxy group, a C1-C6 alkylthio group, a C1-C6 haloalkylthio group, a C1-C6 alkylsulfinyl group, a C1-C6 haloalkylsulfinyl group, a C1-C6 alkylsulfonyl group, a pentafluorosulfanyl group, a cyano group, or a nitro group, and Y_8 represents a C1-C6 haloalkyl group, a C1-C6 haloalkoxy group, a C1-C6 haloalkyl group which may be substituted by at least one hydroxyl group, a C1-C6 haloalkylthio group, a C1-C6 haloalkylsulfinyl group, a C1-C6 haloalkylsulfonyl group, or a pentafluorosulfanyl group, but only one of Y_6 and Y_9 represents a hydrogen atom).

[6] A method for producing the above-described compounds in [1] comprising reacting the compounds represented in [3] by formula (2) with compounds represented by formula (5):


(5)

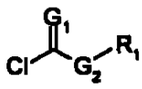
wherein R_3 and Q each represent the same as in [1].

[7] A method for producing the above-described compounds in [1] comprising reacting the compounds represented in [4] by formula (3) with compounds represented by formula (6):


(6)

wherein R_1 and G_2 each represent the same as in [1].

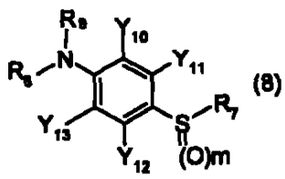
[8] A method for producing the above-described compounds in [1] comprising reacting the compounds represented in [5] by formula (4) with compounds represented by formula (7):



(7)

wherein R_1, G_1, and G_2 each represent the same as in [1].

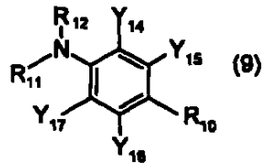
[9] Aniline derivatives represented by formula (8):



(8)

wherein R_7 represents a C1-C6 haloalkyl group, Y_{10}, Y_{11}, Y_{12}, and Y_{13} may be the same or different and each represent a hydrogen atom, a halogen atom, a C1-C6 alkyl group, a C1-C6 haloalkyl group, a C1-C6 alkoxy group, a C1-C6 haloalkoxy group, a C1-C6 alkylthio group, a C1-C6 haloalkylthio group, a C1-C6 alkylsulfinyl group, a C1-C6 haloalkylsulfinyl group, a C1-C6 alkylsulfonyl group, a pentafluorosulfanyl group, a cyano group, or a nitro group, and R_8 and R_9 independently represent a hydrogen atom, a C1-C4 alkyl group, a m-nitrobenzoyl group, or a substituted m-nitrobenzoyl group, and m represents 0, 1, or 2.

[10] Aniline derivatives represented by formula (9):



(9)

wherein R_{10} represents a C1-C6 haloalkyl group which may be

substituted by at least one hydroxyl group, Y_{14}, Y_{15}, Y_{16}, and Y_{17} may be the same or different and each represent a hydrogen atom, a halogen atom, a C1-C6 alkyl group, a C1-C6 haloalkyl group, a C1-C6 alkoxy group, a C1-C6 haloalkoxy group, a C1-C6 alkylthio group, a C1-C6 haloalkylthio group, a C1-C6 alkylsulfinyl group, a C1-C6 haloalkylsulfinyl group, a C1-C6 alkylsulfonyl group, a pentafluorosulfanyl group, a cyano group, or a nitro group, and R_{11} and R_{12} independently represent a hydrogen atom, a C1-C4 alkyl group, a m-nitrobenzoyl group, or a substituted m-nitrobenzoyl group.

[11] An insecticide comprising any one of the compounds in [1] or [2] as an active ingredient.

[12] A method for using a chemical comprising treating a useful crop or soil with an effective amount of any one of the compounds [1] or [2], for protecting the useful crop from harmful organisms.

[13] A method for preventing pests comprising using the compound [1] or [2] and at least one insecticide and/or fungicide in combination.

The compounds of the present invention exhibit an excellent preventive effect as insecticides in low dosages, and also exhibit an excellent preventive effect when being used in combination with another insecticide, an acaricide, a nematocide, a fungicide, a herbicide, a plant growth regulator, or a biological pesticide.

Best Mode for Carrying Out the Invention

In the definitions of formula (1) of the present invention,

the term "halogen atom" means a fluorine atom, a chlorine, atom, a bromine atom, or an iodine atom. The characters "n-", "i-", "s-", and "t-" mean "normal", "iso", "secondary", and "tertiary", respectively. With respect to the expression "Ca-Cb (a and b each represent an integer of 1 or more)", for example, "C1-C6" means that the number of carbon atoms is 1 to 6, "C3-C8" means that the number of carbon atoms is 3 to 8, and "C1-C4" means that the number of carbon atoms is 1 to 4.

In the definitions of the formulae such as formula (1) of the present invention, the used terms have the following meanings:

The term "an alkyl group which may be substituted" means a straight, branched or cyclic alkyl group which may be substituted by the same or different groups selected from a hydrogen atom, a halogen atom, a hydroxyl group, a cyano group, a nitro group, a C1-C6 alkoxy group, a C1-C6 haloalkoxy group, a C1-C6 alkylthio group, a C1-C6 haloalkylthio group, a C1-C6 alkylsulfinyl group, a C1-C6 haloalkylsulfinyl group, a C1-C6 alkylsulfonyl group, a C1-C6 haloalkylsulfonyl group, a C1-C6 alkylcarbonyl group, a C1-C6 haloalkylcarbonyl group, a C1-C6 alkoxycarbonyl group, a C1-C6 haloalkoxycarbonyl group, a C1-C6 alkylcarbonyloxy, a C1-C6 haloalkylcarbonyloxy group, an amino group, a C1-C6 alkylamino group, a di-C1-C6 alkylamino group, a phenyl group which may be substituted, a phenylcarbonyl group which may be substituted, a phenylamino group which may be substituted, and a heterocyclic group which may be substituted.

The term "an alkylcarbonyl group which may be substituted" means a straight, branched or cyclic alkylcarbonyl group which may

be substituted by the same or different groups selected from a hydrogen atom, a halogen atom, a hydroxyl group, a cyano group, a nitro group, a C1-C6 alkoxy group, a C1-C6 haloalkoxy group, a C1-C6 alkylthio group, a C1-C6 haloalkylthio group, a C1-C6 alkylsulfinyl group, a C1-C6 haloalkylsulfinyl group, a C1-C6 alkylsulfonyl group, a C1-C6 haloalkylsulfonyl group, a C1-C6 alkylcarbonyl group, a C1-C6 haloalkylcarbonyl group, a C1-C6 alkoxycarbonyl group, a C1-C6 haloalkoxycarbonyl group, a C1-C6 alkylcarbonyloxy, a C1-C6 haloalkylcarbonyloxy group, an amino group, a C1-C6 alkylamino group, a di-C1-C6 alkylamino group, a phenyl group which may be substituted, a phenylcarbonyl group which may be substituted, a phenylamino group which may be substituted, and a heterocyclic group which may be substituted.

The term "a phenyl group which may be substituted" means a phenyl group which may be substituted by the same or different groups selected from a hydrogen atom, a halogen atom, a hydroxyl group, a cyano group, a nitro group, a C1-C6 alkoxy group, a C1-C6 haloalkoxy group, a C1-C6 alkylthio group, a C1-C6 haloalkylthio group, a C1-C6 alkylsulfinyl group, a C1-C6 haloalkylsulfinyl group, a C1-C6 alkylsulfonyl group, a C1-C6 haloalkylsulfonyl group, a C1-C6 alkylcarbonyl group, a C1-C6 haloalkylcarbonyl group, a C1-C6 alkoxycarbonyl group, a C1-C6 haloalkoxycarbonyl group, a C1-C6 alkylcarbonyloxy, a C1-C6 haloalkylcarbonyloxy group, an amino group, a C1-C6 alkylamino group, a di-C1-C6 alkylamino group, a phenyl group which may be substituted, a phenylcarbonyl group which may be substituted, a phenylamino group which may be substituted, and a heterocyclic group which may be

substituted.

The term "a naphthyl group which may be substituted" means a naphthyl group which may be substituted by the same or different groups selected from a hydrogen atom, a halogen atom, a hydroxyl group, a cyano group, a nitro group, a C1-C6 alkoxy group, a C1-C6 haloalkoxy group, a C1-C6 alkylthio group, a C1-C6 haloalkylthio group, a C1-C6 alkylsulfinyl group, a C1-C6 haloalkylsulfinyl group, a C1-C6 alkylsulfonyl group, a C1-C6 haloalkylsulfonyl group, a C1-C6 alkylcarbonyl group, a C1-C6 haloalkylcarbonyl group, a C1-C6 alkoxycarbonyl group, a C1-C6 haloalkoxycarbonyl group, a C1-C6 alkylcarbonyloxy, a C1-C6 haloalkylcarbonyloxy group, an amino group, a C1-C6 alkylamino group, a di-C1-C6 alkylamino group, a phenyl group which may be substituted, a phenylcarbonyl group which may be substituted, a phenylamino group which may be substituted, and a heterocyclic group which may be substituted.

The term "a tetrahydronaphthyl group which may be substituted" means a tetrahydronaphthyl group which may be substituted by the same or different groups selected from a hydrogen atom, a halogen atom, a hydroxyl group, a cyano group, a nitro group, a C1-C6 alkoxy group, a C1-C6 haloalkoxy group, a C1-C6 alkylthio group, a C1-C6 haloalkylthio group, a C1-C6 alkylsulfinyl group, a C1-C6 haloalkylsulfinyl group, a C1-C6 alkylsulfonyl group, a C1-C6 haloalkylsulfonyl group, a C1-C6 alkylcarbonyl group, a C1-C6 haloalkylcarbonyl group, a C1-C6 alkoxycarbonyl group, a C1-C6 haloalkoxycarbonyl group, a C1-C6 alkylcarbonyloxy, a C1-C6 haloalkylcarbonyloxy group, an amino

group, a C1-C6 alkylamino group, a di-C1-C6 alkylamino group, a phenyl group which may be substituted, a phenylcarbonyl group which may be substituted, a phenylamino group which may be substituted, and a heterocyclic group which may be substituted.

The term "a heterocyclic group which may be substituted" means a heterocyclic group which may be substituted by the same or different groups selected from a hydrogen atom, a halogen atom, a hydroxyl group, a cyano group, a nitro group, a C1-C6 alkoxy group, a C1-C6 haloalkoxy group, a C1-C6 alkylthio group, a C1-C6 haloalkylthio group, a C1-C6 alkylsulfinyl group, a C1-C6 haloalkylsulfinyl group, a C1-C6 alkylsulfonyl group, a C1-C6 haloalkylsulfonyl group, a C1-C6 alkylcarbonyl group, a C1-C6 haloalkylcarbonyl group, a C1-C6 alkoxycarbonyl group, a C1-C6 haloalkoxycarbonyl group, a C1-C6 alkylcarbonyloxy, a C1-C6 haloalkylcarbonyloxy group, an amino group, a C1-C6 alkylamino group, a di-C1-C6 alkylamino group, a phenyl group which may be substituted, a phenylcarbonyl group which may be substituted, a phenylamino group which may be substituted, and a heterocyclic group which may be substituted.

The term "a C1-C6 alkyl group" means a straight or branched alkyl group having 1 to 6 carbon atoms, such as methyl, ethyl, n-propyl, i-propyl, n-butyl, s-butyl, t-butyl, n-pentyl, 2-pentyl, neopentyl, 4-methyl-2-pentyl, n-hexyl, or 3-methyl-n-pentyl. The term "a C1-C6 haloalkyl group" means a straight or branched alkyl group having 1 to 6 carbon atoms and substituted by one or more halogen atoms which may be the same or different, such as trifluoromethyl, pentafluoroethyl, heptafluoro-n-propyl,

may be the same or different.

The term "a C3-C8 cycloalkyl group" means a cycloalkyl group having 3 to 8 carbon atoms and a cyclic structure, such as cyclopropyl, cyclobutyl, cyclopentyl, 2-methylcyclopentyl, 3-methylcyclopentyl, cyclohexyl, 2-methylcyclohexyl, 3-methylcyclohexyl, or 4-methylcyclohexyl. The term "a C3-C8 halocycloalkyl group" means a cycloalkyl group having 3 to 8 carbon atoms and a cyclic structure and substituted by one or more halogen atoms which may be the same or different, such as 2,2,3,3-tetrafluorocyclobutyl, 2-chlorocyclohexyl, or 4-chlorocyclohexyl.

The term "a C1-C6 alkoxy group" means a straight or branched alkoxy group having 1 to 6 carbon atoms, such as methoxy, ethoxy, n-propyloxy, isopropyloxy, n-butoxy, s-butoxy, i-butoxy, or t-butoxy. The term "a C1-C6 haloalkoxy group" means a straight or branched haloalkoxy group having 1 to 6 carbon atoms and substituted by one or more halogen atoms which may be the same or different, such as trifluoromethoxy, pentafluoroethoxy, heptafluoro-n-propyloxy, heptafluoro-i-propyloxy, 1,1,1,3,3,3-hexafluoro-2-propyloxy, 2,2,2-trifluoroethoxy, 2-chloroethoxy, or 3-fluoro-n-propyloxy.

The term "a C1-C6 alkylthio group" means a straight or branched alkylthio group having 1 to 6 carbon atoms, such as methylthio, ethylthio, n-propylthio, i-propylthio, n-butylthio, s-butylthio, or t-butylthio. The term "a C1-C6 haloalkylthio group" means a straight or branched alkylthio group having 1 to 6 carbon atoms and substituted by one or more halogen atoms which may be the same or different, such as trifluoromethylthio,

pentafluoroethylthio, 2,2,2-trifluoroethylthio, heptafluoro-n-propylthio, heptafluoro-i-propylthio, nonafluoro-n-butylthio, or nonafluoro-2-butylthio.

The term "a C1-C6 alkylsulfinyl group" means a straight or branched alkylsulfinyl group having 1 to 6 carbon atoms, such as methylsulfinyl, ethylsulfinyl, n-propylsulfinyl, i-propylsulfinyl, n-butylsulfinyl, s-butylsulfinyl, or t-butylsulfinyl. The term "a C1-C6 haloalkylsulfinyl group" means a straight or branched alkylsulfinyl group having 1 to 6 carbon atoms and substituted by one or more halogen atoms which may be the same or different, such as trifluoromethylsulfinyl, pentafluoroethylsulfinyl, 2,2,2-trifluoroethylsulfinyl, heptafluoro-n-propylsulfinyl, heptafluoro-i-propylsulfinyl, nonafluoro-n-butylsulfinyl, or nonafluoro-2-butylsulfinyl.

The term "a C1-C6 alkylsulfonyl group" means a straight or branched alkylsulfonyl group having 1 to 6 carbon atoms, such as methylsulfonyl, ethylsulfonyl, n-propylsulfonyl, i-propylsulfonyl, n-butylsulfonyl, s-butylsulfonyl, or t-butylsulfonyl. The term "a C1-C6 haloalkylsulfonyl group" means a straight or branched alkylsulfonyl group having 1 to 6 carbon atoms and substituted by one or more halogen atoms which may be the same or different, such as trifluoromethylsulfonyl, pentafluoroethylsulfonyl, 2,2,2-trifluoroethylsulfonyl, heptafluoro-n-propylsulfonyl, heptafluoro-i-propylsulfonyl, nonafluoro-n-butylsulfonyl, or nonafluoro-2-butylsulfonyl.

The term "a C1-C4 alkylcarbonyl group" means a straight, branched, or cyclic alkylcarbonyl group having 1 to 4 carbon atoms,

such as acetyl, propionyl, isopropylcarbonyl, or cyclopropylcarbonyl. The term "a C1-C4 haloalkylcarbonyl group" means a straight or branched alkylcarbonyl group having 1 to 4 carbon atoms and substituted by one or more halogen atoms which may be the same or different, such as trifluoroacetyl, pentafluoropropionyl, trichloroacetyl, chloroacetyl, bromoacetyl, or 3-chloropropionyl.

The term "a C1-C4 alkoxycarbonyl group" means a straight or branched alkoxycarbonyl group having 1 to 4 carbon atoms, such as methoxycarbonyl, ethoxycarbonyl, or isopropyloxycarbonyl.

The term "a C1-C4 alkylcarbonyloxy group" means a straight or branched alkylcarbonyloxy group having 1 to 4 carbon atoms, such as acetoxy or propionyloxy. The term "a C1-C4 alkylsulfonyloxy group" means a straight or branched alkylsulfonyloxy group having 1 to 4 carbon atoms, such as methylsulfonyloxy. The term "a C1-C4 haloalkylsulfonyloxy group" means a straight or branched alkylsulfonyloxy group having 1 to 4 carbon atoms and substituted by one or more halogen atoms which may be the same or different, such as trifluoromethylsulfonyloxy or pentafluoroethylsulfonyloxy.

The term "a C1-C4 alkylene group" means a straight or branched alkylene group having 1 to 4 carbon atoms, such as methylene, ethylene, propylene, dimethylmethylene, or isobutylene. The term "a C2-C4 alkenylene group" means a straight or branched alkenylene group having 2 to 4 carbon atoms and a double bond in its carbon chain. The term "a C3-C4 alkynylene group" means a straight or branched alkynylene having 3 to 4 carbon atoms and a triple bond in its carbon chain. The term "a C1-C4 haloalkylene

group" means a straight or branched alkylene group having 1 to 4 carbon atoms and substituted by one or more halogen atoms which may be the same or different, such as chloromethylene, chloroethylene, dichloromethylene, or difluoromethylene.

The term "a C2-C4 haloalkenylene group" means a straight or branched alkynylene having 2 to 4 carbon atoms and a double bond in its carbon chain, and substituted by one or more halogen atoms which may be the same or different. The term "a C3-C4 haloalkynylene group" means a straight or branched alkynylene group having 3 to 4 carbon atoms and a triple bond in its carbon chain, and substituted by one or more halogen atoms which may be the same or different.

The term "a C1-C6 haloalkyl group which may be substituted by one ore more hydroxyl groups" means a straight or branched alkyl group having 1 to 6 carbon atoms and one or more hydroxyl groups in its carbon chain, and substituted by one or more halogen atoms which may be the same or different, such as 1,2,2,2-tetrafluoro-1-hydroxyethyl, 1,1,1,3,3,3-hexafluoro-2-hydroxy-2-propyl, 1,1,1,3,3,4,4,4-octafluoro-2-hydroxy-2-butyl, 1,2,2,3,3,4,4,4-octafluoro-1-hydroxy-n-butyl, or 1,3-dichloro-1,1,3,3-tetrafluoro-2-hydroxy-2-propyl.

The term "a substituted m-nitrobenzoyl group" means a m-nitrobenzoyl group having one or more substituents, such as 2-fluoro-3-nitrobenzoyl, 4-fluoro-3-nitrobenzoyl, 2-fluoro-5-nitrobenzoyl, or 4-chloro-3-nitrobenzoyl.

The compounds represented by formula (1) of the present invention may contain at least one asymmetric carbon atom or

asymmetric center and thus have at least two types of optical isomers. The present invention includes the optical isomers and mixtures thereof at any proportions. The compounds represented by formula (1) of the present invention may contain at least two types of geometric isomers derived from carbon-carbon double bonds in the structural formulae. The present invention also includes the geometric isomers and mixtures thereof at any proportions.

Preferred examples of the substituents or atoms in the compounds represented by the formulae such as formula (1) of the present invention include the following:

Preferably, R_1 is C1-C6 alkyl, C1-C6 haloalkyl, C2-C6 alkenyl, C2-C6 haloalkenyl, a C2-C6 alkynyl, C2-C6 haloalkynyl, C3-C8 cycloalkyl, C3-C8 halocycloalkyl, $-E_1-Z_1-R_4$ (wherein E_1 represents C1-C4 alkylene, C2-C4 alkenylene, C3-C4 alkynylene, C1-C4 haloalkylene, C2-C4 haloalkenylene, or C3-C4 haloalkynylene, R_4 represents a hydrogen atom, C1-C6 alkyl, C2-C6 alkenyl, C2-C6 alkynyl, C1-C6 haloalkyl, C2-C6 haloalkenyl, or C2-C6 haloalkynyl, and Z_1 represents -O-, -S-, -SO-, or $-SO_2-$), or $-E_2-R_6$ (wherein E_2 represents C1-C4 alkyl, C2-C4 alkenyl, C3-C4 alkynyl, C1-C4 haloalkyl, C2-C4 haloalkenyl, or C3-C4 haloalkynyl, and R_6 represents C3-C8 cycloalkyl, C3-C8 halocycloalkyl, cyano, nitro, hydroxyl, phenyl, substituted phenyl having one or more substituents which may be the same or different and which are selected from halogen, C1-C6 alkyl, C1-C6 haloalkyl, C1-C6 alkoxy, C1-C6 haloalkoxy, C1-C6 alkylthio, C1-C6 haloalkylthio, C1-C6 alkylsulfinyl, C1-C6 haloalkylsulfinyl, C1-C6 alkylsulfonyl, C1-C6 haloalkylsulfonyl, cyano, nitro, hydroxyl, C1-C4 alkylcarbonyl,

C1-C4 haloalkylcarbonyl, C1-C4 alkylcarbonyloxy, and C1-C4 alkoxycarbonyl, pyridyl, or substituted pyridyl having one or more substituents selected from halogen, C1-C6 haloalkyl, and C1-C6 haloalkoxy). More preferably, R_1 is C1-C6 alkyl, C1-C6 haloalkyl, C3-C8 cycloalkyl, C3-C8 halocycloalkyl, $-E_1-Z_1-R_4$ (wherein E_1 represents C1-C4 alkylene or C1-C4 haloalkylene, R_4 represents C1-C6 alkyl or C1-C6 haloalkyl, and Z_1 represents -O-, -S-, -SO-, or $-SO_2-$), or $-E_2-R_6$ (wherein E_2 represents C1-C4 alkyl, R_6 represents C3-C8 cycloalkyl, cyano, substituted phenyl having one or more substituents which may be the same or different and which are selected from halogen, C1-C6 haloalkyl, C1-C6 haloalkoxy, C1-C6 haloalkylthio, C1-C6 haloalkylsulfinyl, C1-C6 haloalkylsulfonyl, cyano, and nitro, pyridyl, substituted pyridyl having one or more substituents selected from halogen, C1-C6 haloalkyl, and C1-C6 haloalkoxy, thienyl, or tetrahydrofuryl).

Preferably, R_2 and R_3 are independently hydrogen or C1-C4 alkyl, and more preferably hydrogen, methyl, or ethyl.

Preferably, G_1, G_2, and G_3 are independently oxygen or sulfur, and more preferably oxygen.

Preferably, X is hydrogen, halogen or trifluoromethyl, and more preferably hydrogen or fluorine.

Preferably, n is 0 or 1.

Preferably, Q is phenyl, substituted phenyl having one or more substituents selected from halogen, C1-C6 alkyl, C1-C6 haloalkyl, C1-C6 alkoxy, C1-C6 haloalkoxy, C1-C6 haloalkyl which may be substituted by one or more hydroxyl groups, C1-C6 alkylthio, C1-C6 haloalkylthio, C1-C6 alkylsulfinyl, C1-C6 haloalkylsulfinyl,

C1-C6 alkylsulfonyl, pentafluorosulfanyl, cyano, and nitro, pyridyl, or substituted pyridyl having one or more substituents selected from halogen, C1-C6 alkyl, C1-C6 haloalkyl, C1-C6 alkoxy, C1-C6 haloalkoxy, C1-C6 haloalkyl which may be substituted by one or more hydroxyl groups, C1-C6 alkylthio, C1-C6 haloalkylthio, C1-C6 alkylsulfinyl, C1-C6 haloalkylsulfinyl, C1-C6 alkylsulfonyl, C1-C6 haloalkylsulfonyl, pentafluorosulfanyl, cyano, and nitro. More preferably, Q is substituted phenyl or substituted pyridyl represented by formula (1-2) or (1-3). In the formula, preferably, Y_1 and Y_5 are independently hydrogen, C1-C4 alkyl, halogen, or methylthio, and only one of Y_1 and Y_5 represents a hydrogen atom.

Preferably, Y_2 and Y_4 are each hydrogen.

Preferably, Y_3 is C1-C6 haloalkyl, C1-C6 haloalkoxy, C1-C6 haloalkyl which may be substituted by one or more hydroxyl groups, C1-C6 haloalkylthio, C1-C6 haloalkylsulfinyl, C1-C6 haloalkylsulfonyl, or pentafluorosulfanyl. More preferably, Y_3 is C1-C6 haloalkyl, C1-C6 haloalkyl which may be substituted by one or more hydroxyl group, C1-C6 haloalkylthio, C1-C6 haloalkylsulfinyl, or C1-C6 haloalkylsulfonyl.

Preferably, Y_6 and Y_9 are independently hydrogen, C1-C4 alkyl, halogen, or methylthio, and only one of Y_6 and Y_9 represents a hydrogen atom.

Preferably, Y_7 is hydrogen.

Preferably, Y_8 is C1-C6 haloalkyl, C1-C6 haloalkoxy, C1-C6 haloalkyl which may be substituted by one or more hydroxyl groups, C1-C6 haloalkylthio, C1-C6 haloalkylsulfinyl, C1-C6 haloalkylsulfonyl, or pentafluorosulfanyl. More preferably, Y_8 is

C1-C6 haloalkyl or C1-C6 haloalkoxy.

Preferably, Hal is chlorine.

Preferably, R_7 is C1-C6 haloalkyl, and more preferably R_7 is C1-C6 alkyl substituted by fluorine, such as pentafluoroethyl, heptafluoro-n-propyl, heptafluoroisopropyl, nonafluoro-n-butyl, or nonafluoro-2-butyl.

Preferably, Y_{10} and Y_{13} are independently hydrogen, C1-C4 alkyl, halogen, or methylthio, and only one of Y_{10} and Y_{13} represents a hydrogen atom. More preferably, Y_{10} and Y_{13} are each chlorine, bromine, or methyl.

Preferably, Y_{11} and Y_{12} are each hydrogen.

Preferably, R_8 and R_9 are each hydrogen, C1-C4 alkyl, m-nitrobenzoyl, or 2-fluoro-3-nitrobenzoyl, and only one of R_8 and R_9 represent C1-C4 alkyl, m-nitrobenzoyl, or 2-fluoro-3-nitrobenzoyl.

Preferably, m is 0, 1, or 2.

Preferably, R_{10} is 1,2,2,2-tetrafluoro-1-hydroxyethyl, 1,1,1,3,3,3-hexafluoro-2-hydroxy-2-propyl, 1,1,1,3,3,4,4,4-octafluoro-2-hydroxy-2-butyl, 1,2,2,3,3,4,4,4-octafluoro-1-hydroxy-n-butyl, or 1,3-dichloro-1,1,3,3-tetrafluoro-2-hydroxy-2-propyl, and more preferably, R_{10} is 1,1,1,3,3,3-hexafluoro-2-hydroxy-2-propyl.

Preferably, Y_{14} and Y_{17} are independently hydrogen, C1-C4 alkyl, halogen, or methylthio, and only one of Y_{14} and Y_{17} represents a hydrogen atom. More preferably, none of Y_{14} and Y_{17} represents a hydrogen atom.

Preferably, Y_{15} and Y_{16} are each hydrogen.

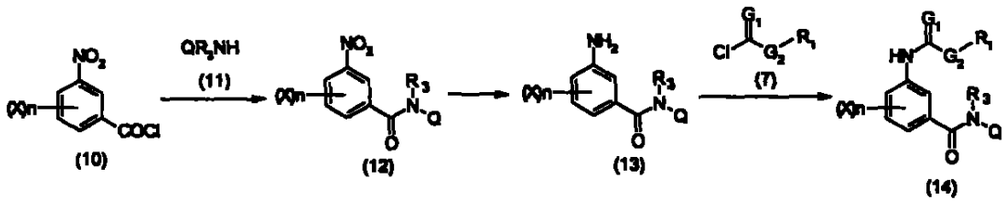
Preferably, R_{11} and R_{12} are each hydrogen, C1-C4 alkyl, m-

nitrobenzoyl, or 2-fluoro-3-nitrobenzoyl, and only one of R_{11} and R_{12} represents C1-C4 alkyl, m-nitrobenzoyl, or 2-fluoro-3-nitrobenzoyl.

Representative processes for producing the compounds of the present invention will be described below. Although the compounds of the present invention can be produced according to the methods, the production processes are not limited to the processes described below.

An embodiment of the representative processes for producing the compounds of the present invention is Production Method 1 (in the formula, R_1, R_3, G_1, G_2, (X)n, and Q represent the same as described above).

Production Method 1



1-(i) Formula (10) → Formula (12)

A m-nitrobenzoyl chloride derivative represented by formula (10) is reacted with an aromatic amine derivative represented by formula (11) in an appropriate solvent to produce a benzamide derivative represented by formula (12). In this step, an appropriate base can also be used. As the solvent, any solvent which does not significantly inhibit the progress of reaction can be used. Examples of the solvent include aromatic hydrocarbons such as benzene, toluene, and xylene; halogenated hydrocarbons

such as dichloromethane, chloroform, and carbon tetrachloride; chained or cyclic ethers such as diethyl ether, dioxane, tetrahydrofuran, and 1,2-dimethoxyethane; esters such as ethyl acetate and butyl acetate; ketones such as acetone, methyl isobutyl ketone, and cyclohexanone; amides such as dimethylformamide and dimethylacetamide; nitriles such as acetonitrile; and inert solvents such as 1,3-dimethyl-2-imidazolidinone. These solvents can be used alone or in a mixture of two ore more kinds. Examples of the base include organic bases such as triethylamine, tri-n-butylamine, pyridine, and 4-dimethylaminopyridine; alkali metal hydroxides such as sodium hydroxide and potassium hydroxide; carbonates such as sodium hydrogen carbonate and potassium carbonate; phosphates such as dipotassium hydrogen phosphate and trisodium phosphate; alkali metal hydrides such as sodium hydride; and alkali metal alcoholates such as sodium methoxide and sodium ethoxide. The base may be used in an appropriate amount in the range of molar equivalents of 0.01 to 5 times the amount of the compound represented by formula (10). The reaction temperature may be appropriately determined in the range of -20°C to the reflux temperature of the solvent used, and the reaction time may be appropriately determined in the range of several minutes to 96 hours. The m-nitrobenzoyl chloride derivative represented by formula (10) can be easily produced from a m-nitrobenzoic acid derivative by a conventional method using a halogenating agent. Examples of the halogenating agent include thionyl chloride, thionyl bromide, phosphorus oxychloride, oxalyl chloride, and

phosphorus trichloride. In a process for producing the compound represented by formula (12) using the m-nitrobenzoic acid derivative and the compound represented by formula (11) without using a halogenating agent, 1-hydroxybenzotriazole functioning as an additive, and N,N'-dicyclohexyl carbodiimide functioning as a condensing agent can be used according to the technique disclosed in, for example, Chem. Ber. p. 788 (1970). Other examples of the condensing agent include 1-ethyl-3-(3-dimethylaminopropyl) carbodiimide and 1,1'-carbonyl-bis-1*H*-imidazole. Alternatively, the compound represented by formula (12) can be produced by a mixed acid anhydride technique using a chloroformic acid ester according to the technique disclosed in J. Am. Chem. Soc. p. 5012 (1967). Examples of the chloroformic acid ester include isobutyl chloroformate and isopropyl chloroformate. Instead of the chloroformic acid ester, diethylacetyl chloride or trimethylacetyl chloride can be used. In the technique using the condensing agent and the mixed acid anhydride technique, the solvent, the reaction temperature, and the reaction time are not limited to those disclosed in the above documents, and an inert solvent which does not inhibit the progress of reaction may be appropriately used. Also, the reaction temperature and the reaction time may be appropriately selected according to the progress of reaction.

1-(ii) Formula (12) → Formula (13)

The benzamide derivative having a nitro group represented by formula (12) can be converted to a benzamide derivative having an amino group represented by formula (13) by reduction reaction.

Examples of a technique for the reduction reaction include a technique using hydrogenation and a technique using tin(II) chloride (anhydride). In the former technique, reaction can be performed in a hydrogen atmosphere in the presence of a catalyst in a proper solvent under normal pressure or high pressure. Examples of the catalyst include palladium catalysts such as palladium-carbon, nickel catalysts such as Raney nickel, cobalt catalysts, ruthenium catalysts, rhodium catalysts, and platinum catalysts. Examples of the solvent include water, alcohols such as methanol and ethanol; aromatic hydrocarbons such as benzene and toluene; chained or cyclic ethers such as ethers, dioxane, and tetrahydrofuran; and esters such as ethyl acetate. The reaction temperature may be appropriately determined in the range of -20°C to the reflux temperature of the solvent used, and the reaction time may be appropriately determined in the range of several minutes to 96 hours. As a result, the compound represented by formula (13) can be produced. In the latter technique, the conditions are not limited, and the compound represented by formula (13) can be produced under the conditions described in, for example, Organic Syntheses, Coll. Vol. III, p. 453.

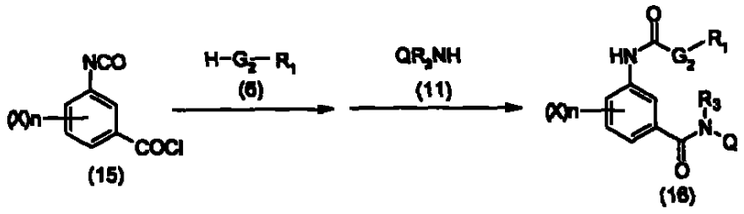
1-(iii) Formula (13) → Formula (14)

The benzamide derivative having a amino group represented by formula (13) is reacted with a compound represented by formula (7) (for example, a chloroformic ester, a chlorothioformic ester, or a chlorodiformic thioester) in a proper solvent to produce a compound represented by formula (14) of the present invention. In

this step, an appropriate base can also be used. As the solvent, any solvent which does not significantly inhibit the progress of reaction can be used. Examples of the solvent include aromatic hydrocarbons such as benzene, toluene, and xylene; halogenated hydrocarbons such as dichloromethane, chloroform, and carbon tetrachloride; chained or cyclic ethers such as diethyl ether, dioxane, tetrahydrofuran, and 1,2-dimethoxyethane; esters such as ethyl acetate and butyl acetate; ketones such as acetone, methyl isobutyl ketone, and cyclohexanone; amides such as dimethylformamide and dimethylacetamide; nitriles such as acetonitrile; and inert solvents such as 1,3-dimethyl-2-imidazolidinone. These solvents can be used alone or in a mixture of two ore more kinds. Examples of the base include organic bases such as triethylamine, tri-n-butylamine, pyridine, and 4-dimethylaminopyridine; alkali metal hydroxides such as sodium hydroxide and potassium hydroxide; carbonates such as sodium hydrogen carbonate and potassium carbonate; phosphates such as dipotassium hydrogen phosphate and trisodium phosphate; alkali metal hydrides such as sodium hydride; and alkali metal alcoholates such as sodium methoxide and sodium ethoxide. The base may be used in an appropriate amount in the range of molar equivalents of 0.01 to 5 times the amount of the compound represented by formula (13). The reaction temperature may be appropriately determined in the range of -20°C to the reflux temperature of the solvent used, and the reaction time may be appropriately determined in the range of several minutes to 96 hours.

A compound represented by formula (16) of the present invention can be produced by Production Method 2 (in the formula, R_1, R_3, G_2, (X)n, and Q represent the same as described above) using a 3-isocyanatobenzoly chloride represented by formula (15) as a starting material, an alcohol represented by formula (6), a thiol, and an aromatic amine represented by formula (11) according to the technique disclosed in J. Org. Chem., p. 142 (1966).

Production Method 2

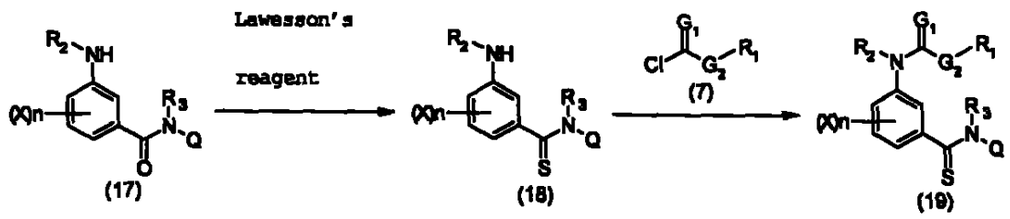


In this step, a solvent can be used. As the solvent, any solvent other than the solvents described in the above document can be used as long as it does not significantly inhibit the progress of reaction. Examples of the solvent include aromatic hydrocarbons such as benzene, toluene, and xylene; halogenated hydrocarbons such as dichloromethane, chloroform, and carbon tetrachloride; chained or cyclic ethers such as dioxane, tetrahydrofuran, and 1,2-dimethoxyethane; esters such as ethyl acetate and butyl acetate; ketones such as acetone, methyl isobutyl ketone, and cyclohexanone; amides such as dimethylformamide and dimethylacetamide; nitriles such as acetonitrile; and inert solvents such as 1,3-dimethyl-2-imidazolidinone. These solvents can be used alone or in a mixture of two ore more kinds. Also, a base may be added for accelerating

the reaction. Examples of the base other than those disclosed in the above document include organic bases such as triethylamine, pyridine, and 4-dimethylaminopyridine; and inorganic bases such as potassium carbonate. The base may be used in an appropriate amount in the range of molar equivalents of 0.01 to 5 times the amount of the compound represented by formula (15). The reaction temperature may be appropriately determined in the range of -20°C to the reflux temperature of the solvent used, and the reaction time may be appropriately determined in the range of several minutes to 96 hours.

A thioamide compound can be produced from a compound represented by formula (17) using a Lawson reagent according Production Method 3 (in the formula, R_1, R_2, R_3, G_1, G_2, (X)n, and Q represent the same as described above).

Production Method 3



3-(i) Formula (17) → Formula (18)

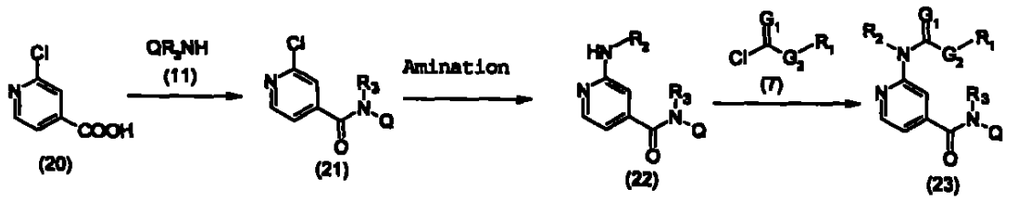
The reaction can be performed under the conditions described in Synthesis, p. 463 (1993) and Synthesis, p. 829 (1984), but the conditions such as a solvent are not limited to those described in these documents.

3-(ii) Formula (18) → Formula (19)

A compound represented by formula (19) of the present invention can be produced using a compound represented by formula (7) (for example, a chloroformic ester or a chlorothioformic ester) under the conditions properly selected from the reaction conditions described above in the step 1-(iii) of Production Method 1.

A chloropyridinecarboxylic acid can be used as a starting material. For example, a compound represented by formula (23) can be produced from a chloropyridinecarboxylic acid represented by formula (20) according to Production Method 4 (in the formula, R_1, R_2, R_3, Q, G_1, and G_2 represent the same as described above).

Production Method 4



4-(i) Formula (20) → Formula (21)

A compound represented by formula (18) is halogenated in the presence or absence of an inert solvent and then reacted with an aromatic amine represented by formula (11) to produce a compound represented by formula (21). As the solvent usable in the halogenation step, any solvent which does not significantly inhibit the progress of reaction can be used. Examples of the solvent include aromatic hydrocarbons such as benzene, toluene,

and xylene; halogenated hydrocarbons such as dichloromethane, chloroform, and carbon tetrachloride; chained or cyclic ethers such as diethyl ether, dioxane, tetrahydrofuran, and 1,2-dimethoxyethane; esters such as ethyl acetate and butyl acetate; ketones such as acetone, methyl isobutyl ketone, and cyclohexanone; amides such as dimethylformamide and dimethylacetamide; nitriles such as acetonitrile; and inert solvents such as 1,3-dimethyl-2-imidazolidinone. These solvents can be used alone or in a mixture of two ore more kinds. Examples of a halogenating agent include thionyl chloride, thionyl bromide, phosphorus oxychloride, oxalyl chloride, and phosphorus trichloride. The amount of the halogenating agent used may be appropriately determined in the range of molar equivalents of 1 to 10 times the amount of the compound represented by formula (20). Also, N,N-dimethylformamide may be added as an auxiliary for accelerating the reaction. The reaction temperature may be appropriately determined in the range of -20°C to the reflux temperature of the solvent used, and the reaction time may be appropriately determined in the range of several minutes to 96 hours. As the solvent usable in the amidation step, any solvent which does not significantly inhibit the progress of reaction can be used. Examples of the solvent include aromatic hydrocarbons such as benzene, toluene, and xylene; halogenated hydrocarbons such as dichloromethane, chloroform, and carbon tetrachloride; chained or cyclic ethers such as diethyl ether, dioxane, tetrahydrofuran, and 1,2-dimethoxyethane; esters such as ethyl acetate and butyl acetate; ketones such as acetone, methyl

isobutyl ketone, and cyclohexanone; amides such as dimethylformamide and dimethylacetamide; nitriles such as acetonitrile; and inert solvents such as 1,3-dimethyl-2-imidazolidinone. These solvents can be used alone or in a mixture of two ore more kinds. Also, a base may be added for accelerating the progress of reaction. Examples of the base include organic bases such as triethylamine, pyridine, 4-dimethylaminopyridine; and inorganic bases such as potassium carbonate. The amount of the base used may be appropriately determined in the range of molar equivalents of 0.01 to 5 times the amount of the compound represented by formula (11). The reaction temperature may be appropriately determined in the range of -20°C to the reflux temperature of the solvent used, and the reaction time may be appropriately determined in the range of several minutes to 96 hours.

A process for producing a compound represented by formula (21) from a compound represented by formula (20) and a compound represented by formula (11) without using a halogenating agent is presented by a process according to the technique disclosed in, for example, Chem. Ber., p. 788 (1970) where 1-hydroxybenzotriazole as an additive and N,N'-dicyclohexyl carbodiimide as a condensing agent are used, respectively. Other examples of the condensing agent include 1-ethyl-3-(3-dimethylaminopropyl) carbodiimide, and 1,1'-carbonyl-bis-1H-imidazole. The compound represented by formula (21) can also be produced by a mixed acid anhydride technique using a chloroformic ester according to the technique disclosed in J. Am. Chem. Soc., p.

5012 (1967). Examples of a chloroformic ester include isobutyl chloroformate and isopropyl chloroformate. A compound other than a chloroformic ester, for example, diethylacetyl chloride or trimethylacetyl chloride, can also be used. In the technique using the condensing agent and the mixed acid anhydride technique, the solvent, the reaction temperatures, and the reaction times are not limited to those disclosed in the above documents, and an inert solvent which does not significantly inhibit the progress of reaction may be appropriately used. Also, the reaction temperature and the reaction time may be appropriately selected according to the progress of reaction.

4-(ii) Formula (21) → Formula (22)

A compound represented by formula (22) can be produced by amination with ammonia according to the conditions described in, for example, J. Org. Chem., p. 280(1958). The conditions such as the reaction solvent are not limited to those disclosed in the above document, and an inert solvent which does not significantly inhibit the progress of reaction may be appropriately used. Also, the reaction temperature and the reaction time may be appropriately selected according to the progress of reaction. As an aminating agent, methylamine or ethylamine can be used instead of ammonia.

4-(iii) Formula (22) → Formula (23)

A compound represented by formula (23) of the present invention can be produced by using a compound represented by

formula (7) (for example, a chloroformic ester or a chlorothioformic ester) under the conditions appropriately selected from the reaction conditions described above in the step 1-(iii) of Production Method 1.

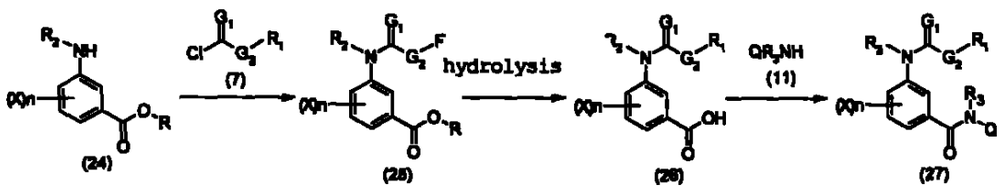
Even when another nitrogen-containing aromatic carboxylic acid such as 4-chloropyridine-2-carboxlic acid or 6-chloropyridine-2-carboxylic acid is selected as a starting material, the compound of the present invention can be produced according to Production Method 4. In the use of the former starting material, a compound represented by formula (1) wherein A_1 is a nitrogen atom, and A_2, A_3, and A_4 are each a carbon atom can be produced. In the use of the latter starting material, a compound represented by formula (1) wherein A_1, A_2, and A_3 are each a carbon atom, and A_4 is a nitrogen atom can be produced.

The compound represented by formula (23) is reacted with an appropriate oxidizing agent to produce a corresponding pyridine-N-oxide derivative according to the conditions disclosed in, for example, J. Org. Chem., p. 8576 (1999). Examples of the oxidizing agent include organic peroxy acids such as m-chloroperoxybenzoic acid; sodium metaperiodate; hydrogen peroxide; ozone; selenium dioxide, chromic acid; dinitrogen tetraoxide; acyl nitrate; iodine; bromine; N-bromosuccinimide; iodosylbenzene; and t-butyl hypochlorite. The solvent used in this step is not limited to those disclosed in the above document, and any solvent which does not significantly inhibit the progress of reaction may be used. The solvents can be used alone or in a mixture of one or more kinds. In particular, a polar solvent is preferred. The reaction

temperature may be appropriately determined in the range of -20°C to the reflux temperature of the solvent used, and the reaction time may be appropriately determined in the range of several minutes to 96 hours.

A compound represented by formula (27) of the present invention can be produced from a easily available m-aminobenzoic ester derivative presented by formula (24) according to Production Method 5 (in the formula, R_1, R_2, R_3, G_1, G_2, (X)n, and Q represent the same as described above, and R represents a lower alkyl group).

Production Method 5



5-(i) Formula (24) → Formula (25)

A compound represented by formula (25) can be produced by using a compound represented by formula (7) (for example, a chloroformic ester or a chlorothioformic ester) under the conditions appropriately selected from the reaction conditions described above in the step 1-(iii) of Production Method 1.

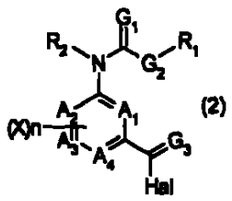
5-(ii) Formula (25) → Formula (26)

A compound represented formula (26) can be produced by hydrolysis with an alkali metal hydroxide such as sodium hydroxide

or potassium hydroxide, an alkali earth metal hydroxide such as calcium hydroxide, or an inorganic acid such as hydrochloric acid or sulfuric acid according to a conventional technique.

5-(iii) Formula (26) → Formula (27)

A compound represented by formula (27) of the present invention can be produced by condensation reaction under appropriate conditions according to the technique described above in the step 4-(i) of Production Method 4. Among the techniques described in the step 4-(i), in the technique using a halogenating agent, the compound represented by formula (27) can be produced through a compound represented by formula (2):

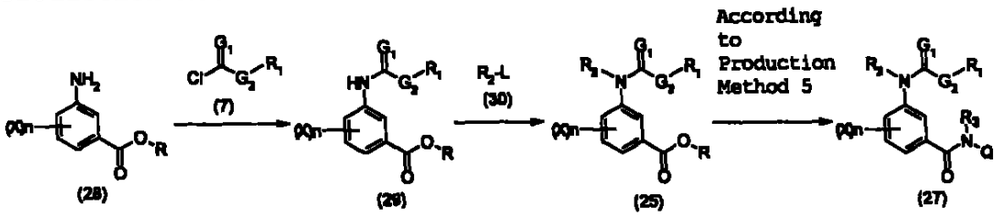


(2)

(wherein A_1, A_2, A_3, A_4, G_1, G_2, G_3, (X)n, and Hal each represent the same as described above). The halogenation step and the amidation step can be performed under reaction conditions according to the technique described above in the step 4-(i).

The compound represented by formula (27) of the present invention can be produced from a m-aminobenzoic acid ester represented by formula (28) according to Production Method 6 below (in the formula, R_1, R_2, R_3, G_1, G_2, (X)n, and Q each represent the same as described above, R represents a lower alkyl group, and L represents a functional group having leaving ability, such as halogen, methanesulfonyloxy, or trifluoromethanesulfonyloxy).

Production Method 6



6-(i) Formula (28) → Formula (29)

A compound represented formula (29) can be produced by the technique described above in the step 1-(iii) of Production Method 1 using a compound represented by formula (7) (for example, a chloroformic ester or a chlorothioformic ester) under appropriate conditions.

6-(ii) Formula (29) → Formula (25)

In this step, examples of a compound represented by formula (30) include alkyl halides such as methyl iodide and ethyl iodide; toluenesulfonic esters; methanesulfonic esters; and alkylating agents such as dimethyl sulfate. As a solvent, any solvent which does not significantly inhibit the progress of reaction can be used. Examples of the solvent include aromatic hydrocarbons such as benzene, toluene, and xylene; halogenated hydrocarbons such as dichloromethane, chloroform, and carbon tetrachloride; chained or cyclic ethers such as diethyl ether, dioxane, tetrahydrofuran, and 1,2-dimethoxyethane; esters such as ethyl acetate and butyl acetate; ketones such as acetone, methyl isobutyl ketone, and cyclohexanone; amides such as dimethylformamide and

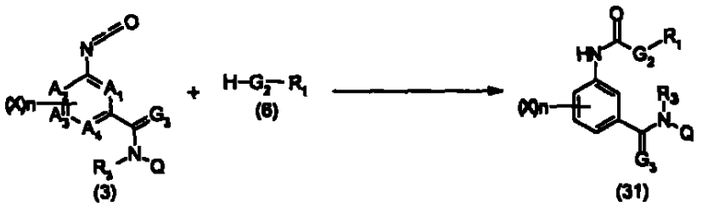
dimethylacetamide; nitriles such as acetonitrile; and inert solvents such as 1,3-dimethyl-2-imidazolidinone. These solvents can be used alone or in a mixture of two ore more kinds. Also, a base may be added for accelerating the progress of reaction. Examples of the base include organic bases such as triethylamine, pyridine, and 4-dimethylaminopyridine; inorganic bases such as potassium carbonate, sodium hydroxide, and potassium hydroxide; and alkali metal hydrides such as sodium hydride. The amount of the base used may be appropriately determined in the range of molar equivalents of 0.01 to 5 times the amount of the compound represented by formula (29). The reaction temperature may be appropriately determined in the range of -20°C to the reflux temperature of the solvent used, and the reaction time may be appropriately determined in the range of several minutes to 96 hours.

6-(iii) Formula (25) → Formula (27)

A compound represented by formula (27) of the present invention can be produced by the techniques described above in the steps 5-(ii) and 5-(iii) of Production Method 5 under appropriate conditions.

A compound represented by formula (31) of the present invention can be produced according to Production Method 7 (in the formula, A_1, A_2, A_3, A_4, R_1, R_3, G_2, G_3, and $(X)n$ each represent the same as described above).

Production Method 7

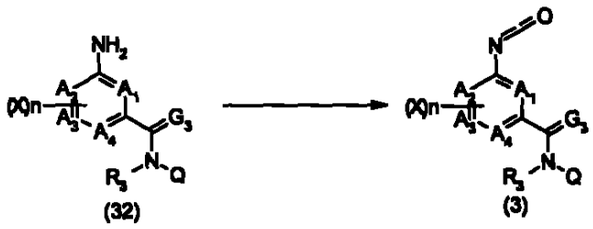


In this step, an appropriate solvent may be used. As the solvent, any solvent which does not significantly inhibit the progress of reaction can be used. Examples of the solvent include aromatic hydrocarbons such as benzene, toluene, and xylene; halogenated hydrocarbons such as dichloromethane, chloroform, and carbon tetrachloride; chained or cyclic ethers such as diethyl ether, dioxane, tetrahydrofuran, and 1,2-dimethoxyethane; esters such as ethyl acetate and butyl acetate; ketones such as acetone, methyl isobutyl ketone, and cyclohexanone; amides such as dimethylformamide and dimethylacetamide; nitriles such as acetonitrile; and inert solvents such as 1,3-dimethyl-2-imidazolidinone. These solvents can be used alone or in a mixture of two ore more kinds. Also, an appropriate base may be used. Examples of the base include organic bases such as triethylamine, tri-n-butylamine, pyridine, 4-dimethylaminopyridine; alkali metal hydroxides such as sodium hydroxide and potassium hydroxide; carbonates such as sodium hydrogen carbonate and potassium carbonate; alkali metal hydrides such as sodium hydride; and alkali metal alcoholates such as sodium methoxide and sodium ethoxide. The amount of the base used may be appropriately determined in the range of molar equivalents of 0.01 to 5 times the amount of the compound represented by formula (6). The

reaction temperature may be appropriately determined in the range of -20°C to the reflux temperature of the solvent used, and the reaction time may be appropriately determined in the range of several minutes to 96 hours.

An isocyanate compound represented by formula (3) can be produced by Production Method 8 (in the formula, A_1, A_2, A_3, A_4, G_3, R_3, (X)n, and Q each represent the same as described above) using a m-aminobenzamide derivative or a m-aminopyridinecarboxamide derivative represented by formula (32) as a starting material.

Production Method 8

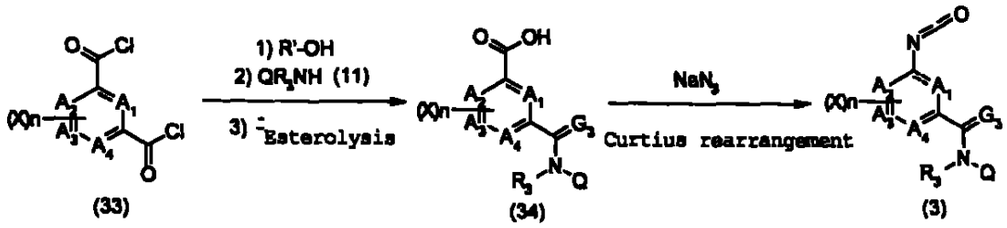


In this step, reaction can be performed by using phosgene according to the technique described in Organic Syntheses, Coll., Vol. II, p. 453. An isocyanate compound represented by formula (3) can also be produced by using a phosgene dimmer, triphosgene, or oxalyl chloride instead of phosgene. In this step, an appropriate solvent may be used. As the solvent, any solvent which does not significantly inhibit the progress of reaction can be used. Examples of the solvent include aromatic hydrocarbons such as benzene, toluene, and xylene; halogenated hydrocarbons such as dichloromethane, chloroform, and carbon tetrachloride; chained or cyclic ethers such as diethyl ether, dioxane, tetrahydrofuran, and 1,2-dimethoxyethane; esters such as ethyl

acetate and butyl acetate; ketones such as acetone, methyl isobutyl ketone, and cyclohexanone; amides such as dimethylformamide and dimethylacetamide; nitriles such as acetonitrile; and inert solvents such as 1,3-dimethyl-2-imidazolidinone. These solvents can be used alone or in a mixture of two ore more kinds. The reaction temperature may be appropriately determined in the range of -20°C to the reflux temperature of the solvent used, and the reaction time may be appropriately determined in the range of several minutes to 96 hours.

An isocyanate compound represented by formula (3) can also be produced by Production Method 9 (in the formula, A_1, A_2, A_3, A_4, G_3, R_3, (X)n, and Q each represent the same as described above) utilizing Curtius rearrangement reaction with an isophthaloyl chloride derivative represented by formula (33) used as a starting material according to the technique described in Macromolecules, p. 1046 (1998).

Production Method 9



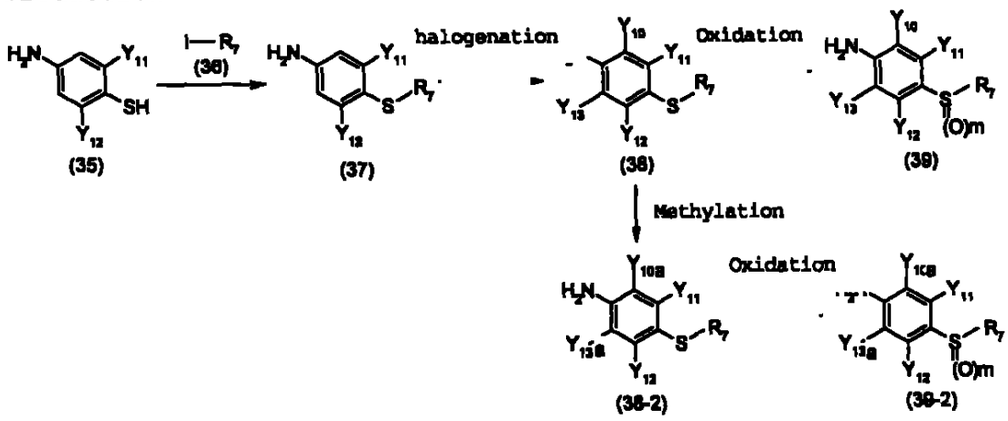
(33) (34) (3)

In this step, an appropriate solvent may be used. As the solvent, any solvent which does not significantly inhibit the progress of reaction can be used. Examples of the solvent include

aromatic hydrocarbons such as benzene, toluene, and xylene; halogenated hydrocarbons such as dichloromethane, chloroform, and carbon tetrachloride; chained or cyclic ethers such as diethyl ether, dioxane, tetrahydrofuran, and 1,2-dimethoxyethane; esters such as ethyl acetate and butyl acetate; ketones such as acetone, methyl isobutyl ketone, and cyclohexanone; amides such as dimethylformamide and dimethylacetamide; nitriles such as acetonitrile; and inert solvents such as 1,3-dimethyl-2-imidazolidinone. These solvents can be used alone or in a mixture of two ore more kinds. The reaction temperature may be appropriately determined in the range of -20°C to the reflux temperature of the solvent used, and the reaction time may be appropriately determined in the range of several minutes to 96 hours. In producing a compound represented formula (34), ethanol, propanol, or benzyl alcohol can be used as an alcohol. In esterolysis, hydrolysis or catalytic hydrogen reduction can be performed by a conventional technique.

An aniline derivative represented by formula (39) can be produced by using an aminothiophenol derivative as a starting material according Production Method 10 (in the formula, R_7, Y_{11}, Y_{12}, and m each represent the same as described above, Y_{10} and Y_{13} each represent a hydrogen atom or a halogen atom except a case in which both groups are hydrogen atoms as far as this Method is concerned, Y_{10a} and Y_{13a} each represent a hydrogen atom, a halogen atom, or a methyl group as far as this Method is concerned, and one of Y_{10a} and Y_{13a} necessarily represents a methyl group).

Production Method 10



10-(i) Formula (35) → Formula (37)

A compound represented by formula (38) can be produced by reaction of aminothiophenol represented by formula (35) with a haloalkyl iodide represented by formula (36) according to the method described in J. Fluorine Chem., p. 207 (1994).

Examples of a haloalkyl iodide represented by formula (36) include trifluoromethyl iodide, pentafluoroethyl iodide, heptafluoro-n-propyl iodide, heptafluoroisopropyl iodide, nonafluoro-n-butyl iodide, and nonafluoroisopropyl iodide. The amount of the haloalkyl iodide used may be appropriately determined in the range of molar equivalents of 1 to 10 times the amount of the compound represented formula (35). The solvent used in this step is not limited to those described in the above document, and any solvent which does not significantly inhibit the progress of reaction can be used as the solvent. Examples of the solvent include aromatic hydrocarbons such as benzene, toluene, and xylene; halogenated hydrocarbons such as dichloromethane,

chloroform, and carbon tetrachloride; chained or cyclic ethers such as diethyl ether, dioxane, tetrahydrofuran, and 1,2-dimethoxyethane; esters such as ethyl acetate and butyl acetate; ketones such as acetone, methyl isobutyl ketone, and cyclohexanone; amides such as dimethylformamide and dimethylacetamide; nitriles such as acetonitrile; and inert solvents such as 1,3-dimethyl-2-imidazolidinone and hexamethylphosphoric triamide. These solvents can be used alone or in a mixture of two ore more kinds. In particular, a polar solvent is preferred. The reaction temperature may be appropriately determined in the range of -20°C to the reflux temperature of the solvent used, and the reaction time may be appropriately determined in the range of several minutes to 96 hours.

10-(ii) Formula (37) → Formula (38)

A compound represented by formula (38) can be produced by using an appropriate halogenating agent according to the technique described in, for example, Synth. Commun., p. 1261 (1989). Examples of the halogenating agent include chlorine, bromine, iodine, N-chlorosuccinimde, N-bromosuccinimide, and N-iodosuccinimide. The amount of the halogenating agent used may be appropriately determined in the range of molar equivalents of 1 to 10 times the amount of the compound represented formula (37). The number of equivalents of the halogenating agent used can be appropriately determined so that only Y_{10} or Y_{13} is a halogen atom. In this step, an appropriate solvent may be used. The solvent

used is not limited to those described in the above document, and any solvent which does not significantly inhibit the progress of reaction can be used as the solvent. Examples of the solvent include aromatic hydrocarbons such as benzene, toluene, and xylene; halogenated hydrocarbons such as dichloromethane, chloroform, and carbon tetrachloride; chained or cyclic ethers such as diethyl ether, dioxane, tetrahydrofuran, and 1,2-dimethoxyethane; esters such as ethyl acetate and butyl acetate; ketones such as acetone, methyl isobutyl ketone, and cyclohexanone; amides such as dimethylformamide and dimethylacetamide; nitriles such as acetonitrile; and inert solvents such as 1,3-dimethyl-2-imidazolidinone and hexamethylphosphoric triamide. These solvents can be used alone or in a mixture of two ore more kinds. In particular, a polar solvent is preferred. The reaction temperature may be appropriately determined in the range of -20°C to the reflux temperature of the solvent used, and the reaction time may be appropriately determined in the range of several minutes to 96 hours.

10-(iii) Formula (38) → Formula (39)

A compound represented by formula (39) can be produced by using an appropriate oxidizing agent according to the technique described in, for example, Tetrahedron Lett., p. 4955 (1994). Examples of the oxidizing agent include organic peroxy acids such as m-chloroperoxybenzoic acid; sodium metaperiodate; hydrogen peroxide; ozone; selenium dioxide, chromic acid; dinitrogen

tetraoxide; acyl nitrate; iodine; bromine; N-bromosuccinimide; iodosylbenzene; and t-butyl hypochlorite. The solvent used in this step is not limited to those disclosed in the above document, and any solvent which does not significantly inhibit the progress of reaction may be used. The solvents can be used alone or in a mixture of one or more kinds. In particular, a polar solvent is preferred. The reaction temperature may be appropriately determined in the range of -20°C to the reflux temperature of the solvent used, and the reaction time may be appropriately determined in the range of several minutes to 96 hours.

10-(iv) Formula (38) → Formula (38-2)

A compound represented by formula (38-2) (wherein R_7, Y_{11}, Y_{12}, and m each represent the same as described above, Y_{10a} and Y_{13a} each represent a hydrogen atom, a halogen atom, or a methyl group as far as this step is concerned, and one of Y_{10a} and Y_{13a} necessarily represents a methyl group) can be produced from the compound represented by formula (38) using an appropriate methylating agent. This step can be performed according to the technique described in, for example, Tetrahedron. Lett., p. 6237 (2000).

10-(v) Formula (38-2) → Formula (39-2)

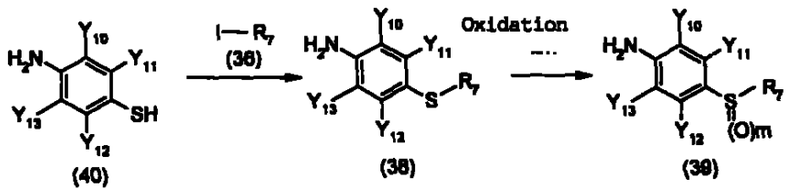
A compound represented by formula (39-2) (wherein R_7, Y_{11}, Y_{12}, and m each represent the same as described above, Y_{10a} and Y_{13a} both represent a methyl group or one of Y_{10a} and Y_{13a} represents a methyl group and the other represents a halogen atom as far as this step is concerned) can be produced according to the technique descried

above in the step 10-(iii) of Production Method 10.

The compounds represented by formula (1), (3), (4), and (8) can be produced from aniline derivatives represented by formula (38), (39), (38-2) and (39-2) according to any one Method appropriately selected from Production Methods 1 to 9.

The compound represented by formula (39) can also be produced from an aminothiophenol represented by formula (40) according to Production Method 11 (in the formula, R_7, Y_{10}, Y_{11}, Y_{12}, Y_{13}, and m each represent the same as described above).

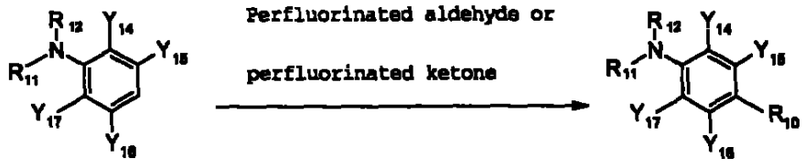
Production Method 11



Reaction with a haloalkyl iodide and subsequent oxidation can be performed according to Production Method 10. The compounds represented by formula (1), (3), (4), and (8) can be produced from aniline derivatives represented by formula (41) and (42) according to any one Method appropriately selected from Production Methods 1 to 9.

A compound represented by formula (9) can also be produced from an aniline derivative represented by formula (41) and used as a starting material according to Production Method 12 (in the formula, R_{10}, R_{11}, R_{12}, Y_{14}, Y_{15}, Y_{16}, and Y_{17} each represent the same as described above).

Production Method 12



(41) (9)

A compound represented by formula (9) can be produced by using an appropriate perfluorinated aldehyde or perfluorinated ketone according to the technique described in, for example, J. Am. Chem. Soc., p. 2410 (1965) and J. Org. Chem., p. 1001 (1965). Examples of the perfluorinated aldehyde or perfluorinated ketone include hexafluoroacetone and perfluoro-2-butanone. In this step, an appropriate solvent can be used. The solvent used in this step is not limited to those disclosed in the above documents, and any solvent which does not significantly inhibit the progress of reaction may be used. The solvents can be used alone or in a mixture of one or more kinds. The reaction temperature may be appropriately determined in the range of -20°C to 200°C, and the reaction time may be appropriately determined in the range of several minutes to 96 hours.

The compounds represented by formula (1), (3), and (4) can be produced from an aniline derivative represented by formula (9) according to any one properly selected from Production Methods 1 to 9.

In all the production Methods, the compounds may be isolated from the reaction systems after reactions according to a normal technique. However, the compounds can be optionally purified by an operation such as recrystallization, column chromatography,

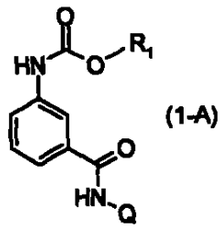
distillation, or the like. Alternatively, the compounds may be used in next reaction steps without being isolated from the reaction systems.

Although typical examples of the compounds represented by formula (1) and used as active ingredients of insecticides of the present invention are shown in Tables 1 to 5, the present invention is not limited to these examples.

Although typical examples of the compounds represented by formula (4) are shown in Tables 6 to 8, the present invention is not limited to these examples.

In the tables, "n-" denotes normal, "Me" denotes a methyl group, "Et" denotes an ethyl group; "n-Pr" denotes a normal propyl group, "i-Pr, denotes an isopropyl group, "n-Bu" denotes a normal butyl group, "i-Bu" denotes an isobutyl group, "s-Bu" denotes a secondary butyl group, "t-Bu" denotes a tertiary butyl group, "H" denotes a hydrogen atom, "O" denotes an oxygen atom, "S" denotes a sulfur atom, "C" denotes a carbon atom, "N" denotes a nitrogen atom, "F" denotes a fluorine atom, "Cl" denotes a chlorine atom, "Br" denotes a bromine atom, "I" denotes an iodine atom, "CF_3" denotes a trifluoromethy group, "MeO" denotes a methoxy group, "NH_2" denotes an amino group, "MeNH" denotes a methylamino group, and "Me_2N" denotes a dimethylamino group.

Table 1(1)



(1-A)

Compound No.	R_1	Q
1	Me	2-methyl-4-heptafluoroisopropylphenyl
2	Et	2-methyl-4-heptafluoroisopropylphenyl
3	i-Pr	2-methyl-4-heptafluoroisopropylphenyl
4	n-Bu	2-methyl-4-heptafluoroisopropylphenyl
5	i-Bu	2-methyl-4-heptafluoroisopropylphenyl
6	s-Bu	2-methyl-4-heptafluoroisopropylphenyl
7	t-Bu	2-methyl-4-heptafluoroisopropylphenyl
8	neopentyl	2-methyl-4-heptafluoroisopropylphanyl
9	3,3-dimethyl-n-butyl	2-methyl-4-heptafluoroisopropylphenyl
10	2-ethyl-n-hexyl	2-methyl-4-heptafluoroisopropylphenyl
11	vinyl	2-methyl-4-heptafluoroisopropylphanyl
12	allyl	2-methyl-4-heptafluoroisopropylphenyl
13	2-isopropyl-5-methylcyclohexyl	2-methyl-4-heptafluoroisopropylphenyl
14	benzyl	2-methyl-4-heptafluoroisopropylphenyl
15	3-cyanobenzyl	2-methyl-4-heptafluoroisopropylphanyl
16	4-cyanobenzyl	2-methyl-4-heptafluoroisopropylphanyl
17	2-methoxyethyl	2-methyl-4-heptafluoroisopropylphenyl
18	chloromethyl	2-methyl-4-heptafluoroisopropylphenyl
19	2-chloroethyl	2-methyl-4-heptafluoroisopropylphenyl
20	2,2,2-trichloroethyl	2-methyl-4-heptafluoroisopropylphenyl
21	1,2,2,2-tetrachloroethyl	2-methyl-4-heptafluoroisopropylphenyl
22	1,1-dimethyl-2,2,2-trichloroethyl	2-methyl-4-heptafluoroisopropylphenyl
23	3-trifluoromethylphenyl	2-methyl-4-heptafluoroisopropylphenyl
24	4-methylphenyl	2-methyl-4-heptafluoroisopropylphenyl
25	4-chlorophenyl	2-methyl-4-heptafluoroisopropylphenyl
26	cyclobutyl	2-methyl-4-heptafluoroisopropylphenyl
27	cyclopentyl	2-methyl-4-heptafluoroisopropylphenyl
28	2-cyanoethyl	2-methyl-4-heptafluoroisopropylphenyl
29	2-(ethylthio)ethyl	2-methyl-4-heptafluoroisopropylphenyl
30	2-(ethylsulfinyl)ethyl	2-methyl-4-heptafluoroisopropylphenyl

Table 1(2)

Compound No.	R_1	Q
31	2-(ethylsulfonyl)ethyl	2-methyl-4-heptafluoroisopropylphenyl
32	2-fluoroethyl	2-methyl-4-heptafluoroisopropylphenyl
33	2,2-difluoroethyl	2-methyl-4-heptafluoroisopropylphenyl
34	2,2,2-trifluoroethyl	2-methyl-4-heptafluoroisopropylphenyl
35	1,3-difluoro-2-propyl	2-methyl-4-heptafluoroisopropylphenyl
36	1-chloro-3-fluoro-2-propyl	2-methyl-4-heptafluoroisopropylphenyl
37	1-methyl-2,2,2-trifluoro-2-propyl	2-methyl-4-heptafluoroisopropylphenyl
38	3,3,3-trifluoro-n-propyl	2-methyl-4-heptafluoroisopropylphenyl
39	3,3,4,4,4-pentafluoro-2-butyl	2-methyl-4-heptafluoroisopropylphenyl
40	4,4,4-trifluoro-n-butyl	2-methyl-4-heptafluoroisopropylphenyl
41	2,2,3,3-tetrafluorocyclobutyl	2-methyl-4-heptafluoroisopropylphenyl
42	2,2-dichloroethyl	2-methyl-4-heptafluoroisopropylphenyl
43	1,3-dichloro-2-propyl	2-methyl-4-heptafluoroisopropylphenyl
44	3-chloro-n-propyl	2-methyl-4-heptafluoroisopropylphenyl
45	3,3,3-trichloro-n-propyl	2-methyl-4-heptafluoroisopropylphenyl
46	2-bromoethyl	2-methyl-4-heptafluoroisopropylphenyl
47	2,2,2-tribromoethyl	2-methyl-4-heptafluoroisopropylphenyl
48	2-iodoethyl	2-methyl-4-heptafluoroisopropylphenyl
49	tetrahydrofuran-3-yl	2-methyl-4-heptafluoroisopropylphenyl
50	(furan-2-yl)methyl	2-methyl-4-heptafluoroisopropylphenyl
51	(furan-3-yl)methyl	2-methyl-4-heptafluoroisopropylphenyl
52	(tetrahydrofuran-2-yl)methyl	2-methyl-4-heptafluoroisopropylphenyl
53	(tetrahydrofuran-3-yl)methyl	2-methyl-4-heptafluoroisopropylphenyl
54	(thiophen-2-yl)methyl	2-methyl-4-heptafluoroisopropylphenyl
55	(thiophen-3-yl)methyl	2-methyl-4-heptafluoroisopropylphenyl
56	(pyridin-2-yl)methyl	2-methyl-4-heptafluoroisopropylphenyl
57	(pyridin-3-yl)methyl	2-methyl-4-heptafluoroisopropylphenyl
58	(6-chloropyridin-3-yl)methyl	2-methyl-4-heptafluoroisopropylphenyl
59	Me	2,6-dimethyl-4-heptafluoroisopropylphenyl
60	Et	2,6-dimethyl-4-heptafluoroisopropylphenyl

Table 1(3)

Compound No.	R_1	Q
61	n-Pr	2,6-dimethyl-4-heptafluoroisopropylphenyl
62	i-Pr	2,6-dimethyl-4-heptafluoroisopropylphenyl
63	n-Bu	2,6-dimethyl-4-heptafluoroisopropylphenyl
64	i-Bu	2,6-dimethyl-4-heptafluoroisopropylphenyl
65	s-Bu	2,6-dimethyl-4-heptafluoroisopropylphenyl
66	t-Bu	2,6-dimethyl-4-heptafluoroisopropylphenyl
67	neopentyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
68	1,2-dimethyl-n-propyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
69	1-methyl-n-butyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
70	1,3-dimethyl-n-butyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
71	3,3-dimethyl-n-butyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
72	cyclopentylmethyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
73	1-phenylethyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
74	2-phenylethyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
75	vinyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
76	allyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
77	propargyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
78	cyclobutyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
79	cyclopentyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
80	cyclohexyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
81	benzyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
82	4-methylbenzyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
83	4-trifluoromethylbenzyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
84	3-cyanobenzyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
85	4-cyanobenzyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
86	2-fluorobenzyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
87	3-fluorobenzyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
88	4-fluorobenzyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
89	2-chlorobenzyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
90	3-chlorobenzyl	2,6-dimethyl-4-heptafluoroisopropylphenyl

Table 1(4)

Compound No.	R_1	Q
91	4-chlorobenzyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
92	4-nitrobenzyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
93	4-methoxycarbonylbenzyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
94	2-hydroxyethyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
95	2-methoxyethyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
96	2-ethoxyethyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
97	2-isopropyloxyethyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
98	2-benzyloxyethyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
99	3-ethoxy-n-propyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
100	ethoxycarbonylmethyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
101	1-(methoxycarbonyl)ethyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
102	1-(ethoxycarbonyl)ethyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
103	3-oxo-n-butyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
104	2-acetoxyethyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
105	cyanomethyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
106	2-cyanoethyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
107	3-cyano-n-propyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
108	2-(methylthio)ethyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
109	2-(ethylthio)ethyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
110	2-(isopropylthio)ethyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
111	1-methyl-2-(methylthio)ethyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
112	2-(ethylsulfinyl)ethyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
113	2-(ethylsulfonyl)ethyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
114	3-(methylthio)-n-propyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
115	3-(ethylthio)-n-propyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
116	2-fluoroethyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
117	2,2-difluoroethyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
118	2,2,2-trifluoroethyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
119	1,3-difluoro-2-propyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
120	1-chloro-3-fluoro-2-propyl	2,6-dimethyl-4-heptafluoroisopropylphenyl

Table 1(5)

Compound No.	R_1	Q
121	1-methyl-2,2,2-trifluoroethyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
122	1,1,1,3,3,3-hexafluoro-2-propyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
123	3,3,3-trifluoro-n-propyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
124	2,2,3,3,3-pentafluoro-n-propyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
125	3,3,4,4,4-pentafluoro-2-butyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
126	4,4,4-tifluoro-n-butyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
127	2,2,3,3-tetrafluorocyclobutyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
128	chloromethyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
129	trichloromethyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
130	2-chloroethyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
131	2,2-dichloroethyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
132	2,2,2-trichloroethyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
133	1,2,2,2-tetrachloroethyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
134	1,3-dichloro-2-propyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
135	1,1-dimethyl-2,2,2-trichloroethyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
136	3-chloro-n-propyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
137	2-bromoethyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
138	2,2,2-tribromoethyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
139	3-bromo-n-propyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
140	2-iodoethyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
141	2-(acetylamino)ethyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
142	2-(dimethylamino)ethyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
143	2-(ethylamino)ethyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
144	methylaminocarbonylethyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
145	phenyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
146	4-methylphenyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
147	3-trifluoromethylphenyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
148	4-chlorophenyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
149	naphthyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
150	Pyridine-2-yl	2,6-dimethyl-4-heptafluoroisopropylphenyl

Table 1(6)

Compound No.	R_1	Q
151	pyridine-3-yl	2,6-dimethyl-4-heptafluoroisopropylphenyl
152	pyridine-4-yl	2,6-dimethyl-4-heptafluoroisopropylphenyl
153	tetrahydrofuran-2-yl	2,6-dimethyl-4-heptafluoroisopropylphenyl
154	tetrahydrofuran-3-yl	2,6-dimethyl-4-heptafluoroisopropylphenyl
155	(furan-2-yl)methyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
156	(furan-3-yl)methyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
157	(tetrahydrofuran-2-yl)methyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
158	(tetrahydrofuran-3-yl)methyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
159	(thiophen-2-yl)methyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
160	(thiophen-3-yl)methyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
161	(pyridin-2-yl)methyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
162	(pyridin-3-yl)methyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
163	(6-chloropyridin-3-yl)methyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
164	Me	2-methyl-6-isopropyl-4-heptafluoro isopropylphenyl
165	Et	2-methyl-6-isopropyl-4-heptafluoro isopropylphenyl
166	i-Pr	4-heptafluoroisopropylphenyl
167	i-Pr	3-methyl-4-heptafluoroisopropylphenyl
168	i-Pr	2-ethyl-4-heptafluoroisopropylphenyl
169	i-Pr	2-propyl-4-heptafluoroisopropylphenyl
170	i-Pr	3-methoxy-4-heptafluoroisopropylphenyl
171	i-Pr	3-chloro-4-heptafluoroisopropylphenyl
172	i-Pr	2,3-dimethyl-4-heptafluoroisopropylphenyl
173	i-Pr	2,5-dimethyl-4-heptafluoroisopropylphenyl
174	i-Pr	2,6-diethyl-4-heptafluoroisopropylphenyl
175	i-Pr	2-ethyl-6-methyl-4-heptafluoroisopropylphenyl
176	i-Pr	2-methyl-6-isopropyl-4-heptafluoroisopropyl phenyl
177	i-Pr	2-methoxy-6-methyl-4-heptafluoroisopropylphenyl
178	i-Pr	2-methyl-6-phenyl4-heptafluoroisopropylphenyl
179	i-Pr	2-chloro-5-methyl-4-heptafluoroisopropylphenyl
180	i-Pr	2-chloro-6-ethyl-4-heptafluoroisopropylphenyl

Table 1(7)

Compound No.	R_1	Q
181	i-Pr	2-chloro-6-n-propyl-4-heptafluoroisopropyl phenyl
182	i-Pr	2-chloro-5-methoxy-4-heptafluoroisopropylphenyl
183	i-Pr	2,3-dimethyl-6-chloro-4-heptafluoroisopropyl phenyl
184	i-Pr	2-chloro-3,6-dimethyl-4-heptafluoroisopropyl phenyl
185	i-Pr	2-methyl-3-chloromethyl-6-chloro-4-heptafluoro isopropylphenyl
186	i-Pr	2-methyl-3-iodo-6-chloro-4-heptafluoro isopropylphenyl
187	2,2,2-trichloroethyl	4-heptafluoroisopropylphenyl
188	2,2,2-trichloroethyl	3-methyl-4-heptafluoroisopropylphenyl
189	2,2,2-trichloroethyl	2-ethyl-4-heptafluoroiscpropylphenyl
190	2,2,2-trichloroethyl	2-propyl-4-heptafluoroisopropylphenyl
191	2,2,2-trichloroethyl	3-methoxy-4-heptafluoroisopropylphenyl
192	2,2,2-trichloroethyl	2-chloro-4-heptafluoroisopropylphenyl
193	2,2,2-trichloroethyl	3-chloro-4-heptafluoroisopropylphenyl
194	2,2,2-trichloroethyl	2,3-dimethyl-4-heptafluoroisopropylphenyl
195	2,2,2-trichloroethyl	2,5-dimethyl-4-heptafluoroisopropylphenyl
196	2,2,2-trichloroethyl	2,6-diethyl-4-heptafluoroisopropylphenyl
197	2,2,2-trichloroethyl	2-ethyl-6-methyl-4-heptafluoroisopropylphenyl
198	2,2,2-trichloroethyl	2-methyl-6-isopropyl-4-heptafluoro isopropylphenyl
199	2,2,2-trichloroethyl	2-methoxy-6-methyl-4-heptafluoroisopropylphenyl
200	2,2,2-trichloroethyl	2-methyl-6-phenyl-4-heptafluoroisopropylphenyl
201	2,2,2-trichloroethyl	2-hydroxy-6-methyl-4-heptafluoroisopropyl phenyl
202	2,2,2-trichloroethyl	2-chloro-5-methyl-4-heptafluoroisopropylphenyl
203	2,2,2-trichloroethyl	2-methyl-3-amino-4-heptafluoroisopropylphenyl
204	2,2,2-trichloroethyl	2-methyl-3-t-butoxycarbonylamino-4-heptafluoro isopropylphenyl
205	2,2,2-trichloroethyl	2-chloro-6-ethyl-4-heptafluoroisopropylphenyl
206	2,2,2-trichloroethyl	2-bromo-6-ethyl-4-heptafluoroisopropylphenyl
207	2,2,2-trichloroethyl	2-ethyl-6-iodo-4-heptafluoroisopropylphenyl
208	2,2,2-trichloroethyl	2-chloro-6-n-propyl-4-heptafluoro isopropylphenyl
209	2,2,2-trichloroethyl	2-bromo-6-n-propyl-4-heptafluoro isopropylphenyl
210	2,2,2-trichloroethyl	2-bromo-6-n-butyl-4-heptafluoro isopropylphenyl

Table 1(8)

Compound No.	R_1	Q
211	2,2,2-trichloroethyl	2-chloro-5-methoxy-4-heptafluoro isopropylphenyl
212	2,2,2-trichloroethyl	2-bromo-6-methylthio-4-heptafluoro isopropylphenyl
213	2,2,2-trichloroethyl	2,6-dichloro-4-heptafluoroisopropylphenyl
214	2,2,2-trichloroethyl	2,3-dimethyl-6-chloro-4-heptafluoro isopropylphenyl
215	2,2,2-trichloroethyl	2-chloro-3,6-dimethyl-4-heptafluoro isopropylphenyl
216	2,2,2-trichloroethyl	2-methyl-3-chloromethyl-6-chloro-4-heptafluoro isopropylphenyl
217	2,2,2-trichloroethyl	2-methyl-3,6-dichloro-4-heptafluoro isopropylphenyl
218	2,2,2-trichloroethyl	2-methyl-3-bromo-6-chloro-4-heptafluoro isopropylphenyl
219	2,2,2-trichloroethyl	2-methyl-3-iodo-6-chloro-4-heptafluoro isopropylphenyl
220	2,2,2-trichloroethyl	2-methyl-3-amino-6-chloro-4-heptafluoro isopropylphenyl
221	3,3,3-trifluoro-n-propyl	2-bromo-6-n-butyl-4-heptafluoro isopropylphenyl
222	i-Pr	2-chloro-6-methyl-4-trifluoromethylphenyl
223	i-Pr	2,6-dichloro-4-trifluoromethylphenyl
224	i-Pr	2-bromo-4,6-bis(trifluoromethyl)phenyl
225	i-Pr	2,6-dimethyl-4-heptafluoro-n-propylphenyl
226	i-Pr	2,6-dimethyl-4-nonafluoro-n-butylphenyl
227	2,2,2-trichloroethyl	4-trifluoromethylphenyl
228	2,2,2-trichloroethyl	2-chloro-6-methyl-4-trifluoromethylphenyl
229	2,2,2-trichloroethyl	2-bromo-6-chloro-4-trifluoromethylphenyl
230	2,2,2-trichloroethyl	2,6-dichloro-4-trifluoromethylphenyl
231	2,2,2-trichloroethyl	2-chloro4,6-bistrifluoromethylphenyl
232	2,2,2-trichloroethyl	2-bromo-4,6-bistrifluoromethylphenyl
233	2,2,2-trichloroethyl	2,6-dimethyl-4-heptafluoro-n-propylphenyl
234	2,2,2-trichloroethyl	2,6-dimethyl-4-nonafluoro-n-butylphenyl
235	2,2,2-trichloroethyl	2,3,5,6-tetrafluoro-4-trifluoromethylphenyl
236	2,2,2-trichloroethyl	2,6-dibromo-4-pentafluoroethylphenyl
237	3,3,3-trifluoro-n-propyl	2,6-dibromo-4-pentafluoroethylphenyl
238	3,3,3-trifluoro-n-propyl	2-bromo6-chloro-4-trifluoromethylphenyl
239	Et	2,4-bis(trifluoromethyl)phenyl
240	i-Pr	2,4-bis(trifluoromethyl)phenyl

Table 1(9)

Compound No.	R_4	Q
241	vinyl	2,4-bis(trifluoromethyl)phenyl
242	cyclopentyl	2,4-bis(trifluoromethyl)phenyl
243	2-chloroethyl	2,4-bis(trifluoromethyl)phenyl
244	2-cyanoethyl	2,4-bis(trifluoromethyl)phenyl
245	2,2-difluoroethyl	2,4-bis(trifluoromethyl)phenyl
246	2,2-dichloroethyl	2,4-bis(trifluoromethyl)phenyl
247	2,2,2-trichloroethyl	2,4-bis(trifluoromethyl)phenyl
248	2,2,2-tribromoethyl	2,4-bis(trifluoromethyl)phenyl
249	3,3,3-trifluoro-n-propyl	2,4-bis(trifluoromethyl)phenyl
250	2,2,3,3,3-pentafluoro-n-propyl	2,4-bis(trifluoromethyl)phenyl
251	4-cyanobenzyl	2,4-bis(trifluoromethyl)phenyl
252	(6-chloropyridin-3-yl)methyl	2,4-bis(trifluoromethyl)phenyl
253	i-Pr	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
254	2,2-difluoroethyl	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
255	1,3-difluoro-2-propyl	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
256	2,2,2-trifluoroethyl	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
257	2,2,2-trichloroethyl	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
258	1-methyl-2,2,2-trifluoroethyl	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
259	3,3,3-trifluoro-n-propyl	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
260	Et	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
261	vinyl	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
262	propargyl	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
263	cyclobutyl	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
264	cyclopentyl	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
265	benzyl	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
266	3-cyanobenzyl	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
267	4-cyanobenzyl	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
268	3-chlorobenzyl	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
269	2-methoxyethyl	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
270	2-cyanoethyl	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl

Table 1(10)

Compound No.	R_4	Q
271	2-(methylthio)ethyl	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
272	2-(ethylthio)ethyl	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
273	1-methyl-2-(methylthio)ethyl	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
274	2-(ethylsulfinyl)ethyl	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
275	2-(ethylsulfonyl)ethyl	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
276	2-fluoroethyl	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
277	1-chloro-3-fluoro-2-propyl	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
278	2,2,3,3,3-pentafluoro-n-propyl	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
279	3,3,4,4,4-pentafluoro-2-butyl	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
280	4,4,4-trifluoro-n-butyl	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
281	2,2,3,3-tetrafluorocyclobutyl	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
282	2-chloroethyl	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
283	2,2-dichloroethyl	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
284	1,3-dichloro-2-propyl	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
285	3-chloro-n-propyl	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
286	2-bromoethyl	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
287	2,2,2-tribromoethyl	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
288	3-bromo-n-propyl	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
289	2-iodoethyl	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
290	tetrahydrofuran-3-yl	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
291	(furan-2-yl)methyl	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
292	(furan-3-yl)methyl	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
293	(tetrahydrofuran-2-yl)methyl	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
294	(tetrahydrofuran-3-yl)methyl	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
295	(thiophen-2-yl)methyl	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
296	(thiophen-3-yl)methyl	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
297	(pyridin-2-yl)methyl	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
298	(pyridin-3-yl)methyl	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
299	(6-chloropyridin-3-yl)methyl	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
300	2,2,2-trichloroethyl	2,6-dichloro-4-(trifluoromethylthio)phenyl

Table 1(11)

Compound No.	R_1	Q
301	2,2,2-trichloroethyl	2,6-dichloro-4-(trifluoromethylsulfonyl)phenyl
302	Et	2,6-dimethyl-4-pentafluoroethylphenyl
303	i-Pr	2,6-dimethyl-4-pentafluoroethylphenyl
304	propargyl	2,6-dimethyl-4-pentafluoroethylphenyl
305	cyclobutyl	2,6-dimethyl-4-pentafluoroethylphenyl
306	cyclopentyl	2,6-dimethyl-4-pentafluoroethylphenyl
307	benzyl	2,6-dimethyl-4-pentafluoroethylphenyl
308	3-cyanobenzyl	2,6-dimethyl-4-pentafluoroethylphenyl
309	4-cyanobenzyl	2,6-dimethyl-4-pentafluoroethylphenyl
310	3-chlorobenzyl	2,6-dimethyl-4-pentafluoroethylphenyl
311	2-methoxyethyl	2,6-dimethyl-4-pentafluoroethylphenyl
312	2-cyanoethyl	2,6-dimethyl-4-pentafluoroethylphenyl
313	2-(methylthio)ethyl	2,6-dimethyl-4-pentafluoroethylphenyl
314	2-(ethylthio)ethyl	2,6-dimethyl-4-pentafluoroethylphenyl
315	1-methyl2-(methylthio)ethyl	2,6-dimethyl-4-pentafluoroethylphenyl
316	2-(ethylsulfinyl)ethyl	2,6-dimethyl-4-pentafluoroethylphenyl
317	2-(ethylsulfonyl)ethyl	2,6-dimethyl-4-pentafluoroethylphenyl
318	2-fluoroethyl	2,6-dimethyl-4-pentafluoroethylphenyl
319	2,2-difluoroethyl	2,6-dimethyl-4-pentafluoroethylphenyl
320	2,2,2-trifluoroethyl	2,6-dimethyl-4-pentafluoroethylphenyl

Table 1(12)

Compound No.	R_1	Q
321	1,3-difluoro-2-propyl	2,6-dimethyl-4-pentafluoroethylphenyl
322	1-chloro-3-fluoro-2-propyl	2,6-dimethyl-4-pentafluoroethylphenyl
323	1-methyl-2,2,2-trifluoroethyl	2,6-dimethyl-4-pentafluoroethylphenyl
324	3,3,3-trifluoro-n-propyl	2,6-dimethyl-4-pentafluoroethylphenyl
325	2,2,3,3,3-pentafluoro-n-propyl	2,6-dimethyl-4-pentafluoroethylphenyl
326	3,3,4,4,4-pentafluoro-2-butyl	2,6-dimethyl-4-pentafluoroethylphenyl
327	4,4,4-trifluoro-n-butyl	2,6-dimethyl-4-pentafluoroethylphenyl
328	2,2,3,3-tetrafluorocyclobutyl	2,6-dimethyl-4-pentafluoroethylphenyl
329	2-chloroethyl	2,6-dimethyl-4-pentafluoroethylphenyl
330	2,2-dichloroethyl	2,6-dimethyl-4-pentafluoroethylphenyl
331	2,2,2-trichloroethyl	2,6-dimethyl-4-pentafluoroethylphenyl
332	1,3-dichloro-2-propyl	2,6-dimethyl-4-pentafluoroethylphenyl
333	3-chloro-n-propyl	2,6-dimethyl-4-pentafluoroethylphenyl
334	2-bromoethyl	2,6-dimethyl-4-pentafluoroethylphenyl
335	2,2,2-tribromoethyl	2,6-dimethyl-4-pentafluoroethylphenyl
336	3-bromo-n-propyl	2,6-dimethyl-4-pentafluoroethylphenyl
337	2-iodoethyl	2,6-dimethyl-4-pentafluoroethylphenyl
338	tetrahydrofuran-3-yl	2,6-dimethyl-4-pentafluoroethylphenyl
339	(furan-2-yl)methyl	2,6-dimethyl-4-pentafluoroethylphenyl
340	(furan-3-yl)methyl	2,6-dimethyl-4-pentafluoroethylphenyl

Table 1(13)

Compound No.	R_1	Q
341	(tetrahydrofuran-2-yl)methyl	2,6-dimethyl-4-pentafluoroethylphenyl
342	(tetrahydrofuran-3-yl)methyl	2,6-dimethyl-4-pentafluoroethylphenyl
343	(thiophen-2-yl)methyl	2,6-dimethyl-4-pentafluoroethylphenyl
344	(thiophen-3-yl)methyl	2,6-dimethyl-4-pentafluoroethylphenyl
345	(pyridin-2-yl)methyl	2,6-dimethyl-4-pentafluoroethylphenyl
346	(pyridin-3-yl)methyl	2,6-dimethyl-4-pentafluoroethylphenyl
347	(6-chloropyridin-3-yl)methyl	2,6-dimethyl-4-pentafluoroethylphenyl
348	Me	2,6-dimethyl-4-(2-bromo-1,1,2,3,3,3-hexafluoro -isopropyl)phenyl
349	Et	2,6-dimethyl-4-(2-bromo-1,1,2,3,3,3-hexafluoro -isopropyl)phenyl
350	i-Pr	2,6-dimethyl-4-(2-bromo-1,1,2,3,3,3-hexafluoro -isopropyl)phenyl
351	propargyl	2,6-dimethyl-4-(2-bromo-1,1,2,3,3,3-hexafluoro -isopropyl)phenyl
352	cyclobutyl	2,6-dimethyl-4-(2-bromo-1,1,2,3,3,3-hexafluoro -isopropyl)phenyl
353	cyclopentyl	2,6-dimethyl-4-(2-bromo-1,1,2,3,3,3-hexafluoro -isopropyl)phenyl
354	3-cyanobenzyl	2,6-dimethyl-4-(2-bromo-1,1,2,3,3,3-hexafluoro -isopropyl)phenyl
355	4-cyanobenzyl	2,6-dimethyl-4-(2-bromo-1,1,2,3,3,3-hexafluoro -isopropyl)phenyl
356	3-chlorobenzyl	2,6-dimethyl-4-(2-bromo-1,1,2,3,3,3-hexafluoro -isopropyl)phenyl
357	2-methoxyethyl	2,6-dimethyl-4-(2-bromo-1,1,2,3,3,3-hexafluoro -isopropyl)phenyl
358	2-cyanoethyl	2,6-dimethyl-4-(2-bromo-1,1,2,3,3,3-hexafluoro -isopropyl)phenyl
359	2-(methylthio)ethyl	2,6-dimethyl-4-(2-bromo-1,1,2,3,3,3-hexafluoro -isopropyl)phenyl
360	2-(ethylthio)ethyl	2,6-dimethyl-4-(2-bromo-1,1,2,3,3,3-hexafluoro -isopropyl)phenyl

Table 1(14)

Compound No.	R_1	Q
361	1-methyl-2-(methylthio)ethyl	2,6-dimethyl-4-(2-bromo-1,1,2,3,3,3-hexafluoro-isopropyl)phenyl
362	2-(ethylsulfinyl)ethyl	2,6-dimethyl-4-(2-bromo-1,1,2,3,3,3-hexafluoro-isopropyl)phenyl
363	2-(ethylsulfonyl)ethyl	2,6-dimethyl-4-(2-bromo-1,1,2,3,3,3-hexafluoro-isopropyl)phenyl
364	2-fluoroethyl	2,6-dimethyl-4-(2-bromo-1,1,2,3,3,3-hexafluoro-isopropyl)phenyl
365	2,2-difluoroethyl	2,6-dimethyl-4-(2-bromo-1,1,2,3,3,3-hexafluoro-isopropyl)phenyl
366	2,2,2-trifluoroethyl	2,6-dimethyl-4-(2-bromo-1,1,2,3,3,3-hexafluoro-isopropyl)phenyl
367	1,3-difluoro-2-propyl	2,6-dimethyl-4-(2-bromo-1,1,2,3,3,3-hexafluoro-isopropyl)phenyl
368	1-chloro-3-fluoro-2-propyl	2,6-dimethyl-4-(2-bromo-1,1,2,3,3,3-hexafluoro-isopropyl)phenyl
369	1-methyl-2,2,2-trifluoroethyl	2,6-dimethyl-4-(2-bromo-1,1,2,3,3,3-hexafluoro-isopropyl)phenyl
370	3,3,3-trifluoro-n-propyl	2,6-dimethyl-4-(2-bromo-1,1,2,3,3,3-hexafluoro-isopropyl)phenyl
371	2,2,3,3,3-pentafluoro-n-propyl	2,6-dimethyl-4-(2-bromo-1,1,2,3,3,3-hexafluoro-isopropyl)phenyl
372	3,3,4,4,4-pentafluoro-2-butyl	2,6-dimethyl-4-(2-bromo-1,1,2,3,3,3-hexafluoro-isopropyl)phenyl
373	4,4,4-trifluoro-n-butyl	2,6-dimethyl-4-(2-bromo-1,1,2,3,3,3-hexafluoro-isopropyl)phenyl
374	2,2,3,3-tetrafluorocyclobutyl	2,6-dimethyl-4-(2-bromo-1,1,2,3,3,3-hexafluoro-isopropyl)phenyl
375	2-chloroethyl	2,6-dimethyl-4-(2-bromo-1,1,2,3,3,3-hexafluoro-isopropyl)phenyl
376	2,2-dichloroethyl	2,6-dimethyl-4-(2-bromo-1,1,2,3,3,3-hexafluoro-isopropyl)phenyl
377	2,2,2-trichloroethyl	2,6-dimethyl-4-(2-bromo-1,1,2,3,3,3-hexafluoro-isopropyl)phenyl
378	1,3-dichloro-2-propyl	2,6-dimethyl-4-(2-bromo-1,1,2,3,3,3-hexafluoro-isopropyl)phenyl
379	3-chloro-n-propyl	2,6-dimethyl-4-(2-bromo-1,1,2,3,3,3-hexafluoro-isopropyl)phenyl
380	2-bromoethyl	2,6-dimethyl-4-(2-bromo-1,1,2,3,3,3-hexafluoro-isopropyl)phenyl

Table 1(15)

Compound No.	R_1	Q
381	2,2,2-tribromoethyl	2,6-dimethyl-4-(2-bromo-1,1,2,3,3,3-hexafluoro-isopropyl)phenyl
382	3-bromo-n-propyl	2,6-dimethyl-4-(2-bromo-1,1,2,3,3,3-hexafluoro-isopropyl)phenyl
383	2-iodoethyl	2,6-dimethyl-4-(2-bromo-1,1,2,3,3,3-hexafluoro-isopropyl)phenyl
384	tetrahydrofuran-3-yl	2,6-dimethyl-4-(2-bromo-1,1,2,3,3,3-hexafluoro-isopropyl)phenyl
385	(furan-2-yl)methyl	2,6-dimethyl-4-(2-bromo-1,1,2,3,3,3-hexafluoro-isopropyl)phenyl
386	(furan-3-yl)methyl	2,6-dimethyl-4-(2-bromo-1,1,2,3,3,3-hexafluoro-isopropyl)phenyl
387	(tetrahydrofuran-2-yl)methyl	2,6-dimethyl-4-(2-bromo-1,1,2,3,3,3-hexafluoro-isopropyl)phenyl
388	(tetrahydrofuran-3-yl)methyl	2,6-dimethyl-4-(2-bromo-1,1,2,3,3,3-hexafluoro-isopropyl)phenyl
389	(thiophen-2-yl)methyl	2,6-dimethyl-4-(2-bromo-1,1,2,3,3,3-hexafluoro-isopropyl)phenyl
390	(thiophen-3-yl)methyl	2,6-dimethyl-4-(2-bromo-1,1,2,3,3,3-hexafluoro-isopropyl)phenyl
391	(pyridin-2-yl)methyl	2,6-dimethyl-4-(2-bromo-1,1,2,3,3,3-hexafluoro-isopropyl)phenyl
392	(pyridin-3-yl)methyl	2,6-dimethyl-4-(2-bromo-1,1,2,3,3,3-hexafluoro-isopropyl)phenyl
393	(6-chloropyridin-3-yl)methyl	2,6-dimethyl-4-(2-bromo-1,1,2,3,3,3-hexafluoro-isopropyl)phenyl
394	Et	2,6-dichloro-4-(heptafluoro-n-propylthio)phenyl
395	i-Pr	2,6-dichloro-4-(heptafluoro-n-propylthio)phenyl
396	vinyl	2,6-dichloro-4-(heptafluoro-n-propylthio)phenyl
397	propargyl	2,6-dichloro-4-(heptafluoro-n-propylthio)phenyl
398	cyclobutyl	2,6-dichloro-4-(heptafluoro-n-propylthio)phenyl
399	cyclopentyl	2,6-dichloro-4-(heptafluoro-n-propylthio)phenyl
400	benzyl	2,6-dichloro-4-(heptafluoro-n-propylthio)phenyl

Table 1(16)

Compound No.	R_1	Q
401	3-cyanobenzyl	2,6-dichloro-4-(heptafluoro-n-propylthio)phenyl
402	4-cyanobenzyl	2,6-dichloro-4-(heptafluoro-n-propylthio)phenyl
403	3-chlorobenzyl	2,6-dichloro-4-(heptafluoro-n-propylthio)phenyl
404	2-methoxyethyl	2,6-dichloro-4-(heptafluoro-n-propylthio)phenyl
405	2-cyanoethyl	2,6-dichloro-4-(heptafluoro-n-propylthio)phenyl
406	2-(methylthio)ethyl	2,6-dichloro-4-(heptafluoro-n-propylthio)phenyl
407	2-(ethylthio)ethyl	2,6-dichloro-4-(heptafluoro-n-propylthio)phenyl
408	1-methyl-2-(methylthio)ethyl	2,6-dichloro-4-(heptafluoro-n-propylthio)phenyl
409	2-(ethylsulfinyl)ethyl	2,6-dichloro-4-(heptafluoro-n-propylthio)phenyl
410	2-(ethylsulfonyl)ethyl	2,6-dichloro-4-(heptafluoro-n-propylthio)phenyl
411	2-fluoroethyl	2,6-dichloro-4-(heptafluoro-n-propylthio)phenyl
412	2,2-difluoroethyl	2,6-dichloro-4-(heptafluoro-n-propylthio)phenyl
413	2,2,2-trifluoroethyl	2,6-dichloro-4-(heptafluoro-n-propylthio)phenyl
414	1,3-difluoro-2-propyl	2,6-dichloro4-(heptafluoro-n-propylthio)phenyl
415	1-chloro-3-fluoro-2-propyl	2,6-dichloro-4-(heptafluoro-n-propylthio)phenyl
416	1-methyl-2,2,2-trifluoroethyl	2,6-dichloro-4-(heptafluoro-n-propylthio)phenyl
417	3,3,3-trifluoro-n-propyl	2,6-dichloro-4-(heptafluoro-n-propylthio)phenyl
418	2,2,3,3,3-pentafluoro-n-propyl	2,6-dichloro-4-(heptafluoro-n-propylthio)phenyl
419	3,3,4,4,4-pentafluoro-2-butyl	2,6-dichloro-4-(heptafluoro-n-propylthio)phenyl
420	4,4,4-trifluoro-n-butyl	2,6-dichloro-4-(heptafluoro-n-propylthio)phenyl

Table 1(17)

Compound No.	R_1	Q
421	2,2,3,3-tetrafluorocyclobutyl	2,6-dichloro-4-(heptafluoro-n-propylthio)phenyl
422	2-chloroethyl	2,6-dichloro-4-(heptafluoro-n-propylthio)phenyl
423	2,2-dichloroethyl	2,6-dichloro-4-(heptafluoro-n-propylthio)phenyl
424	2,2,2-trichloroethyl	2,6-dichloro-4-(heptafluoro-n-propylthio)phenyl
425	1,3-dichloro-2-propyl	2,6-dichloro-4-(heptafluoro-n-propylthio)phenyl
426	3-chloro-n-propyl	2,6-dichloro-4-(heptafluoro-n-propylthio)phenyl
427	2-bromoethyl	2,6-dichloro-4-(heptafluoro-n-propylthio)phenyl
428	2,2,2-tribromoethyl	2,6-dichloro-4-(heptafluoro-n-propylthio)phenyl
429	3-bromo-n-propyl	2,6-dichloro-4-(heptafluoro-n-propylthio)phenyl
430	2-iodoethyl	2,6-dichloro-4-(heptafluoro-n-propylthio)phenyl
431	tetrahydrofuran-3-yl	2,6-dichloro-4-(heptafluoro-n-propylthio)phenyl
432	(furan-2-yl)methyl	2,6-dichloro-4-(heptafluoro-n-propylthio)phenyl
433	(furan-3-yl)methyl	2,6-dichloro-4-(heptafluoro-n-propylthio)phenyl
434	(tetrahydrofuran-2-yl)methyl	2,6-dichloro-4-(heptafluoro-n-propylthio)phenyl
435	(tetrahydrofuran-3-yl)methyl	2,6-dichloro-4-(heptafluoro-n-propylthio)phenyl
436	(thiophen-2-yl)methyl	2,6-dichloro-4-(heptafluoro-n-propylthio)phenyl
437	(thiophen-3-yl)methyl	2,6-dichloro-4-(heptafluoro-n-propylthio)phenyl
438	(pyridin-2-yl)methyl	2,6-dichloro-4-(heptafluoro-n-propylthio)phenyl
439	(pyridin-3-yl)methyl	2,6-dichloro-4-(heptafluoro-n-propylthio)phenyl
440	(6-chloropyridin-3-yl)methyl	2,6-dichloro-4-(heptafluoro-n-propylthio)phenyl

Table 1(18)

Compound No.	R_1	Q
441	Et	2,6-dibromo-4-(trifluoromethylthio)phenyl
442	i-Pr	2,6-dibromo-4-(trifluoromethylthio)phenyl
443	vinyl	2,6-dibromo-4-(trifluoromethylthio)phenyl
444	propargyl	2,6-dibromo-4-(trifluoromethylthio)phenyl
445	cyclobutyl	2,6-dibromo-4-(trifluoromethylthio)phenyl
446	cyclopentyl	2,6-dibromo-4-(trifluoromethylthio)phenyl
447	benzyl	2,6-dibromo-4-(trifluoromethylthio)phenyl
448	3-cyanobenzyl	2,6-dibromo-4-(trifluoromethylthio)phenyl
449	4-cyanobenzyl	2,6-dibromo-4-(trifluoromethylthio)phenyl
450	3-chlorobenzyl	2,6-dibromo-4-(trifluoromethylthio)phenyl
451	2-methoxyethyl	2,6-dibromo-4-(trifluoromethylthio)phenyl
452	2-cyanoethyl	2,6-dibromo-4-(trifluoromethylthio)phenyl
453	2-(methylthio)ethyl	2,6-dibromo-4-(trifluoromethylthio)phenyl
454	2-(ethylthio)ethyl	2,6-dibromo-4-(trifluoromethylthio)phenyl
455	1-methyl-2-(methylthio)ethyl	2,6-dibromo-4-(trifluoromethylthio)phenyl
456	2-(ethylsulfinyl)ethyl	2,6-dibromo-4-(trifluoromethylthio)phenyl
457	2-(ethylsulfonyl)ethyl	2,6-dibromo-4-(trifluoromethylthio)phenyl
458	2-fluoroethyl	2,6-dibromo-4-(trifluoromethylthio)phenyl
459	2,2-difluoroethyl	2,6-dibromo-4-(trifluoromethylthio)phenyl
460	2,2,2-trifluoroethyl	2,6-dibromo-4-(trifluoromethylthio)phenyl

Table 1(19)

Compound No.	R_1	Q
461	1,3-difluoro-2-propyl	2,6-dibromo-4-(trifluoromethylthio)phenyl
462	1-chloro-3-fluoro-2-propyl	2,6-dibromo-4-(trifluoromethylthio)phenyl
463	1-methyl-2,2,2-trifluoroethyl	2,6-dibromo-4-(trifluoromethylthio)phenyl
464	3,3,3-trifluoro-n-propyl	2,6-dibromo-4-(trifluoromethylthio)phenyl
465	2,2,3,3,3-pentafluoro-n-propyl	2,6-dibromo-4-(trifluoromethylthio)phenyl
466	3,3,4,4,4-pentafluoro-2-butyl	2,6-dibromo-4-(trifluoromethylthio)phenyl
467	4,4,4-trifluoro-n-butyl	2,6-dibromo-4-(trifluoromethylthio)phenyl
468	2,2,3,3-tetrafluorocyclobutyl	2,6-dibromo-4-(trifluoromethylthio)phenyl
469	2-chloroethyl	2,6-dibromo-4-(trifluoromethylthio)phenyl
470	2,2-dichloroethyl	2,6-dibromo-4-(trifluoromethylthio)phenyl
471	2,2,2-trichloroethyl	2,6-dibromo-4-(trifluoromethylthio)phenyl
472	1,3-dichloro-2-propyl	2,6-dibromo-4-(trifluoromethylthio)phenyl
473	3-chloro-n-propyl	2,6-dibromo-4-(trifluoromethylthio)phenyl
474	2-bromoethyl	2,6-dibromo-4-(trifluoromethylthio)phenyl
475	2,2,2-tribromoethyl	2,6-dibromo-4-(trifluoromethylthio)phenyl
476	3-bromo-n-propyl	2,6-dibromo-4-(trifluoromethylthio)phenyl
477	2-iodoethyl	2,6-dibromo-4-(trifluoromethylthio)phenyl
478	tetrahydrofuran-3-yl	2,6-dibromo-4-(trifluoromethylthio)phenyl
479	(furan-2-yl)methyl	2,6-dibromo-4-(trifluoromethylthio)phenyl
480	(furan-3-yl)methyl	2,6-dibromo-4-(trifluoromethylthio)phenyl

Table 1(20)

Compound No.	R_4	Q
481	(tetrahydrofuran-2-yl)methyl	2,6-dibromo-4-(trifluoromethylthio)phenyl
482	(tetrahydrofuran-3-yl)methyl	2,6-dibromo-4-(trifluoromethylthio)phenyl
483	(thiophen-2-yl)methyl	2,6-dibromo-4-(trifluoromethylthio)phenyl
484	(thiophen-3-yl)methyl	2,6-dibromo-4-(trifluoromethylthio)phenyl
485	(pyridin-2-yl)methyl	2,6-dibromo-4-(trifluoromethylthio)phenyl
486	(pyridin-3-yl)methyl	2,6-dibromo-4-(trifluoromethylthio)phenyl
487	(6-chloropyridin-3-yl)methyl	2,6-dibromo-4-(trifluoromethylthio)phenyl
488	Et	2,6-dibromo-4-(trifluoromethylsulfonyl)phenyl
489	i-Pr	2,6-dibromo-4-(trifluoromethylsulfonyl)phenyl
490	vinyl	2,6-dibromo-4-(trifluoromethylsulfonyl)phenyl
491	propargyl	2,6-dibromo-4-(trifluoromethylsulfonyl)phenyl
492	cyclobutyl	2,6-dibromo-4-(trifluoromethylsulfonyl)phenyl
493	cyclopentyl	2,6-dibromo-4-(trifluoromethylsulfonyl)phenyl
494	benzyl	2,6-dibromo-4-(trifluoromethylsulfonyl)phenyl
495	3-cyanobenzyl	2,6-dibromo-4-(trifluoromethylsulfonyl)phenyl
496	4-cyanobenzyl	2,6-dibromo-4-(trifluoromethylsulfonyl)phenyl
497	3-chlorobenzyl	2,6-dibromo-4-(trifluoromethylsulfonyl)phenyl
498	2-methoxyethyl	2,6-dibromo-4-(trifluoromethylsulfonyl)phenyl
499	2-cyanoethyl	2,6-dibromo-4-(trifluoromethylsulfonyl)phenyl
500	2-(methylthio)ethyl	2,6-dibromo-4-(trifluoromethylsulfonyl)phenyl

Table 1(21)

Compound No.	R_1	Q
501	2-(ethylthio)ethyl	2,6-dibromo-4-(trifluoromethylsulfonyl)phenyl
502	1-methyl-2-(methylthio)ethyl	2,6-dibromo-4-(trifluoromethylsulfonyl)phenyl
503	2-(ethylsulfinyl)ethyl	2,6-dibromo-4-(trifluoromethylsulfonyl)phenyl
504	2-(ethylsulfonyl)ethyl	2,6-dibromo-4-(trifluoromethylsulfonyl)phenyl
505	2-fluoroethyl	2,6-dibromo-4-(trifluoromethylsulfonyl)phenyl
506	2,2-difluoroethyl	2,6-dibromo-4-(trifluoromethylsulfonyl)phenyl
507	2,2,2-trifluoroethyl	2,6-dibromo-4-(trifluoromethylsulfonyl)phenyl
508	1,3-difluoro-2-propyl	2,6-dibromo-4-(trifluoromethylsulfonyl)phenyl
509	1-chloro-3-fluoro-2-propyl	2,6-dibromo-4-(trifluoromethylsulfonyl)phenyl
510	1-methyl-2,2,2-trifluoroethyl	2,6-dibromo-4-(trifluoromethylsulfonyl)phenyl
511	3,3,3-trifluoro-n-propyl	2,6-dibromo-4-(trifluoromethylsulfonyl)phenyl
512	2,2,3,3,3-pentafluoro-n-propyl	2,6-dibromo-4-(trifluoromethylsulfonyl)phenyl
513	3,3,4,4,4-pentafluoro-2-butyl	2,6-dibromo-4-(trifluoromethylsulfonyl)phenyl
514	4,4,4-trifluoro-n-butyl	2,6-dibromo-4-(trifluoromethylsulfonyl)phenyl
515	2,2,3,3-tetrafluorocyclobutyl	2,6-dibromo-4-(trifluoromethylsulfonyl)phenyl
516	2-chloroethyl	2,6-dibromo-4-(trifluoromethylsulfonyl)phenyl
517	2,2-dichloroethyl	2,6-dibromo-4-(trifluoromethylsulfonyl)phenyl
518	2,2,2-trichloroethyl	2,6-dibromo-4-(trifluoromethylsulfonyl)phenyl
519	1,3-dichloro-2-propyl	2,6-dibromo-4-(trifluoromethylsulfonyl)phenyl
520	3-chloro-n-propyl	2,6-dibromo-4-(trifluoromethylsulfonyl)phenyl

Table 1(22)

Compound No.	R_1	Q
521	2-bromoethyl	2,6-dibromo-4-(trifluoromethylsulfonyl)phenyl
522	2,2,2-tribromoethyl	2,6-dibromo-4-(trifluoromethylsulfonyl)phenyl
523	3-bromo-n-propyl	2,6-dibromo-4-(trifluoromethylsulfonyl)phenyl
524	2-iodoethyl	2,6-dibromo-4-(trifluoromethylsulfonyl)phenyl
525	tetrahydrofuran-3-yl	2,6-dibromo-4-(trifluoromethylsulfonyl)phenyl
526	(furan-2-yl)methyl	2,6-dibromo-4-(trifluoromethylsulfonyl)phenyl
527	(furan-3-yl)methyl	2,6-dibromo-4-(trifluoromethylsulfonyl)phenyl
528	(tetrahydrofuran-2-yl)methyl	2,6-dibromo-4-(trifluoromethylsulfonyl)phenyl
529	(tetrahydrofuran-3-yl)methyl	2,6-dibromo-4-(trifluoromethylsulfonyl)phenyl
530	(thiophen-2-yl)methyl	2,6-dibromo-4-(trifluoromethylsulfonyl)phenyl
531	(thiophen-3-yl)methyl	2,6-dibromo-4-(trifluoromethylsulfonyl)phenyl
532	(pyridin-2-yl)methyl	2,6-dibromo-4-(trifluoromethylsulfonyl)phenyl
533	(pyridin-3-yl)methyl	2,6-dibromo-4-(trifluoromethylsulfonyl)phenyl
534	(6-chloropyridin-3-yl)methyl	2,6-dibromo-4-(trifluoromethylsulfonyl)phenyl
535	Et	2,6-dibromo-4-(pentafluoroethylthio)phenyl
536	i-Pr	2,6-dibromo-4-(pentafluoroethylthio)phenyl
537	vinyl	2,6-dibromo-4-(pentafluoroethylthio)phenyl
538	propargyl	2,6-dibromo-4-(pentafluoroethylthio)phenyl
539	cyclobutyl	2,6-dibromo-4-(pentafluoroethylthio)phenyl
540	cyclopentyl	2,6-dibromo-4-(pentafluoroethylthio)phenyl

Table 1(23)

Compound No.	R_1	Q
541	benzyl	2,6-dibromo-4-(pentafluoroethylthio)phenyl
542	3-cyanobenzyl	2,6-dibromo-4-(pentafluoroethylthio)phenyl
543	4-cyanobenzyl	2,6-dibromo-4-(pentafluoroethylthio)phenyl
544	3-chlorobenzyl	2,6-dibromo-4-(pentafluoroethylthio)phenyl
545	2-methoxyethyl	2,6-dibromo-4-(pentafluoroethylthio)phenyl
546	2-cyanoethyl	2,6-dibromo-4-(pentafluoroethylthio)phenyl
547	2-(methylthio)ethyl	2,6-dibromo-4-(pentafluoroethylthio)phenyl
548	2-(ethylthio)ethyl	2,6-dibromo-4-(pentafluoroethylthio)phenyl
549	1-methyl-2-(methylthio)ethyl	2,6-dibromo-4-(pentafluoroethylthio)phenyl
550	2-(ethylsulfinyl)ethyl	2,6-dibromo-4-(pentafluoroethylthio)phenyl
551	2-(ethylsulfonyl)ethyl	2,6-dibromo-4-(pentafluoroethylthio)phenyl
552	2-fluoroethyl	2,6-dibromo-4-(pentafluoroethylthio)phenyl
553	2,2-difluoroethyl	2,6-dibromo-4-(pentafluoroethylthio)phenyl
554	2,2,2-trifluoroethyl	2,6-dibromo-4-(pentafluoroethylthio)phenyl
555	1,3-difluoro-2-propyl	2,6-dibromo-4-(pentafluoroethylthio)phenyl
556	1-chloro-3-fluoro-2-propyl	2,6-dibromo-4-(pentafluoroethylthio)phenyl
557	1-methyl-2,2,2-trifluoroethyl	2,6-dibromo-4-(pentafluoroethylthio)phenyl
558	3,3,3-trifluoro-n-propyl	2,6-dibromo-4-(pentafluoroethylthio)phenyl
559	2,2,3,3,3-pentafluoro-n-propyl	2,6-dibromo-4-(pentafluoroethylthio)phenyl
560	3,3,4,4,4-pentafluoro-2-butyl	2,6-dibromo-4-(pentafluoroethylthio)phenyl

Table 1(24)

Compound No.	R_4	Q
561	4,4,4-trifluoro-n-butyl	2,6-dibromo-4-(pentafluoroethylthio)phenyl
562	2,2,3,3-tetrafluorocyclobutyl	2,6-dibromo-4-(pentafluoroethylthio)phenyl
563	2-chloroethyl	2,6-dibromo-4-(pentafluoroethylthio)phenyl
564	2,2-dichloroethyl	2,6-dibromo-4-(pentafluoroethylthio)phenyl
565	2,2,2-trichloroethyl	2,6-dibromo-4-(pentafluoroethylthio)phenyl
566	1,3-dichloro-2-propyl	2,6-dibromo-4-(pentafluoroethylthio)phenyl
567	3-chloro-n-propyl	2,6-dibromo-4-(pentafluoroethylthio)phenyl
568	2-bromoethyl	2,6-dibromo-4-(pentafluoroethylthio)phenyl
569	2,2,2-tribromoethyl	2,6-dibromo-4-(pentafluoroethylthio)phenyl
570	3-bromo-n-propyl	2,6-dibromo-4-(pentafluoroethylthio)phenyl
571	2-iodoethyl	2,6-dibromo-4-(pentafluoroethylthio)phenyl
572	tetrahydrofuran-3-yl	2,6-dibromo-4-(pentafluoroethylthio)phenyl
573	(furan-2-yl)methyl	2,6-dibromo-4-(pentafluoroethylthio)phenyl
574	(furan-3-yl)methyl	2,6-dibromo-4-(pentafluoroethylthio)phenyl
575	(tetrahydrofuran-2-yl)methyl	2,6-dibromo-4-(pentafluoroethylthio)phenyl
576	(tetrahydrofuran-3-yl)methyl	2,6-dibromo-4-(pentafluoroethylthio)phenyl
577	(thiophen-2-yl)methyl	2,6-dibromo-4-(pentafluoroethylthio)phenyl
578	(thiophen-3-yl)methyl	2,6-dibromo-4-(pentafluoroethylthio)phenyl
579	(pyridin-2-yl)methyl	2,6-dibromo-4-(pentafluoroethylthio)phenyl
580	(pyridin-3-yl)methyl	2,6-dibromo-4-(pentafluoroethylthio)phenyl

Table 1(25)

Compound No.	R_1	Q
581	(6-chloropyridin-3-yl)methyl	2,6-dibromo-4-(pentafluoroethylthio)phenyl
582	Et	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
583	i-Pr	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
584	vinyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
585	propargyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
586	cyclobutyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
587	cyclopentyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
588	benzyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
589	3-cyanobenzyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
590	4-cyanobenzyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
591	3-chlorobenzyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
592	2-methoxyethyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
593	2-cyanoethyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
594	2-(methylthio)ethyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
595	2-(ethylthio)ethyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
596	1-methyl-2-(methylthio)ethyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
597	2-(ethylsulfinyl)ethyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
598	2-(ethylsulfonyl)ethyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
599	2-fluoroethyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
600	2,2-difluoroethyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl

Table 1(26)

Compound No.	R_1	Q
601	2,2,2-trifluoroethyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
602	1,3-difluoro-2-propyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
603	1-chloro-3-fluoro-2-propyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
604	1-methyl-2,2,2-trifluoroethyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
605	3,3,3-trifluoro-n-propyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
606	2,2,3,3,3-pentafluoro-n-propyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
607	3,3,4,4,4-pentafluoro-2-butyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
608	4,4,4-trifluoro-n-butyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
609	2,2,3,3-tetrafluorocyclobutyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
610	2-chloroethyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
611	2,2-dichloroethyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
612	2,2,2-trichloroethyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
613	1,3-dichloro-2-propyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
614	3-chloro-n-propyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
615	2-bromoethyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
616	2,2,2-tribromoethyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
617	3-bromo-n-propyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
618	2-iodoethyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
619	tetrahydrofuran-3-yl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
620	(furan-2-yl)methyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl

Table 1(27)

Compound No.	R_1	Q
621	(furan-3-yl)methyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
622	(tetrahydrofuran-2-yl)methyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
623	(tetrahydrofuran-3-yl)methyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
624	(thiophen-2-yl)methyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
625	(thiophen-3-yl)methyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
626	(pyridin-2-yl)methyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
627	(pyridin-3-yl)methyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
628	(6-chloropyridin-3-yl)methyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
629	Et	2,6-dibromo-4-(heptafluoroisopropylthio)phenyl
630	i-Pr	2,6-dibromo-4-(heptafluoroisopropylthio)phenyl
631	vinyl	2,6-dibromo-4-(heptafluoroisopropylthio)phenyl
632	propargyl	2,6-dibromo-4-(heptafluoroisopropylthio)phenyl
633	cyclobutyl	2,6-dibromo-4-(heptafluoroisopropylthio)phenyl
634	cyclopentyl	2,6-dibromo-4-(heptafluoroisopropylthio)phenyl
635	benzyl	2,6-dibromo-4-(heptafluoroisopropylthio)phenyl
636	3-cyanobenzyl	2,6-dibromo-4-(heptafluoroisopropylthio)phenyl
637	4-cyanobenzyl	2,6-dibromo-4-(heptafluoroisopropylthio)phenyl
638	3-chlorobenzyl	2,6-dibromo-4-(heptafluoroisopropylthio)phenyl
639	2-methoxyethyl	2,6-dibromo-4-(heptafluoroisopropylthio)phenyl
640	2-cyanoethyl	2,6-dibromo-4-(heptafluoroisopropylthio)phenyl

Table 1(28)

Compound No.	R_1	Q
641	2-(methylthio)ethyl	2,6-dibromo-4-(heptafluoroisopropylthio)phenyl
642	2-(ethylthio)ethyl	2,6-dibromo-4-(heptafluoroisopropylthio)phenyl
643	1-methyl-2-(methylthio)ethyl	2,6-dibromo-4-(heptafluoroisopropylthio)phenyl
644	2-(ethylsulfinyl)ethyl	2,6-dibromo-4-(heptafluoroisopropylthio)phenyl
645	2-(ethylsulfonyl)ethyl	2,6-dibromo-4-(heptafluoroisopropylthio)phenyl
646	2-fluoroethyl	2,6-dibromo-4-(heptafluoroisopropylthio)phenyl
647	2,2-difluoroethyl	2,6-dibromo-4-(heptafluoroisopropylthio)phenyl
648	2,2,2-trifluoroethyl	2,6-dibromo-4-(heptafluoroisopropylthio)phenyl
649	1,3-difluoro-2-propyl	2,6-dibromo-4-(heptafluoroisopropylthio)phenyl
650	1-chloro-3-fluoro-2-propyl	2,6-dibromo-4-(heptafluoroisopropylthio)phenyl
651	1-methyl-2,2,2-trifluoroethyl	2,6-dibromo-4-(heptafluoroisopropylthio)phenyl
652	3,3,3-trifluoro-n-propyl	2,6-dibromo-4-(heptafluoroisopropylthio)phenyl
653	2,2,3,3,3-pentafluoro-n-propyl	2,6-dibromo-4-(heptafluoroisopropylthio)phenyl
654	3,3,4,4,4-pentafluoro-2-butyl	2,6-dibromo-4-(heptafluoroisopropylthio)phenyl
655	4,4,4-trifluoro-n-butyl	2,6-dibromo-4-(heptafluoroisopropylthio)phenyl
656	2,2,3,3-tetrafluorocyclobutyl	2,6-dibromo-4-(heptafluoroisopropylthio)phenyl
657	2-chloroethyl	2,6-dibromo-4-(heptafluoroisopropylthio)phenyl
658	2,2-dichloroethyl	2,6-dibromo-4-(heptafluoroisopropylthio)phenyl
659	2,2,2-trichloroethyl	2,6-dibromo-4-(heptafluoroisopropylthio)phenyl
660	1,3-dichloro-2-propyl	2,6-dibromo-4-(heptafluoroisopropylthio)phenyl

Table 1(29)

Compound No.	R_4	Q
661	3-chloro-n-propyl	2,6-dibromo-4-(heptafluoroisopropylthio)phenyl
662	2-bromoethyl	2,6-dibromo-4-(heptafluoroisopropylthio)phenyl
663	2,2,2-tribromoethyl	2,6-dibromo-4-(heptafluoroisopropylthio)phenyl
664	3-bromo-n-propyl	2,6-dibromo-4-(heptafluoroisopropylthio)phenyl
665	2-iodoethyl	2,6-dibromo-4-(heptafluoroisopropylthio)phenyl
666	tetrahydrofuran-3-yl	2,6-dibromo-4-(heptafluoroisopropylthio)phenyl
667	(furan-2-yl)methyl	2,6-dibromo-4-(heptafluoroisopropylthio)phenyl
668	(furan-3-yl)methyl	2,6-dibromo-4-(heptafluoroisopropylthio)phenyl
669	(tetrahydrofuran-2-yl)methyl	2,6-dibromo-4-(heptafluoroisopropylthio)phenyl
670	(tetrahydrofuran-3-yl)methyl	2,6-dibromo-4-(heptafluoroisopropylthio)phenyl
671	(thiophen-2-yl)methyl	2,6-dibromo-4-(heptafluoroisopropylthio)phenyl
672	(thiophen-3-yl)methyl	2,6-dibromo-4-(heptafluoroisopropylthio)phenyl
673	(pyridin-2-yl)methyl	2,6-dibromo-4-(heptafluoroisopropylthio)phenyl
674	(pyridin-3-yl)methyl	2,6-dibromo-4-(heptafluoroisopropylthio)phenyl
675	(6-chloropyridin-3-yl)methyl	2,6-dibromo-4-(heptafluoroisopropylthio)phenyl
676	Et	2,6-dibromo-4-(heptafluoro-n-propyl sulfinyl)phenyl
677	i-Pr	2,6-dibromo-4-(heptafluoro-n-propyl sulfinyl)phenyl
678	vinyl	2,6-dibromo-4-(heptafluoro-n-propyl sulfinyl)phenyl
679	propargyl	2,6-dibromo-4-(heptafluoro-n-propyl sulfinyl)phenyl
680	cyclobutyl	2,6-dibromo-4-(heptafluoro-n-propyl sulfinyl)phenyl

Table 1(30)

Compound No.	R_1	Q
681	cyclopentyl	2,6-dibromo-4-(heptafluoro-n-propyl sulfinyl)phenyl
682	benzyl	2,6-dibromo-4-(heptafluoro-n-propyl sulfinyl)phenyl
683	3-cyanobenzyl	2,6-dibromo-4-(heptafluoro-n-propyl sulfinyl)phenyl
684	4-cyanobenzyl	2,6-dibromo-4-(heptafluoro-n-propyl sulfinyl)phenyl
685	3-chlorobenzyl	2,6-dibromo-4-(heptafluoro-n-propyl sulfinyl)phenyl
686	2-methoxyethyl	2,6-dibromo-4-(heptafluoro-n-propyl sulfinyl)phenyl
687	2-cyanoethyl	2,6-dibromo-4-(heptafluoro-n-propyl sulfinyl)phenyl
688	2-(methylthio)ethyl	2,6-dibromo-4-(heptafluoro-n-propyl sulfinyl)phenyl
689	2-(ethylthio)ethyl	2,6-dibromo-4-(heptafluoro-n-propyl sulfinyl)phenyl
690	1-methyl-2-(methylthio)ethyl	2,6-dibromo-4-(heptafluoro-n-propyl sulfinyl)phenyl
691	2-(ethylsulfinyl)ethyl	2,6-dibromo-4-(heptafluoro-n-propyl sulfinyl)phenyl
692	2-(ethylsulfonyl)ethyl	2,6-dibromo-4-(heptafluoro-n-propyl sulfinyl)phenyl
693	2-fluoroethyl	2,6-dibromo-4-(heptafluoro-n-propyl sulfinyl)phenyl
694	2,2-difluoroethyl	2,6-dibromo-4-(heptafluoro-n-propyl sulfinyl)phenyl
695	2,2,2-trifluoroethyl	2,6-dibromo-4-(heptafluoro-n-propyl sulfinyl)phenyl
696	1,3-difluoro-2-propyl	2,6-dibromo-4-(heptafluoro-n-propyl sulfinyl)phenyl
697	1-chloro-3-fluoro-2-propyl	2,6-dibromo-4-(heptafluoro-n-propyl sulfinyl)phenyl
698	1-methyl-2,2,2-trifluoroethyl	2,6-dibromo-4-(heptafluoro-n-propyl sulfinyl)phenyl
699	3,3,3-trifluoro-n-propyl	2,6-dibromo-4-(heptafluoro-n-propyl sulfinyl)phenyl
700	2,2,3,3,3-pentafluoro-n-propyl	2,6-dibromo-4-(heptafluoro-n-propyl sulfinyl)phenyl

Table 1(31)

Compound No.	R_4	Q
701	3,3,4,4,4-pentafluoro-2-butyl	2,6-dibromo-4-(heptafluoro-n-propyl sulfinyl)phenyl
702	4,4,4-trifluoro-n-butyl	2,6-dibromo-4-(heptafluoro-n-propyl sulfinyl)phenyl
703	2,2,3,3-tetrafluorocyclobutyl	2,6-dibromo-4-(heptafluoro-n-propyl sulfinyl)phenyl
704	2-chloroethyl	2,6-dibromo-4-(heptafluoro-n-propyl sulfinyl)phenyl
705	2,2-dichloroethyl	2,6-dibromo-4-(heptafluoro-n-propyl sulfinyl)phenyl
706	2,2,2-trichloroethyl	2,6-dibromo-4-(heptafluoro-n-propyl sulfinyl)phenyl
707	1,3-dichloro-2-propyl	2,6-dibromo-4-(heptafluoro-n-propyl sulfinyl)phenyl
708	3-chloro-n-propyl	2,6-dibromo-4-(heptafluoro-n-propyl sulfinyl)phenyl
709	2-bromoethyl	2,6-dibromo-4-(heptafluoro-n-propyl sulfinyl)phenyl
710	2,2,2-tribromoethyl	2,6-dibromo-4-(heptafluoro-n-propyl sulfinyl)phenyl
711	3-bromo-n-propyl	2,6-dibromo-4-(heptafluoro-n-propyl sulfinyl)phenyl
712	2-iodoethyl	2,6-dibromo-4-(heptafluoro-n-propyl sulfinyl)phenyl
713	tetrahydrofuran-3-yl	2,6-dibromo-4-(heptafluoro-n-propyl sulfinyl)phenyl
714	(furan-2-yl)methyl	2,6-dibromo-4-(heptafluoro-n-propyl sulfinyl)phenyl
715	(furan-3-yl)methyl	2,6-dibromo-4-(heptafluoro-n-propyl sulfinyl)phenyl
716	(tetrahydrofuran-2-yl)methyl	2,6-dibromo-4-(heptafluoro-n-propyl sulfinyl)phenyl
717	(tetrahydrofuran-3-yl)methyl	2,6-dibromo-4-(heptafluoro-n-propyl sulfinyl)phenyl
718	(thiophen-2-yl)methyl	2,6-dibromo-4-(heptafluoro-n-propyl sulfinyl)phenyl
719	(thiophen-3-yl)methyl	2,6-dibromo-4-(heptafluoro-n-propyl sulfinyl)phenyl
720	(pyridin-2-yl)methyl	2,6-dibromo-4-(heptafluoro-n-propyl sulfinyl)phenyl

Table 1(32)

Compound No.	R_t	Q
721	(pyridin-3-yl)methyl	2,6-dibromo-4-(heptafluoro-n-propyl sulfinyl)phenyl
722	(6-chloropyridin-3-yl)methyl	2,6-dibromo-4-(heptafluoro-n-propyl sulfinyl)phenyl
723	Et	2,6-dibromo-4-(heptafluoro-n-propyl sulfonyl)phenyl
724	i-Pr	2,6-dibromo-4-(heptafluoro-n-propyl sulfonyl)phenyl
725	vinyl	2,6-dibromo-4-(heptafluoro-n-propyl sulfonyl)phenyl
726	propargyl	2,6-dibromo-4-(heptafluoro-n-propyl sulfonyl)phenyl
727	cyclobutyl	2,6-dibromo-4-(heptafluoro-n-propyl sulfonyl)phenyl
728	cyclopentyl	2,6-dibromo-4-(heptafluoro-n-propyl sulfonyl)phenyl
729	benzyl	2,6-dibromo-4-(heptafluoro-n-propyl sulfonyl)phenyl
730	3-cyanobenzyl	2,6-dibromo-4-(heptafluoro-n-propyl sulfonyl)phenyl
731	4-cyanobenzyl	2,6-dibromo-4-(heptafluoro-n-propyl sulfonyl)phenyl
732	3-chlorobenzyl	2,6-dibromo-4-(heptafluoro-n-propyl sulfonyl)phenyl
733	2-methoxyethyl	2,6-dibromo-4-(heptafluoro-n-propyl sulfonyl)phenyl
734	2-cyanoethyl	2,6-dibromo-4-(heptafluoro-n-propyl sulfonyl)phenyl
735	2-(methylthio)ethyl	2,6-dibromo-4-(heptafluoro-n-propyl sulfonyl)phenyl
736	2-(ethylthio)ethyl	2,6-dibromo-4-(heptafluoro-n-propyl sulfonyl)phenyl
737	1-methyl-2-(methylthio)ethyl	2,6-dibromo-4-(heptafluoro-n-propyl sulfonyl)phenyl
738	2-(ethylsulfinyl)ethyl	2,6-dibromo-4-(heptafluoro-n-propyl sulfonyl)phenyl
739	2-(ethylsulfonyl)ethyl	2,6-dibromo-4-(heptafluoro-n-propyl sulfonyl)phenyl
740	2-fluoroethyl	2,6-dibromo-4-(heptafluoro-n-propyl sulfonyl)phenyl

Table 1(33)

Compound No.	R_4	Q
741	2,2-difluoroethyl	2,6-dibromo-4-(heptafluoro-n-propyl sulfonyl)phenyl
742	2,2,2-trifluoroethyl	2,6-dibromo-4-(heptafluoro-n-propyl sulfonyl)phenyl
743	1,3-difluoro-2-propyl	2,6-dibromo-4-(heptafluoro-n-propyl sulfonyl)phenyl
744	1-chloro-3-fluoro-2-propyl	2,6-dibromo-4-(heptafluoro-n-propyl sulfonyl)phenyl
745	1-methyl-2,2,2-trifluoroethyl	2,6-dibromo-4-(heptafluoro-n-propyl sulfonyl)phenyl
746	3,3,3-trifluoro-n-propyl	2,6-dibromo-4-(heptafluoro-n-propyl sulfonyl)phenyl
747	2,2,3,3,3-pentafluoro-n-propyl	2,6-dibromo-4-(heptafluoro-n-propyl sulfonyl)phenyl
748	3,3,4,4,4-pentafluoro-2-butyl	2,6-dibromo-4-(heptafluoro-n-propyl sulfonyl)phenyl
749	4,4,4-trifluoro-n-butyl	2,6-dibromo-4-(heptafluoro-n-propyl sulfonyl)phenyl
750	2,2,3,3-tetrafluorocyclobutyl	2,6-dibromo-4-(heptafluoro-n-propyl sulfonyl)phenyl
751	2-chloroethyl	2,6-dibromo-4-(heptafluoro-n-propyl sulfonyl)phenyl
752	2,2-dichloroethyl	2,6-dibromo-4-(heptafluoro-n-propyl sulfonyl)phenyl
753	2,2,2-trichloroethyl	2,6-dibromo-4-(heptafluoro-n-propyl sulfonyl)phenyl
754	1,3-dichloro-2-propyl	2,6-dibromo-4-(heptafluoro-n-propyl sulfonyl)phenyl
755	3-chloro-n-propyl	2,6-dibromo-4-(heptafluoro-n-propyl sulfonyl)phenyl
756	2-bromoethyl	2,6-dibromo-4-(heptafluoro-n-propyl sulfonyl)phenyl
757	2,2,2-tribromoethyl	2,6-dibromo-4-(heptafluoro-n-propyl sulfonyl)phenyl
758	3-bromo-n-propyl	2,6-dibromo-4-(heptafluoro-n-propyl sulfonyl)phenyl
759	2-iodoethyl	2,6-dibromo-4-(heptafluoro-n-propyl sulfonyl)phenyl
760	tetrahydrofuran-3-yl	2,6-dibromo-4-(heptafluoro-n-propyl sulfonyl)phenyl

Table 1(34)

Compound No.	R_1	Q
761	(furan-2-yl)methyl	2,6-dibromo-4-(heptafluoro-n-propyl sulfonyl)phenyl
762	(furan-3-yl)methyl	2,6-dibromo-4-(heptafluoro-n-propyl sulfonyl)phenyl
763	(tetrahydrofuran-2-yl)methyl	2,6-dibromo-4-(heptafluoro-n-propyl sulfonyl)phenyl
764	(tetrahydrofuran-3-yl)methyl	2,6-dibromo-4-(heptafluoro-n-propyl sulfonyl)phenyl
765	(thiophen-2-yl)methyl	2,6-dibromo-4-(heptafluoro-n-propyl sulfonyl)phenyl
766	(thiophen-3-yl)methyl	2,6-dibromo-4-(heptafluoro-n-propyl sulfonyl)phenyl
767	(pyridin-2-yl)methyl	2,6-dibromo-4-(heptafluoro-n-propyl sulfonyl)phenyl
768	(pyridin-3-yl)methyl	2,6-dibromo-4-(heptafluoro-n-propyl sulfonyl)phenyl
769	(6-chloropyridin-3-yl)methyl	2,6-dibromo-4-(heptafluoro-n-propyl sulfonyl)phenyl
770	2,2,2-trichloroethyl	2-methyl-4-(heptafluoro-n-propylthio)phenyl
771	Et	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
772	i-Pr	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
773	propargyl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
774	cyclobutyl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
775	cyclopentyl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
776	benzyl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
777	3-cyanobenzyl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
778	4-cyanobenzyl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
779	3-chlorobenzyl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
780	2-methoxyethyl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl

Table 1(35)

Compound No.	R_1	Q
781	2-cyanoethyl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
782	2-(methylthio)ethyl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
783	2-(ethylthio)ethyl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
784	1-methyl-2-(methylthio)ethyl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
785	2-(ethylsulfinyl)ethyl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
786	2-(ethylsulfonyl)ethyl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
787	2-fluoroethyl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
788	2,2-difluoroethyl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
789	2,2,2-trifluoroethyl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
790	1,3-difluoro-2-propyl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
791	1-chloro-3-fluoro-2-propyl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
792	1-methyl-2,2,2-trifluoroethyl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
793	3,3,3-trifluoro-n-propyl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
794	2,2,3,3,3-pentafluoro-n-propyl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
795	3,3,4,4,4-pentafluoro-2-butyl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
796	4,4,4-trifluoro-n-butyl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
797	2,2,3,3-tetrafluorocyclobutyl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
798	2-chloroethyl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
799	2,2-dichloroethyl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
800	2,2,2-trichloroethyl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl

Table 1(36)

Compound No.	R_4	Q
801	1,3-dichloro-2-propyl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
802	3-chloro-n-propyl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
803	2-bromoethyl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
804	2,2,2-tribromoethyl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
805	3-bromo-n-propyl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
806	2-iodoethyl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
807	tetrahydrofuran-3-yl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
808	(furan-2-yl)methyl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
809	(furan-3-yl)methyl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
810	(tetrahydrofuran-2-yl)methyl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
811	(tetrahydrofuran-3-yl)methyl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
812	(thiophen-2-yl)methyl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
813	(thiophen-3-yl)methyl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
814	(pyridin-2-yl)methyl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
815	(pyridin-3-yl)methyl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
816	(6-chloropyridin-3-yl)methyl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
817	3,3,3-trifluoro-n-propyl	2-(n-butyl)-6-chloro-4-heptafluoroisopropylphenyl
818	3,3,3-trifluoro-n-propyl	2-(n-butyl)-4-heptafluoroisopropyl-6-iodophenyl
819	3,3,3-trifluoro-n-propyl	2-bromo-6-(2-butyl)-4-heptafluoroisopropylphenyl
820	i-Pr	2-methyl-4-trifluoromethoxyphenyl

Table 1(37)

Compound No.	R_1	Q
821	i-Pr	2-trifluoromethyl-4-isopropylphenyl
822	i-Pr	3,5-bistrifluoromethylphenyl
823	i-Pr	2,3,4-trifluorophenyl
824	i-Pr	2-heptafluoroisopropyl-3,5-dimethylphenyl
825	i-Pr	2,4-dichloro-6-methylphenyl
826	i-Pr	2-chloro-4,6-dimethylphenyl
827	i-Pr	2,6-dimethyl-4-chlorophenyl
828	i-Pr	2,6-dimethyl-4-bromophenyl
829	i-Pr	2,6-dimethyl-4-iodophenyl
830	i-Pr	2,6-dimethyl-4-(phenyl)phenyl
831	i-Pr	2,6-dimethyl-4-(2-methylphenyl)phenyl
832	i-Pr	2,6-dimethyl-4-(3-methylphenyl)phenyl
833	i-Pr	2,6-dimethyl-4-(4-methylphenyl)phenyl
834	i-Pr	2,6-dimethyl-4-(2-methoxyphenyl)phenyl
835	i-Pr	2,6-dimethyl-4-(3-methoxyphenyl)phenyl
836	i-Pr	2,6-dimethyl-4-(4-methoxyphenyl)phenyl
837	i-Pr	2,6-dimethyl-4-(4-ethoxyphenyl)phenyl
838	i-Pr	2,6-dimethyl-4-(4-methylthiophenyl)phenyl
839	i-Pr	2,6-dimethyl-4-(2-fluorophenyl)phenyl
840	i-Pr	2,6-dimethyl-4-(3-fluorophenyl)phenyl

Table 1(38)

Compound No.	R_1	Q
841	i-Pr	2,6-dimethyl-4-(4-fluorophenyl)phenyl
842	i-Pr	2-bromo-4-isopropyl-6-methylphenyl
843	i-Pr	2-chloro-4-cyano-6-methylphenyl
844	i-Pr	2-chloro-4-trifluoromethoxy-6-methylphenyl
845	i-Pr	2-chloro-4-isopropyl-6-trifluoromethylphenyl
846	i-Pr	pentafluorophenyl
847	2,2,2-trichloroethyl	4-cyclohexylphenyl
848	2,2,2-trichloroethyl	2-trifluoromethylphenyl
849	2,2,2-trichloroethyl	4-(trifluoromethylthio)phenyl
850	2,2,2-trichloroethyl	4-(trifluoromethylsulfonyl)phenyl
851	2,2,2-trichloroethyl	4-(heptafluoro-n-propylthio)phenyl
852	2,2,2-trichloroethyl	4-(heptafluoro-n-propylsulfinyl)phenyl
853	2,2,2-trichloroethyl	4-(heptafluoroisopropylthio)phenyl
854	2,2,2-trichloroethyl	2-(n-butyl)-6-chloro-4-heptafluoroisopropylphenyl
855	2,2,2-trichloroethyl	2-(n-butyl)-4-heptafluoroisopropyl-6-iodophenyl
856	2,2,2-trichloroethyl	2-bromo-6-(2-butyl)-4-heptafluoroisopropylphenyl
857	2,2,2-trichloroethyl	2-(2-butyl)-4-heptafluoroisopropylphenyl
858	2,2,2-trichloroethyl	2-methyl-4-trifluoromethoxyphenyl
859	2,2,2-trichloroethyl	2-methyl-4-(2,2,2-trifluoroethoxy)phenyl
860	2,2,2-trichloroethyl	2-methyl-4-(trifluoromethylsulfonyloxy)phenyl

Table 1(39)

Compound No.	R_1	Q
861	2,2,2-trichloroethyl	2-methyl-4-chlorophenyl
862	2,2,2-trichloroethyl	2-trifluoromethyl-4-isopropylphenyl
863	2,2,2-trichloroethyl	2,5-bistrifluoromethylphenyl
864	2,2,2-trichloroethyl	3,5-bistrifluoromethylphenyl
865	2,2,2-trichloroethyl	2-trifluoromethyl-4-chlorophenyl
866	2,2,2-trichloroethyl	2-chloro-6-trifluoromethylphenyl
867	2,2,2-trichloroethyl	2-trifluoromethyl-4-iodophenyl
868	2,2,2-trichloroethyl	2-trifluoromethoxy-4-bromophenyl
869	2,2,2-trichloroethyl	2,3,4-trifluorophenyl
870	2,2,2-trichloroethyl	2-heptafluoroisopropyl-3,5-dimethylphenyl
871	2,2,2-trichloroethyl	2,5-dimethyl-4-trifluoromethane sulfonyloxyphenyl
872	2,2,2-trichloroethyl	2,6-dimethyl-4-(bis(trifluoromethyl) hydroxymethyl)phenyl
873	2,2,2-trichloroethyl	2,6-dimethyl-4-(bis(chlorodifluoromethyl) hydroxymethyl)phenyl
874	2,2,2-trichloroethyl	2,6-dimethyl-4-cyanothiophenyl
875	2,2,2-trichloroethyl	2,6-dimethyl-4-chlorophenyl
876	2,2,2-trichloroethyl	2-chloro-4,6-dimethylphenyl
877	2,2,2-trichloroethyl	2,6-dimethyl-4-bromophenyl
878	2,2,2-trichloroethyl	2,6-dimethyl-4-iodophenyl
879	2,2,2-trichloroethyl	2,6-dimethyl-4-(phenyl)phenyl
880	2,2,2-trichloroethyl	2,6-dimethyl-4-(2-methylphenyl)phenyl

Table 1(40)

Compound No.	R_4	Q
881	2,2,2-trichloroethyl	2,6-dimethyl-4-(3-methylphenyl)phenyl
882	2,2,2-trichloroethyl	2,6-dimethyl-4-(4-methylphenyl)phenyl
883	2,2,2-trichloroethyl	2,6-dimethyl-4-(2-methoxyphenyl)phenyl
884	2,2,2-trichloroethyl	2,6-dimethyl-4-(3-methoxyphenyl)phenyl
885	2,2,2-trichloroethyl	2,6-dimethyl-4-(4-methoxyphenyl)phenyl
886	2,2,2-trichloroethyl	2,6-dimethyl-4-(4-ethoxyphenyl)phenyl
887	2,2,2-trichloroethyl	2,6-dimethyl-4-(4-methylthiophenyl)phenyl
888	2,2,2-trichloroethyl	2,6-dimethyl-4-(2-fluorophenyl)phenyl
889	2,2,2-trichloroethyl	2,6-dimethyl-4-(3-fluorophenyl)phenyl
890	2,2,2-trichloroethyl	2,6-dimethyl-4-(4-fluorophenyl)phenyl
891	2,2,2-trichloroethyl	2,6-dimethyl-4-(3,4-difluorophenyl)phenyl
892	2,2,2-trichloroethyl	2,6-dimethyl-4-(3-methyl-4-fluorophenyl)phenyl
893	2,2,2-trichloroethyl	2,6-dimethyl-4-(furan-3-yl)phenyl
894	2,2,2-trichloroethyl	2,6-dimethyl-4-(thiophene-2-yl)phenyl
895	2,2,2-trichloroethyl	2,6-dimethyl-4-(thiophene-3-yl)phenyl
896	2,2,2-trichloroethyl	2,4-dichloro-6-methylphenyl
897	2,2,2-trichloroethyl	2,4-dichloro-6-trifluoromethylphenyl
898	2,2,2-trichloroethyl	2,6-dichloro-4-(heptafluoroisopropylthio)phenyl
899	2,2,2-trichloroethyl	2,6-dichloro-4-(heptafluoroisopropyl sulfonyl)phenyl
900	2,2,2-trichloroethyl	2,6-dichloro-4-pentafluorosulfanylphenyl

Table 1(41)

Compound No.	R_4	Q
901	2,2,2-trichloroethyl	2,6-dibromo-4-cyclohexylphenyl
902	2,2,2-trichloroethyl	2,4-dibromo-6-trifluoromethylphenyl
903	2,2,2-trichloroethyl	2,6-dibromo-4-(nonafluoro-n-butylthio)phenyl
904	2,2,2-trichloroethyl	2-chloro-4-hydroxy-6-methylphenyl
905	2,2,2-trichloroethyl	2-chloro-4-trifluoromethoxy-6-methylphenyl
906	2,2,2-trichloroethyl	2-chloro-4-((2,2,2-trichloroethoxy)carbonyloxy)-6-methylphenyl
907	2,2,2-trichloroethyl	2-chloro-4-cyano-6-methylphenyl
908	2,2,2-trichloroethyl	2-chloro-4-iodo-6-methylphenyl
909	2,2,2-trichloroethyl	2-bromo-4-isopropyl-6-methylphenyl
910	2,2,2-trichloroethyl	2-bromo-4-hydroxy-6-methylphenyl
911	2,2,2-trichloroethyl	2-chloro-4-isopropyl-6-trifluoromethylphenyl
912	2,2,2-trichloroethyl	2-bromo-4-((2,2,2-trichloroethoxy)carbonyloxy)-6-methylphenyl
913	2,2,2-trichloroethyl	2-chloro-4-bromo-6-trifluoromethylphenyl
914	2,2,2-trichloroethyl	2-bromo-4-isopropyl-6-trifluoromethylphenyl
915	2,2,2-trichloroethyl	2-bromo-4-chloro-6-trifluoromethylphenyl
916	2,2,2-trichloroethyl	pentafluorophenyl
917	2-chloroethyl	2,6-dimethyl-4-iodophenyl
918	3,3,3-trifluoro-n-propyl	2,6-dimethyl-4-(1,1,1,3,3,3-hexafluoro2-hydroxy-2-propyl)phenyl
919	3,3,3-trifluoro-n-propyl	2,6-dichloro-4-pentafluorosulfanylphenyl
920	i-Pr	2-methyl-4-heptafluoroisopropyl-1-naphthyl

Table 1(42)

Compound No.	R_1	Q
921	i-Pr	4-heptafluoroisopropyl-5,6,7,8-tetrahydro-1-naphthyl
922	i-Pr	2-chloro-4-heptafluoroisopropyl-5,6,7,8-tetrahydro-1-naphthyl
923	i-Pr	1-methyl-3-trifluoromethylpyrazol-5-yl
924	i-Pr	1-methyl-3-trifluoromethyl-4-chloropyrazol-5-yl
925	i-Pr	1-methyl-3-trifluoromethyl-4-bromopyrazol-5-yl
926	i-Pr	1-methyl-3-trifluoromethyl-4-methoxy carbonylpyrazol-5-yl
927	i-Pr	2-chloro-4-methylpyridin-5-yl
928	i-Pr	2-bromo4-methyl-6-chloropyridin-3-yl
929	i-Pr	2-(1,1,1,3,3,3-hexafluoroisopropyloxy) pyridin-5-yl
930	i-Pr	2-(1,1,1,3,3,3-hexafluoroisopropyloxy) -4-methylpyridin-5-yl
931	i-Pr	2-bromo-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
932	i-Pr	2,4-dimethyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
933	2,2,2-trichloroethyl	2-methyl-4-heptafluoroisopropyl-1-naphthyl
934	2,2,2-trichloroethyl	4-heptafluoroisopropyl-5,6,7,8-tetrahydro-1-naphthyl
935	2,2,2-trichloroethyl	2-chloro-4-heptafluoroisopropyl-5,6,7,8-tetrahydro-1-naphthyl
936	2,2,2-trichloroethyl	1-methyl-3-trifluoromethylpyrazol-5-yl
937	2,2,2-trichloroethyl	1-methyl-3-trifluoromethyl-4-chloropyrazol-5-yl
938	2,2,2-trichloroethyl	1-methyl-3-trifluoromethyl-4-bromopyrazol-5-yl
939	2,2,2-trichloroethyl	1-methyl-3-trifluoromethyl-4-methoxy carbonylpyrazol-5-yl
940	2,2,2-trichloroethyl	1-(3-chloropyridine-2-yl)-3-bromopyrazol-5-yl

Table 1(43)

Compound No.	R_1	Q
941	2,2,2-trichloroethyl	1-(3-chloropyridin-2-yl)-3-bromo -4-chloropyrazol-5-yl
942	2,2,2-trichloroethyl	2-heptafluoroisopropyl-4-methylpyridin-5-yl
943	2,2,2-trichloroethyl	2-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-5-yl
944	2,2,2-trichloroethyl	2-(1,1,1,3,3,3-hexafluoroisopropyloxy) -4-methylpyridin-5-yl
945	2,2,2-trichloroethyl	2-chloro-4-methylpyridin-5-yl
946	2,2,2-trichloroethyl	3-chloro-5-trifluoromethylpyridin-2-yl
947	2,2,2-trichloroethyl	2-bromo-4-methyl-6-chloropyridin-3-yl
948	2,2,2-trichloroethyl	2-bromo-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
949	2,2,2-trichloroethyl	2,6-dichloro-4-(trifluoromethylsulfinyl)phenyl
950	2,2,2-trichloroethyl	2,6-dibromo-4-(trifluoromethylsulfinyl)phenyl
951	2,2,2-trichloroethyl	2,6-dichloro-4-(pentafluoroethylsulfinyl)phenyl
952	2,2,2-trichloroethyl	2,6-dibromo-4-(pentafluoroethylsulfinyl)phenyl
953	2,2,2-trichloroethyl	2,6-dichloro-4-(pentafluoroethylsulfonyl)phenyl
954	2,2,2-trichloroethyl	2,6-dibromo-4-(pentafluoroethylsulfonyl)phenyl
955	2,2,2-trichloroethyl	2,6-dichloro-4-(heptafluoro-n-propyl sulfinyl)phenyl
956	2,2,2-trichloroethyl	2,6-dibromo-4-(heptafluoro-n-propyl sulfinyl)phenyl
957	2,2,2-trichloroethyl	2-chloro-6-methyl-4-(nonafluoro-2-butyl)phenyl
958	2,2,2-trichloroethyl	2-bromo-6-methyl-4-(nonafluoro-2-butyl)phenyl
959	2,2,2-trichloroethyl	2-iodo-6-methyl-4-(nonafluoro-2-butyl)phenyl
960	2,2,2-trichloroethyl	2,6-dichloro-4-(nonafluoro-2-butyl)phenyl

Table 1(44)

Compound No.	R_1	Q
961	2,2,2-trichloroethyl	2,6-dibromo-4-(nonafluoro-2-butyl)phenyl
962	2,2,2-trichloroethyl	2,6-dimethyl-4-pentafluoroethylphenyl
963	2,2,2-trichloroethyl	2,6-dichloro-4-pentafluoroethylphenyl
964	2,2,2-trichloroethyl	2,6-dimethyl-4-(pentafluoroethylthio) phenyl
965	2,2,2-trichloroethyl	2,6-dimethyl-4-(pentafluoroethylsulfinyl) phenyl
966	2,2,2-trichloroethyl	2,6-dimethyl-4-(pentafluoroethylsulfonyl) phenyl
967	2,2,2-trichloroethyl	2,6-dichloro-4-(pentafluoroethylthio) phenyl
968	i-Pr	2-chloro-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
969	cyclobutyl	2-chloro-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
970	cyclopentyl	2-chloro-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
971	4-cyanobenzyl	2-chloro4-methyl-6-(1,1,1,3,3,3-hexafluoro -isopropyloxy)pyridin-3-yl
972	2-methoxyethyl	2-chloro-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
973	2-cyanoethyl	2-chloro-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
974	2-(methylthio)ethyl	2-chloro-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
975	2-(ethylthio)ethyl	2-chloro-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
976	1-methyl-2-(methylthio)ethyl	2-chloro-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
977	2-(ethylsulfinyl)ethyl	2-chloro-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
978	2-(ethylsulfonyl)ethyl	2-chloro-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
979	2-fluoroethyl	2-chloro-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
980	2,2-difluoroethyl	2-chloro-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl

Table 1(45)

Compound No.	R_4	Q
981	2,2,2-trifluoroethyl	2-chloro-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
982	1,3-difluoro-2-propyl	2-chloro-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
983	1-chloro-3-fluoro-2-propyl	2-chloro-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
984	1-methyl-2,2,2-trifluoroethyl	2-chloro-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
985	3,3,3-trifluoro-n-propyl	2-chloro-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
986	2,2,3,3,3-pentafluoro-n-propyl	2-chloro-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
987	3,3,4,4,4-pentafluoro-2-butyl	2-chloro-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
988	4,4,4-trifluoro-n-butyl	2-chloro-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
989	2,2,3,3-tetrafluorocyclobutyl	2-chloro-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
990	2-chloroethyl	2-chloro-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
991	2,2-dichloroethyl	2-chloro-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
992	2,2,2-trichloroethyl	2-chloro-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
993	1,3-dichloro-2-propyl	2-chloro-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
994	3-chloro-n-propyl	2-chloro-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
995	2-bromoethyl	2-chloro-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
996	2,2,2-tribromoethyl	2-chloro-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
997	3-bromo-n-propyl	2-chloro-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
998	2-iodoethyl	2-chloro-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
999	tetrahydrofuran-3-yl	2-chloro-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1000	(furan-2-yl)methyl	2-chloro-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl

Table 1(46)

Compound No.	R_4	Q
1001	(furan-3-yl)methyl	2-chloro-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1002	(tetrahydrofuran-2-yl)methyl	2-chloro-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1003	(tetrahydrofuran-3-yl)methyl	2-chloro-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1004	(thiophen-2-yl)methyl	2-chloro-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1005	(thiophen-3-yl)methyl	2-chloro-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1006	(pyridin-2-yl)methyl	2-chloro-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1007	(pyridin-3-yl)methyl	2-chloro-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1008	(6-chloropyridin-3-yl)methyl	2-chloro-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1009	Et	2-bromo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1010	i-Pr	2-bromo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1011	vinyl	2-bromo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1012	propargyl	2-bromo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1013	cyclobutyl	2-bromo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1014	cyclopentyl	2-bromo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1015	benzyl	2-bromo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1016	3-cyanobenzyl	2-bromo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1017	4-cyanobenzyl	2-bromo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1018	3-chlorobenzyl	2-bromo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1019	2-methoxyethyl	2-bromo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1020	2-cyanoethyl	2-bromo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl

Table 1(47)

Compound No.	R_4	Q
1021	2-(methylthio)ethyl	2-bromo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1022	2-(ethylthio)ethyl	2-bromo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1023	1-methyl-2-(methylthio)ethyl	2-bromo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1024	2-(ethylsulfinyl)ethyl	2-bromo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1025	2-(ethylsulfonyl)ethyl	2-bromo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1026	2-fluoroethyl	2-bromo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1027	2,2-difluoroethyl	2-bromo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1028	2,2,2-trifluoroethyl	2-bromo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1029	1,3-difluoro-2-propyl	2-bromo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1030	1-chloro-3-fluoro-2-propyl	2-bromo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1031	1-methyl-2,2,2-trifluoroethyl	2-bromo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1032	3,3,3-trifluoro-n-propyl	2-bromo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1033	2,2,3,3,3-pentafluoro-n-propyl	2-bromo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1034	3,3,4,4,4-pentafluoro-2-butyl	2-bromo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1035	4,4,4-trifluoro-n-butyl	2-bromo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1036	2,2,3,3-tetrafluorocyclobutyl	2-bromo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1037	2-chloroethyl	2-bromo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1038	2,2-dichloroethyl	2-bromo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1039	2,2,2-trichloroethyl	2-bromo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1040	1,3-dichloro-2-propyl	2-bromo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl

Table 1(48)

Compound No.	R_1	Q
1041	3-chloro-n-propyl	2-bromo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1042	2-bromoethyl	2-bromo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1043	2,2,2-tribromoethyl	2-bromo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1044	3-bromo-n-propyl	2-bromo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1045	2-iodoethyl	2-bromo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1046	tetrahydrofuran-3-yl	2-bromo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1047	(furan-2-yl)methyl	2-bromo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1048	(furan-3-yl)methyl	2-bromo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1049	(tetrahydrofuran-2-yl)methyl	2-bromo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1050	(tetrahydrofuran-3-yl)methyl	2-bromo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1051	(thiophen-2-yl)methyl	2-bromo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1052	(thiophen-3-yl)methyl	2-bromo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1053	(pyridin-2-yl)methyl	2-bromo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1054	(pyridin-3-yl)methyl	2-bromo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1055	(6-chloropyridin-3-yl)methyl	2-bromo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1056	Et	2-iodo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1057	i-Pr	2-iodo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1058	vinyl	2-iodo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1059	propargyl	2-iodo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1060	cyclobutyl	2-iodo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl

Table 1(49)

Compound No.	R_1	Q
1061	cyclopentyl	2-iodo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1062	benzyl	2-iodo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1063	3-cyanobenzyl	2-iodo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1064	4-cyanobenzyl	2-iodo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1065	3-chlorobenzyl	2-iodo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1066	2-methoxyethyl	2-iodo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1067	2-cyanoethyl	2-iodo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1068	2-(methylthio)ethyl	2-iodo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1069	2-(ethylthio)ethyl	2-iodo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1070	1-methyl-2-(methylthio)ethyl	2-iodo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1071	2-(ethylsulfinyl)ethyl	2-iodo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1072	2-(ethylsulfonyl)ethyl	2-iodo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1073	2-fluoroethyl	2-iodo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1074	2,2-difluoroethyl	2-iodo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1075	2,2,2-trifluoroethyl	2-iodo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1076	1,3-difluoro-2-propyl	2-iodo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1077	1-chloro-3-fluoro-2-propyl	2-iodo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1078	1-methyl-2,2,2-trifluoroethyl	2-iodo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1079	3,3,3-trifluoro-n-propyl	2-iodo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1080	2,2,3,3,3-pentafluoro-n-propyl	2-iodo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl

Table 1(50)

Compound No.	R_1	Q
1081	3,3,4,4,4-pentafluoro-2-butyl	2-iodo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1082	4,4,4-trifluoro-n-butyl	2-iodo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1083	2,2,3,3-tetrafluorocyclobutyl	2-iodo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1084	2-chloroethyl	2-iodo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1085	2,2-dichloroethyl	2-iodo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1086	2,2,2-trichloroethyl	2-iodo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1087	1,3-dichloro-2-propyl	2-iodo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1088	3-chloro-n-propyl	2-iodo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1089	2-bromoethyl	2-iodo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1090	2,2,2-tribromoethyl	2-iodo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1091	3-bromo-n-propyl	2-iodo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1092	2-iodoethyl	2-iodo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1093	tetrahydrofuran-3-yl	2-iodo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1094	(furan-2-yl)methyl	2-iodo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1095	(furan-3-yl)methyl	2-iodo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1096	(tetrahydrofuran-2-yl)methyl	2-iodo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1097	(tetrahydrofuran-3-yl)methyl	2-iodo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1098	(thiophen-2-yl)methyl	2-iodo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1099	(thiophen-3-yl)methyl	2-iodo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1100	(pyridin-2-yl)methyl	2-iodo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl

Table 1(51)

Compound No.	R_1	Q
1101	(pyridin-3-yl)methyl	2-iodo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1102	(6-chloropyridin-3-yl)methyl	2-iodo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1103	Et	2,4-dimethyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1104	i-Pr	2,4-dimethyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1105	vinyl	2,4-dimethyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1106	propargyl	2,4-dimethyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1107	cyclobutyl	2,4-dimethyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1108	cyclopentyl	2,4-dimethyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1109	benzyl	2,4-dimethyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1110	3-cyanobenzyl	2,4-dimethyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1111	4-cyanobenzyl	2,4-dimethyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1112	3-chlorobenzyl	2,4-dimethyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1113	2-methoxyethyl	2,4-dimethyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1114	2-cyanoethyl	2,4-dimethyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1115	2-(methylthio)ethyl	2,4-dimethyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1116	2-(ethylthio)ethyl	2,4-dimethyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1117	1-methyl-2-(methylthio)ethyl	2,4-dimethyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1118	2-(ethylsulfinyl)ethyl	2,4-dimethyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1119	2-(ethylsulfonyl)ethyl	2,4-dimethyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1120	2-fluoroethyl	2,4-dimethyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl

Table 1(52)

Compound No.	R_1	Q
1121	2,2-difluoroethyl	2,4-dimethyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1122	2,2,2-trifluoroethyl	2,4-dimethyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1123	1,3-difluoro-2-propyl	2,4-dimethyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1124	1-chloro-3-fluoro-2-propyl	2,4-dimethyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1125	1-methyl-2,2,2-trifluoroethyl	2,4-dimethyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1126	3,3,3-trifluoro-n-propyl	2,4-dimethyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1127	2,2,3,3,3-pentafluoro-n-propyl	2,4-dimethyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1128	3,3,4,4,4-pentafluoro-2-butyl	2,4-dimethyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1129	4,4,4-trifluoro-n-butyl	2,4-dimethyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1130	2,2,3,3-tetrafluorocyclobutyl	2,4-dimethyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1131	2-chloroethyl	2,4-dimethyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1132	2,2-dichloroethyl	2,4-dimethyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1133	2,2,2-trichloroethyl	2,4-dimethyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1134	1,3-dichloro-2-propyl	2,4-dimethyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1135	3-chloron-propyl	2,4-dimethyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1136	2-bromoethyl	2,4-dimethyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1137	2,2,2-tribromoethyl	2,4-dimethyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1138	3-bromo-n-propyl	2,4-dimethyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1139	2-iodoethyl	2,4-dimethyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1140	tetrahydrofuran-3-yl	2,4-dimethyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl

Table 1(53)

Compound No.	R_1	Q
1141	(furan-2-yl)methyl	2,4-dimethyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1142	(furan-3-yl)methyl	2,4-dimethyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1143	(tetrahydrofuran-2-yl)methyl	2,4-dimethyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1144	(tetrahydrofuran-3-yl)methyl	2,4-dimethyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1145	(thiophan-2-yl)methyl	2,4-dimethyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1146	(thiophen-3-yl)methyl	2,4-dimethyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1147	(pyridin-2-yl)methyl	2,4-dimethyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1148	(pyridin-3-yl)methyl	2,4-dimethyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1149	(6-chloropyridin-3-yl)methyl	2,4-dimethyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1150	Et	2-bromo-4-methyl-6-(heptafluoro isopropyl)pyridin-3-yl
1151	i-Pr	2-bromo-4-methyl-6-(heptafluoro isopropyl)pyridin-3-yl
1152	vinyl	2-bromo-4-methyl-6-(heptafluoro isopropyl)pyridin-3-yl
1153	propargyl	2-bromo-4-methyl-6-(heptafluoro isopropyl)pyridin-3-yl
1154	cyclobutyl	2-bromo-4-methyl-6-(heptafluoro isopropyl)pyridin-3-yl
1155	cyclopentyl	2-bromo-4-methyl-6-(heptafluoro isopropyl)pyridin-3-yl
1156	benzyl	2-bromo-4-methyl-6-(heptafluoro isopropyl)pyridin-3-yl
1157	3-cyanobenzyl	2-bromo-4-methyl-6-(heptafluoro isopropyl)pyridin-3-yl
1158	4-cyanobenzyl	2-bromo-4-methyl-6-(heptafluoro isopropyl)pyridin-3-yl
1159	3-chlorobenzyl	2-bromo-4-methyl-6-(heptafluoro isopropyl)pyridin-3-yl
1160	2-methoxyethyl	2-bromo-4-methyl-6-(heptafluoro isopropyl)pyridin-3-yl

Table 1(54)

Compound No.	R_1	Q
1161	2-cyanoethyl	2-bromo-4-methyl6-(heptafluoro isopropyl)pyridin-3-yl
1162	2-(methylthio)ethyl	2-bromo-4-methyl-6-(heptafluoro isopropyl)pyridin-3-yl
1163	2-(ethylthio)ethyl	2-bromo-4-methyl-6-(heptafluoro isopropyl)pyridin-3-yl
1164	1-methyl-2-(methylthio)ethyl	2-bromo-4-methyl-6-(heptafluoro isopropyl)pyridin-3-yl
1165	2-(ethylsulfinyl)ethyl	2-bromo-4-methyl-6-(heptafluoro isopropyl)pyridin-3-yl
1166	2-(ethylsulfonyl)ethyl	2-bromo-4-methyl-6-(heptafluoro isopropyl)pyridin-3-yl
1167	2-fluoroethyl	2-bromo-4-methyl-6-(heptafluoro isopropyl)pyridin-3-yl
1168	2,2-difluoroethyl	2-bromo-4-methyl-6-(heptafluoro isopropyl)pyridin-3-yl
1169	2,2,2-trifluoroethyl	2-bromo-4-methyl-6-(heptafluoro isopropyl)pyridin-3-yl
1170	1,3-difluoro-2-propyl	2-bromo-4-methyl-6-(heptafluoro isopropyl)pyridin-3-yl
1171	1-chloro-3-fluoro-2-propyl	2-bromo-4-methyl-6-(heptafluoro isopropyl)pyridin-3-yl
1172	1-methyl-2,2,2-trifluoroethyl	2-bromo-4-methyl-6-(heptafluoro isopropyl)pyridin-3-yl
1173	3,3,3-trifluoro-n-propyl	2-bromo-4-methyl-6-(heptafluoro isopropyl)pyridin-3-yl
1174	2,2,3,3,3-pentafluoro-n-propyl	2-bromo-4-methyl-6-(heptafluoro isopropyl)pyridin-3-yl
1175	3,3,4,4,4-pentafluoro-2-butyl	2-bromo-4-methyl-6-(heptafluoro isopropyl)pyridin-3-yl
1176	4,4,4-trifluoro-n-butyl	2-bromo-4-methyl-6-(heptafluoro isopropyl)pyridin-3-yl
1177	2,2,3,3-tetrafluorocyclobutyl	2-bromo-4-methyl-6-(heptafluoro isopropyl)pyridin-3-yl
1178	2-chloroethyl	2-bromo-4-methyl-6-(heptafluoro isopropyl)pyridin-3-yl
1179	2,2-dichloroethyl	2-bromo-4-methyl-6-(heptafluoro isopropyl)pyridin-3-yl
1180	2,2,2-trichloroethyl	2-bromo-4-methyl-6-(heptafluoro isopropyl)pyridin-3-yl

Table 1(55)

Compound No.	R_1	Q
1181	1,3-dichloro-2-propyl	2-bromo-4-methyl-6-(heptafluoro isopropyl)pyridin-3-yl
1182	3-chloro-n-propyl	2-bromo-4-methyl-6-(heptafluoro isopropyl)pyridin-3-yl
1183	2-bromoethyl	2-bromo-4-methyl-6-(heptafluoro isopropyl)pyridin-3-yl
1184	2,2,2-tribromoethyl	2-bromo-4-methyl-6-(heptafluoro isopropyl)pyridin-3-yl
1185	3-bromo-n-propyl	2-bromo-4-methyl-6-(heptafluoro isopropyl)pyridin-3-yl
1186	2-iodoethyl	2-bromo-4-methyl-6-(heptafluoro isopropyl)pyridin-3-yl
1187	tetrahydrofuran-3-yl	2-bromo-4-methyl-6-(heptafluoro isopropyl)pyridin-3-yl
1188	(furan-2-yl)methyl	2-bromo-4-methyl-6-(heptafluoro isopropyl)pyridin-3-yl
1189	(furan-3-yl)methyl	2-bromo-4-methyl-6-(heptafluoro isopropyl)pyridin-3-yl
1190	(tetrahydrofuran-2-yl)methyl	2-bromo-4-methyl-6-(heptafluoro isopropyl)pyridin-3-yl
1191	(tetrahydrofuran-3-yl)methyl	2-bromo-4-methyl-6-(heptafluoro isopropyl)pyridin-3-yl
1192	(thiophen-2-yl)methyl	2-bromo-4-methyl-6-(heptafluoro isopropyl)pyridin-3-yl
1193	(thiophen-3-yl)methyl	2-bromo-4-methyl-6-(heptafluoro isopropyl)pyridin-3-yl
1194	(pyridin-2-yl)methyl	2-bromo-4-methyl-6-(heptafluoro isopropyl)pyridin-3-yl
1195	(pyridin-3-yl)methyl	2-bromo-4-methyl-6-(heptafluoro isopropyl)pyridin-3-yl
1196	(6-chloropyridin-3-yl)methyl	2-bromo-4-methyl-6-(heptafluoro isopropyl)pyridin-3-yl
1197	Et	2-chloro-6-methyl-4-heptafluoroisopropylphenyl
1198	i-Pr	2-chloro-6-methyl-4-heptafluoroisopropylphenyl
1199	vinyl	2-chloro-6-methyl-4-heptafluoroisopropylphenyl
1200	propargyl	2-chloro-6-methyl-4-heptafluoroisopropylphenyl

Table 1(56)

Compound No.	R_1	Q
1201	cyclobutyl	2-chloro-6-methyl-4-heptafluoroisopropylphenyl
1202	cyclopentyl	2-chloro-6-methyl-4-heptafluoroisopropylphenyl
1203	benzyl	2-chloro-6-methyl-4-heptafluoroisopropylphenyl
1204	3-cyanobenzyl	2-chloro-6-methyl-4-heptafluoroisopropylphenyl
1205	4-cyanobenzyl	2-chloro-6-methyl-4-heptafluoroisopropylphenyl
1206	3-chlorobenzyl	2-chloro-6-methyl-4-heptafluoroisopropylphenyl
1207	2-methoxyethyl	2-chloro-6-methyl-4-heptafluoroisopropylphenyl
1208	2-cyanoethyl	2-chloro-6-methyl-4-heptafluoroisopropylphenyl
1209	2-(methylthio)ethyl	2-chloro-6-methyl-4-heptafluoroisopropylphenyl
1210	2-(ethylthio)ethyl	2-chloro-6-methyl-4-heptafluoroisopropylphenyl
1211	1-methyl-2-(methylthio)ethyl	2-chloro-6-methyl-4-heptafluoroisopropylphenyl
1212	2-(ethylsulfinyl)ethyl	2-chloro-6-methyl-4-heptafluoroisopropylphenyl
1213	2-(ethylsulfonyl)ethyl	2-chloro-6-methyl-4-heptafluoroisopropylphenyl
1214	2-fluoroethyl	2-chloro-6-methyl-4-heptafluoroisopropylphenyl
1215	2,2-difluoroethyl	2-chloro-6-methyl-4-heptafluoroisopropylphenyl
1216	2,2,2-trifluoroethyl	2-chloro-6-methyl-4-heptafluoroisopropylphenyl
1217	1,3-difluoro-2-propyl	2-chloro-6-methyl-4-heptafluoroisopropylphenyl
1218	1-chloro3-fluoro-2-propyl	2-chloro-6-methyl-4-heptafluoroisopropylphenyl
1219	1-methyl-2,2,2-trifluoroethyl	2-chloro-6-methyl-4-heptafluoroisopropylphenyl
1220	3,3,3-trifluoro-n-propyl	2-chloro-6-methyl-4-heptafluoroisopropylphenyl

Table 1(57)

Compound No.	R_1	Q
1221	2,2,3,3,3-pentafluoro-n-propyl	2-chloro-6-methyl-4-heptafluoroisopropylphenyl
1222	3,3,4,4,4-pentafluoro-2-butyl	2-chloro-6-methyl-4-heptafluoroisopropylphenyl
1223	4,4,4-trifluoro-n-butyl	2-chloro-6-methyl-4-heptafluoroisopropylphenyl
1224	2,2,3,3-tetrafluorocyclobutyl	2-chloro-6-methyl-4-heptafluoroisopropylphenyl
1225	2-chloroethyl	2-chloro-6-methyl-4-heptafluoroisopropylphenyl
1226	2,2-dichloroethyl	2-chloro-6-methyl-4-heptafluoroisopropylphenyl
1227	2,2,2-trichloroethyl	2-chloro-6-methyl-4-heptafluoroisopropylphenyl
1228	1,3-dichloro-2-propyl	2-chloro-6-methyl-4-heptafluoroisopropylphenyl
1229	3-chloro-n-propyl	2-chloro-6-methyl-4-heptafluoroisopropylphenyl
1230	2-bromoethyl	2-chloro-6-methyl-4-heptafluoroisopropylphenyl
1231	2,2,2-tribromoethyl	2-chloro-6-methyl-4-heptafluoroisopropylphenyl
1232	3-bromo-n-propyl	2-chloro-6-methyl-4-heptafluoroisopropylphenyl
1233	2-iodoethyl	2-chloro-6-methyl-4-heptafluoroisopropylphenyl
1234	tetrahydrofuran-3-yl	2-chloro-6-methyl-4-heptafluoroisopropylphenyl
1235	(furan-2-yl)methyl	2-chloro-6-methyl-4-heptafluoroisopropylphenyl
1236	(furan-3-yl)methyl	2-chloro-6-methyl-4-heptafluoroisopropylphenyl
1237	(tetrahydrofuran-2-yl)methyl	2-chloro-6-methyl-4-heptafluoroisopropylphenyl
1238	(tetrahydrofuran-3-yl)methyl	2-chloro-6-methyl-4-heptafluoroisopropylphenyl
1239	(thiophen-2-yl)methyl	2-chloro-6-methyl-4-heptafluoroisopropylphenyl
1240	(thiophen-3-yl)methyl	2-chloro-6-methyl-4-heptafluoroisopropylphenyl

Table 1(58)

Compound No.	R_1	Q
1241	(pyridin-2-yl)methyl	2-chloro-6-methyl-4-heptafluoroisopropylphenyl
1242	(pyridin-3-yl)methyl	2-chloro-6-methyl-4-heptafluoroisopropylphenyl
1243	(6-chloropyridin-3-yl)methyl	2-chloro-6-methyl-4-heptafluoroisopropylphenyl
1244	Et	2-bromo-6-methyl-4-heptafluoroisopropylphenyl
1245	i-Pr	2-bromo-6-methyl-4-heptafluoroisopropylphenyl
1246	vinyl	2-bromo-6-methyl-4-heptafluoroisopropylphenyl
1247	propargyl	2-bromo-6-methyl-4-heptafluoroisopropylphenyl
1248	cyclobutyl	2-bromo-6-methyl-4-heptafluoroisopropylphenyl
1249	cyclopentyl	2-bromo-6-methyl-4-heptafluoroisopropylphenyl
1250	benzyl	2-bromo-6-methyl-4-heptafluoroisopropylphenyl
1251	3-cyanobenzyl	2-bromo-6-methyl-4-heptafluoroisopropylphenyl
1252	4-cyanobenzyl	2-bromo-6-methyl-4-heptafluoroisopropylphenyl
1253	3-chlorobenzyl	2-bromo-6-methyl-4-heptafluoroisopropylphenyl
1254	2-methoxyethyl	2-bromo-6-methyl-4-heptafluoroisopropylphenyl
1255	2-cyanoethyl	2-bromo-6-methyl-4-heptafluoroisopropylphenyl
1256	2-(methylthio)ethyl	2-bromo-6-methyl-4-heptafluoroisopropylphenyl
1257	2-(ethylthio)ethyl	2-bromo-6-methyl-4-heptafluoroisopropylphenyl
1258	1-methyl-2-(methylthio)ethyl	2-bromo-6-methyl-4-heptafluoroisopropylphenyl
1259	2-(ethylsulfinyl)ethyl	2-bromo-6-methyl-4-heptafluoroisopropylphenyl
1260	2-(ethylsulfonyl)ethyl	2-bromo-6-methyl-4-heptafluoroisopropylphenyl

Table 1(59)

Compound No.	R_1	Q
1261	2-fluoroethyl	2-bromo-6-methyl-4-heptafluoroisopropylphenyl
1262	2,2-difluoroethyl	2-bromo-6-methyl-4-heptafluoroisopropylphenyl
1263	2,2,2-trifluoroethyl	2-bromo-6-methyl-4-heptafluoroisopropylphenyl
1264	1,3-difluoro-2-propyl	2-bromo-6-methyl-4-heptafluoroisopropylphenyl
1265	1-chloro-3-fluoro-2-propyl	2-bromo-6-methyl-4-heptafluoroisopropylphenyl
1266	1-methyl-2,2,2-trifluoroethyl	2-bromo-6-methyl-4-heptafluoroisopropylphenyl
1267	3,3,3-trifluoro-n-propyl	2-bromo-6-methyl-4-heptafluoroisopropylphenyl
1268	2,2,3,3,3-pentafluoro-n-propyl	2-bromo-6-methyl-4-heptafluoroisopropylphenyl
1269	3,3,4,4,4-pentafluoro-2-butyl	2-bromo-6-methyl-4-heptafluoroisopropylphenyl
1270	4,4,4-trifluoro-n-butyl	2-bromo-6-methyl-4-heptafluoroisopropylphenyl
1271	2,2,3,3-tetrafluorocyclobutyl	2-bromo-6-methyl-4-heptafluoroisopropylphenyl
1272	2-chloroethyl	2-bromo-6-methyl-4-heptafluoroisopropylphenyl
1273	2,2-dichloroethyl	2-bromo-6-methyl-4-heptafluoroisopropylphenyl
1274	2,2,2-trichloroethyl	2-bromo-6-methyl-4-heptafluoroisopropylphenyl
1275	1,3-dichloro-2-propyl	2-bromo-6-methyl-4-heptafluoroisopropylphenyl
1276	3-chloro-n-propyl	2-bromo-6-methyl-4-heptafluoroisopropylphenyl
1277	2-bromoethyl	2-bromo-6-methyl-4-heptafluoroisopropylphenyl
1278	2,2,2-tribromoethyl	2-bromo-6-methyl-4-heptafluoroisopropylphenyl
1279	3-bromo-n-propyl	2-bromo-6-methyl-4-heptafluoroisopropylphenyl
1280	2-iodoethyl	2-bromo-6-methyl-4-heptafluoroisopropylphenyl

Table 1(60)

Compound No.	R_1	Q
1281	tetrahydrofuran-3-yl	2-bromo-6-methyl-4-heptafluoroisopropylphenyl
1282	(furan-2-yl)methyl	2-bromo-6-methyl-4-heptafluoroisopropylphenyl
1283	(furan-3-yl)methyl	2-bromo-6-methyl-4-heptafluoroisopropylphenyl
1284	(tetrahydrofuran-2-yl)methyl	2-bromo-6-methyl-4-heptafluoroisopropylphenyl
1285	(tetrahydrofuran-3-yl)methyl	2-bromo-6-methyl-4-heptafluoroisopropylphenyl
1286	(thiophen-2-yl)methyl	2-bromo-6-methyl-4-heptafluoroisopropylphenyl
1287	(thiophan-3-yl)methyl	2-bromo-6-methyl-4-heptafluoroisopropylphenyl
1288	(pyridin-2-yl)methyl	2-bromo-6-methyl-4-heptafluoroisopropylphenyl
1289	(pyridin-3-yl)methyl	2-bromo-6-methyl-4-heptafluoroisopropylphenyl
1290	(6-chloropyridin-3-yl)methyl	2-bromo-6-methyl-4-heptafluoroisopropylphenyl
1291	Et	2-iodo-6-methyl-4-heptafluoroisopropylphenyl
1292	i-Pr	2-iodo-6-methyl-4-heptafluoroisopropylphenyl
1293	vinyl	2-iodo-6-methyl-4-heptafluoroisopropylphenyl
1294	propargyl	2-iodo-6-methyl-4-heptafluoroisopropylphenyl
1295	cyclobutyl	2-iodo-6-methyl-4-heptafluoroisopropylphenyl
1296	cyclopentyl	2-iodo-6-methyl-4-heptafluoroisopropylphenyl
1297	benzyl	2-iodo-6-methyl-4-heptafluoroisopropylphenyl
1298	3-cyanobenzyl	2-iodo-6-methyl-4-heptafluoroisopropylphenyl
1299	4-cyanobenzyl	2-iodo-6-methyl-4-heptafluoroisopropylphenyl
1300	3-chlorobenzyl	2-iodo-6-methyl-4-heptafluoroisopropylphenyl

Table 1(61)

Compound No.	R_4	Q
1301	2-methoxyethyl	2-iodo-6-methyl-4-heptafluoroisopropylphenyl
1302	2-cyanoethyl	2-iodo-6-methyl-4-heptafluoroisopropylphenyl
1303	2-(methylthio)ethyl	2-iodo-6-methyl-4-heptafluoroisopropylphenyl
1304	2-(ethylthio)ethyl	2-iodo-6-methyl-4-heptafluoroisopropylphenyl
1305	1-methyl-2-(methylthio)ethyl	2-iodo-6-methyl-4-heptafluoroisopropylphenyl
1306	2-(ethylsulfinyl)ethyl	2-iodo-6-methyl-4-heptafluoroisopropylphenyl
1307	2-(ethylsulfonyl)ethyl	2-iodo-6-methyl-4-heptafluoroisopropylphenyl
1308	2-fluoroethyl	2-iodo-6-methyl-4-heptafluoroisopropylphenyl
1309	2,2-difluoroethyl	2-iodo-6-methyl-4-heptafluoroisopropylphenyl
1310	2,2,2-trifluoroethyl	2-iodo-6-methyl-4-heptafluoroisopropylphenyl
1311	1,3-difluoro-2-propyl	2-iodo-6-methyl-4-heptafluoroisopropylphenyl
1312	1-chloro-3-fluoro-2-propyl	2-iodo-6-methyl-4-heptafluoroisopropylphenyl
1313	1-methyl-2,2,2-trifluoroethyl	2-iodo-6-methyl-4-heptafluoroisopropylphenyl
1314	3,3,3-trifluoro-n-propyl	2-iodo-6-methyl-4-heptafluoroisopropylphenyl
1315	2,2,3,3,3-pentafluoro-n-propyl	2-iodo-6-methyl-4-heptafluoroisopropylphenyl
1316	3,3,4,4,4-pentafluoro-2-butyl	2-iodo-6-methyl-4-heptafluoroisopropylphenyl
1317	4,4,4-trifluoro-n-butyl	2-iodo-6-methyl-4-heptafluoroisopropylphenyl
1318	2,2,3,3-tetrafluorocyclobutyl	2-iodo-6-methyl-4-heptafluoroisopropylphenyl
1319	2-chloroethyl	2-iodo-6-methyl-4-heptafluoroisopropylphenyl
1320	2,2-dichloroethyl	2-iodo-6-methyl-4-heptafluoroisopropylphenyl

Table 1(62)

Compound No.	R_1	Q
1321	2,2,2-trichloroethyl	2-iodo-6-methyl-4-heptafluoroisopropylphenyl
1322	1,3-dichloro-2-propyl	2-iodo-6-methyl-4-heptafluoroisopropylphenyl
1323	3-chloro-n-propyl	2-iodo-6-methyl-4-heptafluoroisopropylphenyl
1324	2-bromoethyl	2-iodo-6-methyl-4-heptafluoroisopropylphenyl
1325	2,2,2-tribromoethyl	2-iodo-6-methyl-4-heptafluoroisopropylphenyl
1326	3-bromo-n-propyl	2-iodo-6-methyl-4-heptafluoroisopropylphenyl
1327	2-iodoethyl	2-iodo-6-methyl-4-heptafluoroisopropylphenyl
1328	tetrahydrofuran-3-yl	2-iodo-6-methyl-4-heptafluoroisopropylphenyl
1329	(furan-2-yl)methyl	2-iodo-6-methyl-4-heptafluoroisopropylphenyl
1330	(furan-3-yl)methyl	2-iodo-6-methyl-4-heptafluoroisopropylphenyl
1331	(tetrahydrofuran-2-yl)methyl	2-iodo-6-methyl-4-heptafluoroisopropylphenyl
1332	(tetrahydrofuran-3-yl)methyl	2-iodo-6-methyl-4-heptafluoroisopropylphenyl
1333	(thiophen-2-yl)methyl	2-iodo-6-methyl-4-heptafluoroisopropylphenyl
1334	(thiophen-3-yl)methyl	2-iodo-6-methyl-4-heptafluoroisopropylphenyl
1335	(pyridin-2-yl)methyl	2-iodo-6-methyl-4-heptafluoroisopropylphenyl
1336	(pyridin-3-yl)methyl	2-iodo-6-methyl-4-heptafluoroisopropylphenyl
1337	(6-chloropyridin-3-yl)methyl	2-iodo-6-methyl-4-heptafluoroisopropylphenyl
1338	Et	2-iodo-6-n-propyl-4-heptafluoro isopropylphenyl
1339	i-Pr	2-iodo-6-n-propyl-4-heptafluoro isopropylphenyl
1340	vinyl	2-iodo-6-n-propyl-4-heptafluoro isopropylphenyl

Table 1(63)

Compound No.	R_4	Q
1341	propargyl	2-iodo-6-n-propyl-4-heptafluoro isopropylphenyl
1342	cyclobutyl	2-iodo-6-n-propyl-4-heptafluoro isopropylphenyl
1343	cyclopentyl	2-iodo-6-n-propyl-4-heptafluoro isopropylphenyl
1344	benzyl	2-iodo-6-n-propyl-4-heptafluoro isopropylphenyl
1345	3-cyanobenzyl	2-iodo-6-n-propyl-4-heptafluoro isopropylphenyl
1346	4-cyanobenzyl	2-iodo-6-n-propyl-4-heptafluoro isopropylphenyl
1347	3-chlorobenzyl	2-iodo-6-n-propyl-4-heptafluoro isopropylphenyl
1348	2-methoxyethyl	2-iodo-6-n-propyl-4-heptafluoro isopropylphenyl
1349	2-cyanoethyl	2-iodo-6-n-propyl-4-heptafluoro isopropylphenyl
1350	2-(methylthio)ethyl	2-iodo-6-n-propyl-4-heptafluoro isopropylphenyl
1351	2-(ethylthio)ethyl	2-iodo-6-n-propyl-4-heptafluoro isopropylphenyl
1352	1-methyl-2-(methylthio)ethyl	2-iodo-6-n-propyl-4-heptafluoro isopropylphenyl
1353	2-(ethylsulfinyl)ethyl	2-iodo-6-n-propyl-4-heptafluoro isopropylphenyl
1354	2-(ethylsulfonyl)ethyl	2-iodo-6-n-propyl-4-heptafluoro isopropylphenyl
1355	2-fluoroethyl	2-iodo-6-n-propyl-4-heptafluoro isopropylphenyl
1356	2,2-difluoroethyl	2-iodo-6-n-propyl-4-heptafluoro isopropylphenyl
1357	2,2,2-trifluoroethyl	2-iodo-6-n-propyl-4-heptafluoro isopropylphenyl
1358	1,3-difluoro-2-propyl	2-iodo-6-n-propyl-4-heptafluoro isopropylphenyl
1359	1-chloro3-fluoro-2-propyl	2-iodo-6-n-propyl-4-heptafluoro isopropylphenyl
1360	1-methyl-2,2,2-trifluoroethyl	2-iodo-6-n-propyl-4-heptafluoro isopropylphenyl

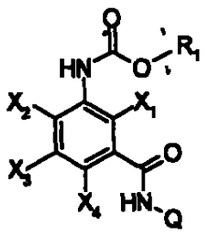
Table 1(64)

Compound No.	R_1	Q
1361	3,3,3-trifluoro-n-propyl	2-iodo-6-n-propyl-4-heptafluoro isopropylphenyl
1362	2,2,3,3,3-pentafluoro-n-propyl	2-iodo-6-n-propyl-4-heptafluoro isopropylphenyl
1363	3,3,4,4,4-pentafluoro-2-butyl	2-iodo-6-n-propyl-4-heptafluoro isopropylphenyl
1364	4,4,4-trifluoro-n-butyl	2-iodo-6-n-propyl-4-heptafluoro isopropylphenyl
1365	2,2,3,3-tetrafluorocyclobutyl	2-iodo-6-n-propyl-4-heptafluoro isopropylphenyl
1366	2-chloroethyl	2-iodo-6-n-propyl-4-heptafluoro isopropylphenyl
1367	2,2-dichloroethyl	2-iodo-6-n-propyl-4-heptafluoro isopropylphenyl
1368	2,2,2-trichloroethyl	2-iodo-6-n-propyl-4-heptafluoro isopropylphenyl
1369	1,3-dichloro-2-propyl	2-iodo-6-n-propyl-4-heptafluoro isopropylphenyl
1370	3-chloro-n-propyl	2-iodo-6-n-propyl-4-heptafluoro isopropylphenyl
1371	2-bromoethyl	2-iodo-6-n-propyl-4-heptafluoro isopropylphenyl
1372	2,2,2-tribromoethyl	2-iodo-6-n-propyl-4-heptafluoro isopropylphenyl
1373	3-bromo-n-propyl	2-iodo-6-n-propyl-4-heptafluoro isopropylphenyl
1374	2-iodoethyl	2-iodo-6-n-propyl-4-heptafluoro isopropylphenyl
1375	tetrahydrofuran-3-yl	2-iodo-6-n-propyl-4-heptafluoro isopropylphenyl
1376	(furan-2-yl)methyl	2-iodo-6-n-propyl-4-heptafluoro isopropylphenyl
1377	(furan-3-yl)methyl	2-iodo-6-n-propyl-4-heptafluoro isopropylphenyl
1378	(tetrahydrofuran-2-yl)methyl	2-iodo-6-n-propyl-4-heptafluoro isopropylphenyl
1379	(tetrahydrofuran-3-yl)methyl	2-iodo-6-n-propyl-4-heptafluoro isopropylphenyl
1380	(thiophen-2-yl)methyl	2-iodo-6-n-propyl-4-heptafluoro isopropylphenyl

Table 1(65)

Compound No.	R_1	Q
1381	(thiophen-3-yl)methyl	2-iodo-6-n-propyl-4-heptafluoro isopropylphenyl
1382	(pyridin-2-yl)methyl	2-iodo-6-n-propyl-4-heptafluoro isopropylphenyl
1383	(pyridin-3-yl)methyl	2-iodo-6-n-propyl-4-heptafluoro isopropylphenyl
1384	(6-chloropyridin-3-yl)methyl	2-iodo-6-n-propyl-4-heptafluoro isopropylphenyl

Table 2(1)



(1-B)

Compound No.	X_1	X_2	X_3	X_4	R_1	Q
1385	Me	H	H	H	2,2,2-trichloroethyl	2-methyl-4-heptafluoroisopropyl phenyl
1386	Me	H	H	H	i-Pr	2,6-dimethy-4-heptafluoroisopropyl phenyl
1387	Me	H	H	H	2,2,2-trichloroethyl	2,6-dimethyl-4-heptafluoroisopropyl phenyl
1388	F	H	H	H	Et	2,6-dimethyl-4-heptafluoroisopropyl phenyl
1389	F	H	H	H	i-Pr	2,6-dimethyl-4-heptafluoroisopropyl phenyl
1390	F	H	H	H	vinyl	2,6-dimethyl-4-heptafluoroisopropyl phenyl
1391	F	H	H	H	propargyl	2,6-dimethyl-4-heptafluoroisopropyl phenyl
1392	F	H	H	H	cyclobutyl	2,6-dimethyl-4-heptafluoroisopropyl phenyl
1393	F	H	H	H	cyclopentyl	2,6-dimethyl-4-heptafluoroisopropyl phenyl
1394	F	H	H	H	benzyl	2,6-dimethyl-4-heptafluoroisopropyl phenyl
1395	F	H	H	H	3-cyanobenzyl	2,6-dimethyl-4-heptafluoroisopropyl phenyl
1396	F	H	H	H	4-cyanobenzyl	2,6-dimethyl-4-heptafluoroisopropyl phenyl
1397	F	H	H	H	3-chlorobenzyl	2,6-dimethyl-4-heptafluoroisopropyl phenyl
1398	F	H	H	H	2-methoxyethyl	2,6-dimethyl-4-heptafluoroisopropyl phenyl
1399	F	H	H	H	2-cyanoethyl	2,6-dimethyl-4-heptafluoroisopropyl phenyl
1400	F	H	H	H	2-(methylthio)ethyl	2,6-dimethyl-4-heptafluoroisopropyl phenyl

Table 2(2)

Compound No.	X_1	X_2	X_3	X_4	R_1	Q
1401	F	H	H	H	2-(ethylthi)ethyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
1402	F	H	H	H	1-methyl-2-(methylthio)-ethyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
1403	F	H	H	H	2-(ethylsulfinyl)ethyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
1404	F	H	H	H	2-(ethylsulfonyl)ethyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
1405	F	H	H	H	2-fluoroethyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
1406	F	H	H	H	2,2-difluoroethyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
1407	F	H	H	H	2,2,2-trifluoroethyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
1408	F	H	H	H	1,3-difluoro-2-propyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
1409	F	H	H	H	1-chloro-3-fluoro-2-propyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
1410	F	H	H	H	1-methyl-2,2,2-trifluoro ethyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
1411	F	H	H	H	3,3,3-trifluoro-n-propyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
1412	F	H	H	H	2,2,3,3,3-pentafluoro-n-propyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
1413	F	H	H	H	3,3,4,4,4-pentafluoro-2-butyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
1414	F	H	H	H	4,4,4-trifluoro-n-butyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
1415	F	H	H	H	2,2,3,3-tetrafluoro cyclobutyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
1416	F	H	H	H	2-chloroethyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
1417	F	H	H	H	2,2-dichloroethyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
1418	F	H	H	H	2,2,2-trichloroethyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
1419	F	H	H	H	1,3-dichloro-2-propyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
1420	F	H	H	H	3-chloro-n-propyl	2,6-dimethyl-4-heptafluoroisopropylphenyl

Table 2(4)

Compound No.	X_1	X_2	X_3	X_4	R_1	Q
1441	F	H	H	H	benzyl	2,6-dimethyl-4-(nonafluoro2-butyl) phenyl
1442	F	H	H	H	3-cyanobenzyl	2,6-dimethyl-4-(nonafluoro2-butyl) phenyl
1443	F	H	H	H	4-cyanobenzyl	2,6-dimethyl-4-(nonafluoro2-butyl) phenyl
1444	F	H	H	H	3-chlorobenzyl	2,6-dimethyl-4-(nonafluoro2-butyl) phenyl
1445	F	H	H	H	2-methoxyethyl	2,6-dimethyl-4-(nonafluoro2-butyl) phenyl
1446	F	H	H	H	2-cyanoethyl	2,6-dimethyl-4-(nonafluoro2-butyl) phenyl
1447	F	H	H	H	2-(methylthio)ethyl	2,6-dimethyl-4-(nonafluoro2-butyl) phenyl
1448	F	H	H	H	2-(ethylthio)ethyl	2,6-dimethyl-4-(nonafluoro2-butyl) phenyl
1449	F	H	H	H	1-methyl-2-(methylthio)ethyl	2,6-dimethyl-4-(nonafluoro2-butyl) phenyl
1450	F	H	H	H	2-(ethylsulfinyl)ethyl	2,6-dimethyl-4-(nonafluoro2-butyl) phenyl
1451	F	H	H	H	2-(ethylsulfonyl)ethyl	2,6-dimethyl-4-(nonafluoro2-butyl) phenyl
1452	F	H	H	H	2-fluoroethyl	2,6-dimethyl-4-(nonafluoro2-butyl) phenyl
1453	F	H	H	H	2,2-difluoroethyl	2,6-dimethyl-4-(nonafluoro2-butyl) phenyl
1454	F	H	H	H	2,2,2-trifluoroethyl	2,6-dimethyl-4-(nonafluoro2-butyl) phenyl
1455	F	H	H	H	1,3-difluoro-2-propyl	2,6-dimethyl-4-(nonafluoro2-butyl) phenyl
1456	F	H	H	H	1-chloro-3-fluoro-2-propyl	2,6-dimethyl-4-(nonafluoro2-butyl) phenyl
1457	F	H	H	H	1-methyl-2,2,2-trifluoro ethyl	2,6-dimethyl-4-(nonafluoro2-butyl) phenyl
1458	F	H	H	H	3,3,3-trifluoro-n-propyl	2,6-dimethyl-4-(nonafluoro2-butyl) phenyl
1459	F	H	H	H	2,2,3,3,3-pentafluoro-n-propyl	2,6-dimethyl-4-(nonafluoro2-butyl) phenyl
1460	F	H	H	H	3,3,4,4,4-pentafluoro-2-butyl	2,6-dimethyl-4-(nonafluoro2-butyl) phenyl

Table 2(3)

Compound No.	X_1	X_2	X_3	X_4	R_1	Q
1421	F	H	H	H	2-bromoethyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
1422	F	H	H	H	2,2,2-tribromoethyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
1423	F	H	H	H	3-bromo-n-propyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
1424	F	H	H	H	2-idoethyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
1425	F	H	H	H	tetrahydrofuran-3-yl	2,6-dimethyl-4-heptafluoroisopropylphenyl
1426	F	H	H	H	(furan-2-yl)methyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
1427	F	H	H	H	(furan-3-yl)methyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
1428	F	H	H	H	(tetrahydrofuran-2-yl)methyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
1429	F	H	H	H	(tetrahydrofuran-3-yl)methyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
1430	F	H	H	H	(thiophen-2-yl)methyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
1431	F	H	H	H	(thiophen-3-yl)methyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
1432	F	H	H	H	(pyridin-2-yl)methyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
1433	F	H	H	H	(pyridin-3-yl)methyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
1434	F	H	H	H	(6-chloropyridin-3-yl)methyl	2,6-dimethyl-4-heptafluoroisopropylphanyl
1435	F	H	H	H	Et	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
1436	F	H	H	H	i-Pr	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
1437	F	H	H	H	vinyl	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
1438	F	H	H	H	propargyl	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
1439	F	H	H	H	cyclobutyl	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
1440	F	H	H	H	cyclopentyl	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl

Table 2(5)

Compound No.	X_1	X_2	X_3	X_4	R_1	Q
1385	Me	H	H	H	2,2,2-trichloroethyl	2-methyl-4-heptafluoroisopropylphenyl
1386	Me	H	H	H	i-Pr	2,6-dimethyl-4-heptafluoroisopropylphenyl
1387	Me	H	H	H	2,2,2-trichloroethyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
1388	F	H	H	H	Et	2,6-dimethyl-4-heptafluoroisopropylphenyl
1389	F	H	H	H	i-Pr	2,6-dimethyl-4-heptafluoroisopropylphenyl
1390	F	H	H	H	vinyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
1391	F	H	H	H	propargyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
1392	F	H	H	H	cyclobutyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
1393	F	H	H	H	cyclopentyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
1394	F	H	H	H	benzyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
1395	F	H	H	H	3-cyanobenzyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
1396	F	H	H	H	4-cyanobenzyl	2,6-dimethyl-4-heptafluoroisopropylphanyl
1397	F	H	H	H	3-chlorobenzyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
1398	F	H	H	H	2-methoxyethyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
1399	F	H	H	H	2-cyanoethyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
1400	F	H	H	H	2-(methylthio)ethyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
1401	F	H	H	H	2-(ethylthio)ethyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
1402	F	H	H	H	1-methyl-2-(methylthio)ethyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
1403	F	H	H	H	2-(ethylsulfinyl)ethyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
1404	F	H	H	H	2-(ethylsulfonyl)ethyl	2,6-dimethyl-4-heptafluoroisopropylphenyl

Table 2(6)

Compound No.	X_1	X_2	X_3	X_4	R_1	Q
1481	F	H	H	H	(6-chloropyridin-3-yl) methyl	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
1482	F	H	H	H	Et	2,6-dichloro-4-(heptafluoro-n-propylthio)phenyl
1483	F	H	H	H	i-Pr	2,6-dichloro-4-(heptafluoro-n-propylthio)phenyl
1484	F	H	H	H	vinyl	2,6-dichloro-4-(heptafluoro-n-propylthio)phenyl
1485	F	H	H	H	cyclobutyl	2,6-dichloro-4-(heptafluoro-n-propylthio)phenyl
1486	F	H	H	H	cyclopentyl	2,6-dichloro-4-(heptafluoro-n-propylthio)phenyl
1487	F	H	H	H	3-cyanobenzyl	2,6-dichloro-4-(heptafluoro-n-propylthio)phenyl
1488	F	H	H	H	4-cyanobenzyl	2,6-dichloro-4-(heptafluoro-n-propylthio)phenyl
1489	F	H	H	H	2-cyanoethyl	2,6-dichloro-4-(heptafluoro-n-propylthio)phenyl
1490	F	H	H	H	2-(methylthio)ethyl	2,6-dichloro-4-(heptafluoro-n-propylthio)phenyl
1491	F	H	H	H	2-(ethylthio)ethyl	2,6-dichloro-4-(heptafluoro-n-propylthio)phenyl
1492	F	H	H	H	1-methyl-2-(methylthio) ethyl	2,6-dichloro-4-(heptafluoro-n-propylthio)phenyl
1493	F	H	H	H	2-(ethylsulfinyl)ethyl	2,6-dichloro-4-(heptafluoro-n-propylthio)phenyl
1494	F	H	H	H	2-fluoroethyl	2,6-dichloro-4-(heptafluoro-n-propylthio)phenyl
1495	F	H	H	H	2,2-difluoroethyl	2,6-dichloro-4-(heptafluoro-n-propylthio)phenyl
1496	F	H	H	H	2,2,2-trifluoroethyl	2,6-dichloro-4-(heptafluoro-n-propylthio)phenyl
1497	F	H	H	H	1,3-difluoro-2-propyl	2,6-dichloro-4-(heptafluoro-n-propylthio)phenyl
1498	F	H	H	H	1-chloro-3-fluoro-2-propyl	2,6-dichloro-4-(heptafluoro-n-propylthio)phenyl
1499	F	H	H	H	1-methyl-2,2,2-trifluoroethyl	2,6-dichloro-4-(heptafluoro-n-propylthio)phenyl
1500	F	H	H	H	3,3,3-trifluoro-n-propyl	2,6-dichloro-4-(heptafluoro-n-propylthio)phenyl

Table 2(7)

Compound No.	X_1	X_2	X_3	X_4	R_1	Q
1501	F	H	H	H	2,2,3,3,3-pentafluoro-n-propyl	2,6-dichloro-4-(heptafluoro-n-propylthio)phenyl
1502	F	H	H	H	4,4,4-trifluoro-n-butyl	2,6-dichloro-4-(heptafluoro-n-propylthio)phenyl
1503	F	H	H	H	2,2,3,3-tetrafluorocyclobutyl	2,6-dichloro-4-(heptafluoro-n-propylthio)phenyl
1504	F	H	H	H	2-chloroethyl	2,6-dichloro-4-(heptafluoro-n-propylthio)phenyl
1505	F	H	H	H	2,2-dichloroethyl	2,6-dichloro-4-(heptafluoro-n-propylthio)phenyl
1506	F	H	H	H	2,2,2-trichloroethyl	2,6-dichloro-4-(heptafluoro-n-propylthio)phenyl
1507	F	H	H	H	1,3-dichloro-2-propyl	2,6-dichloro-4-(heptafluoro-n-propylthio)phenyl
1508	F	H	H	H	3-chloro-n-propyl	2,6-dichloro-4-(heptafluoro-n-propylthio)phenyl
1509	F	H	H	H	2-bromoethyl	2,6-dichloro-4-(heptafluoro-n-propylthio)phenyl
1510	F	H	H	H	3-bromo-n-propyl	2,6-dichloro-4-(heptafluoro-n-propylthio)phenyl
1511	F	H	H	H	2-iodoethyl	2,6-dichloro-4-(heptafluoro-n-propylthio)phenyl
1512	F	H	H	H	(6-chloropyridin-3-yl)methyl	2,6-dichloro-4-(heptafluoro-n-propylthio)phenyl
1513	F	H	H	H	Et	2,6-dibromo-4-(trifluoromethylsulfonyl)phenyl
1514	F	H	H	H	i-Pr	2,6-dibromo-4-(trifluoromethylsulfonyl)phenyl
1515	F	H	H	H	vinyl	2,6-dibromo-4-(trifluoromethylsulfonyl)phenyl
1516	F	H	H	H	cyclobutyl	2,6-dibromo-4-(trifluoromethylsulfonyl)phenyl
1517	F	H	H	H	cyclopentyl	2,6-dibromo-4-(trifluoromethylsulfonyl)phenyl
1518	F	H	H	H	3-cyanobenzyl	2,6-dibromo-4-(trifluoromethylsulfonyl)phenyl
1519	F	H	H	H	4-cyanobenzyl	2,6-dibromo-4-(trifluoromethylsulfonyl)phenyl
1520	F	H	H	H	2-cyanoethyl	2,6-dibromo-4-(trifluoromethylsulfonyl)phenyl

Table 2(8)

Compound No.	X_1	X_2	X_3	X_4	R_4	Q
1521	F	H	H	H	2-(methylthio)ethyl	2,6-dibromo-4-(trifluoromethylsulfonyl)phenyl
1522	F	H	H	H	2-(ethylthio)ethyl	2,6-dibromo-4-(trifluoromethylsulfonyl)phenyl
1523	F	H	H	H	1-methyl-2-(methylthio) ethyl	2,6-dibromo-4-(trifluoromethylsulfonyl)phenyl
1524	F	H	H	H	2-(ethylsulfinyl)ethyl	2,6-dibromo-4-(trifluoromethylsulfonyl)phenyl
1525	F	H	H	H	2-fluoroethyl	2,6-dibromo-4-(trifluoromethylsulfonyl)phenyl
1526	F	H	H	H	2,2-difluoroethyl	2,6-dibromo-4-(trifluoromethylsulfonyl)phenyl
1527	F	H	H	H	2,2,2-trifluoroethyl	2,6-dibromo-4-(trifluoromethylsulfonyl)phenyl
1528	F	H	H	H	1,3-difluoro-2-propyl	2,6-dibromo-4-(trifluoromethylsulfonyl)phenyl
1529	F	H	H	H	1-chloro-3-fluoro-2-propyl	2,6-dibromo-4-(trifluoromethylsulfonyl)phenyl
1530	F	H	H	H	1-methyl-2,2,2-trifluoro ethyl	2,6-dibromo-4-(trifluoromethylsulfonyl)phenyl
1531	F	H	H	H	3,3,3-trifluoro-n-propyl	2,6-dibromo-4-(trifluoromethylsulfonyl)phenyl
1532	F	H	H	H	2,2,3,3,3-pentafluoro-n-propyl	2,6-dibromo-4-(trifluoromethylsulfonyl)phenyl
1533	F	H	H	H	4,4,4-trifluoro-n-butyl	2,6-dibromo-4-(trifluoromethylsulfonyl)phenyl
1534	F	H	H	H	2,2,3,3-tetrafluorocyclo butyl	2,6-dibromo-4-(trifluoromethylsulfonyl)phenyl
1535	F	H	H	H	2-chloroethyl	2,6-dibromo-4-(trifluoromethylsulfonyl)phenyl
1536	F	H	H	H	2,2-dichloroethyl	2,6-dibromo-4-(trifluoromethylsulfonyl)phenyl
1537	F	H	H	H	2,2,2-trichloroethyl	2,6-dibromo-4-(trifluoromethylsulfonyl)phenyl
1538	F	H	H	H	1,3-dichloro-2-propyl	2,6-dibromo-4-(trifluoromethylsulfonyl)phenyl
1539	F	H	H	H	3-chloro-n-propyl	2,6-dibromo-4-(trifluoromethylsulfonyl)phenyl
1540	F	H	H	H	2-bromoethyl	2,6-dibromo-4-(trifluoromethylsulfonyl)phenyl

Table 2(9)

Compound No.	X_1	X_2	X_3	X_4	R_1	Q
1541	F	H	H	H	3-bromo-n-propyl	2,6-dibromo-4-(trifluoromethylsulfonyl)phenyl
1542	F	H	H	H	2-iodoethyl	2,6-dibromo-4-(trifluoromethylsulfonyl)phenyl
1543	F	H	H	H	(6-chloropyridin-3-yl)methyl	2,6-dibromo-4-(trifluoromethylsulfonyl)phenyl
1544	F	H	H	H	Et	2,6-dibromo-4-(pentafluoroethylthio)phenyl
1545	F	H	H	H	i-Pr	2,6-dibromo-4-(pentafluoroethylthio)phenyl
1546	F	H	H	H	vinyl	2,6-dibromo-4-(pentafluoroethylthio)phenyl
1547	F	H	H	H	cyclobutyl	2,6-dibromo-4-(pentafluoroethylthio)phenyl
1548	F	H	H	H	cyclopentyl	2,6-dibromo-4-(pentafluoroethylthio)phenyl
1549	F	H	H	H	3-cyanobenzyl	2,6-dibromo-4-(pentafluoroethylthio)phenyl
1550	F	H	H	H	4-cyanobenzyl	2,6-dibromo-4-(pentafluoroethylthio)phenyl
1551	F	H	H	H	2-cyanoethyl	2,6-dibromo-4-(pentafluoroethylthio)phenyl
1552	F	H	H	H	2-(methylthio)ethyl	2,6-dibromo-4-(pentafluoroethylthio)phenyl
1553	F	H	H	H	2-(ethylthio)ethyl	2,6-dibromo-4-(pentafluoroethylthio)phenyl
1554	F	H	H	H	1-methyl-2-(methylthio)ethyl	2,6-dibromo-4-(pentafluoroethylthio)phenyl
1555	F	H	H	H	2-(ethylsulfinyl)ethyl	2,6-dibromo-4-(pentafluoroethylthio)phenyl
1556	F	H	H	H	2-fluoroethyl	2,6-dibromo-4-(pentafluoroethylthio)phenyl
1557	F	H	H	H	2,2-difluoroethyl	2,6-dibromo-4-(pentafluoroethylthio)phenyl
1558	F	H	H	H	2,2,2-trifluoroethyl	2,6-dibromo-4-(pentafluoroethylthio)phenyl
1559	F	H	H	H	1,3-difluoro2-propyl	2,6-dibromo-4-(pentafluoroethylthio)phenyl
1560	F	H	H	H	1-chloro-3-fluoro-2-propyl	2,6-dibromo-4-(pentafluoroethylthio)phenyl

Table 2(10)

Compound No.	X_1	X_2	X_3	X_4	R_1	Q
1561	F	H	H	H	1-methyl-2,2,2-trifluoro ethyl	2,6-dibromo-4-(pentafluoroethylthio)phenyl
1562	F	H	H	H	3,3,3-trifluoro-n-propyl	2,6-dibromo-4-(pentafluoroethylthio)phenyl
1563	F	H	H	H	2,2,3,3,3-pentafluoro-n-propyl	2,6-dibromo-4-(pentafluoroethylthio)phenyl
1564	F	H	H	H	4,4,4-trifluoro-n-butyl	2,6-dibromo-4-(pentafluoroethylthio)phenyl
1565	F	H	H	H	2,2,3,3-tetrafluoro cyclobutyl	2,6-dibromo-4-(pentafluoroethylthio)phenyl
1566	F	H	H	H	2-chloroethyl	2,6-dibromo-4-(pentafluoroethylthio)phenyl
1567	F	H	H	H	2,2-dichloroethyl	2,6-dibromo-4-(pentafluoroethylthio)phenyl
1568	F	H	H	H	2,2,2-trichloroethyl	2,6-dibromo-4-(pentafluoroethylthio)phenyl
1569	F	H	H	H	1,3-dichloro-2-propyl	2,6-dibromo-4-(pentafluoroethylthio)phenyl
1570	F	H	H	H	3-chloro-n-propyl	2,6-dibromo-4-(pentafluoroethylthio)phenyl
1571	F	H	H	H	2-bromoethyl	2,6-dibromo-4-(pentafluoroethylthio)phenyl
1572	F	H	H	H	3-bromo-n-propyl	2,6-dibromo-4-(pentafluoroethylthio)phenyl
1573	F	H	H	H	2-iodoethyl	2,6-dibromo-4-(pentafluoroethylthio)phenyl
1574	F	H	H	H	(6-chloropyridin-3-yl) methyl	2,6-dibromo-4-(pentafluoroethylthio)phenyl
1575	F	H	H	H	Et	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1576	F	H	H	H	i-Pr	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1577	F	H	H	H	vinyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1578	F	H	H	H	cyclobutyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1579	F	H	H	H	cyclopentyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1580	F	H	H	H	3-cyanobenzyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl

Table 2(11)

Compound No.	X_1	X_2	X_3	X_4	R_1	Q
1581	F	H	H	H	4-cyanobenzyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1582	F	H	H	H	2-cyanoethyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1583	F	H	H	H	2-(methylthio)ethyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1584	F	H	H	H	2-(ethylthio)ethyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1585	F	H	H	H	1-methyl-2-(methylthio) ethyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1586	F	H	H	H	2-(ethylsulfinyl)ethyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1587	F	H	H	H	2-fluoroethyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1588	F	H	H	H	2,2-difluoroethyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1589	F	H	H	H	2,2,2-trifluoroethyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1590	F	H	H	H	1,3-difluoro-2-propyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1591	F	H	H	H	1-chloro-3-fluoro-2-propyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1592	F	H	H	H	1-methyl-2,2,2-trifluoro ethyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1593	F	H	H	H	3,3,3-trifluoro-n-propyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1594	F	H	H	H	2,2,3,3,3-pentafluoro-n-propyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1595	F	H	H	H	4,4,4-trifluoro-n-butyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1596	F	H	H	H	2,2,3,3-tetrafluoro cyclobutyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1597	F	H	H	H	2-chloroethyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1598	F	H	H	H	2,2-dichloroethyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1599	F	H	H	H	2,2,2-trichloroethyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1600	F	H	H	H	1,3-dichloro-2-propyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl

Table 2(12)

Compound No.	X_1	X_2	X_3	X_4	R_1	Q
1601	F	H	H	H	3-chloro-n-propyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1602	F	H	H	H	2-bromoethyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1603	F	H	H	H	3-bromo-n-propyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1604	F	H	H	H	2-iodoethyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1605	F	H	H	H	(6-chloropyridin-3-yl) methyl	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
1606	F	H	H	H	Et	2,6-dibromo-4-(heptafluoroisopropylthio)phenyl
1607	F	H	H	H	i-Pr	2,6-dibromo-4-(heptafluoroisopropylthio)phenyl
1608	F	H	H	H	vinyl	2,6-dibromo-4-(heptafluoroisopropylthio)phenyl
1609	F	H	H	H	cyclobutyl	2,6-dibromo-4-(heptafluoroisopropylthio)phenyl
1610	F	H	H	H	cyclopentyl	2,6-dibromo-4-(heptafluoroisopropylthio)phenyl
1611	F	H	H	H	3-cyanobenzyl	2,6-dibromo-4-(heptafluoroisopropylthio)phenyl
1612	F	H	H	H	4-cyanobenzyl	2,6-dibromo-4-(heptafluoroisopropylthio)phenyl
1613	F	H	H	H	2-cyanoethyl	2,6-dibromo-4-(heptafluoroisopropylthio)phenyl
1614	F	H	H	H	2-(methylthio)ethyl	2,6-dibromo-4-(heptafluoroisopropylthio)phenyl
1615	F	H	H	H	2-(ethylthio)ethyl	2,6-dibromo-4-(heptafluoroisopropylthio)phenyl
1616	F	H	H	H	1-methyl-2-(methylthio) ethyl	2,6-dibromo-4-(heptafluoroisopropylthio)phenyl
1617	F	H	H	H	2-(ethylsulfinyl)ethyl	2,6-dibromo-4-(heptafluoroisopropylthio)phenyl
1618	F	H	H	H	2-fluoroethyl	2,6-dibromo-4-(heptafluoroisopropylthio)phenyl
1619	F	H	H	H	2,2-difluoroethyl	2,6-dibromo-4-(heptafluoroisopropylthio)phenyl
1620	F	H	H	H	2,2,2-trifluoroethyl	2,6-dibromo-4-(heptafluoroisopropylthio)phenyl

Table 2(13)

Compound No.	X_1	X_2	X_3	X_4	R_1	Q
1621	F	H	H	H	1,3-difluoro-2-propyl	2,6-dibromo-4-(heptafluoroisopropylthio)phenyl
1622	F	H	H	H	1-chloro-3-fluoro2-propyl	2,6-dibromo-4-(heptafluoroisopropylthio)phenyl
1623	F	H	H	H	1-methyl-2,2,2-trifluoro ethyl	2,6-dibromo-4-(heptafluoroisopropylthio)phenyl
1624	F	H	H	H	3,3,3-trifluoro-n-propyl	2,6-dibromo-4-(heptafluoroisopropylthio)phenyl
1625	F	H	H	H	2,2,3,3,3-pentafluoro-n-propyl	2,6-dibromo-4-(heptafluoroisopropylthio)phenyl
1626	F	H	H	H	4,4,4-trifluoro-n-butyl	2,6-dibromo-4-(heptafluoroisopropylthio)phenyl
1627	F	H	H	H	2,2,3,3-tetrafluorocyclo butyl	2,6-dibromo-4-(heptafluoroisopropylthio)phenyl
1628	F	H	H	H	2-chloroethyl	2,6-dibromo-4-(heptafluoroisopropylthio)phenyl
1629	F	H	H	H	2,2-dichloroethyl	2,6-dibromo-4-(heptafluoroisopropylthio)phenyl
1630	F	H	H	H	2,2,2-trichloroethyl	2,6-dibromo-4-(heptafluoroisopropylthio)phenyl
1631	F	H	H	H	1,3-dichloro-2-propyl	2,6-dibromo-4-(heptafluoroisopropylthio)phenyl
1632	F	H	H	H	3-chloro-n-propyl	2,6-dibromo-4-(heptafluoroisopropylthio)phenyl
1633	F	H	H	H	2-bromoethyl	2,6-dibromo-4-(heptafluoroisopropylthio)phenyl
1634	F	H	H	H	3-bromo-n-propyl	2,6-dibromo-4-(heptafluoroisopropylthio)phenyl
1635	F	H	H	H	2-iodoethyl	2,6-dibromo-4-(heptafluoroisopropylthio)phenyl
1636	F	H	H	H	(6-chloropyridin-3-yl) methyl	2,6-dibromo-4-(heptafluoroisopropylthio)phenyl
1637	F	H	H	H	Et	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
1638	F	H	H	H	i-Pr	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
1639	F	H	H	H	vinyl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
1640	F	H	H	H	cyclobutyl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl

Table 2(14)

Compound No.	X_1	X_2	X_3	X_4	R_4	Q
1641	F	H	H	H	cyclopentyl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
1642	F	H	H	H	3-cyanobenzyl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
1643	F	H	H	H	4-cyanobenzyl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
1644	F	H	H	H	2-cyanoethyl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
1645	F	H	H	H	2-(methylthio)ethyl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
1646	F	H	H	H	2-(ethylthio)ethyl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
1647	F	H	H	H	1-methyl-2-(methylthio) ethyl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
1648	F	H	H	H	2-(ethylsulfinyl)ethyl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
1649	F	H	H	H	2-fluoroethyl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
1650	F	H	H	H	2,2-difluoroethyl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
1651	F	H	H	H	2,2,2-trifluoroethyl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
1652	F	H	H	H	1,3-difluoro-2-propyl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
1653	F	H	H	H	1-chloro-3-fluoro-2-propyl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
1654	F	H	H	H	1-methyl-2,2,2-trifluoro ethyl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
1655	F	H	H	H	3,3,3-trifluoro-n-propyl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
1656	F	H	H	H	2,2,3,3,3-pentafluoro-n-propyl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
1657	F	H	H	H	4,4,4-trifluoro-n-butyl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
1658	F	H	H	H	2,2,3,3-tetrafluorocyclo butyl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
1659	F	H	H	H	2-chloroethyl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
1660	F	H	H	H	2,2-dichloroethyl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl

Table 2(15)

Compound No.	X_1	X_2	X_3	X_4	R_1	Q
1661	F	H	H	H	2,2,2-trichloroethyl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
1662	F	H	H	H	1,3-dichloro-2-propyl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
1663	F	H	H	H	3-chloro-n-propyl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
1664	F	H	H	H	2-bromoethyl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
1665	F	H	H	H	3-bromo-n-propyl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
1666	F	H	H	H	2-iodoethyl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
1667	F	H	H	H	(6-chloropyridin-3-yl)methyl	2,6-dimethyl-4-(heptafluoro-n-propylthio)phenyl
1668	F	H	H	H	2,2,2-trichloroethyl	2,6-dichloro-4-(trifluoromethylsulfinyl)phenyl
1669	F	H	H	H	2,2,2-trichloroethyl	2,6-dibromo-4-(trifluoromethylsulfinyl)phenyl
1670	F	H	H	H	2,2,2-trichloroethyl	2,6-dichloro-4-(pentafluoroethylsulfinyl)phenyl
1671	F	H	H	H	2,2,2-trichloroethyl	2,6-dibromo-4-(pentafluoroethylsulfinyl)phenyl
1672	F	H	H	H	2,2,2-trichloroethyl	2,6-dichloro-4-(pentafluoroethylsulfonyl)phenyl
1673	F	H	H	H	2,2,2-trichloroethyl	2,6-dibromo-4-(pentafluoroethylsulfonyl)phenyl
1674	F	H	H	H	2,2,2-trichloroethyl	2,6-dichloro-4-(heptafluoro-n-propyl sulfinyl)phenyl
1675	F	H	H	H	2,2,2-trichloroethyl	2,6-dibromo-4-(heptafluoro-n-propyl sulfinyl)phenyl
1676	F	H	H	H	2,2,2-trichloroethyl	2-chloro-6-methyl-4-(nonafluoro-2-butyl)phenyl
1677	F	H	H	H	2,2,2-trichloroethyl	2-bromo-6-methyl-4-(nonafluoro-2-butyl)phenyl
1678	F	H	H	H	2,2,2-trichloroethyl	2-iodo-6-methyl-4-(nonafluoro-2-butyl)phenyl
1679	F	H	H	H	2,2,2-trichloroethyl	2,6-dichloro-4-(nonafluoro-2-butyl)phenyl
1680	F	H	H	H	2,2,2-trichloroethyl	2,6-dibromo-4-(nonafluoro-2-butyl)phenyl

Table 2(16)

Compound No.	X_1	X_2	X_3	X_4	R_4	Q
1681	F	H	H	H	Et	2-chloro-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1682	F	H	H	H	i-Pr	2-chloro-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1683	F	H	H	H	vinyl	2-chloro-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1684	F	H	H	H	cyclobutyl	2-chloro-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1685	F	H	H	H	cyclopentyl	2-chloro-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1686	F	H	H	H	3-cyanobenzyl	2-chloro-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1687	F	H	H	H	4-cyanobenzyl	2-chloro-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1688	F	H	H	H	2-cyanoethyl	2-chloro-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1689	F	H	H	H	2-(methylthio)ethyl	2-chloro-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1690	F	H	H	H	2-(ethylthio)ethyl	2-chloro-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1691	F	H	H	H	1-methyl-2-(methylthio) ethyl	2-chloro-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1692	F	H	H	H	2-(ethylsulfinyl)ethyl	2-chloro-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1693	F	H	H	H	2-fluoroethyl	2-chloro-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1694	F	H	H	H	2,2-difluoroethyl	2-chloro-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1695	F	H	H	H	2,2,2-trifluoroethyl	2-chloro-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1696	F	H	H	H	1,3-difluoro-2-propyl	2-chloro-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1697	F	H	H	H	1-chloro-3-fluoro-2-propyl	2-chloro-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1698	F	H	H	H	1-methyl-2,2,2-trifluoro ethyl	2-chloro-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1699	F	H	H	H	3,3,3-trifluoro-n-propyl	2-chloro-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1700	F	H	H	H	2,2,3,3,3-pentafluoro-n-propyl	2-chloro-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl

Table 2(17)

Compound No.	X_1	X_2	X_3	X_4	R_1	Q
1701	F	H	H	H	4,4,4-trifluoro-n-butyl	2-chloro-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1702	F	H	H	H	2,2,3,3-tetrafluoro cyclobutyl	2-chloro-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1703	F	H	H	H	2-chloroethyl	2-chloro-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1704	F	H	H	H	2,2-dichloroethyl	2-chloro-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1705	F	H	H	H	2,2,2-trichloroethyl	2-chloro-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1706	F	H	H	H	1,3-dichloro-2-propyl	2-chloro-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1707	F	H	H	H	3-chloro-n-propyl	2-chloro-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1708	F	H	H	H	2-bromoethyl	2-chloro-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1709	F	H	H	H	3-bromo-n-propyl	2-chloro-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1710	F	H	H	H	2-iodoethyl	2-chloro-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1711	F	H	H	H	(6-chloropyridin-3-yl) methyl	2-chloro-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1712	F	H	H	H	Et	2-bromo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1713	F	H	H	H	i-Pr	2-bromo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1714	F	H	H	H	vinyl	2-bromo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1715	F	H	H	H	cyclobutyl	2-bromo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1716	F	H	H	H	cyclopentyl	2-bromo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1717	F	H	H	H	3-cyanobenzyl	2-bromo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1718	F	H	H	H	4-cyanobenzyl	2-bromo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1719	F	H	H	H	2-cyanoethyl	2-bromo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1720	F	H	H	H	2-(methylthio)ethyl	2-bromo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl

Table 2(18)

Compound No.	X_1	X_2	X_3	X_4	R_4	Q
1721	F	H	H	H	2-(ethylthio)ethyl	2-bromo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1722	F	H	H	H	1-methyl-2-(methylthio) ethyl	2-bromo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1723	F	H	H	H	2-(ethylsulfinyl)ethyl	2-bromo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1724	F	H	H	H	2-fluoroethyl	2-bromo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1725	F	H	H	H	2,2-difluoroethyl	2-bromo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1726	F	H	H	H	2,2,2-trifluoroethyl	2-bromo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1727	F	H	H	H	1,3-difluoro-2-propyl	2-bromo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1728	F	H	H	H	1-chloro-3-fluoro-2-propyl	2-bromo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1729	F	H	H	H	1-methyl-2,2,2-trifluoro ethyl	2-bromo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1730	F	H	H	H	3,3,3-trifluoro-n-propyl	2-bromo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1731	F	H	H	H	2,2,3,3,3-pentafluoro-n-propyl	2-bromo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1732	F	H	H	H	4,4,4-trifluoro-n-butyl	2-bromo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1733	F	H	H	H	2,2,3,3-tetrafluoro cyclobutyl	2-bromo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1734	F	H	H	H	2-chloroethyl	2-bromo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1735	F	H	H	H	2,2-dichloroethyl	2-bromo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1736	F	H	H	H	2,2,2-trichloroethyl	2-bromo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1737	F	H	H	H	1,3-dichloro-2-propyl	2-bromo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1738	F	H	H	H	3-chloro-n-propyl	2-bromo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1739	F	H	H	H	2-bromoethyl	2-bromo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1740	F	H	H	H	3-bromo-n-propyl	2-bromo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl

Table 2(19)

Compound No.	X_1	X_2	X_3	X_4	R_1	Q
1741	F	H	H	H	2-iodoethyl	2-bromo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1742	F	H	H	H	(6-chloropyridin-3-yl) methyl	2-bromo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1743	F	H	H	H	Et	2-iodo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1744	F	H	H	H	i-Pr	2-iodo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1745	F	H	H	H	vinyl	2-iodo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1746	F	H	H	H	cyclobutyl	2-iodo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1747	F	H	H	H	cyclopentyl	2-iodo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1748	F	H	H	H	3-cyanobenzyl	2-iodo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1749	F	H	H	H	4-cyanobenzyl	2-iodo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1750	F	H	H	H	2-cyanoethyl	2-iodo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1751	F	H	H	H	2-(methylthio)ethyl	2-iodo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1752	F	H	H	H	2-(ethylthio)ethyl	2-iodo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1753	F	H	H	H	1-methyl-2-(methylthio) ethyl	2-iodo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1754	F	H	H	H	2-(ethylsulfinyl)ethyl	2-iodo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1755	F	H	H	H	2-fluoroethyl	2-iodo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1756	F	H	H	H	2,2-difluoroethyl	2-iodo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1757	F	H	H	H	2,2,2-trifluoroethyl	2-iodo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1758	F	H	H	H	1,3-difluoro-2-propyl	2-iodo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1759	F	H	H	H	1-chloro-3-fluoro-2-propyl	2-iodo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1760	F	H	H	H	1-methyl-2,2,2-trifluoro ethyl	2-iodo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl

Table 2(20)

Compound No.	X_1	X_2	X_3	X_4	R_1	Q
1761	F	H	H	H	3,3,3-trifluoro-n-propyl	2-iodo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1762	F	H	H	H	2,2,3,3,3-pentafluoro-n-propyl	2-iodo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1763	F	H	H	H	4,4,4-trifluoro-n-butyl	2-iodo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1764	F	H	H	H	2,2,3,3-tetrafluoro cyclobutyl	2-iodo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1765	F	H	H	H	2-chloroethyl	2-iodo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1766	F	H	H	H	2,2-dichloroethyl	2-iodo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1767	F	H	H	H	2,2,2-trichloroethyl	2-iodo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1768	F	H	H	H	1,3-dichloro-2-propyl	2-iodo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1769	F	H	H	H	3-chloro-n-propyl	2-iodo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1770	F	H	H	H	2-bromoethyl	2-iodo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1771	F	H	H	H	3-bromo-n-propyl	2-iodo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1772	F	H	H	H	2-iodoethyl	2-iodo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1773	F	H	H	H	(6-chloropyridin-3-yl) methyl	2-iodo-4-methyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1774	F	H	H	H	Et	2,4-dimethyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1775	F	H	H	H	i-Pr	2,4-dimethyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1776	F	H	H	H	vinyl	2,4-dimethyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1777	F	H	H	H	cyclobutyl	2,4-dimethyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1778	F	H	H	H	cyclopentyl	2,4-dimethyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1779	F	H	H	H	3-cyanobenzyl	2,4-dimethyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1780	F	H	H	H	4-cyanobenzyl	2,4-dimethyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl

Table 2(21)

Compound No.	X_1	X_2	X_3	X_4	R_4	Q
1781	F	H	H	H	2-cyanoethyl	2,4-dimethyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1782	F	H	H	H	2-(methylthio)ethyl	2,4-dimethyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1783	F	H	H	H	2-(ethylthio)ethyl	2,4-dimethyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1784	F	H	H	H	1-methyl-2-(methylthio)ethyl	2,4-dimethyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1785	F	H	H	H	2-(ethylsulfinyl)ethyl	2,4-dimethyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1786	F	H	H	H	2-fluoroethyl	2,4-dimethyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1787	F	H	H	H	2,2-difluoroethyl	2,4-dimethyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1788	F	H	H	H	2,2,2-trifluoroethyl	2,4-dimethyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1789	F	H	H	H	1,3-difluoro-2-propyl	2,4-dimethyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1790	F	H	H	H	1-chloro-3-fluoro-2-propyl	2,4-dimethyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1791	F	H	H	H	1-methyl-2,2,2-trifluoro ethyl	2,4-dimethyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1792	F	H	H	H	3,3,3-trifluoro-n-propyl	2,4-dimethyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1793	F	H	H	H	2,2,3,3,3-pentafluoro-n-propyl	2,4-dimethyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1794	F	H	H	H	4,4,4-trifluoro-n-butyl	2,4-dimethyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1795	F	H	H	H	2,2,3,3-tetrafluoro cyclobutyl	2,4-dimethyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1796	F	H	H	H	2-chloroethyl	2,4-dimethyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1797	F	H	H	H	2,2-dichloroethyl	2,4-dimethyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1798	F	H	H	H	2,2,2-trichloroethyl	2,4-dimethyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1799	F	H	H	H	1,3-dichloro-2-propyl	2,4-dimethyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1800	F	H	H	H	3-chloro-n-propyl	2,4-dimethyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl

Table 2(22)

Compound No.	X_1	X_3	X_2	X_4	R_1	Q
1801	F	H	H	H	2-bromoethyl	2,4-dimethyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1802	F	H	H	H	3-bromo-n-propyl	2,4-dimethyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1803	F	H	H	H	2-iodoethyl	2,4-dimethyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1804	F	H	H	H	(6-chloropyridin-3-yl) methyl	2,4-dimethyl-6-(1,1,1,3,3,3-hexafluoro isopropyloxy)pyridin-3-yl
1805	F	H	H	H	Et	2-bromo-4-methyl-6-(heptafluoro isopropyl)pyridin-3-yl
1806	F	H	H	H	i-Pr	2-bromo-4-methyl-6-(heptafluoro isopropyl)pyridin-3-yl
1807	F	H	H	H	vinyl	2-bromo-4-methyl-6-(heptafluoro isopropyl)pyridin-3-yl
1808	F	H	H	H	cyclobutyl	2-bromo-4-methyl-6-(heptafluoro isopropyl)pyridin-3-yl
1809	F	H	H	H	cyclopentyl	2-bromo-4-methyl-6-(heptafluoro isopropyl)pyridin-3-yl
1810	F	H	H	H	3-cyanobenzyl	2-bromo-4-methyl-6-(heptafluoro isopropyl)pyridin-3-yl
1811	F	H	H	H	4-cyanobenzyl	2-bromo-4-methyl-6-(heptafluoro isopropyl)pyridin-3-yl
1812	F	H	H	H	2-cyanoethyl	2-bromo-4-methyl-6-(heptafluoro isopropyl)pyridin-3-yl
1813	F	H	H	H	2-(methylthio)ethyl	2-bromo-4-methyl-6-(heptafluoro isopropyl)pyridin-3-yl
1814	F	H	H	H	2-(ethylthio)ethyl	2-bromo-4-methyl-6-(heptafluoro isopropyl)pyridin-3-yl
1815	F	H	H	H	1-methyl-2-(methylthio) ethyl	2-bromo-4-methyl-6-(heptafluoro isopropyl)pyridin-3-yl
1816	F	H	H	H	2-(ethylsulfinyl)ethyl	2-bromo-4-methyl-6-(heptafluoro isopropyl)pyridin-3-yl
1817	F	H	H	H	2-fluoroethyl	2-bromo-4-methyl-6-(heptafluoro isopropyl)pyridin-3-yl
1818	F	H	H	H	2,2-difluoroethyl	2-bromo-4-methyl-6-(heptafluoro isopropyl)pyridin-3-yl
1819	F	H	H	H	2,2,2-trifluoroethyl	2-bromo-4-methyl-6-(heptafluoro isopropyl)pyridin-3-yl
1820	F	H	H	H	1,3-difluoro-2-propyl	2-bromo-4-methyl-6-(heptafluoro isopropyl)pyridin-3-yl

Table 2(23)

Compound No.	X_1	X_2	X_3	X_4	R_1	Q
1821	F	H	H	H	1-chloro-3-fluoro-2-propyl	2-bromo-4-methyl-6-(heptafluoro isopropyl)pyridin-3-yl
1822	F	H	H	H	1-methyl-2,2,2-trifluoroethyl	2-bromo-4-methyl-6-(heptafluoro isopropyl)pyridin-3-yl
1823	F	H	H	H	3,3,3-trifluoro-n-propyl	2-bromo-4-methyl-6-(heptafluoro isopropyl)pyridin-3-yl
1824	F	H	H	H	2,2,3,3,3-pentafluoro-n-propyl	2-bromo-4-methyl-6-(heptafluoro isopropyl)pyridin-3-yl
1825	F	H	H	H	4,4,4-trifluoro-n-butyl	2-bromo-4-methyl-6-(heptafluoro isopropyl)pyridin-3-yl
1826	F	H	H	H	2,2,3,3-tetrafluorocyclobutyl	2-bromo-4-methyl-6-(heptafluoro isopropyl)pyridin-3-yl
1827	F	H	H	H	2-chloroethyl	2-bromo-4-methyl-6-(heptafluoro isopropyl)pyridin-3-yl
1828	F	H	H	H	2,2-dichloroethyl	2-bromo-4-methyl-6-(heptafluoro isopropyl)pyridin-3-yl
1829	F	H	H	H	2,2,2-trichloroethyl	2-bromo-4-methyl-6-(heptafluoro isopropyl)pyridin-3-yl
1830	F	H	H	H	1,3-dichloro-2-propyl	2-bromo-4-methyl-6-(heptafluoro isopropyl)pyridin-3-yl
1831	F	H	H	H	3-chloro-n-propyl	2-bromo-4-methyl-6-(heptafluoro isopropyl)pyridin-3-yl
1832	F	H	H	H	2-bromoethyl	2-bromo-4-methyl-6-(heptafluoro isopropyl)pyridin-3-yl
1833	F	H	H	H	3-bromo-n-propyl	2-bromo-4-methyl-6-(heptafluoro isopropyl)pyridin-3-yl
1834	F	H	H	H	2-iodoethyl	2-bromo-4-methyl-6-(heptafluoro isopropyl)pyridin-3-yl
1835	F	H	H	H	(6-chloropyridin-3-yl)methyl	2-bromo-4-methyl-6-(heptafluoro isopropyl)pyridin-3-yl
1836	F	H	H	H	Et	2-chloro-6-methyl-4-heptafluoroisopropylphenyl
1837	F	H	H	H	i-Pr	2-chloro-6-methyl-4-heptafluoroisopropylphenyl
1838	F	H	H	H	vinyl	2-chloro-6-methyl-4-heptafluoroisopropylphenyl
1839	F	H	H	H	cyclobutyl	2-chloro-6-methyl-4-heptafluoroisopropylphenyl
1840	F	H	H	H	cyclopentyl	2-chloro-6-methyl-4-heptafluoroisopropylphenyl

Table 2(24)

Compound No.	X_1	X_2	X_3	X_4	R_4	Q
1841	F	H	H	H	3-cyanobenzyl	2-chloro-6-methyl-4-heptafluoroisopropyl phenyl
1842	F	H	H	H	4-cyanobenzyl	2-chloro-6-methyl-4-heptafluoroisopropyl phenyl
1843	F	H	H	H	2-cyanoethyl	2-chloro-6-methyl-4-heptafluoroisopropyl phenyl
1844	F	H	H	H	2-(methylthio)ethyl	2-chloro-6-methyl-4-heptafluoroisopropyl phenyl
1845	F	H	H	H	2-(ethylthio)ethyl	2-chloro-6-methyl-4-heptafluoroisopropyl phenyl
1846	F	H	H	H	1-methyl-2-(methylthio) ethyl	2-chloro-6-methyl-4-heptafluoroisopropyl phenyl
1847	F	H	H	H	2-(ethylsulfinyl)ethyl	2-chloro-6-methyl-4-heptafluoroisopropyl phenyl
1848	F	H	H	H	2-fluoroethyl	2-chloro-6-methyl-4-heptafluoroisopropyl phenyl
1849	F	H	H	H	2,2-difluoroethyl	2-chloro-6-methyl-4-heptafluoroisopropyl phenyl
1850	F	H	H	H	2,2,2-trifluoroethyl	2-chloro-6-methyl-4-heptafluoroisopropyl phenyl
1851	F	H	H	H	1,3-difluoro-2-propyl	2-chloro-6-methyl-4-heptafluoroisopropyl phenyl
1852	F	H	H	H	1-chloro-3-fluoro-2-propyl	2-chloro-6-methyl-4-heptafluoroisopropyl phenyl
1853	F	H	H	H	1-methyl-2,2,2-trifluoroethyl	2-chloro-6-methyl-4-heptafluoroisopropyl phenyl
1854	F	H	H	H	3,3,3-trifluoro-n-propyl	2-chloro-6-methyl-4-heptafluoroisopropyl phenyl
1855	F	H	H	H	2,2,3,3,3-pentafluoro-n-propyl	2-chloro-6-methyl-4-heptafluoroisopropyl phenyl
1856	F	H	H	H	4,4,4-trifluoro-n-butyl	2-chloro-6-methyl-4-heptafluoroisopropyl phenyl
1857	F	H	H	H	2,2,3,3-tetrafluoro cyclobutyl	2-chloro-6-methyl-4-heptafluoroisopropyl phenyl
1858	F	H	H	H	2-chloroethyl	2-chloro-6-methyl-4-heptafluoroisopropyl phenyl
1859	F	H	H	H	2,2-dichloroethyl	2-chloro-6-methyl-4-heptafluoroisopropyl phenyl
1860	F	H	H	H	2,2,2-trichloroethyl	2-chloro-6-methyl-4-heptafluoroisopropyl phenyl

Table 2(25)

Compound No.	X_1	X_2	X_3	X_4	R_1	Q
1861	F	H	H	H	1,3-dichloro-2-propyl	2-chloro-6-methyl-4-heptafluoroisopropylphenyl
1862	F	H	H	H	3-chloro-n-propyl	2-chloro-6-methyl-4-heptafluoroisopropylphenyl
1863	F	H	H	H	2-bromoethyl	2-chloro-6-methyl-4-heptafluoroisopropylphenyl
1864	F	H	H	H	3-bromo-n-propyl	2-chloro-6-methyl-4-heptafluoroisopropylphenyl
1865	F	H	H	H	2-iodoethyl	2-chloro-6-methyl-4-heptafluoroisopropylphenyl
1866	F	H	H	H	(6-chloropyridin-3-yl) methyl	2-chloro-6-methyl-4-heptafluoroisopropylphanyl
1867	F	H	H	H	Et	2-iodo-6-n-propyl-4-heptafluoro isopropylphenyl
1868	F	H	H	H	i-Pr	2-iodo-6-n-propyl-4-heptafluoro isopropylphenyl
1869	F	H	H	H	vinyl	2-iodo-6-n-propyl-4-heptafluoro isopropylphenyl
1870	F	H	H	H	cyclobutyl	2-iodo-6-n-propyl-4-heptafluoro isopropylphenyl
1871	F	H	H	H	cyclopentyl	2-iodo-6-n-propyl-4-heptafluoro isopropylphenyl
1872	F	H	H	H	3-cyanobenzyl	2-iodo-6-n-propyl-4-heptafluoro isopropylphenyl
1873	F	H	H	H	4-cyanobenzyl	2-iodo-6-n-propyl-4-heptafluoro isopropylphenyl
1874	F	H	H	H	2-cyanoethyl	2-iodo-6-n-propyl-4-heptafluoro isopropylphenyl
1875	F	H	H	H	2-(methylthio)ethyl	2-iodo-6-n-propyl-4-heptafluoro isopropylphenyl
1876	F	H	H	H	2-(ethylthio)ethyl	2-iodo-6-n-propyl-4-heptafluoro isopropylphenyl
1877	F	H	H	H	1-methyl-2-(methylthio) ethyl	2-iodo-6-n-propyl-4-heptafluoro isopropylphenyl
1878	F	H	H	H	2-(ethylsulfinyl)ethyl	2-iodo-6-n-propyl-4-heptafluoro isopropylphenyl
1879	F	H	H	H	2-fluoroethyl	2-iodo-6-n-propyl-4-heptafluoro isopropylphenyl
1880	F	H	H	H	2,2-difluoroethyl	2-iodo-6-n-propyl-4-heptafluoro isopropylphenyl

Table 2(26)

Compound No.	X_1	X_2	X_3	X_4	R_1	Q
1881	F	H	H	H	2,2,2-trifluoroethyl	2-iodo-6-n-propyl-4-heptafluoro isopropylphenyl
1882	F	H	H	H	1,3-difluoro-2-propyl	2-iodo-6-n-propyl-4-heptafluoro isopropylphenyl
1883	F	H	H	H	1-chloro-3-fluoro-2-propyl	2-iodo-6-n-propyl-4-heptafluoro isopropylphenyl
1884	F	H	H	H	1-methyl-2,2,2-trifluoro ethyl	2-iodo-6-n-propyl-4-heptafluoro isopropylphenyl
1885	F	H	H	H	3,3,3-trifluoro-n-propyl	2-iodo-6-n-propyl-4-heptafluoro isopropylphenyl
1886	F	H	H	H	2,2,3,3,3-pentafluoro-n-propyl	2-iodo-6-n-propyl-4-heptafluoro isopropylphenyl
1887	F	H	H	H	4,4,4-trifluoro-n-butyl	2-iodo-6-n-propyl-4-heptafluoro isopropylphenyl
1888	F	H	H	H	2,2,3,3-tetrafluoro cyclobutyl	2-iodo-6-n-propyl-4-heptafluoro isopropylphenyl
1889	F	H	H	H	2-chloroethyl	2-iodo-6-n-propyl-4-heptafluoro isopropylphenyl
1890	F	H	H	H	2,2-dichloroethyl	2-iodo-6-n-propyl-4-heptafluoro isopropylphenyl
1891	F	H	H	H	2,2,2-trichloroethyl	2-iodo-6-n-propyl-4-heptafluoro isopropylphenyl
1892	F	H	H	H	1,3-dichloro-2-propyl	2-iodo-6-n-propyl-4-heptafluoro isopropylphenyl
1893	F	H	H	H	3-chloro-n-propyl	2-iodo-6-n-propyl-4-heptafluoro isopropylphenyl
1894	F	H	H	H	2-bromoethyl	2-iodo-6-n-propyl-4-heptafluoro isopropylphenyl
1895	F	H	H	H	3-bromo-n-propyl	2-iodo-6-n-propyl-4-heptafluoro isopropylphenyl
1896	F	H	H	H	2-iodoethyl	2-iodo-6-n-propyl-4-heptafluoro isopropylphenyl
1897	F	H	H	H	(6-chloropyridin-3-yl)methyl	2-iodo-6-n-propyl-4-heptafluoro isopropylphenyl
1898	Cl	H	H	H	i-Pr	2-methyl-4-heptafluoroisopropylphenyl
1899	Cl	H	H	H	2,2,2-trichloroethyl	2-methyl-4-heptafluoroisopropylphenyl
1900	Cl	H	H	H	i-Pr	2,6-dimethyl-4-heptafluoroisopropylphenyl

Table 2(27)

Compound No.	X_1	X_3	X_2	X_4	R_1	Q
1901	Cl	H	H	H	2,2,2-trichloroethyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
1902	Cl	H	H	H	2,2,2-trichloroethyl	2,4-bistrifluoromethylphenyl
1903	Cl	H	H	H	2,2,2-trichloroethyl	2-(1,1,1,3,3,3-hexafluoroisopropyloxy) -4-methylpyridin-5-yl
1904	Br	H	H	H	i-Pr	2,6-dimethyl-4-heptafluoroisopropylphenyl
1905	Br	H	H	H	2,2,2-trichloroethyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
1906	F	F	H	H	2,2,2-trichloroethyl	2-methyl-4-heptafluoroisopropylphenyl
1907	F	F	H	H	2,2,2-trichloroethyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
1908	F	F	F	H	i-Pr	2,6-dimethyl-4-heptafluoroisopropylphenyl
1909	H	Me	H	H	i-Pr	2-methyl-4-heptafluoroisopropylphenyl
1910	H	Me	H	H	2,2,2-trichloroethyl	2-methyl-4-heptafluoroisopropylphenyl
1911	H	Me	H	H	i-Pr	2,6-dimethyl-4-heptafluoroisopropylphenyl
1912	H	Me	H	H	2,2,2-trichloroethyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
1913	H	MeO	H	H	i-Pr	2-methyl-4-heptafluoroisopropylphenyl
1914	H	MeO	H	H	2,2,2-trichloroethyl	2-methyl-4-heptafluoroisopropylphenyl
1915	H	F	H	H	i-Pr	2-methyl-4-heptafluoroisopropylphenyl
1916	H	F	H	H	2,2,2-trichloroethyl	2-methyl-4-heptafluoroisopropylphenyl
1917	H	F	H	H	i-Pr	2,6-dimethyl-4-heptafluoroisopropylphenyl
1918	H	F	H	H	2,2,2-trichloroethyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
1919	H	Cl	H	H	i-Pr	2-methyl-4-heptafluoroisopropylphenyl
1920	H	Cl	H	H	2,2,2-trichloroethyl	2-methyl-4-heptafluoroisopropylphenyl

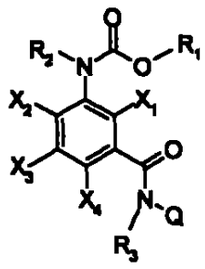
Table 2(28)

Compound No.	X_1	X_2	X_3	X_4	R_1	Q
1921	H	Cl	H	H	i-Pr	2,6-dimethyl-4-heptafluoroisopropylphenyl
1922	H	Cl	H	H	2,2,2-trichloroethyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
1923	H	H	Me	H	2,2,2-trichloroethyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
1924	H	H	CF_3	H	i-Pr	2-methyl-4-heptafluoroisopropylphenyl
1925	H	H	CF_3	H	2,2,2-trichloroethyl	2-methyl-4-heptafluoroisopropylphenyl
1926	H	H	CF_3	H	i-Pr	2,6-dimethyl-4-heptafluoroisopropylphenyl
1927	H	H	CF_3	H	2,2,2-trichloroethyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
1928	H	H	NH_2	H	i-Pr	2,6-dimethyl-4-heptafluoroisopropylphenyl
1929	H	H	Me_2N	H	2,2,2-trichloroethyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
1930	H	H	H	Me	i-Pr	2-methyl-4-heptafluoroisopropylphenyl
1931	H	H	H	Me	2,2,2-trichloroethyl	2-methyl-4-heptafluoroisopropylphenyl
1932	H	H	H	Me	i-Pr	2,6-dimethyl-4-heptafluoroisopropylphenyl
1933	H	H	H	Me	2,2,2-trichloroethyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
1934	H	H	H	F	i-Pr	2-methyl-4-heptafluoroisopropylphenyl
1935	H	H	H	F	2,2,2-trichloroethyl	2-methyl-4-heptafluoroisopropylphenyl
1936	H	H	H	F	i-Pr	2,6-dimethyl-4-heptafluoroisopropylphenyl
1937	H	H	H	F	2,2,2-trichloroethyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
1938	H	H	H	Cl	i-Pr	2-methyl-4-heptafluoroisopropylphenyl
1939	H	H	H	Cl	2,2,2-trichloroethyl	2-methyl-4-heptafluoroisopropylphenyl
1940	H	H	H	Cl	i-Pr	2,6-dimethyl-4-heptafluoroisopropylphenyl

Table 2(continued)

Compound No.	X_1	X_2	X_3	X_4	R_1	Q
1941	H	H	H	Cl	2,2,2-trichloroethyl	2,6-dimethyl-4-heptafluoroisopropylphenyl
1942	H	H	H	Br	i-Pr	2-methyl-4-heptafluoroisopropylphenyl
1943	H	H	H	Br	2,2,2-trichloroethyl	2-methyl-4-heptafluoroisopropylphenyl
1944	H	H	H	I	2,2,2-trichloroethyl	2-methyl-4-heptafluoroisopropylphenyl
1945	H	H	H	I	i-Pr	2,6-dimethyl-4-heptafluoroisopropylphenyl
1946	H	H	H	I	t-Bu	2-methyl-4-heptafluoroisopropylphenyl
1947	H	H	H	I	2,2,2-trichloroethyl	2,6-dimethyl-4-heptafluoroisopropylphenyl

Table 3

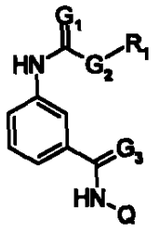


(1-C)

Compound No.	X_1	X_2	X_3	X_4	R_1	R_2	R_3	Q
1948	H	H	H	H	2,2,2-trichloro ethyl	Me	H	2,6-dibromo-4-(heptafluoro n-propylthio)phenyl
1949	H	H	H	H	2,2,2-trichloro ethyl	H	Me	2-methyl-4-heptafluoroisopropyl phenyl
1950	H	H	H	H	i-Pr	H	Me	2,6-dimethyl-4-heptafluoroisopropyl phenyl
1951	H	H	H	H	2,2,2-trichloro ethyl	H	Me	2,6-dimethyl-4-heptafluoroisopropyl phenyl
1952	H	H	H	H	i-Pr	H	Me	2-methyl-6-chloro-4-heptafluoroisopropyl phenyl
1953	H	H	H	H	2,2,2-trichloro ethyl	H	Me	2-methyl-6-chloro-4-heptafluoroisopropyl phenyl
1954	H	H	H	H	i-Pr	H	Me	2-methyl-6-bromo-4-heptafluoroisopropyl phenyl
1955	H	H	H	H	2,2,2-trichloro ethyl	H	Me	2-methyl-6-bromo-4-heptafluoroisopropyl phenyl
1956	H	H	H	H	2,2,2-trichloro ethyl	H	Et	2,6-dimethyl-4-heptafluoroisopropyl phenyl
1957	H	H	H	H	2,2,2-trichloro ethyl	H	i-Pr	2,6-dimethyl-4-heptafluoroisopropyl phenyl
1958	H	H	H	H	2,2,2-trichloro	Me	H	2,6-dimethyl-4-heptafluoroisopropyl phenyl
1959	F	H	H	H	2,2,2-trichloro ethyl	Me	H	2,6-dimethyl-4-heptafluoroisopropyl phenyl
1960	H	H	MeNH	H	i-Pr	Me	H	2,6-dimethyl-4-heptafluoroisopropyl phenyl

5

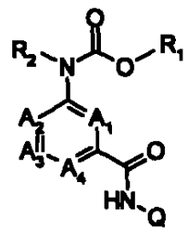
Table 4



(1-D)

Compound No.	G_1	G_2	G_3	R_1	Q
1961	O	S	O	Me	2,6-dimethyl-4-heptafluoroisopropylphenyl
1962	O	S	O	Et	2,6-dimethyl-4-heptafluoroisopropylphenyl
1963	O	O	S	iPr	2,6-dimethyl-4-heptafluoroisopropylphenyl
1964	O	O	S	2,2,2-trichloro ethyl	2,6-dimethyl-4-heptafluoroisopropylphenyl

Table 5(1)



(1-E)

Compound No.	A_1	A_2	A_3	A_4	R_1	R_2	Q
1965	N	C	C	C	i-Pr	H	2-methyl-4-heptafluoroisopropylphenyl
1966	N	C	C	C	2,2,2-trichloroethyl	H	2-methyl-4-heptafluoroisopropylphenyl
1967	N	C	C	C	i-Pr	H	2,6-dimethyl-4-heptafluoroisopropyl phenyl
1968	N	C	C	C	2,2,2-trichloroethyl	H	2,6-dimethyl-4-heptafluoroisopropyl phenyl
1969	N	C	C	C	2-chloroethyl	H	2,6-dimethyl-4-heptafluoroisopropyl phenyl
1970	N	C	C	C	2-fluoroethyl	H	2,6-dimethyl-4-heptafluoroisopropyl phenyl
1971	N	C	C	C	Et	H	2,6-dimethyl-4-heptafluoroisopropyl phenyl
1972	N	C	C	C	vinyl	H	2,6-dimethyl-4-heptafluoroisopropyl phenyl
1973	N	C	C	C	cyclobutyl	H	2,6-dimethyl-4-heptafluoroisopropyl phenyl
1974	N	C	C	C	cyclopantyl	H	2,6-dimethyl-4-heptafluoroisopropyl phenyl
1975	N	C	C	C	3-cyanobenzyl	H	2,6-dimethyl-4-heptafluoroisopropyl phenyl
1976	N	C	C	C	4-cyanobenzyl	H	2,6-dimethyl-4-heptafluoroisopropyl phenyl
1977	N	C	C	C	2-cyanoethyl	H	2,6-dimethyl-4-heptafluoroisopropyl phenyl
1978	N	C	C	C	2-(methylthio)ethyl	H	2,6-dimethyl-4-heptafluoroisopropyl phenyl
1979	N	C	C	C	2-(ethylthio)ethyl	H	2,6-dimethyl-4-heptafluoroisopropyl phenyl
1980	N	C	C	C	1-methyl-2-(methylthio)ethyl	H	2,6-dimethyl-4-heptafluoroisopropyl phenyl

Table 5(2)

Compound No.	A_1	A_2	A_3	A_4	R_1	R_2	Q
1981	N	C	C	C	2-(ethylsulfinyl)ethyl	H	2,6-dimethyl-4-heptafluoroisopropyl phenyl
1982	N	C	C	C	2-fluoroethyl	H	2,6-dimethyl-4-heptafluoroisopropyl phenyl
1983	N	C	C	C	2,2-difluoroethyl	H	2,6-dimethyl-4-heptafluoroisopropyl phenyl
1984	N	C	C	C	2,2,2-trifluoroethyl	H	2,6-dimethyl-4-heptafluoroisopropyl phenyl
1985	N	C	C	C	1,3-difluoro-2-propyl	H	2,6-dimethyl-4-heptafluoroisopropyl phenyl
1986	N	C	C	C	1-chloro-3-fluoro-2-propyl	H	2,6-dimethyl-4-heptafluoroisopropyl phenyl
1987	N	C	C	C	1-methyl-2,2,2-trifluoro ethyl	H	2,6-dimethyl-4-heptafluoroisopropyl phenyl
1988	N	C	C	C	3,3,3-trifluoro-n-propyl	H	2,6-dimethyl-4-heptafluoroisopropyl phenyl
1989	N	C	C	C	2,2,3,3,3-pentafluoro-n-propyl	H	2,6-dimethyl-4-heptafluoroisopropyl phenyl
1990	N	C	C	C	4,4,4-trifluoro-n-butyl	H	2,6-dimethyl-4-heptafluoroisopropyl phenyl
1991	N	C	C	C	2,2,3,3-tetrafluoro cyclobutyl	H	2,6-dimethyl-4-heptafluoroisopropyl phenyl
1992	N	C	C	C	2,2-dichloroethyl	H	2,6-dimethyl-4-heptafluoroisopropyl phenyl
1993	N	C	C	C	1,3-dichloro-2-propyl	H	2,6-dimethyl-4-heptafluoroisopropyl phenyl
1994	N	C	C	C	3-chloro-n-propyl	H	2,6-dimethyl-4-heptafluoroisopropyl phenyl
1995	N	C	C	C	2-bromoethyl	H	2,6-dimethyl-4-heptafluoroisopropyl phenyl
1996	N	C	C	C	3-bromo-n-propyl	H	2,6-dimethyl-4-heptafluoroisopropyl phenyl
1997	N	C	C	C	2-iodoethyl	H	2,6-dimethyl-4-heptafluoroisopropyl phenyl
1998	N	C	C	C	(6-chloropyridin-3-yl) methyl	H	2,6-dimethyl-4-heptafluoroisopropyl phenyl
1999	N	C	C	C	Et	H	2,6-dimethyl-4-(nonafluoro-2-butyl) phenyl
2000	N	C	C	C	i-Pr	H	2,6-dimethyl-4-(nonafluoro-2-butyl) phenyl

Table 5(3)

Compound No.	A_1	A_2	A_3	A_4	R_1	R_2	Q
2001	N	C	C	C	vinyl	H	2,6-dimethyl-4-(nonafluoro-2-butyl) phenyl
2002	N	C	C	C	cyclobutyl	H	2,6-dimethyl-4-(nonafluoro-2-butyl) phenyl
2003	N	C	C	C	cyclopentyl	H	2,6-dimethyl-4-(nonafluoro-2-butyl) phenyl
2004	N	C	C	C	3-cyanobenzyl	H	2,6-dimethyl-4-(nonafluoro-2-butyl) phenyl
2005	N	C	C	C	4-cyanobenzyl	H	2,6-dimethyl-4-(nonafluoro-2-butyl)
2006	N	C	C	C	2-cyanoethyl	H	2,6-dimethyl-4-(nonafluoro-2-butyl) phenyl
2007	N	C	C	C	2-(methylthio)ethyl	H	2,6-dimethyl-4-(nonafluoro-2-butyl) phenyl
2008	N	C	C	C	2-(ethylthio)ethyl	H	2,6-dimethyl-4-(nonafluoro-2-butyl) phenyl
2009	N	C	C	C	1-methyl-2-(methylthio) ethyl	H	2,6-dimethyl-4-(nonafluoro-2-butyl) phenyl
2010	N	C	C	C	2-(ethylsulfinyl)ethyl	H	2,6-dimethyl-4-(nonafluoro-2-butyl) phenyl
2011	N	C	C	C	2-fluoroethyl	H	2,6-dimethyl-4-(nonafluoro-2-butyl) phenyl
2012	N	C	C	C	2,2-difluoroethyl	H	2,6-dimethyl-4-(nonafluoro-2-butyl) phenyl
2013	N	C	C	C	2,2,2-trifluoroethyl	H	2,6-dimethyl-4-(nonafluoro-2-butyl) phenyl
2014	N	C	C	C	1,3-difluoro-2-propyl	H	2,6-dimethyl-4-(nonafluoro-2-butyl) phenyl
2015	N	C	C	C	1-chloro-3-fluoro-2-propyl	H	2,6-dimethyl-4-(nonafluoro-2-butyl) phenyl
2016	N	C	C	C	1-methyl-2,2,2-trifluoro ethyl	H	2,6-dimethyl-4-(nonafluoro-2-butyl) phenyl
2017	N	C	C	C	3,3,3-trifluoro-n-propyl	H	2,6-dimethyl-4-(nonafluoro-2-butyl) phenyl
2018	N	C	C	C	2,2,3,3,3-pentafluoro-n-propyl	H	2,6-dimethyl-4-(nonafluoro-2-butyl) phenyl
2019	N	C	C	C	4,4,4-trifluoro-n-butyl	H	2,6-dimethyl-4-(nonafluoro-2-butyl) phenyl
2020	N	C	C	C	2,2,3,3-tetrafluoro cyclobutyl	H	2,6-dimethyl-4-(nonafluoro-2-butyl) phenyl

Table 5(4)

Compound No.	A_1	A_2	A_3	A_4	R_1	R_2	Q
2021	N	C	C	C	2-chloroethyl	H	2,6-dimethyl-4-(nonafluoro-2-butyl) phenyl
2022	N	C	C	C	2,2-dichloroethyl	H	2,6-dimethyl-4-(nonafluoro-2-butyl) phenyl
2023	N	C	C	C	2,2,2-trichloroethyl	H	2,6-dimethyl-4-(nonafluoro-2-butyl) phenyl
2024	N	C	C	C	1,3-dichloro-2-propyl	H	2,6-dimethyl-4-(nonafluoro-2-butyl) phenyl
2025	N	C	C	C	3-chloro-n-propyl	H	2,6-dimethyl-4-(nonafluoro-2-butyl) phenyl
2026	N	C	C	C	2-bromoethyl	H	2,6-dimethyl-4-(nonafluoro-2-butyl) phenyl
2027	N	C	C	C	3-bromo-n-propyl	H	2,6-dimethyl-4-(nonafluoro-2-butyl) phenyl
2028	N	C	C	C	2-iodoethyl	H	2,6-dimethyl-4-(nonafluoro-2-butyl) phenyl
2029	N	C	C	C	(6-chloropyridin-3-yl) methyl	H	2,6-dimethyl-4-(nonafluoro-2-butyl) phenyl
2030	N	C	C	C	Et	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
2031	N	C	C	C	i-Pr	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
2032	N	C	C	C	vinyl	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
2033	N	C	C	C	cyclobutyl	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
2034	N	C	C	C	cyclopentyl	H	2,6-dibromo4-(heptafluoro-n-propylthio)phenyl
2035	N	C	C	C	3-cyanobenzyl	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
2036	N	C	C	C	4-cyanobenzyl	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
2037	N	C	C	C	2-cyanoethyl	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
2038	N	C	C	C	2-(methylthio)ethyl	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
2039	N	C	C	C	2-(ethylthio)ethyl	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
2040	N	C	C	C	1-methyl-2-(methylthio) ethyl	H	2,6-dibromo4-(heptafluoro-n-propylthio)phenyl

Table 5(5)

Compound No.	A_1	A_2	A_3	A_4	R_1	R_2	Q
2041	N	C	C	C	2-(ethylsulfinyl)ethyl	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
2042	N	C	C	C	2-fluoroethyl	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
2043	N	C	C	C	2,2-difluoroethyl	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
2044	N	C	C	C	2,2,2-trifluoroethyl	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
2045	N	C	C	C	1,3-difluoro-2-propyl	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
2046	N	C	C	C	1-chloro-3-fluoro-2-propyl	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
2047	N	C	C	C	1-methyl-2,2,2-trifluoro ethyl	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
2048	N	C	C	C	3,3,3-trifluoro-n-propyl	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
2049	N	C	C	C	2,2,3,3,3-pentafluoro-n-propyl	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
2050	N	C	C	C	4,4,4-trifluoro-n-butyl	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
2051	N	C	C	C	2,2,3,3-tetrafluoro cyclobutyl	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
2052	N	C	C	C	2-chloroethyl	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
2053	N	C	C	C	2,2-dichloroethyl	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
2054	N	C	C	C	2,2,2-trichloroethyl	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
2055	N	C	C	C	1,3-dichloro-2-propyl	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
2056	N	C	C	C	3-chloro-n-propyl	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
2057	N	C	C	C	2-bromoethyl	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
2058	N	C	C	C	3-bromo-n-propyl	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
2059	N	C	C	C	2-iodoethyl	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
2060	N	C	C	C	(6-chloropyridin-3-yl) methyl	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl

Table 5(6)

Compound No.	A_1	A_2	A_3	A_4	R_1	R_2	Q
2061	N-oxide	C	C	C	i-Pr	H	2,6-dimethyl-4-heptafluoro isopropylphenyl
2062	N-oxide	C	C	C	2,2,2-trichloroethyl	H	2,6-dimethyl-4-heptafluoro isopropylphenyl
2063	N-oxide	C	C	C	Et	H	2,6-dimethyl-4-heptafluoro isopropylphenyl
2064	N-oxide	C	C	C	vinyl	H	2,6-dimethyl-4-heptafluoro isopropylphenyl
2065	N-oxide	C	C	C	cyclobutyl	H	2,6-dimethyl-4-heptafluoro isopropylphenyl
2066	N-oxide	C	C	C	cyclopentyl	H	2,6-dimethyl-4-heptafluoro isopropylphenyl
2067	N-oxide	C	C	C	3-cyanobenzyl	H	2,6-dimethyl-4-heptafluoro isopropylphenyl
2068	N-oxide	C	C	C	4-cyanobenzyl	H	2,6-dimethyl-4-heptafluoro isopropylphenyl
2069	N-oxide	C	C	C	2-cyanoethyl	H	2,6-dimethyl-4-heptafluoro isopropylphenyl
2070	N-oxide	C	C	C	2-(methylthio)ethyl	H	2,6-dimethyl-4-heptafluoro isopropylphenyl
2071	N-oxide	C	C	C	2-(ethylthio)ethyl	H	2,6-dimethyl-4-heptafluoro isopropylphenyl
2072	N-oxide	C	C	C	1-methyl-2-(methylthio)ethyl	H	2,6-dimethyl-4-heptafluoro isopropylphenyl
2073	N-oxide	C	C	C	2-(ethylsulfinyl)ethyl	H	2,6-dimethyl-4-heptafluoro isopropylphenyl
2074	N-oxide	C	C	C	2-fluoroethyl	H	2,6-dimethyl-4-heptafluoro isopropylphenyl
2075	N-oxide	C	C	C	2,2-difluoroethyl	H	2,6-dimethyl-4-heptafluoro isopropylphenyl
2076	N-oxide	C	C	C	2,2,2-trifluoroethyl	H	2,6-dimethyl-4-heptafluoro isopropylphenyl
2077	N-oxide	C	C	C	1,3-difluoro-2-propyl	H	2,6-dimethyl-4-heptafluoro isopropylphenyl
2078	N-oxide	C	C	C	1-chloro-3-fluoro-2-propyl	H	2,6-dimethyl-4-heptafluoro isopropylphenyl
2079	N-oxide	C	C	C	1-methyl-2,2,2-trifluoroethyl	H	2,6-dimethyl-4-heptafluoro isopropylphenyl
2080	N-oxide	C	C	C	3,3,3-trifluoro-n-propyl	H	2,6-dimethyl-4-heptafluoro isopropylphenyl

Table 5(7)

Compound No.	A_1	A_2	A_3	A_4	R_1	R_2	Q
2081	N-oxide	C	C	C	2,2,3,3,3-pentafluoro-n-propyl	H	2,6-dimethyl-4-heptafluoro isopropylphenyl
2082	N-oxide	C	C	C	4,4,4-trifluoro-n-butyl	H	2,6-dimethyl-4-heptafluoro isopropylphenyl
2083	N-oxide	C	C	C	2,2,3,3-tetrafluoro cyclobutyl	H	2,6-dimethyl-4-heptafluoro isopropylphenyl
2084	N-oxide	C	C	C	2-chloroethyl	H	2,6-dimethyl-4-heptafluoro isopropylphenyl
2085	N-oxide	C	C	C	2,2-dichloroethyl	H	2,6-dimethyl-4-heptafluoro isopropylphenyl
2086	N-oxide	C	C	C	1,3-dichloro-2-propyl	H	2,6-dimethyl-4-heptafluoro isopropylphenyl
2087	N-oxide	C	C	C	3-chloro-n-propyl	H	2,6-dimethyl-4-heptafluoro isopropylphenyl
2088	N-oxide	C	C	C	2-bromoethyl	H	2,6-dimethyl-4-heptafluoro isopropylphenyl
2089	N-oxide	C	C	C	3-bromo-n-propyl	H	2,6-dimethyl-4-heptafluoro isopropylphenyl
2090	N-oxide	C	C	C	2-iodoethyl	H	2,6-dimethyl-4-heptafluoro isopropylphenyl
2091	N-oxide	C	C	C	(6-chloropyridin-3-yl) methyl	H	2,6-dimethyl-4-heptafluoro isopropylphenyl
2092	N-oxide	C	C	C	Et	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
2093	N-oxide	C	C	C	i-Pr	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
2094	N-oxide	C	C	C	vinyl	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
2095	N-oxide	C	C	C	cyclobutyl	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
2096	N-oxide	C	C	C	cyclopentyl	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
2097	N-oxide	C	C	C	3-cyanobenzyl	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
2098	N-oxide	C	C	C	4-cyanobenzyl	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
2099	N-oxide	C	C	C	2-cyanoethyl	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
2100	N-oxide	C	C	C	2-(methylthio)ethyl	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl

Table 5(8)

Compound No.	A_1	A_2	A_3	A_4	R_1	R_2	Q
2101	N-oxide	C	C	C	2-(ethylthio)ethyl	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
2102	N-oxide	C	C	C	1-methyl-2-(methylthio) ethyl	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
2103	N-oxide	C	C	C	2-(ethylsulfinyl)ethyl	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
2104	N-oxide	C	C	C	2-fluoroethyl	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
2105	N-oxide	C	C	C	2,2-difluoroethyl	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
2106	N-oxide	C	C	C	2,2,2-trifluoroethyl	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
2107	N-oxide	C	C	C	1,3-difluoro-2-propyl	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
2108	N-oxide	C	C	C	1-chloro-3-fluoro-2-propyl	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
2109	N-oxide	C	C	C	1-methyl-2,2,2-trifluoro ethyl	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
2110	N-oxide	C	C	C	3,3,3-trifluoro-n-propyl	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
2111	N-oxide	C	C	C	2,2,3,3,3-pentafluoro-n-propyl	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
2112	N-oxide	C	C	C	4,4,4-trifluoro-n-butyl	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
2113	N-oxide	C	C	C	2,2,3,3-tetrafluoro cyclobutyl	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
2114	N-oxide	C	C	C	2-chloroethyl	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
2115	N-oxide	C	C	C	2,2-dichloroethyl	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
2116	N-oxide	C	C	C	2,2,2-trichloroethyl	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
2117	N-oxide	C	C	C	1,3-dichloro-2-propyl	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
2118	N-oxide	C	C	C	3-chloro-n-propyl	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
2119	N-oxide	C	C	C	2-bromoethyl	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
2120	N-oxide	C	C	C	3-bromo-n-propyl	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl

Table 5(9)

Compound No.	A_1	A_2	A_3	A_4	R_1	R_2	Q
2121	N-oxide	C	C	C	2-iodoethyl	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
2122	N-oxide	C	C	C	(6-chloropyridin-3-yl) methyl	H	2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl
2123	N-oxide	C	C	C	Et	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
2124	N-oxide	C	C	C	i-Pr	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
2125	N-oxide	C	C	C	vinyl	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
2126	N-oxide	C	C	C	cyclobutyl	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
2127	N-oxide	C	C	C	cyclopentyl	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
2128	N-oxide	C	C	C	3-cyanobenzyl	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
2129	N-oxide	C	C	C	4-cyanobenzyl	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
2130	N-oxide	C	C	C	2-cyanoethyl	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
2131	N-oxide	C	C	C	2-(methylthio)ethyl	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
2132	N-oxide	C	C	C	2-(ethylthio)ethyl	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
2133	N-oxide	C	C	C	1-methyl-2-(methylthio) ethyl	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
2134	N-oxide	C	C	C	2-(ethylsulfinyl)ethyl	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
2135	N-oxide	C	C	C	2-fluoroethyl	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
2136	N-oxide	C	C	C	2,2-difluoroethyl	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
2137	N-oxide	C	C	C	2,2,2-trifluoroethyl	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
2138	N-oxide	C	C	C	1,3-difluoro-2-propyl	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
2139	N-oxide	C	C	C	1-chloro-3-fluoro-2-propyl	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
2140	N-oxide	C	C	C	1-methyl-2,2,2-trifluoro ethyl	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl

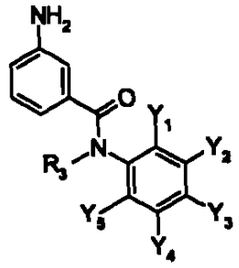
Table 5(10)

Compound No.	A_1	A_2	A_3	A_4	R_1	R_2	Q
2141	N-oxide	C	C	C	3,3,3-trifluoro-n-propyl	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
2142	N-oxide	C	C	C	2,2,3,3,3-pentafluoro-n-propyl	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
2143	N-oxide	C	C	C	4,4,4-trifluoro-n-butyl	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
2144	N-oxide	C	C	C	2,2,3,3-tetrafluoro cyclobutyl	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
2145	N-oxide	C	C	C	2-chloroethyl	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
2146	N-oxide	C	C	C	2,2-dichloroethyl	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
2147	N-oxide	C	C	C	2,2,2-trichloroethyl	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
2148	N-oxide	C	C	C	1,3-dichloro-2-propyl	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
2149	N-oxide	C	C	C	3-chloro-n-propyl	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
2150	N-oxide	C	C	C	2-bromoethyl	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
2151	N-oxide	C	C	C	3-bromo-n-propyl	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
2152	N-oxide	C	C	C	2-iodoethyl	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
2153	N-oxide	C	C	C	(6-chloropyridin-3-yl) methyl	H	2,6-dibromo-4-(heptafluoro-n-propylthio)phenyl
2154	C	N	C	C	i-Pr	H	2-methyl-4-heptafluoroisopropylphenyl
2155	C	N	C	C	2,2,2-trichloroethyl	H	2-methyl-4-heptafluoroisopropylphenyl
2156	C	N	C	C	i-Pr	H	2,6-dimethyl-4-heptafluoro isopropylphenyl
2157	C	N	C	C	2,2,2-trichloroethyl	H	2,6-dimethyl-4-heptafluoro isopropylphenyl
2158	C	C	N	C	i-Pr	H	2-methyl-4-heptafluoro isopropylphenyl
2159	C	C	N	C	2,2,2-trichloroethyl	H	2-methyl-4-heptafluoro isopropylphenyl
2160	C	C	N	C	i-Pr	H	2,6-dimethyl-4-heptafluoro isopropylphenyl

Table 5(11)

Compound No.	A_1	A_2	A_3	A_4	R_5	R_2	Q
2161	C	C	N	C	2,2,2-trichloroethyl	H	2,6-dimethyl-4-heptafluoro isopropylphenyl
2162	C	C	C	N	i-Pr	H	2-methyl-4-heptafluoro isopropylphenyl
2163	C	C	C	N	2,2,2-trichloroethyl	H	2-methyl-4-heptafluoro isopropylphenyl
2164	C	C	C	N	i-Pr	H	2,6-dimethyl-4-heptafluoro isopropylphenyl
2165	C	C	C	N	2,2,2-trichloroethyl	H	2,6-dimethyl-4-heptafluoro isopropylphenyl
2166	C	C	C	N-oxide	i-Pr	H	2,6-dimethyl-4-heptafluoro isopropylphenyl
2167	C	C	C	N-oxide	2,2,2-trichloroethyl	H	2,6-dimethyl-4-heptafluoro isopropylphenyl
2168	N	C	C	C	2,2,2-trichloroethyl	Me	2,6-dimethyl-4-heptafluoro isopropylphenyl

Table 6(1)



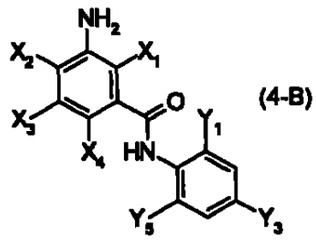
(4-A)

Compound No.	R_3	Y_1	Y_2	Y_3	Y_4	Y_5
I-1	H	Me	H	heptafluoro-n-propyl	H	Me
I-2	H	H	H	heptafluoroisopropyl	H	H
I-3	H	H	Me	heptafluoroisopropyl	H	H
I-4	H	H	MeO	heptafluoroisopropyl	H	H
I-5	H	H	Cl	heptafluoroisopropyl	H	H
I-6	H	Me	H	heptafluoroisopropyl	H	H
I-7	H	Me	H	heptafluoroisopropyl	H	Me
I-8	H	Me	H	heptafluoroisopropyl	H	phenyl
I-9	H	Me	H	heptafluoroisopropyl	Me	H
I-10	H	Me	Me	heptafluoroisopropyl	H	H
I-11	H	Me	Me	heptafluoroisopropyl	H	Cl
I-12	H	Me	I	heptafluoroisopropyl	H	Cl
I-13	Me	Me	H	heptafluoroisopropyl	H	Me
I-14	i-Pr	Me	H	heptafluoroisopropyl	H	Me
I-15	H	Et	H	heptafluoroisopropyl	H	H
I-16	H	Et	H	heptafluoroisopropyl	H	Me
I-17	H	Et	H	heptafluoroisopropyl	H	Et
I-18	H	Et	H	heptafluoroisopropyl	H	I
I-19	H	n-Pr	H	heptafluoroisopropyl	H	H
I-20	H	i-Pr	H	heptafluoroisopropyl	H	Me
I-21	H	MeO	H	heptafluoroisopropyl	H	Me
I-22	H	Cl	H	heptafluoroisopropyl	H	Et
I-23	H	Cl	H	heptafluoroisopropyl	Me	H
I-24	H	Cl	H	heptafluoroisopropyl	MeO	H
I-25	H	Cl	Me	heptafluoroisopropyl	H	Me

Table 6(2)

Compound No.	R_3	Y_1	Y_2	Y_3	Y_4	Y_5
I-26	H	Br	H	heptafluoroisopropyl	H	Me
I-27	H	Br	H	heptafluoroisopropyl	H	Et
I-28	H	Br	H	heptafluoroisopropyl	H	n-Pr
I-29	H	Br	H	heptafluoroisopropyl	H	n-Bu
I-30	H	Br	Me	heptafluoroisopropyl	H	Me
I-31	H	I	H	heptafluoroisopropyl	H	Me
I-32	H	I	H	heptafluoroisopropyl	H	n-Pr
I-33	H	Me	H	nonafluoro-n-butyl	H	Me
I-34	H	Me	H	nonafluoro-2-butyl	H	Me
I-35	H	H	H	trifluoromethylthio	H	H
I-36	H	Br	H	trifluoromethylthio	H	Br
I-37	H	H	H	trifluoromethylsulfonyl	H	H
I-38	H	Br	H	trifluoromethylsulfonyl	H	Br
I-39	H	Me	H	2,2,2-trifluoroethoxy	H	H
I-40	H	H	H	heptafluoroisopropylthio	H	H
I-41	H	Cl	H	heptafluoroisopropylthio	H	Cl
I-42	H	Br	H	heptafluoroisopropylthio	H	Br
I-43	H	Cl	H	heptafluoro-n-propylthio	H	Cl
I-44	H	Br	H	heptafluoro-n-propylthio	H	Br
I-45	H	Cl	H	heptafluoroisopropylsulfonyl	H	Cl
I-46	H	Br	H	nonafluoro-n-butylthio	H	Br
I-47	H	Br	H	pentafluoroethylthio	H	Br
I-48	H	Br	H	heptafluoro-n-propylsulfinyl	H	Br
I-49	Me	Me	H	heptafluoro-n-propylthio	H	Me
I-50	Me	Br	H	heptafluoro-n-propylthio	H	Br

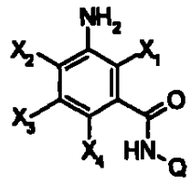
Table 7



(4-B)

Compound No.	X_1	X_2	X_3	X_4	Y_1	Y_3	Y_5
I-51	Me	H	H	H	Me	heptafluoroisopropyl	H
I-52	Me	H	H	H	Me	heptafluoroisopropyl	Me
I-53	H	Me	H	H	Me	heptafluoroisopropyl	H
I-54	H	Me	H	H	Me	heptafluoroisopropyl	Me
I-55	H	H	H	Me	Me	heptafluoroisopropyl	H
I-56	H	H	H	Me	Me	heptafluoroisopropyl	Me
I-59	F	H	H	H	Me	heptafluoroisopropyl	Me
I-60	F	H	H	H	Me	heptafluoroisopropylthio	Me
I-61	H	F	H	H	Me	heptafluoroisopropyl	Me
I-62	H	H	H	F	Me	heptafluoroisopropyl	H
I-63	H	H	H	F	Me	heptafluoroisopropyl	Me
I-64	Cl	H	H	H	Me	heptafluoroisopropyl	H
I-65	Cl	H	H	H	Me	heptafluoroisopropyl	Me
I-66	H	Cl	H	H	Me	heptafluoroisopropyl	H
I-67	H	Cl	H	H	Me	heptafluoroisopropyl	Me
I-68	H	H	H	Cl	Me	heptafluoroisopropyl	H
I-69	H	H	H	Cl	Me	heptafluoroisopropyl	Me
I-70	Br	H	H	H	Me	heptafluoroisopropyl	Me
I-71	H	H	H	Br	Me	heptafluoroisopropyl	H
I-72	H	I	H	H	Me	heptafluoroisopropyl	H
I-73	H	H	H	I	Me	heptafluoroisopropyl	H
I-74	H	H	H	I	Me	heptafluoroisopropyl	Me
I-75	H	H	CF_3	H	Me	heptafluoroisopropyl	H
I-76	H	H	CF_3	H	Me	heptafluoroisopropyl	Me
I-77	H	MeO	H	H	Me	heptafluoroisopropyl	H
I-78	H	H	NH_2	H	Me	heptafluoroisopropyl	H
I-79	H	H	NH_2	H	Me	heptafluoroisopropyl	Me
I-80	Cl	Cl	H	Cl	Me	heptafluoroisopropyl	H

Table 8



(4-C)

Compound No.	X_1	X_2	X_3	X_4	Q
I-81	H	H	H	H	2-methyl-4-heptafluoroisopropyl-1-naphthyl
I-82	H	H	H	H	4-heptafluoroisopropyl-5,6,7,8-tetrahydro-1-naphthyl
I-83	H	H	H	H	2-chloro-4-heptafluoroisopropyl-5,6,7,8-tetrahydro-1-naphthyl
I-84	H	H	H	H	2-((1,1,1,3,3,3-hexafluoro2-propyloxy)pyridin-5-yl
I-85	Cl	H	H	H	2-(1,1,1,3,3,3-hexafluoro-2-propyloxy)-4-methylpyridin-5-yl
I-86	H	H	H	H	2-bromo-4-methyl-6-(1,1,1,3,3,3-hexafluoro -2-propyloxy)pyridin-3-yl

Table 9 shows the physical properties of the compounds represented by formulae (1) and (4) of the present invention. This table also shows ^{1}H-NMR shift values obtained by using tetramethylsilane as an internal reference material, and chloroform-d as a solvent.

Table 9(1)

Compound No.	^{1}H-NMR ($CDCl_3$, ppm)
3	δ 1.30(6H,d,J=6.3Hz), 2.41(3H,s), 5.00-5.05(1H,m), 6.92(1H,s), 7.40-7.61(5H,m), 7.93(1H,s), 8.01(1H,s), 8.21(1H,d,J=8.8Hz)
4	δ 0.96(3H,t,J=7.3Hz), 1.38-1.47(2H,m), 1.63-1.71(2H,m), 2.41(3H,s), 4.19(2H,t,J=6.6Hz), 6.83(1H,s), 7.42-7.62(5H,m), 7.83(1H,s), 8.00(1H,s), 8.25(1H,d,J=8.5Hz)
5	δ 0.98(6H,d,J=6.8Hz), 1.94-2.05(1H,m), 2.42(3H,s), 3.98(2H,d,J=6.6Hz), 6.81(1H,s), 7.44-7.52(3H,m), 7.55-7.61(2H,m), 7.85(1H,s), 8.01(1H,s), 8.25(1H,d,J=8.6Hz)
6	δ 0.96(3H, t, J=7.6Hz), 1.29(3H, d, J=6.1Hz), 1.58-1.73(2H, m), 2.42(3H, s), 4.83-4.92(1H, m), 6.72(1H, s), 7.42-7.61(5H, m), 7.79(1H, s), 8.01(1H, s), 8.26(1H, d, J=8.5Hz)
7	δ 1.53(9H,s), 2.41(3H,s), 6.66(1H,s), 7.40-7.59(5H,m), 7.80(1H,s), 7.98(1H,d,J=1.7Hz), 8.23(1H,d,J=8.8Hz)
8	δ 0.98(9H, s), 2.41(3H, s), 3.89(2H, s), 6.94(1H, s), 7.41-7.50(3H, m), 7.54-7.57(1H, m), 7.62(1H, d, J=8.1Hz), 7.86(1H, s), 8.02(1H, s), 8.24(1H, d, J=8.8Hz)
9	δ 0.97(9H, s), 1.62(2H, t, J=7.6Hz), 2.41(3H, s), 4.25(2H, t, J=7.6Hz), 6.79(1H, br), 7.42-7.51(3H, m), 7.54-7.57(1H, m), 7.61(1H, d), 7.82(1H, s), 7.99(1H, s), 8.24(1H, d, J=8.5Hz)
10	δ 0.90(3H,t,J=7.3Hz), 0.91(3H,t,J=7.3Hz), 1.26-1.41(8H,m), 1.55-1.65(1H,m), 2.40(3H, s), 4.10(2H,t,J=5.4Hz), 7.01(1H,s), 7.40-7.50(3H,m), 7.55(1H,d,J=7.8Hz), 7.62(1H,d,J=7.8Hz), 7.91(1H,s), 8.01(1H,s), 8.21(1H,d,J=8.5Hz)
11	δ 2.42(3H,s), 4.55(1H,dd,J=1.7Hz, 6.3Hz), 4.83(1H,dd,J=1.7Hz, 13.9Hz), 7.29(1H,dd, J=6.3Hz, 13.9Hz), 7.42-7.50(3H,m), 7.61-7.63(1H,m), 7.77(1H,d,J=7.8Hz), 8.08(1H,s), 8.15(1H,d,J=7.8Hz), 8.30(1H,s), 8.92(1H,br-s)
12	δ 2.42(3H, s), 4.68-4.70(2H, m), 5.27-5.31(1H, m), 5.35-5.41(1H, m), 5.93-6.03(1H, m), 6.83(1H, br), 7.44-7.52(3H, m), 7.55-7.63(2H, m), 7.79(1H, br), 8.00(1H, s), 8.26(1H, d, J=8.8Hz)
13	δ 0.82(3H, d, J=7.1Hz), 0.84-0.99(7H, m), 1.02-1.12(2H, m), 1.36-1.42(1H, m), 1.50-1.59(1H, m), 1.68-1.72(2H, m), 1.94-1.99(1H, m), 2.11(1H, d, J = 1.7Hz), 2.42(3H, s), 4.65-4.72(1H, m), 6.74(1H, s), 7.42-7.62(5H, m), 7.80(1H, s), 8.02(1H, s), 8.25(1H, d, J=8.5Hz)
14	δ 2.38(3H,s), 5.19(2H,s), 7.19(1H,s), 7.32-7.61(10H,m), 7.91(1H,s), 8.00(1H,s), 8.18(1H,d,J=8.5Hz)
16	δ 2.34 (3H, s), 5.27(2H, s), 6.96 (1H, br-s), 7.40-7.58 (6H, m), 7.63-7.69 (3H, m), 7.79 (1H, s), 8.00 (1H, s), 8.25 (1H, d, J=8.8Hz)
17	δ 2.33(3H, s), 3.34(3H, s), 3.57-3.61(2H, m), 4.26-4.32(2H, m), 7.13(1H, s), 7.32-7.42(3H, m), 7.46-7.53(2H, m), 7.83(1H, s), 7.91(1H, d, J = 1.7Hz), 8.13(1H, d, J=8.5Hz)
18	δ 2.42(3H,s), 5.83(2H,s), 7.16(1H,br-s), 7.43-7.52(3H,m), 7.61(1H,d,J=8.1Hz), 7.68(1H,d,J=8.1Hz), 7.82(1H,s), 8.03(1H,s), 8.25(1H,d,J=8.5Hz)

Table 9(2)

Compound No.	^{1}H-NMR ($CDCl_3$, ppm)
18	δ 2.42(3H,s), 5.83(2H,s), 7.16(1H,br-s), 7.43-7.52(3H,m), 7.61(1H,d,J=8.1Hz), 7.68(1H,d,J=8.1Hz), 7.82(1H,s), 8.03(1H,s), 8.25(1H,d,J=8.5Hz)
19	δ 2.40(3H, s), 3.74(2H, t, J=5.6Hz), 4.44(2H, t, J=5.6Hz), 7.19(1H, s), 7.42-7.50(3H, m), 7.55-7.58(1H, m), 7.63(1H, d, J=7.6Hz), 7.88(1H, s), 8.01(1H, s), 8.22(1H, d, J=8.8Hz)
20	δ 2.40(3H,s), 4.83(2H,s), 7.42-7.49(3H,m), 7.58-7.61(1H,m), 7.67-7.69(2H,m), 7.98(1H,s), 8.06(1H,s), 8.19(1H,d,J=8.5Hz)
21	δ 2.43(3H, s), 6.90(1H, s), 7.22(1H, br-s), 7.47-7.54(3H, m), 7.64-7.68(2H, m), 7.78(1H, s), 8.06(1H, s), 8.26(1H, d, J = 8.8Hz)
22	δ 2.01(6H,s), 2.42(3H,s), 6.95(1H,br), 7.44-7.52(3H,m), 7.57-7.62(2H,m), 7.80(1H,s), 8.02(1H,s), 8.24(1H,d,J=8.5Hz)
23	δ 2.41(3H,s), 7.23-7.29(1H,m), 7.40-7.55(7H,m), 7.61-7.64(1H,m), 7.72(1H,d,J=8.3Hz), 7.78(1H,s), 8.07(1H,s), 8.26(1H,d,J=8.8Hz)
24	δ 2.36(3H,s), 2.40(3H,s), 7.05-7.09(2H,m), 7.15(1H,s), 7.20(2H,d,J=8.1Hz), 7.47-7.52 (3H,m), 7.60-7.63(1H,m), 7.66-7.68(1H,m), 7.79(1H,s), 8.07(1H,s), 8.25(1H,d,J=8.8Hz)
25	δ 2.41(3H,s), 7.12-7.17(2H,m), 7.32-7.38(2H,m), 7.42-7.48(3H,m), 7.64(1H,d,J= 7.8Hz), 7.82(1H,d,J=7.8Hz), 7.99(1H,d,J=8.5Hz), 8.06(1H,d,J=8.5Hz), 8.51(1H,s), 9.52(1H,s)
59	δ 2.32(6H, s), 3.79(3H, s), 6.92(1H, br-s), 7.34(2H, s), 7.43(1H, t, J=7.8Hz), 7.52-7.62(3H, m), 8.00(1H, s)
60	δ 1.33(3H, t, J = 7.1Hz), 2.33(6H, s), 4.24(2H, q, J=7.1Hz), 6.80(1H, s), 7.35(2H, s), 7.44(1H, t, J=7.8Hz), 7.46(1H, s), 7.52-7.61(2H, m), 8.02(1H, s)
61	δ 0.99(3H, t, J=7.3Hz), 1.71(2H, m), 2.34(6H, s), 4.14(2H, t, J=6.9Hz), 6.79(1H, s), 7.35(2H, s), 7.41-7.47(2H, m), 7.59-7.61(2H, m), 8.02(1H, s)
62	δ 1.31(6H, d, J=6.3Hz), 2.33(6H, s), 5.03(1H, septet, J=6.3Hz), 6.74(1H, s), 7.35(2H, s), 7.43(1H, t, J=8.1Hz), 7.52(1H, s), 7.56-7.61(2H, m), 8.03(1H, s)
63	δ 0.96(3H, t, J=7.3Hz), 1.38-1.48(2H, m), 1.61-1.71(2H, m), 2.34(6H, s), 4.19(2H, t, J=6.9Hz), 6.76(1H, s), 7.35(2H, s), 7.42-7.46(2H, m), 7.58-7.61(2H, m), 8.02(1H, s)
64	δ 0.98(6H, d, J=6.8Hz), 1.94-2.04(1H, m), 2.34(6H, s), 3.97(2H, d, J=6.6Hz), 6.79(1H, s), 7.35(2H, s), 7.42-7.47(2H, m), 7.59-7.61(2H, m), 8.02(1H, s)

Table 9(3)

Compound No.	^{1}H-NMR ($CDCl_3$, ppm)
66	δ 1.53(9H, s), 2.34(6H, s), 6.62(1H, s), 7.35(2H, s), 7.38-7.45(2H, m), 7.51-7.60(2H, m), 8.02(1H, s)
67	δ 0.99(9H, s), 2.34(6H, s), 3.90(2H, s), 6.79(1H, s), 7.35(2H, s), 7.43(1H, br-s), 7.46(1H, t, J = 8.1Hz), 7.59-7.63(2H, m), 8.03(1H, s).
68	δ 0.95(3H, d, J=6.8Hz), 0.96(3H, d, J=6.8Hz), 1.24(3H, d, J=6.3Hz), 1.81-1.89(1H, m), 2.34(6H, s), 4.75(1H, quint, J=6.3Hz), 6.77(1H, s), 7.35(2H, s), 7.44(1H, t, J=8.1Hz), 7.54-7.62(3H, m), 8.05(1H, s)
69	δ 0.94(3H, t, J=7.3Hz), 1.29(3H, d, J=6.3Hz), 1.32-1.45(2H, m), 1.46-1.58(1H, m), 1.61-1.70(1H, m), 2.35(6H, s), 4.93(1H, sext., J=6.3Hz), 6.73(1H, s), 7.35(2H, s), 7.42-7.47(1H, m), 7.51(1H, s), 7.56-7.62(2H, m), 8.05(1H, s)
70	δ 0.93(3H, d, J = 6.6Hz), 0.94(3H, d, J = 6.6Hz), 1.29(3H, d, J = 6.3Hz), 1.31-1.37(1H, m), 1.57-1.75(2H, m), 2.34(6H, s), 4.96-5.05(1H, m), 6.70(1H, s), 7.35(2H, s), 7.42-7.46(2H, m), 7.57-7.61(2H, m), 8.04(1H, s)
71	δ 0.97(9H, s), 1.62(2H, t, J=7.6Hz), 2.34(6H, s), 4.25(2H, t, J=7.6Hz), 6.73(1H, s), 7.35(2H, s), 7.43-7.47(2H, m), 7.59-7.61(2H, m), 8.02(1H, s)
72	δ 1.27-1.34(2H, m), 1.50-1.66(4H, m), 1.74-1.83(2H, m), 2.18-2.32(1H, m), 2.34(6H, s), 4.07(2H, d, J=7.1Hz), 6.79(1H, s), 7.35(2H, s), 7.43-7.51(2H, m), 7.58-7.62(2H, m), 8.03(1H, s)
73	δ 1.62 (3H, d, J=6.6Hz), 2.33 (6H, s), 5.90 (1H, q, J=6.6Hz), 6.82 (1H, br-s), 7.28-7.45 (9H, m), 7.56 (1H, d, J=8.1Hz), 7.60 (1H, d, J=7.6Hz), 8.02 (1H, br-s)
74	δ 2.34 (6H, s), 3.02 (2H, t, J=7.1Hz), 4.42 (2H, t, J=7.1Hz), 6.74 (1H, br-s), 7.23-7.27 (2H, m), 7.31-7.35 (5H, m), 7.41-7.47 (2H, m), 7.58-7.62 (2H, m), 7.99 (1H, br-s)
75	δ 2.34(6H, s), 4.58(1H, dd, J=2.0Hz, 6.3Hz), 4.87(1H, dd, J=2.0Hz, 13.9Hz), 7.00(1H, s), 7.25(1H, dd, J=6.3Hz, 13.9Hz), 7.35(2H, s), 7.47(1H, t, J=7.8Hz), 7.55(1H, s), 7.63-7.65(2H, m), 8.03(1H, s)
76	δ 2.34(6H, s), 4.68-4.70(2H, m), 5.26-5.31(1H, m), 5.35-5.41(1H, m), 5.92-6.02(1H, m), 6.84(1H, s), 7.35(2H, s), 7.42-7.47(2H, m), 7.60-7.62(2H, m), 8.02(1H, s)
77	δ 2.33(6H, s), 2.53(1H, t, J=1.4Hz), 4.79(2H, d, J=1.4Hz), 6.97(1H, br-s), 7.35(2H, s), 7.44(1H, t, J=8.1Hz), 7.51(1H, s), 7.59-7.63(2H, m), 8.02(1H, s)
78	δ 1.60-1.70 (1H, m), 1.78-1.86 (1H, m), 2.07-2.18 (2H, m), 2.33 (6H, s), 2.35-2.43 (2H, m), 5.00-5.08 (1H, m), 6.80 (1H, s), 7.35 (2H, s), 7.41-7.46 (1H, m), 7.53-7.62 (3H, m), 8.03 (1H, s)
79	δ 1.68-1.80(6H, m), 1.86-1.94(2H, m), 2.34(6H, s), 5.20-5.23(1H, m), 6.72(1H, s), 7.35(2H, s), 7.42-7.62(4H, m), 8.04(1H, s)
81	δ 2.32(6H, s), 5.22(2H, s), 6.87(1H, s), 7.34(2H, s), 7.36-7.45(7H, m), 7.57-7.61(2H, m), 8.01(1H, s)

Table 9(4)

Compound No.	^{1}H-NMR ($CDCl_3$, ppm)
82	δ 2.33 (9H, s), 5.18 (2H, s), 6.83 (1H, br-s), 7.14-7.20 (3H, m), 7.31 (1H, d, J=7.8Hz), 7.35 (2H, s), 7.44 (2H, t, J=7.8Hz), 7.52-7.62 (2H, m), 8.01 (1H, br-s)
83	δ 2.34 (6H, s), 5.28 (2H, s), 6.90 (1H, br-s), 7.35 (2H, s), 7.43-7.54 (4H, m), 7.61-7.66 (4H, m), 8.01 (1H, s)
84	δ 2.34 (6H, s), 5.24 (2H, s), 6.92 (1H, br-s), 7.35-7.52 (4H, m), 7.63-7.81 (6H, m), 8.02 (1H, s)
85	δ 2.34 (6H, s), 5.27 (2H, s), 6.97 (1H, br-s), 7.35 (2H, s), 7.45-7.52 (4H, m), 7.61-7.69 (4H, m), 8.01 (1H, s)
89	δ 2.34(6H, s), 5.34(2H, s), 6.90(1H, br), 7.28-7.30(3H, m), 7.35(2H, s), 7.39-7.49(3H, m), 7.59-7.64(2H, m), 8.04(1H, m)
90	δ 2.33(6H, s), 5.18(2H, s), 6.92(1H, s), 7.22-7.34(5H, m), 7.40-7.47(3H, m), 7.59-7.63(2H, m), 8.02(1H, s)
91	δ 2.33(6H, s), 5.18(2H, s), 6.86(1H, s), 7.29-7.38(6H, m), 7.43-7.47(2H, m), 7.60-7.62(2H, m), 8.01(1H, s)
92	δ 2.34 (6H, s), 5.32 (2H, s), 6.92 (1H, br-s), 7.36 (2H, s), 7.42 (1H, s), 7.48 (1H, t, J=7.8Hz), 7.58 (2H, d, J=9.0Hz), 7.62-7.66 (2H, m), 8.01 (1H, s), 8.25 (2H, d, J=9.0Hz)
93	δ 2.35 (6H, s), 3.93 (3H, s), 5.28 (2H, s), 6.88 (1H, br-s), 7.36 (2H, s), 7.41 (1H, s), 7.45-7.49 (4H, m), 7.63 (2H, d, J=6.8Hz), 8.02 (1H, s), 8.05 (1H, d, J = 6.8Hz)
94	δ 2.32 (6H, s), 2.62 (1H, br), 3.87 (2H, t, J =4.4Hz), 4.29-4.32 (2H, m), 7.26 (1H, s), 7.34 (2H, s), 7.42 (1H, t, J=8.1Hz), 7.54-7.61 (2H, m), 7.77 (1H, s), 8.00 (1H, s)
95	δ 2.31(6H, s), 3.41(3H, s), 3.64-3.66(2H, m), 4.32-4.35(2H, m), 7.14(1H, s), 7.34(2H, s), 7.40(1H, t, J=7.8Hz), 7.55-7.60(2H, m), 7.67(1H, s), 8.00(1H, s)
96	δ 1.23(3H, t, J = 6.8Hz), 2.29(6H, s), 3.56(2H, q, J=6.8Hz), 3.67-3.70(2H, m), 4.31-4.34(2H, m), 7.26(1H, s), 7.33(2H, s), 7.38-7.40(1H, m), 7.52-7.60(2H, m), 7.83(1H, s), 8.00(1H, s)
97	δ 1.18(6H, d, J=6.1Hz), 2.29(6H, s), 3.63-3.69(3H, m), 4.30-4.32(2H, m), 7.26(1H, s), 7.33(2H, s), 7.38(1H, t, J=7.8Hz), 7.56-7.60(2H, m), 7.82(1H, s), 8.00(1H, s)
98	δ 2.28 (6H, s), 3.70-3.73 (2H, m), 4.33-4.36 (2H, m), 4.57 (2H, s), 7.23-7.39 (9H, m), 7.53 (1H, d, J=7.8Hz), 7.58 (1H, d, J=7.8Hz), 7.87 (1H, s), 7.99 (1H, s)
99	δ 1.20 (3H, t, J=8.1Hz), 1.95-2.00 (2H, m), 2.35 (6H, s), 3.47-3.57 (4H, m), 4.30 (2H, t, J=6.6Hz), 6.78 (1H, s), 7.35 (2H, s), 7.46 (2H, t, J=7.8Hz), 7.61 (2H, d, J=7.8Hz), 8.02 (1H, s)

Table 9(5)

Compound No.	^{1}H-NMR ($CDCl_3$, ppm)
100	δ 1.30(3H, t, J=7.3Hz), 2.34(6H, s), 4.26(2H, q, J=7.3Hz), 4.72(2H, s), 7.35(2H, s), 7.36-7.40(1H, m), 7.52-7.60(3H, m), 7.77-7.79(1H, m), 7.90(1H, br-s)
101	δ 1.56(3H, d, J=7.3Hz), 2.33(6H, s), 3.79(3H, s), 5.18(1H, q, J=7.3Hz), 7.21(1H, br), 7.35(2H, s), 7.41(1H, t, J=7.8Hz), 7.55-7.62(3H, m), 7.98(1H, s)
102	δ 1.29(3H, t, J=6.8Hz), 1.55(3H, d, J=6.8Hz), 2.34(6H, s), 4.23(2H, q, J=6.8Hz), 5.16(1H, q, J=6.8Hz), 7.24(1H, br), 7.35(2H, s), 7.41(1H, t, J=7.8Hz), 7.55-7.62(3H, m), 7.96(1H, s)
103	δ 2.21(3H, s), 2.34(6H, s), 2.84(2H, t, J=6.1Hz), 4.46(2H, t, J=6.1Hz), 6.91(1H, br-s), 7.35(2H, s), 7.43(1H, t, J=7.8Hz), 7.52-7.70(3H, m), 8.01(1H, s)
104	δ 2.10(3H, s), 2.34(6H, s), 4.33-4.42(4H, m), 6.97(1H, br-s), 7.35(2H, s), 7.45(1H, t, J=7.8Hz), 7.57-7.64(3H, m), 8.01(1H, s)
106	δ 2.33(6H, s), 2.78(2H, t, J=6.3Hz), 4.40(2H, t, J=6.3Hz), 7.12(1H, br), 7.35(2H, s), 7.45(1H, t, J=7.8Hz), 7.60-7.65(3H, m), 8.01(1H, s)
108	δ 2.17(3H, s), 2.34(6H, s), 2.80(2H, t, J=6.6Hz), 4.37(2H, t, J=6.6Hz), 6.84(1H, br-s), 7.35(2H, s), 7.43-7.52(2H, m), 7.58-7.63(2H, m), 8.02(1H, s)
109	δ 1.25-1.31(3H, m), 2.33(6H, s), 2.57-2.64(2H, m), 2.81-2.85(2H, m), 4.32-4.38(2H, m), 6.92(1H, s), 7.35(2H, s), 7.42-7.49(1H, m), 7.58-7.63(3H, m), 8.03(1H, s)
110	δ 1.28(6H, d, J=6.6Hz), 2.34(6H, s), 2.84(2H, t, J=7.1Hz), 2.94-3.04(1H, m), 4.34(2H, t, J=7.1Hz), 6.88(1H, s), 7.35(2H, s), 7.42-7.49(1H, m), 7.52-7.64(3H, m), 8.02(1H, s)
111	δ 1.40(3H, d, J=6.1Hz), 2.17(3H, s), 2.34(6H, s), 2.67(1H, dd, J=6.1Hz, 13.7Hz), 2.77(1H, dd, J=6.1Hz, 13.7Hz), 5.08(1H, sextett., J=6.1Hz), 6.80(1H, s), 7.35(2H, s), 7.45(1H, t, J=7.8Hz), 7.52(1H, s), 7.57-7.63(2H, m), 8.04(1H, s)
112	δ 1.24-1.37 (3H, m), 2.35 (6H, s), 2.26-2.31 (2H, m), 2.98-3.06 (2H, m), 4.67-4.76 (2H, m), 7.35 (3H, s), 7.45 (2H, t, J=7.8Hz), 7.55-7.74 (2H, m), 8.08 (1H, br-s)
113	δ 1.36-1.43 (3H, m), 2.35 (6H, s), 3.04-3.10 (2H, m), 3.37 (2H, t, J=5.9Hz), 4.68-4.73 (2H, m), 7.00 (1H, br-s), 7.35 (2H, s), 7.46 (2H, t, J=7.8Hz), 7.55-7.70 (2H, m), 8.02-8.07 (1H, m)
116	δ 2.35(6H, s), 4.45(2H, dt, J=28.3Hz, 4.0Hz), 4.66(2H, dt, J=47.3Hz, 4.0Hz), 6.88(1H, br-s), 7.36(2H, s), 7.46-7.50(2H, m), 7.59-7.65(2H, m), 8.02(1H, s)
117	δ 2.34(6H, s), 4.38(2H, dt, J=3.9Hz, 13.6Hz), 6.00(1H, tt, J=3.9Hz, 47.3Hz), 7.05(1H, br-s), 7.35(2H, s), 7.47(1H, t, J=7.8Hz), 7.57-7.66(3H, m), 8.01(1H, s)
118	δ 2.33(6H, s), 4.57(2H, q, J=8.3Hz), 7.09(1H, br), 7.35(2H, s), 7.45-7.50(2H, m), 7.61-7.66(2H, m), 8.01(1H, s)

Table 9(6)

Compound No.	^{1}H-NMR($CDCl_3$, ppm)
119	δ 2.35(6H, s), 4.61-4.75(4H, m), 5.18-5.31(1H, m), 6.98(1H, br-s), 7.36(2H, s), 7.45-7.52(2H, m), 7.58-7.66(2H, m), 8.03(1H, s)
120	δ 2.35(6H, s), 3.75-3.83(2H, m), 4.46-4.80(2H, m), 5.19-5.24(1H, m), 6.97(1H, br-s), 7.36(2H, s), 7.36-7.48(2H, m), 7.60-7.66(2H, m), 8.03(1H, s)
121	(DMSO-d_6) δ 1.48 (3H, d, J=6.6Hz), 2.35 (6H, s), 5.35 (1H, septet, J=6.6Hz), 7.33 (2H, s), 7.42 (1H, t, J=7.8Hz), 7.68 (1H, d, J=7.8Hz), 7.76 (1H, d, J=7.8Hz), 8.11 (1H, s), 8.76 (1H, s), 9.26 (1H, s)
122	($CDCl_3$+DMSO-d_6) δ 2.35(6H, s), 5.87(1H, septet, J=6.3Hz), 7.33(2H, s), 7.44(1H, t, J=8.1Hz), 7.71-7.78(2H, m), 8.17(1H, s), 8.97(1H, s), 10.19(1H, s)
123	δ 2.34(6H, s), 2.48-2.59(2H, m), 4.42(2H, t, J=6.3Hz), 6.93(1H, br-s), 7.35(2H, s), 7.46(1H, t, J=7.8Hz), 7.57-7.64(3H, m), 8.01(1H, br-s)
124	δ 2.35(6H, s), 4.67(2H, t, J=13.2Hz), 6.98(1H, br-s), 7.29(2H, s), 7.36(1H, s), 7.50(1H, t, J=7.8Hz), 7.65-7.67(2H, m), 8.01(1H, s)
125	δ 1.51(3H, d, J=6.4Hz), 2.35(6H, s), 5.49-5.50(1H, m), 6.90(1H, br-s), 7.36(2H, s), 7.44(1H, br-s), 7.50(1H, t, J=7.8Hz), 7.62-7.67(2H, m), 8.02(1H, s)
126	δ 1.95-2.05(2H, m), 2.22-2.27(2H, m), 2.35(6H, s), 4.26(2H, t, J=6.4Hz), 6.81(1H, s), 7.36(2H, s), 7.45-7.49(2H, m), 7.61-7.63(2H, m), 8.02(1H, s)
127	δ 2.35(6H, s), 2.61-2.65(1H, m), 2.9-3.1(1H, m), 5.2-5.3(1H, m), 7.01(1H, br-s), 7.36(2H, s), 7.45-7.52(2H, m), 7.62-7.68(2H, m), 8.01(1H, s)
128	δ 2.34(6H, s), 5.84(2H, s), 7.03(1H, s), 7.36(2H, s), 7.44-7.52(2H, m), 7.65-7.67(2H, m), 8.04(1H, s)
129	δ 2.36(6H, s), 7.33(2H, s), 7.40-7.46(1H, m), 7.65(1H, d, J=7.8Hz), 7.90(1H, d, J=7.8Hz), 7.95(1H, d, J=1.7Hz), 8.55(1H, s), 9.07(1H, s)
130	δ 2.35(6H, s), 3.74-3.77(2H, m), 4.44-4.47(2H, m), 6.87(1H, br), 7.36(2H, s), 7.43-7.52(2H, m), 7.59-7.64(2H, m), 8.02(1H, s)
131	δ 2.32(6H, s), 4.53(2H, d, J=5.9Hz), 5.90(1H, t, J=5.9Hz), 7.11(1H, br-s), 7.35(2H, s), 7.45(1H, t, J=8.1Hz), 7.60-7.64(3H, m), 8.01(1H, br-s)
132	δ 2.33(6H, s), 4.84(2H, s), 7.29(1H, br), 7.35(2H, s), 7.47(1H, t, J = 7.8Hz), 7.58(1H, s), 7.64-7.66(2H, m), 8.04(1H, s)
133	δ 2.35(6H, s), 6.90(1H, s), 7.17(1H, br), 7.36(2H, s), 7.42(1H, s), 7.50-7.54(1H, m), 7.66-7.71(2H, m), 8.06(1H, s)

Table 9(7)

Compound No.	^{1}H-NMR($CDCl_3$, ppm)
134	δ 2.35(6H, s), 3.83(4H, d, J=5.1Hz), 5.22(1H, quint, J=5.1Hz), 6.93(1H, s), 7.36(2H, s), 7.43(1H, s), 7.48(1H, t, J=7.8Hz), 7.60-7.66(2H, m), 8.03(1H, s)
135	δ 2.01(6H, s), 2.35(6H, s), 6.88(1H, br), 7.36(2H, s), 7.43-7.52(2H, m), 7.58-7.65(2H, m), 8.03(1H, s)
136	δ 2.17(2H, quint, J=6.3Hz), 2.34(6H, s), 3.66(2H, t, J=6.3Hz), 4.36(2H, t, J=6.3Hz), 6.83(1H, s), 7.35(2H, s), 7.43-7.48(1H, m), 7.52(1H, s), 7.59-7.63(2H, m), 8.02(1H, s)
137	δ 2.35(6H, s), 3.59(2H, t, J=5.9Hz), 4.51(2H, t, J=5.9Hz), 6.86(1H, br), 7.36(2H, s), 7.43-7.52(2H, m), 7.60-7.64(2H, m), 8.02(1H, s)
138	δ 2.34(6H, s), 5.03(2H, s), 7.15(1H, br), 7.35(2H, s), 7.47-7.54(2H, m), 7.64-7.69(2H, m), 8.06(1H, s)
139	δ 2.25(2H, quint, J=6.1Hz), 2.34(6H, s), 3.51(2H, t, J=6.1Hz), 4.35(2H, t, J=6.1Hz), 6.83(1H, s), 7.35(2H, s), 7.46(1H, t, J=8.1Hz), 7.54(1H, s), 7.58-7.64(2H, m), 8.02(1H, s)
140	δ 2.34(6H, s), 3.34-3.39(2H, m), 4.42-4.47(2H, m), 6.91-6.99(1H, br), 7.35(2H, s), 7.43-7.49(1H, m), 7.56-7.64(3H, m), 8.03(1H, s)
141	(DMSO-d_6) δ 1.82(3H, s), 2.28(6H, s), 3.33(2H, q, J=5.9Hz), 4.11(2H, t, J=5.9Hz), 7.44(2H, s), 7.46(1H, d, J=7.8Hz), 7.62-7.69(2H, m), 8.04(1H, t, J=5.9Hz), 8.09(1H, s), 9.90(1H, s), 9.93(1H, s)
146	δ 2.34(6H, s), 2.36(3H, s), 7.05-7.08(2H, m), 7.17-7.20(2H, m), 7.33(2H, s), 7.43(1H, t, J=7.8Hz), 7.68(1H, d, J=7.8Hz), 7.80(1H, d, J=7.8Hz), 8.17(1H, s), 8.67(1H, s), 9.29(1H, s)
147	δ 2.35(6H, s), 7.33(2H, s), 7.41-7.57(5H, m), 7.72(1H, d, J=7.8Hz), 7.82(1H, d, J=7.8Hz), 8.18(1H, s), 9.01(1H, s), 9.73(1H, s)
148	δ 2.35(6H, s), 7.13-7.18(2H, m), 7.32-7.37(4H, m), 7.41-7.45(1H, m), 7.70(1H, d, J=7.6Hz), 7.81(1H, d, J=7.6Hz), 8.16(1H, s), 9.04(1H, s), 9.69(1H, s)
149	δ 2.34(6H, s), 7.32(2H, s), 7.33-7.36(1H, m), 7.42-7.52(3H, m), 7.65(1H, d, J=2.4Hz), 7.70(1H, d, J=7.8Hz), 7.80-7.88(4H, m), 8.20(1H, s), 8.76(1H, s), 9.48(1H, s)
154	δ 2.08-2.14 (1H, m), 2.18-2.30 (1H, m), 2.35 (6H, s), 3.86-4.01 (4H, m), 5.37-5.39 (1H, m), 6.87 (1H, br-s), 7.35 (2H, s), 7.46 (2H, t, J=7.6Hz), 7.58-7.63 (2H, m), 8.01 (1H, s)
155	δ 2.34 (6H, s), 5.18 (2H, s), 6.38 (1H, d, J=3.2Hz), 6.48 (1H, d, J=3.2Hz), 6.83 (1H, br-s), 7.35 (2H, s), 7.43-7.47 (3H, m), 7.57-7.63 (2H, m), 8.01 (1H, s)
156	δ 2.34 (6H, s), 5.10 (2H, s), 6.48 (1H, s), 6.79 (1H, br-s), 7.35 (2H, s), 7.39-7.47 (3H, m), 7.53 (1H, s), 7.59-7.63 (2H, m), 8.01 (1H, br-s)

Table 9(8)

Compound No.	^{1}H-NMR ($CDCl_3$, ppm)
157	δ 1.58-1.67 (1H, m), 1.93-1.95 (2H, m), 2.01-2.09 (1H, m), 2.34 (6H, s), 3.78-3.93 (2H, m), 4.06-4.23 (2H, m), 4.31 (1H, dd, J=3.2Hz, 11.2Hz), 6.95 (1H, br-s), 7.35 (2H, s), 7.45 (2H, t, J=7.8Hz), 7.50-7.56 (1H, m), 7.63 (1H, d, J=7.1Hz), 8.04 (1H, s)
158	δ 1.66-1.73 (1H, m), 2.05-2.13 (1H, m), 2.34 (6H, s), 2.60-2.70 (1H, m), 3.64-3.68 (1H, m), 3.73-3.79 (1H, m), 3.85-3.92 (2H, m), 4.09-4.15 (2H, m), 6.87 (1H, br-s), 7.35 (2H, s), 7.46 (2H, t, J=7.8Hz), 7.61-7.66 (2H, m), 8.01 (1H, br-s)
159	δ 2.34 (6H, s), 5.38 (2H, s), 6.83 (1H, br-s), 6.98-7.02 (1H, m), 7.16 (1H, d, J=2.9Hz), 7.34-7.36 (3H, m), 7.43-7.47 (2H, m), 7.59-7.63 (2H, m), 8.01 (1H, s)
160	δ 2.34 (6H, s), 5.23 (2H, s), 6.83 (1H, br-s), 7.14 (1H, d, J=5.1Hz), 7.33-7.37 (4H, m), 7.45 (2H, t, J=7.8Hz), 7.61-7.64 (2H, m), 8.02 (1H, s)
161	δ 2.32 (6H, s), 5.34 (2H, s), 7.24-7.28 (2H, m), 7.35 (2H, s), 7.39 (1H, d, J=7.8Hz), 7.43 (1H, d, J=7.8Hz), 7.55 (1H, s), 7.61 (2H, t, J=7.8Hz), 7.73 (1H, dt, J=1.7Hz, 7.8Hz), 8.03 (1H, s), 8.61 (1H, br-s)
162	δ 2.36 (6H, s), 5.36 (2H, s), 6.37 (1H, br-s), 6.70 (1H, s), 7.31-7.39 (4H, m), 7.73-7.82 (4H, m), 8.58-8.61 (1H, m), 8.72 (1H, d, J=2.0Hz)
163	δ 2.34 (6H, s), 5.22 (2H, s), 6.89 (1H, br-s), 7.35-7.49 (5H, m), 7.62 (2H, d, J = 7.3Hz), 7.72-7.77 (1H, m), 8.00 (1H, br-s), 8.45 (1H, d, J=2.4Hz)
164	δ1.23 (6H, d, J=6.8Hz), 2.34 (3H, s), 3.18 (1H, septet, J=6.8Hz), 3.81 (3H, s), 6.84 (1H, s), 7.36 (1H, s), 7.42 (1H, s), 7.46 (1H, t, J=7.8Hz), 7.56-7.63 (3H, m), 8.01 (1H, s)
165	δ1.22 (6H, d, J=6.8Hz), 1.33 (3H, t, J=7.3Hz), 2.33 (3H, s), 3.17 (1H, septet, J=6.8Hz), 4.24 (2H, q, J=7.3Hz), 6.80 (1H, s), 7.35 (1H, s), 7.41 (1H, s), 7.44 (1H, t, J=7.8Hz), 7.58-7.62 (3H, m), 8.02 (1H, s)
166	δ 1.32(6H, d, J=6.1Hz), 5.03(1H, septet, J=6.1Hz), 6.71(1H, s), 7.40-7.44(1H, m), 7.54(1H, d, J=2.0Hz), 7.56(1H, d, J=2.0Hz), 7.60(2H, d, J=8.8Hz), 7.80(2H, d, J=8.8Hz), 7.98(1H, s), 8.03(1H, s)
167	δ1.32 (6H, d, J=6.1Hz), 2.53 (3H, d, J=8.8Hz), 5.04 (1H, septet, J=6.1Hz), 6.71 (1H, br s), 7.41-7.65 (6H, m), 7.95-7.97 (2H, m)
168	δ 1.32(6H, d, J=6.1Hz), 1.33(3H, t, J=7.6Hz), 2.74(2H, q, J=7.6Hz), 5.04(1H, septet, J=6.1Hz), 6.70(1H, s), 7.43-7.56(4H, m), 7.60(1H, d, J=8.1Hz), 7.86(1H, s), 8.00(1H, s), 8.27(1H, d, J=8.5Hz)
169	δ 1.02(3H, t, J=7.3Hz), 1.32(6H, d, J=6.3Hz), 1.67-1.77(2H, m), 2.70(2H, t, J=7.3Hz), 5.03(1H, septet, J=6.3Hz), 6.72(1H, s), 7.43-7.60(5H, m), 7.89(1H, s), 8.03(1H, s), 8.29(1H, d, J=8.5Hz)
170	δ1.32 (6H, d, J=6.4Hz), 3.89 (3H, s), 5.04 (1H, septet, J=6.4Hz), 6.73 (1H, br s), 7.05-7.08 (1H, m), 7.42-7.46 (1H, m), 7.51-7.58 (3H, m), 7.80 (1H, s), 8.00 (1H, s), 8.15 (1H, s)
171	δ1.32 (6H, d, J=6.4Hz), 5.03 (1H, septet, J=6.4Hz), 6.75 (1H, s), 7.28-7.47 (2H, m), 7.52-7.58 (2H, m), 7.72-7.75 (1H, m), 7.92 (1H, s), 8.00 (1H, s), 8.37 (1H, s)

Table 9(9)

Compound No.	^{1}H-NMR ($CDCl_3$, ppm)
172	δ1.31 (6H, d, J=6.3Hz), 2.30 (3H, s), 2.47 (3H, d, J=5.9Hz), 5.01-5.09 (1H, m), 6.72 (1H, br-s), 7.40-7.47 (2H, m), 7.56-7.60 (2H, m), 7.77 (1H, d, J=8.6Hz), 7.83 (1H, br-s), 8.00 (1H, br-s)
173	δ 1.31 (6H, d, J=6.1Hz), 2.35 (3H, s), 2.52 (3H, d, J=9.0Hz), 4.99-5.09 (1H, m), 6.71 (1H, br-s), 7.30 (1H, br-s), 7.44 (1H, t, J=7.8Hz), 7.52-7.57 (1H, m), 7.61 (1H, d, J=7.8Hz), 7.72 (1H, s), 7.98 (1H, s), 8.06 (1H, s)
174	δ 1.23(6H, t, J=7.6Hz), 1.32(6H, d, J=6.1Hz), 2.69(4H, q, J=7.6Hz), 5.03(1H, septet, J=6.1Hz), 6.70(1H, s), 7.38(2H, s), 7.42-7.47(2H, m), 7.58-7.62(2H, m), 8.01(1H, s)
175	δ 1.22(3H, t, J=7.6Hz), 1.31(6H, d, J=6.3Hz), 2.34(3H, s), 2.69(2H, q, J=7.6Hz), 5.03(1H, septet, J=6.3Hz), 6.70(1H, s), 7.37(2H, s), 7.42-7.47(2H, m), 7.58-7.61(2H, m), 8.02(1H, s)
176	δ1.22 (6H, d, J=6.8Hz), 1.31 (6H, d, J=6.3Hz), 2.33 (3H, s), 3.17 (1H, septet, J=6.8Hz), 5.03 (1H, septet, J=6.3Hz), 6.76 (1H, s), 7.35 (1H, s), 7.41 (1H, s), 7.44 (1H, t, J=8.1Hz), 7.56-7.62 (3H, m), 8.03 (1H, s)
177	δ 1.32(6H, d, J=6.1Hz), 2.35(3H, s), 3.85(3H, s), 5.04(1H, septet, J=6.1Hz), 6.67(1H, s), 6.96(1H, s), 7.13(1H, s), 7.44(1H, t, J=8.1Hz), 7.59-7.65(3H, m), 7.96(1H, s)
178	δ 1.30(6H, d, J=6.1Hz), 2.42(3H, s), 5.00(1H, septet, J=6.1Hz), 6.63(1H, s), 7.27-7.41(8H, m), 7.45(1H, s), 7.53(1H, s), 7.58(1H, d, J=7.8Hz), 7.74(1H, s)
179	δ1.31 (6H, d, J=6.1Hz), 2.61 (3H, d, J=6.3Hz), 5.05 (1H, septet, J=6.1Hz), 6.76 (1H, br s), 7.45-7.58 (3H, m), 7.70 (1H, d, J=8.1Hz), 7.96 (1H, t, J=1.8Hz), 8.56-8.58 (1H, m), 8.70 (1H, br s)
180	δ 1.24(3H, t, J=7.6Hz), 1.31(6H, d, J=6.3Hz), 2.75(2H, q, J=7.6Hz), 5.03(1H, septet, J=6.3Hz), 6.74(1H, s), 7.42-7.47(2H, m), 7.57-7.67(4H, m), 8.02(1H, s)
181	δ 0.93(3H, t, J=7.3Hz), 1.32(6H, d, J=6.1Hz), 1.63-1.71(2H, m), 2.70(2H, t, J=7.6Hz), 5.04(1H, septet, J=6.1Hz), 6.72(1H, s), 7.44-7.48(2H, m), 7.57-7.63(3H, m), 7.68(1H, s), 8.02(1H, s)
182	δ1.32 (6H, d, J=6.4Hz), 3.92 (3H, s), 5.06 (1H, septet, J=6.4Hz), 6.73 (1H, s), 7.46-7.50 (1H, m), 7.55-7.60 (2H, m), 7.69 (1H, d, J=7.8Hz), 7.96 (1H, s), 8.48 (1H, d, J=1.2Hz), 8.58 (1H, s)
183	δ1.31 (6H, d, J=6.2Hz), 2.30 (3H, s), 2.44 (3H, d, J=6.4Hz), 5.01-5.05 (1H, m), 6.72 (1H, br-s), 7.44-7.48 (2H, m), 7.61-7.62 (2H, m), 7.78 (1H, s), 8.03 (1H, br-s)
184	δ 1.32 (6H, d, J=6.1Hz), 2.35 (3H, s), 2.58 (3H, d, J=6.8Hz), 5.01-5.07 (1H, m), 6.68 (1H, br-s), 7.35 (1H, s), 7.46 (1H, t, J=7.8Hz), 7.61-7.65 (2H, m), 7.72 (1H, s), 8.01 (1H, s)
185	δ1.31 (6H, d, J=6.4Hz), 2.49 (3H, s), 4.77 (2H, br-s), 5.06 (1H, sept, J=6.4Hz), 6.73 (1H, br-s), 7.44-7.49 (1H, m), 7.55 (1H, s), 7.61-7.63 (2H, m), 7.81 (1H, s), 8.05 (1H, br-s)
186	δ1.32 (6H, d, J=6.4Hz), 2.61 (3H, s), 5.05 (1H, septet), 6.73 (1H, br-s), 7.44-7.48 (2H, m), 7.57-7.64 (2H, m), 7.95 (1H, br-s), 8.06 (1H, br-s)

Table 9(10)

Compound No.	^{1}H-NMR ($CDCl_3$, ppm)
187	δ 4.84(2H, s), 7.28(1H, br), 7.45(1H, t, J=8.1Hz), 7.59-7.65(4H, m), 7.81(2H, d, J=8.5Hz), 7.99(1H, s), 8.17(1H, s)
188	δ 2.53 (3H, d, J=8.8Hz), 4.85 (2H, s), 7.15 (1H, br s), 7.45-7.65 (6H, m), 8.00-8.02 (2H, m)
189	δ 1.34(3H, t, J=7.6Hz), 2.75(2H, q, J=7.6Hz), 4.85(2H, s), 7.10(1H, s), 7.47-7.52(3H, m), 7.59-7.66(2H, m), 7.87(1H, s), 8.05(1H, s), 8.27(1H, d, J=8.8Hz)
190	δ 1.02(3H, t, J=7.3Hz), 1.67-1.77(2H, m), 2.70(2H, t, J=7.6Hz), 4.85(2H, s), 7.10(1H, br-s), 7.44-7.52(3H, m), 7.59-7.65(2H, m), 7.88(1H, s), 8.07(1H, s), 8.30(1H, d, J=8.5Hz)
191	δ3.89 (3H, s), 4.85 (2H, s), 7.06 (1H, dd, J=8.5Hz, 2.0Hz), 7.18 (1H, br s), 7.46-7.54 (2H, m), 7.61-7.63 (2H, m), 7.79-7.80 (1H, m), 8.01 (1H, s), 8.10 (1H, s)
192	δ4.86(2H,s), 7.09(1H,br.), 7.43-7.79(5H,m), 8.03(1H,br.), 8.56(1H,br), 8.76(1H,d,J=8.8Hz)
193	δ4.86 (2H, s), 7.16 (1H, br s), 7.47-7.74 (5H, m), 7.93 (1H, s), 8.02 (1H, s), 8.23 (1H, s)
194	δ 2.30 (3H, s), 2.47 (3H, d, J=6.0Hz), 4.85 (2H, s), 7.12 (1H, br-s), 7.42 (1H, d, J=9.0Hz), 7.49 (1H, t, J=8.1Hz), 7.62-7.67 (2H, m), 7.78-7.81 (2H, m), 8.03 (1H, br-s)
195	δ 2.35 (3H, s), 2.52 (3H, d, J=8.8Hz), 4.86 (2H, s), 7.05 (1H, br-s), 7.31 (1H, s), 7.50 (1H, t, J=7.8Hz), 7.60-7.67 (2H, m), 7.71 (1H, s), 8.03 (1H, s), 8.07 (1H, s)
196	δ 1.23(6H, t, J=7.6Hz), 2.70(4H, q, J=7.6Hz), 4.85(2H, s), 7.03(1H, br), 7.39(3H, s), 7.50(1H, t, J=8.1Hz), 7.65(1H, d, J=8.1Hz), 7.69(1H, br-s), 8.04(1H, s)
197	δ 1.23(3H, t, J=7.6Hz), 2.35(3H, s), 2.69(2H, q, J=7.6Hz), 4.85(2H, s), 7.05(1H, br), 7.37(2H, s), 7.42(1H, s), 7.50(1H, t, J=7.8Hz), 7.64-7.66(2H, m), 8.04(1H, s)
198	δ1.23 (6H, d, J=6.8Hz), 2.34 (3H, s), 3.17 (1H, septet, J=6.8Hz), 4.85 (2H, s), 7.18 (1H, br-s), 7.36 (1H, s), 7.42 (1H, s), 7.49 (1H, t, J=8.1Hz), 7.55 (1H, s), 7.65-7.67 (2H, m), 8.05 (1H, s)
199	δ 2.36(3H, s), 3.86(3H, s), 4.85(2H, s), 6.96(1H, s), 7.01(1H, br), 7.14(1H, s), 7.49(1H, t, J=8.1Hz), 7.64-7.68(3H, m), 7.99(1H, s)
200	δ 2.43(3H, s), 4.83(2H, s), 6.99(1H, br), 7.33-7.42(8H, m), 7.45(1H, s), 7.54(1H, s), 7.64(1H, d, J=6.3Hz), 7.78(1H, s)
201	δ 2.47(3H,s), 4.86(2H,s), 7.06(1H,s), 7.11(1H,br.), 7.24-7.27(1H,m), 7.53(1H,t,J=7.3Hz), 7.66(2H,t,J=7.3Hz), 7.95(1H,s), 8.17(1H,s), 8.85(1H,s)

Table 9(11)

Compound No.	^{1}H-NMR($CDCl_3$, ppm)
202	δ1.57 (3H, s), 4.86 (2H, s), 7.10 (1H, br s), 7.52 (2H, t, J=7.8Hz), 7.63-7.65 (1H, m), 7.72-7.74 (1H, m), 8.03(1H, br-s), 8.57-8.59 (1H, m), 8.70 (1H, br s)
203	δ 2.10 (3H, s), 4.84 (2H, s), 7.11 (1H, d, J=8.8Hz), 7.18-7.22 (2H, m), 7.47 (1H, t, J=7.8Hz), 7.61 (1H, d, J=7.8Hz), 7.65 (1H, d, J=7.8Hz), 7.80 (1H, br-s), 8.00 (1H, br-s)
204	δ1.50 (9H, s), 2.29 (3H, s), 4.85 (2H, s), 6.46 (1H, br-s), 7.20 (1H, br-s), 7.45-7.49 (2H, m), 7.50 (1H, d, J=7.3Hz), 7.65 (1H, d, J=7.3Hz), 7.88 (1H, br-s), 7.99 (1H, br-s), 8.19 (1H, d, J=8.8Hz)
205	δ 1.26(3H, t, J=7.6Hz), 2.76(2H, q, J=7.6Hz), 4.85(2H, s), 7.06(1H, br), 7.47-7.53(2H, m), 7.58-7.61(2H, m), 7.67-7.69(2H, m), 8.05(1H, s)
206	δ 1.25(3H, t, J=7.3Hz), 2.77(2H, q, J=7.3Hz), 4.85(2H, s), 7.06(1H, br), 7.49-7.53(2H, m), 7.62(1H, s), 7.68-7.70(2H, m), 7.74(1H, s), 8.06(1H, s)
207	δ 1.24(3H, t, J=7.3Hz), 2.77(2H, q, J=7.3Hz), 4.86(2H, s), 7.07(1H, br), 7.50-7.58(3H, m), 7.70-7.72(2H, m), 7.96(1H, s), 8.07(1H, s)
208	δ 0.93(3H, t, J=7.3Hz), 1.63-1.69(2H, m), 2.70(2H, t, J=7.6Hz), 4.85(2H, s), 7.10(1H, s), 7.45(1H, s), 7.49-7.52(1H, m), 7.53(1H, s), 7.58-7.69(3H, m), 8.04(1H, s)
209	δ 0.93(3H, t, J=7.3Hz), 1.61-1.70(2H, m), 2.71(2H, t, J=7.3Hz), 4.85(2H, s), 7.10(1H, br-s), 7.48-7.53(2H, m), 7.63(1H, s), 7.67-7.70(2H, m), 7.74(1H, d, J=2.0Hz), 8.05(1H, s)
210	δ 0.90(3H, t, J=7.3Hz), 1.28-1.38(2H, m), 1.56-1.64(2H, m), 2.73(2H, t, J=7.8Hz), 4.85(2H, s), 7.06(1H, br-s), 7.49-7.53(2H, m), 7.60(1H, s), 7.67-7.74(3H, m), 8.04(1H, s)
211	δ3.93 (3H, s), 4.86 (2H, s), 7.13 (1H, br s), 7.53 (1H, t, J=8Hz), 7.61-7.65 (2H, m), 7.71 (1H, d, J=8Hz), 8.04 (1H, s), 8.48 (1H, d, J=1.2Hz), 8.58 (1H, s)
212	δ 2.47(3H, s), 4.85(2H, s), 7.08(1H, br-s), 7.40(1H, s), 7.51(1H, t, J=7.8Hz), 7.63(1H, s), 7.67-7.71(3H, m), 8.03(1H, s)
213	δ4.86(2H,s), 7.06(1H, br.), 7.52(1H,t,J=7.8Hz), 7.67-7.71(3H,m), 7.67(2H,s), 8.05(1H,s)
214	δ 2.26 (3H, s), 2.45 (3H, d, J=6.4Hz), 4.86 (2H, s), 7.08 (1H, br-s), 7.49-7.53 (2H, m), 7.69-7.75 (3H, m), 8.05 (1H, br-s)
215	δ 2.35 (3H, s), 2.58 (3H, d, J=6.6Hz), 4.85 (2H, s), 7.08 (1H, br-s), 7.35 (1H, s), 7.51 (1H, t, J=8.1Hz), 7.68 (2H, d, J=8.1Hz), 7.73 (1H, s), 8.04 (1H, s)
216	δ 2.50 (3H, s), 4.77 (2H, br-s), 4.86 (2H, s), 7.12 (1H, br-s), 7.51-7.56 (2H, m), 7.69 (2H, d, J=7.3Hz), 8.84 (1H, s), 8.08 (1H, br-s)

Table 9(12)

Compound No.	^{1}H-NMR(CDCl$_3$, ppm)
217	δ 2.43 (3H, s), 4.86 (2H, s), 7.12 (1H, br-s), 7.51 (1H, t, J=7.9Hz), 7.57 (1H, br-s), 7.69 (1H, d, J=7.9Hz), 7.76 (1H, br-s), 7.86 (1H, br-s), 8.08 (1H, br-s)
218	δ 2.51 (3H, s), 4.86 (2H, s), 7.00 (1H, br-s), 7.50-7.55 (2H, m), 7.68-7.70 (2H, m), 7.87 (1H, br-s), 8.08 (1H, br-s)
219	δ 2.62 (3H, s), 4.86 (2H, s), 7.00 (1H, br-s), 7.47 (1H, s), 7.52 (1H, t, J=7.8Hz), 7.68-7.70 (2H, m), 7.89 (1H, br-s), 8.07 (1H, br-s)
220	δ 2.12 (3H, s), 4.50 (2H, br-s), 4.86 (2H, s), 7.14 (1H, br-s), 7.29 (1H, br-s), 7.51 (1H, t, J=7.8Hz), 7.68-7.70 (2H, m), 7.77 (1H, br-s), 8.04 (1H, br-s)
221	δ 0.90(3H, t, J=7.3Hz), 1.28-1.37(2H, m), 1.55-1.63(2H, m), 2.48-2.60(2H, m), 2.73(2H, t, J=7.8Hz), 4.43(2H, t, J=6.3Hz), 6.85(1H, s), 7.46-7.50(2H, m), 7.60-7.68(3H, m), 7.73(1H, d, J=1.5Hz), 8.00(1H, s)
222	δ1.32 (6H, d, J=6.3Hz), 2.39 (3H, s), 5.04 (1H, septet, J=6.3Hz), 6.71 (1H, s), 7.43-7.47 (2H, m), 7.57-7.64 (3H, m), 7.73 (1H, s), 8.04 (1H, s)
223	δ 1.32(6H, d, J=6.3Hz), 5.03(1H, septet, J=6.3Hz), 7.41(1H, t, J=8.1Hz), 7.63-7.68(1H, m), 7.67(2H, s), 7.75(1H, d, J=7.6Hz), 8.00(1H, s), 8.06(1H, t, J=1.7Hz), 8.93(1H, s)
224	(DMSO-d_6)δ 1.31(6H, d, J=6.3Hz), 5.03(1H, septet, J=6.3Hz), 7.41(1H, t, J=8.1Hz), 7.64(1H, d, J=8.1Hz), 7.79(1H, d, J=8.1Hz), 7.93(1H, s), 8.00(1H, s), 8.15(1H, s), 8.26(1H, s), 9.36(1H, s)
225	δ 1.31(6H, d, J=6.3Hz), 2.34(6H, s), 5.03(1H, septet, J=6.3Hz), 6.73(1H, s), 7.33(2H, s), 7.44(1H, t, J=7.8Hz), 7.53-7.62(3H, m), 8.05(1H, s)
226	δ 1.31(6H, d, J=6.3Hz), 2.33(6H, s), 5.02(1H, septet, J=6.3Hz), 6.75(1H, s), 7.33(2H, s), 7.43(1H, t, J=7.8Hz), 7.52-7.61(3H, m), 8.04(1H, s)
227	δ 4.84(2H, s), 7.24(1H, s), 7.45(1H, t, J=7.8Hz), 7.59-7.62(4H, m), 7.77(2H, d, J=8.8Hz), 7.99(1H, s), 8.16(1H, s)
228	δ 2.39 (3H, s), 4.85 (2H, s), 7.11 (1H, br-s), 7.47-7.52 (2H, m), 7.58 (1H, s), 7.67-7.70 (2H, m), 7.73 (1H, s), 8.06 (1H, s)
229	(DMSO-d_6) δ 4.86(2H, s), 7.45(1H, t, J=7.8Hz), 7.72(1H, s), 7.73(1H, d, J=7.8Hz), 7.83-7.84(2H, m), 8.14(1H, s), 9.27(1H, s), 9.34(1H, s)
230	(DMSO-d6) δ 4.86(2H, s), 7.44(1H, t, J=8.1Hz), 7.67(1H, s), 7.68(1H, s), 7.71-7.74(1H, m), 7.85(1H, d, J=7.3Hz), 8.15(1H, s), 9.31(1H, s), 9.41(1H, br-s)
231	(DMSO-d_6) δ 4.96(2H, s), 7.51(1H, t, J=7.8Hz), 7.65-7.73(2H, m), 8.13(1H, s), 8.15(1H, s), 8.49(1H, s), 10.41(1H, s), 10.58(1H, s)

Table 9(13)

Compound No.	^{1}H-NMR ($CDCl_3$, ppm)
232	(DMSO-d_6) δ 4.86(2H, s), 7.45(1H, t, J=7.8Hz), 7.70(1H, d, J=7.8Hz), 7.88(1H, d, J=7.8Hz), 7.94(1H, s), 8.08(1H, s), 8.16(1H, s), 9.33(1H, s), 9.42(1H, s)
233	δ 2.34(6H, s), 4.85(2H, s), 7.10(1H, br), 7.34(2H, s), 7.47-7.51(2H, m), 7.65-7.68(2H, m), 8.06(1H, s)
234	δ 2.34(6H, s), 4.85(2H, s), 7.10(1H, br), 7.35(2H, s), 7.47-7.52(2H, m), 7.65-7.68(2H, m), 8.05(1H, s)
235	δ 4.84(2H, s), 7.17(1H, br-s), 7.49(1H, t, J=7.8Hz), 7.63(1H, d, J=7.8Hz), 7.67(1H, d, J=7.8Hz), 7.94(1H, s), 8.07(1H, s)
236	δ 4.85(2H, s), 7.14(1H, s), 7.51(1H, t, J=7.8Hz), 7.68-7.73(2H, m), 7.83(1H, s), 7.86(2H, s), 8.07(1H, s)
237	δ 2.48-2.60(2H, m), 4.43(2H, t, J=6.3Hz), 6.90(1H, s), 7.48(1H, t, J=7.8Hz), 7.63-7.69(2H, m), 7.86(3H, s), 8.03(1H, s)
238	(DMSO-d_6) δ 2.50-2.61(2H, m), 4.41(2H, t, J=6.3Hz), 7.43(1H, t, J=7.8Hz), 7.70(1H, d, J=7.8Hz), 7.71(1H, s), 7.80-7.84(2H, m), 8.06(1H, s), 8.82(1H, s), 9.26(1H, s)
239	δ 1.34(3H, t, J=7.3Hz), 4.26(2H, q, J=7.3Hz), 6.77(1H, br-s), 7.46-7.53(2H, m), 7.70(1H, brd, J=7.3Hz), 7.86-7.94(3H, m), 8.39(1H, s), 8.71(1H, d, J=8.8Hz)
240	δ 1.32(6H, d, J=6.3Hz), 5.06(1H, septet, J=6.3Hz), 6.74(1H, s), 7.45-7.52(2H, m), 7.70(1H, d, J=7.3Hz), 7.86-7.94(3H, m), 8.40(1H, s), 8.71(1H, d, J=8.8Hz)
241	δ 4.58(1H, dd, J=2.0Hz, 5.8Hz), 4.85(1H, dd, J=2.0Hz, 4.2Hz), 7.06(1H, br-s), 7.30(1H, d, J=6.4Hz), 7.49-7.57(2H, m), 7.74(1H, d, J=7.8Hz), 7.87(1H, d, J=7.8Hz), 7.91(1H, s), 7.99(1H, s), 8.40(1H, s), 8.71(1H, d, J=8.8Hz)
242	δ1.62-1.70(2H, m), 1.71-1.87(4H, m), 1.89-1.96(2H, m), 5.22-5.26(1H, m), 6.72(1H, s), 7.45-7.51(2H, m), 7.70(1H, brd, J=7.3Hz), 7.86-7.93(3H, m), 8.34(1H, s), 8.70(1H, d, J=8.8Hz)
243	δ 3.76(2H, t, J=5.4Hz), 4.47(2H, t, J=5.4Hz), 6.97(1H, br-s), 7.47-7.56(2H, m), 7.69(1H, d, J=7.8Hz), 7.86-7.91(2H, m), 7.97(1H, s), 8.39(1H, s), 8.71(1H, d, J=8.8Hz)
244	δ 2.82(2H, t, J=6.3Hz), 4.41(2H, t, J=6.3Hz), 7.46(1H, t, J=7.8Hz), 7.54-7.57(1H, m), 7.81(1H, d, J=8.3Hz), 7.88(1H, d, J=8.8Hz), 7.91(1H, s), 8.10(1H, s), 8.56-8.63(2H, m), 9.55(1H, br-s)
245	δ4.40(2H, dt, J=3.9Hz, 14.1Hz), 6.04(1H, tt, J=3.9Hz, 55.3Hz), 7.43-7.48(1H, m), 7.55(1H, d, J=7.8Hz), 7.80(1H, d, J=7.3Hz), 7.86(1H, d, J=8.8Hz), 7.91(1H, s), 8.07(1H, s), 8.53(1H, s), 8.64(1H, d, J=8.8Hz), 9.42(1H, s)
246	δ4.56(2H, d, J=5.9Hz), 5.92(1H, t, J=5.9Hz), 6.97(1H, br-s), 7.49-7.57(2H, m), 7.69(1H, d, J=7.3Hz), 7.87-7.92(2H, m), 7.98(1H, s), 8.39(1H, s), 8.71(1H, d, J=8.8Hz)

Table 9(14)

Compound No.	^{1}H-NMR ($CDCl_3$, ppm)
247	δ 4.86(2H, s), 7.15(1H, br-s), 7.50-7.59(2H, m), 7.72(1H, d, J=7.8Hz), 7.86-7.92(2H, m), 8.02(1H, s), 8.40(1H, s), 8.71(1H, d, J=8.8Hz)
248	δ5.05(2H, s), 7.09(1H, br-s), 7.51-7.59(2H, m), 7.73(1H, d, J=7.8Hz), 7.88(1H, d, J=8.3Hz), 7.92(1H, s), 8.03(1H, s), 8.39(1H, s), 8.72(1H, d, J=8.8Hz)
249	δ 2.49-2.60(2H, m), 4.44(2H, t, J=6.3Hz), 6.86(1H, br-s), 7.48-7.56(2H, m), 7.69(1H, d, J=6.3Hz), 7.88(1H, d, J=8.8Hz), 7.92(1H, s), 7.96(1H, s), 8.39(1H, s), 8.71(1H, d, J=8.8Hz)
250	δ4.68(2H, t, J=13.2Hz), 708(1H, br-s), 7.50-7.59(2H, m), 7.70(1H, br-d, J=7.3Hz), 7.87-7.92(2H, m), 8.00(1H, s), 8.39(1H, s), 8.71(1H, d, J=8.7Hz)
251	δ5.29(2H, s), 6.92(1H, br-s), 7.47-7.55(4H, m), 7.65-7.70(3H, m), 7.87(1H, d, J=8.8Hz), 7.92(1H, s), 7.97(1H, s), 8.38(1H, br-s), 8.71(1H, d, J=8.8Hz)
252	δ5.23(2H, s), 6.82(1H, br-s), 7.37(1H, d, J=8.3Hz), 7.50-7.53(2H, m), 7.6(1H, m), 7.75(1H, dd, J=2.4Hz, 8.3Hz), 7.87-7.96(3H, m), 8.38(1H, br-s), 8.47(1H, d, J=2.4Hz), 8.72(1H, d, J=8.3Hz)
253	δ 1.31(6H, d, J=6.3Hz), 2.33(6H, s), 5.02(1H, septet, J=6.3Hz), 6.75(1H, br-s), 7.33(2H, s), 7.43(1H, t, J=7.8Hz), 7.54-7.61(3H, m), 8.04(1H, s)
254	δ 2.34(6H, s), 4.39(2H, dt, J=3.9Hz, 13.6Hz), 6.01(1H, tt, J=3.9Hz, 54.6Hz), 6.98(1H, s), 7.34(2H; s), 7.46-7.50(2H, m), 7.60-7.66(2H, m), 8.02(1H, s)
255	δ 2.34 (6H, s), 4.61-4.66 (2H, m), 4.71-4.77 (2H, m), 5.18-5.30 (1H, m), 7.12 (1H, s), 7.34 (2H, s), 7.45-7.50 (1H, m), 7.52-7.66 (2H, m), 7.76-7.84 (1H, m), 8.04 (1H, s)
256	δ 2.34(6H, s), 4.58(2H, q, J=8.3Hz), 7.02(1H, s), 7.34(2H, s), 7.45-7.51(2H, m), 7.62-7.67(2H, m), 8.02(1H, s)
257	δ 2.34(6H, s), 4.85(2H, s), 7.10(1H, br), 7.34(2H, s), 7.47-7.51(2H, m), 7.63-7.67(2H, m), 8.05(1H, s)
258	δ1.48(3H, d, J=6.8Hz), 2.34(6H, s), 5.30-5.36(1H, m), 6.95(1H, br-s), 7.30(2H, s), 7.46-7.51(2H, m), 7.60-7.67(2H, m), 8.03(1H, br-s)
259	δ 2.35(6H, s), 2.49-2.59(2H, m), 4.42(2H, t, J=6.3Hz), 6.85(1H, br-s), 7.34(2H, s), 7.45-7.49(2H, m), 7.60-7.65(2H, m), 8.02(1H, br-s)
300	δ 4.85(2H, s), 7.10(1H, br), 7.50(1H, t, J=7.8Hz), 7.68-7.71(3H, m), 7.72(2H, s), 8.04(1H, s)
301	δ 4.85(2H, s), 7.08(1H, br), 7.51-7.55(1H, m), 7.69-7.72(2H, m), 7.84(1H, s), 8.06(2H, s), 8.10(1H, s)

Table 9(15)

Compound No.	^{1}H-NMR ($CDCl_3$, ppm)
331	δ 2.29(6H, s), 4.85(2H, s), 7.11-7.19(3H, m), 7.39(1H, s), 7.49(1H, t, J=7.9Hz), 7.66-7.73(2H, m), 8.00 (1H, s)
348	δ 2.35(6H, s), 3.81(3H, s), 6.80(1H, br), 7.36(2H, s), 7.44-7.63(4H, m), 8.02(1H, s)
377	δ 2.36(6H, s), 4.85(2H, s), 7.09(1H, s), 7.37(2H, s), 7.44(1H, s), 7.50(1H, t, J=8.3Hz), 7.67(2H, d, J=7.3Hz), 8.05 (1H, s)
424	δ4.85(2H, s), 7.10(1H, s), 7.51(1H, t, J=7.8Hz), 7.69-7.70(3H, m), 7.73(2H, s), 8.05(1H, s)
464	δ 2.47-2.59(2H, m), 4.41(2H, t, J=6.3Hz), 6.96(1H, br-s), 7.46(1H, t, J=7.8Hz), 7.63-7.67(2H, m), 7.83(1H, s), 7.91(2H, s), 8.00(1H, s)
471	δ 4.85(2H, s), 7.13(1H, br-s), 7.50(1H, t, J=7.8Hz), 7.68-7.74(3H, m), 7.92(2H, s), 8.04(1H, s)
511	(DMSO-d_6) δ 2.67-2.78(2H, m), 4.34(2H, t, J=5.9Hz), 7.50(1H, t, J=7.8Hz), 7.68-7.73(2H, m), 8.13(1H, s), 8.52(2H, s), 10.02(1H, s), 10.77(1H, s)
518	(DMSO-d_6) δ 4.96(2H, s), 7.52(1H, t, J=7.8Hz), 7.71-7.75(2H, m), 8.16(1H, s), 8.51(2H, s), 10.42(1H, s), 10.79(1H, s)
565	δ4.86(2H, s), 7.00(1H, br-s), 7.52(1H, t, J=8.3Hz), 7.70-7.73(3H, m), 7.93(2H, s), 8.06(1H, s)
605	δ 2.49-2.60(2H, m), 4.43(2H, t, J=6.3Hz), 6.82(1H, s), 7.49(1H, t, J=7.8Hz), 7.66-7.68(3H, m), 7.94(2H, s), 8.01(1H, s)
612	δ4.86(2H, s), 7.45(1H, t, J=7.8Hz), 7.72(1H, d, J=7.8Hz), 7.94(1H, br-s), 7.93(2H, s), 8.13(1H, s), 9.02(1H, s), 9.17(1H, s)
559	δ4.86(2H, s), 7.06(1H, s), 7.51(1H, t, J=7.8Hz), 7.68-7.71(3H, m), 7.93(2H, s), 8.06(1H, s)
706	δ4.84(2H, s), 7.40(1H, br-s), 7.48(1H, t, J=7.8Hz), 7.67-7.75(2H, m), 8.00(1H, s), 8.09(2H, s), 8.24(1H, s)
770	δ 2.39(3H, s), 4.86(2H, s), 7.00(1H, br-s), 7.48-7.67(5H, m), 7.79(1H, s), 8.04(1H, s), 8.24(1H, d, J=8.8Hz)
800	δ 2.31(6H, s), 4.85(2H, s), 7.11(1H, br-s), 7.43(2H, s), 7.47-7.53(2H, m), 7.66(1H, s), 7.67(1H, s), 8.05(1H, s)

Table 9(16)

Compound No.	^{1}H-NMR($CDCl_3$, ppm)
817	δ0.89(3H, t, J=7.3Hz), 1.24-1.37(2H, m), 1.55-1.63(2H, m), 2.47-2.59(2H, m), 2.70(2H, t, J=7.8Hz), 4.42(2H, t, J=5.9Hz), 6.96(1H, br-s), 7.43-7.47(2H, m), 7.57(1H, d, J=1.5Hz), 7.62-7.64(2H, m), 7.74(1H, s), 8.00(1H, s)
818	δ0.86(3H, t, J=7.3Hz), 1.24-1.33(2H, m), 1.49-1.57(2H, m), 2.45-2.56(2H, m), 2.67(2H, t, J=7.8Hz), 4.38(2H, t, J=6.3Hz), 7.15(1H, s), 7.39(1H, t, J=7.8Hz), 7.48(1H, s), 7.62-7.64(2H, m), 7.88(1H, s), 7.93(1H, d, J=2.0Hz), 8.01(1H, s)
819	δ 0.81(3H, t, J=7.3Hz), 1.25(3H, d, J=6.8Hz), 1.53-1.64(2H, m), 2.49-2.60(2H, m), 2.92-3.01(1H, m), 4.43(2H, t, J=5.9Hz), 6.87(1H, br), 7.46-7.51(2H, m), 7.62-7.67(3H, m), 7.74(1H, d, J=1.5Hz), 8.01(1H, s)
820	δ1.32(6H,d,J=6.3Hz), 2.36(3H,s), 5.01-5.07(1H,m), 6.69(1H,s), 7.11-7.13(2H,m), 7.44(1H,t,J=8.3Hz), 7.55-7.59(2H,m), 7.68(1H,br-s), 7.95(1H,d,J=8.3Hz), 7.99(1H,s)
821	δ 1.27(6H, d, J=6.8Hz), 1.31(6H, d, J=6.3Hz), 2.96(1H, septet, J=6.8Hz), 5.05(1H, septet, J=6.3Hz), 6.79(1H, s), 7.42-7.52(4H, m), 7.72(1H, d, J=7.8Hz), 7.86(1H, t, J=2.0Hz), 8.14(1H, s), 8.21(1H, d, J=8.3Hz)
822	δ 1.33(6H,d,J=6.6Hz), 5.01-5.09(1H,m), 6.73(1H,s), 7.41-7.52(2H,m), 7.57-7.60(1H,m), 7.65(1H,s), 8.05(1H,s), 8.20(2H,s), 8.35(1H,s)
823	δ 1.32(6H, d, J=6.3Hz), 5.04(1H, septet, J=6.3Hz), 6.70(1H, br-s), 6.98-7.06(1H, m), 7.45(1H, t, J=7.8Hz), 7.53-7.55(1H, m), 7.62(1H, d, J=8.8Hz), 7.94(2H, s), 8.07-8.14(1H, m)
824	δ1.32 (6H, d, J=6.1Hz), 2.46 (3H, s), 2.54 (3H, d, J=15Hz), 5.04 (1H, septet, J=6.1Hz), 6.72 (1H, s), 7.40-7.44 (2H, m), 7.51-7.56 (3H, m), 7.94 (1H, s), 7.97 (1H, s)
825	δ 1.31(6H, d, J=6.3Hz), 2.30(3H, s), 5.03(1H, septet, J=6.3Hz), 6.72(1H, s), 7.20(1H, d, J=2.2Hz), 7.32(1H, d, J=2.2Hz), 7.43(1H, t, J=7.8Hz), 7.59-7.62(3H, m), 8.00(1H, s)
826	δ1.31 (6H, d, J=6.3Hz), 2.28 (3H, s), 2.31 (3H, s), 5.03 (1H, septet, J=6.3Hz), 6.71 (1H, br-s), 7.01 (1H, s), 7.13 (1H, s), 7.43 (1H, t, J=7.8Hz), 7.61-7.63 (3H, m), 7.97 (1H, s)
827	δ 1.31(6H, d, J=6.1Hz), 2.25(6H, s), 5.03(1H, septet, J=6.1Hz), 6.70(1H, br-s), 7.26(2H, s), 7.38(1H, br-s), 7.43(1H, t, J=7.8Hz), 7.55-7.61(2H, m), 8.01(1H, s)
828	δ 1.31(6H, d, J=6.3Hz), 2.24(6H, s), 5.02(1H, septet, J=6.3Hz), 6.71(1H, br-s), 7.26(2H, s), 7.39-7.44(2H, m), 7.55-7.60(2H, m), 8.00(1H, s)
829	δ1.31 (6H, d, J=6.4Hz), 2.23 (6H, s), 5.03 (1H, septet, J=6.4Hz), 6.69 (1H, br-s), 7.37 (1H, br-s), 7.43 (1H, t, J=7.8Hz), 7.48 (2H, s), 7.55-7.61 (2H, m), 8.01 (1H, br-s)
830	δ1.32 (6H, d, J=6.3Hz), 2.35 (6H, s), 5.04 (1H, septet, J=6.3Hz), 6.72 (1H, s), 7.32-7.36 (3H, m), 7.41-7.46 (4H, m), 7.56-7.63 (4H, m), 8.00 (1H, s)
831	δ1.32 (6H, d, J=6Hz), 2.30 (3H, s), 2.32 (6H, s), 5.04 (1H, septet, J=6Hz), 6.73 (1H, s), 7.08 (2H, s), 7.22-7.26 (4H, m), 7.43-7.48 (2H, m), 7.61-7.63 (2H, m), 8.01 (1H, s)

Table 9(17)

Compound No.	^{1}H-NMR ($CDCl_3$, ppm)
832	δ1.32(6H, d, J=6Hz), 2.31(6H, s), 2.42(3H, s), 5.04(1H, septet, J=6Hz), 6.71(1H, s), 7.16(1H, d, J=8Hz), 7.30-7.59(7H, m), 7.62(2H, t, J=8Hz), 8.01(1H, s)
833	δ1.31(6H, d, J=6Hz), 2.33(6H, s), 2.49(3H, s), 5.03(1H, septet, J=6Hz), 6.73(1H, s), 7.12-7.25(2H, m), 7.32(2H, s), 7.42-7.52(4H, m), 7.59-7.63(2H, m), 7.99(1H, s)
834	δ1.32(6H, d, J=6Hz), 2.32(6H, s), 3.80(3H, s), 5.04(1H, septet, J=6Hz), 6.73(1H, s), 6.97(1H, d, J=8Hz), 7.02(1H, t, J=7Hz), 7.27(2H, s), 7.30(2H, d, J=7Hz), 7.34-7.46(2H, m), 7.60-7.63(2H, m), 7.95(1H, s)
835	δ1.32(6H, d, J=7Hz), 2.34(6H, s), 3.87(3H, s), 5.04(1H, septet, J=7Hz), 6.72(1H, s), 6.88-6.91(1H, m), 7.11(1H, t, J=2Hz), 7.16(1H, td, J=8Hz, 1Hz), 7.33-7.37(3H, m), 7.43-7.50(2H, m), 7.59-7.64(2H, m), 8.01(1H, s)
836	δ1.32(6H, d, J=7Hz), 2.33(6H, s), 3.85(3H, s), 5.04(1H, septet, J=7Hz), 6.73(1H, br-s), 6.96(2H, d, J=9Hz), 7.29(2H, s), 7.42-7.52(4H, m), 7.60-7.63(2H, m), 8.00(1H, s)
837	δ1.32 (6H, d, J=6Hz), 1.44 (3H, t, J=7Hz), 2.33 (6H, s), 4.08 (2H, q, J=7Hz), 5.04 (1H, septet, J=6Hz), 6.72 (1H, s), 6.94-6.97 (2H, m), 7.29 (2H, s), 7.42-7.52 (4H, m), 7.61-7.63 (2H, m), 7.99 (1H, s)
838	δ1.31 (6H, d, J=6Hz), 2.34 (6H, s), 2.53 (3H, s), 5.04 (1H, septet, J=6Hz), 6.72 (1H, s), 7.31-7.65 (10H, m), 8.00 (1H, s).
839	δ1.31 (6H, d, J=6.3Hz), 2.34 (6H, s), 5.04 (1H, septet, J=6.3Hz), 6.72 (1H, s), 7.12-7.32 (5H, m), 7.41-7.48 (3H, m), 7.61-7.63 (2H, m), 7.99 (1H, s)
840	δ1.32(6H, d, J=7Hz), 2.34(6H, s), 5.03(1H, septet, J=7Hz), 6.74(1H, br s), 7.01-7.05(1H, m), 7.28-7.64(9H, m), 8.02(1H, s)
841	δ1.31 (6H, d, J=7Hz), 2.34 (6H, s), 5.04 (1H, septet, J=7Hz), 6.73 (1H, s), 7.11 (2H, t, J=9Hz), 7.28 (2H, s), 7.42-7.63 (6H, m), 8.01 (1H, s)
842	δ1.24 (6H, d, J=6.8Hz), 1.31 (6H, d, J=6.3Hz), 2.32 (3H, s), 2.86 (1H, septet, J=6.8Hz), 5.03 (1H, septet, J=6.3Hz), 6.74 (1H, s), 7.08 (1H, s), 7.33 (1H, d, J=2.0Hz), 7.43 (1H, t, J=7.8Hz), 7.61-7.65 (3H, m), 7.96 (1H, s)
843	δ1.32 (6H, d, J=6.3Hz), 2.37 (3H, s), 5.03 (1H, septet, J=6.3Hz), 6.74 (1H, s), 7.46 (1H, t, J=7.8Hz), 7.51-7.57 (2H, m), 7.61-7.65 (2H, m), 7.90 (1H, s), 8.08 (1H, s)
844	δ 1.32(6H, d, J=6.3Hz), 2.35(3H, s), 5.03(1H, septet, J=6.3Hz), 6.72(1H, s), 7.09(1H, s), 7.21(1H, d, J=2.2Hz), 7.44(1H, t, J=8.1Hz), 7.52-7.61(3H, m), 8.02(1H, s)
845	δ 1.29(6H, d, J=6.8Hz), 1.31(6H, d, J=6.3Hz), 2.98(1H, septet, J=6.8Hz), 5.04(1H, septet, J=6.3Hz), 6.70(1H, s), 7.42-7.48(2H, m), 7.56-7.67(4H, m), 7.92(1H, s)
846	δ 1.32(6H, d, J=6.3Hz), 5.03(1H, septet, J=6.3Hz), 6.75(1H, br-s), 7.41-7.51(2H, m), 7.62-7.65(1H, m), 7.91(1H, br-s), 8.08(1H, s)

Table 9(18)

Compound No.	^{1}H-NMR($CDCl_3$, ppm)
847	(DMSO-d_6) δ 1.24-1.44(5H, m), 1.68-1.80(5H, m), 2.46-2.50(1H, m), 4.97(2H, s), 7.19(2H, d, J=8.8Hz), 7.47(1H, t, J=7.8Hz), 7.60-7.70(4H, m), 8.04(1H, s), 10.19(1H, s), 10.37(1H, s)
848	δ 4.84(2H, s), 7.29(1H, d, J=7.8Hz), 7.35(1H, br-s), 7.48(1H, t, J=7.8Hz), 7.56-7.67(3H, m), 7.75(1H, d, J=7.3Hz), 7.97(1H, s), 8.23(1H, s), 8.37(1H, d, J=7.8Hz)
849	δ 4.85(2H, s), 7.12(1H, br-s), 7.47(1H, t, J=7.8Hz), 7.59-7.67(4H, m), 7.72-7.75(2H, m), 7.99(1H, s), 8.03(1H, s)
850	(DMSO-d_6) δ 4.87(2H, s), 7.43(1H, t, J=7.8Hz), 7.65(1H, d, J=7.8Hz), 7.82(1H, d, J=7.8Hz), 7.96(2H, d, J=8.8Hz), 8.07(1H, s), 8.18-8.22(2H, m), 9.66(1H, br), 10.51(1H, s)
851	δ4.85(2H, s), 6.67(1H, br-s), 7.47(1H, t, J=7.8Hz), 7.60-7.64(2H, m), 7.65(2H, d, J=8.8Hz), 7.74(2H, d, J=8.8Hz), 7.98(1H, s), 8.00(1H, s)
852	δ4.86(2H, s), 7.09(1H, br-s), 7.48-7.53(1H, m), 7.61-7.65(2H, m), 7.81(2H, d, J=8.8Hz), 7.95(2H, d, J=8.8Hz), 7.95-8.04(1H, m), 8.14(1H, s)
854	δ0.90(3H, t, J=7.3Hz), 1.28-1.38(2H, m), 1.56-1.65(2H, m), 2.72(2H, t, J=7.8Hz), 4.85(2H, s), 7.14(1H, br-s), 7.45(1H, s), 7.50(1H, t, J=7.8Hz), 7.58(1H, d, J=1.5Hz), 7.66-7.68(3H, m), 8.04(1H, s)
855	δ 0.88(3H, t, J=7.3Hz), 1.24-1.35(2H, m), 1.52-1.60(2H, m), 2.70(2H, t, J=7.8Hz), 4.84(2H, s), 7.27(1H, s), 7.46-7.50(2H, m), 7.67-7.69(2H, m), 7.76(1H, s), 7.94(1H, d, J=1.5Hz), 8.06(1H, s)
856	δ 0.81(3H, t, J=7.3Hz), 1.25(3H, d, J=5.9Hz), 1.55-1.65(2H, m), 2.91-3.01(1H, m), 4.85(2H, s), 7.14(1H, br), 7.50-7.53(2H, m), 7.61-7.77(4H, m), 8.05(1H, s)
857	δ0.90(3H, t, J=7.3Hz), 1.31(3H, d, J=6.8Hz), 1.63-1.74(2H, m), 2.82-2.91(1H, m), 4.85(2H, s), 7.22(1H, s), 7.47-7.53(3H, m), 7.58-7.62(1H, m), 7.66(1H, d,J=8.3Hz), 7.93(1H, s), 8.05(1H, s), 8.13-8.15(1H, m)
858	δ 2.36(3H,s), 4.85(2H,s), 7.11-7.14(3H,m), 7.49(1H,t,J=8.3Hz), 7.61-7.69(3H,m), 7.95(1H,d,J=8.3Hz), 8.02(1H,s)
859	δ 2.31 (3H, s), 4.34 (2H, q, J=7.8Hz), 4.84 (2H, s), 6.80-6.86 (2H, m), 7.16 (1H, br-s), 7.47 (1H, t, J=7.8Hz), 7.60-7.72 (4H, m), 7.99 (1H, br-s)
860	δ 2.39(3H,s), 4.85(2H,s), 7.09-8.14(9H,m)
861	δ 2.31(3H,s), 4.84(2H,s), 7.17(1H,br), 7.20-7.23(2H,m), 7.47(1H,t,J=8.1), 7.58- 7.67(3H,m), 7.84-7.87(1H,m), 8.00(1H,s)
862	δ 1.27(6H, d, J=6.8Hz), 2.97(1H, septet, J=6.8Hz), 4.85(2H, s), 7.18(1H, br), 7.46-7.51(3H, m), 7.57(1H, dd, J=1.5Hz, 7.8Hz), 7.74(1H, d, J=7.8Hz), 7.94(1H, s), 8.14(1H, s), 8.21(1H, d, J=8.3Hz)

Table 9(19)

Compound No.	^{1}H-NMR(CDCl$_3$,ppm)
863	δ4.87(2H,s), 7.51-8.01(8H,m), 8.86(1H,s)
864	δ 4.87(2H,s), 7.08(1H,br.), 7.49-7.58(4H,m), 8.07(1H,br.), 8.20(3H,s)
865	δ 4.86(2H, s), 7.08(1H, br-s), 7.48-7.60(3H, m), 7.64(1H, d, J=2.4Hz), 7.72(1H, d, J=7.3Hz), 7.98(1H, s), 8.18(1H, s), 8.39(1H, d, J=8.8Hz)
866	δ 4.85(2H, s), 7.06(1H, br), 7.41-7.51(2H, m), 7.60(1H, s), 7.65-7.74(4H, m), 7.97(1H, s)
867	δ4.86 (2H, s), 7.10 (1H, br-s), 7.48-7.57 (2H, m), 7.71 (1H, d, J=8.3Hz), 7.90-7.97 (3H, m), 8.19 (1H, br-s), 8.22 (1H, d, J=8.8Hz)
868	δ 4.85(2H, s), 7.12(1H, br-s), 7.46-7.56(4H, m), 7.71(1H, d, J=7.8Hz), 7.99(1H, s), 8.14(1H, s), 8.48(1H, d, J=8.8Hz)
869	δ 4.84(2H, s), 6.97-7.05(1H, m), 7.22(1H, br-s), 7.48(1H, t, J=7.8Hz), 7.59(1H, d, J=7.8Hz), 7.69(1H, d, J=7.8Hz), 7.96(1H, s), 7.98(1H, s), 8.05-8.12(1H, m)
870	δ 2.46 (3H, s), 2.55 (3H, d, J=14Hz), 4.86 (2H, s), 7.13 (1H, br s), 7.40 (1H, s), 7.46-7.62 (4H, m), 7.88 (1H, s), 7.99 (1H, s)
871	δ 2.34(3H,s), 2.38(3H,s), 4.85(2H,s), 6.97-8.03(8H,m)
872	δ 2.31(6H, s), 3.99(1H, s), 4.85(2H, s), 7.15(1H, br-s), 7.45-7.51 (4H, m), 7.64-7.66(2H, m), 8.01(1H, s)
873	δ 2.34(6H, s), 3.74(1H, s), 4.85(2H, s), 7.08(1H, br-s), 7.48(1H, s), 7.49(2H, s), 7.52(1H, s), 7.65-7.67(2H, m), 8.04(1H, s)
874	δ 2.30(6H, s), 4.87(2H,s), 7.08(1H,br), 7.49-7.56(4H,m), 8.07(1H,br), 8.20(3H,s)
875	δ 2.25(6H, s), 4.85(2H, s), 7.07(1H, br), 7.12(2H, s), 7.36(1H, br-s), 7.48(1H, t, J=7.8Hz), 7.64-7.66(2H, m), 8.02(1H, s)
876	δ 2.28 (3H, s), 2.31 (3H, s), 4.84 (2H, s), 7.00 (1H, s), 7.12 (1H, s), 7.18 (1H, br), 7.47 (1H, t, J=7.8Hz), 7.60 (1H, s), 7.66-7.68 (2H, m), 7.99 (1H, s)
877	δ 2.19(6H, s), 4.82(2H, s), 7.22(2H, s), 7.41(1H, t, J=8.1Hz), 7.48(1H, br), 7.61-7.66(3H, m), 7.99(1H, s)

Table 9(20)

Compound No.	^{1}H-NMR ($CDCl_3$, ppm)
878	δ 2.22 (6H, s), 4.84 (2H, s), 7.13 (1H, br-s), 7.39 (1H, s), 7.45-7.49 (3H, m), 7.64-7.65 (2H, m), 8.01 (1H, br-s)
879	δ 2.35 (6H, s), 4.85 (2H, s), 7.09 (1H, s), 7.32-7.69 (11H, m), 8.02 (1H, s)
880	δ 2.30 (3H, s), 2.32 (6H, s), 4.85 (2H, s), 7.09 (2H, s), 7.13 (1H, s), 7.21-7.27 (4H, m), 7.46-7.51 (2H, m), 7.68 (2H, d, J=7Hz), 8.03 (1H, s)
881	δ 2.34(6H, s), 2.42(3H, s), 4.85(2H, s), 7.12-7.23(2H, m), 7.29-7.39(4H, m), 7.47-7.52(2H, m), 7.68(2H, d, J=7Hz), 8.03(1H, s)
882	δ 2.34(6H, s), 2.40(3H, s), 4.85(2H, s), 7.13(1H, d, J=4Hz), 7.23-7.26(2H, m), 7.30(2H, s), 7.33-7.50(4H, m), 7.67(2H, d, J=8Hz), 8.02(1H, s)
883	δ 2.32(6H, s), 3.81(3H, s), 4.85(2H, s), 6.97-7.04(2H, m), 7.10(1H, br s), 7.28(2H, s), 7.30-7.34(2H, m), 7.42(1H, s), 7.49(1H, t, J=8Hz), 7.66-7.70(2H, m), 7.99(1H, s)
884	δ 2.35(6H, s), 3.88(3H, s), 4.85(2H, s), 6.89-6.91(1H, m), 7.10-7.18(3H, m), 7.33-7.37(3H, m), 7.47-7.52(2H, m), 7.68(2H, d, J=7Hz), 8.03(1H, s)
885	δ 2.33(6H, s), 3.86(3H, s), 4.85(2H, s), 6.96(2H, d, J=9Hz), 7.14(1H, br s), 7.30(2H, s), 7.47-7.53(4H, m), 7.68(2H, d, J=7Hz), 8.02(1H, s)
886	δ1.44 (3H, t, J=7Hz), 2.33 (6H, s), 4.08 (2H, q, J=7Hz), 4.85 (2H, s), 6.95 (2H, d, J=9Hz), 7.13 (1H, s), 7.30 (2H, s), 7.45-7.52 (4H, m), 7.68 (2H, d, J=7Hz), 8.01 (1H, s)
887	δ 2.33 (6H, s), 2.53 (3H, s), 4.84 (2H, s), 7.14 (1H, s), 7.30-7.38 (4H, m), 7.46-7.57 (4H, m), 7.67 (2H, d, J=6Hz), 8.02(1H, s)
888	δ 2.34 (6H, s), 4.85 (2H, s), 7.10-7.34 (6H, m), 7.41-7.52 (3H, m), 7.68 (2H, d, J=8Hz), 8.02 (1H, s)
889	δ 2.34(6H, s), 4.85(2H, s), 7.01-7.06(1H, m), 7.16(1H, br s), 7.25-7.50(8H, m), 7.68(1H, d, J=8Hz), 8.03(1H, s)
890	δ 2.33 (6H, s), 4.85 (2H, s), 7.09-7.15 (3H, m), 7.29 (2H, s), 7.46-7.55 (4H, m), 7.67-7.69 (2H, m), 8.03 (1H, s)
891	δ 2.34(6H, s), 4.85(2H, s), 7.09(1H, br s), 7.18-7.30(4H, m), 7.34-7.51(3H, m), 7.67-7.69(2H, m), 8.04(1H, s)
892	δ 2.30(9H, s), 4.85(2H, s), 7.05(1H, t, J=8.8Hz), 7.14(1H, br s), 7.28(2H, s), 7.32-7.51(4H, m), 7.67-7.69(2H, m), 8.03(1H, s)

Table 9(21)

Compound No.	^{1}H-NMR($CDCl_3$, ppm)
893	δ 2.31(6H, s), 4.85(2H, s), 6.69(1H, s), 7.09(1H, br-s), 7.25(2H, s), 7.41(1H, s), 7.47-7.51(2H, m), 7.66-7.68(2H, m), 7.72(1H, s), 8.02(1H, s)
894	δ 2.30(6H, s), 4.84(2H, s), 7.07-7.09(1H, m), 7.25(1H), 7.27-7.29(1H, m), 7.36(2H, s), 7.36(2H, s), 7.45-7.50(2H, m), 7.65-7.67(2H, m), 8.02(1H, s)
895	δ 2.32(6H, s), 4.85(2H, s), 7.18(1H, s), 7.35-7.50(7H, m), 7.67(2H, d, J=6.8Hz), 8.02(1H, s)
896	δ 2.31(3H, s), 4.85(2H, s), 7.10(1H, br), 7.20(1H, d, J=2.2Hz), 7.32(1H, d, J=2.2Hz), 7.49(1H, t, J=7.8Hz), 7.57(1H, s), 7.66-7.68(2H, m), 8.02(1H, s)
897	(DMSO-d_6) δ 4.85(2H, s), 7.44(1H, t, J=7.8Hz), 7.63-7.68(2H, m), 7.72(1H, d, J=2.4Hz), 7.84(1H, s), 8.06(1H, s), 8.80(1H, s), 9.09(1H, s)
898	δ4.85(2H, s), 7.00(1H, br-s), 7.51(1H, t, J=8.3Hz), 7.69-7.72(5H, m), 8.05(1H, s)
899	δ4.86(2H, s), 7.00(1H, br-s), 7.53(1H, t, J=7.8Hz), 7.67-7.73(2H, m), 7.92(1H, s), 8.05(2H, s), 8.11(1H, s)
900	(DMSO-d_6) δ 4.98(2H, s), 7.52(1H, t, J=7.8Hz), 7.70-7.75(2H, m), 8.17(1H, s), 8.31(2H, s), 10.42(1H, s), 10.63(1H, s)
901	(DMSO-d_6) δ 1.24-1.47(5H, m), 1.66-1.80(5H, m), 2.54-2.60(1H, m), 4.96(2H, s), 7.48(1H, t, J = 7.8Hz), 7.60(2H, s), 7.67-7.71(2H, m), 8.11(1H, s), 10.24(1H, s), 10.37(1H, s)
902	(DMSO-d_6) δ 4.86(2H, s), 7.44(1H, t, J=7.8Hz), 7.67(1H, d, J=7.8Hz), 7.82(1H, d, J=2.0Hz), 7.85(1H, s), 8.05(1H, d, J=2.0Hz), 8.06(1H, d, J=7.8Hz), 9.04(1H, s), 9.27(1H, s)
903	δ4.86(2H, s), 7.00(1H, br-s), 7.51(1H, t, J=7.8Hz), 7.70(2H, d, J=7.8Hz), 7.75(1H, s), 7.94(2H, s), 8.06(1H, s)
904	δ 2.20(3H,s), 4.85(2H,s), 6.60(1H,d,J=2.4Hz), 7.17(1H,br.), 7.50(1H,t,J=7.8Hz), 7.54(1H,s), 7.59(1H,s), 7.69(1H,d,J=7.8Hz), 7.72(1H,br), 8.03(1H,s)
905	δ 2.36(3H, s), 4.85(2H, s), 7.08(1H, br-s), 7.10(1H, s), 7.22-7.23(1H, m), 7.50(1H, t, J=8.1Hz), 7.59(1H, s), 7.67-7.69(2H, m), 8.04(1H, s)
906	δ 2.36(3H,s), 4.86(2H,s), 4.88(2H,s), 7.04(1H,br.), 7.12(1H,d,J=2.4Hz), 7.27(1H,s), 7.50(1H,t,J=7.8Hz), 7.56(1H,s), 7.67-7.70(2H,m), 8.02(1H,s)
907	δ 2.38 (3H, s), 4.85 (2H, s), 7.14 (1H, br), 7.49-7.53 (2H, m), 7.62-7.70 (3H, m), 7.85 (1H, s), 8.09 (1H, s)

Table 9(22)

Compound No.	^{1}H-NMR ($CDCl_3$, ppm)
908	δ 2.28 (3H, s), 4.84 (2H, s), 7.11 (1H, br-s), 7.48 (1H, t, J=7.8Hz), 7.55 (1H, s), 7.59 (1H, s), 7.64-7.68 (3H, m), 8.01 (1H, br-s)
909	δ1.24 (6H, d, J=6.8Hz), 2.33 (3H, s), 2.86 (1H, septet, J=6.8Hz), 4.85 (2H, s), 7.09 (1H, s), 7.16 (1H, br), 7.33 (1H, d, J=2.0Hz), 7.48 (1H, t, J=7.8Hz), 7.60 (1H, s), 7.67-7.69 (2H, m), 8.00 (1H, s)
910	δ 2.23(3H,s), 4.86(2H,s), 6.51(1H,s), 6.78(1H,d,J=2.4Hz), 7.15(1H,br.), 7.49(1H,br.), 7.51(1H,t,J=7.8), 7.56(1H,s), 7.71(1H,d,J=6.8Hz), 8.05(1H,s)
911	δ 1.29(6H, d, J=7.3Hz), 2.98(1H, septet, J=7.3Hz), 4.85(2H, s), 7.10(1H, br), 7.47-7.52(2H, m), 7.56-7.58(2H, m), 7.65(1H, d, J=7.3Hz), 7.72(1H, br), 7.96(1H, s)
912	δ 2.37(3H,s), 4.85(2H,s), 4.88(2H,s), 7.06(1H,br), 7.16(1H,d,J=2.4Hz), 7.43(1H,d,J=2.4Hz), 7.50(1H,t,=7.8Hz), 7.56(1H,s), 7.68(1H,s), 7.70(1H,s), 8.03(1H,s)
913	(DMSO-d_6) δ 4.96(2H, s), 7.49(1H, t, J=7.8Hz), 7.64(1H, d, J=7.8Hz), 7.71(1H, d, J=7.8Hz), 8.02(1H, d, J=2.0Hz), 8.10(1H, s), 8.30(1H, d, J=2.0Hz), 10.34(1H, s), 10.38(1H, s)
914	(DMSO-d_6) δ 1.29(6H, d, J=6.8Hz), 2.99(1H, septet, J=6.8Hz), 4.86(2H, s), 7.42(1H, t, J=7.8Hz), 7.52(1H, d, J=1.5Hz), 7.68(1H, d, J=7.8Hz), 7.74(1H, d, J=1.5Hz), 7.85(1H, d, J=7.8Hz), 8.09(1H, s), 9.27(1H, s), 9.66(1H, s)
915	δ 4.85(2H, s), 7.04(1H, br), 7.47-7.55(2H, m), 7.63-7.70(3H, m), 7.90(1H, d, J=1.5Hz), 7.99(1H, s)
916	(DMSO-d6) δ 4.86(2H, s), 7.43(1H, t, J=7.8Hz), 7.70(1H, d, J=7.8Hz), 7.84(1H, d, J=7.8Hz), 8.10(1H, s), 9.46(1H, br-s), 9.73(1H, br-s)
917	δ 2.22 (6H, s), 3.79 (2H, t, J=5.4Hz), 4.42 (2H, t, J=5.4Hz), 7.37 (1H, t, J=7.8Hz), 7.44 (2H, s), 7.63 (1H, d, J=7.8Hz), 7.71 (1H, d, J=7.8Hz), 8.12 (1H, br-s), 9.37 (1H, s), 9.60 (1H, br-s)
918	δ 2.34(6H, s), 2.53-2.56(2H, m), 4.43(2H, t, J=6.3Hz), 6.80(1H, br-s), 7.41(1H, s), 7.47(2H, s), 7.50(1H, s), 7.62-7.64(2H, m), 7.9(1H, s)
919	(DMSO-d_6) δ 2.66-2.78(2H, m), 4.34(2H, t, J=5.9Hz), 7.49(1H, t, J=7.8Hz), 7.66-7.72(2H, m), 8.12(1H, s), 8.30(2H, s), 10.00(1H, s), 10.60(1H, s)
920	δ 1.32 (6H, d, J=6.1Hz), 2.51 (3H, s), 5.01-5.07 (1H, m), 6.72 (1H, br-s), 7.50 (1H, t, J=7.8Hz), 7.54-7.57 (2H, m), 7.64 (1H, d, J=8.1Hz), 7.71 (2H, d, J=7.3Hz), 7.85 (1H, s), 8.01-8.03 (1H, m), 8.13 (1H, s), 8.45-8.48 (1H, m)
921	δ1.32 (6H, d, J=6.1Hz), 1.74-1.77 (2H, m), 1.84-1.87 (2H, m), 2.74 (2H, t, J=6.4Hz), 3.02 (2H, q, J =6.4Hz), 5.04 (1H, septet, J=6.1Hz), 6.73 (1H, br s), 7.42-7.46 (2H, m), 7.52-7.55 (1H, m), 7.62 (1H, br s, J=8Hz), 7.76 (1H, br s), 7.96 (1H, br s), 8.03-8.06 (1H, m)
922	δ1.31 (6H, d, J=6.4Hz), 1.68-1.76 (4H, m), 2.81 (2H, t, J=5.7Hz), 2.99 (2H, q, J=6.1Hz), 5.03 (1H, septet, J=6.4Hz), 6.73 (1H, br-s), 7.43-7.47 (2H, m), 7.59-7.64 (3H, m), 8.03 (1H, s)

Table 9(23)

Compound No.	^{1}H-NMR ($CDCl_3$, ppm)
923	δ1.31 (6H, d, J=6.4Hz), 3.83 (3H, s), 5.02 (1H, septet, J=6.4Hz), 6.55 (1H, s), 6.78 (1H, br-s), 7.41-7.50 (2H, m), 7.57 (1H, d, J=7.8Hz), 8.03 (1H, br-s), 8.08 (1H, br-s)
924	δ1.32 (6H, d, J=6.3Hz), 3.86 (3H, s), 5.04 (1H, septet, J=6.3Hz), 6.72 (1H, br-s), 7.45-7.53 (2H, m), 7.63 (1H, d, J=7.3Hz), 7.80 (1H, br-s), 8.14 (1H, br-s)
925	δ1.32 (6H, d, J=5.9Hz), 3.89 (3H, s), 5.04 (1H, septet, J=5.9Hz), 6.72 (1H, s), 7.47-7.50 (2H, m), 7.70 (1H, d, J=8.3Hz), 7.90 (1H, br-s), 8.14 (1H, br-s)
926	δ1.32 (6H, d, J=6.1Hz), 3.88 (3H, s), 3.93 (3H, s), 5.04 (1H, septet), 6.78 (1H, br-s), 7.47 (1H, br-s), 7.64-7.68 (2H, m), 8.05 (1H, br-s), 9.40 (1H, br-s)
927	δ1.33 (6H, d, J=5.9Hz), 2.34 (3H, s), 5.02 (1H, septet, J=5.9Hz), 6.74 (1H, br-s), 7.24 (1H, s), 7.44 (1H, t, J=7.8Hz), 7.49-7.52 (1H, m), 7.58-7.60 (1H, m), 7.82 (1H, br-s), 8.07 (1H, br-s), 8.71(1H, s)
928	δ1.31 (6H, d, J=6.4Hz), 2.35 (3H, s), 5.01-5.07 (1H, m), 6.74 (1H, br-s), 7.25 (1H, s), 7.46 (1H, t, J=7.8Hz), 7.58-7.63 (2H, m), 7.68 (1H, br-s), 8.07 (1H, br-s)
929	δ1.32 (6H, d, J=5.9Hz), 5.03 (1H, septet, J=5.9Hz), 6.52 (1H, septet, J=6.3Hz), 6.71 (1H, br-s), 6.99 (1H, d, J=8.8Hz), 7.43 (1H, t, J=7.8Hz), 7.51-7.58 (2H, m), 7.92 (1H, br-s), 8.01 (1H, br-s), 8.14 (1H, dd, J=8.8Hz, 2.4Hz), 8.34 (1H, d, J=2.4Hz)
930	δ1.32 (6H, d, J=5.9Hz), 2.33 (3H, s), 5.50 (1H, septet, J=5.9Hz), 6.53 (1H, septet, J=6.4Hz), 6.74 (1H, br-s), 6.87 (1H, s), 7.43 (1H, t, J=7.8Hz), 7.54-7.58 (2H, m), 7.64 (1H, br-s), 8.04 (1H, br-s), 8.37 (1H, s)
931	δ1.32 (6H, d, J=6.3Hz), 5.05 (1H, septet, J=6.3Hz), 6.30 (1H, septet, J=6.3Hz), 6.69 (1H, br-s), 7.01 (1H, d, J=8.8Hz), 7.47 (1H, t, J=7.8Hz), 7.56 (1H, dd, J=7.8Hz, 1.5Hz), 7.68 (1H, d, J=7.8Hz), 7.98 (1H, br-s), 8.27 (1H, br-s), 8.82 (1H, d, J=8.8Hz)
932	δ1.32 (6H, d, J=6.4Hz), 2.29 (3H, s), 2.41 (3H, s), 5.04 (1H, septet, J=6.4Hz), 6.58 (1H, septet, J=6.4Hz), 6.72 (2H, s), 7.37-7.46 (2H, m), 7.53-7.57 (1H, m), 7.60 (1H, d, J=7.8Hz), 8.05 (1H, br-s)
933	δ 2.49 (3H, s), 4.85 (2H, s), 7.16 (1H, br-s), 7.48-7.57 (3H, s), 7.70 (2H, s), 7.76 (1H, d, J=7.6Hz), 7.92 (1H, s), 8.00 (1H, dd, J=3.4Hz, 6.8Hz), 8.13 (1H, s), 8.47 (1H, dd, J=3.4Hz, 6.8Hz)
934	δ1.75-1.79 (2H, m), 1.84-1.87 (2H, m), 2.74 (2H, t, J=6.4Hz), 3.02 (2H, q, J=6.4Hz), 4.85 (2H, s), 7.13 (1H, br s), 7.41-7.51 (2H, m), 7.59-7.69 (2H, m), 7.76 (1H, br s), 8.00 (1H, br s), 8.06 (1H, br d, J=8.5Hz)
935	δ1.65-1.76 (4H, m), 2.81 (2H, t, J=6.1Hz), 2.99 (2H, q, J=6.4Hz), 4.85 (2H, s), 7.10 (1H, br-s), 7.48-7.52 (2H, m), 7.59 (1H, s), 7.67-7.69 (2H, m), 8.04 (1H, s)
936	δ3.86 (3H, s), 4.85 (2H, s), 6.58 (1H, s), 7.10 (1H, br-s), 7.51 (1H, t, J=7.8Hz), 7.60 (1H, d, J =7.8Hz), 7.65 (1H, d, J=7.8Hz), 7.84 (1H, br-s), 8.10 (1H, br-s)
937	δ3.85 (3H, s), 4.85 (2H, s), 7.16 (1H, br-s), 7.51 (1H, t, J=7.9Hz), 7.62 (1H, d, J=7.9Hz), 7.68 (1H, d, J=7.9Hz), 7.85 (1H, br-s), 8.12 (1H, br-s)

Table 9(24)

Compound No.	^{1}H-NMR ($CDCl_3$, ppm)
938	δ3.87 (3H, s), 4.85 (2H, s), 7.21 (1H, br-s), 7.51 (1H, t, J=8.3Hz), 7.61 (1H, d, J=8.3Hz), 7.68 (1H, d, J=8.3Hz), 7.92 (1H, br-s), 8.13 (1H, br-s)
939	δ3.89 (3H, s), 3.94 (3H, s), 4.86 (2H, s), 7.20 (1H, br-s), 7.52 (1H, t, J=7.8Hz), 7.70-7.73 (2H, m), 8.09 (1H, br-s), 9.44 (1H, s)
940	δ4.87 (2H, s), 7.07-7.11 (2H, m), 7.31-7.34 (1H, m), 7.47-7.52 (2H, m), 7.67-7.69 (1H, m), 8.01 (1H, dd, J=8.0Hz, 1.4Hz), 8.19 (1H, br-s), 8.58-8.60 (1H, m), 11.3 (1H, br-s)
941	δ4.84 (2H, s), 7.19 (1H, br-s), 7.33 (1H, dd, J=8.3Hz, 4.8Hz), 7.44 (1H, t, J=8.3Hz), 7.58-7.59 (2H, m), 7.94-7.97 (2H, m), 8.44 (1H, dd, J=4.8Hz, 1.4Hz), 9.14 (1H, br-s)
942	δ 2.44 (3H, s), 4.86 (2H, s), 7.11 (1H, br-s), 7.52 (1H, t, J=7.8Hz), 7.59 (1H, d, J=2.9Hz), 7.63-7.65 (2H, m), 7.76 (1H, s), 8.09 (1H, s), 9.23 (1H, s)
943	δ4.85 (2H, s), 6.52 (1H, septet, J=6.3Hz), 6.99 (1H, d, J=8.8Hz), 7.07 (1H, br-s), 7.48 (1H, t, J=8.3Hz), 7.61-7.62 (2H, m), 7.86 (1H, s), 8.02 (1H, s), 8.15 (1H, dd, J=8.8Hz, 2.5Hz), 8.33 (1H, d, J=2.5Hz)
944	δ 2.35 (3H, s), 4.85 (2H, s), 6.55 (1H, septet, J=6.4Hz), 6.89 (1H, s), 7.08 (1H, br-s), 7.49 (1H, t, J=7.8Hz), 7.59 (1H, s), 7.63 (2H, d, J=8.3Hz), 8.05 (1H, s), 8.40 (1H, s)
945	δ 2.34 (3H, s), 4.85 (2H, s), 7.17 (1H, br-s), 7.22-7.26 (1H, m), 7.49 (1H, t, J=7.8Hz), 7.60-7.66 (2H, m), 7.75 (1H, br-s), 8.07 (1H, br-s), 8.73 (1H, br-s)
946	δ4.86 (2H, s), 7.13 (1H, br-s), 7.52 (1H, t, J=8.3Hz), 7.67 (1H, d, J=8.3Hz), 7.74 (1H, d, J=8.3Hz), 8.02 (1H, s), 8.05 (1H, s), 8.66 (1H, s), 8.70 (1H, br-s)
947	δ 2.36 (3H, s), 5.05 (2H, s), 7.16 (1H, br-s), 7.25 (1H, s), 7.51 (1H, t, J=7.8Hz), 7.68-7.70 (3H, m), 8.08 (1H, br-s)
948	δ4.86 (2H, s), 6.30 (1H, septet, J=6.4Hz), 7.00 (1H, d, J=8.8Hz), 7.04 (1H, br-s), 7.52 (1H, t, J=7.8Hz), 7.63 (1H, dd, J=7.8Hz, 1.5Hz), 7.70 (1H, d, J=7.8Hz), 8.04 (1H, br-s), 8.27 (1H, br-s), 8.83 (1H, d, J=8.8Hz)
992	δ 2.37 (3H, s), 4.85 (2H, s), 6.33 (1H, septet, J=5.8Hz), 6.87 (1H, s), 7.05 (1H, br-s), 7.49-7.53 (2H, m), 7.66-7.68 (2H, m), 8.05 (1H, s)
1010	δ1.33 (6H, d, J=6.4Hz), 2.37 (3H, s), 5.04 (1H, septet, J=6.4Hz), 6.34 (1H, septet, J=6.4Hz), 6.72 (1H, br-s), 6.88 (1H, s), 7.45 (1H, t, J=7.8Hz), 7.58-7.64 (3H, m), 8.05 (1H, s)
1039	δ 2.38 (3H, s), 4.86 (2H, s), 6.34 (1H, septet), 6.89 (1H, s), 7.09 (1H, br-s), 7.51 (1H, t, J=7.8Hz), 7.57 (1H, br-s), 7.66 (1H, br-s), 7.68 (1H, d, J=7.8Hz), 8.07 (1H, s)
1086	δ 2.37 (3H, s), 4.85 (2H, s), 6.33 (1H, septet, J=5.8Hz), 6.87 (1H, s), 7.05 (1H, br-s), 7.49-7.53 (2H, m), 7.66-7.68 (2H, m), 8.05 (1H, s)

Table 9(25)

Compound No.	^{1}H-NMR($CDCl_3$, ppm)
1104	δ1.32 (6H, d, J=6.4Hz), 2.29 (3H, s), 2.41 (3H, s), 5.04 (1H, septet, J=6.4Hz), 6.58 (1H, septet, J=6.4Hz), 6.72 (2H, s), 7.37-7.46 (2H, m), 7.53-7.57 (1H, m), 7.60 (1H, d, J=7.8Hz), 8.05 (1H, br-s)
1180	δ 2.46 (3H, s), 4.86 (2H, s), 7.11 (1H, s), 7.51-7.86 (5H, m), 8.10 (1H, br-s)
1198	δ 1.31(6H, d, J=6.3Hz), 2.40(3H, s), 5.03(1H, septet, J=6.3Hz), 6.72(1H, s), 7.42-7.47(2H, m), 7.56(1H, s), 7.60-7.63(2H, m), 7.74(1H, s), 8.03(1H, s)
1227	δ 2.41(3H, s), 4.85(2H, s), 7.05(1H, br), 7.44(1H, s), 7.51(1H, t, J=8.1Hz), 7.57(1H, s), 7.67-7.70(3H, m), 8.05(1H, s)
1245	δ 1.31(6H, d, J=6.1Hz), 2.42(3H, s), 5.04(1H, septet, J=6.1Hz), 6.71(1H, s), 7.45(1H, d, J=8.1Hz), 7.48(1H, s), 7.61-7.64(2H, m), 7.72-7.74(2H, m), 8.04(1H, s)
1274	δ 2.43(3H, s), 4.86(2H, s), 7.08(1H, br), 7.48-7.53(2H, m), 7.68-7.73(4H, m), 8.06(1H, s)
1292	δ 1.32(6H, d, J=6.3Hz), 2.42(3H, s), 5.04(1H, septet, J=6.3Hz), 6.72(1H, s), 7.44-7.52(2H, m), 7.62-7.66(3H, m), 7.93(1H, s), 8.04(1H, s)
1321	δ 2.43(3H, s), 4.86(2H, s), 7.08(1H, br), 7.50-7.54(2H, m), 7.63(1H, s), 7.70-7.72(2H, m), 7.94(1H, s), 8.08(1H, s)
1361	δ 0.87(3H, t, J=7.3Hz), 1.53-1.63(2H, m), 2.44-2.56(2H, m), 2.64(2H, t, J=7.8Hz), 4.38(2H, t, J=6.3Hz), 7.16(1H, s), 7.38(1H, t, J=7.8Hz), 7.48(1H, s), 7.61-7.64(2H, m), 7.91-7.94(2H, m), 8.00(1H, s)
1368	δ 0.93(3H, t, J=7.3Hz), 1.59-1.69(2H, m), 2.71(2H, t, J=7.8Hz), 4.86(2H, s), 7.11(1H, br), 7.49-7.54(2H, m), 7.62(1H, s), 7.69-7.72(2H, m), 7.96(1H, d, J=1.5Hz), 8.07(1H, s)
1385	δ 2.35(3H, s), 2.44(3H, s), 4.86(2H, s), 6.74(1H, s), 7.34-7.38(3H, m), 7.46(1H, s), 7.52(1H, d, J=8.8Hz), 7.89(1H, s), 8.35(1H, d, J=8.8Hz)
1386	δ 1.32(6H, d, J=6.3Hz), 2.40(6H, s), 2.41(3H, s), 5.03(1H, septet, J=6.3Hz), 6.46(1H, br-s), 7.15(1H, s), 7.28-7.37(4H, m), 7.95(1H, d, J=8.3Hz)
1387	δ 2.40(6H, s), 2.45(3H, s), 4.86(2H, s), 6.80(1H, br), 7.16(1H, s), 7.32-7.42(4H, m), 7.85(1H, br)
1388	δ1.35(3H, t, J=7.3Hz), 2.36(6H, s), 4.28(2H, q, J=7.3Hz), 6.91 (1H, s), 7.29 (1H, t, J=8.3Hz), 7.37 (2H, s), 7.74-7.79 (2H, m), 8.32 (1H, br-d, J=5.9Hz)
1389	δ1.34 (6H, d, J=6.3Hz), 2.36 (6H, s), 5.07 (1H, septet, J=6.3Hz), 6.86 (1H, br-s), 7.30 (1H, t, J=8.1Hz), 7.37 (2H, s), 7.72-7.79 (2H, m), 8.32 (1H, br)

Table 9(26)

Compound No.	^{1}H-NMR ($CDCl_3$, ppm)
1408	δ 2.37(6H, s), 4.70(4H, dt, J=2.0Hz, 46.8Hz), 5.28(1H, tt, J=4.4Hz, 24.9Hz), 7.08(1H, br-s), 7.33(1H, t, J=8.3Hz), 7.37(2H, s), 7.76(1H, d, J=12.2Hz), 7.81(1H, dt, J=1.4Hz, 7.8Hz), 8.29(1H, br-s)
1411	δ 2.37(6H, s), 2.51-2.62(2H, m), 4.46(2H, t, J=6.4Hz), 6.97(1H, br-s), 7.32(1H, t, J=8.3Hz), 7.37(2H, s), 7.74-7.82(2H, m), 8.28(1H, br-s)
1416	δ 2.37(6H, s), 3.76-3.79(2H, m), 4.49(2H, t, J=5.4Hz), 7.02(1H, br), 7.32(1H, t, J=7.8Hz), 7.37(2H, s), 7.74-7.81(2H, m), 8.30(1H, br)
1418	δ 2.37 (6H, s), 4.88 (2H, s), 7.21 (1H, br), 7.32-7.37 (3H, m), 7.76-7.85 (2H, m), 8.31 (1H, br)
1421	δ 2.36(6H, s), 3.60(2H, t, J=5.9Hz), 4.54(2H, t, J=5.9Hz), 7.03(1H, br), 7.32(1H, t, J=7.8Hz), 7.37(2H, s), 7.76-7.81(2H, m), 8.29(1H, br)
1435	δ1.35(3H, t, J=7.3Hz), 2.36(6H, s), 4.29(2H, q, J=7.3Hz), 6.89(1H, br-s), 7.30(1H, t, J=7.8Hz), 7.35(2H, s), 7.74-7.78(2H, m), 8.32(1H, br-s)
1455	δ 2.33(6H, s), 4.70(4H, ddd, J=48.8Hz, 2.4Hz, 4.3Hz), 5.28(1H, tt, J=20.0, 4.3Hz), 7.08(1H, br-s), 7.32(1H, d, J=8.3Hz), 7.35(2H, s), 7.75-7.83(2H, m), 8.29(1H, br-s)
1458	δ 2.36(6H, s), 2.51-2.62(2H, m), 4.47(2H, t, J=6.3Hz), 6.95(1H, br-s), 7.32(1H, t, J=7.3Hz), 7.35(2H, s), 7.74-7.82(2H, m), 8.29(1H, br-s)
1463	δ 2.36(6H, s), 3.77(2H, t, J=5.4Hz), 4.49(2H, t, J=5.4Hz), 7.03(1H, br), 7.31(1H, t, J=8.3Hz), 7.35(2H, s), 7.76-7.80(2H, m), 8.29(1H, br)
1465	δ 2.36(6H, s), 4.88(2H, s), 7.18(1H, br), 7.35(1H, t, J=8.3Hz), 7.36(2H, s), 7.75-7.85(2H, m), 8.31(1H, br)
1898	δ 1.33(6H, d, J=6.3Hz), 2.37(3H, s), 5.05(1H, septet, J=6.3Hz), 7.21(1H, br-s), 7.32(1H, d, J=6.6Hz), 7.39(1H, t, J=8.1Hz), 7.46(1H, s), 7.50-7.53(2H, m), 8.30-8.36(2H, m)
1899	δ 2.38(3H, s), 4.87(2H, s), 7.40-7.51(5H, m), 7.62(1H, s), 8.27-8.30(2H, m)
1900	δ 1.34(6H, d, J=6.1Hz), 2.41(6H, s), 5.05(1H, septet, J=6.1Hz), 7.22-7.26(2H, m), 7.31-7.40(4H, m), 8.33(1H, dd, J=1.5Hz, 8.1Hz)
1901	δ 2.40(6H, s), 4.88(2H, s), 7.29(1H, s), 7.37(2H, s), 7.38-7.43(2H, m), 7.50(1H, s), 8.28(1H, d, J=6.8Hz)
1902	δ 4.88(2H, s), 7.39(1H, dd, J=1.5Hz, 7.3Hz), 7.44-7.51(2H, m), 7.88-7.92(2H, m), 8.03(1H, s), 8.36(1H, d, J=8.3Hz), 8.70(1H, d, J=8.3Hz)

Table 9(27)

Compound No.	^{1}H-NMR ($CDCl_3$, ppm)
1903	δ 2.37 (3H, s), 4.88 (2H, s), 6.55 (1H, septet, J=6.3Hz), 6.90 (1H, s), 7.32 (1H, s), 7.41-7.48 (3H, m), 8.31 (1H, br-s), 8.49 (1H, s)
1904	δ 1.34(6H, d, J=6.3Hz), 2.44(6H, s), 5.05(1H, septet, J=6.3Hz), 7.13(1H, s), 7.25-7.28(2H, m), 7.37(2H, s), 7.41(1H, t, J=8.3Hz), 8.31(1H, dd, J=1.5Hz, 8.3Hz)
1905	δ 2.44(6H, s), 4.88(2H, s), 7.15(1H, br), 7.33-7.37(3H, m), 7.43-7.53(2H, m), 8.25(1H, d, J=8.3Hz)
1906	δ 2.40(3H,s), 4.86(2H,s), 7.05-7.10(2H,m), 7.47(1H,s), 7.53(1H,d,J=8.8Hz), 7.58(1H,br), 8.22(1H,br), 8.28(1H,d,J=8.8Hz).
1907	δ 2.40(6H,s), 4.86(2H,s), 7.00-7.11(3H,m), 7.37(2H,s), 8.18(1H,br)
1908	δ 1.33(6H,d,J=6.3Hz), 2.39(6H,s), 5.04(1H,septet,J=6.3Hz), 6.81(1H,br), 7.30(1H,br), 7.37(2H,s), 8.23(1H,br)
1909	δ 1.33(6H, d, J=6.1Hz), 2.34(3H, s), 2.42(3H, s), 5.05(1H, septet, J=6.1Hz), 6.46(1H, br), 7.30(1H, d, J=8.1Hz), 7.45(1H, s), 7.49(1H, d, J=8.5Hz), 7.60(1H, dd, J = 1.7Hz, 8.1Hz), 7.83(1H, s), 8.27(1H, d, J=8.5Hz), 8.46(1H, br)
1910	δ 2.39(3H, s), 2.42(3H, s), 4.86(2H, s), 6.77(1H, br), 7.35(1H, d, J=8.1Hz), 7.46(1H, s), 7.50(1H, d, J=8.8Hz), 7.65(1H, dd, J=2.0Hz, 8.1Hz), 7.80(1H, s), 8.27(1H, d, J=8.8Hz), 8.36(1H, br)
1911	δ 1.33(6H, d, J=6.3Hz), 2.34(9H, s), 5.04(1H, septet, J=6.3Hz), 6.48(1H, br-s), 7.31(1H, d, J=7.8Hz), 7.34(2H, s), 7.55(1H, s), 7.64(1H, dd, J=1.5Hz, 7.8Hz), 8.46(1H, s)
1912	δ 2.34(6H, s), 2.40(3H, s), 4.86(2H, s), 6.78(1H, br), 7.34-7.36(3H, m), 7.50(1H, s), 7.69(1H, dd, J=1.5Hz, 7.8Hz), 8.36(1H, s)
1913	δ1.32(6H,d,J=6.3Hz), 2.43(3H,s),3.96(3H,s), 5.05(1H,sept.,J=6.3Hz), 6.98(1H,d,J=8.5Hz), 7.24(1H,s), 7.44(1H,s), 7.49(1H,d,J=8.5Hz), 7.71(1H,dd,J=2.2Hz, 8.5Hz), 7.82(1H,s), 8.25(1H,d,J=8.5Hz), 8.68(1H,s)
1914	δ 2.43(3H,s), 4.00(3H,s), 4.87(2H,s), 7.02(1H,d,J=8.5Hz), 7.45(1H,s), 7.50(1H,d,J=8.5Hz), 7.54(1H,s), 7.74-7.79(2H,m), 8.28(1H,d,J=8.5Hz), 8.66(1H,s)
1915	δ 1.33(6H, d, J=6.3Hz), 2.42(3H, s), 5.00-5.10(1H, m), 6.91(1H, br), 7.20(1H, dd, J=8.5Hz, 10.5Hz), 7.46(1H, s), 7.49(1H, d, J=8.8Hz), 7.62-7.66(1H, m), 7.82(1H, s), 8.20(1H, d, J=8.8Hz), 8.71(1H, d, J=6.1Hz)
1916	δ 2.46(3H, s), 4.87(2H, s), 7.23-7.29(2H, m), 7.47(1H, s), 7.51(1H, d, J=8.8Hz), 7.68-7.73(1H, m), 7.78(1H, s), 8.23(1H, d, J=8.5Hz), 8.68(1H, d, J=6.1Hz)
1917	δ 1.33(6H, d, J=6.3Hz), 2.34(6H, s), 5.04(1H, septet, J=6.3Hz), 6.91(1H, s), 7.20(1H, dd, J=8.5Hz, 10.5Hz), 7.35(2H, s), 7.56(1H, s), 7.66-7.70(1H, m), 8.71(1H, br-d, J=6.6Hz)

Table 9(28)

Compound No.	^{1}H-NMR ($CDCl_3$, ppm)
1918	δ 2.34(6H, s), 4.87(2H, s), 7.22(1H, dd, J=8.8Hz, 10.5Hz), 7.32(2H, s), 7.75-7.79(1H, m), 7.87(1H, s), 8.56(1H, s), 8.63(1H, br)
1919	δ1.34(6H,d,J=6.3Hz), 2.43(3H,s), 5.06(1H,septet,J=6.3Hz), 7.21(1H,s), 7.46(1H,s), 7.49- 7.52(2H,m), 7.61(1H,dd,J=2.2Hz, 8.5Hz), 7.82(1H,s), 8.24(1H,d,J=8.5Hz), 8.78(1H,d,J=2.2Hz)
1920	δ 2.43(3H,s), 4.88(2H,s), 7.47(1H,s), 7.50-7.57(3H,m), 7.66(1H,dd,J=2.0Hz, 8.3Hz), 7.78(1H,s), 8.26(1H,d,J=8.3Hz), 8.72(1H,s)
1921	δ 1.34(6H, d, J=6.1Hz), 2.34(6H, s), 5.05(1H, septet, J=6.1Hz), 7.23(1H, s), 7.35(2H, s), 7.51(1H, d, J=8.3Hz), 7.63-7.69(2H, m), 8.76(1H, s)
1922	δ 2.35(6H, s), 4.88(2H, s), 7.36(2H, s), 7.50(1H, br), 7.53-7.59(2H, m), 7.70(1H, dd, J=2.0Hz, 8.3Hz), 8.72(1H, s)
1923	δ 2.35(6H, s), 2.45(3H, s), 4.84(2H, s), 7.00(1H, br), 7.36(2H, s), 7.41(1H, s), 7.48(2H, s), 7.83(1H, s)
1924	δ 1.33(6H, d, J=6.1Hz), 2.46(3H, s), 5.05(1H, septet, J=6.1Hz), 6.89(1H, br-s), 7.48(1H, s), 7.51(1H, d, J=9.1Hz), 7.79(2H, s), 7.89(1H, s), 8.18(1H, d, J=9.1Hz), 8.19(1H, s)
1925	δ 2.43(3H, s), 4.86(2H, s), 7.31(1H, br-s), 7.49(1H, s), 7.52(1H, d, J=8.8Hz), 7.78(1H, s), 7.85(1H, s), 7.94(1H, s), 8.18(1H, d, J=8.8Hz), 8.24(1H, s)
1926	δ 1.32(6H, d, J=6.1Hz), 2.34(6H, s), 5.04(1H, septet, J=6.1Hz), 6.87(1H, s), 7.36(2H, s), 7.50(1H, s), 7.83(1H, s), 7.90(1H, s), 8.20(1H, s)
1927	δ 2.35(6H, s), 4.86(2H, s), 7.26(1H, s), 7.37(2H, s), 7.48(1H, s), 7.89(1H, s), 7.97(1H, s), 8.24(1H, s)
1928	δ1.31(6H,d,J=6.3Hz), 2.33(6H,s), 3.89(2H,br.), 4.97-5.04(1H,m), 6.59(1H,s), 6.92(1H,s), 7.02(1H,s), 7.23-7.26(1H,m), 7.34(2H,s), 7.39(1H,br)
1929	δ 2.35(6H,s), 3.04(6H,s), 4.84(2H,s), 6.94(2H,br), 7.04(1H,s), 7.30(1H,s), 7.349(2H,s), 7.404(1H,s)
1930	δ 1.30(6H, d, J=6.3Hz), 2.37(3H, s), 2.48(3H, s), 5.02(1H, septet, J=6.3Hz), 6.57(1H, s), 7.20-7.28(2H, m), 7.44(2H, s), 7.50(1H, d, J=8.3Hz), 7.76(1H, s), 8.28(1H, d, J=9.1Hz)
1931	δ 2.39(3H, s), 2.48(3H, s), 4.84(2H, s), 7.22(1H, d, J=8.3Hz), 7.44-7.54(3H, m), 7.80(1H, s), 8.13(1H, d, J=8.1Hz), 8.20(1H, s), 9.04(1H, s)
1932	δ 1.30(6H, d, J=6.1Hz), 2.39(6H, s), 2.48(3H, s), 5.02(1H, septet, J=6.1Hz), 6.63(1H, s), 7.19-7.25(3H, m), 7.36(2H, s), 7.81(1H, s)

Table 9(29)

Compound No.	^{1}H-NMR ($CDCl_3$, ppm)
1933	δ 2.40(6H, s), 2.50(3H, s), 4.84(2H, s), 7.01(1H, br-s), 7.18(1H, s), 7.24-7.27(1H, m), 7.31-7.34(1H, m), 7.37(2H, s), 7.82(1H, s)
1934	δ 1.31(6H, d, J=6.1Hz), 2.41(3H, s), 5.04(1H, septet, J=6.1Hz), 6.69(1H, s), 7.16-7.21(1H, m), 7.46(1H, s), 7.5(1H, d, J=8.8Hz), 7.88(1H, dd, J=2.9Hz, 6.6Hz), 7.96(1H, br), 8.40(1H, d, J=8.8Hz), 8.57(1H, d, J=17.6Hz)
1935	δ 2.42(3H, s), 4.84(2H, s), 7.04(1H, br), 7.20-7.27(1H, m), 7.46(1H, s), 7.51(1H, d, J=8.5Hz), 7.94(1H, br), 8.01(1H, dd, J=2.9Hz, 6.6Hz), 8.40(1H, d, J=8.5Hz), 8.57(1H, br-d, J=17.6Hz)
1936	δ 1.31(6H, d, J=6.3Hz), 2.35(6H, s), 5.02(1H, septet, J=6.3Hz), 6.70(1H, s), 7.19(1H, dd, J=9.0Hz, 11.2Hz), 7.36(2H, s), 7.83(1H, dd, J=2.9Hz, 6.6Hz), 7.99(1H, br), 8.01(1H, d, J=5.1Hz)
1937	δ 2.36(6H, s), 4.84(2H, s), 7.10(1H, br-s), 7.21-7.26(1H, m), 7.36(2H, s), 7.94-8.03(3H, m)
1938	δ 1.31(6H, d, J=6.3Hz), 2.41(3H, s), 5.03(1H, septet, J=6.3Hz), 6.68(1H, s), 7.40(1H, d, J=8.8Hz), 7.46(1H, s), 7.51(1H, d, J=8.5Hz), 7.67(1H, d, J=8.5Hz), 7.78(1H, d, J=2.7Hz), 8.06(1H, s), 8.32(1H, d, J=8.8Hz)
1939	δ 2.42(3H, s), 4.84(2H, s), 7.38(1H, d, J=8.8Hz), 7.45-7.49(2H, m), 7.72(1H, d, J=7.3Hz), 7.93(1H, s), 8.17(1H, d, J=8.5Hz), 8.52(1H, s), 9.43(1H, s)
1940	δ 1.31(6H, d, J=6.1Hz), 2.40(6H, s), 5.03(1H, septet, J=6.1Hz), 6.70(1H, s), 7.36(2H, s), 7.41(1H, d, J=8.8Hz), 7.63-7.66(2H, m), 7.75(1H, d, J=2.7Hz)
1941	δ 2.40(6H, s), 4.84(2H, s), 7.08(1H, br), 7.37(2H, s), 7.46(1H, d, J=8.8Hz), 7.64-7.70(2H, m), 7.82(1H, d, J=2.7Hz)
1942	δ1.31(6H,d,J=6.3Hz), 2.41(3H,s), 4.97-5.07(1H,m), 6.70(1H,s), 7.45-7.58(4H,m), 7.72-7.75(2H,m), 8.30(1H,d,J=8.8Hz)
1943	δ 2.44(3H,s), 4.85(2H,s), 7.43-7.47(2H,m), 7.54(1H,d,J=8.5Hz), 7.61(1H,d,J=8.5Hz), 7.86(1H,s), 7.99(1H,d,J=8.1Hz), 9.09(1H,s), 9.89(1H,s)
1944	δ 2.43(3H,s), 4.84(2H,s), 7.36(1H,s), 7.44(1H,s), 7.47(1H,d,J=8.5Hz), 7.79(2H,d,J=8.5Hz), 8.08(1H,d,J=8.5Hz), 8.62(1H,s), 9.65(1H,s)
1945	δ 1.31(6H, d, J=6.3Hz), 2.45(6H, s), 5.03(1H, septet, J=6.3Hz), 6.66(1H, s), 7.16-7.21(2H, m), 7.36(2H, s), 7.76(1H, s), 7.82(1H, dd, J=2.7Hz, 8.8Hz)
1946	δ1.52(9H,s), 2.41(3H,s), 6.58(1H,s), 7.19(1H,dd,J=2.7Hz, 8.5Hz), 7.41(1H,s), 7.45(1H,s), 7.51(1H,d,J=7.1Hz), 7.69(1H,s), 7.79(1H,d,J=8.5Hz), 8.30(1H,d,J=8.5Hz)
1947	δ 2.44(3H, s), 2.45(3H, s), 4.83(2H, d, J=1.7Hz), 7.00(1H, br), 7.07-7.27(2H, m), 7.36(2H, s), 7.74-7.77(1H, d, J=10.3Hz), 7.86(1H, dd, J=8.5Hz, 10.3Hz)

Table 9(30)

Compound No.	^{1}H-NMR ($CDCl_3$, ppm)
1948	δ3.45(3H, s), 4.80(2H, s), 7.53-7.57(2H, m), 7.68(1H, s), 7.82(1H, d, J=7.8Hz), 7.93-7.95(3H, m)
1949	δ 2.30(3H, s), 3.41(3H, s), 4.77(2H, s), 6.77(1H, s), 6.95-7.00(1H, m), 7.07-7.16(2H, m), 7.29-7.41(4H, m)
1950	δ 1.26(6H, d, J = 5.9Hz), 2.28(6H, s), 3.33(3H, s), 4.96(1H, septet, J=5.9Hz), 6.47(1H, s), 6.88(1H, d, J=7.8Hz), 7.04(1H, t, J=7.8Hz), 7.21(2H, s), 7.23-7.47(2H, m)
1951	δ 2.29(6H, s), 3.34(3H, s), 4.77(2H, s), 6.81(1H, br), 6.99(1H, d, J=7.8Hz), 7.10(1H, t, J=7.8Hz), 7.22(2H, s), 7.24-7.26(1H, m), 7.42(1H, s)
1954	δ 1.26(6H, d, J=6.3Hz), 2.34(3H, s), 3.34(3H, s), 4.97(1H, septet, J=6.3Hz), 6.46(1H, s), 6.99(1H, d, J=7.8Hz), 7.07(1H, t, J=7.8Hz), 7.28-7.31(2H, m), 7.40-7.44(1H, m), 7.62(1H, s)
1955	δ 2.35(3H, s), 3.36(3H, s), 4.77(2H, s), 7.02-7.13(3H, m), 7.29-7.37(2H, m), 7.44-7.52(1H, m), 7.62(1H, s)
1956	δ 1.26(3H, t, J=7.3Hz), 2.29(6H, s), 3.86(2H, q, J=7.3Hz), 4.76(2H, s), 6.86(1H, br), 6.92-6.95(1H, m), 7.08(1H, t, J=8.1Hz), 7.22(2H, s), 7.23-7.30(1H, m), 7.38(1H, t, J=2.0Hz)
1957	δ 1.46(6H, d, J=6.3Hz), 2.07(6H, s), 4.77(2H, s), 5.40(1H, septet, J=6.3Hz), 6.78(1H, br), 6.98(1H, d, J=7.8Hz), 7.14-7.19(1H, m), 7.17(2H, s), 7.29(1H, s), 7.46(1H, d, J=7.8Hz)
1958	δ 2.34 (6H, s), 3.45 (3H, s), 4.80 (2H, s), 7.36 (2H, s), 7.50-7.56 (3H, m), 7.78 (1H, d, J=6.1Hz), 7.90 (1H, s)
1959	(DMSO-d_6) δ 2.32 (6H, s), 3.30 (3H, s), 4.86 (2H, s), 6.83 (1H, t, J=7.4Hz), 7.40 (1H, t, J=7.4Hz), 7.44 (2H, s), 7.67 (1H, t, J=7.4Hz), 10.05 (1H, s)
1960	δ1.29(6H,d,J=6.3Hz), 2.35(6H,s), 3.35(3H,s), 3.38(3H,s), 4.97-5.03(1H,m), 7.36(2H,s), 7.58(1H,s), 7.76(1H,s), 7.84(1H,s), 8.56(1H,s)
1961	(DMSO-d_6) δ 2.28(6H, s), 2.33(3H, s), 7.44(2H, s), 7.48(1H, t, J =7.8Hz), 7.66-7.75(2H, m), 8.11(1H, t, J=2.0Hz), 9.96(1H, s), 10.56(1H, s)
1962	(DMSO-d_6) δ1.34 (3H, t, J=7.3Hz), 2.34 (6H, s), 2.96 (2H, q, J=7.3Hz), 7.33 (2H, s), 7.41 (1H, t, J=7.8Hz), 7.67 (1H, d, J=7.8Hz), 7.83-7.85 (1H, m), 8.11 (1H, d, J=2.0Hz), 8.79 (1H, s), 9.58 (1H, s)
1963	δ 1.32(6H,d,J=6.6Hz), 2.37(6H,s), 5.00-5.06(1H,m), 6.69(1H,s), 7.35-7.65(5H,m), 8.09(1H,s), 8.72(1H,s)
1964	δ 2.37(6H,s), 4.85(2H,s), 7.07(1H,br.), 7.39(2H,s), 7.45(1H,t,J=8.1Hz), 7.61-7.68(2H,m), 8.11(1H,s), 8.69(1H,s)

Table 9(31)

Compound No.	^{1}H-NMR ($CDCl_3$, ppm)
1967	δ1.34 (6H, d, J=6.3Hz), 2.34 (6H, s), 5.09 (1H, septet, J=6.3Hz), 7.29 (1H, br-s), 7.35 (2H, s), 7.91 (1H, t, J=7.8Hz), 7.97 (1H, d, J=7.8Hz), 8.21 (1H, d, J=7.8Hz), 9.19 (1H, br-s)
1968	δ 2.35 (6H, s), 4.89 (2H, s), 7.36 (2H, s), 7.63(1H,br-s),7.97 (1H, dd, J=8.3Hz, 7.6Hz), 8.05 (1H, d, J=7.6Hz), 8.21 (1H, d, J=8.3Hz), 9.17 (1H, br-s)
1969	δ 2.35 (6H, s), 3.77-3.80 (2H, m), 4.48-4.52 (2H, m), 7.36 (2H, s), 7.46 (1H, br-s), 7.94 (1H, t, J=7.8Hz), 8.02 (1H, dd, J=7.8Hz, 1.0Hz), 8.19 (1H, dd, J =7.8Hz, 1.0Hz), 9.17 (1H, br-s)
2061	δ1.36 (6H, d, J=6.4Hz), 2.52 (6H, s), 5.07-5.14 (1H, m), 7.36 (2H, s), 7.56 (1H, t, J=8.2Hz), 8.15 (1H, dd, J=8.2Hz, 1.9Hz), 8.44 (1H, dd, J=8.2Hz, 1.9Hz), 9.45 (1H, br-s), 12.9 (1H, br-s)
2062	δ 2.37 (6H, s), 4.91 (2H, s), 7.36 (2H, s), 7.61 (1H, t, J=8.3Hz), 8.23 (1H, dd, J=8.3Hz, 1.9Hz), 8.45 (1H, dd, J=8.3Hz, 1.9Hz), 9.81 (1H, br-s), 12.7 (1H, br-s)
2157	δ 2.36 (6H, s), 4.90 (2H, s), 7.38 (2H, s), 7.52-7.60 (2H, m), 8.44 (1H, s), 8.56 (1H, d, J=5.4Hz), 8.58 (1H, br-s)
2164	δ1.33 (6H, d, J=5.8Hz), 2.35 (6H, s), 5.03-5.07 (1H, m), 7.06 (1H, s), 7.35 (2H, s), 7.93 (1H, d, J=2.4Hz), 7.95 (1H, d, J=5.9Hz, 2.4Hz), 8.49 (1H, d, J=5.9Hz), 9.58 (1H, br-s)
2165	(DMSO-d_6) δ 2.26 (6H, s), 5.02 (2H, s), 7.43 (2H, s), 7.75 (1H, dd, J=5.4Hz, 2.0Hz), 8.31 (1H, d, J=2.0Hz), 8.60 (1H, d, J=5.4Hz), 10.41 (1H, br-s), 10.92 (1H, br-s)
2167	(DMSO-d_6) δ 2.36 (6H, s), 4.90 (2H, s), 7.34 (2H, s), 7.94 (1H, dd, J=7.3Hz, 3.4Hz), 8.31 (1H, d, J=7.3Hz), 8.60 (1H, d, J=3.4Hz), 10.90 (1H, br-s), 13.65 (1H, br-s)
2168	(DMSO-d_6) δ 2.30(6H, s), 3.61(3H, s), 5.03(2H, s), 7.47(2H, s), 7.92(1H, d, J=7.6Hz), 7.98(1H, d, J=7.6Hz), 8.08(1H, t, J=7.6Hz), 10.18(1H, s)

Table 9(32)

Compound No.	^{1}H-NMR($CDCl_3$, ppm)
I-1	δ 2.34(6H, s), 3.87(2H, br-s), 6.86-6.89(1H, m), 7.21-7.30(3H, m), 7.33(2H, s), 7.39(1H, s)
I-2	δ 3.87(2H, br), 6.84-7.00(1H, m), 7.14-7.17(1H, m), 7.20(1H, t, J=2.0Hz), 7.24-7.28(1H, m), 7.60(2H, d, J=8.8Hz), 7.78(2H, d, J=8.8Hz), 7.90(1H, br-s)
I-3	δ 2.51 (3H, d, J=8.8Hz), 3.86 (2H, br-s), 6.83-8.68 (1H, m), 7.13-7.25 (3H, m), 7.26-7.63 (3H, m), 7.90 (1H, br-s)
I-4	δ3.87 (2H, br-s), 3.89 (3H, s), 6.86-6.88 (1H, m), 6.99 (1H, dd, J =8.6Hz, 2.0Hz), 7.15-7.20 (2H, m), 7.27 (1H, t, J=7.8Hz), 7.51 (1H, d, J=8.6Hz), 7.83 (1H, s), 7.93 (1H, s)
I-5	δ3.89 (2H, br-s), 6.86-6.89 (1H, m), 7.12-7.30 (3H, m), 7.52-7.59 (2H, m), 7.76-7.93 (2H, m)
I-6	δ 2.43(3H, s), 3.83(2H,br), 6.85-6.88(1H,m), 7.14-7.17(1H,m), 7.21-7.29(2H,m), 7.45(1H, s), 7.49(1H,d,J=8.8Hz), 7.76(1H,br), 8.27(1H,d,J=8.8Hz)
I-7	δ 2.34(6H, s), 3.87(2H, br), 6.86-6.89(1H, m), 7.20-7.35(6H, m)
I-8	δ 2.42(3H, s), 3.79(2H, br-s), 6.80(1H, dd, J=2.2Hz, 7.8Hz), 6.90(1H, d, J=7.8Hz), 7.05(1H, s), 7.15(1H, t, J=7.8Hz), 7.26-7.44(7H, m), 7.53(1H, s)
I-9	δ 2.33 (3H, s), 2.52 (3H, d, J=8.8Hz), 3.89 (2H, br-s), 6.86-6.89 (1H, m), 7.14-7.16 (1H, m), 7.22 (1H, s), 7.28-7.30 (2H, m), 7.65 (1H, br-s), 8.11 (1H, s)
I-10	δ 2.28 (3H, s), 2.46 (3H, d, J=6.1Hz), 3.88 (2H, br-s), 6.84-6.89 (1H, m), 7.15-7.19 (1H, m), 7.23-7.29 (2H, m), 7.41 (1H, d, J=9.1Hz), 7.73 (1H, br-s), 7.81 (1H, d, J=9.1Hz)
I-12	δ 2.60 (3H, s), 3.92 (2H, br-s), 6.89-6.92 (1H, m), 7.24-7.32 (3H, m), 7.46 (1H, s), 7.76 (1H, br-s)
I-13	δ 2.27(6H, s), 3.31(3H, s), 6.40-6.43(1H, m), 6.54-6.58(1H, m), 6.71(1H, t, J=2.0Hz), 6.76-6.86(1H, m), 7.22(2H, s)
I-14	δ 1.45(6H, d, J=6.3Hz), 2.07(6H, s), 3.53(2H, br), 5.37(1H, septet, J=6.3Hz), 6.56-6.63(3H, m), 6.96(1H, t, J=7.8Hz), 7.16(2H, s)
I-15	δ 1.32(3H, t, J=7.6Hz), 2.72(2H, q, J=7.6Hz), 3.88(2H, br), 6.85-6.89(1H, m), 7.13-7.14(1H, m), 7.22-7.30(2H, m), 7.46(1H, s), 7.50(1H, d, J=8.8Hz), 7.80(1H, br-s), 8.29(1H, d, J=8.8Hz)
I-16	δ 1.17(3H, t, J=7.6Hz), 2.28(3H, s), 2.65(2H, q, J=7.6Hz), 3.85(2H, br-s), 6.82-6.85(1H, m), 7.21-7.23(3H, m), 7.34(2H, s), 7.64(1H, s)

Table 9(33)

Compound No.	^{1}H-NMR ($CDCl_3$, ppm)
I-17	δ 1.22(6H, t, J=7.6Hz), 2.69(4H, q, J=7.6Hz), 3.86(2H, br-s), 6.86-6.89(1H, m), 7.15-7.36(4H, m), 7.38(2H, s)
I-18	δ 1.23(3H, t, J=7.3Hz), 2.76(2H, q, J=7.3Hz), 3.88(2H, br-s), 6.88-6.91(1H, m), 7.26-7.32(3H, m), 7.50(1H, s), 7.53(1H, s), 7.95(1H, d, J=1.5Hz)
I-19	δ 1.00(3H, t, J=7.3Hz), 1.65-1.75(2H, m), 2.67(2H, t, J=7.3Hz), 3.89(2H, br), 6.84-6.88(1H, m), 7.11-7.29(3H, m), 7.43(1H, s), 7.49(1H, d, J=8.5Hz), 7.85(1H, br-s), 8.27(1H, d, J=7.8Hz)
I-20	δ1.22 (6H, d, J=6.8Hz), 2.32 (3H, s), 3.17 (1H, septet, J=6.8Hz), 3.87 (2H, br-s), 6.85-6.93 (1H, m), 7.20-7.29 (3H, m), 7.35 (1H, s), 7.40-7.45 (2H, m).
I-21	δ 2.35(3H, s), 3.85(5H, s), 6.85-6.89(1H, m), 6.95(1H, s), 7.13(1H, s), 7.23-7.30(3H, m), 7.62(1H, s)
I-22	δ 1.25(3H, t, J=7.6Hz), 2.76(2H, q, J=7.6Hz), 3.88(2H, br-s), 6.87-6.91(1H, m), 7.24-7.31(3H, m), 7.47(1H, s), 7.55(1H, s), 7.57(1H, s)
I-23	δ 2.62 (3H, d, J=6.4Hz), 3.91 (2H, br-s), 6.89 (1H, d, J=8.0Hz), 7.20-7.32 (4H, m), 7.49 (1H, d, J=9.0Hz), 8.56-8.60 (1H, m)
I-24	δ3.91 (2H, br-s), 3.92 (3H, s), 6.89-6.92 (1H, m), 7.21-7.33 (3H, m), 7.59 (1H, d, J=1.2Hz), 8.50 (1H, s), 8.54 (1H, s)
I-25	δ 2.35 (3H, s), 2.57 (3H, d, J=6.8Hz), 3.88 (2H, br-s), 6.88-6.91 (1H, m), 7.25-7.34 (4H, m), 7.67 (1H, s)
I-26	δ 2.41(3H, s), 3.88(2H, br-s), 6.87-6.91(1H, m), 7.25-7.31(3H, m), 7.47(1H, s), 7.65(1H, s), 7.72(1H, s)
I-27	δ 1.23(3H, t, J=7.3Hz), 2.74(2H, q, J=7.3Hz), 3.87(2H, br-s), 6.86-6.91(1H, m), 7.25-7.31(3H, m), 7.50(1H, s), 7.59(1H, s), 7.73(1H, d, J=1.5Hz)
I-28	(DMSO-d_6) δ 0.84(3H, t, J=7.3Hz), 1.48-1.58(2H, m), 2.66(2H, t, J=7.3Hz), 5.36(2H, br-s), 6.77(1H, dd, J=1.0Hz, 7.8Hz), 7.10-7.19(3H, m), 7.59(1H, s), 7.80(1H, s), 10.03(1H, s)
I-29	δ 0.90(3H, t, J=7.3Hz), 1.25-1.37(2H, m), 1.55-1.63(2H, m), 2.72(2H, t, J=7.8Hz), 3.89(2H, br), 6.87-6.91(1H, m), 7.24-7.31(3H, m), 7.48(1H, s), 7.55(1H, s), 7.73(1H, d, J=1.5Hz)
I-30	δ 2.39(3H,s), 2.66(3H,d,J=6.9Hz), 7.43(1H,s), 7.75-7.79(2H,m), 8.33(1H,d,J=8.3Hz), 8.48(1H,d,J=8.3Hz), 8.80(1H,s)
I-31	δ 2.41(3H, s), 3.88(2H, s), 6.86-6.91(1H, m), 7.28-7.32(3H, m), 7.49(1H, s), 7.58(1H, s), 7.93(1H, d, J=1.2Hz)

Table 9(34)

Compound No.	^{1}H-NMR ($CDCl_3$, ppm)
I-32	δ 0.91(3H, t, J=7.3Hz), 1.58-1.67(2H, m), 2.69(2H, t, J=7.8Hz), 3.88(2H, br-s), 6.87-6.90(1H, m), 7.26-7.31(3H, m), 7.50(1H, s), 7.54(1H, s), 7.95(1H, d, J=2.0Hz)
I-33	δ 2.33(6H, s), 3.87(2H, br-s), 6.86-6.89(1H, m), 7.21-7.29(3H, m), 7.34(2H, s), 7.52(1H, s)
I-34	δ 2.32(6H, s), 3.86(2H, br-s), 6.85-6.88(1H, m), 7.20-7.28(3H, m), 7.33(2H, s), 7.60(1H, s)
I-35	δ 3.86(2H, br), 6.84-6.87(1H, m), 7.13-7.28(3H, m), 7.63-7.64(2H, m), 7.70-7.74(2H, m), 7.91(1H, br-s)
I-36	δ 3.99(2H, br-s), 6.85-6.88(1H, m), 7.23-7.34(3H, m), 7.91(2H, s), 8.69(1H, s)
I-37	δ 3.91(2H, br), 6.88-6.91(1H, m), 7.15-7.21(2H, m), 7.29(1H, t, J=7.8Hz), 7.94-7.98(2H, m), 8.03(2H, d, J=8.8Hz), 8.11(1H, s)
I-38	(DMSO-d_6) δ 5.39(2H, br-s), 6.77-6.80(1H, m), 7.12-7.19(3H, m), 8.49(2H, s), 10.53(1H, s)
I-39	(DMSO-d_6) δ 2.30(3H, s), 4.32(2H, br-s), 4.39(2H, q, J=8.3Hz), 6.79-6.86(3H, m), 7.18-7.27(2H, m), 7.45(1H, d, J=8.8Hz), 7.56(1H, s), 8.91 (1H, br-s)
I-40	δ3.87(2H, br-s), 6.85-6.88(1H, m), 7.14(1H, dd, J=9.3Hz, 1.0Hz), 7.19(1H, t, J=2.0Hz), 7.27(1H, t, J=7.9Hz), 7.64(2H, d, J=8.7Hz), 7.71(2H, d, J=8.7Hz), 7.86(1H, s)
I-42	δ3.88(2H, s), 6.90(1H, d, J=6.8Hz), 7.23-7.32(3H, m), 7.60(1H, s), 7.92(2H, s)
I-43	δ3.89(2H, br-s), 6.90(1H, dt, J=2.5Hz, 6.3Hz), 7.25-7.32(3H, m), 7.59(1H, s), 7.72(2H, s)
I-44	δ3.89(2H, br-s), 6.90(1H, dt, J=2.5Hz, 6.4Hz), 7.28-7.30(3H, m), 7.60(1H, s), 7.93(2H, s)
I-45	δ3.92(2H, s), 6.92(1H, dt, J=1.5Hz, 7.3Hz), 7.23-7.30(3H, m), 7.79(1H, s), 8.04(2H, s)
I-46	δ3.89(2H, br-s), 6.90(1H, dd, J=2.4Hz, 4.9Hz), 7.23-7.32(3H, m), 7.61(1H; s), 7.93(2H, s)
I-47	δ3.88(2H, br-s), 6.90(1H, d, J=6.3Hz), 7.23-7.32(3H, m), 7.62(1H, s), 7.92(2H, s)

Table 9(35)

Compound No.	^{1}H-NMR ($CDCl_3$, ppm)
I-48	δ6.90-6.94(1H, m), 7.28-7.33(3H, m), 7.73(1H, s), 8.02(1H, s), 8.25(1H, s)
I-49	δ 2.31(6H, s), 2.90(3H, s), 6.81(1H, dd, J=1.9Hz, 7.8Hz), 7.15-7.18(2H, m), 7.30(1H, t, J=7.8Hz), 7.42(1H, s), 7.52(2H, s)
I-50	δ 2.91(3H, s), 6.82-6.85(1H, m), 7.21-7.23(2H, m), 7.32(1H, t, J=7.8Hz), 7.64(1H, s), 7.93(2H, s)
I-51	δ 2.29(3H,s), 2.34(3H,s), 3.82(2H,br), 6.81(1H,d,J=8.1Hz), 6.92(1H,d,J=8.1Hz), 7.11 (1H,t,J=7.8Hz), 7.41-7.44(2H,m), 7.50(1H,d,J=8.3Hz), 8.36(1H,d,J=8.3Hz)
I-53	δ 2.23(3H, s), 2.39(3H, s), 3.82(2H, br), 7.10-7.16(2H, m), 7.24(1H, d, J=1.7Hz), 7.44(1H, s), 7.49(1H, d, J=8.1Hz), 7.73(1H, s), 8.30(1H, d, J=8.8Hz)
I-55	δ 2.34(3H, s), 2.40(3H, s), 3.70(2H, br), 6.72(1H, dd, J = 2.4Hz, 8.1Hz), 6.83(1H, d, J=2.4Hz), 7.07(1H, d, J=8.1Hz), 7.36(1H, s), 7.44(1H, s), 7.50(1H, d, J=8.5Hz), 8.30(1H, d, J=8.5Hz)
I-56	δ 2.38(6H, s), 2.42(3H, s), 3.70(2H, br), 6.72(1H, dd, J=2.4Hz, 8.1Hz), 6.89(1H, d, J=2.4Hz), 7.05(1H, s), 7.07(1H, d, J=8.1Hz), 7.36(2H, s)
I-59	δ 2.37 (6H, s), 3.90 (2H, br-s), 6.96-7.01 (1H, m), 7.10 (1H, t, J=7.8Hz), 7.36 (2H, s), 7.43-7.47 (1H, m), 7.86 (1H, d, J=13.2Hz)
I-60	δ 2.33(6H, s), 6.99(1H, dt, J=1.5Hz, 7.8Hz), 7.10(1H, t, J=7.8Hz), 7.43(2H, s), 7.46(1H, d, J=7.8Hz), 7.84(1H, d, J=13.2Hz)
I-61	δ 2.33(6H, s), 3.93(2H, s), 7.05-7.14(1H, m), 7.17-7.21(1H, m), 7.31(1H, s), 7.35(2H, s), .7.37-7.40(1H, m)
I-62	δ 2.40(3H, s), 3.77(2H, br), 6.79-6.83(1H, m), 6.97-7.03(1H, m), 7.44-7.51(3H, m), 8.42(1H, d, J=8.8Hz), 8.60(1H, br-d, J=18.8Hz)
I-63	δ 2.35(6H, s), 3.74(2H, br-s), 6.77-6.83(1H, m), 7.01(1H, dd, J=8.8Hz, 11.7Hz), 7.35(2H, s), 7.42(1H, dd, J=2.9Hz, 6.6Hz), 8.01(1H, d, J=15.6Hz)
I-64	δ 2.38(3H, s), 4.27(2H, br), 6.89(1H, dd, J=1.5Hz, 8.1Hz), 7.05(1H, d, J=8.8Hz), 7.18(1H, t, J=8.1Hz), 7.45(1H, s), 7.51(1H, d, J=8.1Hz), 7.60(1H, s), 8.34(1H, d, J=8.8Hz)

Table 9(36)

Compound No.	^{1}H-NMR($CDCl_3$, ppm)
I-65	δ 2.40(6H, s), 4.27(2H, br-s), 6.88(1H, dd, J=1.5Hz, 7.8Hz), 7.03(1H, dd, J=1.5Hz, 7.8Hz), 7.16(1H, t, J=7.8Hz), 7.29(1H, s), 7.36(2H, s)
I-66	δ 2.39(3H,s), 4.27(2H,br), 7.08(1H,dd,J=2.2Hz, 8.3Hz), 7.32-7.36(2H,m), 7.45(1H,s), 7.50(1H,d,J=8.5Hz), 7.68(1H,s), 8.24(1H,d,J=8.5Hz)
I-67	δ 2.33(6H, s), 4.27(2H, br-s), 7.15(1H, d, J=8.1Hz), 7.35-7.38(5H, m)
I-68	δ 2.41(3H, s), 3.87(2H, br), 6.73(1H, dd, J=2.9Hz, 8.5Hz), 7.18(1H, d, J=2.9Hz), 7.21(1H, d, J=8.8Hz), 7.45(1H, s), 7.50(1H, d, J=8.8Hz), 8.12(1H, s), 8.34(1H, d, J=8.5Hz)
I-69	δ 2.39(6H, s), 3.85(2H, br-s), 6.72(1H, dd, J=2.7Hz, 8.5Hz), 7.15(1H, d, J=2.7Hz), 7.22(1H, d, J=8.5Hz), 7.36(2H, s), 7.66(1H, s)
I-70	δ 2.43(6H, s), 4.34(2H, br), 6.86(1H, dd, J=1.5Hz, 8.3Hz), 6.96(1H, dd, J=1.5Hz, 8.3Hz), 7.13(1H, s), 7.19(1H, t, J=8.3Hz), 7.36(2H, s)
I-71	δ 2.41(3H,s), 3.87(2H,br), 6.66(1H,dd,J=2.9Hz, 8.5Hz), 7.03(1H,d,J=2.9Hz), 7.38(1H,d,J=8.5Hz), 7.45(1H,s), 7.50(1H,d,J=8.5Hz), 7.75(1H,br-s), 8.33(1H,d,J=8.5Hz)
I-72	δ 2.40(3H, s), 3.94(2H, br), 7.05-7.16(2H, m), 7.36(1H, dd, J=2.2Hz, 8.5Hz), 7.45(1H, s), 7.50(1H, d, J=9.0Hz), 7.66(1H, s), 8.24(1H, d, J=9.0Hz)
I-73	δ 2.41(3H,s), 3.88(2H,br-s), 6.54(1H,dd,J=2.9Hz, 8.5Hz), 6.88(1H,d,J=2.9Hz), 7.37 (1H,s), 7.45(1H,s), 7.52(1H,d,J=8.3Hz), 7.61(1H,d,J=8.3Hz), 8.32(1H,d,J=8.5Hz)
I-74	δ 2.44(6H, s), 3.86(2H, br-s), 6.52(1H, dd, J=2.9Hz, 8.5Hz), 6.91(1H, d, J=2.9Hz), 7.12(1H, s), 7.35(2H, s), 7.62(1H, d, J=8.5Hz)
I-75	δ 2.38(3H, s), 4.39(2H, s), 7.06(1H, s), 7.40(1H, d, J=1.7Hz), 7.43-7.50(3H, m), 7.90(1H, d, J=9.1Hz), 8.73(1H, s)
I-76	δ 2.27(6H, s), 4.09(2H, br-s), 7.08(1H, s), 7.33(2H, s), 7.37(1H, s), 7.43(1H, s), 7.83(1H, s)
I-77	δ 2.39(3H,s), 2.93(3H,s), 3.95(2H,br), 6.84(1H,d,J=8.3Hz), 7.21-7.27(2H,m), 7.44 (1H,s), 7.48(1H,d,J=8.5Hz), 7.69(1H,s), 8.28(1H,d,J=8.5Hz)
I-79	δ 2.33(6H,s), 3.76(4H,br), 6.19(1H,d,J=2.0Hz), 6.60(2H,d,J=2.0Hz), 7.34(1H,br), 7.52(2H,s)
I-80	δ 2.38(3H,s), 4.65(2H,s), 7.26(1H,s), 7.34(1H,s), 7.47(1H,s), 7.52(1H,d,J=8.5Hz), 8.20 (1H,d,J=8.5Hz)

Table 9(37)

Compound No.	^{1}H-NMR ($CDCl_3$, ppm)
I-81	δ 2.50 (3H, s), 3.90 (2H, s), 6.91-6.94 (1H, m), 7.27-7.35 (3H, m), 7.48-7.57 (2H, m), 7.70 (1H, s), 7.75 (1H, s), 8.01-8.04 (1H, m), 8.45-8.48 (1H, m)
I-82	δ1.74-1.78 (2H, m), 1.82-1.88 (2H, m), 2.72 (2H, t, J=6.0Hz), 3.01 (2H, q, J=6.0Hz), 3.88 (2H, br-s), 6.85-6.88 (1H, m), 7.14-7.16 (1H, m), 7.22-7.29 (2H, m), 7.42 (1H, d, J=8.6Hz), 7.70 (1H, br-s), 8.10 (1H, d, J=9.0Hz)
I-83	δ1.71-1.79 (4H, m), 2.81 (2H, t, J=6.1Hz), 2.99 (2H, q, J=6.3Hz), 3.87 (2H, br-s), 6.87-6.90 (1H, m), 7.24-7.29 (3H, m), 7.47-7.52 (2H, m)
I-84	δ3.87 (2H, br-s), 6.51 (1H, septet, J=6.3Hz), 6.85-6.88 (1H, m), 6.99 (1H, d, J=8.7Hz), 7.15 (1H, d, J=7.3Hz), 7.20 (1H, t, J=2.0Hz), 7.25-7.29 (1H, m), 7.75 (1H, br-s), 8.15 (1H, dd, J=8.7Hz, 2.4Hz), 8.30 (1H, d, J=2.4Hz)
I-85	δ 2.37(3H, s), 4.27(2H, br-s), 6.55(1H, septet, J=6.3Hz), 6.88-6.91(2H, m), 7.06(1H, dd, J=7.3Hz, 1.5Hz), 7.18(1H, t, J=7.3Hz), 7.37(1H, br-s), 8.50(1H, br-s)
I-86	δ 2.37(3H, s), 3.88(2H, br-s), 6.34(1H, septet, J=6.3Hz), 6.88(1H, s), 6.89-6.91(1H, m), 7.23-7.31(3H, m), 7.47(1H, br-s)

The insecticides containing the compounds represented by formula (1) of the present invention as active ingredients are suitable for preventing insect pests such agricultural, horticultural and stored grain insect pests which are noxious to paddy rice, fruit trees, vegetables, other crops and flowing plants, sanitary pests, or nematodes. For example, the insecticides have strong insecticidal activity on the following insect pests: Lepidoptera such as cotton caterpillar (Diaphania indica), oriental tea tortrix (Homona magnanima), cabbage webworm (Hellulla undalis), summer fruit tortrix(Adoxophyes orana fasciata), smaller tea tortrix (Adoxophyes sp.), apple tortrix (Archips fuscocupreanus), peach fruit moth (Carposina niponensis), Manchurian fruit moth (Grapholita inopinata), oriental fruit moth (Grapholita molesta), soybean pod borer (Leguminivora glycinivorella), mulberry leafroller (Olethreutes mori), citrus leafminer (Phyllocnistis citrella), persimmon fruit moth (Stathmopoda masinissa), tea leafroller (Caloptilia theivora), Caloptilia sp. (Caloptilia zachrysa), apple leafminer (Phyllonorycter ringoniella), pear barkminer (Spulerrina astaurota), small citrus dog (Papilio xuthus), common cabbage worm (Pieris rapae crucivora), tabacco budworm (Heliothis armigera), codling moth (Lapsey resia pomonella), diamondback moth (Plutella xylostella), apple fruit moth (Argyresthia conjugella), peach fruit moth (Carposina niponensis), rice stem borer (Chilo suppressalis), rice leafroller (Cnaphalocrocis medinalis), tabacco moth (Ephestia elutella), mulberry pyralid (Glyphodes pyloalis), paddy borer (Scirpophaga incertulas), rice skipper (Parnara

guttata), rice armyworm (Pseudaletia separata), pink borer (Sesamia inferens), cabbage armyworm (Mamestra brassicae), common cutworm (Spodoptera litura), beet armyworm (Spodoptera exigua), black cutworm (Agrotis ipsilon), turnip moth (Agrotis segetum), beet semi-looper (Autographa nigrisigna), and cabbage looper (Trichoplusia ni); hemiptera such as aster leafHopper (Macrosteles fascifrons), green rice leafHopper (Nephotettix cincticeps), brown rice planthopper (Nilaparvata lugens), small brown planthopper (Laodelphax striatellus), whitebacked rice planthopper (Sogatella furcifera), citrus psylla (Diaphorina citri), grape whitefly (Aleurolobus taonabae), silverleaf whitefly (Bemisia argentifolii), sweetpotato whitefly (Bemisia tabaci), greenHouse whitefly (Trialeurodes vaporariorum), turnip aphid (Lipaphis erysimi), cotton aphid (Aphis gossypii), apple aphid (Aphis Citricola), green peach aphid (Myzus persicae), Indian wax scale (Ceroplastes ceriferus), Comstock mealybug (Pseudococcus Comstocki), Japanese mealybug (Planococcus kraunhiae), cottony citrus scale (Pulvinaria aurantii), camphor scale (Pseudaonidia duplex), San Jose scale (Comstockaspis perniciosa), arrowHead scale (Unaspis yanonensis), brownwinged green bug (Plautia Stali), and brown marmorated stink bug (Halyomorpha mista); Coleoptera such as soybean beetle (Anomala rufocuprea), Japanese beetle (Popillia japonica), cigarette beetle (Lasioderma serricorne), powderpost beetle (Lyctusbrunneus), twenty-eight-spotted ladybird (Epilachna vigintioctopunctata), adzuki been weevil (Callosobruchus chinensis), vegetable weevil (Listroderes costirostris), maize weevil (Sitophilus zeamais), boll weevil

(Anthonomus gradis gradis), rice water weevil (Lissorhoptrus oryzophilus), cucurbit leaf beetle (Aulacophora femoralis), rice leaf beetle (Oulema oryzae), striped flea beetle (Phyllotreta striolata), pine shoot beetle (Tomicus piniperda), Colorado potato beetle (Leptinotarsa decemlineata), Mexican bean beetle (Epilachna varivestis), corn rootworm (Diabrotica sp.), yellowspotted longicorn beetle (Psacothea hilaris), and whitespotted longicorn beetle (Anoplophora malasiaca); Diptera such as melon fly (Dacus(Bactrocera) dorsalis), rice leafminer (Agromyza oryzae), onion maggot (Delia antiqua), seedcorn maggot (Delia platura), soybean pod gall midge (Asphondylia sp.), house fly (Musca domestica), garden pea leafminer (Chromatomyia horticola), legume leafminer (Liriomyza trifolii), bryony leafminer (Liriomyza bryoniae), and common house mosquito (Culex pipiens pipiens); Nematoda such as coffee root-lesion nematode (Pratylenchus coffeae), root-lesion nematode (Pratylenchus sp.), potato cyst nematode (Globodera rostochiensis), root-knot nematode (Meloidogyne sp.), citrus nematode (Tylemchulus semipenetrans), nematode (Aphelenchus avenae), and chrysanthemum foliar nematode (Aphelenchoides ritzemabosi); Thysanoptera such as melon thrips (Thrips palmi), western flower thrips (Frankliniella occidentalis), yellow tea thrips (Scirtothrips dorsalis), honeysuckle thrips (Thrips flavus), and onion thrips (Thrips tabaci); Orthoptera such as German cockroach (Blattella germanica), American cockroach (Periplaneta americana), and rice grasshopper (Oxya yezoensis).

The insecticides containing the compounds represented by formula (1) of the present invention as active ingredients have a

significant preventive effect on the above-described insect pests noxious to lowland crops, dry field crops, fruit trees, vegetables, other crops, and flowering plants. The effect as the insecticides of the present invention can be achieved by treating paddy water, foliages or soil of paddy fields, dry fields, fruit trees, vegetables, other crops, or flowering plants before the breeding of noxious insects or at the time of obervation of the breeding of noxious insects at the predicted breeding season of noxious insects.

The insecticides of the present invention are generally formed into formulations suitable for use according to a normal method for formulating agricultural/Horticultural pesticides. Namely, a compound represented by formula (1) may be mixed with an appropriate inert carrier, and if required, an auxiliary at a proper proportion, and the resultant mixture is subjected to dissolution, separation, suspension, mixing, impregnation, adsorption or adhesion to form a suitable formulation such as a suspension, an emulsion, a liquid drug, a wettable powder, a granule, a dusting powder, or a tablet. As the inert carrier used in the present invention, either a solid or a liquid may be used. Examples of a material usable as the solid carrier include soybean flour, grain flour, wood flour, bark flour, sawing flour, tobacco stalk flour, walnut sHell flour, bran, cellulose powder, a residue after plant extraction, a synthetic polymer such as a synthetic resin powder, clay (for example, kaoline, bentonite, or acid white clay), talc (for example, talc or pyrophyllite), silica (for example, diatomite, silica powder, mica, white carbon (synthetic

high-dispersion silicate referred to as "hydrous silicate fine powder" or "hydrous silicate", some products containing calcium silicate as main components)), activated carbon, sulfur powder, pumice, calcined diatomite, brick powder, fly ash, sand, inorganic mineral powders such as calcium carbonate and calcium phosphate, chemical fertilizers such as ammonium sulfate, ammonium phosphate, ammonoium nitrate, urea, and ammonium chloride, and compost. These carriers are used alone or in a mixture of at least two kinds.

As a material usable as the liquid carrier, a material having a solvent ability or a material having no solvent ability but having an ability to disperse an active ingredient compound with the aid of an auxiliary is selected. Typical examples of the liquid carrier are given below, and these examples can be used alone or in a mixture of two more kinds. Examples of the liquid carrier include water, alcohols (for example, methanol, ethanol, isopropanol, butanol, and ethylene glycol); ketones (for example, acetone, methylethyl ketone, methyl isobutyl ketone, diisobutyl ketone, and cyclohexanone); ethers (for example, diethyl ether, dioxane, cellosolve, diisopropyl ether, and tetrahydrofuran); aliphatic hydrocarbons (for example, kerosine and mineral oil); aromatic hydrocarbons (for example, benzene, toluene, xylene, solvent naphtha, and alkylnaphthalene); halogenated hydrocarbons (for example, dichloromethane, chloroform, carbon tetrachloride, and chlorobenzene); esters (for example, ethyl acetate, butyl acetate, ethyl propionate, diisobutyl phthalate, dibutyl phthalate, and dioctyl phthalate); amides (for example, dimethylformamide,

diethylformamide, and dimethylacetamide); and nitriles (for example, acetonitrile).

Typical examples of other auxiliaries are given below, and these examples are used alone or in combination according to purposes. The auxiliary is not necessarily used. For example, a surfactant is used for emulsifying, dispersing, solubilizing and/or wetting the active ingredient compound. Examples of the surfactant include polyoxyethylene alkyl ether, polyoxyethylene alkyl aryl ether, polyoxyethylene higher fatty acid esters, polyoxyethylene resin acid esters, polyoxyethylene sorbitan monolaurate, polyoxyethylene sorbitan monooleate, alkylaryl sulfonate, naphthalenesulfonate, lignin-sulfonate, higher alcohol sulfates. Examples of other auxiliaries used for stabilizing dispersion of the active ingredient compound, and tackifying and/or bonding the active ingredient compound are given below. Examples of such auxiliaries include casein, gelatin, starch, methyl cellulose, carboxymethyl cellulose, gum arabic, polyvinyl alcohol, wood turpentine, bran oil, bentonite, xanthan gum, and lignin-sulfonate.

Another auxiliary for improving fluidity of a solid product can also be used. Examples of such an auxiliary include wax, stearates, and alkyl phosphates. Also, an auxiliary such as a naphthalenesulfonic acid condensate or condensed phosphate, can be used as a deflocculant for a suspending product. Furthermore, an auxiliary such as silicone oil can be used as a defoaming agent.

The compounds represented by formula (1) of the present invention are stable to light, heat and oxidation. However, an

appropriate amount of an antioxidant or an ultraviolet absorber, for example, a phenol derivative such as BHT (2,6-di-t-butyl-4-methyl phenol) or BHA (butylated hydroxyanisole), a bisphenol derivative, an arylamine such as phenyl-α-naphthylamine, phenyl-β-naphthylamine, or a condensate of phenetidine and acetone, or a benzophenone compound, may be added as a stabilizer to produce compositions having a stable effect.

When a compound represented by formula (1) of the present invention is used as an active ingredient, generally, the amount thereof used in a dust is 0.5% by weight to 20% by weight, the amount in an emulsion is 5% by weight to 50% by weight, the amount in a wettable powder is 10% by weight to 90% by weight, the amount in a granule is 0.1% by weight to 20% by weight, and the amount in a flowable formulation is 10% by weight to 90% by weight. With respect to the amount of the carrier in a formulation, the amount in a dust is 60% by weight to 99% by weight, the amount in an emulsion is 40% by weight to 95% by weight, the amount in a wettable powder is 10% by weight to 90% by weight, the amount in a granule is 80% by weight to 99% by weight, and the amount in a flowable formulation is 10% by weight to 90% by weight. With respect to the amount of the auxiliary in a formulation, the amount in a dust is 0.1% by weight to 20% by weight, the amount in an emulsion is 1% by weight to 20% by weight, the amount in a wettable powder is 0.1% by weight to 20% by weight, the amount in a granule is 0.1% by weight to 20% by weight, and the amount in a flowable formulation is 0.1% by weight to 20% by weight.

In order to prevent various noxious insects, the compound of

the present invention is directly used or properly diluted with water or suspended in water, and an effective amount thereof for preventing pests is applied to crops in which the breeding of the noxious insects is predicted, or a place where the breeding of the noxious insects is undesirable. The amount of the compound used depends upon the various factors, for example, the purpose, the object insects, the growth conditions of crops, the breeding tendency of insects, weather, environmental conditions, formulations, application methods, application places, and application times. However, the content of the active ingredient used is generally 0.0001 ppm to 5000 ppm, and preferably 0.01 ppm to 1000 ppm. The amount of the active ingredient per 10a is generally 1 g to 300 g.

An insecticide containing as an active ingredient the compounds represented by formula (1) of the present invention may be singly used for preventing insect pests such agricultural, horticultural or stored grain insect pests which are noxious to paddy rice, fruit trees, vegetables, other crops and flowering plants, sanitary pests, or nematodes. In order to further obtain an excellent preventive effect on various noxious insects which simultaneously occur, at least one of other insecticides and/or fungicides may be combined with the compounds represented by formula (1) of the present invention.

Examples of such insecticides which can be combined with the compounds represented by formula (1) of the present invention include synthetic pyrethroid insecticides such as allethrin, tetramethrin, resmethrin, phenothrin, furamethrin, permethrin,

cypermethrin, deltamethrin, cyhalothrin, cyfluthrin, fenpropathrin, tralomethrin, cycloprothrin, flucythrinate, fluvalinate, acrinathrin, tefluthrin, bifenthrin, empenthrin, beta-cyfluthrin, zeta-cypermethrin, and fenvalerate, and various isomers thereof and pyrethrum extracts; organophosphate insecticides such as DDVP, cyanophos, fenthion, fenitrothion, tetrachlorvinphos, dimethylvinphos, propaphos, methylparathion, temephos, phoxim, acephate, isofenphos, salithion, DEP, EPN, ethion, mecarbam, pyridafenthion, diazinon, pirimiphos-methyl, etrimfos, isoxathion, quinalphos, chlorpyrifos-methyl, chlorpyrifos, phosalone, phosmet, methidathion, oxydeprofos, vamidothion, malathion, phenthoate, dimethoate, formothion, thiometon, ethylthiometon, phorate, terbufos, profenofos, prothiofos, sulprofos, pyraclofos, monocrotophos, naled, fosthiazate, and cadusafos; carbamate insecticides such as NAC, MTMC, MIPC, BPMC, XMC, PHC, MPMC, ethiofencarb, bendiocarb, pirimicarb, carbosulfan, benfuracarb, methomyl, oxamyl, and aldicarb; arylpropylether insecticides such as etofenprox and halfenprox; silylether insecticides such as silafluofen; insecticidal natural products such as nicotine-sulfate, polynactin complex, abamectin, milbemectin, and BT agents; insecticides such as, cartap, thiocyclam, bensultap, diflubenzuron, chlorfluazuron, teflubenzuron, triflumuron, flufenoxuron, flucycloxuron, hexaflumuron, fluazuron, imidacloprid, nitenpyram, acetamiprid, dinotefuran, pymetrozine, fipronil, buprofezin, fenoxycarb, pyriproxyfen, methoprene, hydroprene, kinoprene, diafenthiuron, triazamate, tebufenozide, and endosulfan; acaricides such as dicofol, chlorobenzilate,

bromopropylate, tetradifon, CPCBS, BPPS, chinomethionate, amitraz, benzoximate, hexythiazox, fenbutatin oxide, cyhexatin, dienochlor, clofentezine, pyridaben, fenpyroximate, fenazaquin, and tebufenpyrad; and other insecticides such as novaluron, noviflumuron, emamectin benzoate, clothianidin, thiacloprid, thiamethoxam, flupyrazofos, acequinocyl, bifenazate, chromafenozide, etoxazole, fluacrypyrim, flufenzine, halofenozide, indoxacarb, methoxyfenozide, spirodiclofen, tolfenpyrad, gamma-cyhalothrin, ethiprole, amidoflumet, bistrifluron, flonicamid, flubrocythrinate, flufenerim, pyridalyl, pyrimidifen, spinosad, and spiromesifen.

Examples of fungicides which can be combined with the compounds represented by formula (1) of the present invention include azole fungicides such as triadimefon, hexaconazole, propiconazole, ipconazole, prochloraz, and triflumizole; pyrimidine fungicides such as pyrifenox and fenarimol; anilinopyrimidine fungicides such as mepanipyrim and cyprodinil; acylalanine fungicides such as metalaxyl, oxadixyl, and benalaxyl; benzimidazole fungicides such as thiophanate-methyl and benomyl; dithiocarbamate fungicids such as mancozeb, propineb, zineb, and metiram; organochlorine fungicides such as tetrachloroisophthalonitrile; carboxamide fungicides such as carpropamid and ethaboxam; morpholine fungicides such as dimethomorph; strobilurin fungicides such as azoxystrobin, kresoxim-methyl, metominostrobin, orysastrobin, fluoxastrobin, trifloxystrobin, dimoxystrobin, pyraclostrobin, and picoxystrobin; dicarboxyimide fungicides such as iprodione and procymidone; soil-

applied fungicides such as flusulfamide, dazomet, methyl isothiocyanate, and chloropicrin; copper fungicides such as basic copper chloride, basic copper sulfate, copper nonylphenol sulfonate, oxine-copper, and DBEDC; inorganic fungicides such as sulfur and zinc sulfate; organophosphate fungicides such as edifenphos, tolclofos-methyl, and fosetyl-aluminum; melanin biosynthesis inhibitors such as phthalide, tricyclazole, pyroquilon, and diclocymet; antibiotics such as kasugamycin, validamycin, and polyoxins; fungicidal natural products such as repe seed oil; and other fungicides such as benthiavalicarb-isopropyl, iprovalicarb, cyflufenamid, fenhexamid, quinoxyfen, spiroxamine, diflumetorim, metrafenone, picobenzamid, proquinazid, silthiofam, oxypoconazole, famoxadone, cyazofamid, fenamidone, furametpyr, zoxamide, boscalid, tiadinil, simeconazole, chlorothalonil, cymoxanil, captan, dithianon, fluazinam, folpet, dichlofluanid, (*RS*)-N-[2-(1,3-dimethylbutyl)thiophen-3-yl]-1-methyl-3-trifluoromethyl-1*H*-pyrazole-4-carboxamide (penthiopyrad; ISO proposed), oxycarboxin, mepronil, flutolanil, triforine, oxolinic acid, probenazole, acibenzolar-*S*-methyl, isoprothiolane, ferimzone, diclomezine, pencycuron, fluoroimide, chinomethionate, iminoctadine-triacetate, and iminoctadine-albesilate.

When the compounds represented by formula (1) of the present invention are combined with at lease one type of other insecticide and/or fungicide, mixed compositions of the compounds represented by formula (1) and other insecticides and/or fungicides may be used, or the compounds represented by formula (1) may be mixed

with other insecticides and/or fungicides during agricultural treatment.

Besides the above-described insecticides and fungicides, the compounds represented by formula (1) may be mixed with a herbicide, a fertilizer, an ameliorant, a plant protective such as a plant growth regulator, or resources to form multipurpose compositions having superior efficiency or compositions from which an additive effect or a synergistic effect can be expected.

Although representative examples of the present invention will be described below, the present invention is not limited to these examples.

Example 1

(1-1) Production of N-(2,6-dimethyl-4-heptafluoroisopropyl)phenyl 3-nitrobenzamide

To a solution prepared by adding 20.0 g of 2,6-dimethyl-4-heptafluoroisopropylaniline and 11.0 g of pyridine to 100 ml of tetrahydrofuran and then stirring the resultant mixture at room temperature was dropwise added a solution of 13.0 g of 3-nitrobenzoyl chloride in 20 ml of tetrahydrofuran. After the resultant mixture was stirred at room temperature for 10 hours, ethyl acetate and water were added to the reaction solution. Then, a separating operation was performed, and an organic layer was separated and then dried with anhydrous magnesium sulfate. The solution was filtered, and then the filtrate was collected, and the solvent of the filtrate was distilled off under reduced pressure. The residue was washed with a n-hexane-diisopropyl

ether solvent mixture to obtain 26.0 g (yield 85%) of the title compound as a white solid.

^{1}H-NMR ($CDCl_3$, ppm) δ 2.33 (6H, s), 7.37 (2H, s), 7.68 (1H, s), 7.72 (1H, t, J=8.1Hz), 8.28 (1H, d, J=8.1Hz), 8.44 (1H, dd, J=1.2Hz, 8.1Hz), 8.75 (1H, t, J=1.2Hz)

(1-2) Production of N-(2,6-dimethyl-4-heptafluoroisopropyl)phenyl 3-aminobenzamide

To a solution prepared by adding 0.90 g of N-(2,6-dimethyl-4-heptafluoroisopropyl)phenyl 3-nitrobenzamide and 1.56 g of tin chloride anhydride to 25 ml of ethanol and stirring the resultant mixture at room temperature was added 2 ml of conc. hydrochloric acid. The resultant mixture was then stirred under heating at 60°C for 1 hour. After the temperature was returned to room temperature, the reaction solution was poured into water and then neutralized with potassium carbonate. Then, ethyl acetate was added to the reaction solution, and insoluble materials were filtered off. Then, an organic layer was separated and then dried with anhydrous magnesium sulfate. The solution was filtered, and then the filtrate was collected, and the solvent of the filtrate was distilled off under reduced pressure. The residue was washed with hexane to obtain 0.44 g (yield 53%) of the title compound as a white solid.

^{1}H-NMR ($CDCl_3$, ppm) δ 2.34 (6H, s), 3.87 (2H, broad), 6.86-6.89 (1H, m), 7.20-7.35 (6H, m)

(1-3) Production of N-(2,6-dimethyl-4-heptafluoroisopropyl)phenyl

3-(2-chloroethoxycarbonylamino)benzamide (Compound No. 130)

To a solution prepared by adding 0.20 g of N-(2,6-dimethyl-4-heptafluoroisopropyl)phenyl 3-aminobenzamide and 0.08 g of pyridine to 5 ml of tetrahydrofuran and stirring the resultant mixture at room temperature was dropwise added a solution of 0.07 g of 2-chloroethyl chloroformate in 1 ml of tetrahydrofuran. After the resultant mixture was stirred for 2 hours, ethyl acetate and water were added to the reaction solution. Then, a separating operation was performed, and an organic layer was separated and then dried with anhydrous magnesium sulfate. The solution was filtered, and then the filtrate was collected, and the solvent of the filtrate was distilled off under reduced pressure. The residue was purified by silica gel column chromatography (eluent; hexane : ethyl acetate = 4:1) to obtain 0.23 g (yield 91%) of the title compound as a white solid.

^{1}H-NMR ($CDCl_3$, ppm) δ 2.35 (6H, s), 3.74-3.77 (2H, m), 4.44-4.47 (2H, m), 6.87 (1H, broad), 7.36 (2H, s), 7.43-7.52 (2H, m), 7.59-7.64 (2H, m), 8.02 (1H, s)

The compounds shown in Table 6 can be produced as production intermediates useful for producing the compounds represented by formula (1) of the present invention according to the processes described in Examples 1-1 and 1-2.

Example 2

Production of N-(2,6-dimethyl-4-heptafluoroisopropyl)phenyl 3-(ethylthiocarbonylamino)benzamide (Compound No. 1962)

To a solution prepared by adding 0.25 g of N-(2,6-dimethyl-4-

heptafluoroisopropyl)phenyl 3-aminobenzamide produced in (1-2) of Example 1 and 0.06 g of pyridine to 5 ml of tetrahydrofuran and then stirring the resultant mixture at room temperature was dropwise added a solution of 0.08 g of ethyl chlorothioformate in 1 ml of tetrahydrofuran. After the resultant mixture was stirred for 2 hours, ethyl acetate and water were added to the reaction solution. Then, a separating operation was performed, and an organic layer was separated and then dried with anhydrous magnesium sulfate. The solution was filtered, and then the filtrate was collected, and the solvent of the filtrate was distilled off under reduced pressure. The residue was washed with hexane to obtain 0.27 g (yield 89%) of the title compound as a white solid.

^{1}H-NMR ($CDCl_3$+DMSO-d_6, ppm) δ 1.34 (3H, t, J=7.3 Hz), 2.34 (6H, s), 2.96 (2H, q, J=7.3 Hz), 7.33 (2H, s), 7.41 (1H, t, J=7.8 Hz), 7.67 (1H, d, J=7.8Hz), 7.83-7.85 (1H, m), 8.11 (1H, d, J=2.0 Hz), 8.79 (1H, s), 9.58 (1H, s)

Example 3

Production of N-(2,6-dimethyl-4-heptafluoroisopropyl)phenyl 3-[(4-cyanobenzyl)oxycarbonylamino]benzamide (Compound No. 85)

To a solution prepared by adding 0.30 g 3-isocyanatobenzoyl chloride to 10 ml of ether and then stirring the resultant mixture at 2°C was dropwise added, over 5 minutes at a temperature kept at 2°C, a solution of 0.23 g of 4-cyanobenzyl alcohol and 0.32 g of tri-n-butylamine in 5 ml of ether. After the resultant mixture was stirred at 2°C for 2 hours, the temperature was returned to

room temperature, and then a solution of 0.49 g of 2,6-dimethyl-4-heptafluoroisopropylaniline in 5 ml of ether was dropwise added to the mixture, followed by stirring at room temperature for 8 hours. Then, ethyl acetate was added to the reaction solution, and the reaction solution was washed with water twice. Then, an organic layer was dried with anhydrous magnesium sulfate. The solution was filtered, and then the filtrate was collected, and the solvent of the filtrate was distilled off under reduced pressure. The residue was purified by silica gel column chromatography (eluent; hexane : ethyl acetate = 2:1 to 1:1) to obtain 0.50 g (yield 40%) of the title compound as an oily material.

^{1}H-NMR (CDCl$_3$, ppm) δ 2.34 (6H, s), 5.27 (2H, s), 6.97 (1H, broad-s), 7.35 (2H, s), 7.45-7.52 (4H, m), 7.61-7.69 (4H, m), 8.01 (1H, s)

Similarly, N-(2,6-dimethyl-4-heptafluoroisopropyl)phenyl 3-[(6-chloropyridine-3-yl)methoxycarbonylamino]benzamide (Compound No. 163) was produced by using 2-chloro-5-hydroxymethylpyridine.

^{1}H-NMR (CDCl$_3$, ppm) δ 2.34 (6H,s), 5.22 (2H, s), 6.89 (1H, broad-s), 7.35-7.49 (5H, m), 7.62 (2H, d, J=7.3 Hz), 7.72-7.77 (1H, m), 8.00 (1H, broad-s), 8.45 (1H, d, J=2.4 Hz)

N-(2,6-dimethyl-4-heptafluoroisopropyl)phenyl 3-[(tetrahydrofuran-3-yl)methoxycarbonylamino]benzamide (Compound No. 158) was produced by the same process as described above using 3-hydroxymethyltetrahydrofuran except that the solvent was changed to tetrahydrofuran.

^{1}H-NMR (CDCl$_3$, ppm) δ 1.66-1.73 (1H, m), 2.05-2.13 (1H, m), 2.34 (6H, s), 2.60-2.70 (1H, m), 3.64-3.68 (1H, m), 3.73-3.79 (1H, m), 3.85-3.92 (2H, m), 4.09-4.15 (2H, m), 6.87 (1H, broad-s), 7.35

(2H,s), 7.46 (2H, t, J=7.8 Hz), 7.61-7.66 (2H, m), 8.01 (1H, broad-s)

Example 4

(4-1) Production of N-(2,6-dimethyl-4-heptafluoroisopropyl)phenyl 3-aminobenzthioamide

To 10 ml of toluene were added 0.35 g of N-(2,6-dimethyl-4-heptafluoroisopropyl)phenyl 3-aminobenzamide produced in Example (1-2) and 0.19 g of Lawesson's reagent. Then, the resultant mixture was stirred under heating at a reflux temperature for 6 hours. The reaction solution was concentrated under reduced pressure, and the solvent was distilled off. The residue was purified by silica gel column chromatography (eluent; hexane : ethyl acetate = 3:1) to obtain 0.07 g (yield 20%) of the title compound.

^{1}H-NMR ($CDCl_3$, ppm) δ 2.36 (6H, s), 3.87 (2H, broad-s), 6.84-6.87 (1H, m), 7.18-7.24 (2H, m), 7.33 (1H, s), 7.39 (2H, s), 8.56 (1H, broad-s)

(4-2) Production of N-(2,6-dimethyl-4-heptafluoroisopropyl)phenyl 3-(2,2,2-trichloroethoxycarbonylamino)benzthioamide (Compound No. 1964)

To a solution prepared by adding 0.07g of N-(2,6-dimethyl-4-heptafluoroisopropyl)phenyl 3-aminobenzthioamide and 0.03 g of pyridine to 5 ml of tetrahydrofuran and then stirring the resultant mixture at room temperature was dropwise added a solution of 0.05 g of 2,2,2-trichloroethyl chloroformate in 1 ml

of tetrahydrofuran. After the resultant mixture was stirred 2 hours, ethyl acetate and water were added to the reaction solution, and a separating operation was performed. Then, an organic layer was separated and dried with anhydrous magnesium sulfate. The solution was filtered, and then the filtrate was collected, and the solvent of the filtrate was distilled off under reduced pressure. The residue was purified by silica gel column chromatography (eluent; hexane : ethyl acetate = 4:1) to obtain 0.09 g (yield 90%) of the title compound as a white solid.

^{1}H-NMR($CDCl_3$, ppm) δ 2.37 (6H, s), 4.85 (2H, s), 7.07 (1H, broad), 7.39 (2H, s), 7.45 (1H, t, J=8.1 Hz), 7.61-7.68 (2H, m), 8.11 (1H, s), 8.69(1H, s)

Example 5

(5-1) Production of N-(2,6-dimethyl-4-heptafluoroisopropyl)phenyl 6-chloropyridine-2-carboxamide

First, to a solution prepared by adding 2.36 g of 6-chloropyridine-2-carboxylic acid and 5 droplets of N,N-dimethylformamide to 30 ml of toluene was added 2.14 g of thionyl chloride, and then the resultant mixture was stirred under heating at 80°C for 2 hours. Then, the solvent was distilled off under reduced pressure, and the residue was dissolved in 10 ml of tetrahydrofuran. The resultant solution was added dropwise, at room temperature, to a solution obtained by adding 3.83 g of 2,6-dimethyl-4-heptafluoroisopropylaniline and 1.28 g of pyridine to 20 ml of tetrahydrofuran, followed by stirring for 5 hours. Then, ethyl acetate and water were added to the reaction solution, and a

separating operation was performed. Then, an organic layer was separated and dried with anhydrous magnesium sulfate. The solution was filtered, and then the filtrate was collected, and the solvent of the filtrate was distilled off under reduced pressure. The residue was purified by silica gel column chromatography (eluent; hexane : ethyl acetate = 4:1) to obtain 3.90 g (yield 67%) of the title compound as a solid.
^{1}H-NMR($CDCl_3$, ppm) δ 2.36 (6H, s), 7.36 (2H, s), 7.56 (1H, dd, J=1.0Hz, 8.1Hz), 7.88 (1H, dd, J=7.6Hz, 8.1Hz), 8.23 (1H, dd, J=1.0Hz, 7.6Hz), 9.27 (1H, broad-s)

(5-2) Production of N-(2,6-dimethyl-4-heptafluoroisopropyl)phenyl 6-aminopyridine-2-carboxamide

In a 200 ml autoclave were charged 3.08 g of N-(2,6-dimethyl-4-heptafluoroisopropyl)phenyl 6-chloropyridien-2-carboxamide, 30 ml of 28% ammonia water, 0.20 g of cupper sulfate, and 70 ml of methanol, and the resultant mixture was stirred under heating at 150°C for 2 hours. After the mixture was cooled to room temperature, ammonia was distilled off at 60°C under atmospheric pressure, and methanol was distilled off under reduced pressure. Then, ethyl acetate and water were added to the reaction solution, and a separating operation was performed. Then, an organic layer was separated and dried with anhydrous sodium sulfate. The solution was filtered, and then the filtrate was collected, and the solvent of the filtrate was distilled off under reduced pressure. The residue was purified by silica gel column chromatography (eluent; hexane : ethyl acetate = 3:2 to 2:3) to

obtain 2.90 g (yield 98%) of the title compound as a oily material. ^{1}H-NMR ($CDCl_3$, ppm) δ 2.35 (6H, s), 4.57 (2H, broad-s), 6.69-6.74 (1H, m), 7.34 (2H, s), 7.62-7.66 (2H, m), 9.39 (1H, broad-s)

(5-3) Production of N-(2,6-dimethyl-4-heptafluoroisopropyl)phenyl 6-(2,2,2-trichloroethoxycarbonylamino)pyridine-2-carboxamide (Compound No. 1968)

To a solution prepared by adding 0.15 g of N-(2,6-dimethyl-4-heptafluoroisopropyl)phenyl 6-aminopyridine-2-carboxamide and 0.06 g of pyridine to 5 ml of tetrahydrofuran and stirring the resultant mixture at room temperature was dropwise added a solution of 0.085 g of 2,2,2-trichloroethyl chloroformate in 1 ml of tetrahydrofuran. After the resultant mixture was stirred for 2 hours, ethyl acetate and water were added to the reaction solution, and a separating operation was performed. Then, an organic layer was separated and dried with anhydrous magnesium sulfate. The solution was filtered, and then the filtrate was collected, and the solvent of the filtrate was distilled off under reduced pressure. The residue was purified by silica gel column chromatography (eluent; hexane : ethyl acetate = 10:1) to obtain 0.13 g (yield 61%) of the title compound as a white solid. ^{1}H-NMR ($CDCl_3$, ppm) δ 2.35 (6H, s), 4.89 (2H, s), 7.36 (2H, s), 7.63 (1H, broad-s), 7.97 (1H, dd, J=7.6 Hz, 8.3Hz), 8.05 (1H, d, J=7.6 Hz), 8.21 (1H, d, J=8.3 Hz), 9.17 (1H, broad-s)

(5-4) Production of N-(2,6-dimethyl-4-heptafluoroisopropyl)phenyl 6-(2,2,2-trichloroethoxycarbonylamino)pyridine-N-oxide-2-

carboxamide (Compound No. 2062)

To 10 ml of benzene was added 0.26 g of N-(2,6-dimethyl-4-heptafluoroisopropyl)phenyl 6-(2,2,2-trichloroethoxycarbonylamino)pyridine-2-carboxamide produced in Example 5-3, and then the resultant mixture was stirred. Then, 0.08 g of m-chloroperbenzoic acid was added to the mixture at room temperature. After the resultant mixture was stirred at 70°C for 1 hour, 0.2 g of m-chloroperbenzoic acid was further added to the mixture, followed by stirring at 70°C for 7 hours. Then, the mixture was diluted with ethyl acetate, and an organic layer was washed with a saturated aqueous solution of sodium hydrogen carbonate three times and dried with anhydrous magnesium sulfate. Then, the solvent was distilled off under reduced pressure. The residue was purified by silica gel column chromatography (eluent; hexane : ethyl acetate = 10:1) to obtain 0.11 g (yield 41%) of the title compound as an amorphous material.

^{1}H-NMR ($CDCl_3$, ppm) δ 2.37 (6H, s), 4.91 (2H, s), 7.36 (2H, s), 7.61 (1H, t, J=8.3 Hz), 8.23 (1H, dd, J=8.3 Hz, 1.9 Hz), 8.45 (1H, dd, J=8.3 Hz, 1.9 Hz), 9.81 (1H, broad-s), 12.70 (1H, broad-s)

(5-5) Production of N-(2,6-dimethyl-4-heptafluoroisopropyl)phenyl 6-(methylamino)pyridine-2-carboxamide

N-(2,6-dimethyl-4-heptafluoroisopropyl)phenyl 6-(methylamino)pyridine-2-carboxamide was produced by using N-(2,6-dimethyl-4-heptafluoroisopropyl)phenyl 6-chloropyridine-2-carboxamide produced in Example 5-1 and a methylamine aqueous solution as reaction materials according to the process described

in Example 5-2.

^{1}H-NMR (DMSO-d_6, ppm) δ 2.30 (6H, s), 2.92 (3H, s), 6.71 (1H, d, J=8.3Hz), 6.85 (1H, d, J=4.9Hz), 7.22 (1H, d, J=7.0Hz), 7.44 (2H, s), 7.55 (1H, dd, J=7.0Hz, 8.3Hz), 10.05 (1H, s)

(5-6) Production of N-(2,6-dimethyl-4-heptafluoroisopropyl)phenyl 6-[N-(2,2,2-trichloroethoxycarbonyl)-N-methylamino]pyridine-2-carboxamide (Compound No. 2168)

N-(2,6-dimethyl-4-heptafluoroisopropyl)phenyl 6-[N-(2,2,2-trichloroethoxycarbonyl)-N-methylamino]pyridine-2-carboxamide was produced by using N-(2,6-dimethyl-4-heptafluoroisopropyl)phenyl 6-(methylamino)pyridine-2-carboxamide produced in Example 5-5 as a starting material according to the process described in Example 5-3.

^{1}H-NMR(DMSO-d_6, ppm) δ 2.30 (6H, s), 3.61 (3H, s), 5.03 (2H, s), 7.47 (2H, s), 7.92 (1H, d, J=7.6Hz), 7.98 (1H, d, J=7.6Hz), 8.08 (1H, t, J=7.6Hz), 10.18 (1H, s)

Example 6

(6-1) Production of ethyl 3-(2,2,2-trichloroethoxycarbonylamino)benzoate

To a solution prepared by adding 1.0 g of ethyl m-aminobenzoate and 0.72 g of pyridine to 10 ml of tetrahydrofuran and stirring the resultant mixture at room temperature was dropwise added a solution of 1.55 g of 2,2,2-trichloroethyl chloroformate in 5 ml of tetrahydrofuran. After the resultant mixture was stirred for 2 hours, ethyl acetate and water were

added to the reaction solution, and a separating operation was performed. Then, an organic layer was separated and dried with anhydrous magnesium sulfate. The solution was filtered, and then the filtrate was collected, and the solvent of the filtrate was distilled off under reduced pressure. The residue was washed with hexane to obtain 1.89 g (yield 91%) of the title compound.

^{1}H-NMR ($CDCl_3$, ppm) δ 1.40 (3H, t, J=7.3Hz), 4.38 (2H, q, J=7.3Hz), 4.84 (2H, s), 6.96 (1H, broad-s), 7.43 (1H, t, J=7.8Hz), 7.76-7.82 (2H, m), 7.99 (1H, t, J=2.0Hz)

(6-2) Production of ethyl 3-[N-methyl-N-(2,2,2-trichloroethoxycarbonyl)amino]benzoate

To a suspension of 0.14 g of 60% sodium hydride in 5 ml of tetrahydrofuran was dropwise added a solution of 1.0 g of ethyl 3-(2,2,2-trichloroethoxycarbonylamino)benzoate in 5 ml of tetrahydrofuran, and the resultant mixture was stirred at room temperature. Then, a solution of 0.45 g of dimethyl sulfate in 5 ml of tetrahydrofuran was dropwise added, and the resultant mixture was stirred at room temperature for 3 hours. After water was added to the mixture, the mixture was subjected to extraction with ethyl acetate, and an organic layer was washed twice with water and dried with anhydrous magnesium sulfate. Then, the solvent was distilled off under reduced pressure. The residue was purified by silica gel column chromatography (eluent; hexane : ethyl acetate = 4:1) to obtain 0.84 g (yield 79%) of the title compound as an oily material.

^{1}H-NMR ($CDCl_3$, ppm) δ 1.40 (3H, t, J=7.1Hz), 3.41 (3H, s), 4.39 (2H,

q, J=7.1Hz), 4.77 (2H,s), 7.43-7.52 (2H, m), 7.93-8.01 (2H, m)

(6-3) Production of 3-[N-methyl-N-(2,2,2-trichloroethoxycarbonyl)amino]benzoic acid

To 5 ml of ethanol were added 0.5 g of ethyl 3-[N-methyl-N-(2,2,2-trichloroethoxycarbonyl)amino]benzoate and a 1N sodium hydroxide aqueous solution, and the resultant mixture was stirred at room temperature for 1.5 hours. After the reaction solution was controlled to pH 3 by dropwise adding 1N hydrochloric acid, ethyl acetate was added to the reaction solution, and an organic layer was separated. The organic layer was washed with water twice and washed with a saturated saline solution once, and then dried with anhydrous magnesium sulfate. The solvent was distilled off under reduced pressure to obtain 0.45 g (yield 98%) of the title compound as a solid.

^{1}H-NMR ($CDCl_3$, ppm) δ 3.43 (3H, s), 4.79 (2H, s), 7.41-7.60 (2H, m), 7.93-8.05 (2H, m)

(6-4) Production of N-(2,6-dimethyl-4-heptafluoroisopropyl)phenyl 3-[N'-methyl-N'-(2,2,2-trichloroethoxycarbonyl)amino]benzamide (Compound No. 1958)

A solution of 0.30 g of 3-[N-methyl-N-(2,2,2-trichloroethoxycarbonyl)amino]benzoic acid and 0.07 g of N-methylmorpholine in 5 ml of tetrahydrofuran was stirred under cooling at -15°C. A solution of 0.09 g of isopropyl chloroformate in 5 ml of tetrahydrofuran was dropwise added to the solution, and then a solution of 0.20 g of 2,6-dimethyl-4-

Then, an organic layer was separated and dried with anhydrous magnesium sulfate. The solvent was distilled off under reduced pressure. The residue was purified by silica gel column chromatography (eluent; hexane : ethyl acetate = 3:2) to obtain 0.67 g (yield 73%) of the title compound as a solid.

^{1}H-NMR ($CDCl_3$, ppm) δ 2.44 (6H, s), 3.86 (2H, broad-s), 6.52 (1H, dd, J=2.9Hz, 8.5Hz), 6.91 (1H, d, J=2.9Hz), 7.12 (1H, s), 7.35 (2H, s), 7.62 (1H, d, J=8.5Hz)

(7-2) Production of N-(2,6-dimethyl-4-heptafluoroisopropyl)phenyl 2-iodo-5-(isopropyloxycarbonylamino)benzamide (Compound No. 1945)

To a solution obtained by adding 0.20 g of N-(2,6-dimethyl-4-heptafluoroisopropyl)phenyl 2-iodo-5-aminobenzamide and 0.06 g of pyridine to 5 ml of tetrahydrofuran and then stirring the mixture at room temperature was dropwise added a solution of 0.05 g of isopropyl chloroformate in 1 ml of tetrahydrofuran. After reaction for 2 hours, ethyl acetate and water were added to the reaction solution, and a separating operation was performed. Then, an organic layer was separated and dried with anhydrous magnesium sulfate. The solution was filtered, and then the filtrate was collected, and the solvent of the filtrate was distilled off under reduced pressure. The residue was purified by silica gel column chromatography (eluent; hexane : ethyl acetate = 4:1) to obtain 0.22 g (yield 96%) of the title compound as a solid.

^{1}H-NMR ($CDCl_3$, ppm) δ 1.31 (6H, d, J=6.3Hz), 2.45 (6H, s), 5.03 (1H, septet, J=6.3Hz), 6.66 (1H, s), 7.16-7.21 (2H, m), 7.36 (2H, s), 7.76 (1H, s), 7.82 (1H, dd, J=2.7Hz, 8.8Hz)

Example 8

(8-1) Production of N-(2,6-dimethyl-4-heptafluoroisopropyl)phenyl 2-chloro-3-nitrobenzamide

First, to a solution prepared by adding 2.50 g of 2-chloro-3-nitrobenzoic acid and 5 droplets of N,N-dimethylformamide to 30 ml of toluene was added 1.62 g of thionyl chloride, and the resultant mixture was stirred under heating at 80°C for 2 hours. Then, the solvent was distilled off under reduced pressure, and the residue was dissolved in 10 ml of tetrahydrofuran. The resultant solution was dropwise added to a solution of 3.24 g of 2,6-dimethyl-4-heptafluoroisopropylaniline and 1.77 g of pyridine in 20 ml of tetrahydrofuran at room temperature, and the mixture was stirred for 5 hours. Then, ethyl acetate and water were added to the reaction solution, and a separating operation was performed. Then, an organic layer was separated and dried with anhydrous magnesium sulfate. The solution was filtered, and then the filtrate was collected, and the solvent of the filtrate was distilled off under reduced pressure. The residue was purified by silica gel column chromatography (eluent; hexane : ethyl acetate = 4:1) to obtain 3.38 g (yield 64%) of the title compound as a solid.

^{1}H-NMR ($CDCl_3$, ppm) δ 2.42 (6H, s), 7.34 (1H, s), 7.37 (1H, s), 7.55 (1H, t, J=7.8Hz), 7.80 (1H, dd, J=1.5Hz, 7.8Hz), 7.86 (1H, dd, J=1.5Hz, 7.8Hz), 9.58 (1H,s)

(8-2) Production of N-(2,6-dimethyl-4-heptafluoroisopropyl)phenyl 2-fluoro-3-nitrobenzamide

To 25 ml of N,N-dimethylformamide dried with molecular sieve were added 2.35 g of N-(2,6-dimethyl-4-heptafluoroisopropyl)phenyl 2-chloro-3-nitrobenzamide and 0.87 g of potassium fluoride (spray-dried), and the resultant mixture was stirred under heating at 150°C for 3 hours. After the temperature was returned to room temperature, ethyl acetate and water were added to the reaction solution, and a separating operation was performed. Then, an organic layer was separated, washed with water twice, and dried with anhydrous magnesium sulfate. The solution was filtered, and then the filtrate was collected, and the solvent of the filtrate was distilled off under reduced pressure. The residue was purified by silica gel column chromatography (eluent; hexane : ethyl acetate = 4:1) to obtain 1.02 g (yield 45%) of the title compound as a solid.

^{1}H-NMR ($CDCl_3$, ppm) δ 2.37 (6H, s), 7.39 (2H, s), 7.48-7.53 (1H, m), 7.87 (1H, d, J=11.5Hz), 8.23-8.28 (1H, m), 8.42-8.46 (1H, m)

(8-3) Production of N-(2,6-dimethyl-4-heptafluoroisopropyl)phenyl 2-fluoro-3-aminobenzamide

The title compound was produced by using N-(2,6-dimethyl-4-heptafluoroisopropyl)phenyl 2-fluoro-3-nitrobenzamide produced in Example 8-2 as a starting material according to the same process as in Example 1-2 (yield 72%).

^{1}H-NMR ($CDCl_3$, ppm) δ 2.37 (6H, s), 3.90 (2H, broad-s), 6.96-7.01 (1H, m), 7.10 (1H, t, J=7.8Hz), 7.36 (2H, s), 7.43-7.47 (1H, m), 7.86 (1H, d, J=13.2Hz)

(8-4) Production of N-(2,6-dimethyl-4-heptafluoroisopropyl)phenyl 2-fluoro-3-(isopropyloxycarbonylamino)benzamide (Compound No. 1389)

The title compound was produced by using N-(2,6-dimethyl-4-heptafluoroisopropyl)phenyl 2-fluoro-3-aminobenzamide produced in Example 8-3 as a starting material according to the same process as in Example 7-2 (yield 72%).

^{1}H-NMR ($CDCl_3$, ppm) δ 1.34 (6H, d, J=6.3Hz), 2.36 (6H,s), 5.07 (1H, septet, J=6.3Hz), 6.86 (1H, broad-s), 7.30 (1H, t, J=8.1Hz), 7.37 (2H, s), 7.72-7.79 (2H, m), 8.32 (1H, broad)

Example 9

(9-1) Production of 3-[(2,2,2-trichloroethoxy)carbonylamino]benzoic acid

To an aqueous solution (200 ml) of 8.22 g of m-aminobenzoic acid and 4.8 g of sodium hydroxide was dropwise added 25.0 g of 2,2,2-trichloroethyl chloroformate at room temperature. During the dropwise addition, the reaction solution was controlled to pH 10 or more by appropriately adding a 1N sodium hydroxide aqueous solution. After the reaction, the solution was controlled to pH 1 by adding 1N hydrochloric acid, and the precipitates were collected by filtration. The resultant crude crystals were dried and then washed with a ethyl acetate/n-hexane mixed solvent to obtain 16.2 g (yield 87%) of the title compound as a solid.

^{1}H-NMR (DMSO-d_6, ppm) δ 4.85 (2H, s), 7.38 (1H, d, J=7.8Hz), 7.75 (1H, d, J=7.8Hz), 7.79-7.80 (1H, m), 8.14 (1H, s), 9.02 (1H, s)

(9-2) Production of 3-[(2,2,2-trichloroethoxy)carbonylamino]benzoyl chloride

To a toluene solution (10 ml) of 1.0 g of 3-[(2,2,2-trichloroethoxy)carbonylamino]benzoic acid produced in Example 9-1 was added 2 ml of thionyl chloride, and the resultant mixture was stirred at 100°C. The solvent was distilled off under reduced pressure, and the residue was dissolved in toluene. The solvent was again distilled off under reduced pressure to obtain 1.0 g (yield 95%) of the title compound as a solid.

^{1}H-NMR ($CDCl_3$, ppm) δ 4.86 (2H, s), 7.00 (1H, broad-s), 7.51 (1H, t, J=7.8Hz), 7.84 (1H, d, J=7.8Hz), 7.88 (1H, d, J=7.8Hz), 8.16 (1H, s)

(9-3) Production of N-(2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl 3-[(2,2,2-trichloroethoxy)carbonylamino]benzamide (Compound No. 257) First, to a solution prepared by adding 0.34 g of 2,6-dimethyl-4-(nonafluoro-2-butyl)aniline and 0.09 g of pyridine to 5 ml of tetrahydrofuran and stirring the resultant mixture at room temperature was added 0.33 g of 3-[(2,2,2-trichloroethoxy)carbonylamino]benzoyl chloride produced in Example 9-2. After reaction for 5 hours, ethyl acetate and water were added to the reaction solution, and a separating operation was performed. Then, an organic layer was separated and dried with anhydrous magnesium sulfate. The solution was filtered, and then the filtrate was collected, and the solvent of the filtrate was distilled off under reduced pressure. The residue was purified by silica gel column chromatography (eluent; hexane : ethyl acetate =

4:1) to obtain 0.45 g (yield 71%) of the title compound as a solid.

^{1}H-NMR ($CDCl_3$, ppm) δ 2.34 (6H, s), 4.85 (2H, s), 7.10 (1H, s), 7.34 (2H, s), 7.47-7.51 (2H, m), 7.63-7.67 (2H, m), 8.05 (1H, s)

The following compounds were produced according to the processes described in Examples 9-1 and 9-2.

3-(ethoxycarbonylamino)benzoyl chloride

3-(isopropylpropyloxycarbonylamino)benzoyl chloride

3-[(cyclobutyloxy)carbonylamino]benzoyl chloride

3-[(cyclopentyloxy)carbonylamino]benzoyl chloride

3-[(3-cyanobenzyloxy)carbonylamino]benzoyl chloride

3-[(4-cyanobenzyloxy)carbonylamino]benzoyl chloride

3-[(2-cyanoethoxy)carbonylamino]benzoyl chloride

3-[(2-methylthioethoxy)carbonylamino]benzoyl chloride

3-[(2-ethylthioethoxy)carbonylamino]benzoyl chloride

3-[(2-ethylsulfinylethoxy)carbonylamino]benzoyl chloride

3-[(2-fluoroethoxy)carbonylamino]benzoyl chloride

3-[(2,2-difluoroethoxy)carbonylamino]benzoyl chloride

3-[(2,2,2-trifluoroethoxy)carbonylamino]benzoyl chloride

3-[(1,3-difluoro-2-propyloxy)carbonylamino]benzoyl chloride

3-[(1-chloro-3-fluoro-2-propyloxy)carbonylamino]benzoyl chloride

3-[(3,3,3-trifluoro-n-propyloxy)carbonylamino]benzoyl chloride

3-[(2,2,3,3,3-pentafluoro-n-propyloxy)carbonylamino]benzoyl chloride

3-[(4,4,4-trifluoro-n-butyloxy)carbonylamino]benzoyl chloride

3-[(2,2,3,3-tetrafluorocyclobutyloxy)carbonylamino]benzoyl chloride

3-[(2-chloroethoxy)carbonylamino]benzoyl chloride

3-[(2,2-dichloroethoxy)carbonylamino]benzoyl chloride

3-[(1,3-dichloro-2-propyloxy)carbonylamino]benzoyl chloride

3-[(3-chloro-n-propyloxy)carbonylamino]benzoyl chloride

3-[(2-bromoethoxy)carbonylamino]benzoyl chloride

3-[(3-bromo-n-propyloxy)carbonylamino]benzoyl chloride

3-[(2-iodoethoxy)carbonylamino]benzoyl chloride

3-[(6-chloropyridine-3-yl)methoxycarbonylamino]benzoyl chloride

Example 10

(10-1) Production of N-(2,4-bistrifluoromethylphenyl) 3-isocyanatobenzamide

To a 1,4-dioxane solution (20 ml) of 0.57 g of phosgene dimmer was added a 1,4-dioxane solution (5 ml) of 2.0 g of N-(2,4-bistrifluoromethylphenyl) 3-aminobenzamide (produced by using 2,4-bistrifluoromethylaniline as a starting material according to the process described in Example 1-2), and the resultant mixture was stirred at 60°C for 3 hours. Then, the solvent was distilled off under reduced pressure, and the residue was dissolved in 10 ml of 1,4-dioxane. Then, the solvent was again distilled off under reduced pressure. The product was washed with n-hexane and filtered off to obtain 1.54 g (yield 72%) of the title compound. ^{1}H-NMR ($CDCl_3$, ppm) δ 7.33-7.36 (1H, m), 7.51 (1H, t, J=7.8Hz), 7.62-7.65 (2H, m), 7.88-7.92 (2H, m), 8.31 (1H, broad-s), 8.70 (1H, d, J=8.8Hz)

(10-2) Production of N-(2,4-bistrifluoromethylphenyl) 3-[(2,2,3,3,3-pentafluoro-n-propyloxy)carbonylamino]benzamide

(Compound No. 250)

First, to an anhydrous tetrahydrofuran solution (15ml) of 0.5 g of N-(2,4-bistrifluoromethylphenyl) 3-isocyanatobenzamide produced in Example 10-1 were added 0.40 g of 2,2,3,3,3-pentafluoro-n-propanol and 0.13 g of triethylamine, and the resultant mixture was stirred at room temperature for 5 hours. The mixture was diluted with ethyl acetate (20 ml), and an organic layer was washed with a 1N sodium hydroxide aqueous solution and 1N hydrochloric acid. The solvent was distilled off under reduced pressure. The residue was purified by silica gel column chromatography (eluent; hexane : ethyl acetate = 4:1) to obtain 0.49 g (yield 70%) of the title compound.

^{1}H-NMR ($CDCl_3$, ppm) δ 4.68 (2H, t, J=13.2Hz), 7.08 (1H, broad-s), 7.50-7.59 (2H, m), 7.70 (1H, broad-s), 7.87-7.92 (2H, m), 8.00 (1H, s), 8.39 (1H,s), 8.71 (1H, d, J=8.8Hz)

Example 11

(11-1) Production of N-(2,6-dimethyl-4-heptafluoroisopropyl)phenyl 3-(benzyloxycarbonyl)benzamide

A mixture of 3.24 g of benzyl alcohol and 2.85 g of pyridine was dropwise added to a tetrahydrofuran solution (60 ml) of 6.09 g of isophthaloyl chloride at room temperature. After the resultant mixture was stirred for 2 hours, a tetrahydrofuran solution (10 ml) of 2,6-dimethyl-4-heptafluoroisopropylaniline was added to the mixture in an ice bath, followed by stirring at room temperature for 2 hours. The reaction solution was diluted with ethyl acetate (50 ml), and an organic layer was washed with 1N hydrochloric acid.

Then, an aqueous solution (10 ml) of 0.32 g of sodium azide was added to the mixture, followed by stirring at room temperature for 2 hours. The reaction solution was poured into iced water (150 ml), and the precipitates were extracted with ethyl acetate (50 ml) and then dried with anhydrous magnesium sulfate. After anhydrous magnesium sulfate was filtered off, toluene (50 ml) was added to the filtrate, and the low-boiling-point solvent was distilled off by heating to 110°C using a Dean and Stark tube. After the end of gas generation was confirmed, the temperature was returned to room temperature, and then the residual solvent was distilled off under reduced pressure to obtain 1.23 g (yield 88%) of the title compound as a solid.

^{1}H-NMR ($CDCl_3$, ppm) δ 2.35 (6H, s), 7.32 (1H, d, J=7.8Hz), 7.37 (2H,s), 7.39 (1H,s), 7.49 (1H, t, J=7.8Hz), 7.67 (1H,s), 7.72 (1H, d, J=7.8Hz)

(11-4) Production of N-(2,6-dimethyl-4-heptafluoroisopropylphenyl) 3-[(1-chloro-3-trifluoromethyl-2-propyl)oxycarbonylamino]benzamide (Compound No. 120)

The title compound was produced by using N-(2,6-dimethyl-4-heptafluoroisopropylphenyl) 3-isocyanatobenzamide produced in Example 11-3 according to the process described in Example 10-2.

^{1}H-NMR ($CDCl_3$, ppm) δ 2.35 (6H, s), 3.75-3.83 (2H, m), 4.46-4.80 (2H, m), 5.19-5.24 (1H,m), 6.97 (1H, broad-s), 7.36 (2H, s), 7.36-7.48 (2H, m), 7.60-7.66 (2H, m), 8.03 (1H, s)

The following compounds were produced according to the processes described in Examples 10 and 11.

The solvent was distilled off under reduced pressure. The residue was purified by silica gel column chromatography (eluent; hexane : ethyl acetate = 9:1) to obtain 9.5 g (yield 60%) of the title compound as an amorphous material.

^{1}H-NMR ($CDCl_3$, ppm) δ 2.33 (6H, s), 5.41 (2H,s), 7.34-7.48 (7H,m), 7.56 (1H,s), 7.61 (1H, t, J=7.8Hz), 8.17 (1H, t, J=7.8Hz), 8.28 (1H, d, J=7.8Hz), 8.57 (1H, s)

(11-2) Production of 3-[(2,6-dimethyl-4-heptafluoroisopropylphenyl)aminocarbonyl]benzoic acid

Catalytic hydrogen reduction was performed at normal pressure by using a methanol solution (20 ml) of 2.0 g of N-(2,6-dimethyl-4-heptafluoroisopropyl)phenyl 3-(benzyloxycarbonyl)benzamide produced in Example 11-1 and 0.2 g of 10% palladium-carbon (wet, 50% product) to produce 1.59 g (yield 96%) of the title compound as a solid.

^{1}H-NMR ($CDCl_3$, ppm) δ 2.36 (6H,s), 7.37 (2H,s), 7.59 (1H,s), 7.67 (1H, t, J=7.8Hz), 8.23 (1H, d, J=7.8Hz), 8.32 (1H, d, J=7.8Hz), 8.62 (1H, s)

(11-3) Production of N-(2,6-dimethyl-4-heptafluoroisopropylphenyl) 3-isocyanatobenzamide

First, to an acetone solution (25 ml) of 1.4 g of -[(2,6-dimethyl-4-heptafluoroisopropylphenyl)aminocarbonyl]benzoic acid produced in Example 11-2 and 0.38 g of triethylamine was added 0.44 g of ethyl chloroformate in an iced water bath, and the resultant mixture was stirred at room temperature for 1 hour.

N-2,6-dimethyl-4-(nonafluoro-2-butyl)phenyl 3-isocyanatobenzamide

N-2,6-dimethyl-4-[(heptafluoro-n-propyl)thio]phenyl 3-isocyanatobenzamide

N-2,6-dibromo-4-[(heptafluoro-n-propyl)thio]phenyl 3-isocyanatobenzamide

N-2,6-dichloro-4-[(heptafluoro-n-propyl)thio]phenyl 3-isocyanatobenzamide

N-2,6-dimethyl-4-[(heptafluoroisopropyl)thio]phenyl 3-isocyanatobenzamide

N-2,6-dibromo-4-[(heptafluoroisopropyl)thio]phenyl 3-isocyanatobenzamide

N-2,6-dichloro-4-[(heptafluoroisopropyl)thio]phenyl 3-isocyanatobenzamide

N-2,6-dimethyl-4-[(nonafluoro-2-butyl)thio]phenyl 3-isocyanatobenzamide

N-2,6-dibromo-4-[(nonafluoro-2-butyl)thio]phenyl 3-isocyanatobenzamide

N-2,6-dichloro-4-[(nonafluoro-2-butyl)thio]phenyl 3-isocyanatobenzamide

N-2,6-dimethyl-4-[(heptafluoro-n-propyl)sulfinyl]phenyl 3-isocyanatobenzamide

N-2,6-dibromo-4-[(heptafluoro-n-propyl)sulfinyl]phenyl 3-isocyanatobenzamide

N-2,6-dichloro-4-[(heptafluoro-n-propyl)sulfinyl]phenyl 3-isocyanatobenzamide

N-2,6-dimethyl-4-[(heptafluoro-n-propyl)sulfonyl]phenyl 3-isocyanatobenzamide

N-2,6-dibromo-4-[(heptafluoro-n-propyl)sulfonyl]phenyl 3-isocyanatobenzamide

N-2,6-dichloro-4-[(heptafluoro-n-propyl)sulfonyl]phenyl 3-isocyanatobenzamide

Example 12

(12-1) Production of 4-(heptafluoro-n-propylthio)aniline

To an acetonitrile solution (20 ml) of 4-aminothiophenol (1.25 g, 9.98 mmol) and triethylamine (1.11 g, 11.0 mmol) was added 1-iodoheptafluoro-n-propane (5.91 g, 19.9 mmol), and the resultant mixture was stirred at room temperature for 3 hours. The mixture was diluted with ether, and washed with a 1N sodium hydroxide aqueous solution. Then, the product was purified by silica gel column chromatography (eluent; hexane : ethyl acetate = 4:1) to obtain 1.85 g (yield 63%) of the title compound.
^{1}H-NMR ($CDCl_3$, ppm) δ 3.95 (2H, s), 6.66 (2H, d, J=8.8Hz), 7.40 (2H, d, J=8.8Hz)

(12-2) Production of 2,6-dibromo-4-(heptafluoro-n-propylthio)aniline

First, to a solution of 0.77 g of 4-(heptafluoro-n-propylthio)aniline produced in Example 12-1 in 15 ml of N,N-dimethylformamide was added 0.98 g of N-bromosuccinimide. After the resultant mixture was stirred at 60°C for 2 hours, ether and water were added to the mixture. Then, an organic layer was separated, washed with water twice and dried with anhydrous magnesium sulfate. The solvent was distilled off under reduced

pressure. The residue was purified by silica gel column chromatography (eluent; hexane : ethyl acetate = 9:1) to obtain 1.19 g (yield 100%) of the title compound as a red oily material.

^{1}H-NMR ($CDCl_3$, ppm) δ 4.98 (2H, broad-s), 7.66 (2H, s)

(12-3) Production of N-{2,6-dibromo-4-(heptafluoro-n-propylthio)}phenyl 3-nitrobenzamide

To a solution prepared by adding 1.08 g of 2,6-dibromo-4-(heptafluoro-n-propylthio)aniline produced in Example 12-2 and 0.4 g of pyridine to 20 ml of tetrahydrofuran and stirring the resultant mixture at room temperature was dropwise added a solution of 0.55 g of 3-nitrobenzoyl chloride in 20 ml of tetrahydrofuran. After the resultant mixture was stirred at room temperature for 10 hours, ethyl acetate and water were added to the reaction solution, and a separating operation was performed. Then, an organic layer was separated and dried with anhydrous magnesium sulfate. The solution was filtered, and then the filtrate was collected, and the solvent of the filtrate was distilled off under reduced pressure. The residue was purified by silica gel column chromatography (eluent; hexane : ethyl acetate = 4:1) to obtain 0.86 g (yield 48%) of the title compound as a white solid.

^{1}H-NMR ($CDCl_3$, ppm) δ 7.73 (1H, s, J=7.8Hz, 7.77 (1H, t, J=7.8Hz), 7.96 (2H, s), 8.31 (1H, s), 8.47-8.50 (1H, m), 8.79 (1H, t, J=2.0Hz)

(12-4) Production of N-{2,6-dibromo-4-(heptafluoro-n-

propylthio)}phenyl 3-aminobenzamide

To a solution prepared by adding 0.97 g of N-{2,6-dibromo-4-(heptafluoro-n-propylthio)}phenyl 3-nitrobenzamide produced in Example 12-3 and 0.95 g of tin(II) chloride (anhydrous) to 20 ml of ethanol and stirring the resultant mixture at room temperature was added 2 ml of conc. hydrochloric acid, and the resultant mixture was stirred under heating at 60°C for 1 hour. After the temperature was returned to room temperature, the reaction solution was poured into water, and the solution was neutralized with potassium carbonate. Then, ethyl acetate was added to the solution, and insoluble materials were filtered off. Then, an organic layer was separated and dried with anhydrous magnesium sulfate. The solution was filtered, and then the filtrate was collected, and the solvent of the filtrate was distilled off under reduced pressure. The residue was washed with hexane to obtain 0.75 g (yield 81%) of the title compound as a white solid.
^{1}H-NMR ($CDCl_3$, ppm) δ 3.89 (2H, broad-s), 6.90 (1H, dt, J=2.5Hz, 6.4Hz), 7.28-7.30 (3H, m), 7.60 (1H, s), 7.93 (2H, s)

(12-5) Production of N-{2,6-dibromo-4-(heptafluoro-n-propylthio)}phenyl 3-(2,2,2-trichloroethoxycarbonylamino)benzamide (Compound No. 612)

To a solution prepared by adding 0.10 g of N-{2,6-dibromo-4-(heptafluoro-n-propylthio)}phenyl 3-aminobenzamide and 0.02 g of pyridine to 5 ml of tetrahydrofuran and stirring the resultant mixture at room temperature was dropwise added a solution of 0.04 g of 2,2,2-trichloroethyl chloroformate in 1 ml of tetrahydrofuran.

After reaction for 2 hours, ethyl acetate and water were added to the reaction solution, and a separating operation was performed. Then, an organic layer was separated and dried with anhydrous magnesium sulfate. The solution was filtered, and then the filtrate was collected, and the solvent of the filtrate was distilled off under reduced pressure. The residue was purified by silica gel column chromatography (eluent; hexane : ethyl acetate = 4:1) to obtain 0.11 g (yield 84%) of the title compound as a solid. ^{1}H-NMR ($CDCl_3$, ppm) δ 4.86 (2H, s), 7.45 (1H, t, J=7.8Hz), 7.72 (1H, d, J=7.8Hz), 7.93 (2H, s), 7.94 (1H, broad-s), 8.13 (1H, s), 9.02 (1H, s), 9.17 (1H, s)

(12-6) Production of N-{2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)}phenyl 3-nitrobenzamide and N-{2,6-dibromo-4-(heptafluoro-n-propylsulfonyl)}phenyl 3-nitrobenzamide

A solution prepared by adding 0.5 g of N-{2,6-dibromo-4-(heptafluoro-n-propylthio)}phenyl 3-nitrobenzamide to 15 ml of chloroform was stirred at room temperature, and 0.5 g of m-chloroperbenzoic acid was added to the mixture. After the resultant mixture was stirred at room temperature for 1 week, an aqueous solution of sodium hydrogen sulfite was added to the mixture, followed by stirring. Then, an organic layer was separated and washed with a 1N sodium hydroxide aqueous solution and saturated saline water. Then, the solvent was distilled off under reduced pressure. The residue was purified by silica gel column chromatography (eluent; hexane : ethyl acetate = 4:1) to obtain 0.21 g of N-({2,6-dibromo-4-(heptafluoro-n-

propylsulfinyl)}phenyl 3-nitrobenzamide and 0.12 g of N-{2,6-dibromo-4-(heptafluoro-n-propylsulfonyl)}phenyl 3-nitrobenzamide as solids.

(sulfinyl compound) ^{1}H-NMR ($CDCl_3$, ppm) δ 7.76-7.82 (2H, m), 8.06 (1H, s), 8.29 (1H, s), 8.33-8.35 (1H, m), 8.49-8.53 (1H, m), 8.81 (1H, s)

(12-7) Production of 2,6-dimethyl-4-(heptafluoro-n-propylthio)aniline

To 20 ml of DMF were added 3.0 g (1.3 mmol) of 2,6-dibromo-4-heptafluoro-n-propylthioaniline, 3.0 g (21.9 mmol) of potassium carbonate, 0.75 g (0.65 mmol) of tetrakis(triphenylphosphine) palladium, and 0.17 g (1.3 mmol) of trimethylboroxine, and the resultant mixture was stirred at 135°C for 6 hours. After the reaction solution was cooled to room temperature, insoluble materials were filtered off with cerite. The filtrate was concentrated under reduced pressure. The residue was purified by silica gel column chromatography (eluent; n-hexane : ethyl acetate = 12:1 to 4:1) to obtain 1.17 g (yield 55%) of the title compound as an oily material.

^{1}H-NMR ($CDCl_3$, ppm) δ 2.17 (6H,s), 3.86 (2H, broad-s), 7.22 (2H, s)

The following aniline derivatives can be produced according to the processes described in Examples 12-1, 12-2, 12-6, and 12-7.

2-methyl-4-(pentafluoroethylthio)aniline

2-methyl-4-(heptafluoro-n-propylthio)aniline

^{1}H-NMR ($CDCl_3$, ppm) δ 2.16 (3H, s), 3.90 (2H, broad-s), 6.65 (1H, d, J=8.3Hz), 7.28-7.31 (2H, m)

2-bromo-4-(heptafluoro-n-propylthio)aniline

^{1}H-NMR ($CDCl_3$, ppm) δ 4.44 (2H, broad-s), 6.75 (1H, d, J=8.8Hz), 7.36 (1H, dd, J=2.0Hz, 8.8Hz), 7.69 (1H, d, J=2.0Hz)

2-methyl-4-(heptafluoroisopropylthio)aniline

2-methyl-4-(nonafluoro-n-butylthio)aniline

2-methyl-4-(pentafluoroethylsulfinyl)aniline

2-methyl-4-(heptafluoro-n-propylsulfinyl)aniline

2-methyl-4-(heptafluoroisopropylsulfinyl)aniline

2-methyl-4-(nonafluoro-n-butylsulfinyl)aniline

2-methyl-4-(pentafluoroethylsulfonyl)aniline

2-methyl-4-(heptafluoro-n-propylsulfonyl)aniline

2-methyl-4-(heptafluoroisopropylsulfonyl)aniline

2-methyl-4-(nonafluoro-n-butylsulfonyl)aniline

2,6-dichloro-4-(pentafluoroethylthio)aniline

2,6-dibromo-4-(pentafluoroethylthio)aniline

N-{2,6-dibromo-4-(pentafluoroethylthio)}phenyl 3-nitrobenzamide

^{1}H-NMR ($CDCl_3$, ppm) δ 7.73 (1H,s), 7.77 (1H, t, J=7.8Hz), 7.96 (2H, s), 8.32 (1H, d, J=7.8Hz), 8.47-8.50 (1H, m), 8.80 (1H, t, J=2.0Hz)

2,6-dimethyl-4-(pentafluoroethylthio)aniline

2,6-dichloro-4-(heptafluoro-n-propylthio)aniline

^{1}H-NMR ($CDCl_3$, ppm) δ 4.82 (2H, broad-s), 7.48 (2H, s)

N-{2,6-dichloro-4-(heptafluoro-n-propylthio)}phenyl 3-nitrobenzamide

^{1}H-NMR ($CDCl_3$, ppm) δ 7.70 (1H, s), 7.76 (2H, s), 7.77 (1H, t, J=7.8Hz), 8.31 (1H, d, J=7.8Hz), 8.48 (1H, d, J=7.8Hz), 8.78 (1H, t, J=2.0Hz)

2,6-dibromo-4-(heptafluoro-n-propylthio)aniline

^{1}H-NMR ($CDCl_3$, ppm) δ 4.93 (2H, broad-s), 7.66 (2H, s)

2,6-dimethyl-4-(heptafluoro-n-propylthio)aniline

^{1}H-NMR ($CDCl_3$, ppm) δ 2.17 (6H, s), 3.86 (2H, broad-s), 7.22 (2H, s)

N-{2,6-dichloro-4-(heptafluoro-n-propylthio)}phenyl 2-chloro-3-nitrobenzamide

^{1}H-NMR ($CDCl_3$, ppm) δ 2.39 (6H, s), 7.30 (1H, s), 7.46 (2H, s), 7.57 (1H, t, J=7.8Hz), 7.90 (1H, d, J=7.8Hz), 7.91 (1H, d, J=7.8Hz)

2-bromo-4-(heptafluoro-n-propyl)thio-6-methylaniline

^{1}H-NMR ($CDCl_3$, ppm) δ 2.22 (3H, s), 4.40 (2H, broad-s), 7.27 (1H, s), 7.60 (1H, d, J=2.0Hz)

2,6-dichloro-4-(heptafluoroisopropylthio)aniline

^{1}H-NMR ($CDCl_3$, ppm) δ 6.40 (2H, s), 7.52 (2H, s)

2,6-dibromo-4-(heptafluoroisopropylthio)aniline

N-{2,6-dichloro-4-(heptafluoroisopropylthio)}phenyl 3-nitrobenzamide

^{1}H-NMR ($CDCl_3$, ppm) δ 7.73 (1H, s), 7.76 (1H, t, J=7.8Hz), 7.95 (2H, s), 8.31 (1H, d, J=7.8Hz), 8.48 (1H, d, J=7.8Hz), 8.79 (1H, t, J=1.5Hz)

2,6-dimethyl-4-(heptafluoroisopropylthio)aniline

2,6-dichloro-4-(nonafluoro-n-butylthio)aniline

2,6-dibromo-4-(nonafluoro-n-butylthio)aniline

N-{2,6-dichloro-4-(nonafluoro-n-butylthio)}phenyl 3-nitrobenzamide

^{1}H-NMR ($CDCl_3$, ppm) δ 7.76 (1H,s), 7.77 (1H, t, J=8.3Hz), 7.96 (2H, s), 8.32 (1H, d, J=8.3Hz), 8.48 (1H, d, J=8.3Hz), 8.80 (1H, t,

J=2.0Hz)

2,6-dimethyl-4-(nonafluoro-n-butylthio)aniline

2,6-dichloro-4-(pentafluoroethylsulfinyl)aniline

2,6-dibromo-4-(pentafluoroethylsulfinyl)aniline

2,6-dimethyl-4-(pentafluoroethylsulfinyl)aniline

2,6-dichloro-4-(heptafluoro-n-propylsulfinyl)aniline

2,6-dibromo-4-(heptafluoro-n-propylsulfinyl)aniline

N-{2,6-dichloro-4-(heptafluoro-n-propylsulfinyl)}phenyl 3-nitrobenzamide

^{1}H-NMR ($CDCl_3$, ppm) δ 7.76-7.82 (2H, m), 8.06(1H, s), 8.29 (1H, s), 8.33-8.35 (1H, m), 8.49-8.53 (1H, m), 8.81(1H, s)

2,6-dimethyl-4-(heptafluoro-n-propylsulfinyl)aniline

2,6-dichloro-4-(heptafluoroisopropylsulfinyl)aniline

2,6-dibromo-4-(heptafluoroisopropylsulfinyl)aniline

2,6-dimethyl-4-(heptafluoroisopropylsulfinyl)aniline

2,6-dichloro-4-(nonafluoro-n-butylsulfinyl)aniline

2,6-dibromo-4-(nonafluoro-n-butylsulfinyl)aniline

2,6-dimethyl-4-(nonafluoro-n-butylsulfinyl)aniline

2,6-dichloro-4-(pentafluoroethylsulfonyl)aniline

2,6-dibromo-4-(pentafluoroethylsulfonyl)aniline

2,6-dimethyl-4-(pentafluoroethylsulfonyl)aniline

2,6-dichloro-4-(heptafluoro-n-propylsulfonyl)aniline

2,6-dibromo-4-(heptafluoro-n-propylsulfonyl)aniline

2,6-dimethyl-4-(heptafluoro-n-propylsulfonyl)aniline

2,6-dichloro-4-(heptafluoroisopropylsulfonyl)aniline

N-{2,6-dichloro-4-(heptafluoroisopropylsulfonyl)}phenyl 3-nitrobenzamide

^{1}H-NMR ($CDCl_3$, ppm) δ 7.79 (1H, t, J=7.8Hz), 7.98 (1H, s), 8.07 (2H, s), 8.33 (1H, d, J=7.8Hz), 8.51 (1H, d, J=7.8Hz), 8.81 (1H, t, J=2.0Hz)

2,6-dibromo-4-(heptafluoroisopropylsulfonyl)aniline

2,6-dimethyl-4-(heptafluoroisopropylsulfonyl)aniline

2,6-dichloro-4-(nonafluoro-n-butylsulfonyl)aniline

2,6-dibromo-4-(nonafluoro-n-butylsulfonyl)aniline

2,6-dimethyl-4-(nonafluoro-n-butylsulfonyl)aniline

Example 13

(13-1) Production of 2,6-dimethyl-4-(1,1,1,3,3,3-hexafluoro-2-hydroxy-2-propyl)aniline

A mixture of 2.42 g of 2,6-dimethylaniline, 7.35 g of hexafluoroacetone hydrate, and 0.04 g of p-toluenesulfonic acid monohydrate was stirred under heating at 100°C for 5 hours. After the temperature was returned to room temperature, the mixture was diluted with ethyl acetate and washed with a 1N sodium hydroxide aqueous solution. Then, the solvent was distilled off under reduced pressure, and the precipitated crude crystals were washed with a n-hexane-ethyl acetate mixed solvent to obtain 4.47 g (yield 78%) of the title compound as a solid.

^{1}H-NMR ($CDCl_3$, ppm) δ 2.20 (6H, s), 3.26 (1H, broad-s), 3.76 (2H, broad-s), 7.25 (2H, s)

(13-2) Production of N-[2,6-dimethyl-4-(1,1,1,3,3,3-hexafluoro-2-hydroxy-2-propyl)]phenyl 3-(2,2,2-trichloroethoxycarbonylamino)benzamide (Compound No. 872)

The title compound was produced as an amorphous material by using 2,6-dimethyl-4-(1,1,1,3,3,3-hexafluoro-2-hydroxy-2-propyl)aniline produced in Example 13-1 as a starting material according to the process described in Example 9-3 (yield 92%).

^{1}H-NMR ($CDCl_3$, ppm) δ 2.31 (6H, s), 3.99 (1H, s), 4.85 (2H, s), 7.15 (1H, broad-s), 7.45-7.51 (4H, m), 7.64-7.66 (2H, m), 8.01 (1H, s)

Formulation examples containing the compounds represented by formula (1) of the present invention as active ingredients are shown below, however the present invention is not limited to these examples. In each of the formulation examples, "part(s)" represents "part(s) by weight".

Formulation Example 1

A mixture of 20 parts of a compound represented by formula (1) of the present invention, 10 parts of Sorpol 355S (surfactant produced by Toho CHemical Industry Co., Ltd.), and 70 parts of xylene was uniformly stirred to produce an emulsion.

Formulation Example 2

A mixture of 10 parts of a compound represented by formula (1) of the present invention, 2 parts of sodium alkylnaphthalenesulfonate, 1 part of sodium lignin-sulfonate, 5 parts of white carbon, and 82 parts of diatomite was uniformly stirred to produce a wettable powder.

Formulation Example 3

A mixture of 0.3 parts of a compound represented by formula (1) of the present invention and 0.3 parts of white carbon was uniformly stirred, and 99.2 parts of clay and 0.2 parts of Driless A (produced by Sankyo Co., Ltd.) were added to the mixture. The resultant mixture was uniformly ground to produce a dust.

Formulation Example 4

A mixture of 2 parts of a compound represented by formula (1) of the present invention, 2 parts of white carbon, 2 parts of sodium lignin-sulfonate, and 94 parts of bentonite was uniformly ground, and then water was added to the mixture. The resultant mixture was kneaded, granulated and then dried to produce granules.

Formulation Example 5

A mixture of 20 parts of a compound represented by formula (1) of the present invention and 5 parts of a 20% aqueous solution of polyvinyl alcohol was sufficiently stirred, and then 75 parts of a 0.8% aqueous solution of xanthane gum was added to the mixture. Then, the resultant mixture was again stirred to produce a flowable agent.

Test examples for making clear that the compounds represented by formula (1) of the present invention have excellent insecticidal activity are shown below, however the present invention is not limited to these examples.

Test Example 1 Insecticidal test for common cutworm (Spodoptera

litura)

A cabbage leaf piece was immersed in a solution prepared by diluting a test compound to a predetermined concentration for 30 seconds, and then dried in air. Then, the cabbage leaf piece was placed in a polyethylene cup of 7 cm-size in which 2nd-instar larvae of common cutworm were placed. The cup was allowed to stand in a thermostatic chamber at 25°C. Three days after, the numbers of living and dead larvae were counted. The test was carried out in two replications each containing five larvae.

As a result, at a concentration of 1000 ppm, a mortality of 70% or more was exhibited by Compounds Nos. 20, 59, 60, 62, 64, 66, 75, 78, 79, 81, 83, 84, 85, 90, 91, 92, 106, 108, 109, 111, 112, 116, 117, 118, 119, 120, 121, 123, 124, 125, 126, 127, 130, 131, 132, 134, 135, 136, 137, 138, 139, 140, 155, 156, 161, 163, 165, 174, 175, 176, 180, 181, 184, 186, 189, 190, 192, 196, 197, 198, 205, 206, 207, 208, 209, 210, 212, 213, 215, 216, 217, 218, 219, 220, 221, 224, 225, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 241, 246, 247, 248, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 300, 301, 348, 377, 424, 464, 471, 511, 518, 565, 605, 612, 659, 706, 770, 800, 817, 818, 819, 854, 855, 856, 857, 843, 844, 846, 847, 864, 867, 872, 873, 878, 890, 891, 892, 898, 899, 900, 902, 903, 905, 913, 915, 916, 919, 920, 922, 932, 933, 944, 948, 992, 1010, 1039, 1086, 1104, 1180, 1198, 1227, 1245, 1274, 1292, 1321, 1361, 1368, 1388, 1389, 1408, 1411, 1416, 1418, 1421, 1435, 1455, 1458, 1463, 1465, 1903, 1906, 1907, 1922, 1923, 1924, 1925, 1926, 1929, 1931, 1932, 1935, 1939, 1941, 1942, 1943, 1944, 1945, 1947, 1948, 1950, 1951, 1952, 1953, 1954, 1955, 1956, 1958,

1959, 1963, 1964, 1967, 1968, 1969, 2061, 2062, 2164, 2165, and 2168.

Test Example 2 Insecticidal test for diamondback moth (Plutella xylostella)

A cabbage leaf pieces was immersed in a solution prepared by diluting a test compound to a predetermined concentration for 30 seconds, and then dried in air. Then, the leaf piece was placed in a polyethylene cup of 7 cm-size in which 2nd-instar larvae of common cutworm were placed. The cup was allowed to stand in a thermostatic chamber at 25°C. Three days after, the numbers of living and dead larvae were counted. The test was carried out in two replications each containing five larvae.

As a result, at a concentration of 1000 ppm, a mortality of 70% or more was exhibited by Compounds Nos. 3, 5, 7, 8, 20, 59, 60, 62, 66, 75, 77, 78, 79, 80, 84, 85, 92, 94, 95, 96, 99, 101, 103, 104, 106, 108, 109, 110, 111, 112, 113, 116, 117, 118, 119, 120, 121, 123, 126, 127, 130, 131, 132, 134, 136, 137, 138, 139, 140, 141, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 168, 171, 174, 175, 176, 180, 181, 183, 184, 186, 190, 192, 196, 197, 198, 201, 203, 204, 205, 206, 207, 208, 209, 212, 213, 214, 215, 217, 218, 219, 220, 221, 223, 224, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 246, 247, 248, 249, 250, 252, 253, 254, 255, 256, 257, 258, 259, 300, 301, 348, 377, 424, 464, 471, 511, 518, 565, 605, 612, 659, 706, 800, 817, 818, 819, 820, 829, 858, 863, 865, 867, 868, 871, 872, 873, 878, 896, 897, 898, 899, 900, 902, 908, 913, 915, 919, 920, 922, 930, 932, 933, 936, 939, 941, 942,

943, 944, 945, 947, 948, 992, 1010, 1039, 1086, 1104, 1180, 1227, 1245, 1274, 1292, 1321, 1361, 1368, 1388, 1389, 1408, 1411, 1416, 1418, 1421, 1435, 1455, 1458, 1463, 1465, 1903, 1906, 1907, 1916, 1923, 1926, 1928, 1929, 1931, 1933, 1939, 1945, 1947, 1950, 1951, 1952, 1953, 1954, 1955, 1956, 1958, 1959, 1963, 1964, 1967, 1968, 1969, 2061, 2062, 2164, 2165, 2167, and 2168.

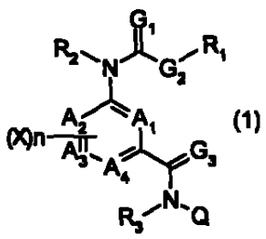
Test Example 3 Insecticidal test for small brown planthopper (Laodelphax striatellus)

An acetone solution prepared by diluting a test compound to a predetermined concentration was sprayed on rice seedlings, and the rice seedlings were dried in air. Ten small brown planthoppers and an original chemical were used for the test. The rice seedlings were allowed to stand in a thermostatic chamber at 25°C. Six days after, the number of living insects was examined, and three days after, the number of dead insects was examined. The test was carried out one replication containing ten insects.

As a result, at a concentration of 1000 ppm, a mortality of 70% or more was exhibited by Compounds Nos. 108, 127, 184, 196, 197, 205, 209, 212, 215, 1321, 1361, 1368, 1408, 1411, 1416, 1435, 1455, 1458, 1463, 1958, 1959, and 1968.

CLAIMS

1. A compound represented by formula (1):



(1)

wherein A_1, A_2, A_3, and A_4 independently represent a carbon atom, a nitrogen atom, or an oxidized nitrogen atom; R_1 represents a C1-C6 alkyl group which may be substituted, a phenyl group which may be substituted, a naphthyl group which may be substituted, or a heterocyclic group which may be substituted; R_2 and R_3 independently represent a hydrogen atom, a C1-C4 alkyl group which may be substituted, or a C1-C4 alkylcarbonyl group which may be substituted; G_1, G_2, and G_3 independently represent an oxygen atom or a sulfur atom; Xs may be the same or different and each represent a hydrogen atom, a halogen atom, a C1-C4 alkyl group which may be substituted, or an amino group which may be substituted; n represents an integer of 0 to 4; Q represents a phenyl group which may be substituted, a naphthyl group which may be substituted, a tetrahydronaphthyl group which may be substituted, or a heterocyclic group which may be substituted.

2. The compound according to claim 1, wherein in formula (1), A_1, A_2, A_3, and A_4 independently represent a carbon atom, a nitrogen atom, or an oxidized nitrogen atom; R_1 represents:
a C1-C6 alkyl group,
a C1-C6 haloalkyl group,

a C2-C6 alkenyl group,

a C2-C6 haloalkenyl group,

a C2-C6 alkynyl group,

a C2-C6 haloalkynyl group,

a C3-C8 cycloalkyl group,

a C3-C8 halocycloalkyl group,

a phenyl group,

a substituted phenyl group having one or more substituents which may be the same or different and which are selected from a halogen atom, a C1-C6 alkyl group, a C1-C6 haloalkyl group, a C3-C8 cycloalkyl group, a C3-C8 halocycloalkyl group, a C1-C6 alkoxy group, a C1-C6 haloalkoxy group, a C1-C6 alkylthio group, a C1-C6 haloalkylthio group, a C1-C6 alkylsulfinyl group, a C1-C6 haloalkylsulfinyl group, a C1-C6 alkylsulfonyl group, a C1-C6 haloalkylsulfonyl group, a cyano group, a nitro group, a hydroxyl group, a pentafluorosulfanyl group, a C1-C4 alkylcarbonyl group, a C1-C4 haloalkylcarbonyl group, a C1-C4 alkylcarbonyloxy group, and a C1-C4 alkoxycarbonyl group,

a naphthyl group,

a substituted naphthyl group having one or more substituents which may be the same or different and which are selected from a halogen atom, a C1-C6 alkyl group, a C1-C6 haloalkyl group, a C3-C8 cycloalkyl group, a C3-C8 halocycloalkyl group, a C1-C6 alkoxy group, a C1-C6 haloalkoxy group, a C1-C6 alkylthio group, a C1-C6 haloalkylthio group, a C1-C6 alkylsulfinyl group, a C1-C6 haloalkylsulfinyl group, a C1-C6 alkylsulfonyl group, a C1-C6 haloalkylsulfonyl group, a cyano group, a nitro group, a hydroxyl

group, a pentafluorosulfanyl group, a C1-C4 alkylcarbonyl group, a C1-C4 haloalkylcarbonyl group, a C1-C4 alkylcarbonyloxy group, and a C1-C4 alkoxycarbonyl group,

a heterocyclic group (which represents a pyridyl group, a pyridine-N-oxide group, a pyrimidinyl group, a pyridazyl group, a furyl group, a tetrahydrofuryl group, a thienyl group, a tetrahydrothienyl group, a tetrahydropyranyl group, an oxazolyl group, an isoxazolyl group, an oxadiazolyl group, a thiazolyl group, an isothiazolyl group, a thiadiazolyl group, a pyrrole group, an imidazolyl group, a triazolyl group, a pyrazolyl group, or a tetrazolyl group),

a substituted heterocyclic group (which represents a pyridyl group, a pyridine-N-oxide group, a pyrimidinyl group, a pyridazyl group, a furyl group, a tetrahydrofuryl group, a thienyl group, a tetrahydrothienyl group, a tetrahydropyranyl group, an oxazolyl group, an isoxazolyl group, an oxadiazolyl group, a thiazolyl group, an isothiazolyl group, a thiadiazolyl group, a pyrrole group, an imidazolyl group, a triazolyl group, a pyrazolyl group, or a tetrazolyl group) having one or more substituents which may be the same or different and which are selected from a halogen atom, a C1-C6 alkyl group, a C1-C6 haloalkyl group, a C3-C8 cycloalkyl group, a C3-C8 halocycloalkyl group, a C1-C6 alkoxy group, a C1-C6 haloalkoxy group, a C1-C6 alkylthio group, a C1-C6 haloalkylthio group, a C1-C6 alkylsulfinyl group, a C1-C6 haloalkylsulfinyl group, a C1-C6 alkylsulfonyl group, a C1-C6 haloalkylsulfonyl group, a cyano group, a nitro group, a hydroxyl group, a pentafluorosulfanyl group, a C1-C4 alkylcarbonyl group, a

C1-C4 haloalkylcarbonyl group, a C1-C4 alkylcarbonyloxy group, and a C1-C4 alkoxycarbonyl group,

$-E_1-Z_1-R_4$

(wherein E_1 represents a C1-C4 alkylene group, a C2-C4 alkenylene group, a C3-C4 alkynylene group, a C1-C4 haloalkylene group, a C2-C4 haloalkenylene group, or a C3-C4 haloalkynylene group; R_4 represents a hydrogen atom, a C1-C6 alkyl group, a C2-C6 alkenyl group, a C2-C6 alkynyl group, a C1-C6 haloalkyl group, a C2-C6 haloalkenyl group, a C2-C6 haloalkynyl group,

a C3-C8 cycloalkyl group,

a C3-C8 halocycloalkyl group,

a phenyl group,

a substituted phenyl group having one or more substituents which may be the same or different and which are selected from a halogen atom, a C1-C6 alkyl group, a C1-C6 haloalkyl group, a C3-C8 cycloalkyl group, a C3-C8 halocycloalkyl group, a C1-C6 alkoxy group, a C1-C6 haloalkoxy group, a C1-C6 alkylthio group, a C1-C6 haloalkylthio group, a C1-C6 alkylsulfinyl group, a C1-C6 haloalkylsulfinyl group, a C1-C6 alkylsulfonyl group, a C1-C6 haloalkylsulfonyl group, a cyano group, a nitro group, a hydroxyl group, a pentafluorosulfanyl group, a C1-C4 alkylcarbonyl group, a C1-C4 haloalkylcarbonyl group, a C1-C4 alkylcarbonyloxy group, and a C1-C4 alkoxycarbonyl group,

a naphthyl group,

a substituted naphthyl group having one or more substituents which may be the same or different and which are selected from a halogen atom, a C1-C6 alkyl group, a C1-C6 haloalkyl group, a C3-C8

cycloalkyl group, a C3-C8 halocycloalkyl group, a C1-C6 alkoxy group, a C1-C6 haloalkoxy group, a C1-C6 alkylthio group, a C1-C6 haloalkylthio group, a C1-C6 alkylsulfinyl group, a C1-C6 haloalkylsulfinyl group, a C1-C6 alkylsulfonyl group, a C1-C6 haloalkylsulfonyl group, a cyano group, a nitro group, a hydroxyl group, a pentafluorosulfanyl group, a C1-C4 alkylcarbonyl group, a C1-C4 haloalkylcarbonyl group, a C1-C4 alkylcarbonyloxy group, and a C1-C4 alkoxycarbonyl group,

a heterocyclic group (which represents a pyridyl group, a pyridine-N-oxide group, a pyrimidinyl group, a pyridazyl group, a furyl group, a tetrahydrofuryl group, a thienyl group, a tetrahydrothienyl group, a tetrahydropyranyl group, an oxazolyl group, an isoxazolyl group, an oxadiazolyl group, a thiazolyl group, an isothiazolyl group, a thiadiazolyl group, a pyrrole group, an imidazolyl group, a triazolyl group, a pyrazolyl group, or a tetrazolyl group), or

a substituted heterocyclic group (which represents a pyridyl group, a pyridine-N-oxide group, a pyrimidinyl group, a pyridazyl group, a furyl group, a tetrahydrofuryl group, a thienyl group, a tetrahydrothienyl group, a tetrahydropyranyl group, an oxazolyl group, an isoxazolyl group, an oxadiazolyl group, a thiazolyl group, an isothiazolyl group, a thiadiazolyl group, a pyrrole group, an imidazolyl group, a triazolyl group, a pyrazolyl group, or a tetrazolyl group) having one or more substituents which may be the same or different and which are selected from a halogen atom, a C1-C6 alkyl group, a C1-C6 haloalkyl group, a C3-C8 cycloalkyl group, a C3-C8 halocycloalkyl group, a C1-C6 alkoxy

group, a C1-C6 haloalkoxy group, a C1-C6 alkylthio group, a C1-C6 haloalkylthio group, a C1-C6 alkylsulfinyl group, a C1-C6 haloalkylsulfinyl group, a C1-C6 alkylsulfonyl group, a C1-C6 haloalkylsulfonyl group, a cyano group, a nitro group, a hydroxyl group, a pentafluorosulfanyl group, a C1-C4 alkylcarbonyl group, a C1-C4 haloalkylcarbonyl group, a C1-C4 alkylcarbonyloxy group, and a C1-C4 alkoxycarbonyl group); and Z_1 represents -O-, -S-, -SO-, -SO_2-, -C(=O)-, -C(=O)O-, -OC(=O)-, -N(R_5)-, -C(=O)N(R_5)-, or -N(R_5)C(=O)- (R_5 represents a hydrogen atom, a C1-C4 alkyl group, a C1-C4 alkylcarbonyl group, a C1-C4 haloalkylcarbonyl group, or a C1-C4 alkoxycarbonyl group)), or

-E_2-R_6

(wherein E_2 represents a C1-C4 alkylene group, a C2-C4 alkenylene group, a C3-C4 alkynylene group, a C1-C4 haloalkylene group, a C2-C4 haloalkenylene group, or a C3-C4 haloalkynylene group, and R_6 represents a C3-C8 cycloalkyl group, a C3-C8 halocycloalkyl group,

a cyano group,

a nitro group,

a hydroxyl group,

a phenyl group,

a substituted phenyl group having one or more substituents which may be the same or different and which are selected from a halogen atom, a C1-C6 alkyl group, a C1-C6 haloalkyl group, a C3-C8 cycloalkyl group, a C3-C8 halocycloalkyl group, a C1-C6 alkoxy group, a C1-C6 haloalkoxy group, a C1-C6 alkylthio group, a C1-C6 haloalkylthio group, a C1-C6 alkylsulfinyl group, a C1-C6 haloalkylsulfinyl group, a C1-C6 alkylsulfonyl group, a C1-C6

haloalkylsulfonyl group, a cyano group, a nitro group, a hydroxyl group, a pentafluorosulfanyl group, a C1-C4 alkylcarbonyl group, a C1-C4 haloalkylcarbonyl group, a C1-C4 alkylcarbonyloxy group, and a C1-C4 alkoxycarbonyl group,

a naphthyl group,

a substituted naphthyl group having one or more substituents which may be the same or different and which are selected from a halogen atom, a C1-C6 alkyl group, a C1-C6 haloalkyl group, a C3-C8 cycloalkyl group, a C3-C8 halocycloalkyl group, a C1-C6 alkoxy group, a C1-C6 haloalkoxy group, a C1-C6 alkylthio group, a C1-C6 haloalkylthio group, a C1-C6 alkylsulfinyl group, a C1-C6 haloalkylsulfinyl group, a C1-C6 alkylsulfonyl group, a C1-C6 haloalkylsulfonyl group, a cyano group, a nitro group, a hydroxyl group, a pentafluorosulfanyl group, a C1-C4 alkylcarbonyl group, a C1-C4 haloalkylcarbonyl group, a C1-C4 alkylcarbonyloxy group, and a C1-C4 alkoxycarbonyl group,

a heterocyclic group (which represents a pyridyl group, a pyridine-N-oxide group, a pyrimidinyl group, a pyridazyl group, a furyl group, a tetrahydrofuryl group, a thienyl group, a tetrahydrothienyl group, a tetrahydropyranyl group, an oxazolyl group, an isoxazolyl group, an oxadiazolyl group, a thiazolyl group, an isothiazolyl group, a thiadiazolyl group, a pyrrole group, an imidazolyl group, a triazolyl group, a pyrazolyl group, or a tetrazolyl group), or

a substituted heterocyclic group (which represents a pyridyl group, a pyridine-N-oxide group, a pyrimidinyl group, a pyridazyl group, a furyl group, a tetrahydrofuryl group, a thienyl group, a

tetrahydrothienyl group, a tetrahydropyranyl group, an oxazolyl group, an isoxazolyl group, an oxadiazolyl group, a thiazolyl group, an isothiazolyl group, a thiadiazolyl group, a pyrrole group, an imidazolyl group, a triazolyl group, a pyrazolyl group, or a tetrazolyl group) having one or more substituents which may be the same or different and which are selected from a halogen atom, a C1-C6 alkyl group, a C1-C6 haloalkyl group, a C3-C8 cycloalkyl group, a C3-C8 halocycloalkyl group, a C1-C6 alkoxy group, a C1-C6 haloalkoxy group, a C1-C6 alkylthio group, a C1-C6 haloalkylthio group, a C1-C6 alkylsulfinyl group, a C1-C6 haloalkylsulfinyl group, a C1-C6 alkylsulfonyl group, a C1-C6 haloalkylsulfonyl group, a cyano group, a nitro group, a hydroxyl group, a pentafluorosulfanyl group, a C1-C4 alkylcarbonyl group, a C1-C4 haloalkylcarbonyl group, a C1-C4 alkylcarbonyloxy group, and a C1-C4 alkoxycarbonyl group);

R_2 and R_3 independently represent a hydrogen atom, a C1-C4 alkyl group, a C1-C4 alkylcarbonyl group, or a C1-C4 haloalkylcarbonyl group; G_1, G_2, and G_3 independently represent an oxygen atom or a sulfur atom; Xs may be the same or different and each represent a hydrogen atom, a halogen atom, a C1-C4 alkyl group, a C1-C4 haloalkyl group, a C1-C4 alkoxy group, a C1-C4 haloalkoxy group, a C1-C4 alkylthio group, a C1-C4 haloalkylthio group, a C1-C4 alkylsulfinyl group, a C1-C4 haloalkylsulfinyl group, a C1-C4 alkylsulfonyl group, a C1-C4 haloalkylsulfonyl group, a cyano group, a nitro group, an amino group, or an amino group which may be substituted by a C1-C4 alkyl group;

n represents an integer of 0 to 4; and

Q represents a phenyl group,

a substituted phenyl group having one or more substituents which may be the same or different and which are selected from a halogen atom, a C1-C6 alkyl group, a C1-C6 haloalkyl group, a C3-C8 cycloalkyl group, a C3-C8 halocycloalkyl group, a C1-C6 alkoxy group, a C1-C6 haloalkoxy group, a C1-C6 haloalkyl group which may be substituted by at least one hydroxyl group, a C1-C6 alkylthio group, a C1-C6 haloalkylthio group, a C1-C6 alkylsulfinyl group, a C1-C6 haloalkylsulfinyl group, a C1-C6 alkylsulfonyl group, a C1-C6 haloalkylsulfonyl group, a C1-C6 haloalkylsulfonyloxy group, a C1-C4 alkylcarbonyl group, a C1-C4 haloalkylcarbonyl group, a cyano group, a nitro group, a hydroxyl group, a pentafluorosulfanyl group, a phenyl group, a substituted phenyl group (which may have the same or different substituents selected from a halogen atom, a C1-C6 alkyl group, a C1-C6 haloalkyl group, a C3-C8 cycloalkyl group, a C3-C8 halocycloalkyl group, a C1-C6 alkoxy group, a C1-C6 haloalkoxy group, a C1-C6 alkylthio group, a C1-C6 haloalkylthio group, a C1-C6 alkylsulfinyl group, a C1-C6 haloalkylsulfinyl group, a C1-C6 alkylsulfonyl group, a C1-C6 haloalkylsulfonyl group, a C1-C6 haloalkylsulfonyloxy, a cyano group, a nitro group, a hydroxyl group, and a pentafluorosulfanyl group), a thienyl group, and a substituted thienyl group (which may have the same or different substituents selected from a halogen atom, a C1-C6 alkyl group, a C1-C6 haloalkyl group, a C3-C8 cycloalkyl group, a C3-C8 halocycloalkyl group, a C1-C6 alkoxy group, a C1-C6 haloalkoxy group, a C1-C6 alkylthio group, a C1-C6 haloalkylthio group, a C1-C6 alkylsulfinyl group, a C1-C6

haloalkylsulfinyl group, a C1-C6 alkylsulfonyl group, a C1-C6 haloalkylsulfonyl group, a C1-C6 haloalkylsulfonyloxy group, a cyano group, a nitro group, a hydroxyl group, and a pentafluorosulfanyl group),

a naphthyl group,

a substituted naphthyl group having one or more substituents which may be the same or different and which are selected from a halogen atom, a C1-C6 alkyl group, a C1-C6 haloalkyl group, a C3-C8 cycloalkyl group, a C3-C8 halocycloalkyl group, a C1-C6 alkoxy group, a C1-C6 haloalkoxy group, a C1-C6 haloalkyl group which may be substituted by at least one hydroxyl group, a C1-C6 alkylthio group, a C1-C6 haloalkylthio group, a C1-C6 alkylsulfinyl group, a C1-C6 haloalkylsulfinyl group, a C1-C6 alkylsulfonyl group, a C1-C6 haloalkylsulfonyl group, a cyano group, a nitro group, a hydroxyl group, and a pentafluorosulfanyl group,

a heterocyclic group (which represents a pyridyl group, a pyridine-N-oxide group, a pyrimidinyl group, a pyridazyl group, a furyl group, a thienyl group, an oxazolyl group, an isoxazolyl group, an oxadiazolyl group, a thiazolyl group, an isothiazolyl group, a thiadiazolyl group, a pyrrole group, an imidazolyl group, a triazolyl group, a pyrazolyl group, or a tetrazolyl group),

a substituted heterocyclic group (which represents a pyridyl group, a pyridine-N-oxide group, a pyrimidinyl group, a pyridazyl group, a furyl group, a thienyl group, an oxazolyl group, an isoxazolyl group, an oxadiazolyl group, a thiazolyl group, an isothiazolyl group, a thiadiazolyl group, a pyrrole group, an imidazolyl group, a triazolyl group, a pyrazolyl group, or a tetrazolyl group)

having one or more substituents which may be the same or different and which are selected from a halogen atom, a C1-C6 alkyl group, a C1-C6 haloalkyl group, a C1-C6 alkoxy group, a C1-C6 haloalkoxy group, a C1-C6 haloalkyl group which may be substituted by at least one hydroxyl group, a C1-C6 alkylthio group, a C1-C6 haloalkylthio group, a C1-C6 alkylsulfinyl group, a C1-C6 haloalkylsulfinyl group, a C1-C6 alkylsulfonyl group, a C1-C6 haloalkylsulfonyl group, a cyano group, a nitro group, a hydroxyl group, and a pentafluorosulfanyl group,

a tetrahydronaphthyl group, or

a substituted tetrahydronaphthyl group having one or more substituents which may be the same or different and which are selected from a halogen atom, a C1-C6 alkyl group, a C1-C6 haloalkyl group, a C1-C6 alkoxy group, a C1-C6 haloalkoxy group, a C1-C6 haloalkyl group which may be substituted by at least one hydroxyl group, a C1-C6 alkylthio group, a C1-C6 haloalkylthio group, a C1-C6 alkylsulfinyl group, a C1-C6 haloalkylsulfinyl group, a C1-C6 alkylsulfonyl group, a C1-C6 haloalkylsulfonyl group, a cyano group, a nitro group, a hydroxyl group, and a pentafluorosulfanyl group (excluding case (1) in which Q represents a 3,4-dichlorophenyl group when R1 represents a methyl group, case (2) in which Q represents an unsubstituted phenyl group when R1 represents an ethyl group, and case (3) in which Q represents an unsubstituted pyridyl group when R1 represents an unsubstituted phenyl group.)

3. The compound according to claim 2, wherein in formula (1),

G_1 and G_3 each represent an oxygen atom, and Q represents a phenyl group,

a substituted phenyl group having one or more substituents which may be the same or different and which are selected from a halogen atom, a C1-C6 alkyl group, a C1-C6 haloalkyl group, a C1-C6 alkoxy group, a C1-C6 haloalkoxy group, a C1-C6 haloalkyl group which may be substituted by at least one hydroxyl group, a C1-C6 alkylthio group, a C1-C6 haloalkylthio group, a C1-C6 alkylsulfinyl group, a C1-C6 haloalkylsulfinyl group, a C1-C6 alkylsulfonyl group, a C1-C6 haloalkylsulfonyl group, a C1-C6 haloalkylsulfonyloxy group, a C1-C4 alkylcarbonyl group, a C1-C4 haloalkylcarbonyl group, a cyano group, a nitro group, a hydroxyl group, and a pentafluorosulfanyl group,

a naphthyl group,

a substituted naphthyl group having one or more substituents which may be the same or different and which are selected from a halogen atom, a C1-C6 alkyl group, a C1-C6 haloalkyl group, a C1-C6 alkoxy group, a C1-C6 haloalkoxy group, a C1-C6 haloalkyl group which may be substituted by at least one hydroxyl group, a C1-C6 alkylthio group, a C1-C6 haloalkylthio group, a C1-C6 alkylsulfinyl group, a C1-C6 haloalkylsulfinyl group, a C1-C6 alkylsulfonyl group, a C1-C6 haloalkylsulfonyl group, a cyano group, a nitro group, a hydroxyl group, and a pentafluorosulfanyl group,

a heterocyclic group (which represents a pyridyl group or a pyrazolyl group),

a substituted heterocyclic group (which represents a pyridyl group or a pyrazolyl group) having one or more substituents which may be

the same or different and which are selected from a halogen atom, a C1-C6 alkyl group, a C1-C6 haloalkyl group, a C1-C6 alkoxy group, a C1-C6 haloalkoxy group, a C1-C6 haloalkyl group which may be substituted by at least one hydroxyl group, a C1-C6 alkylthio group, a C1-C6 haloalkylthio group, a C1-C6 alkylsulfinyl group, a C1-C6 haloalkylsulfinyl group, a C1-C6 alkylsulfonyl group, a C1-C6 haloalkylsulfonyl group, a cyano group, a nitro group, a hydroxyl group, and a pentafluorosulfanyl group,

a tetrahydronaphthyl group, or

a substituted tetrahydronaphthyl group having one or more substituents which may be the same or different and which are selected from a halogen atom, a C1-C6 alkyl group, a C1-C6 haloalkyl group, a C1-C6 alkoxy group, a C1-C6 haloalkoxy group, a C1-C6 haloalkyl group which may be substituted by at least one hydroxyl group, a C1-C6 alkylthio group, a C1-C6 haloalkylthio group, a C1-C6 alkylsulfinyl group, a C1-C6 haloalkylsulfinyl group, a C1-C6 alkylsulfonyl group, a C1-C6 haloalkylsulfonyl group, a cyano group, a nitro group, a hydroxyl group, and a pentafluorosulfanyl group.

4. The compound according to claim 3, wherein in formula (1), Xs may be the same or different and each represent a hydrogen atom, a halogen atom, a C1-C4 alkyl group, or a trifluoromethyl group, and n is an integer of 0 to 4.

5. The compound according to claim 4, wherein in formula (1), R_1 represents:

a C1-C6 alkyl group,

a C1-C6 haloalkyl group,

a C2-C6 alkenyl group,

a C2-C6 haloalkenyl group,

a C2-C6 alkynyl group,

a C2-C6 haloalkynyl group,

a C3-C8 cycloalkyl group,

a C3-C8 halocycloalkyl group,

$-E_1-Z_1-R_4$

(wherein E_1 represents a C1-C4 alkylene group, a C2-C4 alkenylene group, a C3-C4 alkynylene group, a C1-C4 haloalkylene group, a C2-C4 haloalkenylene group, or a C3-C4 haloalkynylene group, R_4 represents a hydrogen atom, a C1-C6 alkyl group, a C2-C6 alkenyl group, a C2-C6 alkynyl group, a C1-C6 haloalkyl group, a C2-C6 haloalkenyl group, a C2-C6 haloalkynyl group, and Z_1 represents -O-, -S-, -SO-, or $-SO_2-$), or

$-E_2-R_6$

(wherein E_2 represents a C1-C4 alkylene group, a C2-C4 alkenylene group, a C3-C4 alkynylene group, a C1-C4 haloalkylene group, a C2-C4 haloalkenylene group, or a C3-C4 haloalkynylene group, and R_6 represents a C3-C8 cycloalkyl group, a C3-C8 halocycloalkyl group,

a cyano group,

a nitro group,

a hydroxyl group,

a phenyl group,

a substituted phenyl group having one or more substituents which may be the same or different and which are selected from a halogen

atom, a C1-C6 alkyl group, a C1-C6 haloalkyl group, a C1-C6 alkoxy group, a C1-C6 haloalkoxy group, a C1-C6 alkylthio group, a C1-C6 haloalkylthio group, a C1-C6 alkylsulfinyl group, a C1-C6 haloalkylsulfinyl group, a C1-C6 alkylsulfonyl group, a C1-C6 haloalkylsulfonyl group, a cyano group, a nitro group, a hydroxyl group, a C1-C4 alkylcarbonyl group, a C1-C4 haloalkylcarbonyl group, a C1-C4 alkylcarbonyloxy group, a C1-C4 alkoxycarbonyl group, and a pentafluorosulfanyl group,

a pyridyl group,

a substituted pyridyl group having one or more substituents selected from a halogen atom, a C1-C6 haloalkyl group, and a C1-C6 haloalkoxy group,

a thienyl group, or a tetrahydrofuryl group).

6. The compound according to claim 5, wherein in formula (1), A_1, A_2, A_3, and A_4 are all carbon atoms, or one any of A_1, A_2, A_3, and A_4 is a nitrogen atom or an oxidized nitrogen atom, and G_2 is an oxygen atom.

7. The compound according to claim 6, wherein in formula (1), Q represents a phenyl group,

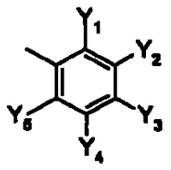
a substituted phenyl group having one or more substituents which may be the same or different and which are selected from a halogen atom, a C1-C6 alkyl group, a C1-C6 haloalkyl group, a C1-C6 alkoxy group, a C1-C6 haloalkoxy group, a C1-C6 haloalkyl group which may be substituted by at least one hydroxyl group, a C1-C6 alkylthio group, a C1-C6 haloalkylthio group, a C1-C6 alkylsulfinyl group, a

C1-C6 haloalkylsulfinyl group, a C1-C6 alkylsulfonyl group, a C1-C6 haloalkylsulfonyl group, a pentafluorosulfanyl group, a cyano group, and a nitro group;

a pyridyl group, or

a substituted pyridyl group having one or more substituents which may be the same or different and which are selected from a halogen atom, a C1-C6 alkyl group, a C1-C6 haloalkyl group, a C1-C6 alkoxy group, a C1-C6 haloalkoxy group, a C1-C6 haloalkyl group which may be substituted by at least one hydroxyl group, a C1-C6 alkylthio group, a C1-C6 haloalkylthio group, a C1-C6 alkylsulfinyl group, a C1-C6 haloalkylsulfinyl group, a C1-C6 alkylsulfonyl group, a C1-C6 haloalkylsulfonyl group, a pentafluorosulfanyl group, a cyano group, and a nitro group.

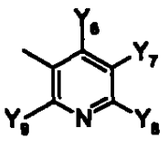
8. The compound according to claim 7, wherein in formula (1), Q is a substituent represented by formula (1-2) or (1-3):



(1-2)

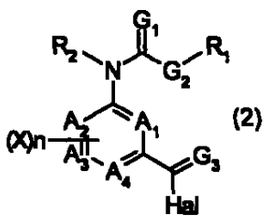
(wherein Y_1, Y_2, Y_4, and Y_5 may be the same or different and each represent a hydrogen atom, a halogen atom, a C1-C6 alkyl group, a C1-C6 haloalkyl group, a C1-C6 alkoxy group, a C1-C6 haloalkoxy group, a C1-C6 alkylthio group, a C1-C6 haloalkylthio group, a C1-C6 alkylsulfinyl group, a C1-C6 haloalkylsulfinyl group, a C1-C6 alkylsulfonyl group, a C1-C6 haloalkylsulfonyl group, a pentafluorosulfanyl group, a cyano group, or a nitro group, and Y_3 represents a C1-C6 haloalkyl group, a C1-C6 haloalkoxy group, a

C1-C6 haloalkyl group which may be substituted by at least one hydroxyl group, a C1-C6 haloalkylthio group, a C1-C6 haloalkylsulfinyl group, a C1-C6 haloalkylsulfonyl group, or a pentafluorosulfanyl group, but only one of Y_1 and Y_5 represents a hydrogen atom)


(1-3)

(wherein Y_6, Y_7, and Y_9 may be the same or different and each represent a hydrogen atom, a halogen atom, a C1-C6 alkyl group, a C1-C6 haloalkyl group, a C1-C6 alkoxy group, a C1-C6 haloalkoxy group, a C1-C6 alkylthio group, a C1-C6 haloalkylthio group, a C1-C6 alkylsulfinyl group, a C1-C6 haloalkylsulfinyl group, a C1-C6 alkylsulfonyl group, a C1-C6 haloalkylsulfonyl group, a pentafluorosulfanyl group, a cyano group, or a nitro group, and Y_8 represents a C1-C6 haloalkyl group, a C1-C6 haloalkoxy group, a C1-C6 haloalkyl group which may be substituted by at least one hydroxyl group, a C1-C6 haloalkylthio group, a C1-C6 haloalkylsulfinyl group, a C1-C6 haloalkylsulfonyl group, or a pentafluorosulfanyl group, but only one of Y_6 and Y_9 represents a hydrogen atom).

9. A compound represented by formula (2):


(2)

wherein A_1, A_2, A_3, and A_4 independently represent a carbon atom, a nitrogen atom, or an oxidized nitrogen atom, and R_1 represents the following:

a C1-C6 alkyl group,

a C1-C6 haloalkyl group,

a C2-C6 alkenyl group,

a C2-C6 haloalkenyl group,

a C2-C6 alkynyl group,

a C2-C6 haloalkynyl group,

a C3-C8 cycloalkyl group,

a C3-C8 halocycloalkyl group,

a phenyl group,

a substituted phenyl group having one or more substituents which may be the same or different and which are selected from a halogen atom, a C1-C6 alkyl group, a C1-C6 haloalkyl group, a C3-C8 cycloalkyl group, a C3-C8 halocycloalkyl group, a C1-C6 alkoxy group, a C1-C6 haloalkoxy group, a C1-C6 alkylthio group, a C1-C6 haloalkylthio group, a C1-C6 alkylsulfinyl group, a C1-C6 haloalkylsulfinyl group, a C1-C6 alkylsulfonyl group, a C1-C6 haloalkylsulfonyl group, a cyano group, a nitro group, a hydroxyl group, a pentafluorosulfanyl group, a C1-C4 alkylcarbonyl group, a C1-C4 haloalkylcarbonyl group, a C1-C4 alkylcarbonyloxy group, and a C1-C4 alkoxycarbonyl group,

a naphthyl group,

a substituted naphthyl group having one or more substituents which may be the same or different and which are selected from a halogen

atom, a C1-C6 alkyl group, a C1-C6 haloalkyl group, a C3-C8 cycloalkyl group, a C3-C8 halocycloalkyl group, a C1-C6 alkoxy group, a C1-C6 haloalkoxy group, a C1-C6 alkylthio group, a C1-C6 haloalkylthio group, a C1-C6 alkylsulfinyl group, a C1-C6 haloalkylsulfinyl group, a C1-C6 alkylsulfonyl group, a C1-C6 haloalkylsulfonyl group, a cyano group, a nitro group, a hydroxyl group, a pentafluorosulfanyl group, a C1-C4 alkylcarbonyl group, a C1-C4 haloalkylcarbonyl group, a C1-C4 alkylcarbonyloxy group, and a C1-C4 alkoxycarbonyl group,

a heterocyclic group (which represents a pyridyl group, a pyridine-N-oxide group, a pyrimidinyl group, a pyridazyl group, a furyl group, a tetrahydrofuryl group, a thienyl group, a tetrahydrothienyl group, a tetrahydropyranyl group, an oxazolyl group, an isoxazolyl group, an oxadiazolyl group, a thiazolyl group, an isothiazolyl group, a thiadiazolyl group, a pyrrole group, an imidazolyl group, a triazolyl group, a pyrazolyl group, or a tetrazolyl group),

a substituted heterocyclic group (which represents a pyridyl group, a pyridine-N-oxide group, a pyrimidinyl group, a pyridazyl group, a furyl group, a tetrahydrofuryl group, a thienyl group, a tetrahydrothienyl group, a tetrahydropyranyl group, an oxazolyl group, an isoxazolyl group, an oxadiazolyl group, a thiazolyl group, an isothiazolyl group, a thiadiazolyl group, a pyrrole group, an imidazolyl group, a triazolyl group, a pyrazolyl group, or a tetrazolyl group) having one or more substituents which may be the same or different and which are selected from a halogen atom, a C1-C6 alkyl group, a C1-C6 haloalkyl group, a C3-C8

cycloalkyl group, a C3-C8 halocycloalkyl group, a C1-C6 alkoxy group, a C1-C6 haloalkoxy group, a C1-C6 alkylthio group, a C1-C6 haloalkylthio group, a C1-C6 alkylsulfinyl group, a C1-C6 haloalkylsulfinyl group, a C1-C6 alkylsulfonyl group, a C1-C6 haloalkylsulfonyl group, a cyano group, a nitro group, a hydroxyl group, a pentafluorosulfanyl group, a C1-C4 alkylcarbonyl group, a C1-C4 haloalkylcarbonyl group, a C1-C4 alkylcarbonyloxy group, and a C1-C4 alkoxycarbonyl group), or

$-E_1-Z_1-R_4$

(wherein E_1 represents a C1-C4 alkylene group, a C2-C4 alkenylene group, a C3-C4 alkynylene group, a C1-C4 haloalkylene group, a C2-C4 haloalkenylene group, or a C3-C4 haloalkynylene group; R_4 represents a hydrogen atom, a C1-C6 alkyl group, a C2-C6 alkenyl group, a C2-C6 alkynyl group, a C1-C6 haloalkyl group, a C2-C6 haloalkenyl group, a C2-C6 haloalkynyl group,

a C3-C8 cycloalkyl group,

a C3-C8 halocycloalkyl group,

a phenyl group,

a substituted phenyl group having one or more substituents which may be the same or different and which are selected from a halogen atom, a C1-C6 alkyl group, a C1-C6 haloalkyl group, a C3-C8 cycloalkyl group, a C3-C8 halocycloalkyl group, a C1-C6 alkoxy group, a C1-C6 haloalkoxy group, a C1-C6 alkylthio group, a C1-C6 haloalkylthio group, a C1-C6 alkylsulfinyl group, a C1-C6 haloalkylsulfinyl group, a C1-C6 alkylsulfonyl group, a C1-C6 haloalkylsulfonyl group, a cyano group, a nitro group, a hydroxyl group, a pentafluorosulfanyl group, a C1-C4 alkylcarbonyl group, a

C1-C4 haloalkylcarbonyl group, a C1-C4 alkylcarbonyloxy group, and a C1-C4 alkoxycarbonyl group,

a naphthyl group,

a substituted naphthyl group having one or more substituents which may be the same or different and which are selected from a halogen atom, a C1-C6 alkyl group, a C1-C6 haloalkyl group, a C3-C8 cycloalkyl group, a C3-C8 halocycloalkyl group, a C1-C6 alkoxy group, a C1-C6 haloalkoxy group, a C1-C6 alkylthio group, a C1-C6 haloalkylthio group, a C1-C6 alkylsulfinyl group, a C1-C6 haloalkylsulfinyl group, a C1-C6 alkylsulfonyl group, a C1-C6 haloalkylsulfonyl group, a cyano group, a nitro group, a hydroxyl group, a pentafluorosulfanyl group, a C1-C4 alkylcarbonyl group, a C1-C4 haloalkylcarbonyl group, a C1-C4 alkylcarbonyloxy group, and a C1-C4 alkoxycarbonyl group,

a heterocyclic group (which represents a pyridyl group, a pyridine-N-oxide group, a pyrimidinyl group, a pyridazyl group, a furyl group, a tetrahydrofuryl group, a thienyl group, a tetrahydrothienyl group, a tetrahydropyranyl group, an oxazolyl group, an isoxazolyl group, an oxadiazolyl group, a thiazolyl group, an isothiazolyl group, a thiadiazolyl group, a pyrrole group, an imidazolyl group, a triazolyl group, a pyrazolyl group, or a tetrazolyl group),

a substituted heterocyclic group (which represents a pyridyl group, a pyridine-N-oxide group, a pyrimidinyl group, a pyridazyl group, a furyl group, a tetrahydrofuryl group, a thienyl group, a tetrahydrothienyl group, a tetrahydropyranyl group, an oxazolyl group, an isoxazolyl group, an oxadiazolyl group, a thiazolyl

group, an isothiazolyl group, a thiadiazolyl group, a pyrrole group, an imidazolyl group, a triazolyl group, a pyrazolyl group, or a tetrazolyl group) having one or more substituents which may be the same or different and which are selected from a halogen atom, a C1-C6 alkyl group, a C1-C6 haloalkyl group, a C3-C8 cycloalkyl group, a C3-C8 halocycloalkyl group, a C1-C6 alkoxy group, a C1-C6 haloalkoxy group, a C1-C6 alkylthio group, a C1-C6 haloalkylthio group, a C1-C6 alkylsulfinyl group, a C1-C6 haloalkylsulfinyl group, a C1-C6 alkylsulfonyl group, a C1-C6 haloalkylsulfonyl group, a cyano group, a nitro group, a hydroxyl group, a pentafluorosulfanyl group, a C1-C4 alkylcarbonyl group, a C1-C4 haloalkylcarbonyl group, a C1-C4 alkylcarbonyloxy group, and a C1-C4 alkoxycarbonyl group), and

Z_1 represents -O-, -S-, -SO-, $-SO_2-$, -C(=O)-, -C(=O)O-, -OC(=O)-, -N(R_5)-, -C(=O)N(R_5)-, or -N(R_5)C(=O)- (R_5 represents a hydrogen atom, a C1-C4 alkyl group, a C1-C4 alkylcarbonyl group, or a C1-C4 alkoxycarbonyl group)), or

$-E_2-R_6$

(wherein E_2 represents a C1-C4 alkylene group, a C2-C4 alkenylene group, a C3-C4 alkynylene group, a C1-C4 haloalkylene group, a C2-C4 haloalkenylene group, or a C3-C4 haloalkynylene group, and R_6 represents a C3-C8 cycloalkyl group, a C3-C8 halocycloalkyl group, a cyano group,

a nitro group,

a hydroxyl group,

a phenyl group,

a substituted phenyl group having one or more substituents which

may be the same or different and which are selected from a halogen atom, a C1-C6 alkyl group, a C1-C6 haloalkyl group, a C3-C8 cycloalkyl group, a C3-C8 halocycloalkyl group, a C1-C6 alkoxy group, a C1-C6 haloalkoxy group, a C1-C6 alkylthio group, a C1-C6 haloalkylthio group, a C1-C6 alkylsulfinyl group, a C1-C6 haloalkylsulfinyl group, a C1-C6 alkylsulfonyl group, a C1-C6 haloalkylsulfonyl group, a cyano group, a nitro group, a hydroxyl group, a pentafluorosulfanyl group, a C1-C4 alkylcarbonyl group, a C1-C4 haloalkylcarbonyl group, a C1-C4 alkylcarbonyloxy group, and a C1-C4 alkoxycarbonyl group,

a naphthyl group,

a substituted naphthyl group having one or more substituents which may be the same or different and which are selected from a halogen atom, a C1-C6 alkyl group, a C1-C6 haloalkyl group, a C3-C8 cycloalkyl group, a C3-C8 halocycloalkyl group, a C1-C6 alkoxy group, a C1-C6 haloalkoxy group, a C1-C6 alkylthio group, a C1-C6 haloalkylthio group, a C1-C6 alkylsulfinyl group, a C1-C6 haloalkylsulfinyl group, a C1-C6 alkylsulfonyl group, a C1-C6 haloalkylsulfonyl group, a cyano group, a nitro group, a hydroxyl group, a pentafluorosulfanyl group, a C1-C4 alkylcarbonyl group, a C1-C4 haloalkylcarbonyl group, a C1-C4 alkylcarbonyloxy group, and a C1-C4 alkoxycarbonyl group,

a heterocyclic group (which represents a pyridyl group, a pyridine-N-oxide group, a pyrimidinyl group, a pyridazyl group, a furyl group, a tetrahydrofuryl group, a thienyl group, a tetrahydrothienyl group, a tetrahydropyranyl group, an oxazolyl group, an isoxazolyl group, an oxadiazolyl group, a thiazolyl

group, an isothiazolyl group, a thiadiazolyl group, a pyrrole group, an imidazolyl group, a triazolyl group, a pyrazolyl group, or a tetrazolyl group), or

a substituted heterocyclic group (which represents a pyridyl group, a pyridine-N-oxide group, a pyrimidinyl group, a pyridazyl group, a furyl group, a tetrahydrofuryl group, a thienyl group, a tetrahydrothienyl group, a tetrahydropyranyl group, an oxazolyl group, an isoxazolyl group, an oxadiazolyl group, a thiazolyl group, an isothiazolyl group, a thiadiazolyl group, a pyrrole group, an imidazolyl group, a triazolyl group, a pyrazolyl group, or a tetrazolyl group) having one or more substituents which may be the same or different and which are selected from a halogen atom, a C1-C6 alkyl group, a C1-C6 haloalkyl group, a C3-C8 cycloalkyl group, a C3-C8 halocycloalkyl group, a C1-C6 alkoxy group, a C1-C6 haloalkoxy group, a C1-C6 alkylthio group, a C1-C6 haloalkylthio group, a C1-C6 alkylsulfinyl group, a C1-C6 haloalkylsulfinyl group, a C1-C6 alkylsulfonyl group, a C1-C6 haloalkylsulfonyl group, a cyano group, a nitro group, a hydroxyl group, a pentafluorosulfanyl group, a C1-C4 alkylcarbonyl group, a C1-C4 haloalkylcarbonyl group, a C1-C4 alkylcarbonyloxy group, and a C1-C4 alkoxycarbonyl group);

R_2 represents a hydrogen atom, a C1-C4 alkyl group, a C1-C4 alkylcarbonyl group, or a C1-C4 haloalkylcarbonyl group;

G_1, G_2, and G_3 independently represents an oxygen atom or a sulfur atom;

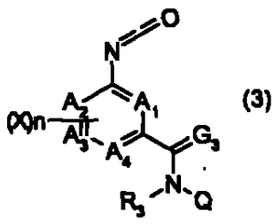
Xs may be the same or different and each represent a hydrogen atom, a halogen atom, a C1-C4 alkyl group, a C1-C4 haloalkyl group, a

C1-C4 alkoxy group, a C1-C4 haloalkoxy group, a C1-C4 alkylthio group, a C1-C4 haloalkylthio group, a C1-C4 alkylsulfinyl group, a C1-C4 haloalkylsulfinyl group, a C1-C4 alkylsulfonyl group, a C1-C4 haloalkylsulfonyl group, a cyano group, a nitro group, or an amino group which may be substituted by a C1-C4 alkyl group;

n represents an integer of 0 to 4; and

Hal represents a halogen atom (excluding a case in which R1 is an unsubstituted benzyl group when X is a hydrogen atom.)

10. A compound represented by formula (3):



(3)

wherein A_1, A_2, A_3, and A_4 independently represent a carbon atom, a nitrogen atom, or an oxidized nitrogen atom; R_3 represents a hydrogen atom, a C1-C4 alkyl group, a C1-C4 alkylcarbonyl group, or a C1-C4 haloalkylcarbonyl group; G_3 represents an oxygen atom or a sulfur atom; Xs may be the same or different and each represent a hydrogen atom, a halogen atom, a C1-C4 alkyl group, a C1-C4 haloalkyl group, a C1-C4 alkoxy group, a C1-C4 haloalkoxy group, a C1-C4 alkylthio group, a C1-C4 haloalkylthio group, a C1-C4 alkylsulfinyl group, a C1-C4 haloalkylsulfinyl group, a C1-C4 alkylsulfonyl group, a C1-C4 haloalkylsulfonyl group, a cyano group, a nitro group, or an amino group which may be substituted by a C1-C4 alkyl group;

n represents an integer of 0 to 4; and

Q represents a phenyl group,

a substituted phenyl group having one or more substituents which may be the same or different and which are selected from a halogen atom, a C1-C6 alkyl group, a C1-C6 haloalkyl group, a C3-C8 cycloalkyl group, a C3-C8 halocycloalkyl group, a C1-C6 alkoxy group, a C1-C6 haloalkoxy group, a C1-C6 haloalkyl group which may be substituted by at least one hydroxyl group, a C1-C6 alkylthio group, a C1-C6 haloalkylthio group, a C1-C6 alkylsulfinyl group, a C1-C6 haloalkylsulfinyl group, a C1-C6 alkylsulfonyl group, a C1-C6 haloalkylsulfonyl group, a C1-C6 haloalkylsulfonyloxy group, a C1-C4 alkylcarbonyl group, a C1-C4 haloalkylcarbonyl group, a cyano group, a nitro group, a hydroxyl group, a pentafluorosulfanyl group, a phenyl group, a substituted phenyl group (which may have the same or different substituents selected from a halogen atom, a C1-C6 alkyl group, a C1-C6 haloalkyl group, a C3-C8 cycloalkyl group, a C3-C8 halocycloalkyl group, a C1-C6 alkoxy group, a C1-C6 haloalkoxy group, a C1-C6 alkylthio group, a C1-C6 haloalkylthio group, a C1-C6 alkylsulfinyl group, a C1-C6 haloalkylsulfinyl group, a C1-C6 alkylsulfonyl group, a C1-C6 haloalkylsulfonyl group, a C1-C6 haloalkylsulfonyloxy group, a cyano group, a nitro group, a hydroxyl group, and a pentafluorosulfanyl group), a thienyl group, a substituted thienyl group (which may have the same or different substituents selected from a halogen atom, a C1-C6 alkyl group, a C1-C6 haloalkyl group, a C3-C8 cycloalkyl group, a C3-C8 halocycloalkyl group, a C1-C6 alkoxy group, a C1-C6 haloalkoxy group, a C1-C6 alkylthio group, a C1-C6 haloalkylthio group, a C1-C6 alkylsulfinyl group, a C1-C6

haloalkylsulfinyl group, a C1-C6 alkylsulfonyl group, a C1-C6 haloalkylsulfonyl group, a C1-C6 haloalkylsulfonyloxy group, a cyano group, a nitro group, a hydroxyl group, and a pentafluorosulfanyl group),

a naphthyl group,

a substituted naphthyl group having one or more substituents which may be the same or different and which are selected from a halogen atom, a C1-C6 alkyl group, a C1-C6 haloalkyl group, a C3-C8 cycloalkyl group, a C3-C8 halocycloalkyl group, a C1-C6 alkoxy group, a C1-C6 haloalkoxy group, a C1-C6 haloalkyl group which may be substituted by at least one hydroxyl group, a C1-C6 alkylthio group, a C1-C6 haloalkylthio group, a C1-C6 alkylsulfinyl group, a C1-C6 haloalkylsulfinyl group, a C1-C6 alkylsulfonyl group, a C1-C6 haloalkylsulfonyl group, a cyano group, a nitro group, a hydroxyl group, and a pentafluorosulfanyl group,

a heterocyclic group (which represents a pyridyl group, a pyridine-N-oxide group, a pyrimidinyl group, a pyridazyl group, a furyl group, a thienyl group, an oxazolyl group, an isoxazolyl group, an oxadiazolyl group, a thiazolyl group, an isothiazolyl group, a thiadiazolyl group, a pyrrole group, an imidazolyl group, a triazolyl group, a pyrazolyl group, or a tetrazolyl group),

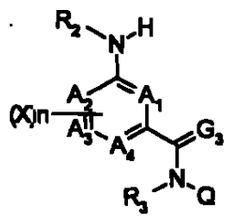
a substituted heterocyclic group (which represents a pyridyl group, a pyridine-N-oxide group, a pyrimidinyl group, a pyridazyl group, a furyl group, a thienyl group, an oxazolyl group, an isoxazolyl group, an oxadiazolyl group, a thiazolyl group, an isothiazolyl group, a thiadiazolyl group, an imidazolyl group, a triazolyl group, a pyrazolyl group, or a tetrazolyl group) having one or

more substituents which may be the same or different and which are selected from a halogen atom, a C1-C6 alkyl group, a C1-C6 haloalkyl group, a C1-C6 alkoxy group, a C1-C6 haloalkoxy group, a C1-C6 haloalkyl group which may be substituted by at least one hydroxyl group, a C1-C6 alkylthio group, a C1-C6 haloalkylthio group, a C1-C6 alkylsulfinyl group, a C1-C6 haloalkylsulfinyl group, a C1-C6 alkylsulfonyl group, a C1-C6 haloalkylsulfonyl group, a cyano group, a nitro group, a hydroxyl group, and a pentafluorosulfanyl group,

a tetrahydronaphthyl group, or

a substituted tetrahydronaphthyl group having one or more substituents which may be the same or different and which are selected from a halogen atom, a C1-C6 alkyl group, a C1-C6 haloalkyl group, a C1-C6 alkoxy group, a C1-C6 haloalkoxy group, a C1-C6 haloalkyl group which may be substituted by at least one hydroxyl group, a C1-C6 alkylthio group, a C1-C6 haloalkylthio group, a C1-C6 alkylsulfinyl group, a C1-C6 haloalkylsulfinyl group, a C1-C6 alkylsulfonyl group, a C1-C6 haloalkylsulfonyl group, a cyano group, a nitro group, a hydroxyl group, and a pentafluorosulfanyl group.

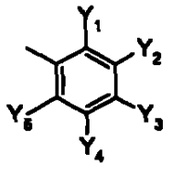
11. A compound represented by formula (4):



(4)

wherein A_1, A_2, A_3, and A_4 independently represent a carbon atom, a

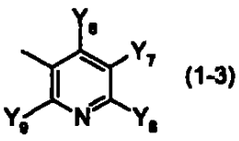
nitrogen atom, or an oxidized nitrogen atom; R_2 and R_3 independently represent a hydrogen atom, a C1-C4 alkyl group, a C1-C4 alkylcarbonyl group, or a C1-C4 haloalkylcarbonyl group; G_3 represents an oxygen atom or a sulfur atom; Xs may be the same or different and each represent a hydrogen atom, a halogen atom, a C1-C4 alkyl group, a C1-C4 haloalkyl group, a C1-C4 alkoxy group, a C1-C4 haloalkoxy group, a C1-C4 alkylthio group, a C1-C4 haloalkylthio group, a C1-C4 alkylsulfinyl group, a C1-C4 haloalkylsulfinyl group, a C1-C4 alkylsulfonyl group, a C1-C4 haloalkylsulfonyl group, a cyano group, a nitro group, or an amino group which may be substituted by a C1-C4 alkyl group;
n represents an integer of 0 to 4; and
Q is a substituent represented by formula (1-2) or (1-3):



(1-2)

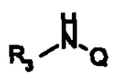
(wherein Y_1, Y_2, Y_4, and Y_5 may be the same or different and each represent a hydrogen atom, a halogen atom, a C1-C6 alkyl group, a C1-C6 haloalkyl group, a C1-C6 alkoxy group, a C1-C6 haloalkoxy group, a C1-C6 alkylthio group, a C1-C6 haloalkylthio group, a C1-C6 alkylsulfinyl group, a C1-C6 haloalkylsulfinyl group, a C1-C6 alkylsulfonyl group, a C1-C6 haloalkylsulfonyl group, a pentafluorosulfanyl group, a cyano group, or a nitro group, and Y_3 represents a C1-C6 haloalkyl group, a C1-C6 haloalkoxy group, a C1-C6 haloalkyl group which may be substituted by at least one hydroxyl group, a C1-C6 haloalkylthio group, a C1-C6 haloalkylsulfinyl group, a C1-C6 haloalkylsulfonyl group, or a

pentafluorosulfanyl group, but only one of Y_1 and Y_5 represents a hydrogen atom);


(1-3)

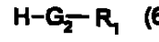
(wherein Y_6, Y_7, and Y_9 may be the same or different and each represent a hydrogen atom, a halogen atom, a C1-C6 alkyl group, a C1-C6 haloalkyl group, a C1-C6 alkoxy group, a C1-C6 haloalkoxy group, a C1-C6 alkylthio group, a C1-C6 haloalkylthio group, a C1-C6 alkylsulfinyl group, a C1-C6 haloalkylsulfinyl group, a C1-C6 alkylsulfonyl group, a C1-C6 haloalkylsulfonyl group, a pentafluorosulfanyl group, a cyano group, or a nitro group, and Y_8 represents a C1-C6 haloalkyl group, a C1-C6 haloalkoxy group, a C1-C6 haloalkyl group which may be substituted by at least one hydroxyl group, a C1-C6 haloalkylthio group, a C1-C6 haloalkylsulfinyl group, a C1-C6 haloalkylsulfonyl group, or a pentafluorosulfanyl group, but only one of Y_6 and Y_9 represents a hydrogen atom).

12. A method for producing the compound according to claim 1, the method comprising reacting the compound represented by formula (2) according to claim 9 with a compound represented by formula (5):


(5)

wherein R_3 and Q each represent the same as in claim 1.

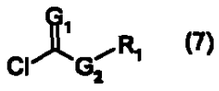
13. A method for producing the compound according to claim 1, the method comprising reacting the compound represented by formula (3) according to claim 10 with a compound represented by formula (6):



(6)

wherein R_1 and G_2 each represent the same as in claim 1.

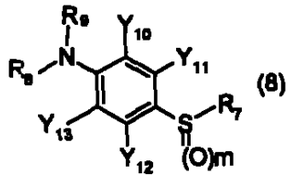
14. A method for producing the compound according to claim 1, the method comprising reacting the compound represented by formula (4) according to claim 11 with a compound represented by formula (7):



(7)

wherein R_1, G_1, and G_2 each represent the same as in claim 1.

15. An aniline derivative represented by formula (8):

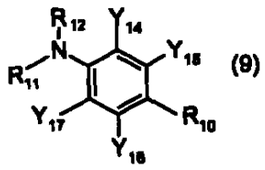


(8)

wherein R_7 represents a C1-C6 haloalkyl group, Y_{10}, Y_{11}, Y_{12}, and Y_{13} may be the same or different and each represent a hydrogen atom, a halogen atom, a C1-C6 alkyl group, a C1-C6 haloalkyl group, a C1-C6 alkoxy group, a C1-C6 haloalkoxy group, a C1-C6 alkylthio group, a C1-C6 haloalkylthio group, a C1-C6 alkylsulfinyl group, a C1-C6 haloalkylsulfinyl group, a C1-C6 alkylsulfonyl group, a C1-C6 haloalkylsulfonyl group, a pentafluorosulfanyl group, a cyano

group, or a nitro group, and R_8 and R_9 independently represent a hydrogen atom, a C1-C4 alkyl group, a m-nitrobenzoyl group, or a substituted m-nitrobenzoyl group, and m represents 0, 1, or 2.

16. An aniline derivative represented by formula (9):


(9)

wherein R_{10} represents a C1-C6 haloalkyl group which may be substituted by at least one hydroxyl group, Y_{14}, Y_{15}, Y_{16}, and Y_{17} may be the same or different and each represent a hydrogen atom, a halogen atom, a C1-C6 alkyl group, a C1-C6 haloalkyl group, a C1-C6 alkoxy group, a C1-C6 haloalkoxy group, a C1-C6 alkylthio group, a C1-C6 haloalkylthio group, a C1-C6 alkylsulfinyl group, a C1-C6 haloalkylsulfinyl group, a C1-C6 alkylsulfonyl group, a C1-C6 haloalkylsulfonyl group, a pentafluorosulfanyl group, a cyano group, or a nitro group, and R_{11} and R_{12} independently represent a hydrogen atom, a C1-C4 alkyl group, a m-nitrobenzoyl group, or a substituted m-nitrobenzoyl group.

17. An insecticide comprising the compound according to any one of claims 1 to 8 as an active ingredient.

18. An agricultural/horticultural insecticide comprising the compound according to any one of claims 1 to 8 as an active ingredient.

19. A method for using a chemical comprising treating a useful crop or soil with an effective amount of the compound according to any one of claims 1 to 8, for protecting the useful crop from harmful organisms.

20. A method for preventing pests comprising using the compound according to any one of claims 1 to 8 and at least one fungicide and/or insecticide in combination.

21. The method for preventing pests according to claim 20, wherein the fungicide and/or insecticide is selected from azole fungicides such as triadimefon, hexaconazole, propiconazole, ipconazole, prochloraz, and triflumizole; pyrimidine fungicides such as pyrifenox and fenarimol; anilinopyrimidine fungicides such as mepanipyrim and cyprodinil; acylalanine fungicides such as metalaxyl, oxadixyl, and benalaxyl; benzimidazole fungicides such as thiophanate-methyl and benomyl; dithiocarbamate fungicids such as mancozeb, propineb, zineb, and metiram; organochlorine fungicides such as tetrachloroisophthalonitrile; carboxamide fungicides such as carpropamid and ethaboxam; morpholine fungicides such as dimethomorph; strobilurin fungicides such as azoxystrobin, kresoxim-methyl, metominostrobin, orysastrobin, fluoxastrobin, trifloxystrobin, dimoxystrobin, pyraclostrobin, and picoxystrobin; dicarboxyimide fungicides such as iprodione and procymidone; soil-applied fungicides such as flusulfamide, dazomet, methyl isothiocyanate, and chloropicrin; copper fungicides such as basic copper chloride, basic copper sulfate, copper nonylphenol

sulfonate, oxine-copper, and DBEDC; inorganic fungicides such as sulfur and zinc sulfate; organophosphate fungicides such as edifenphos, tolclofos-methyl, and fosetyl-aluminum; melanin biosynthesis inhibitors such as phthalide, tricyclazole, pyroquilon, and diclocymet; antibiotics such as kasugamycin, validamycin, and polyoxins; fungicidal natural products such as repe seed oil; and other fungicides such as benthiavalicarb-isopropyl, iprovalicarb, cyflufenamid, fenhexamid, quinoxyfen, spiroxamine, diflumetorim, metrafenone, picobenzamid, proquinazid, silthiofam, oxypoconazole, famoxadone, cyazofamid, fenamidone, furametpyr, zoxamide, boscalid, tiadinil, simeconazole, chlorothalonil, cymoxanil, captan, dithianon, fluazinam, folpet, dichlofluanid, (*RS*)-N-[2-(1,3-dimethylbutyl)thiophen-3-yl]-1-methyl-3-trifluoromethyl-1*H*-pyrazole-4-carboxamide (penthiopyrad; ISO proposed), oxycarboxin, mepronil, flutolanil, triforine, oxolinic acid, probenazole, acibenzolar-*S*-methyl, isoprothiolane, ferimzone, diclomezine, pencycuron, fluoroimide, chinomethionate, iminoctadine-triacetate, and iminoctadine-albesilate; synthetic pyrethroid insecticides such as allethrin, tetramethrin, resmethrin, phenothrin, furamethrin, permethrin, cypermethrin, deltamethrin, cyhalothrin, cyfluthrin, fenpropathrin, tralomethrin, cycloprothrin, flucythrinate, fluvalinate, acrinathrin, tefluthrin, bifenthrin, empenthrin, beta-cyfluthrin, zeta-cypermethrin, and fenvalerate, and various isomers thereof and pyrethrum extracts; organophosphate insecticides such as DDVP, cyanophos, fenthion, fenitrothion, tetrachlorvinphos, dimethylvinphos, propaphos,

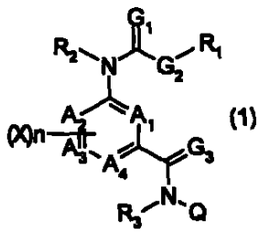
methylparathion, temephos, phoxim, acephate, isofenphos, salithion, DEP, EPN, ethion, mecarbam, pyridafenthion, diazinon, pirimiphos-methyl, etrimfos, isoxathion, quinalphos, chlorpyrifos-methyl, chlorpyrifos, phosalone, phosmet, methidathion, oxydeprofos, vamidothion, malathion, phenthoate, dimethoate, formothion, thiometon, ethylthiometon, phorate, terbufos, profenofos, prothiofos, sulprofos, pyraclofos, monocrotophos, naled, fosthiazate, and cadusafos; carbamate insecticides such as NAC, MTMC, MIPC, BPMC, XMC, PHC, MPMC, ethiofencarb, bendiocarb, pirimicarb, carbosulfan, benfuracarb, methomyl, oxamyl, and aldicarb; arylpropylether insecticides such as etofenprox and halfenprox; silylether insecticides such as silafluofen; insecticidal natural products such as nicotine-sulfate, polynactin complex, abamectin, milbemectin, and BT agents; insecticides such as, cartap, thiocyclam, bensultap, diflubenzuron, chlorfluazuron, teflubenzuron, triflumuron, flufenoxuron, flucycloxuron, hexaflumuron, fluazuron, imidacloprid, nitenpyram, acetamiprid, dinotefuran, pymetrozine, fipronil, buprofezin, fenoxycarb, pyriproxyfen, methoprene, hydroprene, kinoprene, diafenthiuron, triazamate, tebufenozide, and endosulfan; acaricides such as dicofol, chlorobenzilate, bromopropylate, tetradifon, CPCBS, BPPS, chinomethionate, amitraz, benzoximate, hexythiazox, fenbutatin oxide, cyhexatin, dienochlor, clofentezine, pyridaben, fenpyroximate, fenazaquin, and tebufenpyrad; novaluron; noviflumuron; emamectin benzoate; clothianidin; thiacloprid; thiamethoxam; flupyrazofos; acequinocyl; bifenazate; chromafenozide; etoxazole; fluacrypyrim; flufenzine; halofenozide;

indoxacarb; methoxyfenozide; spirodiclofen; tolfenpyrad; gamma-cyhalothrin; ethiprole; amidoflumet; bistrifluron; flonicamid; flubrocythrinate; flufenerim; pyridalyl; pyrimidifen; spinosad; and spiromesifen.

5

ABSTRACT

An object of the present invention is to provide insecticides having high effectiveness. The present invention provides compounds represented by formula (1):



(1)

wherein A_1, A_2, A_3, and A_4 independently represent a carbon atom, a nitrogen atom, or an oxidized nitrogen atom; R_1 represents a C1-C6 alkyl group which may be substituted, a phenyl group which may be substituted, or a heterocyclic group which may be substituted; R_2 and R_3 independently represent a hydrogen atom, a C1-C4 alkyl group which may be substituted, or a C1-C4 alkylcarbonyl group which may be substituted; G_1, G_2, and G_3 independently represent an oxygen atom or a sulfur atom; Xs may be the same or different and each represent a hydrogen atom, a halogen atom, a C1-C4 alkyl group which may be substituted, or an amino group which may be substituted; n represents an integer of 0 to 4; Q represents a phenyl group which may be substituted, a naphthyl group which may be substituted, a tetrahydronaphthyl group which may be substituted, or a heterocyclic group which may be substituted, insecticides containing the compounds as active ingredients, and a method for producing the compounds.

The compounds represented by formula (1) exhibit an excellent preventive effect as insecticides and also exhibit an excellent

preventive effect when being combined with another insecticide, an acaricide, a nematocide, a fungicide, a herbicide, a plant growth regulator, or a biological pesticide.

5

INTERNATIONAL SEARCH REPORT

International application No.
PCT/JP2004/012416

A. CLASSIFICATION OF SUBJECT MATTER
Int.Cl[7] C07C271/28, 327/48, 333/08, C07D213/81, A01N47/20

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
Int.Cl[7] C07C269/00-409/44, C07D201/00-521/00, A01N47/20

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
CAPLUS (STN), REGISTRY (STN)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	JP 55-141476 A (BASF AG.), 05 November, 1980 (05.11.80), Claims; page 11, lower right column to page 12, upper left column	1-8
X	JP 2-501388 A (F. Hoffmann-La Roche AG.), 17 May, 1990 (17.05.90), Claim 14; formula III	1-8
A	JP 44-18318 B1 (Union Carbide Corp.), 11 August, 1969 (11.08.69), Claims	1-8,17-21
A	EP 0063905 A1 (SUMITOMO CHEMICAL CO., LTD.), 03 November, 1982 (03.11.82), Claims	1-8,17-21

[X] Further documents are listed in the continuation of Box C. [X] See patent family annex.

* Special categories of cited documents:
"A" document defining the general state of the art which is not considered to be of particular relevance
"E" earlier application or patent but published on or after the international filing date
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
"O" document referring to an oral disclosure, use, exhibition or other means
"P" document published prior to the international filing date but later than the priority date claimed
"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
11 November, 2004 (11.11.04)	30 November, 2004 (30.11.04)
Name and mailing address of the ISA/ Japanese Patent Office	Authorized officer
Facsimile No.	Telephone No.

Form PCT/ISA/210 (second sheet) (January 2004)

INTERNATIONAL SEARCH REPORT

International application No.
PCT/JP2004/012416

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	JP 58-192858 A (SUMITOMO CHEMICAL CO., LTD.), 10 November, 1983 (10.11.83), Claims	1-8,17-21
A	JP 62-132862 A (Bayer AG.), 16 June, 1987 (16.06.87), Claims	1-8,17-21
A	JP 2-149502 A (Schering Agrochemicals Ltd.), 08 June, 1990 (08.06.90), Claims	1-8,17-21
A	JP 11-511442 A (Bayer AG.), 05 October, 1999 (05.10.99), Claims	1-8,17-21

INTERNATIONAL SEARCH REPORT

International application No.
PCT/JP2004/012416

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. ☐ Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

Claims 1-21 disclose (A) an invention relating to a compound represented by the general formula (1), (B) an invention relating to a compound represented by the general formula (2), (C) an invention relating to a compound represented by the general formula (3), (D) an invention relating to a compound represented by the general formula (4), (E) an invention relating to a compound represented by the general formula (8), and (F) an invention relating to a compound represented by the general formula (9). However, the structure common to these compounds is not novel as apparent from the fact that it is shown in JP 11-511442 A (Bayer AB.) 05 October, 1999 (05.10.99).
(continued to extra sheet.)

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.

2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.

3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:

4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:
Claims 1-8 and 17-21 (the invention (A))

Remark on Protest
☐ The additional search fees were accompanied by the applicant's protest.
☐ No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/JP2004/012416

Continuation of Box No.III of continuation of first sheet(2)

Consequently, the matter common to these six inventions is not a special technical feature. Therefore, these six inventions are not considered to be so linked as to form a single general inventive concept.

INTERNATIONAL SEARCH REPORT
Information on patent family members

International application No.
PCT/JP2004/012416

JP 55-141476 A	1980.11.05	EP 17931 A DE 2914915 A PT 71080 A BR 8002142 A ZA 8002173 A CS 8002490 A DD 149995 A US 4315766 A CA 1145748 A RO 81078 A SU 980601 A HU 26093 T DE 3066799 G IL 59775 A US 32087 E DE 3071888 G
JP 2-501388 A	1990.05.17	WO 89/02891 A AU 8823281 A NO 8902041 A EP 333791 A BR 8807217 A DK 8902478 A HU 52070 T US 5017211 A
JP 44-18318 B1	1969.08.11	ZA 6700153 A US 3546343 A US 3450745 A BE 692793 A GB 1173185 A NL 137824 B NL 6700823 A AU 6716308 A CH 466632 A FR 1508481 A CA 778804 A DE 1643143 A
EP 0063905 A1	1982.11.03	JP 57-171951 A GB 2101584 A BR 8202224 A AU 8282476 A ZA 8202380 A JP 58-79968 A ES 8306716 A HU 30913 T US 4482546 A RO 85070 A DE 3265364 G CS 8202699 A CA 1249286 A IL 65489 A KR 8900367 B

INTERNATIONAL SEARCH REPORT
Information on patent family members

International application No.
PCT/JP2004/012416

JP 58-192858 A	1983.11.10	US 4690946 A
JP 62-132862 A	1987.06.16	DE 3602016 A EP 226837 A AU 8665877 A ZA 8609159 A BR 8605956 A DK 8605839 A HU 45372 T DD 265317 A US 4871387 A
JP 2-149502 A	1990.06.08	EP 360417 A DK 8904151 A AU 8940095 A ZA 8906427 A US 5093364 A
JP 11-511442 A	1999.10.05	WO 97/08135 A1 ZA 9607317 A AU 9668740 A DE 19626311 A1 EP 848700 A1 CZ 9800610 A3 SK 9800271 A3 CN 1200725 A HU 9802859 A2 BR 9610048 A US 6001879 A MX 9801597 A1 KR 99044134 A TW 379212 A US 6548549 B1 DE 59610577 G TW 521069 A

DESCRIPCIÓN

INSECTICIDA AGRÍCOLA/HORTÍCOLA Y MÉTODO PARA USO DEL MISM

Campo Técnico

La presente invención se relaciona con los compuestos representados por la fórmula (1), insecticidas que contienen los compuestos como ingredientes activos, un método para producir los insecticidas, y un método para utilizar los insecticidas.

Técnica anterior

La traducción de patente japonesa PCT No. 11-511442 describe compuestos salicílicos similares a los compuestos de la presente invención. Sin embargo, los compuestos representados por la fórmula (1) de la presente invención no tienen un esqueleto salicílico, y los compuestos descritos en la publicación anterior están claramente por fuera del alcance de las reivindicaciones de la presente invención.

La publicación No. WO2003-22806 describe compuestos como intermedios de producción similares a los compuestos de la presente invención, pero estos no describen una actividad para los insectos. También los compuestos descritos en la publicación están claramente por fuera del alcance de las reivindicaciones de la presente invención.

J. Org. Chem. 142 (1996) describe compuestos como intermedios para la producción similares a los compuestos de la presente invención, pero esta no describe una actividad para los insectos. También, los compuestos descritos en la

publicación están claramente por fuera del alcance de las reivindicaciones de la presente invención.

J. Am. Chem. 6382 (2000) describe compuestos como intermedios para la producción similares a los compuestos de la presente invención, pero estos no describen una actividad para los insectos. También, los compuestos descritos en la publicación están claramente por fuera del alcance de las reivindicaciones de la presente invención.

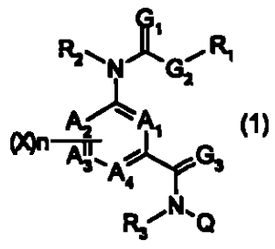
Descripción de la Invención

Un objeto de la presente invención es suministrar insecticidas que tengan alta efectividad.

Como resultado de investigación intensiva para lograr el objeto, los inventores encontraron que los compuestos de la presente invención son compuestos novedosos no descritos en ningún documento y tiene un excelente efecto insecticida, y los compuestos se pueden utilizar como nuevos insecticidas. También se encuentra que los insecticidas en la producción de los compuestos de la presente invención no están descritos en ningún documento y son intermedios de producción útiles. La presente invención se ha logrado con base en estos hallazgos.

La presente invención suministra los compuestos representados por la siguiente fórmula:

[1] Los compuestos representados por la fórmula (1)



(1)

en donde A_1, A_2, A_3, y A_4 representan independientemente un átomo de carbono, un átomo de nitrógeno, o un átomo de nitrógeno oxidado; R_1 representa un grupo alquilo C1-C6 que puede ser sustituido, un grupo fenilo que puede ser sustituido, o un grupo heterocíclico que puede ser sustituido; R_2 y R_3 independientemente representan un átomo de hidrógeno, un grupo alquilo C_1-C_4 que puede ser sustituido, o un grupo alquilcarbonilo C1-C4 que puede ser sustituido; G_1, G_2, y G_3 representan independientemente un átomo de oxígeno o un átomo de azufre; Xs puede ser igual o diferente y cada uno representa un átomo de hidrógeno, un átomo de halógeno un grupo alquilo C1-C4 que puede ser sustituido, o un grupo amino que puede ser sustituido; n representa un entero de 0 a 4; Q representa un grupo fenilo que puede ser sustituido, un grupo naftilo que puede ser sustituido, un grupo tetrahidronaftilo que puede ser sustituido, o un grupo heterociclilo que puede ser sustituido.

[2] Los compuestos representados por la fórmula (1), en donde A_1, A_2, A_3, y A_4 representan independientemente un átomo de carbono, un átomo de nitrógeno, o un átomo de nitrógeno oxidado; R_1 representa lo siguiente:

un grupo alquilo C1-C6

un grupo haloalquilo C1-C6

un grupo alquenilo C2-C6

un grupo alquenilo C2-C6

un grupo haloalquenilo C2-C6

un grupo alquinilo C2-C6

un grupo haloalquinilo C2-C6

un grupo cicloalquilo C3-C6

un grupo halocicloalquilo C3-C6

un grupo fenilo,

un grupo fenilo sustituido que tiene uno o más sustituyentes que pueden ser iguales o diferentes y que son seleccionados de un átomo de halógeno, un grupo alquilo C1-C6, un grupo haloalquilo C1-C6, un grupo cicloalquilo C3-C8, un grupo halocicloalquilo C3-C8, un grupo alcoxi C1-C6, un grupo haloalcoxi C1-C6, un grupo alquiltio C1-C6, un grupo haloalquiltio C1-C6, un grupo alquilsulfinilo C1-C6, un grupo haloalquilsulfinilo C1-C6, un grupo alquilsulfonilo C1-C6, un grupo haloalquilsulfonilo C1-C6, un grupo ciano, un grupo nitro, un grupo hidroxilo, un grupo pentafluorosulfanilo, un grupo alquilcarbonilo C1-C4, un grupo haloalquilcarbonilo C1-C4, un grupo alquilcarboniloxi C1-C4, y un grupo alcoxicarbonilo C1-C4,

un grupo naftilo,

un grupo naftilo sustituido que tiene uno o más sustituyentes que pueden ser iguales o diferentes y que son seleccionados de un átomo de halógeno, un grupo alquilo C1-C6, un grupo haloalquilo C1-C6, un grupo cicloalquilo C3-C8, un grupo halocicloalquilo C3-C8, un grupo alcoxi C1-C6, un grupo haloalcoxi C1-C6, un grupo alquiltio C1-C6, un grupo haloalquiltio C1-C6, un grupo alquilsulfinilo C1-C6, un grupo haloalquilsulfinilo C1-C6, un grupo alquilsulfonilo C1-C6, un grupo haloalquilsulfonilo C1-C6, un grupo ciano, un grupo nitro, un grupo hidroxilo, un grupo pentafluorosulfanilo, un grupo alquilcarbonilo C1-C4, un grupo

haloalquilcarbonilo C1-C4, un grupo alquilcarboniloxi C1-C4, y un grupo alcoxicarbonilo C1-C4,

un grupo heterocíclico (que representa un grupo piridilo, un grupo piridino-N-óxido, un grupo piridiminilo, un grupo piridazilo, un grupo furilo, un grupo tetrahidrofurilo, un grupo tienilo, un grupo tetrahidrotienilo,, un grupo tetrahidropiranilo, un grupo oxazolilo, un grupo isoxazolilo, un grupo oxadiazolilo, un grupo tiazolilo,, un grupo isotiazolilo, un grupo tiadiazolilo, un grupo pirrol, un grupo imidazolilo, un grupo triazolilo, un grupo pirazolilo, o un grupo tetrazolilo),

un grupo heterocíclico sustituido (que representa un grupo piridilo, un grupo piridino-N-óxido, un grupo piridiminilo, un grupo piridazilo, un grupo furilo, un grupo tetrahidrofurilo, un grupo tienilo, un grupo tetrahidrotienilo,, un grupo tetrahidropiranilo, un grupo oxazolilo, un grupo isoxazolilo, un grupo oxadiazolilo, un grupo tiazolilo,, un grupo isotiazolilo, un grupo tiadiazolilo, un grupo pirrol, un grupo imidazolilo, un grupo triazolilo, un grupo pirazolilo, o un grupo tetrazolilo) que tiene uno o más sustituyentes que pueden ser iguales o diferentes y que son seleccionados de un átomo de halógeno, un grupo alquilo C1-C6, un grupo haloalquilo C1-C6, un grupo cicloalquilo C3-C8, un grupo halocicloalquilo C3-C8, un grupo alcoxi C1-C6, un grupo haloalcoxi C1-C6, un grupo alquiltio C1-C6, un grupo haloalquiltio C1-C6, un grupo alquilsulfinilo C1-C6, un grupo haloalquilsulfinilo C1-C6, un grupo alquilsulfonilo C1-C6, un grupo haloalquilsulfonilo C1-C6, un grupo ciano, un grupo nitro, un grupo hidroxilo, un grupo pentafluorosulfanilo, un grupo alquilcarbonilo C1-C4, un grupo haloalquilcarbonilo C1-C4, un grupo alquilcarboniloxi C1-C4, y un grupo alcoxicarbonilo C1-C4,

$-E_1-Z_1R_4$

(en donde E_1 representa un grupo alquileno C1-C4, un grupo alquenileno C2-C4, un grupo alquinileno C3-C4, un grupo haloalquileno C1-C4, un grupo haloalquenileno C2-C4, o un grupo haloalquinileno C3-C4; R_4 representa un átomo de hidrógeno, un grupo alquilo C1-C6, un grupo alquenilo C2-C6, un grupo alquinilo C2-C6, un grupo haloalquilo C1-C6,, un grupo haloalquenilo C2-C6, un grupo haloalquinilo C2-C6,

un grupo cicloalquilo C3-C8,

un grupo halocicloalquilo C3-C8,

un grupo fenilo,

un grupo fenilo sustituido que tiene uno o más sustituyentes que pueden ser iguales o diferentes y que son seleccionados de un átomo de halógeno, un grupo alquilo C1-C6, un grupo haloalquilo C1-C6, un grupo cicloalquilo C3-C8, un grupo halocicloalquilo C3-C8, un grupo alcoxi C1-C6, un grupo haloalcoxi C1-C6, un grupo alquiltio C1-C6, un grupo haloalquiltio C1-C6, un grupo alquilsulfinilo C1-C6, un grupo haloalquilsulfinilo C1-C6, un grupo alquilsulfonilo C1-C6, un grupo haloalquilsulfonilo C1-C6, un grupo ciano, un grupo nitro, un grupo hidroxilo, un grupo pentafluorosulfanilo, un grupo alquilcarbonilo C1-C4, un grupo haloalquilcarbonilo C1-C4, un grupo alquilcarboniloxi C1-C4, y un grupo alcoxicarbonilo C1-C4,

un grupo naftilo,

un grupo naftilo sustituido que tiene uno o más sustituyentes que pueden ser iguales o diferentes y que son seleccionados de un átomo de halógeno, un grupo alquilo C1-C6, un grupo haloalquilo C1-C6, un grupo cicloalquilo C3-C8, un grupo halocicloalquilo C3-C8, un grupo alcoxi C1-C6, un grupo haloalcoxi C1-C6, un

grupo alquiltio C1-C6, un grupo haloalquiltio C1-C6, un grupo alquilsulfinilo C1-C6, un grupo haloalquilsulfinilo C1-C6, un grupo alquilsulfonilo C1-C6, un grupo haloalquilsulfonilo C1-C6, un grupo ciano, un grupo nitro, un grupo hidroxilo, un grupo pentafluorosulfanilo, un grupo alquilcarbonilo C1-C4, un grupo haloalquilcarbonilo C1-C4, un grupo alquilcarboniloxi C1-C4, y un grupo alcoxicarbonilo C1-C4,

un grupo heterocíclico (que representa un grupo piridilo, un grupo piridino-N-óxido, un grupo piridiminilo, un grupo piridazilo, un grupo furilo, un grupo tetrahidrofurilo, un grupo tienilo, un grupo tetrahidrotienilo, un grupo tetrahidropiranilo, un grupo oxazolilo, un grupo isoxazolilo, un grupo oxadiazolilo, un grupo tiazolilo,, un grupo isotiazolilo, un grupo tiadiazolilo, un grupo pirrol, un grupo imidazolilo, un grupo triazolilo, un grupo pirazolilo, o un grupo tetrazolilo),

un grupo heterocíclico sustituido (que representa un grupo piridilo, un grupo piridino-N-óxido, un grupo piridiminilo, un grupo piridazilo, un grupo furilo, un grupo tetrahidrofurilo, un grupo tienilo, un grupo tetrahidrotienilo,, un grupo tetrahidropiranilo, un grupo oxazolilo, un grupo isoxazolilo, un grupo oxadiazolilo, un grupo tiazolilo,, un grupo isotiazolilo, un grupo tiadiazolilo, un grupo pirrol, un grupo imidazolilo, un grupo triazolilo, un grupo pirazolilo, o un grupo tetrazolilo) que tiene uno o más sustituyentes que pueden ser iguales o diferentes y que son seleccionados de un átomo de halógeno, un grupo alquilo C1-C6, un grupo haloalquilo C1-C6, un grupo cicloalquilo C3-C8, un grupo halocicloalquilo C3-C8, un grupo alcoxi C1-C6, un grupo haloalcoxi C1-C6, un grupo alquiltio C1-C6, un grupo haloalquiltio C1-C6, un grupo alquilsulfinilo C1-C6, un grupo haloalquilsulfinilo C1-C6, un grupo alquilsulfonilo C1-C6, un grupo haloalquilsulfonilo C1-C6, un grupo ciano, un grupo nitro, un grupo hidroxilo, un

grupo pentafluorosulfanilo, un grupo alquilcarbonilo C1-C4, un grupo haloalquilcarbonilo C1-C4, un grupo alquilcarboniloxi C1-C4, y un grupo alcoxicarbonilo C1-C4, y

Z_1 representa –O-, -S-, -SO-, -SO_2-, -C(=O)-, -C(=O)-O-, -OC(=O)-, -N(R_5)-, -C(=O)N(R_5)-, o N(R_5)C(=O)- (R_5 representa un grupo alquilo, un grupo alquilcarbonilo C1-C4, un grupo haloalquilcarbonilo C1-C4, o un grupo alcoxicarbonilo C1-C4)) o –E_2-R_6

en donde E_2 representa un grupo alquileno C1-C4, un grupo alquenileno C2-C4, un grupo alquinileno C3-C4, un grupo haloalquileno C1-C4, un grupo haoalquenileno C2-C4, o un grupo haloalquinileno C3-C4, y R_6 representa un grupo cicloalquilo C3-C8, un grupo halocicloalquilo C3-C8,
un grupo ciano,
un grupo nitro,
un grupo hidroxilo,
un grupo fenilo,
un grupo fenilo sustituido que tiene uno o más sustituyentes que pueden ser iguales o diferentes y que son seleccionados de un átomo de halógeno, un grupo alquilo C1-C6, un grupo haloalquilo C1-C6, un grupo cicloalquilo C3-C8, un grupo halocicloalquilo C3-C8, un grupo alcoxi C1-C6, un grupo haloalcoxi C1-C6, un grupo alquiltio C1-C6, un grupo haloalquiltio C1-C6, un grupo alquilsulfinilo C1-C6, un grupo haloalquilsulfinilo C1-C6, un grupo alquilsulfonilo C1-C6, un grupo haloalquilsulfonilo C1-C6, un grupo ciano, un grupo nitro, un grupo hidroxilo, un grupo pentafluorosulfanilo, un grupo alquilcarbonilo C1-C4, un grupo haloalquilcarbonilo C1-C4, un grupo alquilcarboniloxi C1-C4, y un grupo alcoxicarbonilo C1-C4,

un grupo naftilo,

un grupo naftilo sustituido que tiene uno o más sustituyentes que pueden ser iguales o diferentes y que son seleccionados de un átomo de halógeno, un grupo alquilo C1-C6, un grupo haloalquilo C1-C6, un grupo cicloalquilo C3-C8, un grupo halocicloalquilo C3-C8, un grupo alcoxi C1-C6, un grupo haloalcoxi C1-C6, un grupo alquiltio C1-C6, un grupo haloalquiltio C1-C6, un grupo alquilsulfinilo C1-C6, un grupo haloalquilsulfinilo C1-C6, un grupo alquilsulfonilo C1-C6, un grupo haloalquilsulfonilo C1-C6, un grupo ciano, un grupo nitro, un grupo hidroxilo, un grupo pentafluorosulfanilo, un grupo alquilcarbonilo C1-C4, un grupo haloalquilcarbonilo C1-C4, un grupo alquilcarboniloxi C1-C4, y un grupo alcoxicarbonilo C1-C4,

un grupo heterocíclico (que representa un grupo piridilo, un grupo piridino-N-óxido, un grupo piridiminilo, un grupo piridazilo, un grupo furilo, un grupo tetrahidrofurilo, un grupo tienilo, un grupo tetrahidrotienilo, un grupo tetrahidropiranilo, un grupo oxazolilo, un grupo isoxazolilo, un grupo oxadiazolilo, un grupo tiazolilo,, un grupo isotiazolilo, un grupo tiadiazolilo, un grupo pirrol, un grupo imidazolilo, un grupo triazolilo, un grupo pirazolilo, o un grupo tetrazolilo), o

un grupo heterocíclico sustituido (que representa un grupo piridilo, un grupo piridino-N-óxido, un grupo piridiminilo, un grupo piridazilo, un grupo furilo, un grupo tetrahidrofurilo, un grupo tienilo, un grupo tetrahidrotienilo,, un grupo tetrahidropiranilo, un grupo oxazolilo, un grupo isoxazolilo, un grupo oxadiazolilo, un grupo tiazolilo,, un grupo isotiazolilo, un grupo tiadiazolilo, un grupo pirrol, un grupo imidazolilo, un grupo triazolilo, un grupo pirazolilo, o un grupo tetrazolilo) que tiene uno o más sustituyentes que pueden ser iguales o diferentes y que son

seleccionados de un átomo de halógeno, un grupo alquilo C1-C6, un grupo haloalquilo C1-C6, un grupo cicloalquilo C3-C8, un grupo halocicloalquilo C3-C8, un grupo alcoxi C1-C6, un grupo haloalcoxi C1-C6, un grupo alquiltio C1-C6, un grupo haloalquiltio C1-C6, un grupo alquilsulfinilo C1-C6, un grupo haloalquilsulfinilo C1-C6, un grupo alquilsulfonilo C1-C6, un grupo haloalquilsulfonilo C1-C6, un grupo ciano, un grupo nitro, un grupo hidroxilo, un grupo pentafluorosulfanilo, un grupo alquilcarbonilo C1-C4, un grupo haloalquilcarbonilo C1-C4, un grupo alquilcarboniloxi C1-C4, y un grupo alcoxicarbonilo C1-C4);

R_2 y R_3 representan independientemente un átomo de hidrógeno, un grupo alquilo C1-C4, un grupo alquilcarbonilo C1-C4, o un grupo haloalquilcarbonilo C1-C4; G_1, G_2, y G_3 representan independientemente un átomo de oxígeno o un átomo de azufre; Xs puede ser igual o diferente y cada uno representa un átomo de hidrógeno, un átomo de halógeno un grupo alquilo C1-C4, un grupo haloalquilo C1-C4, un grupo alcoxi C1-C4, un grupo haloalcoxi C1-C4, un grupo alquiltio C1-C4, un grupo haloalquiltio C1-C4, un grupo alquilsulfinilo C1-C4, un grupo haloalquilsulfinilo C1-C4, un grupo alquilsulfonilo C1-C4, un grupo haloalquilsulfonilo C1-C4, un grupo ciano, un grupo nitro, un grupo amino que puede ser sustituido por un grupo alquilo C1-C4;

n representa un entero de 0 a 4;

Q representa un grupo fenilo,

un grupo fenilo sustituido que tiene uno o más sustituyentes que pueden ser iguales o diferentes y que son seleccionados de un átomo de halógeno, un grupo alquilo C1-C6, un grupo haloalquilo C1-C6, un grupo cicloalquilo C3-C8, un grupo halocicloalquilo C3-C8, un grupo alcoxi C1-C6, un grupo haloalcoxi C1-C6, un grupo haloalquilo C1-C6, que puede ser sustituido por al menos un grupo hidroxilo,

un grupo alquiltio C1-C6, un grupo haloalquiltio C1-C6,un grupo alquilsulfinilo C1-C6, un grupo haloalquilsulfinilo C1-C6, un grupo alquilsulfonilo C1-C6, un grupo haloalquilsulfonilo C1-C6, un grupo haloalquilsulfoniloxi C1-C6, un grupo alquilcarbonilo C1-C4, un grupo haloalquilcarbonilo C1-C4, un grupo ciano, un grupo nitro, un grupo hidroxilo, un grupo pentafluorosulfanilo, un grupo fenilo, un grupo fenilo sustituido (que puede tener los mismos o diferentes sustituyentes seleccionados de un átomo de halógeno, un grupo alquilo C1-C6, un grupo haloalquilo C1-C6, un grupo cicloalquilo C3-C8, un grupo halocicloalquilo C3-C8, un grupo alcoxi C1-C6, un grupo haloalcoxi C1-C6, un grupo alquiltio C1-C6, un grupo haloalquiltio C1-C6, un grupo alquilsulfinilo C1-C6, un grupo haloalquilsulfinilo C1-C6, un grupo alquilsulfonilo C1-C6, un grupo haloalquilsulfonilo C1-C6, un grupo haloalquilsulfoniloxi C1-C6,un grupo ciano, un grupo nitro, un grupo hidroxilo, un grupo pentafluorosulfanilo), un grupo tianilo y un grupo tianilo sustituido (que puede tener los mismos o diferentes sustituyentes seleccionados de un átomo de halógeno, un grupo alquilo C1-C6, un grupo haloalquilo C1-C6, un grupo cicloalquilo C3-C8, un grupo halocicloalquilo C3-C8, un grupo alcoxi C1-C6, un grupo haloalcoxi C1-C6, un grupo alquiltio C1-C6, un grupo haloalquiltio C1-C6, un grupo alquilsulfinilo C1-C6, un grupo haloalquilsulfinilo C1-C6, un grupo alquilsulfonilo C1-C6, un grupo haloalquilsulfonilo C1-C6, un grupo haloalquilsulfoniloxi C1-C6, un grupo ciano, un grupo nitro, un grupo hidroxilo, y un grupo pentafluorosulfanilo),

un grupo naftilo,

un grupo naftilo sustituido que tiene uno o más sustituyentes que pueden ser iguales o diferentes y que son seleccionados de un átomo de halógeno, un grupo alquilo C1-C6, un grupo haloalquilo C1-C6, un grupo cicloalquilo C3-C8, un grupo halocicloalquilo C3-C8, un grupo alcoxi C1-C6, un grupo haloalcoxi C1-C6, un

grupo haloalquilo que puede ser sustituido por al menos un grupo hidroxilo, un grupo alquiltio C1-C6, un grupo haloalquiltio C1-C6, un grupo alquilsulfinilo C1-C6, un grupo haloalquilsulfinilo C1-C6, un grupo alquilsulfonilo C1-C6, un grupo haloalquilsulfonilo C1-C6, un grupo ciano, un grupo nitro, un grupo hidroxilo, o un grupo pentafluorosulfanilo,

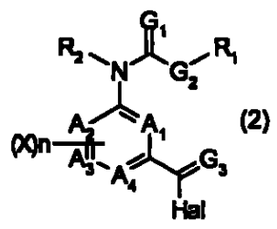
un grupo heterocíclico (que representa un grupo piridilo, un grupo piridino-N-óxido, un grupo piridiminilo, un grupo piridazilo, un grupo furilo, un grupo tienilo, un grupo oxazolilo, un grupo isoxazolilo, un grupo oxadiazolilo, un grupo tiazolilo,, un grupo isotiazolilo, un grupo tiadiazolilo, un grupo pirrol, un grupo imidazolilo, un grupo triazolilo, un grupo pirazolilo, o un grupo tetrazolilo),

un grupo heterocíclico sustituido (que representa un grupo piridilo, un grupo piridino-N-óxido, un grupo piridiminilo, un grupo piridazilo, un grupo furilo, un grupo tienilo, un grupo oxazolilo, un grupo isoxazolilo, un grupo oxadiazolilo, un grupo tiazolilo,, un grupo isotiazolilo, un grupo tiadiazolilo, un grupo pirrol, un grupo imidazolilo, un grupo triazolilo, un grupo pirazolilo, o un grupo tetrazolilo) que tiene uno o más sustituyentes que pueden ser iguales o diferentes y que son seleccionados de un átomo de halógeno, un grupo alquilo C1-C6, un grupo haloalquilo C1-C6, un grupo alcoxi C1-C6, un grupo haloalcoxi C1-C6, un grupo haloalquilo C1-C6 que puede ser sustituido por al menos un grupo hidroxilo, un grupo alquiltio C1-C6, un grupo haloalquiltio C1-C6, un grupo alquilsulfinilo C1-C6, un grupo haloalquilsulfinilo C1-C6, un grupo alquilsulfonilo C1-C6, un grupo haloalquilsulfonilo C1-C6, un grupo ciano, un grupo nitro, un grupo hidroxilo, y un grupo pentafluorosulfanilo,

un grupo tetrahidronaftilo o,

un grupo tetrahidronaftilo sustituido que tiene uno o má sustituyentes que pueden ser iguales o diferentes y que son seleccionados de un átomo de halógeno, un grupo alquilo C1-C6, un grupo haloalquilo C1-C6, un grupo alcoxi C1-C6, un grupo haloalcoxi C1-C6, un grupo haloalquilo C1-C6 que puede ser sustituido por al menos un grupo hidroxilo, un grupo alquiltio C1-C6, un grupo haloalquiltio C1-C6, un grupo alquilsulfinilo C1-C6, un grupo haloalquilsulfinilo C1-C6, un grupo alquilsulfonilo C1-C6, un grupo haloalquilsulfonilo C1-C6, un grupo ciano, un grupo nitro, un grupo hidroxilo, y un grupo pentafluorosulfanilo (excluyendo un caso (1) en el cual Q representa 3,4-diclorofenilo cuando R_1 representa un grupo metilo, un caso (2) en el cual Q representa un grupo fenilo no sustituido cuando R_1 representa un grupo etilo, y un caso (3) en el cual Q representa un grupo piridilo no sustituido cunado R_1 representa un grupo fenilo no sustituido).

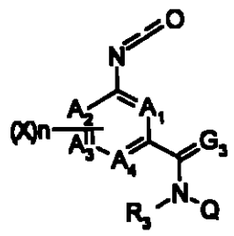
[3] Los compuestos representados por la fórmula (2)



(2)

en donde A_1, A_2, A_3, A_4, R_1, R_2, R_3, G_1, G_2, G_3, X y n representan cada uno lo mismo que la fórmula [1] y Hal representa un átomo de halógeno.

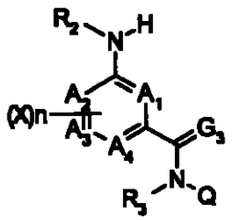
[4] Compuestos representados por la fórmula (3)



(3)

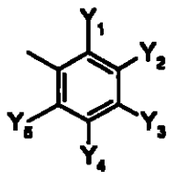
en donde A_1, A_2, A_3, A_4, R_3, G_3, X, n y Q representan cada uno lo mismo que la fórmula [1].

[5] Los compuestos representados por la fórmula (4)



(4)

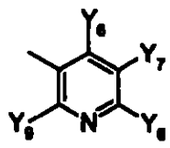
en donde A_1, A_2, A_3, A_4, R_2, R_3, G_3, X y n representan cada uno lo mismo que la fórmula [1] y Q representa un grupo representado por la fórmula (1-2) o (1-3)



(1-2)

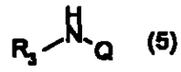
(en donde Y_1, Y_2, Y_4, y Y_5 pueden ser iguales o diferentes y cada uno representa un átomo de hidrógeno, átomo de halógeno, un grupo alquilo C1-C6, un grupo haloalquilo C1-C6, un grupo alcoxi C1-C6, un grupo haloalcoxi C1-C6, un grupo alquiltio C1-C6, un grupo haloalquiltio C1-C6, un grupo alquilsulfinilo C1-C6, un grupo haloalquilsulfinilo C1-C6, un grupo alquilsulfonilo C1-C6, un grupo

pentafluorosulfanilo, un grupo ciano, un grupo nitro, y Y_3 representa un grupo haloalquilo C1-C6, un grupo haloalcoxi C1-C6, un grupo haloalquilo C1-C6 que puede ser sustituido por al menos un grupo hidroxilo, un grupo haloalquiltio C1-C6, un grupo haloalquilsulfinilo C1-C6, un grupo haloalquilsulfonilo C1-C6, o un grupo pentafluorosulfanilo, pero solamente uno de Y_1 y Y_5 representan un átomo de hidrógeno)


(1-3)

(en donde Y_6, Y_7, y Y_9 pueden ser iguales o diferentes y cada uno representa un átomo de hidrógeno, átomo de halógeno, un grupo alquilo C1-C6, un grupo haloalquilo C1-C6, un grupo alcoxi C1-C6, un grupo haloalcoxi C1-C6, un grupo alquiltio C1-C6, un grupo haloalquiltio C1-C6, un grupo alquilsulfinilo C1-C6, un grupo haloalquilsulfinilo C1-C6, un grupo alquilsulfonilo C1-C6, un grupo pentafluorosulfanilo, un grupo ciano, o un grupo nitro, y Y_8 representa un grupo haloalquilo C1-C6, un grupo haloalcoxi C1-C6, un grupo haloalquilo C1-C6 que puede ser sustituido por al menos un grupo hidroxilo, un grupo haloalquiltio C1-C6, un grupo haloalquilsulfinilo C1-C6, un grupo haloalquilsulfonilo C1-C6, o un grupo pentafluorosulfanilo, pero solamente uno de Y_6 y Y_9 representan un átomo de hidrógeno).

[6] Un método para producir los compuestos anteriormente descritos en [1] que comprende hacer reaccionar los compuestos representados en [3] por la fórmula (2) con los compuestos representados por la fórmula (5):



(5)

en donde R_3 y Q representan lo mismo que en [1].

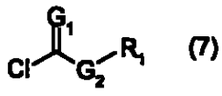
[7] Un método para producir los compuestos anteriormente descritos en [1] que comprende hacer reaccionar los compuestos representados en [4] por la fórmula (3) con los compuestos representados por la fórmula (6):



(6)

en donde R_1 y G_2 cada uno representa el mismo [1].

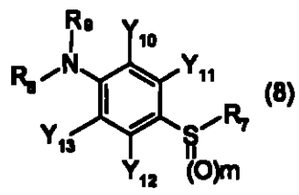
[8] Un método para producir los compuestos anteriormente descritos en [1] que comprende hacer reaccionar los compuestos representados en [5] por la fórmula (3) con los compuestos representados por la fórmula (7):



(7)

en donde R_1 G_1, y G_2 cada uno representa lo mismo [1].

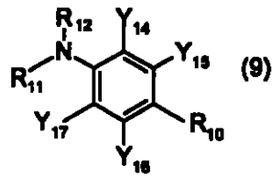
[9] Derivados de anilina representados por la fórmula (8):



(8)

en donde R_7 representa un grupo haloalquilo C1-C6, Y_{10}, Y_{11}, Y_{12}, y Y_{13} pueden ser iguales o diferentes y cada uno representa un átomo de hidrógeno, un átomo de halógeno, un grupo alquilo C1-C6, un grupo haloalquilo C1-C6, un grupo alcoxi C1-C6, un grupo haloalcoxi C1-C6, un grupo alquiltio C1-C6, un grupo haloalquiltio C1-C6, un grupo alquilsulfinilo C1-C6, un grupo haloalquilsulfinilo C1-C6, un grupo alquilsulfonilo C1-C6, un grupo pentafluorosulfanilo, un grupo ciano, o un grupo nitro, y R_8 y R_9 representan independientemente un átomo de hidrógeno, un grupo alquilo C1-C4, un grupo m-nitrobenzoilo, o un grupo m-nitrobenzoilo sustituido y m representa 0, 1, o 2.

[10] Derivados de anilina representados por la fórmula (9):



(9)

en donde R_{10} representa un grupo haloalquilo C1-C6 el cual puede ser sustituido por al menos un grupo hidroxilo, Y_{14}, Y_{15}, Y_{16}, y Y_{17} pueden ser iguales o diferentes y cada uno representa un átomo de hidrógeno, un átomo de halógeno, un grupo alquilo C1-C6, un grupo haloalquilo C1-C6, un grupo alcoxi C1-C6, un grupo haloalcoxi C1-C6, un grupo alquiltio C1-C6, un grupo haloalquiltio C1-C6, un grupo alquilsulfinilo C1-C6, un grupo haloalquilsulfinilo C1-C6, un grupo

alquilsulfonilo C1-C6, un grupo pentafluorosulfanilo, un grupo ciano, o un grupo nitro, y R_{11} y R_{12} representan independientemente un átomo de hidrógeno, un grupo alquilo C1-C4, un grupo m-nitrobenzoilo, o un grupo m-nitrobenzoilo sustituido.

[11] Un insecticida que comprende cualquiera de los compuestos en [1] o [2] como un ingrediente activo.

[12] Un método para utilizar un químico que comprende tratar un cultivo o suelo útil con una cantidad efectiva de uno cualquiera de los compuestos en [1] o [2] para proteger el cultivo útil de organismos dañinos.

[13] Un método para prevenir plagas que comprende utilizar el compuesto [1] o [2] y al menos un insecticida y/o fungicida en combinación.

Los compuestos de la presente invención exhiben un efecto preventivo excelente como insecticidas en bajas dosis, y también exhiben un efecto preventivo excelente cuado son utilizados en combinación con otro insecticida, un acaricida, un nematocida, un fungicida, un herbicida, un regulador de crecimiento de planta, o un pesticida biológico.

El mejor modo para llevar a cabo la invención en las definiciones de la fórmula (1) de la presente invención, el término "átomo de halógeno" significa un átomo de fluor, un átomo de cloro, un átomo de bromo, o un átomo de yodo. Los caracteres "n-", "i-", "s-", y "t-" significa "normal", "iso", "secundario", y "terciario", respectivamente. Con respecto a la expresión "Ca-Cb (a y b representan cada uno un entero de 1 o más)", por ejemplo, "C1-C6" significa que el número de átomos

de carbono es 1 a 6, "C3-C8" significa que el número de átomos de carbono es 3 a 8, y "C1-C4" significa que el número de átomos de carbono es 1 a 4.

En las definiciones de las fórmulas tal como la fórmula (1) de la presente invención, los términos utilizados tienen los siguientes significados:

El término "un grupo alquilo que puede ser sustituido" significa un grupo alquilo que es recto, ramificado o cíclico, que puede ser sustituido por el mismo o diferentes grupos seleccionados de un átomo de hidrógeno, un átomo de halógeno, un grupo hidroxilo, un grupo ciano, un grupo nitro, un grupo alcoxi C1-C6, un grupo haloalcoxi C1-C6, un grupo alquiltio C1-C6, un grupo haloalquiltio C1-C6, un grupo alquilsulfinilo C1-C6, un grupo haloalquilsulfinilo C1-C6, un grupo alquilsulfonilo C1-C6, un grupo haloalquilsulfonilo C1-C6, un grupo alquilcarbonilo C1-C6, un grupo haloalquilcarbonilo C1-C6, un grupo alcoxicarbonilo C1-C6, un grupo haloalcoxicarbonilo C1-C6, un grupo alquilcarboniloxi C1-C6, un grupo haloalqilcarboniloxi C1-C6, un grupo amino, un grupo alquilamino C1-C6, un grupo di C1-C6 alquilamino, un grupo fenilo que puede ser sustituido, un grupo fenilcarbonilo que puede ser sustituido, un grupo fenilamino que puede ser sustituido, y un grupo heterocíclico que puede ser sustituido.

El término "un grupo alquilcarbonilo que puede ser sustituido" significa un grupo alquilcarbonilo recto, ramificado o cíclico, que puede ser sustituido por los mismos o diferentes grupos seleccionados de un átomo de hidrógeno, un átomo de halógeno, un grupo hidroxilo, un grupo ciano, un grupo nitro, un grupo alcoxi C1-C6, un grupo haloalcoxi C1-C6, un grupo alquiltio C1-C6, un grupo haloalquiltio C1-C6, un grupo alquilsulfinilo C1-C6, un grupo haloalquilsulfinilo C1-C6, un grupo alquilsulfonilo C1-C6, un grupo haloalquilsulfonilo C1-C6, un grupo alquilcarbonilo

C1-C6, un grupo haloalquilcarbonilo C1-C6, un grupo alcoxicarbonilo C1-C6, un grupo haloalcoxicarbonilo C1-C6, un grupo alquilcarboniloxi C1-C6, un grupo haloalqilcarboniloxi C1-C6, un grupo amino, un grupo alquilamino C1-C6, un grupo di C1-C6 alquilamino, un grupo fenilo que puede ser sustituido, un grupo fenilcarbonilo que puede ser sustituido, un grupo fenilamino que puede ser sustituido, y un grupo heterocíclico que puede ser sustituido.

El término "un grupo fenilo que puede ser sustituido" significa un grupo fenilo que puede ser sustituido por los mismos o diferentes grupos seleccionados de un átomo de hidrógeno, un átomo de halógeno, un grupo hidroxilo, un grupo ciano, un grupo nitro, un grupo alcoxi C1-C6, un grupo haloalcoxi C1-C6, un grupo alquiltio C1-C6, un grupo haloalquiltio C1-C6, un grupo alquilsulfinilo C1-C6, un grupo haloalquilsulfinilo C1-C6, un grupo alquilsulfonilo C1-C6, un grupo haloalquilsulfonilo C1-C6, un grupo alquilcarbonilo C1-C6, un grupo haloalquilcarbonilo C1-C6, un grupo alcoxicarbonilo C1-C6, un grupo haloalcoxicarbonilo C1-C6, un grupo alquilcarboniloxi C1-C6, un grupo haloalqilcarboniloxi C1-C6, un grupo amino, un grupo alquilamino C1-C6, un grupo di C1-C6 alquilamino, un grupo fenilo que puede ser sustituido, un grupo fenilcarbonilo que puede ser sustituido, un grupo fenilamino que puede ser sustituido, y un grupo heterocíclico que puede ser sustituido.

El término "un grupo naftilo que puede ser sustituido" significa un grupo naftilo que puede ser sustituido por iguales o diferentes grupos seleccionados de un átomo de hidrógeno, un átomo de halógeno, un grupo hidroxilo, un grupo ciano, un grupo nitro, un grupo alcoxi C1-C6, un grupo haloalcoxi C1-C6, un grupo alquiltio C1-C6, un grupo haloalquiltio C1-C6, un grupo alquilsulfinilo C1-C6, un grupo haloalquilsulfinilo C1-C6, un grupo alquilsulfonilo C1-C6, un grupo

haloalquilsulfonilo C1-C6, un grupo alquilcarbonilo C1-C6, un grupo haloalquilcarbonilo C1-C6, un grupo alcoxicarbonilo C1-C6, un grupo haloalcoxicarbonilo C1-C6, un grupo alquilcarboniloxi C1-C6, un grupo haloalqilcarboniloxi C1-C6, un grupo amino, un grupo alquilamino C1-C6, un grupo di C1-C6 alquilamino, un grupo fenilo que puede ser sustituido, un grupo fenilcarbonilo que puede ser sustituido, un grupo fenilamino que puede ser sustituido, y un grupo heterocíclico que puede ser sustituido.

El término "un grupo tetrahidronaftilo que puede ser sustituido" significa un grupo tetrahidronaftilo que puede ser sustituido por iguales o diferentes grupos seleccionados de un átomo de hidrógeno, un átomo de halógeno, un grupo hidroxilo, un grupo ciano, un grupo nitro, un grupo alcoxi C1-C6, un grupo haloalcoxi C1-C6, un grupo alquiltio C1-C6, un grupo haloalquiltio C1-C6, un grupo alquilsulfinilo C1-C6, un grupo haloalquilsulfinilo C1-C6, un grupo alquilsulfonilo C1-C6, un grupo haloalquilsulfonilo C1-C6, un grupo alquilcarbonilo C1-C6, un grupo haloalquilcarbonilo C1-C6, un grupo alcoxicarbonilo C1-C6, un grupo haloalcoxicarbonilo C1-C6, un grupo alquilcarboniloxi C1-C6, un grupo haloalqilcarboniloxi C1-C6, un grupo amino,
un grupo alquilamino C1-C6, un grupo di-C1-C6 alquilamino, un grupo fenilo que puede ser sustituido, un grupo fenilcarbonilo que puede ser sustituido, un grupo fenilamino que puede ser sustituido, y un grupo heterocíclico que puede ser sustituido.

El término "un grupo heterocíclico que puede ser sustituido" significa un grupo heterocíclico que puede ser sustituido por iguales o diferentes grupos seleccionados de un átomo de hidrógeno, un átomo de halógeno, un grupo hidroxilo, un grupo ciano, un grupo nitro, un grupo alcoxi C1-C6, un grupo

haloalcoxi C1-C6, un grupo alquiltio C1-C6, un grupo haloalquiltio C1-C6, un grupo alquilsulfinilo C1-C6, un grupo haloalquilsulfinilo C1-C6, un grupo alquilsulfonilo C1-C6, un grupo haloalquilsulfonilo C1-C6, un grupo alquilcarbonilo C1-C6, un grupo haloalquilcarbonilo C1-C6, un grupo alcoxicarbonilo C1-C6, un grupo haloalcoxicarbonilo C1-C6, un grupo alquilcarboniloxi C1-C6, un grupo haloalquilcarboniloxi C1-C6, un gripo amino, un grupo alquilamino C1-C6, un grupo di-C1-C6 alquilamino, un grupo fenilo, que puede ser sustituido, un grupo fenilcarbonilo que puede ser sustituido, un grupo fenilamino que puede ser sustituido, y un grupo heterocíclico que puede ser sustituido.

El término "un grupo alquilo C1-C6" significa un grupo alquilo recto o ramificado que tiene de 1 a 6 átomos de carbono, tal como metilo, etilo, n-propilo, i-propilo, n-butilo, s-butilo, t-butilo, n-pentilo, 2-pentilo, neopentilo, 4-metilo-2-pentilo, n-hexilo, o 3-metil-n-pentilo. El término "un grupo haloalquilo C1-C6" significa un grupo alquilo recto o ramificado que tiene de 1 a 6 átomos de carbono y es sustituido por uno o más átomos de halógeno que pueden ser iguales o diferentes, tal como trifluorometilo, pentafluoroetilo, heptafluoro-n-propilo, heptafluoro-i-propilo, 2,2-difluoroetilo, 2,2-dicloroetilo, 1,3-difluoro-2-propilo, 1,3-dicloro-2-propilo, 1-cloro-3-fluoro-2-propilo, 1,1,1-trifluoro-2-propilo, 2,2,2-trifluoroetilo, 2,2,2-tricloroetilo, 2,2,2-tribromoetilo, 3,3,3-trifluoro-n-propilo, 4,4,4-trifluoro-n-butilo, 1,1,1,3,3,3-hexafluoro-2-propilo, 1,1,1,3,3,3-hexafluoro-2-cloro-2-propilo, 1,1,1,3,3,3-hexafluoro-2-bromo-2-propilo, 1,1,2,3,3,3-hexafluoro-2-cloro-n-propilo, 1,1,2,3,3,3-hexafluoro-2-bromo-n-propilo, 1,1,2,3,3,3-hexafluoro-1-bromo-2-propilo, 2,2,3,3,3-pentafluoro-n-propilo, 3,3,4,4,4-pentafluoro-2-butilo, nonafluoro-n-butilo, nonafluoro-2-butilo, 2-fluoroetilo, 2-cloroetilo, 2-bromoetilo, 2-yodoetilo, 3-fluoro-n-propilo, 3-cloro-n-propilo, o 3-bromo-n-propilo.

El término "un grupo alquenilo C2-C6" significa un grupo alquenilo que tiene 2 a 6 átomos de carbono y un enlace doble en su cadena de carbono, tal como vinilo, alilo, 2-butenilo, o 3-butenilo. El término "un grupo haloalquenilo C2-C6" significa un grupo alquenilo recto o ramificado que tiene 2 a 6 átomos de carbono y un enlace doble en su cadena de carbono y sustituido por uno o más átomos de halógeno que pueden ser iguales o diferentes, tal como 3,3-difluoro-2-propenilo, 3,3-dicloro-2-propenilo, 3,3-dibromo-2-propenilo, 2-3-dibromo-2-propenilo, 4,4-difluoro-3-butenilo, o 3,4,4-tribromo-3-butenilo.

El término "un grupo alquinilo C2-C6" significa un grupo alquinilo que tiene 2 a 6 átomos de carbono y un enlace triple en su cadena de carbono, tal como propargilo, 1-butino-3-ilo, o 1-butino-3-metil-3-ilo. El término "un grupo haloalquenilo C2-C6" significa un grupo alquenilo recto o ramificado que tiene 2 a 6 átomos de carbono y un enlace triple en su cadena de carbono y sustituido por uno o más átomos de halógeno que pueden ser iguales o diferentes.

El término "un grupo cicloalquilo C3-C8" significa un grupo cicloalquilo que tiene 3 a 8 átomos de carbono y una estructura cíclica, tal como ciclopropilo, ciclobutilo, ciclopentilo, 2-metilciclopentilo, 3-metilciclopentilo, ciclohexilo, 2-metilciclohexilo, 3-metilciclohexilo, o 4-metilciclohexilo, el término "un grupo halocicloalquilo C3-C8" significa un grupo cicloalquilo que tiene de 3 a 8 átomos de carbono y una estructura cíclica y sustituido por uno o más átomos de halógeno que pueden ser iguales o diferentes, tal como 2,2,3,3-tetrafluorociclobutilo, 2-clorociclohexilo, o 4-clorociclohexilo.

El término "un grupo alcoxi C1-C6" significa un grupo alcoxi recto o ramificado que tiene 1 a 6 átomos de carbono, tal como metoxi, etoxi, n-propiloxi, isopropiloxi, n-

butoxi, s-butoxi, i-butoxi, o t-butoxi. El término "un grupo haloalcoxi C1-C6" significa un grupo haloalcoxi recto o ramificado que tiene 1 a 6 átomos de carbono y sustituido por uno o más átomos de halógeno que pueden ser iguales o diferentes, tal como trifluorometoxi, pentafluorometoxi, heptafluoro-n-propiloxi, heptafluoro-i-propiloxi, 1,1,1,3,3,3-hexafluoro-2-propiloxi, 2,2,2-trifluoroetoxi, 2-cloroetoxi, o 3-fluoro-n-propiloxi.

El término "un grupo alquiltio C1-C6" significa un grupo alquiltio recto o ramificado que tiene 1 a 6 átomos de carbono, tal como metiltio, etiltio, n-propiltio, i-propiltio, n-butiltio, s-butiltio, o t-butiltio. El término "un grupo haloalquiltio C1-C6" significa un grupo alquiltio recto o ramificado que tiene que tiene 1 a 6 átomos de carbono y sustituido por uno o más átomos de halógeno que pueden ser iguales o diferentes, tal como trifluorometiltio, pentafluoroetiltio, 2,2,2-trifluoroetiltio, heptafluoro-n-propiltio, heptafluoro-i-propiltio, nonafluoro-n-butiltio, o nonafluoro-2-butiltio.

El término "un grupo alquilsulfinilo C1-C6" significa un grupo alquilsulfinilo recto o ramificado que tiene 1 a 6 átomos de carbono, tal como metilsulfinilo, etilsulfinilo, n-propilsulfinilo, i-propilsulfinilo, n-butilsulfinilo, s-butilsulfinilo, o t-butilsulfinilo. El término "un grupo haloalquilsulfinilo C1-C6" significa un grupo alquilsulfinilo recto o ramificado que tiene 1 a 6 átomos de carbono y sustituido por uno o más átomos de halógeno que pueden ser iguales o diferentes, tal como trifluorometilsulfinilo, pentafluoroetilsulfinilo, 2,2,2-trifluoroetilsulfinilo, heptafluoro-n-propilsulfinilo, heptafluoro-i-propilsulfinilo, nonafluoro-n-butilsulfinilo, o nonafluoro-2-butilsulfinilo.

El término "un grupo alquilsulfonilo C1-C6" significa un grupo alquilsulfonilo recto o ramificado que tiene 1 a 6 átomos de carbono, tal como metilsulfonilo, etilsulfonilo, n-propilsulfonilo, i-propilsulfonilo, n-butilsulfonilo, s-butilsulfonilo, o t-butilsulfonilo.

El término "un grupo haloalquilsulfonilo C1-C6" significa un grupo alquilsulfonilo recto o ramificado que tiene 1 a 6 átomos de carbono y sustituido por uno o más átomos de halógeno que pueden iguales o diferentes, tal como trifluorometilsulfonilo, pentafluoroetilsulfonilo, 2,2,2-trifluoroetilsulfonilo, heptafluoro-n-propilsulfonilo, heptafluoro-i-propilsulfonilo, nonafluoro-n-butilsulfonilo, o nonafluoro-2-butilsulfonilo.

El término "un grupo alquilcarbonilo C1-C4" significa un grupo alquilcarbonilo recto, ramificado o cíclico que tiene 1 a 4 átomos de carbono, tal como acetilo, propionilo, isopropilcarbonilo, o ciclopropilcarbonilo. El término "un grupo haloalquilcarbonilo C1-C4" significa un grupo alquilcarbonilo recto o ramificado que tiene 1 a 4 átomos de carbono y sustituido por uno o más átomos de halógeno que pueden ser iguales o diferentes, tal como trifluoroacetilo, pentafluoropropionilo, tricloroacetilo, cloroacetilo, bromoacetilo, o 3-cloropropionilo.

El término "un grupo alcoxicarbonilo C1-C4" significa un grupo alcoxicarbonilo recto o ramificado que tiene 1 a 4 átomos de carbono, tal como metoxicarbonilo, etoxicarbonilo, o isopropiloxicarbonilo.

El término "un grupo alquilcarboniloxi C1-C4" significa un grupo alquilcarboniloxi recto o ramificado que tiene 1 a 4 átomos de carbono, tal como acetoxi o propioniloxi. El término "un grupo alquilsulfoniloxi C1-C4" significa un grupo alquilsulfoniloxi recto o ramificado que tiene 1 a 4 átomos de carbono, tal como metilsulfoniloxi. El término "un grupo haloalquilsulfoniloxi C1-C4" significa un grupo alquilsulfoniloxi recto o ramificado que tiene 1 a 4 átomos de carbono y sustituido por uno o más átomos de halógeno que pueden ser iguales o diferentes, tal como trifluorometilsulfoniloxi o pentafluoroetilsulfoniloxi.

El término "un grupo alquileno C1-C4" significa un grupo alquileno recto o ramificado que tiene 1 a 4 átomos de carbono, tal como metileno, etileno, propileno, dimetilmetileno, o isobutileno. El término "un grupo alquenileno C2-C4" significa un grupo alquenileno recto o ramificado que tiene 2 a 4 átomos de carbono y un enlace doble en su cadena de carbono. El término "un grupo alquinileno C3-C4" significa un alquinileno recto o ramificado que tiene 3 a 4 átomos de carbono y un triple enlace en su cadena de carbono. El término "un grupo haloalquileno C1-C4" significa un grupo alquileno recto o ramificado que tiene 1 a 4 átomos de carbono y sustituido por uno o más átomos de halógeno que pueden ser iguales o diferentes, tal como clorometileno, cloroetileno, diclorometileno, o difluorometileno.

El término "un grupo haloalquenileno C2-C4" significa un alquenileno recto o ramificado que tiene 2 a 4 átomos de carbono y un doble enlace en su cadena de carbono, y sustituido por uno o más átomos de halógeno que pueden ser iguales o diferentes. El término "un grupo haloalquinileno C3-C4" significa un grupo alquinileno recto o ramificado que tiene 3 a 4 átomo s de carbono y un triple enlace en su cadena de carbono, y sustituido por uno o más átomos de halógeno que pueden ser los mismos o diferentes.

El término "un grupo haloalquilo C1-C6 que puede ser sustituido por uno o más grupos hidroxilo" significa un grupo alquilo recto o ramificado que tiene 1 a 6 átomos de carbono y uno o más grupos hidroxilo en su cadena de carbono, y sustituido por uno o más átomos de halógeno que pueden ser iguales o diferentes, tal como 1,2,2,2-tetrafluoro-1-hidroxietilo, 1,1,1,3,3,3-hexafluoro-2-hidroxi-2-

propilo, 1,1,1,3,3,4,4,4-octafluoro-2-hidroxi-2-butilo, 1,2,2,3,3,4,4,4-octafluoro-1-hidroxi-n-butilo, o 1,3-dicloro-1,1,3,3-tetrafluro-2-hidroxi-2-propilo.

El término "un grupo m-nitrobenzoilo sustituido" significa un grupo m-nitrobenzoilo que tiene uno o más sustituyentes, tal como 2-fluoro-3-nitrobenzoilo, 4-fluoro-3-nitrobenzoilo, 2-fluoro-5-nitrobenzoilo, o 4-cloro-3-nitrobenzoilo.

Los compuestos representados por la fórmula (1) de la presente invención pueden contener al menos un átomo de carbono asimétrico o un centro asimétrico y así tener al menos dos tipos de isómeros ópticos. La presente invención incluye los isómeros ópticos y las mezclas de estos en cualquier proporción. Los compuestos representados por la fórmula (1) de la presente invención pueden contener al menos dos tipos de isómeros geométricos derivados de enlaces dobles carbono-carbono en las fórmulas estructurales. La presente invención también incluye los isómeros geométricos y mezclas de estos en cualquier proporción.

Los ejemplos preferidos de tales sustituyentes o átomos en los compuestos representados por las fórmulas tales como la fórmula (1) de la presente invención incluyen los siguientes:

Preferiblemente, R_1 es un alquilo C1-C6, haloalquilo C1-C6, alquenilo C2-C6, haloalquenilo C2-C6, alquinilo C2-C6, haloalquinilo C2-C6, cicloalquilo C3-C8, halocicloalquilo C3-C8, $-E_1-Z_1-R_4$ (en donde E_1 representa alquileno C1-C4, alquenileno C2-C4, alquinileno C3-C4, haloalquileno C1-C4, haloalquenileno C2-C4, o haloalquinileno C3-C4, R_4 representa un átomo de hidrógeno, alquilo C1-C6, alquenilo C2-C6, alquinilo C2-C6, haloalquilo C1-C6, haloalquenilo C2-C6, o haloalquinilo C2-C6, y Z_1 representa –O-, -S-, -SO-, o $-SO_2-$), o $-E_2-R_5-$ (en donde

E_2 representa alquilo C1-C4, alquenilo C2-C4, alquinilo C3-C4, haloalquilo C1-C4, haloalquenilo C2-C4, o haloalquinilo C3-C4, y R_6 representa cicloalquilo C3-C8, halocicloalquilo C3-C8, ciano, nitro, hidroxilo, fenilo, fenilo sustituido que tiene uno o más sustituyentes que pueden ser iguales o diferentes y que son seleccionados de halógeno, alquilo C1-C6, haloalquilo C1-C6, alcoxi C1-C6, haloalcoxi C1-C6, alquiltio C1-C6, haloalquiltio C1-C6, alquilsulfinilo C1-C6, haloalquilsulfinilo C1-C6, alquilsulfonilo C1-C6, haloalquilsulfonilo C1-C6, ciano, nitro, hidroxilo, alquilcarbonilo C1-C4, haloalquilcarbonilo C1-C4, alquilcarboniloxi C1-C4, alcoxicarbonilo C1-C4, piridilo, o piridilo sustituido que tiene uno o más sustituyentes seleccionados de halógeno, haloalquilo C1-C6, y haloalcoxi C1-C6). Más preferiblemente, R_1 es alquilo C1-C6, haloalquilo C1-C6, cicloalquilo C3-C8, halocicloalquilo C3-C8, $-E_1-Z_1-R_4$ (en donde E_1 representa alquileno C1-C4 o haloalquileno C1-C4, R_4 representa alquilo C1-C6 o haloalquilo C1-C6, y Z_1 representa –O-, -S-, -SO-, o $-SO_2-$), o $-E_2-R_6$ (en donde E_2 representa alquilo C1-C4, R_6 representa cicloalquilo C3-C8, ciano, fenilo sustituido que tiene uno o más sustituyentes que pueden ser iguales o diferentes y que son seleccionados de halógeno, haloalquilo C1-C6, haloalcoxi C1-C6, haloalquiltio C1-C6, haloalquilsulfinilo C1-C6, haloalquilsulfonilo C1-C6, ciano, y nitro, piridilo, piridilo sustituido que tiene uno o más sustituyentes seleccionados de halógeno, haloalquilo C1-C6, y haloalcoxi C1-C6, tienilo, o tetrahidrofurilo).

Preferiblemente, R_2 y R_3 son independientemente hidrógeno o alquilo C1-C4, y más preferiblemente hidrógeno, metilo, o etilo.

Preferiblemente, G_1, G_2, y G_3 son independientemente oxígeno o azufre, y más preferiblemente oxígeno.

Preferiblemente, X es hidrógeno, halógeno o trifluorometilo, y más preferiblemente hidrógeno o flúor.

Preferiblemente, n es 0 o 1.

Preferiblemente, Q es fenilo, fenilo sustituido que tiene uno o más sustituyentes seleccionados de halógeno, alquilo C1-C6, haloalquilo C1-C6, alcoxi C1-C6, haloalcoxi C1-C6, haloalquilo C1-C6 que puede ser sustituido por uno o más grupos hidroxilo, alquiltio C1-C6, haloalquiltio C1-C6, alquilsulfinilo C1-C6, haloalquilsulfinilo C1-C6, alquilsulfonilo C1-C6, pentafluorosulfanilo, ciano, y nitro, piridilo, o piridilo sustituido que tiene uno o más sustituyentes seleccionados de halógeno, alquilo C1-C6, haloalquilo C1-C6, alcoxi C1-C6, haloalcoxi C1-C6, haloalquilo C1-C6 que puede ser sustituido por uno o más grupos hidroxilo, alquiltio C1-C6, haloalquiltio C1-C6, alquilsulfinilo C1-C6, haloalquilsulfinilo C1-C6, alquilsulfonilo C1-C6, haloalquilsulfonilo C1-C6, pentafluorosulfanilo, ciano, y nitro. Más preferiblemente, Q es fenilo sustituido o piridilo sustituido representado por la fórmula (1-2) o (1-3). En la fórmula, preferiblemente, Y_1 y Y_5 son independientemente hidrógeno, alquilo C1-C4, halógeno, o metiltio, y solamente uno de Y_1 y Y_5 representa un átomo de hidrógeno.

Preferiblemente, Y_2 y Y_4 son cada uno hidrógeno.

Preferiblemente, Y_3 es haloalquilo C1-C6, haloalcoxi C1-C6, haloalquilo C1-C6 que puede ser sustituido por uno o más grupos hidroxilo, haloalquiltio C1-C6, haloalquilsulfinilo C1-C6, haloalquilsulfonilo C1-C6, o pentafluorosulfanilo. Más preferiblemente, Y_3 es haloalquilo C1-C6, haloalquilo C1-C6 que puede ser

sustituido por uno o más grupos hidroxilo, haloalquiltio C1-C6, haloalquilsulfinilo C1-C6, o haloalquilsulfonilo C1-C6.

Preferiblemente, Y_6 y Y_9 son independientemente hidrógeno, alquilo C1-C4, halógeno, o metiltio, y solamente uno de Y_6 y Y_9 representa un átomo de hidrógeno.

Preferiblemente, Y_7 es hidrógeno.

Preferiblemente, Y_8 es haloalquilo C1-C6, haloalcoxi C1-C6, haloalquilo C1-C6 que puede ser sustituido por uno o más grupos hidroxilo, haloalquiltio C1-C6, haloalquilsulfinilo C1-C6, haloalquilsulfonilo C1-C6, o pentafluorosulfanilo. Más preferiblemente, Y_8 es haloalquilo C1-C6, o haloalcoxi C1-C6.

Preferiblemente, Hal es cloro.

Preferiblemente, R_7 es haloalquilo C1-C6, y más preferiblemente R_7 es alquilo C1-C6 sustituido por flúor, tal como pentafluoroetilo, heptafluoro-n-propilo, heptafluoroisopropilo, nonafluoro-n-butilo, o nonafluoro-2-butilo.

Preferiblemente, Y_{10} y Y_{13} son independientemente hidrógeno, alquilo C1-C4, halógeno, o metiltio, y solamente uno de Y_{10} y Y_{13} representa un átomo de hidrógeno. Más preferiblemente, Y_{10} y Y_{13} son cada uno cloro, bromo, o metilo.

Preferiblemente, Y_{11} y Y_{12} son cada uno hidrógeno.

Preferiblemente, R_8 y R_9 son cada uno hidrógeno, alquilo C1-C4, m-nitrobenzoilo, o 2-fluoro-3-nitrobenzoilo, y solamente uno de R_8 y R_9 representa alquilo C1-C4, m-nitrobenzoilo, o 2-fluoro-3-nitrobenzoilo.

Preferiblemente, m es 0, 1, o 2.

Preferiblemente, R_{10} es 1,2,2,2-tetrafluoro-1-hidroxietilo, 1,1,1,3,3,3-hexafluoro-2-hidroxi-2-propilo, 1,1,1,3,3,4,4,4-octafluoro-2-hidroxi-2-butilo, 1,2,2,3,3,4,4,4-octafluoro-1-hidroxi-n-butilo, o 1,3-dicloro-1,1,3,3-tetrafluoro-2-hidroxi-2-propilo, y más preferiblemente, R_{10} es 1,1,1,3,3,3-hexafluoro-2-hidroxi-2-propilo.

Preferiblemente, Y_{14} y Y_{17} son independiente mente hidrógeno, alquilo C1-C4, halógeno, o metiltio, y solamente uno de Y_{14} y Y_{17} representa un átomo de hidrógeno. Más preferiblemente, ninguno de Y_{14} y Y_{17} representa un átomo de hidrógeno.

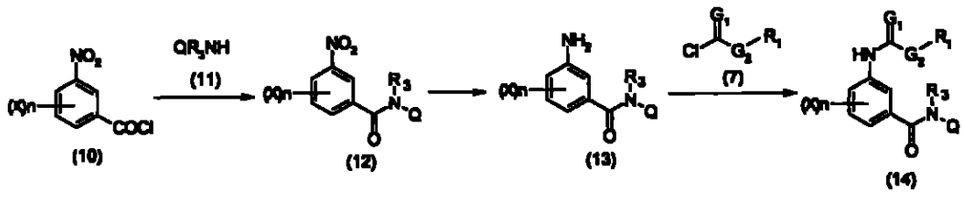
Preferiblemente, Y_{15} y Y_{16} son cada uno hidrógeno.

Preferiblemente, R_{11} y R_{12} son cada uno hidrógeno, alquilo C1-C4, m-nitrobenzoilo, o 2-fluoro-3-nitrobenzoilo, y solamente uno de R_{11} y R_{12} representa alquilo C1-C4, m-nitrobenzoilo, o 2-fluoro-3-nitrobenzoilo.

Los procesos representativos para producir los compuestos de la presente invención se describirán adelante. Aunque los compuestos de la presente invención se pueden producir de acuerdo con los métodos, los procesos de producción no están limitados a los procesos que se describen adelante.

Una modalidad de los procesos representativos para producir los compuestos de la presente invención es el Método de Producción 1 (en la fórmula, R_1, R_3, G_1, G_2, (X)n, y Q representa lo mismo que se describió anteriormente).

Método de Producción 1



1-(i) Fórmula (10) → Fórmula (12)

Un derivado de cloruro de m-nitrobenzoilo representado por la fórmula (10) reacciona con un derivado de amina aromático representado por la fórmula (11) en un solvente apropiado para producir un derivado de benzamida representado por la fórmula (12). En esta etapa, también se puede utilizar una base apropiada. Como el solvente, cualquier solvente que no inhiba significativamente el proceso de reacción se puede utilizar. Ejemplos de solventes incluyen hidrocarburos aromáticos tales como benceno, tolueno, y xileno; hidrocarburos halogenados tales como diclorometano, cloroformo, y tetracloruro de carbono; éteres en cadena o cíclicos tales como dietiléter, dioxano, tetrahidrofurano, y 1,2-dimetoxietano; ésteres tales como etil acetato y butil acetato; cetonas tales como acetona, metil isobutil cetona, y ciclohexanona; amidas tales como dimetilformamida y dimetilacetamida; nitrilos tales como acetonitrilo; y solventes inertes tales como 1,3-dimetil-2-imidazolidinona. Estos solventes se pueden utilizar solos o en una mezcla de dos o más clases. Los ejemplos de la base incluyen bases orgánicas tales como trietilamina, tri-n-butilamina, piridina, y 4-dimetilaminopiridina;

hidróxidos de metal alcalino tales como hidróxido de sodio e hidróxido de potasio; carbonatos tales como hidrogen carbonato de sodio y carbonato de potasio; fosfatos tales como hidrogen fosfato dipotasio y fosfato de trisodio; hidruros de metal alcalino tales como hidruro de sodio; y alcoholatos de metal alcalino tal como metóxido de sodio y etóxido de sodio. La base se puede utilizar en una cantidad apropiada en el rango de equivalentes molares de 0.01 a 5 veces la cantidad del compuesto representado por la fórmula (10). La temperatura de reacción se puede determinar apropiadamente en el rango de -20° C a la temperatura de reflujo del solvente utilizado, y el tiempo de reacción se puede determinar apropiadamente en el rango de varios minutos a 96 horas. El derivado de cloruro de m-nitrobenzoilo representado por la fórmula (10) se puede producir fácilmente de un derivado de ácido m-nitrobenzoico mediante un método convencional utilizando un agente halogenante. Ejemplos de agente halogenante incluye cloruro de tionilo, bromuro de tionilo, oxicloruro de fósforo, cloruro de oxalilo y tricloruro de fósforo. En un proceso para producir el compuesto representado por la fórmula (12) que utiliza el derivado de ácido m-nitrobenzoico y el compuesto representado por la fórmula (11) sin utilizar un agente halogenante, 1-hidroxibenzotriazol que funciona como un aditivo, y N,N'-diciclohexil carbodiimida que funciona como un agente condensante se puede utilizar de acuerdo con la técnica descrita en, por ejemplo, Chem. Ver. P. 788 (1970). Otros ejemplos del agente de condensación incluye 1-metil-3-(3-dimetilaminopropil)carbodiimida y 1,1'-carbonil-bis-1H-imidazol. Alternativamente, el compuesto representado por la fórmula (12) se puede producir mediante una técnica de anhídrido de ácido mezclada que utiliza un éster de ácido clorofórmico de acuerdo con la técnica descrita en J. Am. Chem. Soc. p. 5012 (1967). Ejemplos de éster de ácido clorofórmico incluyen isobutil cloroformato e isopropil cloroformato. En lugar del éster de ácido clorofórmico, se puede utilizar cloruro de

diacetilo o cloruro de trimetilacetilo. En la técnica que utiliza el agente condensante y la técnica de anhídrido de ácido mezclada, el solvente, la temperatura de reacción, y el tiempo de reacción están limitados a aquellos descritos en los documentos anteriores, y un solvente inerte que no inhibe el progreso de reacción se puede utilizar apropiadamente. También, la temperatura de reacción y el tiempo de reacción se pueden seleccionar apropiadamente de acuerdo con el progreso de la reacción.

1-(ii) Fórmula (12) → Fórmula (13)

El derivado de benzamida que tiene un grupo nitro representado por la fórmula (12) se puede convertir a un derivado de benzamida que tiene un grupo amino representado por la fórmula (13) mediante reacción de reducción. Ejemplos de una técnica para la reacción de reducción incluyen una técnica que utiliza hidrogenación y una técnica que utiliza cloruro de estaño (II) (anhídrido). En la técnica anterior, la reacción se puede desarrollar en una atmósfera de hidrógeno en la presencia de un catalizador en un solvente adecuado bajo presión normal o presión alta. Ejemplos de catalizador incluyen catallizadores de paladio tal como paladio-carbono, catalizadores de níquel, tal como níquel Raney, catalilzadores de cobalto, catalizadores de rutenio, catalizadores de rodio, y catalizadores de platino. Ejemplos del solvente incluyen agua, alcoholes tales metanol y etanol; hidrocarburos aromáticos tal como benceno y tolueno; éteres de cadena o cíclicos tales como éteres, dioxano, y tetrahidrofurano; y ésteres tales como etil acetato. La temperatura de reacción se puede determinar apropiadamente en el rango de -20° C a la temperatura de reflujo del solvente utilizado, y el tiempo de reacción se puede determinar apropiadamente en el rango de varios minutos a 96 horas. Como resultado, se puede producir el compuesto representado por la fórmula (13).

En la última técnica, las condiciones no están limitadas, y el compuesto representado por la fórmula (13) se puede producir bajo las condiciones descritas en, por ejemplo, Organic Síntesis, Coll. Vol. III, p. 453.

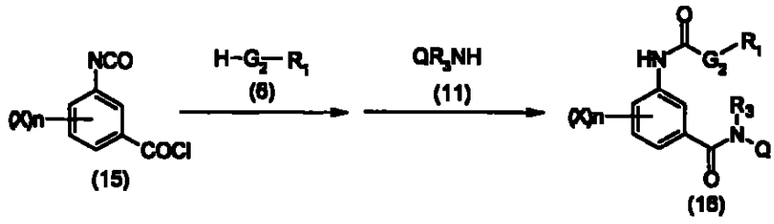
1-(iii) Fórmula (13) → Fórmula (14)

El derivado de benzamida que tiene un grupo amino representado por la fórmula (13) reacciona con un compuesto representado por la fórmula (7) (por ejemplo, un éster clorofórmico, un éster clorotiofórmico, o un tioéster clorodifórmico) en un solvente adecuado para producir un compuesto representado por la fórmula (14) de la presente invención. En esta etapa, se puede utilizar una base apropiada. Como el solvente, cualquier solvente que no inhiba significativamente el progreso de la reacción se puede utilizar. Ejemplos de solventes incluyen hidrocarburos aromáticos tales como benceno, tolueno, y xileno; hidrocarburos halogenados tal como diclorometano, cloroformo y tetracloruro de carbono; ésteres de cadena o cíclicos tal como dietil éter, dioxano, tetrahidrofurano, y 1,2-dimetoxietano; ésteres tal como etilacetato y butil acetato; cetonas tal como acetona, metil isobutil cetona, y ciclohexanona; amidas tal como dimetil formamida y dimetilacetamida; nitrilos tal como aceto nitrilo; y solventes inertes tal como 1,3-dimetil-2-imidazolidinona. Estos solventes se pueden utilizar solos o en una mezcla de dos o más clases. Los ejemplos de la base incluyen bases orgánicas tales como trietilamina, tri-n-butilamina, piridina, y 4-dimetilaminopiridina; hidróxidos de metal alcalino tales como hidróxido de sodio e hidróxido de potasio; carbonatos tales como hidrogen carbonato de sodio y carbonato de potasio; fosfatos tales como hidrogen fosfato dipotasio y fosfato de trisodio; hidruros de metal alcalino tales como hidruro de sodio; y alcoholatos de metal alcalino tal como metóxido de sodio y etóxido de sodio. La base se puede utilizar en una cantidad apropiada en el rango de

equivalentes molares de 0.01 a 5 veces la cantidad del compuesto representado por la fórmula (13). La temperatura de reacción se puede determinar apropiadamente en el rango de -20° C a la temperatura de reflujo del solvente utilizado, y el tiempo de reacción se puede determinar apropiadamente en el rango de varios minutos a 96 horas.

Un compuesto representado por la fórmula (16) de la presente invención se puede producir mediante el Método de Producción 2 (en la fórmula, R_1, R_3, G_2, (X)n, y Q representan lo mismo como se describió anteriormente) que utiliza un cloruro de 3-isocianatobenzoilo representado por la fórmula (15) como un material de partida, un alcohol representado por la fórmula (6), un tiol, y una amina aromática representada por la fórmula (11) de acuerdo con la técnica descrita en J. Org. Chem., p. 142 (1966).

Método de Producción 2

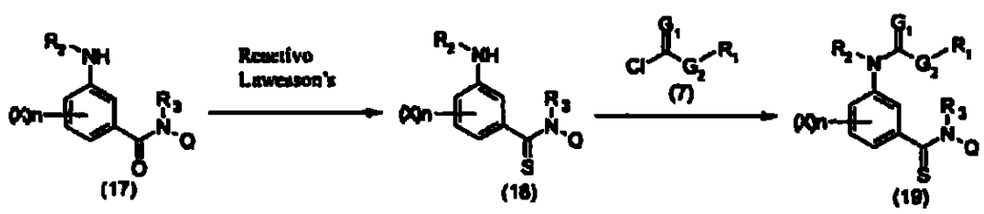


En esta etapa, se puede utilizar un solvente. Como el solvente, cualquier solvente diferente de los solventes descritos en el documento anterior se puede utilizar en tanto este no inhiba significativamente el progreso de la reacción. Ejemplos de solventes incluyen hidrocarburos aromáticos tales como benceno, tolueno, y xileno; hidrocarburos halogenados tales como diclorometano, cloroformo, y tetracloruro de carbono; éteres en cadena o cíclicos tales como, dioxano,

tetrahidrofurano, y 1,2-dimetoxietano; ésteres tales como etil acetato y butil acetato; cetonas tales como acetona, metil isobutil cetona, y ciclohexanona; amidas tales como dimetilformamida y dimetilacetamida; nitrilos tales como acetonitrilo; y solventes inertes tales como 1,3-dimetil-2-imidazolidinona. Estos solventes se pueden utilizar solos o en una mezcla de dos o más clases. También, se puede agregar una base para acelerar la reacción. Los ejemplos de la base diferentes de aquellas descritas en el documento anterior incluyen bases orgánicas tales como trietilamina, piridina, y 4-dimetilaminopiridina; unas bases orgánicas tal como carbonato de potasio. La base se puede utilizar en una cantidad apropiada en el rango de equivalentes molares de 0.01 a 5 veces la cantidad del compuesto representado por la fórmula (15). La temperatura de reacción se puede determinar apropiadamente en el rango de -20° C a la temperatura de reflujo del solvente utilizado, y el tiempo de reacción se puede determinar apropiadamente en el rango de varios minutos a 96 horas.

Un compuesto de tioamida se puede producir de un compuesto representado mediante la fórmula (17) que utiliza un reactivo de Lawson de acuerdo con el Método de Producción 3 (en la fórmula, R_1, R_2, R_3, G_1, G_2, (X)n y Q representas los mismos que se describieron anteriormente).

Método de Producción 3



3-(i) Fórmula (17) → Fórmula (18)

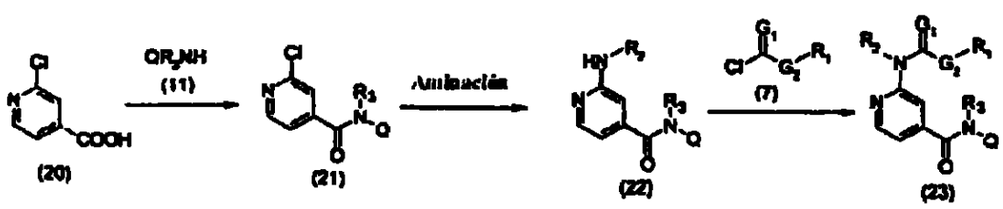
La reacción se puede desarrollar bajo las condiciones descritas en Síntesis, p. 463 (1993) y Síntesis, p. 829 (1984), pero las condiciones tales como un solvente no están limitadas a aquellas descritas en esos documentos.

3-(ii) Fórmula (18) → Fórmula (19)

Un compuesto representado por la fórmula (19) de la presente invención se puede producir utilizando un compuesto representado por la fórmula (7) (por ejemplo, un éster clorofórmico o un éster cloro tiofórmico) bajo las condiciones adecuadamente seleccionadas de las condiciones de reacción descritas anteriormente en la etapa 1-(iii) del Método de Producción 1.

Un ácido cloropiridinocarboxílico se puede utilizar como un material de partida. Por ejemplo, un compuesto representado por la fórmula (23) se puede producir de un ácido cloropiridinocarboxílico representado por la fórmula (20) de acuerdo con el Método de Producción 4 (en la fórmula, R_1, R_2, R_3, Q, G_1, y G_2 representan los mismos descritos anteriormente).

Método de Producción 4



4-(i) Fórmula (20) → Fórmula (21)

Un compuesto representado por la fórmula (18) se halogena en la presencia o ausencia de un solvente inerte y luego se hace reaccionar con una amina aromática representada por la fórmula (11) para producir un compuesto representado por la fórmula (21). Como el solvente utilizable en la etapa de halogenación, se puede utilizar cualquier solvente que no inhiba significativamente el progreso de la reacción. Ejemplos del solvente incluyen hidrocarburos aromáticos tal como benceno, tolueno, y xileno; hidrocarburos halogenados tales como diclorometano, cloroformo, y tetracloruro de carbono; éteres en cadena o cíclicos tales como dietiléter, dioxano, tetrahidrofurano, y 1,2-dimetoxietano; ésteres tales como etil acetato y butil acetato; cetonas tales como acetona, metil isobutil cetona, y ciclohexanona; amidas tales como dimetilformamida y dimetilacetamida; nitrilos tales como acetonitrilo; y solventes inertes tales como 1,3-dimetil-2-imidazolidinona. Estos solventes se pueden utilizar solos o en una mezcla de dos o más clases. Ejemplos de un agente halogenante incluyen cloruro de tionilo, bromuro de tionilo, oxicloruro de fósforo, cloruro de oxalilo, y tricloruro de fósforo. La cantidad del agente halogenante utilizado se puede determinar apropiadamente en el rango de los equivalentes molares de 1 a 10 veces la cantidad del compuesto representado por la fórmula (20). También, se puede utilizar N,N-dimetilformamida como un auxiliar para acelerar la reacción. La temperatura de reacción se puede determinar apropiadamente en el rango de -20° C a la temperatura de reflujo del solvente utilizado, y el tiempo de reacción se puede determinar apropiadamente en el rango de varios minutos a 96 horas. Como el solvente utilizable en la etapa de amidación, se puede utilizar cualquier solvente que no inhiba significativamente el progreso de la reacción. Ejemplos de solventes incluyen hidrocarburos aromáticos tal como benceno, tolueno, y xileno; hidrocarburos halogenados tales como diclorometano, cloroformo, y tetracloruro de carbono; éteres en cadena o cíclicos tales como dietiléter, dioxano,

tetrahidrofurano, y 1,2-dimetoxietano; ésteres tales como etil acetato y butil acetato; cetonas tales como acetona, metil isobutil cetona, y ciclohexanona; amidas tales como dimetilformamida y dimetilacetamida; nitrilos tales como acetonitrilo; y solventes inertes tales como 1,3-dimetil-2-imidazolidinona. Estos solventes se pueden utilizar solos o en una mezcla de dos o más clases. También, se puede agregar una base para acelerar el progreso de la reacción. Ejemplos de la base incluyen bases orgánicas tales como trietilamina, piridina, 4-dimetilaminopiridina; y bases orgánicas tales como carbonato de potasio. La cantidad de la base utillizada se puede determinar apropiadamente en el rango de equivalentes molares de 0.01 a 5 veces la cantidad del compuesto representado por la fórmula (11). La temperatura de reacción se puede determinar apropiadamente en el rango de -20° C a la temperatura de reflujo del solvente utilizado, y el tiempo de reacción se puede determinar apropiadamente en el rango de varios minutos a 96 horas.

Un proceso para producir un compuesto representado mediante la fórmula (21) de un compuesto representado mediante la fórmula (20) y un compuesto representado mediante la fórmula (11) sin utilizar un agente halogenante se representa por medio de un proceso de acuerdo con la técnica descrita en, por ejemplo, Chem. Ber., p. 788 (1970) donde son utilizados 1-hidroxibenzotriazol como un aditivo y N,N'-diciclohexil carbodiimida como un agente de condensación, respectivamente. Otros ejemplos de agentes de condensación incluyen 1-etil-3-(3-dimetilaminopropil)carbodiimida, y 1,1'-carbonil-bis-1H-imidazol. El compuesto representado por la fórmula (21) se puede también producir mediante una técnica de anhídrido de ácido mezclada utilizando un éster clorofórmico de acuerdo con la técnica descrita en J. Am. Chem. Soc., p. 5012 (1967). Ejemplos de un éster clorofórmico incluyen isobutilcloroformato e isopropil cloroformato. Un compuesto

diferente de un éster clorofórmico, por ejemplo, dietilacetil cloruro o trimetilacetil cloruro se pueden utilizar. En la técnica que utiliza el agente de condensación y la técnica de anhídrido de ácido mezclado, el solvente, las temperaturas de reacción y los tiempos de reacción no están limitados a aquellos descritos en los documentos anteriores, y un solvente inerte que no inhiba significativamente el progreso de la reacción se puede utilizar apropiadamente. También, la temperatura de reacción y el tiempo de reacción se pueden seleccionar apropiadamente de acuerdo con el progreso de la reacción.

4-(ii) Fórmula (21) → Fórmula (22)

Un compuesto representado por la fórmula (22) se puede producir mediante la aminación con amonio de acuerdo con las condiciones descritas en, por ejemplo, J. Org. Chem., p. 280 (1958). Las condiciones tales como el solvente de reacción no están limitados a aquellos descritos en el documento anterior, y u solvente inerte que no inhiba significativamente el progreso de la reacción se puede utilizar apropiadamente. También, la temperatura de reacción y el tiempo de reacción se pueden seleccionar apropiadamente de acuerdo con el progreso de la reacción. Como un agente de aminación, la metilamina o etilamina se pueden utilizar en lugar de amonio.

4-(iii) Fórmula (22) → Fórmula (23)

Un compuesto representado por la fórmula (23) de la presente invención se puede producir al utilizar un compuesto representado mediante la fórmula (7) (por ejemplo, un éster clorofórmico o un éster clorotiofórmico) bajo las condiciones

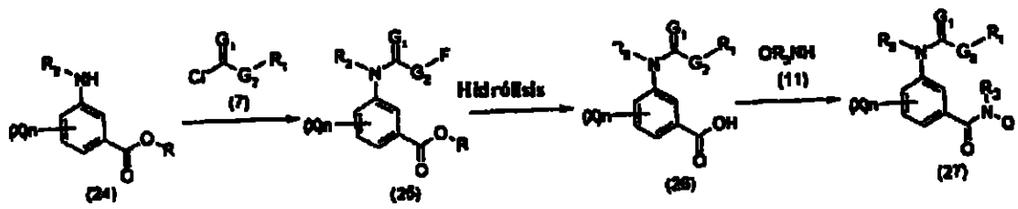
apropiadamente seleccionadas de las condiciones de reacción descritas anteriormente en la Etapa 1-(iii) del Método de Producción 1.

Aún cuando otro ácido carboxílico aromático que contiene nitrógeno tal como ácido 4-cloropiridino-2-carboxílico o ácido 6-cloropiridino-2-carboxílico se seleccionan como material de partida, el compuesto de la presente invención se puede producir de acuerdo con el Método de Producción 4. En el uso del material de partida anterior, se puede producir un compuesto representado mediante la fórmula (1) en donde A_1 es un átomo de nitrógeno, y A_2, A_3, y A_4 son cada uno un átomo de carbono. En el uso del último material de partida, se puede producir un compuesto representado por la fórmula (1) en donde A_1, A_2, y A_3 son cada uno un átomo de carbono, y A_4 es un átomo de nitrógeno.

El compuesto representado por la fórmula (23) reacciona con un agente de oxidación apropiado para producir un derivado de óxido de piridina-N de acuerdo con las condiciones descritas en, por ejemplo, J. Org. Chem., p. 8576 (1999). Los ejemplos de agentes de oxidación incluyen ácidos peroxi orgánicos tales como ácido m-cloroperoxibenzoico; metaperiodato de sodio; peróxido de hidrógeno; ozono, dióxido de selenio, ácido crómico; tetraóxido de dinitrógeno; nitrato de azilo; yodo; bromo; N-bromosuccinimida; yodosilbenzeno; y hipoclorito de t-butilo. El solvente utilizado en esta etapa no está limitado a aquellos descritos en el documento anterior, y cualquier solvente que no inhiba significativamente el progreso de la reacción se puede utilizar. Los solventes se pueden utilizar solos o en una mezcla de una o más clases. En particular, se prefiere un solvente polar. La temperatura de reacción se puede determinar apropiadamente en el rango de -20° C a la temperatura de reflujo del solvente utilizado, y el tiempo de reacción se puede determinar apropiadamente en el rango de varios minutos a 96 horas.

Un compuesto representado por la fórmula (27) de la presente invención se puede producir de un derivado de éster m-aminobenzoico fácilmente disponible representado por la fórmula (24) de acuerdo con el Método de Producción 5 (en la fórmula, R_1, R_2, R_3, G_1, G_2, (X)n, y Q representan lo mismo descrito anteriormente, y R representa un grupo alquilo inferior).

Método de Producción 5



5-(i) Fórmula (24) → Fórmula (25)

Un compuesto representado por la fórmula (25) se puede producir al utilizar un compuesto representado por la fórmula (7) (por ejemplo, un éster clorofórmico o un éster clorotiofórmico) bajo las condiciones apropiadamente seleccionadas de las condiciones de reacción descritas anteriormente en la etapa 1-(iii) del Método de Producción 1.

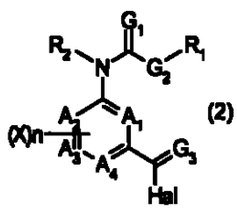
5-(ii) Fórmula (25) → Fórmula (26)

Un compuesto representado por la fórmula (26) se puede producir mediante hidrólisis con un hidróxido de metal alcalino tal como hidróxido de sodio o hidróxido de potasio,un hidróxido de metal alcalino terreo tal como hidróxido de

calcio, o un ácido inorgánico tal como un ácido clorhídrico o ácido sulfúrico de acuerdo con una técnica convencional.

5-(iii) Fórmula (26) → Fórmula (27)

Un compuesto representado por la fórmula (27) de la presente invención se puede producir mediante la reacción de condensación bajo condiciones apropiadas de acuerdo con la técnica descrita anteriormente en la etapa 4-(i) del Método de Producción 4. Entre las técnicas descritas en la etapa 4-(i), en la t"ecnica que utiliza el agente halogenante, el compuesto representado por la fórmula (27) se puede producir a través de un compuesto representado por la fórmula (2):



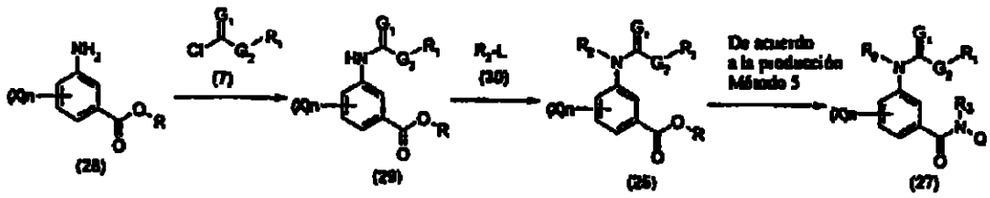
(2)

(en donde A_1, A_2, A_3, A_4, G_1, G_2, G_3, (X)n, y Hal representan cada uno los mismos descritos anteriormente). La etapa de halogenación de la etapa de amidación se puede desarrollar bajo condiciones de reacción de acuerdo a la técnica descrita en la etapa 4-(i).

El compuesto representado por la fórmula (27) de la presente invención se puede producir de un éster de ácido m-aminobenzoico representado por la fórmula (28) de acuerdo con el Método de Producción 6 de adelante (en la fórmula, R_1, R_2, R_3, G_1, G_2, (X)n, y Q representan cada uno el mismo como se describió anteriormente, R representa un grupo alquilo inferior, y L representa un grupo funcional que tiene

una capacidad saliente, tal como halógeno, metanosulfoniloxi, o trifluorometanosulfoniloxi).

Método de Producción 6



6-(i) Fórmula (28) → Fórmula (29)

Un compuesto representado por la fórmula (29) se puede producir mediante la técnica descrita anteriormente en la etapa 1-(iii) del Método de Producción 1 utilizando un compuesto representado por la fórmula (7) (por ejemplo, un éster clorofórmico o un éster clorotiofórmico) bajo condiciones apropiadas.

6-(ii) Fórmula (29) → Fórmula (25)

En esta etapa, los ejemplos de un compuesto representado por la fórmula (30) incluyen alquil haluros tales como metil yoduro y etil yoduro; ésteres tolueno sulfónicos; ésteres metanosulfónicos; y agentes alquilatantes tales como dimetilsulfato. Como un solvente, se puede utilizar cualquier solvente que no inhiba significativamente el progreso de la reacción. Ejemplos de solventes incluyen hidrocarburos aromáticos tales como benceno, tolueno, y xileno; hidrocarburos halogenados tales como diclorometano, cloroformo, y tetracloruro de carbono; éteres de cadena o cíclicos tales como dietiléter, dioxano,

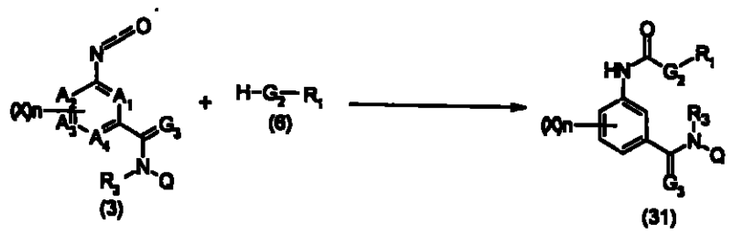
tetrahidrofurano, y 1,2-dimetoxietano; ésteres tales como etil acetato y butil acetato; cetonas tales como acetona, metil isobutil cetona, y ciclohexanona; amidas tales como dimetilformamida y dimetilacetamida; nitrilos tales como acetonitrilo; y solventes inertes tales como 1,3-dimetil-2-imidazolidinona. Estos solventes se pueden utilizar solos o en una mezcla de dos o más clases. También, se puede agregar una base para acelerar el progreso de la reacción. Los ejemplos de la base incluyen bases orgánicas tales como trietilamina, piridina, y 4-dimetilaminopiridina; las bases orgánicas tal como carbonato de potasio, hidróxido de sodio, hidróxido de potasio; y anhídridos de metal alcalino tal como hidruro de sodio. La cantidad de la base utilizada se puede determinar apropiadamente en el rango de equivalentes molares de 0.01 a 5 veces la cantidad del compuesto representado por la fórmula (29). La temperatura de reacción se puede determinar apropiadamente en el rango de -20° C a la temperatura de reflujo del solvente utilizado, y el tiempo de reacción se puede determinar apropiadamente en el rango de varios minutos a 96 horas.

6-(iii) Fórmula (25) → Fórmula (27)

Un compuesto representado por la fórmula (27) de la presente invención se puede producir mediante las técnicas descritas anteriormente en las etapas 5-(ii) y 5-(iii) del Método de Producción 5 bajo condiciones apropiadas.

Un compuesto representado por la fórmula (31) de la presente invención se puede producir de acuerdo con el Método de Producción 7 (en la fórmula, A_1, A_2, A_3, A_4, R_1, R_3, G_2, G_3, y (X)n representan cada uno los mismos descritos anteriormente).

Método de Producción 7

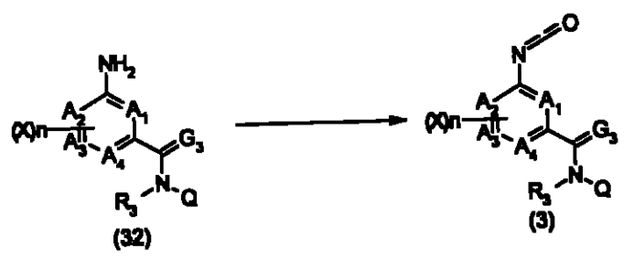


En esta etapa, se puede utilizar un solvente apropiado. Como el solvente, se puede utilizar cualquier solvente que no inhiba significativamente el progreso de la reacción. Ejemplos de solventes incluyen hidrocarburos aromáticos tales como benceno, tolueno, y xileno; hidrocarburos halogenados tales como diclorometano, cloroformo, y tetracloruro de carbono; éteres de cadena o cíclicos tales como dietiléter, dioxano, tetrahidrofurano, y 1,2-dimetoxietano; ésteres tales como etil acetato y butil acetato; cetonas tales como acetona, metil isobutil cetona, y ciclohexanona; amidas tales como dimetilformamida y dimetilacetamida; nitrilos tales como acetonitrilo; y solventes inertes tales como 1,3-dimetil-2-imidazolidinona. Estos solventes se pueden utilizar solos o en una mezcla de dos o más clases. También, se puede utilizar una base apropiada. Los ejemplos de la base incluyen bases orgánicas tales como trietilamina, tri-n-butilamina, piridina, 4-dimetilaminopiridina; hidróxidos de metal alcalilno tales como hidróxido de sodio e hidróxido de potasio; carbonatos tales como hidrogen carbonato de sodio y carbonato de potasio; hidruros de metal alcalino tal como hidruro de sodio y alcoholatos de metal alcalino tal como metóxido de sodio y etóxido de sodio. La cantidad de la base utilizada se puede determinar apropiadamente en el rango de equivalentes molares de 0.01 a 5 veces la cantidad del compuesto representado por la fórmula (6). La temperatura de reacción se puede determinar apropiadamente en el rango de -20° C a la temperatura de reflujo del solvente

utilizado, y el tiempo de reacción se puede determinar apropiadamente en el rango de varios minutos a 96 horas.

Un compuesto de isocianato representado por la fórmula (3) se puede producir por medio del Método de Producción 8 (en la fórmula, A_1, A_2, A_3, A_4, G_3, R_3, (X)n, y Q representan cada uno lo mismo descrito anteriormente) que utiliza un derivado de m-aminobenzamida o un derivado de m-aminopiridinocarboxamida representado por la fórmula (32) como material de partida.

Método de Producción 8

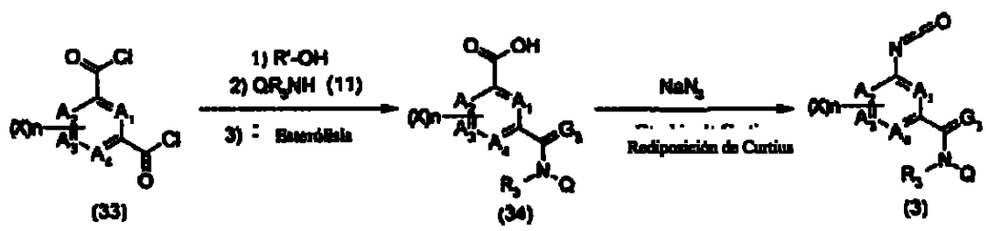


En esta etapa, la reacción se puede desarrollar al utilizar fosgeno de acuerdo con la técnica descrita en Organic Síntesis, Coll., Vol. II, p. 453. Un compuesto de isocianato representado por la fórmula (3) también se puede producir al utilizar un dímero de fosgeno, trifosgeno, o cloruro de oxalilo en lugar de fosgeno. En esta etapa, se puede utilizar un solvente apropiado. Como el solvente, se puede cualquier solvente que no inhiba significativamente el progreso de la reacción. Ejemplos de solventes incluyen hidrocarburos aromáticos tales como benceno, tolueno, y xileno; hidrocarburos halogenados tales como diclorometano, cloroformo, y tetracloruro de carbono; éteres de cadena o cíclicos tales como dietiléter, dioxano, tetrahidrofurano, y 1,2-dimetoxietano; ésteres tales como etil acetato y butil acetato; cetonas tales como acetona, metil isobutil cetona, y

ciclohexanona; amidas tales como dimetilformamida y dimetilacetamida; nitrilos tales como acetonitrilo; y solventes inertes tales como 1,3-dimetil-2-imidazolidinona. Estos solventes se pueden utilizar solos o en una mezcla de dos o más clases. La temperatura de reacción se puede determinar apropiadamente en el rango de -20° C a la temperatura de reflujo del solvente utilizado, y el tiempo de reacción se puede determinar apropiadamente en el rango de varios minutos a 96 horas.

Un compuesto de isocianato representado por la fórmula (3) se puede producir por medio del Método de Producción 9 (en la fórmula, A_1, A_2, A_3, A_4, G_3, R_3, (X)n, y Q representan cada uno lo mismo descrito anteriormente) que utiliza una reacción de rearreglo Curtius con un derivado de cloruro de isoftaloilo representado por la fórmula (33) utilizado como material de partida de acuerdo con la técnica descrita en Macromolecules, p. 1046 (1998).

Método de Producción 9



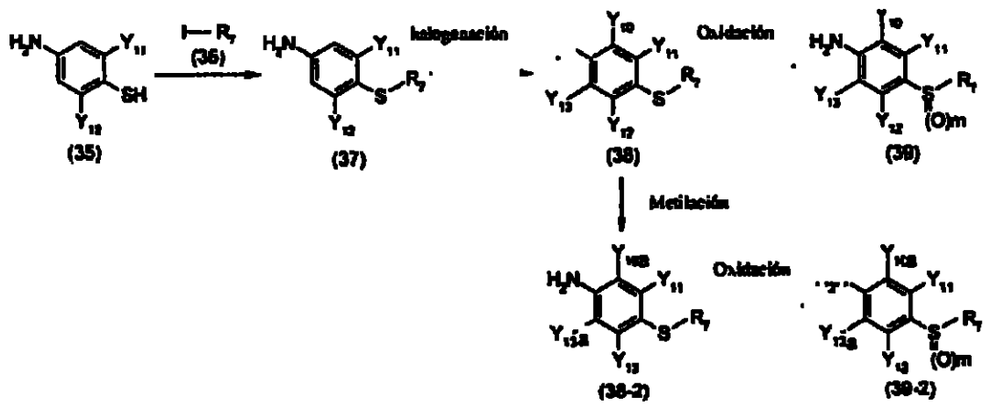
(33) (34) (3)

En esta etapa, se puede utilizar un solvente apropiado. Como el solvente, se puede utilizar cualquier solvente que no inhiba significativamente el progreso de la reacción. Ejemplos de solventes incluyen hidrocarburos aromáticos tales como benceno, tolueno, y xileno; hidrocarburos halogenados tales como diclorometano, cloroformo, y tetracloruro de carbono; éteres de cadena o cíclicos tales como

dietiléter, dioxano, tetrahidrofurano, y 1,2-dimetoxietano; ésteres tales como etil acetato y butil acetato; cetonas tales como acetona, metil isobutil cetona, y ciclohexanona; amidas tales como dimetilformamida y dimetilacetamida; nitrilos tales como acetonitrilo; y solventes inertes tales como 1,3-dimetil-2-imidazolidinona. Estos solventes se pueden utilizar solos o en una mezcla de dos o más clases. La temperatura de reacción se puede determinar apropiadamente en el rango de -20° C a la temperatura de reflujo del solvente utilizado, y el tiempo de reacción se puede determinar apropiadamente en el rango de varios minutos a 96 horas. Para producir un compuesto representado por la fórmula (34), se puede utilizar etanol, propanol, o benzil alcohol como un alcohol. En la esterolisis, hidrólisis o reducción catalítica de hidrógeno se puede desarrollar mediante una técnica convencional.

Un derivado de anilina representado por la fórmula (39) se puede producir al utilizar un derivado de aminotiofenol como material de partida de acuerdo con el Método de Producción 10 (en la fórmula, R_7, Y_{11}, Y_{12} y m representan cada uno lo mismo descrito anteriormente, Y_{10} y Y_{13} representan cada uno un átomo de hidrógeno o un átomo de halógeno excepto en el caso ene. Cual ambos grupos son átomos de hidrógeno en tanto respecta a este método, Y_{10a} y Y_{13a} representan cada uno un átomo de hidrógeno, un átomo de halógeno, o un grupo metilo en tanto se relaciona con este método, y uno de Y_{10a} y Y_{13a} necesariamente representan un grupo metilo).

Método de Producción 10



10-(i) Fórmula (35) → Fórmula (37)

Un compuesto representado por la fórmula (38) se puede producir mediante la reacción de aminotiofenol representado por la fórmula (35) con un haloalquil yoduro representado por la fórmula (36) de acuerdo con el método descrito en J. Fluorine Chem., p. 207 (1994).

Ejemplos de haloalquil yoduro representados por la fórmula (36) incluyen trifluorometil yoduro, pentafluoroetil yoduro, heptafluoro-n-propil yoduro, heptafluoro isopropil yoduro, nonafluoro-n-butil yoduro, y nonafluoroisopropil yoduro. La cantidad de haloalquil yoduro utilizado se puede determinar apropiadamente en el rango de equivalentes molares de 1 a 10 veces la cantidad del compuesto representado por la fórmula (35). El solvente utilizado en esta etapa no está limitado a aquellos descritos en el documento anterior, y cualquier solvente que no inhiba significativamente el progreso de la reacción se puede utilizar como el solvente. Ejemplos de solventes incluyen hidrocarburos aromáticos tales como benceno, tolueno, y xileno; hidrocarburos halogenados tales como diclorometano, cloroformo, y tetracloruro de carbono; éteres de cadena o cíclicos tales como dietiléter, dioxano, tetrahidrofurano, y 1,2-dimetoxietano; ésteres tales

como etil acetato y butil acetato; cetonas tales como acetona, metil isobutil cetona, y ciclohexanona; amidas tales como dimetilformamida y dimetilacetamida; nitrilos tales como acetonitrilo; y solventes inertes tales como 1,3-dimetil-2-imidazolidinona y triamida hexametilfosfórica. Estos solventes se pueden utilizar solos o en una mezcla de dos o más clases. En particular, se prefiere un solvente polar. La temperatura de reacción se puede determinar apropiadamente en el rango de -20° C a la temperatura de reflujo del solvente utilizado, y el tiempo de reacción se puede determinar apropiadamente en el rango de varios minutos a 96 horas.

10-(ii) Fórmula (37) → Fórmula (38)

Un compuesto representado por la fórmula (38) se puede producir al utilizar un agente halogenante apropiado de acuerdo con la técnica descrita en, por ejemplo, Synth. Commun., p. 1261 (1989). Ejemplos de agente halogenante incluyen cloro, bromo, yodo, N-clorosuccinimida, N-bromosuccinimida, y N-yodosuccinimida. La cantidad del agente halogenante utilizado se puede utilizar adecuadamente en el rango de equivalentes molares de 1 a 10 veces la cantidad del compuesto representado en la fórmula (37). El número de equivalentes del agente halogenante se puede determinar apropiadamente de tal forma que solamente Y_{10} o Y_{13} es un átomo de halógeno. En esta etapa, se puede utilizar un solvente apropiado. El solvente utilizado no está limitado a aquellos descritos en el documento anterior, y se puede utilizar como solvente cualquier solvente que no inhiba significativamente el progreso de la reacción. Ejemplos de solventes incluyen hidrocarburos aromáticos tales como benceno, tolueno, y xileno; hidrocarburos halogenados tales como diclorometano, cloroformo, y tetracloruro de carbono; éteres de cadena o cíclicos tales como dietiléter, dioxano,

tetrahidrofurano, y 1,2-dimetoxietano; ésteres tales como etil acetato y butil acetato; cetonas tales como acetona, metil isobutil cetona, y ciclohexanona; amidas tales como dimetilformamida y dimetilacetamida; nitrilos tales como acetonitrilo; y solventes inertes tales como 1,3-dimetil-2-imidazolidinona y triamida hexametilfosfórica. Estos solventes se pueden utilizar solos o en una mezcla de dos o más clases. En particular, se prefiere un solvente polar. La temperatura de reacción se puede determinar apropiadamente en el rango de -20° C a la temperatura de reflujo del solvente utilizado, y el tiempo de reacción se puede determinar apropiadamente en el rango de varios minutos a 96 horas.

10-(iii) Fórmula (38) → Fórmula (39)

Un compuesto representado por la fórmula (39) se puede producir al utilizar un agente de oxidación apropiado de acuerdo con la técnica descrita en, por ejemplo, Tetrahedron Lett., p. 4955 (1994). Los ejemplos de los agentes de oxidación incluyen ácidos peroxi orgánicos tales como ácido m-cloroperoxibenzoico; metaperiodato de sodio; peróxido de hidrógeno; ozono, dióxido de selenio, ácido crómico; tetraóxido de dinitrógeno; nitrato de azilo; yodo; bromo; N-bromosuccinimida; yodosilbenzeno; e hipoclorito de t-butilo. El solvente utilizado en esta etapa no está limitado a aquellos descritos en el documento anterior, y cualquier solvente que no inhiba significativamente el progreso de la reacción se puede utilizar. Los solventes se pueden utilizar solos o en una mezcla de una o más clases. En particular, se prefiere un solvente polar. La temperatura de reacción se puede determinar apropiadamente en el rango de -20° C a la temperatura de reflujo del solvente utilizado, y el tiempo de reacción se puede determinar apropiadamente en el rango de varios minutos a 96 horas.

10-(iv) Fórmula (38) → Fórmula (38-2)

Un compuesto representado por la fórmula (38-2) (en donde R_7, Y_{11}, Y_{12}, y m representan cada uno los mismos como se describieron anteriormente, Y_{10a} y Y_{13a} representan cada uno un átomo de hidrógeno, un átomo de halogeno, o un grupo metilo en tanto se refiere a esta etapa, y uno de Y_{10a} y Y_{13a} necesariamente representan un grupo metilo) se pueden producir del compuesto representado por la fórmula (38) utilizando un agente metilante apropiado. Esta etapa se puede desarrollar de acuerdo con la técnica descrita en, por ejemplo, Tetrahedron. Lett., p. 6237 (2000).

10-(v) Fórmula (38-2) → Fórmula (39-2)

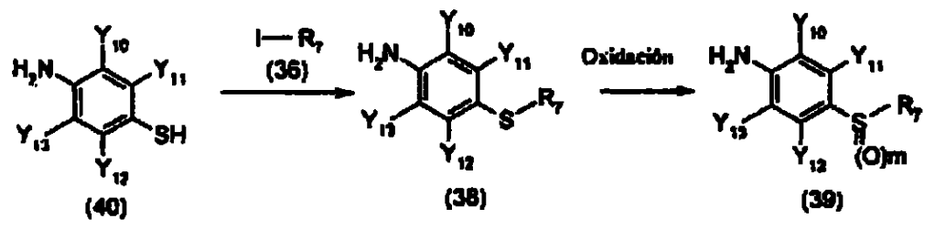
Un compuesto representado por la fórmula (39-2) (en donde R_7, Y_{11}, Y_{12}, y m representan cada uno los mismos como se describieron anteriormente, Y_{10a} y Y_{13a} representan ambos un grupo metilo o uno de Y_{10a} y Y_{13a} un grupo metilo y el otro representa un átomo de halógeno en tanto se refiere a esta etapa) se pueden producir de acuerdo con la técnica descrita anteriormente en la etapa 10-(iii) del Método de Producción 10.

Los compuestos representados por la fórmula (1), (3), (4), y (8) se pueden producir de derivados de anilina representados por la fórmula (38), (39), (38-2) y (39-2) de acuerdo con un método seleccionado apropiadamente de los Métodos de Producción 1 a 9.

El compuesto representado por la fórmula (39) también se puede producir de aminotiofenol representado por la fórmula (40) de acuerdo con el Método de

Producción 11 (en la fórmula, R_7, Y_{10}, Y_{11}, Y_{12}, Y_{13}, y m representan cada uno los mismos descritos anteriormente).

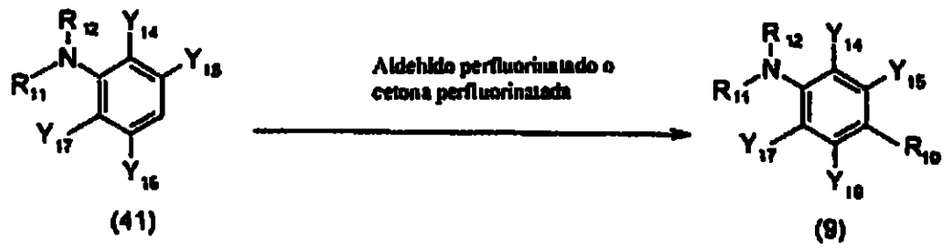
Método de Producción 11



La reacción con yoduro de haloalquilo y la oxidación subsecuente se puede desarrollar de acuerdo con el Método de Producción 10. Los compuestos representados por la fórmula (1), (3), (4), y (8) se pueden producir de los derivados de anilina representados por la fórmula (41) y (42) de acuerdo con un método cualquiera seleccionado apropiadamente de los Métodos de Producción 1 a 9.

Un compuesto representado por la fórmula (9) se puede producir de un derivado de anilina representado por la fórmula (41) y utilizado como material de partida de acuerdo con el Método de Producción 12 (en la fórmula, R_{10}, R_{11}, R_{12}, Y_{14}, Y_{15}, Y_{16}, y Y_{17} representan cada uno los mismos descritos anteriormente).

Método de Producción 12



(41) (9)

Un compuesto representado por la fórmula (9) se puede producir al utilizar un aldehído perfluorinado apropiado o una cetona perfluorinada de acuerdo con la técnica descrita en, por ejemplo, J. Am. Chem. Soc., p. 2410 (1965) y J. Org. Chem., p. 1001 (1965). Los ejemplos del aldehído perfluorinado o la cetona perfluorinada incluyen hexafluoroacetona y perfluoro-2-butanona. En esta etapa, se puede utilizar un solvente apropiado. El solvente utilizado en esta etapa no está limitado a aquellos descritos en los documentos anteriores, y se puede utilizar cualquier solvente que no inhiba significativamente el progreso de la reacción. Los solventes se pueden utilizar solos o en una mezcla de una o más clases. La temperatura de reacción se puede determinar apropiadamente en el rango de -20° C a 200° C, y el tiempo de reacción se puede determinar apropiadamente en el rango de varios minutos a 96 horas.

Los compuestos representados por la fórmula (1), (3) y (4) se pueden producir de un derivado de anilina representada por la fórmula (9) de acuerdo con uno cualquiera adecuadamente seleccionado de los Métodos de Producción 1 a 9.

En todos los Métodos de Producción, los compuestos se pueden aislar del sistema de reacción después de las reacciones de acuerdo con una técnica normal. Sin embargo, los compuestos se pueden purificar opcionalmente mediante una operación tal como recristalización, cromatografía de columna, destilación, o

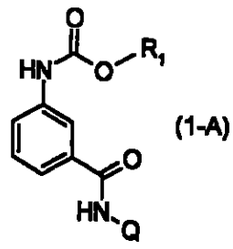
similares. Alternativamente, los compuestos se pueden utilizar en las siguientes etapas de reacción sin ser aislados de los sistemas de reacción.

Aunque los ejemplos típicos de los compuestos representados por la fórmula (1) y utilizados como ingredientes activos de insecticidas de la presente invención son mostrados en las Tablas 1 a 5, la presente invención no está limitada a estos ejemplos.

Aunque los ejemplos típicos de los compuestos representados por la fórmula (4) se muestran en las Tablas 6 a 8, la presente invención no está limitada a estos ejemplos.

En las tablas, "n-" denota normal, "Me" denota grupo metilo, "Et" denota grupo etilo; "n-Pr" denota un grupo propilo normal, "i-Pr" denota un grupo isopropilo, "n-Bu" denota un grupo butilo normal, "i-Bu" denota un grupo isobutilo, "s-Bu" denota un grupo butilo secundario, "t-Bu" denota un grupo butilo terciario, "H" denota un átomo de hidrógeno, "O" denota un átomo de oxígeno, "S" denota un átomo de azufre, "C" denota un átomo de carbono, "N" denota un átomo de nitrógeno, "F" denota un átomo de flúor, "Cl" denota un átomo de cloro, "Br" denota un átomo de bromo, "I" denota un átomo de yodo, "CF_3" denota un grupo trifluorometilo, "MeO" denota un grupo metoxi, "NH_2" denota un grupo amino, "MeNH" denota un grupo metilamino, y "Me_2N" denota un grupo dimetilamino.

Tabla 1(1)



(1-A)

Compuesto No.	R_1	Q
1.	Me	2-metil-4-heptafluoroisopropilfenilo
2.	Et	2-metil-4-heptafluoroisopropilfenilo
3.	i-Pr	2-metil-4-heptafluoroisopropilfenilo
4.	n-Bu	2-metil-4-heptafluoroisopropilfenilo
5.	i-Bu	2-metil-4-heptafluoroisopropilfenilo
6.	s-Bu	2-metil-4-heptafluoroisopropilfenilo
7.	t-Bu	2-metil-4-heptafluoroisopropilfenilo
8.	Neopentilo	2-metil-4-heptafluoroisopropilfenilo
9.	3,3-dimetil-n-butilo	2-metil-4-heptafluoroisopropilfenilo
10.	2-etil-n-hexilo	2-metil-4-heptafluoroisopropilfenilo
11.	Vinilo	2-metil-4-heptafluoroisopropilfenilo
12.	Alilo	2-metil-4-heptafluoroisopropilfenilo
13.	2-isopropil-5-metilciclohexilo	2-metil-4-heptafluoroisopropilfenilo
14.	Benzilo	2-metil-4-heptafluoroisopropilfenilo
15.	3-cianobenzilo	2-metil-4-heptafluoroisopropilfenilo
16.	4-cianobenzilo	2-metil-4-heptafluoroisopropilfenilo
17.	2-metoxietilo	2-metil-4-heptafluoroisopropilfenilo
18.	Clorometilo	2-metil-4-heptafluoroisopropilfenilo
19.	2-cloroetilo	2-metil-4-heptafluoroisopropilfenilo
20.	2,2,2-tricloroetilo	2-metil-4-heptafluoroisopropilfenilo
21.	1,2,2,2-tetracloroetilo	2-metil-4-heptafluoroisopropilfenilo
22.	1,1-dimetil-2,2,2-tricloroetilo	2-metil-4-heptafluoroisopropilfenilo
23.	3-trifluorometilfenilo	2-metil-4-heptafluoroisopropilfenilo
24.	4-metilfenilo	2-metil-4-heptafluoroisopropilfenilo
25.	4-clorofenilo	2-metil-4-heptafluoroisopropilfenilo
26.	Ciclobutilo	2-metil-4-heptafluoroisopropilfenilo
27.	Ciclopentilo	2-metil-4-heptafluoroisopropilfenilo
28.	2-cianoetilo	2-metil-4-heptafluoroisopropilfenilo
29.	2-(etiltio)etilo	2-metil-4-heptafluoroisopropilfenilo
30.	2-(etilsulfinil)etilo	2-metil-4-heptafluoroisopropilfenilo

Tabla 1(2)

Compuesto No.	R_1	Q
31.	2-(etilsulfonil)etilo	2-metil-4-heptafluoroisopropilfenilo
32.	2-fluoroetilo	2-metil-4-heptafluoroisopropilfenilo
33.	2,2-difluoroetilo	2-metil-4-heptafluoroisopropilfenilo
34.	2,2,2-trifluoroetilo	2-metil-4-heptafluoroisopropilfenilo
35.	1,3-difluoro-2-propilo	2-metil-4-heptafluoroisopropilfenilo
36.	1-cloro-3-fluoro-2-propilo	2-metil-4-heptafluoroisopropilfenilo
37.	1-metil-2,2,2-trifluoro-2-propilo	2-metil-4-heptafluoroisopropilfenilo
38.	3,3,3-trifluoro-n-propilo	2-metil-4-heptafluoroisopropilfenilo
39.	3,3,4,4,4-pentafluoro-2-butilo	2-metil-4-heptafluoroisopropilfenilo
40.	4,4,4-trifluoro-n-butilo	2-metil-4-heptafluoroisopropilfenilo
41.	2,2,3,3-tetrafluorociclobutilo	2-metil-4-heptafluoroisopropilfenilo
42.	2,2-dicloroetilo	2-metil-4-heptafluoroisopropilfenilo
43.	1,3-dicloro-2-propilo	2-metil-4-heptafluoroisopropilfenilo
44.	3-cloro-n-propilo	2-metil-4-heptafluoroisopropilfenilo
45.	3,3,3-tricloro-n-propilo	2-metil-4-heptafluoroisopropilfenilo
46.	2-bromoetilo	2-metil-4-heptafluoroisopropilfenilo
47.	2,2,2-tribromoetilo	2-metil-4-heptafluoroisopropilfenilo
48.	2-yodoetilo	2-metil-4-heptafluoroisopropilfenilo
49.	Tetrahidrofuran-3-ilo	2-metil-4-heptafluoroisopropilfenilo
50.	(furan-2-il)metilo	2-metil-4-heptafluoroisopropilfenilo
51.	(furan-3-il)metilo	2-metil-4-heptafluoroisopropilfenilo
52.	(tetrahidrofuran-2-il)metilo	2-metil-4-heptafluoroisopropilfenilo
53.	(tetrahidrofuran-3-il)metilo	2-metil-4-heptafluoroisopropilfenilo
54.	(tiofen-2-il)metilo	2-metil-4-heptafluoroisopropilfenilo
55.	(tiofen-3-il)metilo	2-metil-4-heptafluoroisopropilfenilo
56.	(piridin-2-il)metilo	2-metil-4-heptafluoroisopropilfenilo
57.	(piridin-3-il)metilo	2-metil-4-heptafluoroisopropilfenilo
58.	(6-cloropiridin-3-il)metilo	2-metil-4-heptafluoroisopropilfenilo
59.	Me	2,6-dimetil-4-heptafluoroisopropilfenilo
60.	Et	2,6-dimetil-4-heptafluoroisopropilfenilo

Tabla 1(3)

Compuesto No.	R_1	Q
61.	n-Pr	2,6-dimetil-4-heptafluoroisopropilfenilo
62.	i-Pr	2,6-dimetil-4-heptafluoroisopropilfenilo
63.	n-Bu	2,6-dimetil-4-heptafluoroisopropilfenilo
64.	i-Bu	2,6-dimetil-4-heptafluoroisopropilfenilo
65.	s-Bu	2,6-dimetil-4-heptafluoroisopropilfenilo
66.	t-Bu	2,6-dimetil-4-heptafluoroisopropilfenilo
67.	Neopentilo	2,6-dimetil-4-heptafluoroisopropilfenilo
68.	1,2-dimetil-n-propilo	2,6-dimetil-4-heptafluoroisopropilfenilo
69.	1-metil-n-butilo	2,6-dimetil-4-heptafluoroisopropilfenilo
70.	1,3-dimetil-n-butilo	2,6-dimetil-4-heptafluoroisopropilfenilo
71.	3,3-dimetil-n-butilo	2,6-dimetil-4-heptafluoroisopropilfenilo
72.	Ciclopentilmetilo	2,6-dimetil-4-heptafluoroisopropilfenilo
73.	1-feniletilo	2,6-dimetil-4-heptafluoroisopropilfenilo
74.	2-feniletilo	2,6-dimetil-4-heptafluoroisopropilfenilo
75.	Vinilo	2,6-dimetil-4-heptafluoroisopropilfenilo
76.	Alilo	2,6-dimetil-4-heptafluoroisopropilfenilo
77.	Propargilo	2,6-dimetil-4-heptafluoroisopropilfenilo
78.	Ciclobutilo	2,6-dimetil-4-heptafluoroisopropilfenilo
79.	Ciclopentilo	2,6-dimetil-4-heptafluoroisopropilfenilo
80.	Ciclohexilo	2,6-dimetil-4-heptafluoroisopropilfenilo
81.	Benzilo	2,6-dimetil-4-heptafluoroisopropilfenilo
82.	4-metilbenzilo	2,6-dimetil-4-heptafluoroisopropilfenilo
83.	4-trifluorometilbenzilo	2,6-dimetil-4-heptafluoroisopropilfenilo
84.	3-cianobenzilo	2,6-dimetil-4-heptafluoroisopropilfenilo
85.	4-cianobenzilo	2,6-dimetil-4-heptafluoroisopropilfenilo
86.	2-fluorobenzilo	2,6-dimetil-4-heptafluoroisopropilfenilo
87.	3-fluorobenzilo	2,6-dimetil-4-heptafluoroisopropilfenilo
88.	4-fluorobenzilo	2,6-dimetil-4-heptafluoroisopropilfenilo
89.	2-clorobenzilo	2,6-dimetil-4-heptafluoroisopropilfenilo
90.	3-clorobenzilo	2,6-dimetil-4-heptafluoroisopropilfenilo

Tabla 1(4)

Compuesto No.	R_1	Q
91.	4-clorobenzilo	2,6-dimetil-4-heptafluoroisopropilfenilo
92.	4-nitrobenzilo	2,6-dimetil-4-heptafluoroisopropilfenilo
93.	4-metoxicarbonilbenzilo	2,6-dimetil-4-heptafluoroisopropilfenilo
94.	2-hidroxietilo	2,6-dimetil-4-heptafluoroisopropilfenilo
95.	2-metoxietilo	2,6-dimetil-4-heptafluoroisopropilfenilo
96.	2-etoxietilo	2,6-dimetil-4-heptafluoroisopropilfenilo
97.	2-isopropiloxietilo	2,6-dimetil-4-heptafluoroisopropilfenilo
98.	2-benziloxietilo	2,6-dimetil-4-heptafluoroisopropilfenilo
99.	3-etoxi-n-propilo	2,6-dimetil-4-heptafluoroisopropilfenilo
100.	Etoxicarbonilmetilo	2,6-dimetil-4-heptafluoroisopropilfenilo
101.	1-(metoxicarbonil)etilo	2,6-dimetil-4-heptafluoroisopropilfenilo
102.	1-(etoxicarbonil)etilo	2,6-dimetil-4-heptafluoroisopropilfenilo
103.	3-oxo-n-butilo	2,6-dimetil-4-heptafluoroisopropilfenilo
104.	2-acetoxietilo	2,6-dimetil-4-heptafluoroisopropilfenilo
105.	Cianometilo	2,6-dimetil-4-heptafluoroisopropilfenilo
106.	2-cianoetilo	2,6-dimetil-4-heptafluoroisopropilfenilo
107.	3-ciano-n-propilo	2,6-dimetil-4-heptafluoroisopropilfenilo
108.	2-(metiltio)etilo	2,6-dimetil-4-heptafluoroisopropilfenilo
109.	2-(etiltio)etilo	2,6-dimetil-4-heptafluoroisopropilfenilo
110.	2-(isopropiltio)etilo	2,6-dimetil-4-heptafluoroisopropilfenilo
111.	1-metil-2-(metiltio)etilo	2,6-dimetil-4-heptafluoroisopropilfenilo
112.	2-(etilsulfinil)etilo	2,6-dimetil-4-heptafluoroisopropilfenilo
113.	2-(etilsulfonil)etilo	2,6-dimetil-4-heptafluoroisopropilfenilo
114.	3-(metiltio)-n-propilo	2,6-dimetil-4-heptafluoroisopropilfenilo
115.	3-(etiltio)-n-propilo	2,6-dimetil-4-heptafluoroisopropilfenilo
116.	2-fluoroetilo	2,6-dimetil-4-heptafluoroisopropilfenilo
117.	2,2-difluoroetilo	2,6-dimetil-4-heptafluoroisopropilfenilo
118.	2,2,2-trifluoroetilo	2,6-dimetil-4-heptafluoroisopropilfenilo
119.	1,3-difluoro-2-propilo	2,6-dimetil-4-heptafluoroisopropilfenilo
120.	1-cloro-3-fluoro-2-propilo	2,6-dimetil-4-heptafluoroisopropilfenilo

Tabla 1(5)

Compuesto No.	R_1	Q
121.	1-metil-2,2,2-trifluoroetilo	2,6-dimetil-4-heptafluoroisopropilfenilo
122.	1,1,1,3,3,3-hexafluoro-2-propilo	2,6-dimetil-4-heptafluoroisopropilfenilo
123.	3,3,3-trifluoro-n-propilo	2,6-dimetil-4-heptafluoroisopropilfenilo
124.	2,2,3,3,3-pentafluoro-n-propilo	2,6-dimetil-4-heptafluoroisopropilfenilo
125.	3,3,4,4,4-pentafluoro-2-butilo	2,6-dimetil-4-heptafluoroisopropilfenilo
126.	4,4,4-trifluoro-n-butilo	2,6-dimetil-4-heptafluoroisopropilfenilo
127.	2,2,3,3-tetrafluorociclobutilo	2,6-dimetil-4-heptafluoroisopropilfenilo
128.	Corometilo	2,6-dimetil-4-heptafluoroisopropilfenilo
129.	Triclorometilo	2,6-dimetil-4-heptafluoroisopropilfenilo
130.	2-cloroetilo	2,6-dimetil-4-heptafluoroisopropilfenilo
131.	2,2-dicloroetilo	2,6-dimetil-4-heptafluoroisopropilfenilo
132.	2,2,2-tricloroetilo	2,6-dimetil-4-heptafluoroisopropilfenilo
133.	1,2,2,2-tetracloroetilo	2,6-dimetil-4-heptafluoroisopropilfenilo
134.	1,3-dicloro-2-propilo	2,6-dimetil-4-heptafluoroisopropilfenilo
135.	1,1-dimetil-2,2,2-tricloroetilo	2,6-dimetil-4-heptafluoroisopropilfenilo
136.	3-cloro-n-propilo	2,6-dimetil-4-heptafluoroisopropilfenilo
137.	2-bromoetilo	2,6-dimetil-4-heptafluoroisopropilfenilo
138.	2,2,2-tribromoetilo	2,6-dimetil-4-heptafluoroisopropilfenilo
139.	3-bromo-n-propilo	2,6-dimetil-4-heptafluoroisopropilfenilo
140.	2-yodoetilo	2,6-dimetil-4-heptafluoroisopropilfenilo
141.	2-(acetilamino)etilo	2,6-dimetil-4-heptafluoroisopropilfenilo
142.	2-(dimetilamino)etilo	2,6-dimetil-4-heptafluoroisopropilfenilo
143.	2-(etilamina)etilo	2,6-dimetil-4-heptafluoroisopropilfenilo
144.	Metilaminocarboniletilo	2,6-dimetil-4-heptafluoroisopropilfenilo
145.	Fenilo	2,6-dimetil-4-heptafluoroisopropilfenilo
146.	4-metilfenilo	2,6-dimetil-4-heptafluoroisopropilfenilo
147.	3-trifluorometilfenilo	2,6-dimetil-4-heptafluoroisopropilfenilo
148.	4-clorofenilo	2,6-dimetil-4-heptafluoroisopropilfenilo
149.	Naftilo	2,6-dimetil-4-heptafluoroisopropilfenilo
150.	Piridina-2-il	2,6-dimetil-4-heptafluoroisopropilfenilo

Tabla 1(6)

Compuesto No.	R_1	Q
151.	Piridina-3-ilo	2,6-dimetil-4-heptafluoroisopropilfenilo
152.	Piridina-4-ilo	2,6-dimetil-4-heptafluoroisopropilfenilo
153.	Tetrahidrofuran-2-ilo	2,6-dimetil-4-heptafluoroisopropilfenilo
154.	Tetrahidrofuran-3-ilo	2,6-dimetil-4-heptafluoroisopropilfenilo
155.	(furan-2-il)metilo	2,6-dimetil-4-heptafluoroisopropilfenilo
156.	(furan-3-il)metilo	2,6-dimetil-4-heptafluoroisopropilfenilo
157.	(tetrahidrofuran-2-il)metilo	2,6-dimetil-4-heptafluoroisopropilfenilo
158.	(tetrahidrofuran-3-il)metilo	2,6-dimetil-4-heptafluoroisopropilfenilo
159.	(tiofen-2-il)metilo	2,6-dimetil-4-heptafluoroisopropilfenilo
160.	(tiofen-3-il)metilo	2,6-dimetil-4-heptafluoroisopropilfenilo
161.	(piridin-2-il)metilo	2,6-dimetil-4-heptafluoroisopropilfenilo
162.	(piridin-3-il)metilo	2,6-dimetil-4-heptafluoroisopropilfenilo
163.	(6-cloropiridin-3-il)metilo	2,6-dimetil-4-heptafluoroisopropilfenilo
164.	Me	2-metil-6-isopropil-4-heptafluoroisopropilfenilo
165.	Et	2-metil-6-isopropil-4-heptafluoroisopropilfenilo
166.	i-Pr	4-heptafluoroisopropilfenilo
167.	i-Pr	3-metil-4-heptafluoroisopropilfenilo
168.	i-Pr	2-etil-4-heptafluoroisopropilfenilo
169.	i-Pr	2-propil-4-heptafluoroisopropilfenilo
170.	i-Pr	3-metoxi-4-heptafluoroisopropilfenilo
171.	i-Pr	3-cloro-4-heptafluoroisopropilfenilo
172.	i-Pr	2,3-dimetil-4-heptafluoroisopropilfenilo
173.	i-Pr	2,5-dimetil-4-heptafluoroisopropilfenilo
174.	i-Pr	2,6-dietil-4-heptafluoroisopropilfenilo
175.	i-Pr	2-etil-6-metil-4-heptafluoroisopropilfenilo
176.	i-Pr	2-metil-isopropil-4-heptafluoroisopropilfenilo
177.	i-Pr	2-metoxi-6-metil-4-heptafluoroisopropilfenilo
178.	i-Pr	2-metil-6-fenil-4-heptafluoroisopropilfenilo
179.	i-Pr	2-cloro-5-metil-4-heptafluoroisopropilfenilo
180.	i-Pr	2-cloro-6-etil-4-heptafluoroisopropilfenilo

Tabla 1(7)

Compuesto No.	R_1	Q
181.	i-Pr	2-cloro-6-n-propil-4-heptafluoroisopropilfenilo
182.	i-Pr	2-cloro-5-metoxi-4-heptafluoroisopropilfenilo
183.	i-Pr	2,3-dimetil-6-cloro-4-heptafluoroisopropilfenilo
184.	i-Pr	2-cloro-3,6-dimetil-4-heptafluoroisopropilfenilo
185.	i-Pr	2-metil-3-clorometil-4-heptafluoroisopropilfenilo
186.	i-Pr	2-metil-3-yodo-6-cloro-4-heptafluoroisopropilfenilo
187.	2,2,2-tricloroetilo	4-heptafluoroisopropilfenilo
188.	2,2,2-tricloroetilo	3-metil-4-heptafluoroisopropilfenilo
189.	2,2,2-tricloroetilo	2-etil-4-heptafluoroisopropilfenilo
190.	2,2,2-tricloroetilo	2-propil-4-heptafluoroisopropilfenilo
191.	2,2,2-tricloroetilo	3-metoxi-4-heptafluoroisopropilfenilo
192.	2,2,2-tricloroetilo	2-cloro-4-heptafluoroisopropilfenilo
193.	2,2,2-tricloroetilo	3-cloro-4-heptafluoroisopropilfenilo
194.	2,2,2-tricloroetilo	2,3-dimetil-4-heptafluoroisopropilfenilo
195.	2,2,2-tricloroetilo	2,5-dimetil-4-heptafluoroisopropilfenilo
196.	2,2,2-tricloroetilo	2,6-dietil-4-heptafluoroisopropilfenilo
197.	2,2,2-tricloroetilo	2-etil-6-metil-4-heptafluoroisopropilfenilo
198.	2,2,2-tricloroetilo	2-metil-6-isopropil-4-heptafluoroisopropilfenilo
199.	2,2,2-tricloroetilo	2-metoxi-6-metil-4-heptafluoroisopropilfenilo
200.	2,2,2-tricloroetilo	2-metil-6-fenil-4-heptafluoroisopropilfenilo
201.	2,2,2-tricloroetilo	2-hidroxi-6-metil-4-heptafluoroisopropilfenilo
202.	2,2,2-tricloroetilo	2-cloro-5-metil-4-heptafluoroisopropilfenilo
203.	2,2,2-tricloroetilo	2-metil-3-amino-4-heptafluoroisopropilfenilo
204.	2,2,2-tricloroetilo	2-metil-3-t-butoxicarbonilamino-4-heptafluoroisopropilfenilo
205.	2,2,2-tricloroetilo	2-cloro-6-etil-4-heptafluoroisopropilfenilo
206.	2,2,2-tricloroetilo	2-bromo-6-etil-4-heptafluoroisopropilfenilo
207.	2,2,2-tricloroetilo	2-etil-6-yodo-4-heptafluoroisopropilfenilo
208.	2,2,2-tricloroetilo	2-cloro-6-n-propil-4-heptafluoroisopropilfenilo
209.	2,2,2-tricloroetilo	2-bromo-6-n-propil-4-heptafluoroisopropilfenilo
210.	2,2,2-tricloroetilo	2-bromo-6-n-propil-4-heptafluoroisopropilfenilo

Tabla 1(8)

Compuesto No.	R_1	Q
211.	2,2,2-tricloroetilo	2-cloro-5-metoxi-4-heptafluoroisopropilfenilo
212.	2,2,2-tricloroetilo	2-bromo-6-metiltio-4-heptafluoroisopropilfenilo
213.	2,2,2-tricloroetilo	2,6-dicloro-4-heptafluoroisopropilfenilo
214.	2,2,2-tricloroetilo	2,3-dimetil-6-cloro-4-heptafluoroisopropilfenilo
215.	2,2,2-tricloroetilo	2-cloro-3,6-dimetil-4-heptafluoroisopropilfenilo
216.	2,2,2-tricloroetilo	2-metil-3-clorometil-6-cloro-4-heptafluoroisopropilfenilo
217.	2,2,2-tricloroetilo	2-metil-3,6-dicloro-4-heptafluoroisopropilfenilo
218.	2,2,2-tricloroetilo	2-metil-3-bromo-6-cloro-4-heptafluoroisopropilfenilo
219.	2,2,2-tricloroetilo	2-metil-3-yodo-6-cloro-4-heptafluoroisopropilfenilo
220.	2,2,2-tricloroetilo	2-metil-3-amino-6-cloro-4-heptafluoroisopropilfenilo
221.	3,3,3-trifluoro-n-propilo	2-bromo-6-n-butil-4-heptafluoroisopropilfenilo
222.	i-Pr	2-cloro-6-metil-4-trifluorometilfenilo
223.	i-Pr	2,6-dicloro-4-trifluorometilfenilo
224.	i-Pr	2-bromo-4,6-bis(trifluorometil)fenilo
225.	i-Pr	2,6-dimetil-4-heptafluoro-n-propilfenilo
226.	i-Pr	2,6-dimetil-4-nonafluoro-n-butilfenilo
227.	2,2,2-tricloroetilo	4-trifluorometilfenilo
228.	2,2,2-tricloroetilo	2-cloro-6-metil-4-trifluorometilfenilo
229.	2,2,2-tricloroetilo	2-bromo-6-cloro-4-trifluorometilfenilo
230.	2,2,2-tricloroetilo	2,6-dicloro-4-trifluorometilfenilo
231.	2,2,2-tricloroetilo	2-cloro-4,6-bistrifluorometilfenilo
232.	2,2,2-tricloroetilo	2-bromo-4,6-bistrifluorometilfenilo
233.	2,2,2-tricloroetilo	2,6-dimetil-4-heptafluoro-n-propilfenilo
234.	2,2,2-tricloroetilo	2,6-dimetil-4-nonafluoro-n-butilfenilo
235.	2,2,2-tricloroetilo	2,3,5,6-tetrafluoro-4-trifluorometilfenilo
236.	2,2,2-tricloroetilo	2,6-dibromo-4-pentafluoroetilfenilo
237.	3,3,3-trifluoro-n-propilo	2,6-dibromo-4-pentafluoroetilfenilo
238.	3,3,3-trifluoro-n-propilo	2-bromo-6-cloro-4-trifluorometilfenilo
239.	Et	2,4-bis(trifluorometil)fenilo
240.	i-Pr	2,4-bis(trifluorometil)fenilo

Tabla 1(9)

Compuesto No.	R_1	Q
241.	Vinilo	2,4-bis(trifluorometil)fenilo
242.	Ciclopentilo	2,4-bis(trifluorometil)fenilo
243.	2-cloroetilo	2,4-bis(trifluorometil)fenilo
244.	2-cianoetilo	2,4-bis(trifluorometil)fenilo
245.	2,2-difluoroetilo	2,4-bis(trifluorometil)fenilo
246.	2,2-dicloroetilo	2,4-bis(trifluorometil)fenilo
247.	2,2,2-tricloroetilo	2,4-bis(trifluorometil)fenilo
248.	2,2,2-tribromoetilo	2,4-bis(trifluorometil)fenilo
249.	3,3,3-trifluoro-n-propilo	2,4-bis(trifluorometil)fenilo
250.	2,2,3,3,3-pentafluoro-n-propilo	2,4-bis(trifluorometil)fenilo
251.	4-cianobenzilo	2,4-bis(trifluorometil)fenilo
252.	(6-cloropiridin-3-il)metilo	2,4-bis(trifluorometil)fenilo
253.	i-Pr	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
254.	2,2-difluoroetilo	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
255.	1,3-difluoro-2-propilo	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
256.	2,2,2-trifluoroetilo	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
257.	2,2,2-tricloroetilo	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
258.	1-metil-2,2,2-trifluoroetilo	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
259.	3,3,3-trifluoro-n-propilo	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
260.	Et	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
261.	Vinilo	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
262.	Propargilo	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
263.	Ciclobutilo	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
264.	Ciclopentilo	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
265.	Benzilo	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
266.	3-cianobenzilo	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
267.	4-cianobenzilo	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
268.	3-clorobenzilo	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
269.	2-metoxietilo	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
270.	2-cianoetilo	2,6-dimetil-4-(nonafluoro-2-butil)fenilo

Tabla 1(10)

Compuesto No.	R_1	Q
271.	2-(metiltio)etilo	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
272.	2-(etiltio)etilo	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
273.	1-metil-2-(metiltio)etilo	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
274.	2-(etilsulfinil)etilo	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
275.	2-(etilsulfonil)etilo	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
276.	2-fluoroetilo	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
277.	1-cloro-3-fluoro-2-propilo	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
278.	2,2,3,3,3-pentafluoro-n-propilo	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
279.	3,3,4,4,4-pentafluoro-2-butilo	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
280.	4,4,4-trifluoro-n-butilo	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
281.	2,2,3,3-tetrafluorociclobutilo	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
282.	2-cloroetilo	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
283.	2,2-dicloroetilo	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
284.	1,3-dicloro-2-propilo	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
285.	3-cloro-n-propilo	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
286.	2-bromoetilo	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
287.	2,2,2-tribromoetilo	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
288.	3-bromo-n-propilo	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
289.	2-yodoetilo	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
290.	Tetrahidrofuran-3-ilo	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
291.	(furan-2-il)metilo	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
292.	(furan-3-il)metilo	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
293.	(tetrahidrofuran-2-il)metilo	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
294.	(tetrahidrofuran-3-il)metilo	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
295.	(tiofen-2-il)metilo	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
296.	(tiofen-3-il)metilo	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
297.	(piridin-2-il)metilo	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
298.	(piridin-3-il)metilo	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
299.	(6-cloropiridin-3-il)metilo	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
300.	2,2,2-tricloroetilo	2,6-dicloro-4-(trifluorometiltio)fenilo

Tabla 1(11)

Compuesto No.	R_1	Q
301.	2,2,2-tricloroetilo	2,6-dicloro-4-(trifluorometilsulfonil)fenilo
302.	Et	2,6-dimetil-4-pentafluoroetilfenilo
303.	i-Pr	2,6-dimetil-4-pentafluoroetilfenilo
304.	Propargilo	2,6-dimetil-4-pentafluoroetilfenilo
305.	ciclobutilo	2,6-dimetil-4-pentafluoroetilfenilo
306.	Ciclopentilo	2,6-dimetil-4-pentafluoroetilfenilo
307.	Benzilo	2,6-dimetil-4-pentafluoroetilfenilo
308.	3-cianobenzilo	2,6-dimetil-4-pentafluoroetilfenilo
309.	4-cianobenzilo	2,6-dimetil-4-pentafluoroetilfenilo
310.	3-clorobenzilo	2,6-dimetil-4-pentafluoroetilfenilo
311.	2-metoxietilo	2,6-dimetil-4-pentafluoroetilfenilo
312.	2-cianoetilo	2,6-dimetil-4-pentafluoroetilfenilo
313.	2-(metilti)etilo	2,6-dimetil-4-pentafluoroetilfenilo
314.	2-(etilti)etilo	2,6-dimetil-4-pentafluoroetilfenilo
315.	1-metil-2-(metilti)etilo	2,6-dimetil-4-pentafluoroetilfenilo
316.	2-(etilsulfinil)etilo	2,6-dimetil-4-pentafluoroetilfenilo
317.	2-(etilsulfonil)etilo	2,6-dimetil-4-pentafluoroetilfenilo
318.	2-fluoroetilo	2,6-dimetil-4-pentafluoroetilfenilo
319.	2,2-difluoroetilo	2,6-dimetil-4-pentafluoroetilfenilo
320.	2,2,2-trifluoroetilo	2,6-dimetil-4-pentafluoroetilfenilo

Tabla 1(12)

Compuesto No.	R_1	Q
321.	1,3-difluoro-2-propilo	2,6-dimetil-4-pentafluoroetilfenilo
322.	1-cloro-3-fluoro-2-propilo	2,6-dimetil-4-pentafluoroetilfenilo
323.	1-metil-2,2,2-trifluoroetilo	2,6-dimetil-4-pentafluoroetilfenilo
324.	3,3,3-trifluoro-n-propilo	2,6-dimetil-4-pentafluoroetilfenilo
325.	2,2,3,3,3-pentafluoro-n-propilo	2,6-dimetil-4-pentafluoroetilfenilo
326.	3,3,4,4,4-pentafluoro-2-butilo	2,6-dimetil-4-pentafluoroetilfenilo
327.	4,4,4-trifluoro-n-butilo	2,6-dimetil-4-pentafluoroetilfenilo
328.	2,2,3,3-tetrafluorociclobutilo	2,6-dimetil-4-pentafluoroetilfenilo
329.	2-cloroetilo	2,6-dimetil-4-pentafluoroetilfenilo
330.	2,2-dicloroetilo	2,6-dimetil-4-pentafluoroetilfenilo
331.	2,2,2-tricloroetilo	2,6-dimetil-4-pentafluoroetilfenilo
332.	1,3-dicloro-2-propilo	2,6-dimetil-4-pentafluoroetilfenilo
333.	3-cloro-n-propilo	2,6-dimetil-4-pentafluoroetilfenilo
334.	2-bromoetilo	2,6-dimetil-4-pentafluoroetilfenilo
335.	2,2,2-tribromoetilo	2,6-dimetil-4-pentafluoroetilfenilo
336.	3-bromo-n-propilo	2,6-dimetil-4-pentafluoroetilfenilo
337.	2-yodoetilo	2,6-dimetil-4-pentafluoroetilfenilo
338.	Tetrahidrofuran-3-ilo	2,6-dimetil-4-pentafluoroetilfenilo
339.	(furan-2-il)metilo	2,6-dimetil-4-pentafluoroetilfenilo
340.	(furan-3-il)metilo	2,6-dimetil-4-pentafluoroetilfenilo

Tabla 1(13)

Compuesto No.	R_1	Q
341.	(tetrahidrofuran-2-il)metilo	2,6-dimetil-4-pentafluoroetilfenilo
342.	(tetrahidrofuran-3-il)metilo	2,6-dimetil-4-pentafluoroetilfenilo
343.	(tiofen-2-il)metilo	2,6-dimetil-4-pentafluoroetilfenilo
344.	(tiofen-3-il)metilo	2,6-dimetil-4-pentafluoroetilfenilo
345.	(piridin-2-il)metilo	2,6-dimetil-4-pentafluoroetilfenilo
346.	(piridin-3-il)metilo	2,6-dimetil-4-pentafluoroetilfenilo
347.	(6-cloropiridin-3-il)metilo	2,6-dimetil-4-pentafluoroetilfenilo
348.	Me	2,6-dimetil-4-(2-bromo-1,1,2,3,3,3-hexafluoro-isopropil)fenilo
349.	Et	2,6-dimetil-4-(2-bromo-1,1,2,3,3,3-hexafluoro-isopropil)fenilo
350.	i-Pr	2,6-dimetil-4-(2-bromo-1,1,2,3,3,3-hexafluoro-isopropil)fenilo
351.	Propargilo	2,6-dimetil-4-(2-bromo-1,1,2,3,3,3-hexafluoro-isopropil)fenilo
352.	ciclobutilo	2,6-dimetil-4-(2-bromo-1,1,2,3,3,3-hexafluoro-isopropil)fenilo
353.	Ciclopentilo	2,6-dimetil-4-(2-bromo-1,1,2,3,3,3-hexafluoro-isopropil)fenilo
354.	3-cianobenzilo	2,6-dimetil-4-(2-bromo-1,1,2,3,3,3-hexafluoro-isopropil)fenilo
355.	4-cianobenzilo	2,6-dimetil-4-(2-bromo-1,1,2,3,3,3-hexafluoro-isopropil)fenilo
356.	3-clorobenzilo	2,6-dimetil-4-(2-bromo-1,1,2,3,3,3-hexafluoro-isopropil)fenilo
357.	2-metoxietilo	2,6-dimetil-4-(2-bromo-1,1,2,3,3,3-hexafluoro-isopropil)fenilo
358.	2-cianoetilo	2,6-dimetil-4-(2-bromo-1,1,2,3,3,3-hexafluoro-isopropil)fenilo
359.	2-(metiltio)etilo	2,6-dimetil-4-(2-bromo-1,1,2,3,3,3-hexafluoro-isopropil)fenilo
360.	2-(etiltio)etilo	2,6-dimetil-4-(2-bromo-1,1,2,3,3,3-hexafluoro-isopropil)fenilo

Tabla 1(14)

Compuesto No.	R_1	Q
361.	1-metil-2-(metiltio)etilo	2,6-dimetil-4-(2-bromo-1,1,2,3,3,3-hexafluoro-isopropil)fenilo
362.	2-(etilsulfinil)etilo	2,6-dimetil-4-(2-bromo-1,1,2,3,3,3-hexafluoro-isopropil)fenilo
363.	2-(etilsulfonil)etilo	2,6-dimetil-4-(2-bromo-1,1,2,3,3,3-hexafluoro-isopropil)fenilo
364.	2-fluoroetilo	2,6-dimetil-4-(2-bromo-1,1,2,3,3,3-hexafluoro-isopropil)fenilo
365.	2,2-difluoroetilo	2,6-dimetil-4-(2-bromo-1,1,2,3,3,3-hexafluoro-isopropil)fenilo
366.	2,2,2-trifluoroetilo	2,6-dimetil-4-(2-bromo-1,1,2,3,3,3-hexafluoro-isopropil)fenilo
367.	1,3-difluoro-2-propilo	2,6-dimetil-4-(2-bromo-1,1,2,3,3,3-hexafluoro-isopropil)fenilo
368.	1-cloro-3-fluoro-2-propilo	2,6-dimetil-4-(2-bromo-1,1,2,3,3,3-hexafluoro-isopropil)fenilo
369.	1-metil-2,2,2-trifluoroetilo	2,6-dimetil-4-(2-bromo-1,1,2,3,3,3-hexafluoro-isopropil)fenilo
370.	3,3,3-trifluoro-n-propilo	2,6-dimetil-4-(2-bromo-1,1,2,3,3,3-hexafluoro-isopropil)fenilo
371.	2,2,3,3,3-pentafluoro-n-propilo	2,6-dimetil-4-(2-bromo-1,1,2,3,3,3-hexafluoro-isopropil)fenilo
372.	3,3,4,4,4-pentafluoro-2-butilo	2,6-dimetil-4-(2-bromo-1,1,2,3,3,3-hexafluoro-isopropil)fenilo
373.	4,4,4-trifluoro-n-butilo	2,6-dimetil-4-(2-bromo-1,1,2,3,3,3-hexafluoro-isopropil)fenilo
374.	2,2,3,3-tetrafluorociclobutilo	2,6-dimetil-4-(2-bromo-1,1,2,3,3,3-hexafluoro-isopropil)fenilo
375.	2-cloroetilo	2,6-dimetil-4-(2-bromo-1,1,2,3,3,3-hexafluoro-isopropil)fenilo
376.	2,2-dicloroetilo	2,6-dimetil-4-(2-bromo-1,1,2,3,3,3-hexafluoro-isopropil)fenilo
377.	2,2,2-tricloroetilo	2,6-dimetil-4-(2-bromo-1,1,2,3,3,3-hexafluoro-isopropil)fenilo
378.	1,3-dicloro-2-propilo	2,6-dimetil-4-(2-bromo-1,1,2,3,3,3-hexafluoro-isopropil)fenilo
379.	3-cloro-n-propilo	2,6-dimetil-4-(2-bromo-1,1,2,3,3,3-hexafluoro-isopropil)fenilo
380.	2-bromoetilo	2,6-dimetil-4-(2-bromo-1,1,2,3,3,3-hexafluoro-isopropil)fenilo

Tabla 1(15)

Compuesto No.	R_1	Q
381.	2,2,2-tribromoetilo	2,6-dimetil-4-(2-bromo-1,1,2,3,3,3-hexafluoro-isopropil)fenilo
382.	3-bromo-n-propilo	2,6-dimetil-4-(2-bromo-1,1,2,3,3,3-hexafluoro-isopropil)fenilo
383.	2-yodoetilo	2,6-dimetil-4-(2-bromo-1,1,2,3,3,3-hexafluoro-isopropil)fenilo
384.	Tetrahidrofuran-3-ilo	2,6-dimetil-4-(2-bromo-1,1,2,3,3,3-hexafluoro-isopropil)fenilo
385.	(furan-2-il)metilo	2,6-dimetil-4-(2-bromo-1,1,2,3,3,3-hexafluoro-isopropil)fenilo
386.	(furan-3-il)metilo	2,6-dimetil-4-(2-bromo-1,1,2,3,3,3-hexafluoro-isopropil)fenilo
387.	(tetrahidrofuran-2-il)metilo	2,6-dimetil-4-(2-bromo-1,1,2,3,3,3-hexafluoro-isopropil)fenilo
388.	(tetrahidrofuran-3-il)metilo	2,6-dimetil-4-(2-bromo-1,1,2,3,3,3-hexafluoro-isopropil)fenilo
389.	(tiofen-2-il)metilo	2,6-dimetil-4-(2-bromo-1,1,2,3,3,3-hexafluoro-isopropil)fenilo
390.	(tiofen-3-il)metilo	2,6-dimetil-4-(2-bromo-1,1,2,3,3,3-hexafluoro-isopropil)fenilo
391.	(piridin-2-il)metilo	2,6-dimetil-4-(2-bromo-1,1,2,3,3,3-hexafluoro-isopropil)fenilo
392.	(piridin-3-il)metilo	2,6-dimetil-4-(2-bromo-1,1,2,3,3,3-hexafluoro-isopropil)fenilo
393.	(6-cloropiridin-3-il)metilo	2,6-dimetil-4-(2-bromo-1,1,2,3,3,3-hexafluoro-isopropil)fenilo
394.	Et	2,6-dicloro-4-(heptafluoro-n-propiltio)fenilo
395.	i-Pr	2,6-dicloro-4-(heptafluoro-n-propiltio)fenilo
396.	Vinilo	2,6-dicloro-4-(heptafluoro-n-propiltio)fenilo
397.	Propargilo	2,6-dicloro-4-(heptafluoro-n-propiltio)fenilo
398.	Ciclobutilo	2,6-dicloro-4-(heptafluoro-n-propiltio)fenilo
399.	Ciclopentilo	2,6-dicloro-4-(heptafluoro-n-propiltio)fenilo
400.	Benzilo	2,6-dicloro-4-(heptafluoro-n-propiltio)fenilo

Tabla 1(16)

Compuesto No.	R_1	Q
401.	3-cianobenzilo	2,6-dicloro-4-(heptafluoro-n-propiltio)fenilo
402.	4-cianobenzilo	2,6-dicloro-4-(heptafluoro-n-propiltio)fenilo
403.	3-clorobenzilo	2,6-dicloro-4-(heptafluoro-n-propiltio)fenilo
404.	2-metoxietilo	2,6-dicloro-4-(heptafluoro-n-propiltio)fenilo
405.	2-cianoetilo	2,6-dicloro-4-(heptafluoro-n-propiltio)fenilo
406.	2-(metiltio)etilo	2,6-dicloro-4-(heptafluoro-n-propiltio)fenilo
407.	2-(etiltio)etilo	2,6-dicloro-4-(heptafluoro-n-propiltio)fenilo
408.	1-metil-2-(metiltio)etilo	2,6-dicloro-4-(heptafluoro-n-propiltio)fenilo
409.	2-(etilsulfinil)etilo	2,6-dicloro-4-(heptafluoro-n-propiltio)fenilo
410.	2-(etilsulfonil)etilo	2,6-dicloro-4-(heptafluoro-n-propiltio)fenilo
411.	2-fluoroetilo	2,6-dicloro-4-(heptafluoro-n-propiltio)fenilo
412.	2,2-difluoroetilo	2,6-dicloro-4-(heptafluoro-n-propiltio)fenilo
413.	2,2,2-trifluoroetilo	2,6-dicloro-4-(heptafluoro-n-propiltio)fenilo
414.	1,3-difluoro-2-propilo	2,6-dicloro-4-(heptafluoro-n-propiltio)fenilo
415.	1-cloro-3-fluoro-2-propilo	2,6-dicloro-4-(heptafluoro-n-propiltio)fenilo
416.	1-metil-2,2,2-trifluoroetilo	2,6-dicloro-4-(heptafluoro-n-propiltio)fenilo
417.	3,3,3-trifluoro-n-propilo	2,6-dicloro-4-(heptafluoro-n-propiltio)fenilo
418.	2,2,3,3,3-pentafluoro-n-propilo	2,6-dicloro-4-(heptafluoro-n-propiltio)fenilo
419.	3,3,4,4,4-pentafluoro-2-butilo	2,6-dicloro-4-(heptafluoro-n-propiltio)fenilo
420.	4,4,4-trifluoro-n-butilo	2,6-dicloro-4-(heptafluoro-n-propiltio)fenilo

Tabla 1(17)

Compuesto No.	R_1	Q
421.	2,2,3,3-tetrafluorociclobutilo	2,6-dicloro-4-(heptafluoro-n-propiltio)fenilo
422.	2-cloroetilo	2,6-dicloro-4-(heptafluoro-n-propiltio)fenilo
423.	2,2-dicloroetilo	2,6-dicloro-4-(heptafluoro-n-propiltio)fenilo
424.	2,2,2-tricloroetilo	2,6-dicloro-4-(heptafluoro-n-propiltio)fenilo
425.	1,3-dicloro-2-propilo	2,6-dicloro-4-(heptafluoro-n-propiltio)fenilo
426.	3-cloro-n-propilo	2,6-dicloro-4-(heptafluoro-n-propiltio)fenilo
427.	2-bromoetilo	2,6-dicloro-4-(heptafluoro-n-propiltio)fenilo
428.	2,2,2-tribromoetilo	2,6-dicloro-4-(heptafluoro-n-propiltio)fenilo
429.	3-bromo-n-propilo	2,6-dicloro-4-(heptafluoro-n-propiltio)fenilo
430.	2-yodoetilo	2,6-dicloro-4-(heptafluoro-n-propiltio)fenilo
431.	Tetrahidrofuran-3-ilo	2,6-dicloro-4-(heptafluoro-n-propiltio)fenilo
432.	(furan-2-il)metilo	2,6-dicloro-4-(heptafluoro-n-propiltio)fenilo
433.	(furan-3-il)metilo	2,6-dicloro-4-(heptafluoro-n-propiltio)fenilo
434.	(tetrahidrofuran-2-il)metilo	2,6-dicloro-4-(heptafluoro-n-propiltio)fenilo
435.	(tetrahidrofuran-3-il)metilo	2,6-dicloro-4-(heptafluoro-n-propiltio)fenilo
436.	(tiofen-2-il)metilo	2,6-dicloro-4-(heptafluoro-n-propiltio)fenilo
437.	(tiofen-3-il)metilo	2,6-dicloro-4-(heptafluoro-n-propiltio)fenilo
438.	(piridin-2-il)metilo	2,6-dicloro-4-(heptafluoro-n-propiltio)fenilo
439.	(piridin-3-il)metilo	2,6-dicloro-4-(heptafluoro-n-propiltio)fenilo
440.	(6-cloropiridin-3-il)metilo	2,6-dicloro-4-(heptafluoro-n-propiltio)fenilo

Tabla 1(18)

Compuesto No.	R_1	Q
441.	Et	2,6-dibromo-4-(trifluorometiltio)fenilo
442.	i-Pr	2,6-dibromo-4-(trifluorometiltio)fenilo
443.	Vinilo	2,6-dibromo-4-(trifluorometiltio)fenilo
444.	Propargilo	2,6-dibromo-4-(trifluorometiltio)fenilo
445.	Ciclobutilo	2,6-dibromo-4-(trifluorometiltio)fenilo
446.	Ciclopentilo	2,6-dibromo-4-(trifluorometiltio)fenilo
447.	Benzilo	2,6-dibromo-4-(trifluorometiltio)fenilo
448.	3-cianobenzilo	2,6-dibromo-4-(trifluorometiltio)fenilo
449.	4-cianobenzilo	2,6-dibromo-4-(trifluorometiltio)fenilo
450.	3-clorobenzilo	2,6-dibromo-4-(trifluorometiltio)fenilo
451.	2-metoxietilo	2,6-dibromo-4-(trifluorometiltio)fenilo
452.	2-cianoetilo	2,6-dibromo-4-(trifluorometiltio)fenilo
453.	2-(metiltio)etilo	2,6-dibromo-4-(trifluorometiltio)fenilo
454.	2-(etiltio)etilo	2,6-dibromo-4-(trifluorometiltio)fenilo
455.	1-metil-2-(metiltio)etilo	2,6-dibromo-4-(trifluorometiltio)fenilo
456.	2-(etilsulfinil)etilo	2,6-dibromo-4-(trifluorometiltio)fenilo
457.	2-(etilsulfonil)etilo	2,6-dibromo-4-(trifluorometiltio)fenilo
458.	2-fluoroetilo	2,6-dibromo-4-(trifluorometiltio)fenilo
459.	2,2-difluoroetilo	2,6-dibromo-4-(trifluorometiltio)fenilo
460.	2,2,2-trifluoroetilo	2,6-dibromo-4-(trifluorometiltio)fenilo

Tabla 1(19)

Compuesto No.	R_1	Q
461.	1,3-difluoro-2-propilo	2,6-dibromo-4-(trifluorometiltio)fenilo
462.	1-cloro-3-fluoro-2-propilo	2,6-dibromo-4-(trifluorometiltio)fenilo
463.	1-metil-2,2,2-trifluoroetilo	2,6-dibromo-4-(trifluorometiltio)fenilo
464.	3,3,3-trifluoro-n-propilo	2,6-dibromo-4-(trifluorometiltio)fenilo
465.	2,2,3,3,3-pentafluoro-n-propilo	2,6-dibromo-4-(trifluorometiltio)fenilo
466.	3,3,4,4,4-pentafluoro-2-butilo	2,6-dibromo-4-(trifluorometiltio)fenilo
467.	4,4,4-trifluoro-n-butilo	2,6-dibromo-4-(trifluorometiltio)fenilo
468.	2,2,3,3-tetrafluorociclobutilo	2,6-dibromo-4-(trifluorometiltio)fenilo
469.	2-cloroetilo	2,6-dibromo-4-(trifluorometiltio)fenilo
470.	2,2-dicloroetilo	2,6-dibromo-4-(trifluorometiltio)fenilo
471.	2,2,2-tricloroetilo	2,6-dibromo-4-(trifluorometiltio)fenilo
472.	1,3-dicloro-2-propilo	2,6-dibromo-4-(trifluorometiltio)fenilo
473.	3-cloro-n-propilo	2,6-dibromo-4-(trifluorometiltio)fenilo
474.	2-bromoetilo	2,6-dibromo-4-(trifluorometiltio)fenilo
475.	2,2,2-tribromoetilo	2,6-dibromo-4-(trifluorometiltio)fenilo
476.	3-bromo-n-propilo	2,6-dibromo-4-(trifluorometiltio)fenilo
477.	2-yodoetilo	2,6-dibromo-4-(trifluorometiltio)fenilo
478.	Tetrahidrofuran-3-ilo	2,6-dibromo-4-(trifluorometiltio)fenilo
479.	(furan-2-il)metilo	2,6-dibromo-4-(trifluorometiltio)fenilo
480.	(furan-3-il)metilo	2,6-dibromo-4-(trifluorometiltio)fenilo

Tabla 1(20)

Compuesto No.	R_1	Q
481.	(tetrahidrofuran-2-il)metilo	2,6-dibromo-4-(trifluorometiltio)fenilo
482.	(tetrahidrofuran-3-il)metilo	2,6-dibromo-4-(trifluorometiltio)fenilo
483.	(tiofen-2-il)metilo	2,6-dibromo-4-(trifluorometiltio)fenilo
484.	(tiofen-3-il)metilo	2,6-dibromo-4-(trifluorometiltio)fenilo
485.	(piridin-2-il)metilo	2,6-dibromo-4-(trifluorometiltio)fenilo
486.	(piridin-3-il)metilo	2,6-dibromo-4-(trifluorometiltio)fenilo
487.	(6-cloropiridin-3-il)metilo	2,6-dibromo-4-(trifluorometiltio)fenilo
488.	Et	2,6-dibromo-4-(trifluorometilsulfonil)fenilo
489.	I-Pr	2,6-dibromo-4-(trifluorometilsulfonil)fenilo
490.	Vinilo	2,6-dibromo-4-(trifluorometilsulfonil)fenilo
491.	Propargilo	2,6-dibromo-4-(trifluorometilsulfonil)fenilo
492.	Ciclobutilo	2,6-dibromo-4-(trifluorometilsulfonil)fenilo
493.	Ciclopentilo	2,6-dibromo-4-(trifluorometilsulfonil)fenilo
494.	Benzilo	2,6-dibromo-4-(trifluorometilsulfonil)fenilo
495.	3-cianobenzilo	2,6-dibromo-4-(trifluorometilsulfonil)fenilo
496.	4-cianobenzilo	2,6-dibromo-4-(trifluorometilsulfonil)fenilo
497.	3-clorobenzilo	2,6-dibromo-4-(trifluorometilsulfonil)fenilo
498.	2-metoxietilo	2,6-dibromo-4-(trifluorometilsulfonil)fenilo
499.	2-cianoetilo	2,6-dibromo-4-(trifluorometilsulfonil)fenilo
500.	2-(metiltio)etilo	2,6-dibromo-4-(trifluorometilsulfonil)fenilo

Tabla 1(21)

Compuesto No.	R_1	Q
501.	2-(etiltio)etilo	2,6-dibromo-4-(trifluorometilsulfonil)fenilo
502.	1-metil-2-(metiltio)etilo	2,6-dibromo-4-(trifluorometilsulfonil)fenilo
503.	2-(etilsulfinil)etilo	2,6-dibromo-4-(trifluorometilsulfonil)fenilo
504.	2-(etilsulfonil)etilo	2,6-dibromo-4-(trifluorometilsulfonil)fenilo
505.	2-fluoroetilo	2,6-dibromo-4-(trifluorometilsulfonil)fenilo
506.	2,2-difluoroetilo	2,6-dibromo-4-(trifluorometilsulfonil)fenilo
507.	2,2,2-trifluoroetilo	2,6-dibromo-4-(trifluorometilsulfonil)fenilo
508.	1,3-difluoro-2-propilo	2,6-dibromo-4-(trifluorometilsulfonil)fenilo
509.	1-cloro-3-fluoro-2-propilo	2,6-dibromo-4-(trifluorometilsulfonil)fenilo
510.	1-metil-2,2,2-trifluoroetilo	2,6-dibromo-4-(trifluorometilsulfonil)fenilo
511.	3,3,3-trifluoro-n-propilo	2,6-dibromo-4-(trifluorometilsulfonil)fenilo
512.	2,2,3,3,3-pentafluoro-n-propilo	2,6-dibromo-4-(trifluorometilsulfonil)fenilo
513.	3,3,4,4,4-pentafluoro-2-butilo	2,6-dibromo-4-(trifluorometilsulfonil)fenilo
514.	4,4,4-trifluoro-n-butilo	2,6-dibromo-4-(trifluorometilsulfonil)fenilo
515.	2,2,3,3-tetrafluorociclobutilo	2,6-dibromo-4-(trifluorometilsulfonil)fenilo
516.	2-cloroetilo	2,6-dibromo-4-(trifluorometilsulfonil)fenilo
517.	2,2-dicloroetilo	2,6-dibromo-4-(trifluorometilsulfonil)fenilo
518.	2,2,2-tricloroetilo	2,6-dibromo-4-(trifluorometilsulfonil)fenilo
519.	1,3-dicloro-2-propilo	2,6-dibromo-4-(trifluorometilsulfonil)fenilo
520.	3-cloro-n-propilo	2,6-dibromo-4-(trifluorometilsulfonil)fenilo

Tabla 1(22)

Compuesto No.	R_1	Q
521.	2-bromoetilo	2,6-dibromo-4-(trifluorometilsulfonil)fenilo
522.	2,2,2-tribromoetilo	2,6-dibromo-4-(trifluorometilsulfonil)fenilo
523.	3-bromo-n-propilo	2,6-dibromo-4-(trifluorometilsulfonil)fenilo
524.	2-yodoetilo	2,6-dibromo-4-(trifluorometilsulfonil)fenilo
525.	Tetrahidrofuran-3-ilo	2,6-dibromo-4-(trifluorometilsulfonil)fenilo
526.	(furan-2-il)metilo	2,6-dibromo-4-(trifluorometilsulfonil)fenilo
527.	(furan-3-il)metilo	2,6-dibromo-4-(trifluorometilsulfonil)fenilo
528.	(tetrahidrofuran-2-il)metilo	2,6-dibromo-4-(trifluorometilsulfonil)fenilo
529.	(tetrahidrofuran-3-il)metilo	2,6-dibromo-4-(trifluorometilsulfonil)fenilo
530.	(tiofen-2-il)metilo	2,6-dibromo-4-(trifluorometilsulfonil)fenilo
531.	(tiofen-3-il)metilo	2,6-dibromo-4-(trifluorometilsulfonil)fenilo
532.	(piridin-2-il)metilo	2,6-dibromo-4-(trifluorometilsulfonil)fenilo
533.	(piridin-3-il)metilo	2,6-dibromo-4-(trifluorometilsulfonil)fenilo
534.	(6-cloropiridin-3-il)metilo	2,6-dibromo-4-(trifluorometilsulfonil)fenilo
535.	Et	2,6-dibromo-4-(pentafluoroetiltio)fenilo
536.	i-Pr	2,6-dibromo-4-(pentafluoroetiltio)fenilo
537.	Vinilo	2,6-dibromo-4-(pentafluoroetiltio)fenilo
538.	Propargilo	2,6-dibromo-4-(pentafluoroetiltio)fenilo
539.	Ciclobutilo	2,6-dibromo-4-(pentafluoroetiltio)fenilo
540.	Ciclopentilo	2,6-dibromo-4-(pentafluoroetiltio)fenilo

Tabla 1(23)

Compuesto No.	R_1	Q
541.	Benzilo	2,6-dibromo-4-(pentafluoroetiltio)fenilo
542.	3-cianobenzilo	2,6-dibromo-4-(pentafluoroetiltio)fenilo
543.	4-cianobenzilo	2,6-dibromo-4-(pentafluoroetiltio)fenilo
544.	3-clorobenzilo	2,6-dibromo-4-(pentafluoroetiltio)fenilo
545.	2-metoxietilo	2,6-dibromo-4-(pentafluoroetiltio)fenilo
546.	2-cianoetilo	2,6-dibromo-4-(pentafluoroetiltio)fenilo
547.	2-(metiltio)etilo	2,6-dibromo-4-(pentafluoroetiltio)fenilo
548.	2-(etiltio)etilo	2,6-dibromo-4-(pentafluoroetiltio)fenilo
549.	1-metil-2-(metiltio)etilo	2,6-dibromo-4-(pentafluoroetiltio)fenilo
550.	2-(etilsulfinil)etilo	2,6-dibromo-4-(pentafluoroetiltio)fenilo
551.	2-(etilsulfonil)etilo	2,6-dibromo-4-(pentafluoroetiltio)fenilo
552.	2-fluoroetilo	2,6-dibromo-4-(pentafluoroetiltio)fenilo
553.	2,2-difluoroetilo	2,6-dibromo-4-(pentafluoroetiltio)fenilo
554.	2,2,2-trifluoroetilo	2,6-dibromo-4-(pentafluoroetiltio)fenilo
555.	1,3-difluoro-2-propilo	2,6-dibromo-4-(pentafluoroetiltio)fenilo
556.	1-cloro-3-fluoro-2-propilo	2,6-dibromo-4-(pentafluoroetiltio)fenilo
557.	1-metil-2,2,2-trifluoroetilo	2,6-dibromo-4-(pentafluoroetiltio)fenilo
558.	3,3,3-trifluoro-n-propilo	2,6-dibromo-4-(pentafluoroetiltio)fenilo
559.	2,2,3,3,3-pentafluoro-n-propilo	2,6-dibromo-4-(pentafluoroetiltio)fenilo
560.	3,3,4,4,4-pentafluoro-2-butilo	2,6-dibromo-4-(pentafluoroetiltio)fenilo

393

Tabla 1(24)

Compuesto No.	R_1	Q
561.	4,4,4-trifluoro-n-butilo	2,6-dibromo-4-(pentafluoroetilitio)fenilo
562.	2,2,3,3-tetrafluorociclobutilo	2,6-dibromo-4-(pentafluoroetilitio)fenilo
563.	2-cloroetilo	2,6-dibromo-4-(pentafluoroetilitio)fenilo
564.	2,2-dicloroetilo	2,6-dibromo-4-(pentafluoroetilitio)fenilo
565.	2,2,2-tricloroetilo	2,6-dibromo-4-(pentafluoroetilitio)fenilo
566.	1,3-dicloro-2-propilo	2,6-dibromo-4-(pentafluoroetilitio)fenilo
567.	3-cloro-n-propilo	2,6-dibromo-4-(pentafluoroetilitio)fenilo
568.	2-bromoetilo	2,6-dibromo-4-(pentafluoroetilitio)fenilo
569.	2,2,2-tribromoetilo	2,6-dibromo-4-(pentafluoroetilitio)fenilo
570.	3-bromo-n-propilo	2,6-dibromo-4-(pentafluoroetilitio)fenilo
571.	2-yodoetilo	2,6-dibromo-4-(pentafluoroetilitio)fenilo
572.	Tetrahidrofuran-3-ilo	2,6-dibromo-4-(pentafluoroetilitio)fenilo
573.	(furan-2-il)metilo	2,6-dibromo-4-(pentafluoroetilitio)fenilo
574.	(furan-3-il)metilo	2,6-dibromo-4-(pentafluoroetilitio)fenilo
575.	(tetrahidrofuran-2-il)metilo	2,6-dibromo-4-(pentafluoroetilitio)fenilo
576.	(tetrahidrofuran-3-il)metilo	2,6-dibromo-4-(pentafluoroetilitio)fenilo
577.	(tiofen-2-il)metilo	2,6-dibromo-4-(pentafluoroetilitio)fenilo
578.	(tiofen-3-il)metilo	2,6-dibromo-4-(pentafluoroetilitio)fenilo
579.	(piridin-2-il)metilo	2,6-dibromo-4-(pentafluoroetilitio)fenilo
580.	(piridin-3-il)metilo	2,6-dibromo-4-(pentafluoroetilitio)fenilo

Tabla 1(25)

Compuesto No.	R_1	Q
581.	(6-cloropiridin-3-il)metilo	2,6-dibromo-4-(pentafluoroetiltio)fenilo
582.	Et	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
583.	i-Pr	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
584.	Vinilo	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
585.	Propargilo	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
586.	Ciclobutilo	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
587.	Ciclopentilo	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
588.	Benzilo	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
589.	3-cianobenzilo	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
590.	4-cianobenzilo	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
591.	3-clorobenzilo	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
592.	2-metoxietilo	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
593.	2-cianoetilo	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
594.	2-(metiltio)etilo	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
595.	2-(etiltio)etilo	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
596.	1-metil-2-(metiltio)etilo	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
597.	2-(etilsulfinil)etilo	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
598.	2-(etilsulfonil)etilo	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
599.	2-fluoroetilo	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
600.	2,2-difluoroetilo	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo

Tabla 1(26)

Compuesto No.	R_1	Q
601.	2,2,2-trifluoroetilo	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
602.	1,3-difluoro-2-propilo	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
603.	1-cloro-3-fluoro-2-propilo	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
604.	1-metil-2,2,2-trifluoroetilo	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
605.	3,3,3-trifluoro-n-propilo	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
606.	2,2,3,3,3-pentafluoro-n-propilo	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
607.	3,3,4,4,4-pentafluoro-2-butilo	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
608.	4,4,4-trifluoro-n-butilo	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
609.	2,2,3,3-tetrafluorociclobutilo	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
610.	2-cloroetilo	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
611.	2,2-dicloroetilo	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
612.	2,2,2-tricloroetilo	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
613.	1,3-dicloro-2-propilo	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
614.	3-cloro-n-propilo	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
615.	2-bromoetilo	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
616.	2,2,2-tribromoetilo	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
617.	3-bromo-n-propilo	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
618.	2-yodoetilo	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
619.	Tetrahidrofuran-3-ilo	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
620.	(furan-2-il)metilo	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo

Tabla 1(27)

Compuesto No.	R_1	Q
621.	(furan-3-il)metilo	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
622.	(tetrahidrofuran-2-il)metilo	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
623.	(tetrahidrofuran-3-il)metilo	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
624.	(tiofen-2-il)metilo	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
625.	(tiofen-3-il)metilo	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
626.	(piridin-2-il)metilo	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
627.	(piridin-3-il)metilo	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
628.	(6-cloropiridin-3-il)metilo	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
629.	Et	2,6-dibromo-4-(heptafluoroisopropiltio)fenilo
630.	*i*-Pr	2,6-dibromo-4-(heptafluoroisopropiltio)fenilo
631.	Vinilo	2,6-dibromo-4-(heptafluoroisopropiltio)fenilo
632.	Propargilo	2,6-dibromo-4-(heptafluoroisopropiltio)fenilo
633.	Ciclobutilo	2,6-dibromo-4-(heptafluoroisopropiltio)fenilo
634.	Ciclopentilo	2,6-dibromo-4-(heptafluoroisopropiltio)fenilo
635.	Benzilo	2,6-dibromo-4-(heptafluoroisopropiltio)fenilo
636.	3-cianobenzilo	2,6-dibromo-4-(heptafluoroisopropiltio)fenilo
637.	4-cianobenzilo	2,6-dibromo-4-(heptafluoroisopropiltio)fenilo
638.	3-clorobenzilo	2,6-dibromo-4-(heptafluoroisopropiltio)fenilo
639.	2-metoxietilo	2,6-dibromo-4-(heptafluoroisopropiltio)fenilo
640.	2-cianoetilo	2,6-dibromo-4-(heptafluoroisopropiltio)fenilo

Tabla 1(28)

Compuesto No.	R_1	Q
641.	2-(metiltio)etilo	2,6-dibromo-4-(heptafluoroisopropiltio)fenilo
642.	2-(etiltio)etilo	2,6-dibromo-4-(heptafluoroisopropiltio)fenilo
643.	1-metil-2-(metiltio)etilo	2,6-dibromo-4-(heptafluoroisopropiltio)fenilo
644.	2-(etilsulfinil)etilo	2,6-dibromo-4-(heptafluoroisopropiltio)fenilo
645.	2-(etilsulfonil)etilo	2,6-dibromo-4-(heptafluoroisopropiltio)fenilo
646.	2-fluoroetilo	2,6-dibromo-4-(heptafluoroisopropiltio)fenilo
647.	2,2-difluoroetilo	2,6-dibromo-4-(heptafluoroisopropiltio)fenilo
648.	2,2,2-trifluoroetilo	2,6-dibromo-4-(heptafluoroisopropiltio)fenilo
649.	1,3-difluoro-2-propilo	2,6-dibromo-4-(heptafluoroisopropiltio)fenilo
650.	1-cloro-3-fluoro-2-propilo	2,6-dibromo-4-(heptafluoroisopropiltio)fenilo
651.	1-metil-2,2,2-trifluoroetilo	2,6-dibromo-4-(heptafluoroisopropiltio)fenilo
652.	3,3,3-trifluoro-n-propilo	2,6-dibromo-4-(heptafluoroisopropiltio)fenilo
653.	2,2,3,3,3-pentafluoro-n-propilo	2,6-dibromo-4-(heptafluoroisopropiltio)fenilo
654.	3,3,4,4,4-pentafluoro-2-butilo	2,6-dibromo-4-(heptafluoroisopropiltio)fenilo
655.	4,4,4-trifluoro-n-butilo	2,6-dibromo-4-(heptafluoroisopropiltio)fenilo
656.	2,2,3,3-tetrafluorociclobutilo	2,6-dibromo-4-(heptafluoroisopropiltio)fenilo
657.	2-cloroetilo	2,6-dibromo-4-(heptafluoroisopropiltio)fenilo
658.	2,2-dicloroetilo	2,6-dibromo-4-(heptafluoroisopropiltio)fenilo
659.	2,2,2-tricloroetilo	2,6-dibromo-4-(heptafluoroisopropiltio)fenilo
660.	1,3-dicloro-2-propilo	2,6-dibromo-4-(heptafluoroisopropiltio)fenilo

Tabla 1(29)

Compuesto No.	R_1	Q
661.	3-cloro-n-propilo	2,6-dibromo-4-(heptafluoroisopropiltio)fenilo
662.	2-bromoetilo	2,6-dibromo-4-(heptafluoroisopropiltio)fenilo
663.	2,2,2-tribromoetilo	2,6-dibromo-4-(heptafluoroisopropiltio)fenilo
664.	3-bromo-n-propilo	2,6-dibromo-4-(heptafluoroisopropiltio)fenilo
665.	2-yodoetilo	2,6-dibromo-4-(heptafluoroisopropiltio)fenilo
666.	Tetrahidrofuran-3-ilo	2,6-dibromo-4-(heptafluoroisopropiltio)fenilo
667.	(furan-2-il)metilo	2,6-dibromo-4-(heptafluoroisopropiltio)fenilo
668.	(furan-3-il)metilo	2,6-dibromo-4-(heptafluoroisopropiltio)fenilo
669.	(tetrahidrofuran-2-il)metilo	2,6-dibromo-4-(heptafluoroisopropiltio)fenilo
670.	(tetrahidrofuran-3-il)metilo	2,6-dibromo-4-(heptafluoroisopropiltio)fenilo
671.	(tiofen-2-il)metilo	2,6-dibromo-4-(heptafluoroisopropiltio)fenilo
672.	(tiofen-3-il)metilo	2,6-dibromo-4-(heptafluoroisopropiltio)fenilo
673.	(piridin-2-il)metilo	2,6-dibromo-4-(heptafluoroisopropiltio)fenilo
674.	(piridin-3-il)metilo	2,6-dibromo-4-(heptafluoroisopropiltio)fenilo
675.	(6-cloropiridin-3-il)metilo	2,6-dibromo-4-(heptafluoroisopropiltio)fenilo
676.	Et	2,6-dibromo-4-(heptafluoro-n-propilsulfinil)fenilo
677.	i-Pr	2,6-dibromo-4-(heptafluoro-n-propilsulfinil)fenilo
678.	Vinilo	2,6-dibromo-4-(heptafluoro-n-propilsulfinil)fenilo
679.	Propargilo	2,6-dibromo-4-(heptafluoro-n-propilsulfinil)fenilo
680.	Ciclobutilo	2,6-dibromo-4-(heptafluoro-n-propilsulfinil)fenilo

Tabla 1(30)

Compuesto No.	R_1	Q
681.	Ciclopentilo	2,6-dibromo-4-(heptafluoro-n-propilsulfinil)fenilo
682.	Benzilo	2,6-dibromo-4-(heptafluoro-n-propilsulfinil)fenilo
683.	3-cianobenzilo	2,6-dibromo-4-(heptafluoro-n-propilsulfinil)fenilo
684.	4-cianobenzilo	2,6-dibromo-4-(heptafluoro-n-propilsulfinil)fenilo
685.	3-clorobenzilo	2,6-dibromo-4-(heptafluoro-n-propilsulfinil)fenilo
686.	2-metoxietilo	2,6-dibromo-4-(heptafluoro-n-propilsulfinil)fenilo
687.	2-cianoetilo	2,6-dibromo-4-(heptafluoro-n-propilsulfinil)fenilo
688.	2-(metiltio)etilo	2,6-dibromo-4-(heptafluoro-n-propilsulfinil)fenilo
689.	2-(etiltio)etilo	2,6-dibromo-4-(heptafluoro-n-propilsulfinil)fenilo
690.	1-metil-2-(metiltio)etilo	2,6-dibromo-4-(heptafluoro-n-propilsulfinil)fenilo
691.	2-(etilsulfinil)etilo	2,6-dibromo-4-(heptafluoro-n-propilsulfinil)fenilo
692.	2-(etilsulfonil)etilo	2,6-dibromo-4-(heptafluoro-n-propilsulfinil)fenilo
693.	2-fluoroetilo	2,6-dibromo-4-(heptafluoro-n-propilsulfinil)fenilo
694.	2,2-difluoroetilo	2,6-dibromo-4-(heptafluoro-n-propilsulfinil)fenilo
695.	2,2,2-trifluoroetilo	2,6-dibromo-4-(heptafluoro-n-propilsulfinil)fenilo
696.	1,3-difluoro-2-propilo	2,6-dibromo-4-(heptafluoro-n-propilsulfinil)fenilo
697.	1-cloro-3-fluoro-2-propilo	2,6-dibromo-4-(heptafluoro-n-propilsulfinil)fenilo
698.	1-metil-2,2,2-trifluoroetilo	2,6-dibromo-4-(heptafluoro-n-propilsulfinil)fenilo
699.	3,3,3-trifluoro-n-propilo	2,6-dibromo-4-(heptafluoro-n-propilsulfinil)fenilo
700.	2,2,3,3,3-pentafluoro-n-propilo	2,6-dibromo-4-(heptafluoro-n-propilsulfinil)fenilo

Tabla 1(31)

Compuesto No.	R_1	Q
701.	3,3,4,4,4-pentafluoro-2-butilo	2,6-dibromo-4-(heptafluoro-n-propilsulfinil)fenilo
702.	4,4,4-trifluoro-n-butilo	2,6-dibromo-4-(heptafluoro-n-propilsulfinil)fenilo
703.	2,2,3,3-tetrafluorociclobutilo	2,6-dibromo-4-(heptafluoro-n-propilsulfinil)fenilo
704.	2-cloroetilo	2,6-dibromo-4-(heptafluoro-n-propilsulfinil)fenilo
705.	2,2-dicloroetilo	2,6-dibromo-4-(heptafluoro-n-propilsulfinil)fenilo
706.	2,2,2-tricloroetilo	2,6-dibromo-4-(heptafluoro-n-propilsulfinil)fenilo
707.	1,3-dicloro-2-propilo	2,6-dibromo-4-(heptafluoro-n-propilsulfinil)fenilo
708.	3-cloro-n-propilo	2,6-dibromo-4-(heptafluoro-n-propilsulfinil)fenilo
709.	2-bromoetilo	2,6-dibromo-4-(heptafluoro-n-propilsulfinil)fenilo
710.	2,2,2-tribromoetilo	2,6-dibromo-4-(heptafluoro-n-propilsulfinil)fenilo
711.	3-bromo-n-propilo	2,6-dibromo-4-(heptafluoro-n-propilsulfinil)fenilo
712.	2-yodoetilo	2,6-dibromo-4-(heptafluoro-n-propilsulfinil)fenilo
713.	Tetrahidrofuran-3-ilo	2,6-dibromo-4-(heptafluoro-n-propilsulfinil)fenilo
714.	(furan-2-il)metilo	2,6-dibromo-4-(heptafluoro-n-propilsulfinil)fenilo
715.	(furan-3-il)metilo	2,6-dibromo-4-(heptafluoro-n-propilsulfinil)fenilo
716.	(tetrahidrofuran-2-il)metilo	2,6-dibromo-4-(heptafluoro-n-propilsulfinil)fenilo
717.	(tetrahidrofuran-3-il)metilo	2,6-dibromo-4-(heptafluoro-n-propilsulfinil)fenilo
718.	(tiofen-2-il)metilo	2,6-dibromo-4-(heptafluoro-n-propilsulfinil)fenilo
719.	(tiofen-3-il)metilo	2,6-dibromo-4-(heptafluoro-n-propilsulfinil)fenilo
720.	(piridin-2-il)metilo	2,6-dibromo-4-(heptafluoro-n-propilsulfinil)fenilo

Tabla 1(32)

Compuesto No.	R_1	Q
721.	(piridin-3-il)metilo	2,6-dibromo-4-(heptafluoro-n-propilsulfinil)fenilo
722.	(6-cloropiridin-3-il)metilo	2,6-dibromo-4-(heptafluoro-n-propilsulfinil)fenilo
723.	Et	2,6-dibromo-4-(heptafluoro-n-propilsulfonil)fenilo
724.	i-Pr	2,6-dibromo-4-(heptafluoro-n-propilsulfonil)fenilo
725.	Vinilo	2,6-dibromo-4-(heptafluoro-n-propilsulfonil)fenilo
726.	Propargilo	2,6-dibromo-4-(heptafluoro-n-propilsulfonil)fenilo
727.	Ciclobutilo	2,6-dibromo-4-(heptafluoro-n-propilsulfonil)fenilo
728.	Ciclopentilo	2,6-dibromo-4-(heptafluoro-n-propilsulfonil)fenilo
729.	Benzilo	2,6-dibromo-4-(heptafluoro-n-propilsulfonil)fenilo
730.	3-cianobenzilo	2,6-dibromo-4-(heptafluoro-n-propilsulfonil)fenilo
731.	4-cianobenzilo	2,6-dibromo-4-(heptafluoro-n-propilsulfonil)fenilo
732.	3-clorobenzilo	2,6-dibromo-4-(heptafluoro-n-propilsulfonil)fenilo
733.	2-metoxietilo	2,6-dibromo-4-(heptafluoro-n-propilsulfonil)fenilo
734.	2-cianoetilo	2,6-dibromo-4-(heptafluoro-n-propilsulfonil)fenilo
735.	2-(metiltio)etilo	2,6-dibromo-4-(heptafluoro-n-propilsulfonil)fenilo
736.	2-(etiltio)etilo	2,6-dibromo-4-(heptafluoro-n-propilsulfonil)fenilo
737.	1-metil-2-(metiltio)etilo	2,6-dibromo-4-(heptafluoro-n-propilsulfonil)fenilo
738.	2-(etilsulfinil)etilo	2,6-dibromo-4-(heptafluoro-n-propilsulfonil)fenilo
739.	2-(etilsulfonil)etilo	2,6-dibromo-4-(heptafluoro-n-propilsulfonil)fenilo
740.	2-fluoroetilo	2,6-dibromo-4-(heptafluoro-n-propilsulfonil)fenilo

Tabla 1(33)

Compuesto No.	R_1	Q
741.	2,2-difluoroetilo	2,6-dibromo-4-(heptafluoro-n-propilsulfonil)fenilo
742.	2,2,2-trifluoroetilo	2,6-dibromo-4-(heptafluoro-n-propilsulfonil)fenilo
743.	1,3-difluoro-2-propilo	2,6-dibromo-4-(heptafluoro-n-propilsulfonil)fenilo
744.	1-cloro-3-fluoro-2-propilo	2,6-dibromo-4-(heptafluoro-n-propilsulfonil)fenilo
745.	1-metil-2,2,2-trifluoroetilo	2,6-dibromo-4-(heptafluoro-n-propilsulfonil)fenilo
746.	3,3,3-trifluoro-n-propilo	2,6-dibromo-4-(heptafluoro-n-propilsulfonil)fenilo
747.	2,2,3,3,3-pentafluoro-n-propilo	2,6-dibromo-4-(heptafluoro-n-propilsulfonil)fenilo
748.	3,3,4,4,4-pentafluoro-2-butilo	2,6-dibromo-4-(heptafluoro-n-propilsulfonil)fenilo
749.	4,4,4-trifluoro-n-butilo	2,6-dibromo-4-(heptafluoro-n-propilsulfonil)fenilo
750.	2,2,3,3-tetrafluorociclobutilo	2,6-dibromo-4-(heptafluoro-n-propilsulfonil)fenilo
751.	2-cloroetilo	2,6-dibromo-4-(heptafluoro-n-propilsulfonil)fenilo
752.	2,2-dicloroetilo	2,6-dibromo-4-(heptafluoro-n-propilsulfonil)fenilo
753.	2,2,2-tricloroetilo	2,6-dibromo-4-(heptafluoro-n-propilsulfonil)fenilo
754.	1,3-dicloro-2-propilo	2,6-dibromo-4-(heptafluoro-n-propilsulfonil)fenilo
755.	3-cloro-n-propilo	2,6-dibromo-4-(heptafluoro-n-propilsulfonil)fenilo
756.	2-bromoetilo	2,6-dibromo-4-(heptafluoro-n-propilsulfonil)fenilo
757.	2,2,2-tribromoetilo	2,6-dibromo-4-(heptafluoro-n-propilsulfonil)fenilo
758.	3-bromo-n-propilo	2,6-dibromo-4-(heptafluoro-n-propilsulfonil)fenilo
759.	2-yodoetilo	2,6-dibromo-4-(heptafluoro-n-propilsulfonil)fenilo
760.	Tetrahidrofuran-3-ilo	2,6-dibromo-4-(heptafluoro-n-propilsulfonil)fenilo

Tabla 1(34)

Compuesto No.	R_1	Q
761.	(furan-2-il)metilo	2,6-dibromo-4-(heptafluoro-n-propilsulfonil)fenilo
762.	(furan-3-il)metilo	2,6-dibromo-4-(heptafluoro-n-propilsulfonil)fenilo
763.	(tetrahidrofuran-2-il)metilo	2,6-dibromo-4-(heptafluoro-n-propilsulfonil)fenilo
764.	(tetrahidrofuran-3-il)metilo	2,6-dibromo-4-(heptafluoro-n-propilsulfonil)fenilo
765.	(tiofen-2-il)metilo	2,6-dibromo-4-(heptafluoro-n-propilsulfonil)fenilo
766.	(tiofen-3-il)metilo	2,6-dibromo-4-(heptafluoro-n-propilsulfonil)fenilo
767.	(piridin-2-il)metilo	2,6-dibromo-4-(heptafluoro-n-propilsulfonil)fenilo
768.	(piridin-3-il)metilo	2,6-dibromo-4-(heptafluoro-n-propilsulfonil)fenilo
769.	(6-cloropiridin-3-il)metilo	2,6-dibromo-4-(heptafluoro-n-propilsulfonil)fenilo
770.	2,2,2-tricloroetilo	2-metil-4-(heptafluoro-n-propiltio)fenilo
771.	Et	2,6-dimetil-4-(heptafluoro-n-propiltio)fenilo
772.	i-Pr	2,6-dimetil-4-(heptafluoro-n-propiltio)fenilo
773.	Propargilo	2,6-dimetil-4-(heptafluoro-n-propiltio)fenilo
774.	Ciclobutilo	2,6-dimetil-4-(heptafluoro-n-propiltio)fenilo
775.	Ciclopentilo	2,6-dimetil-4-(heptafluoro-n-propiltio)fenilo
776.	Benzilo	2,6-dimetil-4-(heptafluoro-n-propiltio)fenilo
777.	3-cianobenzilo	2,6-dimetil-4-(heptafluoro-n-propiltio)fenilo
778.	4-cianobenzilo	2,6-dimetil-4-(heptafluoro-n-propiltio)fenilo
779.	3-clorobenzilo	2,6-dimetil-4-(heptafluoro-n-propiltio)fenilo
780.	2-metoxietilo	2,6-dimetil-4-(heptafluoro-n-propiltio)fenilo

Tabla 1(35)

Compuesto No.	R_1	Q
781.	2-cianoetilo	2,6-dimetil-4-(heptafluoro-n-propiltio)fenilo
782.	2-(metiltio)etilo	2,6-dimetil-4-(heptafluoro-n-propiltio)fenilo
783.	2-(etiltio)etilo	2,6-dimetil-4-(heptafluoro-n-propiltio)fenilo
784.	1-metil-2-(metiltio)etilo	2,6-dimetil-4-(heptafluoro-n-propiltio)fenilo
785.	2-(etilsulfinil)etilo	2,6-dimetil-4-(heptafluoro-n-propiltio)fenilo
786.	2-(etilsulfonil)etilo	2,6-dimetil-4-(heptafluoro-n-propiltio)fenilo
787.	2-fluoroetilo	2,6-dimetil-4-(heptafluoro-n-propiltio)fenilo
788.	2,2-difluoroetilo	2,6-dimetil-4-(heptafluoro-n-propiltio)fenilo
789.	2,2,2-trifluoroetilo	2,6-dimetil-4-(heptafluoro-n-propiltio)fenilo
790.	1,3-difluoro-2-propilo	2,6-dimetil-4-(heptafluoro-n-propiltio)fenilo
791.	1-cloro-3-fluoro-2-propilo	2,6-dimetil-4-(heptafluoro-n-propiltio)fenilo
792.	1-metil-2,2,2-trifluoroetilo	2,6-dimetil-4-(heptafluoro-n-propiltio)fenilo
793.	3,3,3-trifluoro-n-propilo	2,6-dimetil-4-(heptafluoro-n-propiltio)fenilo
794.	2,2,3,3,3-pentafluoro-n-propilo	2,6-dimetil-4-(heptafluoro-n-propiltio)fenilo
795.	3,3,4,4,4-pentafluoro-2-butilo	2,6-dimetil-4-(heptafluoro-n-propiltio)fenilo
796.	4,4,4-trifluoro-n-butilo	2,6-dimetil-4-(heptafluoro-n-propiltio)fenilo
797.	2,2,3,3-tetrafluorociclobutilo	2,6-dimetil-4-(heptafluoro-n-propiltio)fenilo
798.	2-cloroetilo	2,6-dimetil-4-(heptafluoro-n-propiltio)fenilo
799.	2,2-dicloroetilo	2,6-dimetil-4-(heptafluoro-n-propiltio)fenilo
800.	2,2,2-tricloroetilo	2,6-dimetil-4-(heptafluoro-n-propiltio)fenilo

Tabla 1(36)

Compuesto No.	R_1	Q
801.	1,3-dicloro-2-propilo	2,6-dimetil-4-(heptafluoro-n-propiltio)fenilo
802.	3-cloro-n-propilo	2,6-dimetil-4-(heptafluoro-n-propiltio)fenilo
803.	2-bromoetilo	2,6-dimetil-4-(heptafluoro-n-propiltio)fenilo
804.	2,2,2-tribromoetilo	2,6-dimetil-4-(heptafluoro-n-propiltio)fenilo
805.	3-bromo-n-propilo	2,6-dimetil-4-(heptafluoro-n-propiltio)fenilo
806.	2-yodoetilo	2,6-dimetil-4-(heptafluoro-n-propiltio)fenilo
807.	Tetrahidrofuran-3-ilo	2,6-dimetil-4-(heptafluoro-n-propiltio)fenilo
808.	(furan-2-il)metilo	2,6-dimetil-4-(heptafluoro-n-propiltio)fenilo
809.	(furan-3-il)metilo	2,6-dimetil-4-(heptafluoro-n-propiltio)fenilo
810.	(tetrahidrofuran-2-il)metilo	2,6-dimetil-4-(heptafluoro-n-propiltio)fenilo
811.	(tetrahidrofuran-3-il)metilo	2,6-dimetil-4-(heptafluoro-n-propiltio)fenilo
812.	(tiofen-2-il)metilo	2,6-dimetil-4-(heptafluoro-n-propiltio)fenilo
813.	(tiofen-3-il)metilo	2,6-dimetil-4-(heptafluoro-n-propiltio)fenilo
814.	(piridin-2-il)metilo	2,6-dimetil-4-(heptafluoro-n-propiltio)fenilo
815.	(piridin-3-il)metilo	2,6-dimetil-4-(heptafluoro-n-propiltio)fenilo
816.	(6-cloropiridin-3-il)metilo	2,6-dimetil-4-(heptafluoro-n-propiltio)fenilo
817.	3,3,3-trifluoro-n-propilo	2-(n-butil)-6-cloro-4-heptafluoroisopropilfenilo
818.	3,3,3-trifluoro-n-propilo	2-(n-butil)-4-heptafluoroisopropil-6-yodofenilo
819.	3,3,3-trifluoro-n-propilo	2-bromo-6-(2-butil)-4-heptafluoroisopropilfenilo
820.	i-Pr	2-metil-4-trifluorometoxifenilo

Tabla 1(37)

Compuesto No.	R_1	Q
821.	I-Pr	2-trifluorometil-4-isopropilfenilo
822.	I-Pr	3,5-bistrifluorometilfenilo
823.	I-Pr	2,3,4-trifluorofenilo
824.	I-Pr	2-heptafluoroisopropil-3,5-dimetilfenilo
825.	I-Pr	2,4-dicloro-6-metilfenilo
826.	I-Pr	2-cloro-4,6-dimetilfenilo
827.	I-Pr	2,6-dimetil-4-clorofenilo
828.	I-Pr	2,6-dimetil-4-bromofenilo
829.	I-Pr	2,6-dimetil-4-yodofenilo
830.	I-Pr	2,6-dimetil-4-(fenil)fenilo
831.	I-Pr	2,6-dimetil-4-(2-metilfenil)fenilo
832.	I-Pr	2,6-dimetil-4-(3-metilfenil)fenilo
833.	I-Pr	2,6-dimetil-4-(4-metilfenil)fenilo
834.	I-Pr	2,6-dimetil-4-(2-metoxifenil)fenilo
835.	I-Pr	2,6-dimetil-4-(3-metoxifenil)fenilo
836.	I-Pr	2,6-dimetil-4-(4-metoxifenil)fenilo
837.	I-Pr	2,6-dimetil-4-(4-etoxifenil)fenilo
838.	I-Pr	2,6-dimetil-4-(4-metiltiofenil)fenilo
839.	I-Pr	2,6-dimetil-4-(2-fluorofenil)fenilo
840.	I-Pr	2,6-dimetil-4-(3-metilfenil)fenilo

Tabla 1(38)

Compuesto No.	R_1	Q
841.	i-Pr	2,6-dimetil-4-(4-fluorofenil)fenilo
842.	i-Pr	2-bromo-4-isopropil-6-metilfenilo
843.	i-Pr	2-cloro-4-ciano-6-metilfenilo
844.	i-Pr	2-cloro-4-trifluorometoxi-6-metilfenilo
845.	i-Pr	2-cloro-4-isopropil-6-trifluorometilfenilo
846.	i-Pr	Pentafluorofenilo
847.	2,2,2-tricloroetilo	4-ciclohexilfenilo
848.	2,2,2-tricloroetilo	2-trifluorometilfenilo
849.	2,2,2-tricloroetilo	4-(trifluorometiltio)fenilo
850.	2,2,2-tricloroetilo	4-(trifluorometilsulfonil)fenilo
851.	2,2,2-tricloroetilo	4-(heptafluoro-n-propiltio)fenilo
852.	2,2,2-tricloroetilo	4-(heptafluoro-n-propilsulfinil)fenilo
853.	2,2,2-tricloroetilo	4-(heptafluoroisopropiltio)fenilo
854.	2,2,2-tricloroetilo	2-(n-butil)-6-cloro-4-heptafluoroisopropilfenilo
855.	2,2,2-tricloroetilo	2-(n-butil)-4-heptafluoroisopropil-6-yodofenilo
856.	2,2,2-tricloroetilo	2-bromo-6-(2-butil)-4-heptafluoroisopropilfenilo
857.	2,2,2-tricloroetilo	2-(2-butil)-4-heptafluoroisopropilfenilo
858.	2,2,2-tricloroetilo	2-metil-4-trifluorometoxifenilo
859.	2,2,2-tricloroetilo	2-metil-4-(2,2,2-trifluoroetoxi)fenilo
860.	2,2,2-tricloroetilo	2-metil-4-(trifluorometilsulfoniloxi)fenilo

Tabla 1(39)

Compuesto No.	R_1	Q
861.	2,2,2-tricloroetilo	2-metil-4-clorofenilo
862.	2,2,2-tricloroetilo	2-tritrifluorometil-4-isopropilfenilo
863.	2,2,2-tricloroetilo	2,5-bistrifluorometilfenilo
864.	2,2,2-tricloroetilo	3,5-bistrifluorometilfenilo
865.	2,2,2-tricloroetilo	2-tritrifluorometil-4-clorofenilo
866.	2,2,2-tricloroetilo	2-cloro-6-trifluorometilfenilo
867.	2,2,2-tricloroetilo	2-trifluorometil-4-yodofenilo
868.	2,2,2-tricloroetilo	2-trifluorometoxi-4-bromofenilo
869.	2,2,2-tricloroetilo	2,3,4-trifluorofenilo
870.	2,2,2-tricloroetilo	2-heptafluoroisopropil-3,5-dimetilfenilo
871.	2,2,2-tricloroetilo	2,5-dimetil-4-trifluorometano sulfoniloxifenilo
872.	2,2,2-tricloroetilo	2,6-dimetil-4-(bis(trifluorometil) hidroximetil)fenilo
873.	2,2,2-tricloroetilo	2,6-dimetil-4-(bis(clorodifluorometil) hidroximetil)fenilo
874.	2,2,2-tricloroetilo	2,6-dimetil-4-cianotiofenilo
875.	2,2,2-tricloroetilo	2,6-dimetil-4-clorofenilo
876.	2,2,2-tricloroetilo	2-cloro-4,6-dimetilfenilo
877.	2,2,2-tricloroetilo	2,6-dimetil-4-bromofenilo
878.	2,2,2-tricloroetilo	2,6-dimetil-4-yodofenilo
879.	2,2,2-tricloroetilo	2,6-dimetil-4-(fenil)fenilo
880.	2,2,2-tricloroetilo	2,6-dimetil-4-(2-metilfenil)fenilo

Tabla 1(40)

Compuesto No.	R_1	Q
881.	2,2,2-tricloroetilo	2,6-dimetil-4-(3-metilfenil)fenilo
882.	2,2,2-tricloroetilo	2,6-dimetil-4-(4-metilfenil)fenilo
883.	2,2,2-tricloroetilo	2,6-dimetil-4-(2-metoxifenil)fenilo
884.	2,2,2-tricloroetilo	2,6-dimetil-4-(3-metoxifenil)fenilo
885.	2,2,2-tricloroetilo	2,6-dimetil-4-(4-metoxifenil)fenilo
886.	2,2,2-tricloroetilo	2,6-dimetil-4-(4-etoxifenil)fenilo
887.	2,2,2-tricloroetilo	2,6-dimetil-4-(4-metiltiofenil)fenilo
888.	2,2,2-tricloroetilo	2,6-dimetil-4-(2-fluorofenil)fenilo
889.	2,2,2-tricloroetilo	2,6-dimetil-4-(3-fluorofenil)fenilo
890.	2,2,2-tricloroetilo	2,6-dimetil-4-(4-fluorofenil)fenilo
891.	2,2,2-tricloroetilo	2,6-dimetil-4-(3,4-difluorofenil)fenilo
892.	2,2,2-tricloroetilo	2,6-dimetil-4-(3-metil-4-fluorofenil)fenilo
893.	2,2,2-tricloroetilo	2,6-dimetil-4-(furan-3-il)fenilo
894.	2,2,2-tricloroetilo	2,6-dimetil-4-(tiofeno-2-il)fenilo
895.	2,2,2-tricloroetilo	2,6-dimetil-4-(tiofeno-3-il)fenilo
896.	2,2,2-tricloroetilo	2,4-dicloro-6-metilfenilo
897.	2,2,2-tricloroetilo	2,4-dicloro-6-trifluorometilfenilo
898.	2,2,2-tricloroetilo	2,6-dicloro-4-(heptafluoroisopropiltio)fenilo
899.	2,2,2-tricloroetilo	2,6-dicloro-4-(heptafluoroisopropilsulfonil)fenilo
900.	2,2,2-tricloroetilo	2,6-dicloro-4-pentafluorosulfanilfenilo

Tabla 1(41)

Compuesto No.	R_1	Q
901.	2,2,2-tricloroetilo	2,6-dibromo-4-ciclohexilfenilo
902.	2,2,2-tricloroetilo	2,4-dibromo-6-trifluorometilfenilo
903.	2,2,2-tricloroetilo	2,6-dibromo-4-(nonafluoro-n-butilitio)fenilo
904.	2,2,2-tricloroetilo	2-cloro-4-hidroxi-6-metilfenilo
905.	2,2,2-tricloroetilo	2-cloro-4-trifluorometoxi-6-metilfenilo
906.	2,2,2-tricloroetilo	2-cloro-4-((2,2,2-tricloroetoxi)carboniloxi)-6-metilfenilo
907.	2,2,2-tricloroetilo	2-cloro-4-ciano-6-metilfenilo
908.	2,2,2-tricloroetilo	2-cloro-4-yodo-6-metilfenilo
909.	2,2,2-tricloroetilo	2-bromo-4-isopropil-6-metilfenilo
910.	2,2,2-tricloroetilo	2-bromo-4-hidroxi-6-metilfenilo
911.	2,2,2-tricloroetilo	2-cloro-4-isopropil-6-trifluorometilfenilo
912.	2,2,2-tricloroetilo	2-bromo-4-((2,2,2-tricloroetoxi)carboniloxi)-6-metilfenilo
913.	2,2,2-tricloroetilo	2-cloro-4-bromo-6-trifluorometilfenilo
914.	2,2,2-tricloroetilo	2-bromo-4-isopropil-6-trifluorometilfenilo
915.	2,2,2-tricloroetilo	2-bromo-4-cloro-6-trifluorometilfenilo
916.	2,2,2-tricloroetilo	Pentafluorofenilo
917.	2-cloroetilo	2,6-dimetil-4-yodofenilo
918.	3,3,3-trifluoro-n-propilo	2,6-dimetil-4-(1,1,1,3,3,3-hexafluoro-2-hidroxi-2-propil)fenilo
919.	3,3,3-trifluoro-n-propilo	2,6-dicloro-4-pentafluorosulfanilfenilo
920.	i-Pr	2-metil-4-heptafluoroisopropil-1-naftilo

411

Tabla 1(42)

Compuesto No.	R_1	Q
921.	i-Pr	4-heptafluoroisopropil-5,6,7,8-tetrahidro-1-naftilo
922.	i-Pr	2-cloro-4-heptafluoroisopropil-5,6,7,8-tetrahidro-1-naftilo
923.	i-Pr	1-metil-3-trifluorometilpirazol-5-ilo
924.	i-Pr	1-metil-3-trifluorometil-4-cloropirazol-5-ilo
925.	i-Pr	1-metil-3-trifluorometil-4-bromopirazol-5-ilo
926.	i-Pr	1-metil-3-trifluorometil-4-metoxicarbonilpirazol-5-ilo
927.	i-Pr	2-cloro-4-metilpiridin-5-ilo
928.	i-Pr	2-bromo-4-metil-6-cloropiridin-5-ilo
929.	i-Pr	2-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-5-ilo
930.	i-Pr	2-(1,1,1,3,3,3-hexafluoroisopropiloxi)-4-metilpiridin-5-ilo
931.	i-Pr	2-bromo-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
932.	i-Pr	2,4-dimetil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
933.	2,2,2-tricloroetilo	2-metil-4-heptafluoroisopropil-1-naftilo
934.	2,2,2-tricloroetilo	4-heptafluoroisopropil-5,6,7,8-tetrahidro-1-naftilo
935.	2,2,2-tricloroetilo	2-cloro-4-heptafluoroisopropil-5,6,7,8-tetrahidro-1-naftilo
936.	2,2,2-tricloroetilo	1-metil-3-trifluorometilpirazol-5-ilo
937.	2,2,2-tricloroetilo	1-metil-3-trifluorometil-4-cloropirazol-5-ilo
938.	2,2,2-tricloroetilo	1-metil-3-trifluorometil-4-bromopirazol-5-ilo
939.	2,2,2-tricloroetilo	1-metil-3-trifluorometil-4-metoxicarbonilpirazol-5-ilo
940.	2,2,2-tricloroetilo	1-(3-cloropiridina-2-il)-3-bromopirazol-5-ilo

412

Tabla 1(43)

Compuesto No.	R_1	Q
941.	2,2,2-tricloroetilo	1-(3-cloropiridin-2-il)-3-bromo-4-cloropirazol-5-ilo
942.	2,2,2-tricloroetilo	2-heptafluoroisopropil-4-metilpiridin-5-ilo
943.	2,2,2-tricloroetilo	2-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-5-ilo
944.	2,2,2-tricloroetilo	2-(1,1,1,3,3,3-hexafluoroisopropiloxi)-4-metilpiridin-5-ilo
945.	2,2,2-tricloroetilo	2-cloro-4-metilpiridin-5-ilo
946.	2,2,2-tricloroetilo	3-cloro-5-trifluorometilpiridin-2-ilo
947.	2,2,2-tricloroetilo	2-bromo-4-metilo-6-cloropiridin-3-ilo
948.	2,2,2-tricloroetilo	2-bromo-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
949.	2,2,2-tricloroetilo	2,6-dicloro-4-(trifluorometilsulfinil)fenilo
950.	2,2,2-tricloroetilo	2,6-dibromo-4-(trifluorometilsulfinil)fenilo
951.	2,2,2-tricloroetilo	2,6-dicloro-4-(pentafluoroetilsulfinil)fenilo
952.	2,2,2-tricloroetilo	2,6-dibromo-4-(pentafluoroetilsulfinil)fenilo
953.	2,2,2-tricloroetilo	2,6-dicloro-4-(pentafluoroetilsulfonil)fenilo
954.	2,2,2-tricloroetilo	2,6-dibromo-4-(pentafluoroetilsulfonil)fenilo
955.	2,2,2-tricloroetilo	2,6-dicloro-4-(heptafluoro-n-propilsulfinil)fenilo
956.	2,2,2-tricloroetilo	2,6-dibromo-4-(heptafluoro-n-propilsulfinil)fenilo
957.	2,2,2-tricloroetilo	2-cloro-6-metil-4-(nonafluoro-2-butil)fenilo
958.	2,2,2-tricloroetilo	2-bromo-6-metil-4-(nonafluoro-2-butil)fenilo
959.	2,2,2-tricloroetilo	2-yodo-6-metil-4-(nonafluoro-2-butil)fenilo
960.	2,2,2-tricloroetilo	2,6-dicloro-4-(nonafluoro-2-butil)fenilo

413

Tabla 1(44)

Compuesto No.	R_1	Q
961.	2,2,2-tricloroetilo	2,6-dibromo-4-(nonafluoro-2-butil)fenilo
962.	2,2,2-tricloroetilo	2,6-dimetil-4-pentafluoroetilfenilo
963.	2,2,2-tricloroetilo	2,6-dicloro-4-pentafluoroetilfenilo
964.	2,2,2-tricloroetilo	2,6-dimetil-4-(pentafluoroetiltio)fenilo
965.	2,2,2-tricloroetilo	2,6-dimetil-4-(pentafluoroetilsulfinil)fenilo
966.	2,2,2-tricloroetilo	2,6-dimetil-4-(pentafluoroetilsulfonil)fenilo
967.	2,2,2-tricloroetilo	2,6-dicloro-4-(pentafluoroetiltio)fenilo
968.	i-Pr	2-cloro-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
969.	Ciclobutilo	2-cloro-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
970.	Ciclopentilo	2-cloro-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
971.	4-cianobenzilo	2-cloro-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
972.	2-metoxietilo	2-cloro-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
973.	2-cianoetilo	2-cloro-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
974.	2-(metiltio)etilo	2-cloro-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
975.	2-(etiltio)etilo	2-cloro-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
976.	1-metil-2-(metiltio)etilo	2-cloro-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
977.	2-(etilsulfinil)etilo	2-cloro-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
978.	2-(etilsulfonil)etilo	2-cloro-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
979.	2-fluoroetilo	2-cloro-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
980.	2,2-difluoroetilo	2-cloro-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo

Tabla 1(45)

Compuesto No.	R_1	Q
981.	2,2,2-trifluoroetilo	2-cloro-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
982.	1,3-difluoro-2-propilo	2-cloro-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
983.	1-cloro-3-fluoro-2-propilo	2-cloro-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
984.	1-metil-2,2,2-trifluoroetilo	2-cloro-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
985.	3,3,3-trifluoro-n-propilo	2-cloro-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
986.	2,2,3,3,3-pentafluoro-n-propilo	2-cloro-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
987.	3,3,4,4,4-pentafluoro-2-butilo	2-cloro-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
988.	4,4,4-trifluoro-n-butilo	2-cloro-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
989.	2,2,3,3-tetrafluorociclobutilo	2-cloro-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
990.	2-cloroetilo	2-cloro-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
991.	2,2-dicloroetilo	2-cloro-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
992.	2,2,2-tricloroetilo	2-cloro-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
993.	1,3-dicloro-2-propilo	2-cloro-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
994.	3-cloro-n-propilo	2-cloro-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
995.	2-bromoetilo	2-cloro-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
996.	2,2,2-tribromoetilo	2-cloro-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
997.	3-bromo-n-propilo	2-cloro-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
998.	2-yodoetilo	2-cloro-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
999.	Tetrahidrofuran-3-ilo	2-cloro-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1000.	(furan-2-il)metilo	2-cloro-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo

415

Tabla 1(46)

Compuesto No.	R_1	Q
1001.	(furan-3-il)metilo	2-cloro-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1002.	(tetrahidrofuran-2-il)metilo	2-cloro-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1003.	(tetrahidrofuran-3-il)metilo	2-cloro-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1004.	(tiofen-2-il)metilo	2-cloro-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1005.	(tiofen-3-il)metilo	2-cloro-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1006.	(piridin-2-il)metilo	2-cloro-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1007.	(piridin-3-il)metilo	2-cloro-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1008.	(6-cloropiridin-3-il)metilo	2-cloro-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1009.	Et	2-bromo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1010.	i-Pr	2-bromo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1011.	vinilo	2-bromo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1012.	Propargilo	2-bromo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1013.	Ciclobutilo	2-bromo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1014.	Ciclopentilo	2-bromo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1015.	Benzilo	2-bromo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1016.	3-cianobenzilo	2-bromo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1017.	4-cianobenzilo	2-bromo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1018.	3-clorobenzilo	2-bromo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1019.	2-metoxietilo	2-bromo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1020.	2-cianoetilo	2-bromo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo

Tabla 1(47)

Compuesto No.	R_1	Q
1021.	2-(metiltio)etilo	2-bromo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1022.	2-(etiltio)etilo	2-bromo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1023.	1-metil-2-(metiltio)etilo	2-bromo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1024.	2-(etilsulfinil)etilo	2-bromo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1025.	2-(etilsulfonil)etilo	2-bromo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1026.	2-fluoroetilo	2-bromo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1027.	2,2-difluoroetilo	2-bromo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1028.	2,2,2-trifluoroetilo	2-bromo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1029.	1,3-difluoro-2-propilo	2-bromo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1030.	1-cloro-3-fluoro-2-propilo	2-bromo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1031.	1-metil-2,2,2-trifluoroetilo	2-bromo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1032.	3,3,3-trifluoro-n-propilo	2-bromo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1033.	2,2,3,3,3-pentafluoro-n-propilo	2-bromo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1034.	3,3,4,4,4-pentafluoro-2-butilo	2-bromo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1035.	4,4,4-trifluoro-n-butilo	2-bromo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1036.	2,2,3,3-tetrafluorociclobutilo	2-bromo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1037.	2-cloroetilo	2-bromo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1038.	2,2-dicloroetilo	2-bromo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1039.	2,2,2-tricloroetilo	2-bromo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1040.	1,3-dicloro-2-propilo	2-bromo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo

Tabla 1(48)

Compuesto No.	R_1	Q
1041.	3-cloro-n-propilo	2-bromo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1042.	2-bromoetilo	2-bromo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1043.	2,2,2-tribromoetilo	2-bromo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1044.	3-bromo-n-propilo	2-bromo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1045.	2-yodoetilo	2-bromo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1046.	Tetrahidrofuran-3-ilo	2-bromo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1047.	(furan-2-il)metilo	2-bromo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1048.	(furan-3-il)metilo	2-bromo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1049.	(tetrahidrofuran-2-il)metilo	2-bromo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1050.	(tetrahidrofuran-3-il)metilo	2-bromo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1051.	(tiofen-2-il)metilo	2-bromo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1052.	(tiofen-3-il)metilo	2-bromo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1053.	(piridin-2-il)metilo	2-bromo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1054.	(piridin-3-il)metilo	2-bromo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1055.	(6-cloropiridin-3-il)metilo	2-bromo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1056.	Et	2-yodo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1057.	i-Pr	2-yodo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1058.	Vinilo	2-yodo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1059.	Propargilo	2-yodo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1060.	ciclobutilo	2-yodo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo

Tabla 1(49)

Compuesto No.	R_1	Q
1061.	Ciclopentilo	2-yodo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1062.	Benzilo	2-yodo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1063.	3-cianobenzilo	2-yodo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1064.	4-cianobenzilo	2-yodo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1065.	3-clorobenzilo	2-yodo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1066.	2-metoxietilo	2-yodo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1067.	2-cianoetilo	2-yodo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1068.	2-(metiltio)etilo	2-yodo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1069.	2-(etiltio)etilo	2-yodo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1070.	1-metil-2-(metiltio)etilo	2-yodo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1071.	2-(etilsulfinil)etilo	2-yodo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1072.	2-(etilsulfonil)etilo	2-yodo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1073.	2-fluoroetilo	2-yodo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1074.	2,2-difluoroetilo	2-yodo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1075.	2,2,2-trifluoroetilo	2-yodo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1076.	1,3-difluoro-2-propilo	2-yodo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1077.	1-cloro-3-fluoro-2-propilo	2-yodo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1078.	1-metil-2,2,2-trifluoroetilo	2-yodo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1079.	3,3,3-trifluoro-n-propilo	2-yodo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1080.	2,2,3,3,3-pentafluoro-n-propilo	2-yodo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo

Tabla 1(50)

Compuesto No.	R_1	Q
1081.	3,3,4,4,4-pentafluoro-2-butilo	2-yodo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1082.	4,4,4-trifluoro-n-butilo	2-yodo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1083.	2,2,3,3-tetrafluorociclobutilo	2-yodo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1084.	2-cloroetilo	2-yodo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1085.	2,2-dicloroetilo	2-yodo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1086.	2,2,2-tricloroetilo	2-yodo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1087.	1,3-dicloro-2-propilo	2-yodo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1088.	3-cloro-n-propilo	2-yodo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1089.	2-bromoetilo	2-yodo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1090.	2,2,2-tribromoetilo	2-yodo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1091.	3-bromo-n-propilo	2-yodo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1092.	2-yodoetilo	2-yodo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1093.	Tetrahidrofuran-3-ilo	2-yodo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1094.	(furan-2-il)metilo	2-yodo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1095.	(furan-3-il)metilo	2-yodo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1096.	(tetrahidrofuran-2-il)metilo	2-yodo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1097.	(tetrahidrofuran-3-il)metilo	2-yodo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1098.	(tiofen-2-il)metilo	2-yodo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1099.	(tiofen-3-il)metilo	2-yodo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1100.	(piridin-2-il)metilo	2-yodo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo

Tabla 1(51)

Compuesto No.	R_1	Q
1101.	(piridin-3-il)metilo	2-yodo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1102.	(6-cloropiridin-3-il)metilo	2-yodo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1103.	Et	2,4-dimetil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1104.	i-Pr	2,4-dimetil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1105.	Vinilo	2,4-dimetil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1106.	Propargilo	2,4-dimetil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1107.	ciclobutilo	2,4-dimetil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1108.	Ciclopentilo	2,4-dimetil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1109.	Benzilo	2,4-dimetil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1110.	3-cianobenzilo	2,4-dimetil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1111.	4-cianobenzilo	2,4-dimetil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1112.	3-clorobenzilo	2,4-dimetil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1113.	2-metoxietilo	2,4-dimetil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1114.	2-cianoetilo	2,4-dimetil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1115.	2-(metiltio)etilo	2,4-dimetil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1116.	2-(etiltio)etilo	2,4-dimetil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1117.	1-metil-2-(metiltio)etilo	2,4-dimetil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1118.	2-(etilsulfinil)etilo	2,4-dimetil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1119.	2-(etilsulfonil)etilo	2,4-dimetil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1120.	2-fluoroetilo	2,4-dimetil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo

Tabla 1(52)

Compuesto No.	R_1	Q
1121.	2,2-difluoroetilo	2,4-dimetil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1122.	2,2,2-trifluoroetilo	2,4-dimetil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1123.	1,3-difluoro-2-propilo	2,4-dimetil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1124.	1-cloro-3-fluoro-2-propilo	2,4-dimetil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1125.	1-metil-2,2,2-trifluoroetilo	2,4-dimetil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1126.	3,3,3-trifluoro-n-propilo	2,4-dimetil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1127.	2,2,3,3,3-pentafluoro-n-propilo	2,4-dimetil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1128.	3,3,4,4,4-pentafluoro-2-butilo	2,4-dimetil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1129.	4,4,4-trifluoro-n-butilo	2,4-dimetil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1130.	2,2,3,3-tetrafluorociclobutilo	2,4-dimetil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1131.	2-cloroetilo	2,4-dimetil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1132.	2,2-dicloroetilo	2,4-dimetil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1133.	2,2,2-tricloroetilo	2,4-dimetil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1134.	1,3-dicloro-2-propilo	2,4-dimetil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1135.	3-cloro-n-propilo	2,4-dimetil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1136.	2-bromoetilo	2,4-dimetil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1137.	2,2,2-tribromoetilo	2,4-dimetil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1138.	3-bromo-n-propilo	2,4-dimetil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1139.	2-yodoetilo	2,4-dimetil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1140.	Tetrahidrofuran-3-ilo	2,4-dimetil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo

Tabla 1(53)

Compuesto No.	R_1	Q
1141.	(furan-2-il)metilo	2,4-dimetil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1142.	(furan-3-il)metilo	2,4-dimetil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1143.	(tetrahidrofuran-2-il)metilo	2,4-dimetil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1144.	(tetrahidrofuran-3-il)metilo	2,4-dimetil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1145.	(tiofen-2-il)metilo	2,4-dimetil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1146.	(tiofen-3-il)metilo	2,4-dimetil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1147.	(piridin-2-il)metilo	2,4-dimetil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1148.	(piridin-3-il)metilo	2,4-dimetil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1149.	(6-cloropiridin-3-il)metilo	2,4-dimetil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1150.	Et	2-bromo-4-metil-6-(heptafluoroisopropil)piridin-3-ilo
1151.	i-Pr	2-bromo-4-metil-6-(heptafluoroisopropil)piridin-3-ilo
1152.	Vinilo	2-bromo-4-metil-6-(heptafluoroisopropil)piridin-3-ilo
1153.	Propargilo	2-bromo-4-metil-6-(heptafluoroisopropil)piridin-3-ilo
1154.	ciclobutilo	2-bromo-4-metil-6-(heptafluoroisopropil)piridin-3-ilo
1155.	Ciclopentilo	2-bromo-4-metil-6-(heptafluoroisopropil)piridin-3-ilo
1156.	Benzilo	2-bromo-4-metil-6-(heptafluoroisopropil)piridin-3-ilo
1157.	3-cianobenzilo	2-bromo-4-metil-6-(heptafluoroisopropil)piridin-3-ilo
1158.	4-cianobenzilo	2-bromo-4-metil-6-(heptafluoroisopropil)piridin-3-ilo
1159.	3-clorobenzilo	2-bromo-4-metil-6-(heptafluoroisopropil)piridin-3-ilo
1160.	2-metoxietilo	2-bromo-4-metil-6-(heptafluoroisopropil)piridin-3-ilo

Tabla 1(54)

Compuesto No.	R_1	Q
1161.	2-cianoetilo	2-bromo-4-metil-6-(heptafluoroisopropil)piridin-3-ilo
1162.	2-(metiltio)etilo	2-bromo-4-metil-6-(heptafluoroisopropil)piridin-3-ilo
1163.	2-(etiltio)etilo	2-bromo-4-metil-6-(heptafluoroisopropil)piridin-3-ilo
1164.	1-metil-2-(metiltio)etilo	2-bromo-4-metil-6-(heptafluoroisopropil)piridin-3-ilo
1165.	2-(etilsulfinil)etilo	2-bromo-4-metil-6-(heptafluoroisopropil)piridin-3-ilo
1166.	2-(etilsulfonil)etilo	2-bromo-4-metil-6-(heptafluoroisopropil)piridin-3-ilo
1167.	2-fluoroetilo	2-bromo-4-metil-6-(heptafluoroisopropil)piridin-3-ilo
1168.	2,2-difluoroetilo	2-bromo-4-metil-6-(heptafluoroisopropil)piridin-3-ilo
1169.	2,2,2-trifluoroetilo	2-bromo-4-metil-6-(heptafluoroisopropil)piridin-3-ilo
1170.	1,3-difluoro-2-propilo	2-bromo-4-metil-6-(heptafluoroisopropil)piridin-3-ilo
1171.	1-cloro-3-fluoro-2-propilo	2-bromo-4-metil-6-(heptafluoroisopropil)piridin-3-ilo
1172.	1-metil-2,2,2-trifluoroetilo	2-bromo-4-metil-6-(heptafluoroisopropil)piridin-3-ilo
1173.	3,3,3-trifluoro-n-propilo	2-bromo-4-metil-6-(heptafluoroisopropil)piridin-3-ilo
1174.	2,2,3,3,3-pentafluoro-n-propilo	2-bromo-4-metil-6-(heptafluoroisopropil)piridin-3-ilo
1175.	3,3,4,4,4-pentafluoro-2-butilo	2-bromo-4-metil-6-(heptafluoroisopropil)piridin-3-ilo
1176.	4,4,4-trifluoro-n-butilo	2-bromo-4-metil-6-(heptafluoroisopropil)piridin-3-ilo
1177.	2,2,3,3-tetrafluorociclobutilo	2-bromo-4-metil-6-(heptafluoroisopropil)piridin-3-ilo
1178.	2-cloroetilo	2-bromo-4-metil-6-(heptafluoroisopropil)piridin-3-ilo
1179.	2,2-dicloroetilo	2-bromo-4-metil-6-(heptafluoroisopropil)piridin-3-ilo
1180.	2,2,2-tricloroetilo	2-bromo-4-metil-6-(heptafluoroisopropil)piridin-3-ilo

Tabla 1(55)

Compuesto No.	R_1	Q
1181.	1,3-dicloro-2-propilo	2-bromo-4-metil-6-(heptafluoroisopropil)piridin-3-ilo
1182.	3-cloro-n-propilo	2-bromo-4-metil-6-(heptafluoroisopropil)piridin-3-ilo
1183.	2-bromoetilo	2-bromo-4-metil-6-(heptafluoroisopropil)piridin-3-ilo
1184.	2,2,2-tribromoetilo	2-bromo-4-metil-6-(heptafluoroisopropil)piridin-3-ilo
1185.	3-bromo-n-propilo	2-bromo-4-metil-6-(heptafluoroisopropil)piridin-3-ilo
1186.	2-yodoetilo	2-bromo-4-metil-6-(heptafluoroisopropil)piridin-3-ilo
1187.	Tetrahidrofuran-3-ilo	2-bromo-4-metil-6-(heptafluoroisopropil)piridin-3-ilo
1188.	(furan-2-il)metilo	2-bromo-4-metil-6-(heptafluoroisopropil)piridin-3-ilo
1189.	(furan-3-il)metilo	2-bromo-4-metil-6-(heptafluoroisopropil)piridin-3-ilo
1190.	(tetrahidrofuran-2-il)metilo	2-bromo-4-metil-6-(heptafluoroisopropil)piridin-3-ilo
1191.	(tetrahidrofuran-3-il)metilo	2-bromo-4-metil-6-(heptafluoroisopropil)piridin-3-ilo
1192.	(tiofen-2-il)metilo	2-bromo-4-metil-6-(heptafluoroisopropil)piridin-3-ilo
1193.	(tiofen-3-il)metilo	2-bromo-4-metil-6-(heptafluoroisopropil)piridin-3-ilo
1194.	(piridin-2-il)metilo	2-bromo-4-metil-6-(heptafluoroisopropil)piridin-3-ilo
1195.	(piridin-3-il)metilo	2-bromo-4-metil-6-(heptafluoroisopropil)piridin-3-ilo
1196.	(6-cloropiridin-3-il)metilo	2-bromo-4-metil-6-(heptafluoroisopropil)piridin-3-ilo
1197.	Et	2-cloro-6-metil-4-heptafluoroisopropilfenilo
1198.	i-Pr	2-cloro-6-metil-4-heptafluoroisopropilfenilo
1199.	Vinilo	2-cloro-6-metil-4-heptafluoroisopropilfenilo
1200.	Propargilo	2-cloro-6-metil-4-heptafluoroisopropilfenilo

Tabla 1(56)

Compuesto No.	R_1	Q
1201.	ciclobutilo	2-cloro-6-metil-4-heptafluoroisopropilfenilo
1202.	Ciclopentilo	2-cloro-6-metil-4-heptafluoroisopropilfenilo
1203.	Benzilo	2-cloro-6-metil-4-heptafluoroisopropilfenilo
1204.	3-cianobenzilo	2-cloro-6-metil-4-heptafluoroisopropilfenilo
1205.	4-cianobenzilo	2-cloro-6-metil-4-heptafluoroisopropilfenilo
1206.	3-clorobenzilo	2-cloro-6-metil-4-heptafluoroisopropilfenilo
1207.	2-metoxietilo	2-cloro-6-metil-4-heptafluoroisopropilfenilo
1208.	2-cianoetilo	2-cloro-6-metil-4-heptafluoroisopropilfenilo
1209.	2-(metiltio)etilo	2-cloro-6-metil-4-heptafluoroisopropilfenilo
1210.	2-(etiltio)etilo	2-cloro-6-metil-4-heptafluoroisopropilfenilo
1211.	1-metil-2-(metiltio)etilo	2-cloro-6-metil-4-heptafluoroisopropilfenilo
1212.	2-(etilsulfinil)etilo	2-cloro-6-metil-4-heptafluoroisopropilfenilo
1213.	2-(etilsulfonil)etilo	2-cloro-6-metil-4-heptafluoroisopropilfenilo
1214.	2-fluoroetilo	2-cloro-6-metil-4-heptafluoroisopropilfenilo
1215.	2,2-difluoroetilo	2-cloro-6-metil-4-heptafluoroisopropilfenilo
1216.	2,2,2-trifluoroetilo	2-cloro-6-metil-4-heptafluoroisopropilfenilo
1217.	1,3-difluoro-2-propilo	2-cloro-6-metil-4-heptafluoroisopropilfenilo
1218.	1-cloro-3-fluoro-2-propilo	2-cloro-6-metil-4-heptafluoroisopropilfenilo
1219.	1-metil-2,2,2-trifluoroetilo	2-cloro-6-metil-4-heptafluoroisopropilfenilo
1220.	3,3,3-trifluoro-n-propilo	2-cloro-6-metil-4-heptafluoroisopropilfenilo

Tabla 1(57)

Compuesto No.	R_1	Q
1221.	2,2,3,3,3-pentafluoro-n-propilo	2-cloro-6-metil-4-heptafluoroisopropilfenilo
1222.	3,3,4,4,4-pentafluoro-2-butilo	2-cloro-6-metil-4-heptafluoroisopropilfenilo
1223.	4,4,4-trifluoro-n-butilo	2-cloro-6-metil-4-heptafluoroisopropilfenilo
1224.	2,2,3,3-tetrafluorociclobutilo	2-cloro-6-metil-4-heptafluoroisopropilfenilo
1225.	2-cloroetilo	2-cloro-6-metil-4-heptafluoroisopropilfenilo
1226.	2,2-dicloroetilo	2-cloro-6-metil-4-heptafluoroisopropilfenilo
1227.	2,2,2-tricloroetilo	2-cloro-6-metil-4-heptafluoroisopropilfenilo
1228.	1,3-dicloro-2-propilo	2-cloro-6-metil-4-heptafluoroisopropilfenilo
1229.	3-cloro-n-propilo	2-cloro-6-metil-4-heptafluoroisopropilfenilo
1230.	2-bromoetilo	2-cloro-6-metil-4-heptafluoroisopropilfenilo
1231.	2,2,2-tribromoetilo	2-cloro-6-metil-4-heptafluoroisopropilfenilo
1232.	3-bromo-n-propilo	2-cloro-6-metil-4-heptafluoroisopropilfenilo
1233.	2-yodoetilo	2-cloro-6-metil-4-heptafluoroisopropilfenilo
1234.	Tetrahidrofuran-3-ilo	2-cloro-6-metil-4-heptafluoroisopropilfenilo
1235.	(furan-2-il)metilo	2-cloro-6-metil-4-heptafluoroisopropilfenilo
1236.	(furan-3-il)metilo	2-cloro-6-metil-4-heptafluoroisopropilfenilo
1237.	(tetrahidrofuran-2-il)metilo	2-cloro-6-metil-4-heptafluoroisopropilfenilo
1238.	(tetrahidrofuran-3-il)metilo	2-cloro-6-metil-4-heptafluoroisopropilfenilo
1239.	(tiofen-2-il)metilo	2-cloro-6-metil-4-heptafluoroisopropilfenilo
1240.	(tiofen-3-il)metilo	2-cloro-6-metil-4-heptafluoroisopropilfenilo

Tabla 1(58)

Compuesto No.	R_1	Q
1241.	(piridin-2-il)metilo	2-cloro-6-metil-4-heptafluoroisopropilfenilo
1242.	(piridin-3-il)metilo	2-cloro-6-metil-4-heptafluoroisopropilfenilo
1243.	(6-cloropiridin-3-il)metilo	2-cloro-6-metil-4-heptafluoroisopropilfenilo
1244.	Et	2-bromo-6-metil-4-heptafluoroisopropilfenilo
1245.	i-Pr	2-bromo-6-metil-4-heptafluoroisopropilfenilo
1246.	Vinilo	2-bromo-6-metil-4-heptafluoroisopropilfenilo
1247.	Propargilo	2-bromo-6-metil-4-heptafluoroisopropilfenilo
1248.	ciclobutilo	2-bromo-6-metil-4-heptafluoroisopropilfenilo
1249.	Ciclopentilo	2-bromo-6-metil-4-heptafluoroisopropilfenilo
1250.	Benzilo	2-bromo-6-metil-4-heptafluoroisopropilfenilo
1251.	3-cianobenzilo	2-bromo-6-metil-4-heptafluoroisopropilfenilo
1252.	4-cianobenzilo	2-bromo-6-metil-4-heptafluoroisopropilfenilo
1253.	3-clorobenzilo	2-bromo-6-metil-4-heptafluoroisopropilfenilo
1254.	2-metoxietilo	2-bromo-6-metil-4-heptafluoroisopropilfenilo
1255.	2-cianoetilo	2-bromo-6-metil-4-heptafluoroisopropilfenilo
1256.	2-(metiltio)etilo	2-bromo-6-metil-4-heptafluoroisopropilfenilo
1257.	2-(etiltio)etilo	2-bromo-6-metil-4-heptafluoroisopropilfenilo
1258.	1-metil-2-(metiltio)etilo	2-bromo-6-metil-4-heptafluoroisopropilfenilo
1259.	2-(etilsulfinil)etilo	2-bromo-6-metil-4-heptafluoroisopropilfenilo
1260.	2-(etilsulfonil)etilo	2-bromo-6-metil-4-heptafluoroisopropilfenilo

428

Tabla 1(59)

Compuesto No.	R_1	Q
1261.	2-fluoroetilo	2-bromo-6-metil-4-heptafluoroisopropilfenilo
1262.	2,2-difluoroetilo	2-bromo-6-metil-4-heptafluoroisopropilfenilo
1263.	2,2,2-trifluoroetilo	2-bromo-6-metil-4-heptafluoroisopropilfenilo
1264.	1,3-difluoro-2-propilo	2-bromo-6-metil-4-heptafluoroisopropilfenilo
1265.	1-cloro-3-fluoro-2-propilo	2-bromo-6-metil-4-heptafluoroisopropilfenilo
1266.	1-metil-2,2,2-trifluoroetilo	2-bromo-6-metil-4-heptafluoroisopropilfenilo
1267.	3,3,3-trifluoro-n-propilo	2-bromo-6-metil-4-heptafluoroisopropilfenilo
1268.	2,2,3,3,3-pentafluoro-n-propilo	2-bromo-6-metil-4-heptafluoroisopropilfenilo
1269.	3,3,4,4,4-pentafluoro-2-butilo	2-bromo-6-metil-4-heptafluoroisopropilfenilo
1270.	4,4,4-trifluoro-n-butilo	2-bromo-6-metil-4-heptafluoroisopropilfenilo
1271.	2,2,3,3-tetrafluorociclobutilo	2-bromo-6-metil-4-heptafluoroisopropilfenilo
1272.	2-cloroetilo	2-bromo-6-metil-4-heptafluoroisopropilfenilo
1273.	2,2-dicloroetilo	2-bromo-6-metil-4-heptafluoroisopropilfenilo
1274.	2,2,2-tricloroetilo	2-bromo-6-metil-4-heptafluoroisopropilfenilo
1275.	1,3-dicloro-2-propilo	2-bromo-6-metil-4-heptafluoroisopropilfenilo
1276.	3-cloro-n-propilo	2-bromo-6-metil-4-heptafluoroisopropilfenilo
1277.	2-bromoetilo	2-bromo-6-metil-4-heptafluoroisopropilfenilo
1278.	2,2,2-tribromoetilo	2-bromo-6-metil-4-heptafluoroisopropilfenilo
1279.	3-bromo-n-propilo	2-bromo-6-metil-4-heptafluoroisopropilfenilo
1280.	2-yodoetilo	2-bromo-6-metil-4-heptafluoroisopropilfenilo

Tabla 1(60)

Compuesto No.	R_1	Q
1281.	Tetrahidrofuran-3-ilo	2-bromo-6-metil-4-heptafluoroisopropilfenilo
1282.	(furan-2-il)metilo	2-bromo-6-metil-4-heptafluoroisopropilfenilo
1283.	(furan-3-il)metilo	2-bromo-6-metil-4-heptafluoroisopropilfenilo
1284.	(tetrahidrofuran-2-il)metilo	2-bromo-6-metil-4-heptafluoroisopropilfenilo
1285.	(tetrahidrofuran-3-il)metilo	2-bromo-6-metil-4-heptafluoroisopropilfenilo
1286.	(tiofen-2-il)metilo	2-bromo-6-metil-4-heptafluoroisopropilfenilo
1287.	(tiofen-3-il)metilo	2-bromo-6-metil-4-heptafluoroisopropilfenilo
1288.	(piridin-2-il)metilo	2-bromo-6-metil-4-heptafluoroisopropilfenilo
1289.	(piridin-3-il)metilo	2-bromo-6-metil-4-heptafluoroisopropilfenilo
1290.	(6-cloropiridin-3-il)metilo	2-bromo-6-metil-4-heptafluoroisopropilfenilo
1291.	Et	2-yodo-6-metil-4-heptafluoroisopropilfenilo
1292.	i-Pr	2-yodo-6-metil-4-heptafluoroisopropilfenilo
1293.	Vinilo	2-yodo-6-metil-4-heptafluoroisopropilfenilo
1294.	Propargilo	2-yodo-6-metil-4-heptafluoroisopropilfenilo
1295.	ciclobutilo	2-yodo-6-metil-4-heptafluoroisopropilfenilo
1296.	Ciclopentilo	2-yodo-6-metil-4-heptafluoroisopropilfenilo
1297.	Benzilo	2-yodo-6-metil-4-heptafluoroisopropilfenilo
1298.	3-cianobenzilo	2-yodo-6-metil-4-heptafluoroisopropilfenilo
1299.	4-cianobenzilo	2-yodo-6-metil-4-heptafluoroisopropilfenilo
1300.	3-clorobenzilo	2-yodo-6-metil-4-heptafluoroisopropilfenilo

Tabla 1(61)

Compuesto No.	R_1	Q
1301.	2-metoxietilo	2-yodo-6-metil-4-heptafluoroisopropilfenilo
1302.	2-cianoetilo	2-yodo-6-metil-4-heptafluoroisopropilfenilo
1303.	2-(metiltio)etilo	2-yodo-6-metil-4-heptafluoroisopropilfenilo
1304.	2-(etiltio)etilo	2-yodo-6-metil-4-heptafluoroisopropilfenilo
1305.	1-metil-2-(metiltio)etilo	2-yodo-6-metil-4-heptafluoroisopropilfenilo
1306.	2-(etilsulfinil)etilo	2-yodo-6-metil-4-heptafluoroisopropilfenilo
1307.	2-(etilsulfonil)etilo	2-yodo-6-metil-4-heptafluoroisopropilfenilo
1308.	2-fluoroetilo	2-yodo-6-metil-4-heptafluoroisopropilfenilo
1309.	2,2-difluoroetilo	2-yodo-6-metil-4-heptafluoroisopropilfenilo
1310.	2,2,2-trifluoroetilo	2-yodo-6-metil-4-heptafluoroisopropilfenilo
1311.	1,3-difluoro-2-propilo	2-yodo-6-metil-4-heptafluoroisopropilfenilo
1312.	1-cloro-3-fluoro-2-propilo	2-yodo-6-metil-4-heptafluoroisopropilfenilo
1313.	1-metil-2,2,2-trifluoroetilo	2-yodo-6-metil-4-heptafluoroisopropilfenilo
1314.	3,3,3-trifluoro-n-propilo	2-yodo-6-metil-4-heptafluoroisopropilfenilo
1315.	2,2,3,3,3-pentafluoro-n-propilo	2-yodo-6-metil-4-heptafluoroisopropilfenilo
1316.	3,3,4,4,4-pentafluoro-2-butilo	2-yodo-6-metil-4-heptafluoroisopropilfenilo
1317.	4,4,4-trifluoro-n-butilo	2-yodo-6-metil-4-heptafluoroisopropilfenilo
1318.	2,2,3,3-tetrafluorociclobutilo	2-yodo-6-metil-4-heptafluoroisopropilfenilo
1319.	2-cloroetilo	2-yodo-6-metil-4-heptafluoroisopropilfenilo
1320.	2,2-dicloroetilo	2-yodo-6-metil-4-heptafluoroisopropilfenilo

Tabla 1(62)

Compuesto No.	R_1	Q
1321.	2,2,2-tricloroetilo	2-yodo-6-metil-4-heptafluoroisopropilfenilo
1322.	1,3-dicloro-2-propilo	2-yodo-6-metil-4-heptafluoroisopropilfenilo
1323.	3-cloro-n-propilo	2-yodo-6-metil-4-heptafluoroisopropilfenilo
1324.	2-bromoetilo	2-yodo-6-metil-4-heptafluoroisopropilfenilo
1325.	2,2,2-tribromoetilo	2-yodo-6-metil-4-heptafluoroisopropilfenilo
1326.	3-bromo-n-propilo	2-yodo-6-metil-4-heptafluoroisopropilfenilo
1327.	2-yodoetilo	2-yodo-6-metil-4-heptafluoroisopropilfenilo
1328.	Tetrahidrofuran-3-ilo	2-yodo-6-metil-4-heptafluoroisopropilfenilo
1329.	(furan-2-il)metilo	2-yodo-6-metil-4-heptafluoroisopropilfenilo
1330.	(furan-3-il)metilo	2-yodo-6-metil-4-heptafluoroisopropilfenilo
1331.	(tetrahidrofuran-2-il)metilo	2-yodo-6-metil-4-heptafluoroisopropilfenilo
1332.	(tetrahidrofuran-3-il)metilo	2-yodo-6-metil-4-heptafluoroisopropilfenilo
1333.	(tiofen-2-il)metilo	2-yodo-6-metil-4-heptafluoroisopropilfenilo
1334.	(tiofen-3-il)metilo	2-yodo-6-metil-4-heptafluoroisopropilfenilo
1335.	(piridin-2-il)metilo	2-yodo-6-metil-4-heptafluoroisopropilfenilo
1336.	(piridin-3-il)metilo	2-yodo-6-metil-4-heptafluoroisopropilfenilo
1337.	(6-cloropiridin-3-il)metilo	2-yodo-6-metil-4-heptafluoroisopropilfenilo
1338.	Et	2-yodo-6-n-propil-4-heptafluoroisopropilfenilo
1339.	i-Pr	2-yodo-6-n-propil-4-heptafluoroisopropilfenilo
1340.	Vinilo	2-yodo-6-n-propil-4-heptafluoroisopropilfenilo

Tabla 1(63)

Compuesto No.	R_1	Q
1341.	Propargilo	2-yodo-6-n-propil-4-heptafluoroisopropilfenilo
1342.	ciclobutilo	2-yodo-6-n-propil-4-heptafluoroisopropilfenilo
1343.	Ciclopentilo	2-yodo-6-n-propil-4-heptafluoroisopropilfenilo
1344.	Benzilo	2-yodo-6-n-propil-4-heptafluoroisopropilfenilo
1345.	3-cianobenzilo	2-yodo-6-n-propil-4-heptafluoroisopropilfenilo
1346.	4-cianobenzilo	2-yodo-6-n-propil-4-heptafluoroisopropilfenilo
1347.	3-clorobenzilo	2-yodo-6-n-propil-4-heptafluoroisopropilfenilo
1348.	2-metoxietilo	2-yodo-6-n-propil-4-heptafluoroisopropilfenilo
1349.	2-cianoetilo	2-yodo-6-n-propil-4-heptafluoroisopropilfenilo
1350.	2-(metiltio)etilo	2-yodo-6-n-propil-4-heptafluoroisopropilfenilo
1351.	2-(etiltio)etilo	2-yodo-6-n-propil-4-heptafluoroisopropilfenilo
1352.	1-metil-2-(metiltio)etilo	2-yodo-6-n-propil-4-heptafluoroisopropilfenilo
1353.	2-(etilsulfinil)etilo	2-yodo-6-n-propil-4-heptafluoroisopropilfenilo
1354.	2-(etilsulfonil)etilo	2-yodo-6-n-propil-4-heptafluoroisopropilfenilo
1355.	2-fluoroetilo	2-yodo-6-n-propil-4-heptafluoroisopropilfenilo
1356.	2,2-difluoroetilo	2-yodo-6-n-propil-4-heptafluoroisopropilfenilo
1357.	2,2,2-trifluoroetilo	2-yodo-6-n-propil-4-heptafluoroisopropilfenilo
1358.	1,3-difluoro-2-propilo	2-yodo-6-n-propil-4-heptafluoroisopropilfenilo
1359.	1-cloro-3-fluoro-2-propilo	2-yodo-6-n-propil-4-heptafluoroisopropilfenilo
1360.	1-metil-2,2,2-trifluoroetilo	2-yodo-6-n-propil-4-heptafluoroisopropilfenilo

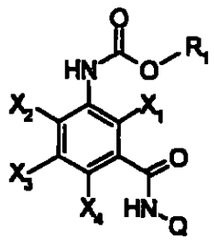
Tabla 1(64)

Compuesto No.	R_1	Q
1361.	3,3,3-trifluoro-n-propilo	2-yodo-6-n-propil-4-heptafluoroisopropilfenilo
1362.	2,2,3,3,3-pentafluoro-n-propilo	2-yodo-6-n-propil-4-heptafluoroisopropilfenilo
1363.	3,3,4,4,4-pentafluoro-2-butilo	2-yodo-6-n-propil-4-heptafluoroisopropilfenilo
1364.	4,4,4-trifluoro-n-butilo	2-yodo-6-n-propil-4-heptafluoroisopropilfenilo
1365.	2,2,3,3-tetrafluorociclobutilo	2-yodo-6-n-propil-4-heptafluoroisopropilfenilo
1366.	2-cloroetilo	2-yodo-6-n-propil-4-heptafluoroisopropilfenilo
1367.	2,2-dicloroetilo	2-yodo-6-n-propil-4-heptafluoroisopropilfenilo
1368.	2,2,2-tricloroetilo	2-yodo-6-n-propil-4-heptafluoroisopropilfenilo
1369.	1,3-dicloro-2-propilo	2-yodo-6-n-propil-4-heptafluoroisopropilfenilo
1370.	3-cloro-n-propilo	2-yodo-6-n-propil-4-heptafluoroisopropilfenilo
1371.	2-bromoetilo	2-yodo-6-n-propil-4-heptafluoroisopropilfenilo
1372.	2,2,2-tribromoetilo	2-yodo-6-n-propil-4-heptafluoroisopropilfenilo
1373.	3-bromo-n-propilo	2-yodo-6-n-propil-4-heptafluoroisopropilfenilo
1374.	2-yodoetilo	2-yodo-6-n-propil-4-heptafluoroisopropilfenilo
1375.	Tetrahidrofuran-3-ilo	2-yodo-6-n-propil-4-heptafluoroisopropilfenilo
1376.	(furan-2-il)metilo	2-yodo-6-n-propil-4-heptafluoroisopropilfenilo
1377.	(furan-3-il)metilo	2-yodo-6-n-propil-4-heptafluoroisopropilfenilo
1378.	(tetrahidrofuran-2-il)metilo	2-yodo-6-n-propil-4-heptafluoroisopropilfenilo
1379.	(tetrahidrofuran-3-il)metilo	2-yodo-6-n-propil-4-heptafluoroisopropilfenilo
1380.	(tiofen-2-il)metilo	2-yodo-6-n-propil-4-heptafluoroisopropilfenilo

Tabla 1(65)

Compuesto No.	R_1	Q
1381.	(tiofen-3-il)metilo	2-yodo-6-n-propil-4-heptafluoroisopropilfenilo
1382.	(piridin-2-il)metilo	2-yodo-6-n-propil-4-heptafluoroisopropilfenilo
1383.	(piridin-3-il)metilo	2-yodo-6-n-propil-4-heptafluoroisopropilfenilo
1384.	(6-cloropiridin-3-il)metilo	2-yodo-6-n-propil-4-heptafluoroisopropilfenilo

Tabla 2(1)



(1-B)

Compuesto No.	X_1	X_2	X_3	X_4	R_1	Q
1385	Me	H	H	H	2,2,2-tricloroetilo	2-metil-4-heptafluoroisopropilfenilo
1386	Me	H	H	H	i-Pr	2,6-dimetil-4-heptafluoroisopropilfenilo
1387	Me	H	H	H	2,2,2-tricloroetilo	2,6-dimetil-4-heptafluoroisopropilfenilo
1388	F	H	H	H	Et	2,6-dimetil-4-heptafluoroisopropilfenilo
1389	F	H	H	H	i-Pr	2,6-dimetil-4-heptafluoroisopropilfenilo
1390	F	H	H	H	Vinilo	2,6-dimetil-4-heptafluoroisopropilfenilo
1391	F	H	H	H	Propargilo	2,6-dimetil-4-heptafluoroisopropilfenilo
1392	F	H	H	H	ciclobutilo	2,6-dimetil-4-heptafluoroisopropilfenilo
1393	F	H	H	H	Ciclopentilo	2,6-dimetil-4-heptafluoroisopropilfenilo
1394	F	H	H	H	Benzilo	2,6-dimetil-4-heptafluoroisopropilfenilo
1395	F	H	H	H	3-cianobenzilo	2,6-dimetil-4-heptafluoroisopropilfenilo
1396	F	H	H	H	4-cianobenzilo	2,6-dimetil-4-heptafluoroisopropilfenilo
1397	F	H	H	H	3-clorobenzilo	2,6-dimetil-4-heptafluoroisopropilfenilo
1398	F	H	H	H	2-metoxietilo	2,6-dimetil-4-heptafluoroisopropilfenilo
1399	F	H	H	H	2-cianoetilo	2,6-dimetil-4-heptafluoroisopropilfenilo
1400	F	H	H	H	2-(metiltio)etilo	2,6-dimetil-4-heptafluoroisopropilfenilo

436

Tabla 2(2)

Compuesto No.	X_1	X_2	X_3	X_4	R_1	Q
1401	F	H	H	H	2-(etiltio)etilo	2,6-dimetil-4-heptafluoroisopropilfenilo
1402	F	H	H	H	1-metil-2-(metiltio)etilo	2,6-dimetil-4-heptafluoroisopropilfenilo
1403	F	H	H	H	2-(etilsulfinil)etilo	2,6-dimetil-4-heptafluoroisopropilfenilo
1404	F	H	H	H	2-(etilsulfonil)etilo	2,6-dimetil-4-heptafluoroisopropilfenilo
1405	F	H	H	H	2-fluoroetilo	2,6-dimetil-4-heptafluoroisopropilfenilo
1406	F	H	H	H	2,2-difluoroetilo	2,6-dimetil-4-heptafluoroisopropilfenilo
1407	F	H	H	H	2,2,2-trifluoroetilo	2,6-dimetil-4-heptafluoroisopropilfenilo
1408	F	H	H	H	1,3-difluoro-2-propilo	2,6-dimetil-4-heptafluoroisopropilfenilo
1409	F	H	H	H	1-cloro-3-fluoro-2-propilo	2,6-dimetil-4-heptafluoroisopropilfenilo
1410	F	H	H	H	1-metil-2,2,2-trifluoroetilo	2,6-dimetil-4-heptafluoroisopropilfenilo
1411	F	H	H	H	3,3,3-trifluoro-n-propilo	2,6-dimetil-4-heptafluoroisopropilfenilo
1412	F	H	H	H	2,2,3,3,3-pentafluoro-n-propilo	2,6-dimetil-4-heptafluoroisopropilfenilo
1413	F	H	H	H	3,3,4,4,4-pentafluoro-2-butilo	2,6-dimetil-4-heptafluoroisopropilfenilo
1414	F	H	H	H	4,4,4-trifluoro-n-butilo	2,6-dimetil-4-heptafluoroisopropilfenilo
1415	F	H	H	H	2,2,3,3-tetrafluorociclobutilo	2,6-dimetil-4-heptafluoroisopropilfenilo
1416	F	H	H	H	2-cloroetilo	2,6-dimetil-4-heptafluoroisopropilfenilo
1417	F	H	H	H	2,2-dicloroetilo	2,6-dimetil-4-heptafluoroisopropilfenilo
1418	F	H	H	H	2,2,2-tricloroetilo	2,6-dimetil-4-heptafluoroisopropilfenilo
1419	F	H	H	H	1,3-dicloro-2-propilo	2,6-dimetil-4-heptafluoroisopropilfenilo
1420	F	H	H	H	3-cloro-n-propilo	2,6-dimetil-4-heptafluoroisopropilfenilo

Tabla 2(3)

Compuesto No.	X_1	X_2	X_3	X_4	R_1	Q
1421	F	H	H	H	2-bromoetilo	2,6-dimetil-4-heptafluoroisopropilfenilo
1422	F	H	H	H	2,2,2-tribromoetilo	2,6-dimetil-4-heptafluoroisopropilfenilo
1423	F	H	H	H	3-bromo-n-propilo	2,6-dimetil-4-heptafluoroisopropilfenilo
1424	F	H	H	H	2-yodoetilo	2,6-dimetil-4-heptafluoroisopropilfenilo
1425	F	H	H	H	Tetrahidrofuran-3-ilo	2,6-dimetil-4-heptafluoroisopropilfenilo
1426	F	H	H	H	(furan-2-il)metilo	2,6-dimetil-4-heptafluoroisopropilfenilo
1427	F	H	H	H	(furan-3-il)metilo	2,6-dimetil-4-heptafluoroisopropilfenilo
1428	F	H	H	H	(tetrahidrofuran-2-il)metilo	2,6-dimetil-4-heptafluoroisopropilfenilo
1429	F	H	H	H	(tetrahidrofuran-3-il)metilo	2,6-dimetil-4-heptafluoroisopropilfenilo
1430	F	H	H	H	(tiofen-2-il)metilo	2,6-dimetil-4-heptafluoroisopropilfenilo
1431	F	H	H	H	(tiofen-3-il)metilo	2,6-dimetil-4-heptafluoroisopropilfenilo
1432	F	H	H	H	(piridin-2-il)metilo	2,6-dimetil-4-heptafluoroisopropilfenilo
1433	F	H	H	H	(piridin-3-il)metilo	2,6-dimetil-4-heptafluoroisopropilfenilo
1434	F	H	H	H	(6-cloropiridin-3-il)metilo	2,6-dimetil-4-heptafluoroisopropilfenilo
1435	F	H	H	H	Et	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
1436	F	H	H	H	i-Pr	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
1437	F	H	H	H	Vinilo	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
1438	F	H	H	H	Propargilo	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
1439	F	H	H	H	ciclobutilo	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
1440	F	H	H	H	Ciclopentilo	2,6-dimetil-4-(nonafluoro-2-butil)fenilo

Tabla 2(4)

Compuesto No.	X_1	X_2	X_3	X_4	R_1	Q
1441	F	H	H	H	Bencilo	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
1442	F	H	H	H	3-cianobencilo	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
1443	F	H	H	H	4-cianobencilo	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
1444	F	H	H	H	3-clorobencilo	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
1445	F	H	H	H	2-metoxietilo	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
1446	F	H	H	H	2-cianoetilo	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
1447	F	H	H	H	2-(metiltio)etilo	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
1448	F	H	H	H	2-(etiltio)etilo	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
1449	F	H	H	H	1-metil-2-(metiltio)etilo	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
1450	F	H	H	H	2-(etilsulfinil)etilo	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
1451	F	H	H	H	2-(etilsulfonil)etilo	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
1452	F	H	H	H	2-fluoroetilo	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
1453	F	H	H	H	2,2-difluoroetilo	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
1454	F	H	H	H	2,2,2-trifluoroetilo	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
1455	F	H	H	H	1,3-difluoro-2-propilo	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
1456	F	H	H	H	1-cloro-3-fluoro-2-propilo	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
1457	F	H	H	H	1-metil-2,2,2-trifluoroetilo	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
1458	F	H	H	H	3,3,3-trifluoro-n-propilo	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
1459	F	H	H	H	2,2,3,3,3-pentafluoro-n-propilo	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
1460	F	H	H	H	3,3,4,4,4-pentafluoro-2-butilo	2,6-dimetil-4-(nonafluoro-2-butil)fenilo

Tabla 2(5)

Compuesto No.	X_1	X_2	X_3	X_4	R_1	Q
1385	Me	H	H	H	2,2,2-tricloroetilo	2-metil-4-heptafluoroisopropilfenilo
1386	Me	H	H	H	i-Pr	2,6-dimetil-4-heptafluoroisopropilfenilo
1387	Me	H	H	H	2,2,2-tricloroetilo	2,6-dimetil-4-heptafluoroisopropilfenilo
1388	F	H	H	H	Et	2,6-dimetil-4-heptafluoroisopropilfenilo
1389	F	H	H	H	i-Pr	2,6-dimetil-4-heptafluoroisopropilfenilo
1390	F	H	H	H	Vinilo	2,6-dimetil-4-heptafluoroisopropilfenilo
1391	F	H	H	H	Propargilo	2,6-dimetil-4-heptafluoroisopropilfenilo
1392	F	H	H	H	ciclobutilo	2,6-dimetil-4-heptafluoroisopropilfenilo
1393	F	H	H	H	Ciclopentilo	2,6-dimetil-4-heptafluoroisopropilfenilo
1394	F	H	H	H	Benzilo	2,6-dimetil-4-heptafluoroisopropilfenilo
1395	F	H	H	H	3-cianobenzilo	2,6-dimetil-4-heptafluoroisopropilfenilo
1396	F	H	H	H	4-cianobenzilo	2,6-dimetil-4-heptafluoroisopropilfenilo
1397	F	H	H	H	3-clorobenzilo	2,6-dimetil-4-heptafluoroisopropilfenilo
1398	F	H	H	H	2-metoxietilo	2,6-dimetil-4-heptafluoroisopropilfenilo
1399	F	H	H	H	2-cianoetilo	2,6-dimetil-4-heptafluoroisopropilfenilo
1400	F	H	H	H	2-(metilti)etilo	2,6-dimetil-4-heptafluoroisopropilfenilo
1401	F	H	H	H	2-(etilti)etilo	2,6-dimetil-4-heptafluoroisopropilfenilo
1402	F	H	H	H	1-metil-2-(metilti)etilo	2,6-dimetil-4-heptafluoroisopropilfenilo
1403	F	H	H	H	2-(etilsulfinil)etilo	2,6-dimetil-4-heptafluoroisopropilfenilo
1404	F	H	H	H	2-(etilsulfonil)etilo	2,6-dimetil-4-heptafluoroisopropilfenilo

Tabla 2(6)

Compuesto No.	X_1	X_2	X_3	X_4	R_1	Q
1481	F	H	H	H	(6-cloropiridin-3-il)metilo	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
1482	F	H	H	H	Et	2,6-dicloro-4-(heptafluoro-n-propiltio)fenilo
1483	F	H	H	H	i-Pr	2,6-dicloro-4-(heptafluoro-n-propiltio)fenilo
1484	F	H	H	H	Vinilo	2,6-dicloro-4-(heptafluoro-n-propiltio)fenilo
1485	F	H	H	H	ciclobutilo	2,6-dicloro-4-(heptafluoro-n-propiltio)fenilo
1486	F	H	H	H	Ciclopentilo	2,6-dicloro-4-(heptafluoro-n-propiltio)fenilo
1487	F	H	H	H	3-cianobenzilo	2,6-dicloro-4-(heptafluoro-n-propiltio)fenilo
1488	F	H	H	H	4-cianobenzilo	2,6-dicloro-4-(heptafluoro-n-propiltio)fenilo
1489	F	H	H	H	2-cianoetilo	2,6-dicloro-4-(heptafluoro-n-propiltio)fenilo
1490	F	H	H	H	2-(metiltio)etilo	2,6-dicloro-4-(heptafluoro-n-propiltio)fenilo
1491	F	H	H	H	2-(etiltio)etilo	2,6-dicloro-4-(heptafluoro-n-propiltio)fenilo
1492	F	H	H	H	1-metil-2-(metiltio)etilo	2,6-dicloro-4-(heptafluoro-n-propiltio)fenilo
1493	F	H	H	H	2-(etilsulfinil)etilo	2,6-dicloro-4-(heptafluoro-n-propiltio)fenilo
1494	F	H	H	H	2-fluoroetilo	2,6-dicloro-4-(heptafluoro-n-propiltio)fenilo
1495	F	H	H	H	2,2-difluoroetilo	2,6-dicloro-4-(heptafluoro-n-propiltio)fenilo
1496	F	H	H	H	2,2,2-trifluoroetilo	2,6-dicloro-4-(heptafluoro-n-propiltio)fenilo
1497	F	H	H	H	1,3-difluoro-2-propilo	2,6-dicloro-4-(heptafluoro-n-propiltio)fenilo
1498	F	H	H	H	1-cloro-3-fluoro-2-propilo	2,6-dicloro-4-(heptafluoro-n-propiltio)fenilo
1499	F	H	H	H	1-metil-2,2,2-trifluoroetilo	2,6-dicloro-4-(heptafluoro-n-propiltio)fenilo
1500	F	H	H	H	3,3,3-trifluoro-n-propilo	2,6-dicloro-4-(heptafluoro-n-propiltio)fenilo

Tabla 2(7)

Compuesto No.	X_1	X_2	X_3	X_4	R_1	Q
1501	F	H	H	H	2,2,3,3,3-pentafluoro-n-propilo	2,6-dicloro-4-(heptafluoro-n-propiltio)fenilo
1502	F	H	H	H	4,4,4-trifluoro-n-butilo	2,6-dicloro-4-(heptafluoro-n-propiltio)fenilo
1503	F	H	H	H	2,2,3,3-tetrafluorociclobutilo	2,6-dicloro-4-(heptafluoro-n-propiltio)fenilo
1504	F	H	H	H	2-cloroetilo	2,6-dicloro-4-(heptafluoro-n-propiltio)fenilo
1505	F	H	H	H	2,2-dicloroetilo	2,6-dicloro-4-(heptafluoro-n-propiltio)fenilo
1506	F	H	H	H	2,2,2-tricloroetilo	2,6-dicloro-4-(heptafluoro-n-propiltio)fenilo
1507	F	H	H	H	1,3-dicloro-2-propilo	2,6-dicloro-4-(heptafluoro-n-propiltio)fenilo
1508	F	H	H	H	3-cloro-n-propilo	2,6-dicloro-4-(heptafluoro-n-propiltio)fenilo
1509	F	H	H	H	2-bromoetilo	2,6-dicloro-4-(heptafluoro-n-propiltio)fenilo
1510	F	H	H	H	3-bromo-n-propilo	2,6-dicloro-4-(heptafluoro-n-propiltio)fenilo
1511	F	H	H	H	2-yodoetilo	2,6-dicloro-4-(heptafluoro-n-propiltio)fenilo
1512	F	H	H	H	(6-cloropiridin-3-il)metilo	2,6-dicloro-4-(heptafluoro-n-propiltio)fenilo
1513	F	H	H	H	Et	2,6-dibromo-4-(trifluorometilsulfonil)fenilo
1514	F	H	H	H	i-Pr	2,6-dibromo-4-(trifluorometilsulfonil)fenilo
1515	F	H	H	H	Vinilo	2,6-dibromo-4-(trifluorometilsulfonil)fenilo
1516	F	H	H	H	ciclobutilo	2,6-dibromo-4-(trifluorometilsulfonil)fenilo
1517	F	H	H	H	Ciclopentilo	2,6-dibromo-4-(trifluorometilsulfonil)fenilo
1518	F	H	H	H	3-cianobenzilo	2,6-dibromo-4-(trifluorometilsulfonil)fenilo
1519	F	H	H	H	4-cianobenzilo	2,6-dibromo-4-(trifluorometilsulfonil)fenilo
1520	F	H	H	H	2-cianoetilo	2,6-dibromo-4-(trifluorometilsulfonil)fenilo

Tabla 2(8)

Compuesto No.	X_1	X_2	X_3	X_4	R_1	Q
1521	F	H	H	H	2-(metiltio)etilo	2,6-dibromo-4-(trifluorometilsulfonil)fenilo
1522	F	H	H	H	2-(etiltio)etilo	2,6-dibromo-4-(trifluorometilsulfonil)fenilo
1523	F	H	H	H	1-metil-2-(metiltio)etilo	2,6-dibromo-4-(trifluorometilsulfonil)fenilo
1524	F	H	H	H	2-(etilsulfinil)etilo	2,6-dibromo-4-(trifluorometilsulfonil)fenilo
1525	F	H	H	H	2-fluoroetilo	2,6-dibromo-4-(trifluorometilsulfonil)fenilo
1526	F	H	H	H	2,2-difluoroetilo	2,6-dibromo-4-(trifluorometilsulfonil)fenilo
1527	F	H	H	H	2,2,2-trifluoroetilo	2,6-dibromo-4-(trifluorometilsulfonil)fenilo
1528	F	H	H	H	1,3-difluoro-2-propilo	2,6-dibromo-4-(trifluorometilsulfonil)fenilo
1529	F	H	H	H	1-cloro-3-fluoro-2-propilo	2,6-dibromo-4-(trifluorometilsulfonil)fenilo
1530	F	H	H	H	1-metilo-2,2,2-trifluoroetilo	2,6-dibromo-4-(trifluorometilsulfonil)fenilo
1531	F	H	H	H	3,3,3-trifluoro-n-propilo	2,6-dibromo-4-(trifluorometilsulfonil)fenilo
1532	F	H	H	H	2,2,3,3,3-pentafluoro-n-propilo	2,6-dibromo-4-(trifluorometilsulfonil)fenilo
1533	F	H	H	H	4,4,4-trifluoro-n-butilo	2,6-dibromo-4-(trifluorometilsulfonil)fenilo
1534	F	H	H	H	2,2,3,3-tetrafluorociclobutilo	2,6-dibromo-4-(trifluorometilsulfonil)fenilo
1535	F	H	H	H	2-cloroetilo	2,6-dibromo-4-(trifluorometilsulfonil)fenilo
1536	F	H	H	H	2,2-dicloroetilo	2,6-dibromo-4-(trifluorometilsulfonil)fenilo
1537	F	H	H	H	2,2,2-tricloroetilo	2,6-dibromo-4-(trifluorometilsulfonil)fenilo
1538	F	H	H	H	1,3-dicloro-2-propilo	2,6-dibromo-4-(trifluorometilsulfonil)fenilo
1539	F	H	H	H	3-cloro-n-propilo	2,6-dibromo-4-(trifluorometilsulfonil)fenilo
1540	F	H	H	H	2-bromoetilo	2,6-dibromo-4-(trifluorometilsulfonil)fenilo

Tabla 2(9)

Compuesto No.	X_1	X_2	X_3	X_4	R_1	Q
1541	F	H	H	H	3-bromo-n-propilo	2,6-dibromo-4-(trifluorometilsulfonil)fenilo
1542	F	H	H	H	2-yodoetilo	2,6-dibromo-4-(trifluorometilsulfonil)fenilo
1543	F	H	H	H	(6-cloropiridin-3-il)metilo	2,6-dibromo-4-(trifluorometilsulfonil)fenilo
1544	F	H	H	H	Et	2,6-dibromo-4-(pentafluoroetiltio)fenilo
1545	F	H	H	H	i-Pr	2,6-dibromo-4-(pentafluoroetiltio)fenilo
1546	F	H	H	H	Vinilo	2,6-dibromo-4-(pentafluoroetiltio)fenilo
1547	F	H	H	H	ciclobutilo	2,6-dibromo-4-(pentafluoroetiltio)fenilo
1548	F	H	H	H	Ciclopentilo	2,6-dibromo-4-(pentafluoroetiltio)fenilo
1549	F	H	H	H	3-cianobenzilo	2,6-dibromo-4-(pentafluoroetiltio)fenilo
1550	F	H	H	H	4-cianobenzilo	2,6-dibromo-4-(pentafluoroetiltio)fenilo
1551	F	H	H	H	2-cianoetilo	2,6-dibromo-4-(pentafluoroetiltio)fenilo
1552	F	H	H	H	2-(metiltio)etilo	2,6-dibromo-4-(pentafluoroetiltio)fenilo
1553	F	H	H	H	2-(etiltio)etilo	2,6-dibromo-4-(pentafluoroetiltio)fenilo
1554	F	H	H	H	1-metil-2-(metiltio)etilo	2,6-dibromo-4-(pentafluoroetiltio)fenilo
1555	F	H	H	H	2-(etilsulfinil)etilo	2,6-dibromo-4-(pentafluoroetiltio)fenilo
1556	F	H	H	H	2-fluoroetilo	2,6-dibromo-4-(pentafluoroetiltio)fenilo
1557	F	H	H	H	2,2-difluoroetilo	2,6-dibromo-4-(pentafluoroetiltio)fenilo
1558	F	H	H	H	2,2,2-trifluoroetilo	2,6-dibromo-4-(pentafluoroetiltio)fenilo
1559	F	H	H	H	1,3-difluoro-2-propilo	2,6-dibromo-4-(pentafluoroetiltio)fenilo
1560	F	H	H	H	1-cloro-3-fluoro-2-propilo	2,6-dibromo-4-(pentafluoroetiltio)fenilo

Tabla 2(10)

Compuesto No.	X_1	X_2	X_3	X_4	R_1	Q
1561	F	H	H	H	1-metil-2,2,2-trifluoroetilo	2,6-dibromo-4-(pentafluoroetiltio)fenilo
1562	F	H	H	H	3,3,3-trifluoro-n-propilo	2,6-dibromo-4-(pentafluoroetiltio)fenilo
1563	F	H	H	H	2,2,3,3,3-pentafluoro-n-propilo	2,6-dibromo-4-(pentafluoroetiltio)fenilo
1564	F	H	H	H	4,4,4-trifluoro-n-butilo	2,6-dibromo-4-(pentafluoroetiltio)fenilo
1565	F	H	H	H	2,2,3,3-tetrafluorociclobutilo	2,6-dibromo-4-(pentafluoroetiltio)fenilo
1566	F	H	H	H	2-cloroetilo	2,6-dibromo-4-(pentafluoroetiltio)fenilo
1567	F	H	H	H	2,2-dicloroetilo	2,6-dibromo-4-(pentafluoroetiltio)fenilo
1568	F	H	H	H	2,2,2-tricloroetilo	2,6-dibromo-4-(pentafluoroetiltio)fenilo
1569	F	H	H	H	1,3-dicloro-2-propilo	2,6-dibromo-4-(pentafluoroetiltio)fenilo
1570	F	H	H	H	3-cloro-n-propilo	2,6-dibromo-4-(pentafluoroetiltio)fenilo
1571	F	H	H	H	2-bromoetilo	2,6-dibromo-4-(pentafluoroetiltio)fenilo
1572	F	H	H	H	3-bromo-n-propilo	2,6-dibromo-4-(pentafluoroetiltio)fenilo
1573	F	H	H	H	2-yodoetilo	2,6-dibromo-4-(pentafluoroetiltio)fenilo
1574	F	H	H	H	(6-cloropiridin-3-il)metilo	2,6-dibromo-4-(pentafluoroetiltio)fenilo
1575	F	H	H	H	Et	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
1576	F	H	H	H	i-Pr	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
1577	F	H	H	H	Vinilo	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
1578	F	H	H	H	ciclobutilo	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
1579	F	H	H	H	Ciclopentilo	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
1580	F	H	H	H	3-cianobenzilo	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo

Tabla 2(11)

Compuesto No.	X_1	X_2	X_3	X_4	R_1	Q
1581	F	H	H	H	4-cianobenzilo	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
1582	F	H	H	H	2-cianoetilo	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
1583	F	H	H	H	2-(metiltio)etilo	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
1584	F	H	H	H	2-(etiltio)etilo	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
1585	F	H	H	H	1-metil-2-(metiltio)etilo	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
1586	F	H	H	H	2-(etilsulfinil)etilo	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
1587	F	H	H	H	2-fluoroetilo	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
1588	F	H	H	H	2,2-difluoroetilo	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
1589	F	H	H	H	2,2,2-trifluoroetilo	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
1590	F	H	H	H	1,3-difluoro-2-propilo	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
1591	F	H	H	H	1-cloro-3-fluoro-2-propilo	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
1592	F	H	H	H	1-metil-2,2,2-trifluoroetilo	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
1593	F	H	H	H	3,3,3-trifluoro-n-propilo	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
1594	F	H	H	H	2,2,3,3,3-pentafluoro-n-propilo	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
1595	F	H	H	H	4,4,4-trifluoro-n-butilo	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
1596	F	H	H	H	2,2,3,3-tetrafluorociclobutilo	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
1597	F	H	H	H	2-cloroetilo	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
1598	F	H	H	H	2,2-dicloroetilo	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
1599	F	H	H	H	2,2,2-tricloroetilo	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
1600	F	H	H	H	1,3-dicloro-2-propilo	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo

Tabla 2(12)

Compuesto No.	X_1	X_2	X_3	X_4	R_1	Q
1601	F	H	H	H	3-cloro-n-propilo	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
1602	F	H	H	H	2-bromoetilo	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
1603	F	H	H	H	3-bromo-n-propilo	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
1604	F	H	H	H	2-yodoetilo	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
1605	F	H	H	H	(6-cloropiridin-3-il)metilo	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
1606	F	H	H	H	Et	2,6-dibromo-4-(heptafluoroisopropiltio)fenilo
1607	F	H	H	H	i-Pr	2,6-dibromo-4-(heptafluoroisopropiltio)fenilo
1608	F	H	H	H	Vinilo	2,6-dibromo-4-(heptafluoroisopropiltio)fenilo
1609	F	H	H	H	ciclobutilo	2,6-dibromo-4-(heptafluoroisopropiltio)fenilo
1610	F	H	H	H	Ciclopentilo	2,6-dibromo-4-(heptafluoroisopropiltio)fenilo
1611	F	H	H	H	3-cianobenzilo	2,6-dibromo-4-(heptafluoroisopropiltio)fenilo
1612	F	H	H	H	4-cianobenzilo	2,6-dibromo-4-(heptafluoroisopropiltio)fenilo
1613	F	H	H	H	2-cianoetilo	2,6-dibromo-4-(heptafluoroisopropiltio)fenilo
1614	F	H	H	H	2-(metiltio)etilo	2,6-dibromo-4-(heptafluoroisopropiltio)fenilo
1615	F	H	H	H	2-(etiltio)etilo	2,6-dibromo-4-(heptafluoroisopropiltio)fenilo
1616	F	H	H	H	1-metil-2-(metiltio)etilo	2,6-dibromo-4-(heptafluoroisopropiltio)fenilo
1617	F	H	H	H	2-(etilsulfinil)etilo	2,6-dibromo-4-(heptafluoroisopropiltio)fenilo
1618	F	H	H	H	2-fluoroetilo	2,6-dibromo-4-(heptafluoroisopropiltio)fenilo
1619	F	H	H	H	2,2-difluoroetilo	2,6-dibromo-4-(heptafluoroisopropiltio)fenilo
1620	F	H	H	H	2,2,2-trifluoroetilo	2,6-dibromo-4-(heptafluoroisopropiltio)fenilo

Tabla 2(13)

Compuesto No.	X_1	X_2	X_3	X_4	R_1	Q
1621	F	H	H	H	1,3-difluoro-2-propilo	2,6-dibromo-4-(heptafluoroisopropiltio)fenilo
1622	F	H	H	H	1-cloro-3-fluoro-2-propilo	2,6-dibromo-4-(heptafluoroisopropiltio)fenilo
1623	F	H	H	H	1-metil-2,2,2-trifluoroetilo	2,6-dibromo-4-(heptafluoroisopropiltio)fenilo
1624	F	H	H	H	3,3,3-trifluoro-n-propilo	2,6-dibromo-4-(heptafluoroisopropiltio)fenilo
1625	F	H	H	H	2,2,3,3,3-pentafluoro-n-propilo	2,6-dibromo-4-(heptafluoroisopropiltio)fenilo
1626	F	H	H	H	4,4,4-trifluoro-n-butilo	2,6-dibromo-4-(heptafluoroisopropiltio)fenilo
1627	F	H	H	H	2,2,3,3-tetrafluorociclobutilo	2,6-dibromo-4-(heptafluoroisopropiltio)fenilo
1628	F	H	H	H	2-cloroetilo	2,6-dibromo-4-(heptafluoroisopropiltio)fenilo
1629	F	H	H	H	2,2-dicloroetilo	2,6-dibromo-4-(heptafluoroisopropiltio)fenilo
1630	F	H	H	H	2,2,2-tricloroetilo	2,6-dibromo-4-(heptafluoroisopropiltio)fenilo
1631	F	H	H	H	1,3-dicloro-2-propilo	2,6-dibromo-4-(heptafluoroisopropiltio)fenilo
1632	F	H	H	H	3-cloro-n-propilo	2,6-dibromo-4-(heptafluoroisopropiltio)fenilo
1633	F	H	H	H	2-bromoetilo	2,6-dibromo-4-(heptafluoroisopropiltio)fenilo
1634	F	H	H	H	3-bromo-n-propilo	2,6-dibromo-4-(heptafluoroisopropiltio)fenilo
1635	F	H	H	H	2-yodoetilo	2,6-dibromo-4-(heptafluoroisopropiltio)fenilo
1636	F	H	H	H	(6-cloropiridin-3-il)metilo	2,6-dibromo-4-(heptafluoroisopropiltio)fenilo
1637	F	H	H	H	Et	2,6-dimetil-4-(heptafluoro-n-propiltio)fenilo
1638	F	H	H	H	I-Pr	2,6-dimetil-4-(heptafluoro-n-propiltio)fenilo
1639	F	H	H	H	Vinilo	2,6-dimetil-4-(heptafluoro-n-propiltio)fenilo
1640	F	H	H	H	ciclobutilo	2,6-dimetil-4-(heptafluoro-n-propiltio)fenilo

448

Tabla 2(14)

Compuesto No.	X_1	X_2	X_3	X_4	R_1	Q
1641	F	H	H	H	Ciclopentilo	2,6-dimetil-4-(heptafluoro-n-propiltio)fenilo
1642	F	H	H	H	3-cianobenzilo	2,6-dimetil-4-(heptafluoro-n-propiltio)fenilo
1643	F	H	H	H	4-cianobenzilo	2,6-dimetil-4-(heptafluoro-n-propiltio)fenilo
1644	F	H	H	H	2-cianoetilo	2,6-dimetil-4-(heptafluoro-n-propiltio)fenilo
1645	F	H	H	H	2-(metiltio)etilo	2,6-dimetil-4-(heptafluoro-n-propiltio)fenilo
1646	F	H	H	H	2-(etiltio)etilo	2,6-dimetil-4-(heptafluoro-n-propiltio)fenilo
1647	F	H	H	H	1-metil-2-(metiltio)etilo	2,6-dimetil-4-(heptafluoro-n-propiltio)fenilo
1648	F	H	H	H	2-(etilsulfinil)etilo	2,6-dimetil-4-(heptafluoro-n-propiltio)fenilo
1649	F	H	H	H	2-fluoroetilo	2,6-dimetil-4-(heptafluoro-n-propiltio)fenilo
1650	F	H	H	H	2,2-difluoroetilo	2,6-dimetil-4-(heptafluoro-n-propiltio)fenilo
1651	F	H	H	H	2,2,2-trifluoroetilo	2,6-dimetil-4-(heptafluoro-n-propiltio)fenilo
1652	F	H	H	H	1,3-difluoro-2-propilo	2,6-dimetil-4-(heptafluoro-n-propiltio)fenilo
1653	F	H	H	H	1-cloro-3-fluoro-2-propilo	2,6-dimetil-4-(heptafluoro-n-propiltio)fenilo
1654	F	H	H	H	1-metil-2,2,2-trifluoroetilo	2,6-dimetil-4-(heptafluoro-n-propiltio)fenilo
1655	F	H	H	H	3,3,3-trifluoro-n-propilo	2,6-dimetil-4-(heptafluoro-n-propiltio)fenilo
1656	F	H	H	H	2,2,3,3,3-pentafluoro-n-propilo	2,6-dimetil-4-(heptafluoro-n-propiltio)fenilo
1657	F	H	H	H	4,4,4-trifluoro-n-butilo	2,6-dimetil-4-(heptafluoro-n-propiltio)fenilo
1658	F	H	H	H	2,2,3,3-tetrafluorociclobutilo	2,6-dimetil-4-(heptafluoro-n-propiltio)fenilo
1659	F	H	H	H	2-cloroetilo	2,6-dimetil-4-(heptafluoro-n-propiltio)fenilo
1660	F	H	H	H	2,2-dicloroetilo	2,6-dimetil-4-(heptafluoro-n-propiltio)fenilo

Tabla 2(15)

Compuesto No.	X_1	X_2	X_3	X_4	R_1	Q
1661	F	H	H	H	2,2,2-tricloroetilo	2,6-dimetil-4-(heptafluoro-n-propiltio)fenilo
1662	F	H	H	H	1,3-dicloro-2-propilo	2,6-dimetil-4-(heptafluoro-n-propiltio)fenilo
1663	F	H	H	H	3-cloro-n-propilo	2,6-dimetil-4-(heptafluoro-n-propiltio)fenilo
1664	F	H	H	H	2-bromoetilo	2,6-dimetil-4-(heptafluoro-n-propiltio)fenilo
1665	F	H	H	H	3-bromo-n-propilo	2,6-dimetil-4-(heptafluoro-n-propiltio)fenilo
1666	F	H	H	H	2-yodoetilo	2,6-dimetil-4-(heptafluoro-n-propiltio)fenilo
1667	F	H	H	H	(6-cloropiridin-3-il)metilo	2,6-dimetil-4-(heptafluoro-n-propiltio)fenilo
1668	F	H	H	H	2,2,2-tricloroetilo	2,6-dicloro-4-(trifluorometilsulfinil)fenilo
1669	F	H	H	H	2,2,2-tricloroetilo	2,6-dibromo-4-(trifluorometilsulfinil)fenilo
1670	F	H	H	H	2,2,2-tricloroetilo	2,6-dicloro-4-(pentafluoroetilsulfinil)fenilo
1671	F	H	H	H	2,2,2-tricloroetilo	2,6-dibromo-4-(pentafluoroetilsulfinil)fenilo
1672	F	H	H	H	2,2,2-tricloroetilo	2,6-dicloro-4-(pentafluoroetilsulfonil)fenilo
1673	F	H	H	H	2,2,2-tricloroetilo	2,6-dibromo-4-(pentafluoroetilsulfonil)fenilo
1674	F	H	H	H	2,2,2-tricloroetilo	2,6-dicloro-4-(heptafluoro-n-propilsulfinil)fenilo
1675	F	H	H	H	2,2,2-tricloroetilo	2,6-dibromo-4-(heptafluoro-n-propilsulfinil)fenilo
1676	F	H	H	H	2,2,2-tricloroetilo	2-cloro-6-metilo-4-(nonafluoro-2-butil)fenilo
1677	F	H	H	H	2,2,2-tricloroetilo	2-bromo-6-metilo-4-(nonafluoro-2-butil)fenilo
1678	F	H	H	H	2,2,2-tricloroetilo	2-yodo-6-metilo-4-(nonafluoro-2-butil)fenilo
1679	F	H	H	H	2,2,2-tricloroetilo	2,6-dicloro-4-(nonafluoro-2-butil)fenilo
1680	F	H	H	H	2,2,2-tricloroetilo	2,6-dibromo-4-(nonafluoro-2-butil)fenilo

Tabla 2(16)

Compuesto No.	X_1	X_2	X_3	X_4	R_1	Q
1681	F	H	H	H	Et	2-cloro-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1682	F	H	H	H	i-Pr	2-cloro-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1683	F	H	H	H	Vinilo	2-cloro-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1684	F	H	H	H	ciclobutilo	2-cloro-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1685	F	H	H	H	Ciclopentilo	2-cloro-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1686	F	H	H	H	3-cianobenzilo	2-cloro-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1687	F	H	H	H	4-cianobenzilo	2-cloro-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1688	F	H	H	H	2-cianoetilo	2-cloro-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1689	F	H	H	H	2-(metiltio)etilo	2-cloro-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1690	F	H	H	H	2-(etiltio)etilo	2-cloro-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1691	F	H	H	H	1-metil-2-(metiltio)etilo	2-cloro-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1692	F	H	H	H	2-(etilsulfinil)etilo	2-cloro-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1693	F	H	H	H	2-fluoroetilo	2-cloro-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1694	F	H	H	H	2,2-difluoroetilo	2-cloro-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1695	F	H	H	H	2,2,2-trifluoroetilo	2-cloro-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1696	F	H	H	H	1,3-difluoro-2-propilo	2-cloro-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1697	F	H	H	H	1-cloro-3-fluoro-2-propilo	2-cloro-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1698	F	H	H	H	1-metil-2,2,2-trifluoroetilo	2-cloro-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1699	F	H	H	H	3,3,3-trifluoro-n-propilo	2-cloro-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1700	F	H	H	H	2,2,3,3,3-pentafluoro-n-propilo	2-cloro-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo

451

Tabla 2(17)

Compuesto No.	X_1	X_2	X_3	X_4	R_1	Q
1701	F	H	H	H	4,4,4-trifluoro-n-butilo	2-cloro-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1702	F	H	H	H	2,2,3,3-tetrafluorociclobutilo	2-cloro-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1703	F	H	H	H	2-cloroetilo	2-cloro-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1704	F	H	H	H	2,2-dicloroetilo	2-cloro-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1705	F	H	H	H	2,2,2-tricloroetilo	2-cloro-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1706	F	H	H	H	1,3-dicloro-2-propilo	2-cloro-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1707	F	H	H	H	3-cloro-n-propilo	2-cloro-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1708	F	H	H	H	2-bromoetilo	2-cloro-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1709	F	H	H	H	3-bromo-n-propilo	2-cloro-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1710	F	H	H	H	2-yodoetilo	2-cloro-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1711	F	H	H	H	(6-cloropiridin-3-il)metilo	2-cloro-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1712	F	H	H	H	Et	2-bromo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1713	F	H	H	H	i-Pr	2-bromo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1714	F	H	H	H	Vinilo	2-bromo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1715	F	H	H	H	ciclobutilo	2-bromo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1716	F	H	H	H	Ciclopentilo	2-bromo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1717	F	H	H	H	3-cianobenzilo	2-bromo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1718	F	H	H	H	4-cianobenzilo	2-bromo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1719	F	H	H	H	2-cianoetilo	2-bromo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1720	F	H	H	H	2-(metiltio)etilo	2-bromo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo

Tabla 2(18)

Compuesto No.	X_1	X_2	X_3	X_4	R_1	Q
1721	F	H	H	H	2-(etiltio)etilo	2-bromo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1722	F	H	H	H	1-metil-2-(metiltio)etilo	2-bromo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1723	F	H	H	H	2-(etilsulfinil)etilo	2-bromo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1724	F	H	H	H	2-fluoroetilo	2-bromo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1725	F	H	H	H	2,2-difluoroetilo	2-bromo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1726	F	H	H	H	2,2,2-trifluoroetilo	2-bromo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1727	F	H	H	H	1,3-difluoro-2-propilo	2-bromo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1728	F	H	H	H	1-cloro-3-fluoro-2-propilo	2-bromo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1729	F	H	H	H	1-metil-2,2,2-trifluoroetilo	2-bromo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1730	F	H	H	H	3,3,3-trifluoro-n-propilo	2-bromo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1731	F	H	H	H	2,2,3,3,3-pentafluoro-n-propilo	2-bromo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1732	F	H	H	H	4,4,4-trifluoro-n-butilo	2-bromo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1733	F	H	H	H	2,2,3,3-tetrafluorociclobutilo	2-bromo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1734	F	H	H	H	2-cloroetilo	2-bromo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1735	F	H	H	H	2,2-dicloroetilo	2-bromo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1736	F	H	H	H	2,2,2-tricloroetilo	2-bromo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1737	F	H	H	H	1,3-dicloro-2-propilo	2-bromo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1738	F	H	H	H	3-cloro-n-propilo	2-bromo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1739	F	H	H	H	2-bromoetilo	2-bromo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1740	F	H	H	H	3-bromo-n-propilo	2-bromo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo

Tabla 2(19)

Compuesto No.	X_1	X_2	X_3	X_4	R_1	Q
1741	F	H	H	H	2-yodoetilo	2-bromo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1742	F	H	H	H	(6-cloropiridin-3-il)metilo	2-bromo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1743	F	H	H	H	Et	2-yodo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1744	F	H	H	H	i-Pr	2-yodo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1745	F	H	H	H	Vinilo	2-yodo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1746	F	H	H	H	ciclobutilo	2-yodo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1747	F	H	H	H	Ciclopentilo	2-yodo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1748	F	H	H	H	3-cianobenzilo	2-yodo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1749	F	H	H	H	4-cianobenzilo	2-yodo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1750	F	H	H	H	2-cianoetilo	2-yodo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1751	F	H	H	H	2-(metiltio)etilo	2-yodo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1752	F	H	H	H	2-(etiltio)etilo	2-yodo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1753	F	H	H	H	1-metil-2-(metiltio)etilo	2-yodo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1754	F	H	H	H	2-(etilsulfinil)etilo	2-yodo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1755	F	H	H	H	2-fluoroetilo	2-yodo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1756	F	H	H	H	2,2-difluoroetilo	2-yodo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1757	F	H	H	H	2,2,2-trifluoroetilo	2-yodo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1758	F	H	H	H	1,3-difluoro-2-propilo	2-yodo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1759	F	H	H	H	1-cloro-3-fluoro-2-propilo	2-yodo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1760	F	H	H	H	1-metil-2,2,2-trifluoroetilo	2-yodo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo

454

Tabla 2(20)

Compuesto No.	X_1	X_2	X_3	X_4	R_1	Q
1761	F	H	H	H	3,3,3-trifluoro-n-propilo	2-yodo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1762	F	H	H	H	2,2,3,3,3-pentafluoro-n-propilo	2-yodo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1763	F	H	H	H	4,4,4-trifluoro-n-butilo	2-yodo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1764	F	H	H	H	2,2,3,3-tetrafluorociclobutilo	2-yodo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1765	F	H	H	H	2-cloroetilo	2-yodo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1766	F	H	H	H	2,2-dicloroetilo	2-yodo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1767	F	H	H	H	2,2,2-tricloroetilo	2-yodo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1768	F	H	H	H	1,3-dicloro-2-propilo	2-yodo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1769	F	H	H	H	3-cloro-n-propilo	2-yodo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1770	F	H	H	H	2-bromoetilo	2-yodo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1771	F	H	H	H	3-bromo-n-propilo	2-yodo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1772	F	H	H	H	2-yodoetilo	2-yodo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1773	F	H	H	H	(6-cloropiridin-3-il)metilo	2-yodo-4-metil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1774	F	H	H	H	Et	2,4-dimetil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1775	F	H	H	H	i-Pr	2,4-dimetil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1776	F	H	H	H	Vinilo	2,4-dimetil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1777	F	H	H	H	ciclobutilo	2,4-dimetil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1778	F	H	H	H	Ciclopentilo	2,4-dimetil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1779	F	H	H	H	3-cianobenzilo	2,4-dimetil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1780	F	H	H	H	4-cianobenzilo	2,4-dimetil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo

455

Tabla 2(21)

Compuesto No.	X_1	X_2	X_3	X_4	R_1	Q
1781	F	H	H	H	2-cianoetilo	2,4-dimetil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1782	F	H	H	H	2-(metiltio)etilo	2,4-dimetil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1783	F	H	H	H	2-(etiltio)etilo	2,4-dimetil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1784	F	H	H	H	1-metil-2-(metiltio)etilo	2,4-dimetil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1785	F	H	H	H	2-(etilsulfinil)etilo	2,4-dimetil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1786	F	H	H	H	2-fluoroetilo	2,4-dimetil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1787	F	H	H	H	2,2-difluoroetilo	2,4-dimetil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1788	F	H	H	H	2,2,2-trifluoroetilo	2,4-dimetil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1789	F	H	H	H	1,3-difluoro-2-propilo	2,4-dimetil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1790	F	H	H	H	1-cloro-3-fluoro-2-propilo	2,4-dimetil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1791	F	H	H	H	1-metil-2,2,2-trifluoroetilo	2,4-dimetil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1792	F	H	H	H	3,3,3-trifluoro-n-propilo	2,4-dimetil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1793	F	H	H	H	2,2,3,3,3-pentafluoro-n-propilo	2,4-dimetil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1794	F	H	H	H	4,4,4-trifluoro-n-butilo	2,4-dimetil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1795	F	H	H	H	2,2,3,3-tetrafluorociclobutilo	2,4-dimetil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1796	F	H	H	H	2-cloroetilo	2,4-dimetil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1797	F	H	H	H	2,2-dicloroetilo	2,4-dimetil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1798	F	H	H	H	2,2,2-tricloroetilo	2,4-dimetil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1799	F	H	H	H	1,3-dicloro-2-propilo	2,4-dimetil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1800	F	H	H	H	3-cloro-n-propilo	2,4-dimetil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo

Tabla 2(22)

Compuesto No.	X_1	X_2	X_3	X_4	R_1	Q
1801	F	H	H	H	2-bromoetilo	2,4-dimetil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1802	F	H	H	H	3-bromo-n-propilo	2,4-dimetil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1803	F	H	H	H	2-yodoetilo	2,4-dimetil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1804	F	H	H	H	(6-cloropiridin-3-il)metilo	2,4-dimetil-6-(1,1,1,3,3,3-hexafluoroisopropiloxi)piridin-3-ilo
1805	F	H	H	H	Et	2-bromo-4-metil-6-(heptafluoroisopropil)piridin-3-ilo
1806	F	H	H	H	i-Pr	2-bromo-4-metil-6-(heptafluoroisopropil)piridin-3-ilo
1807	F	H	H	H	Vinilo	2-bromo-4-metil-6-(heptafluoroisopropil)piridin-3-ilo
1808	F	H	H	H	ciclobutilo	2-bromo-4-metil-6-(heptafluoroisopropil)piridin-3-ilo
1809	F	H	H	H	Ciclopentilo	2-bromo-4-metil-6-(heptafluoroisopropil)piridin-3-ilo
1810	F	H	H	H	3-cianobenzilo	2-bromo-4-metil-6-(heptafluoroisopropil)piridin-3-ilo
1811	F	H	H	H	4-cianobenzilo	2-bromo-4-metil-6-(heptafluoroisopropil)piridin-3-ilo
1812	F	H	H	H	2-cianoetilo	2-bromo-4-metil-6-(heptafluoroisopropil)piridin-3-ilo
1813	F	H	H	H	2-(metiltio)etilo	2-bromo-4-metil-6-(heptafluoroisopropil)piridin-3-ilo
1814	F	H	H	H	2-(etiltio)etilo	2-bromo-4-metil-6-(heptafluoroisopropil)piridin-3-ilo
1815	F	H	H	H	1-metil-2-(metiltio)etilo	2-bromo-4-metil-6-(heptafluoroisopropil)piridin-3-ilo
1816	F	H	H	H	2-(etilsulfinil)etilo	2-bromo-4-metil-6-(heptafluoroisopropil)piridin-3-ilo
1817	F	H	H	H	2-fluoroetilo	2-bromo-4-metil-6-(heptafluoroisopropil)piridin-3-ilo
1818	F	H	H	H	2,2-difluoroetilo	2-bromo-4-metil-6-(heptafluoroisopropil)piridin-3-ilo
1819	F	H	H	H	2,2,2-trifluoroetilo	2-bromo-4-metil-6-(heptafluoroisopropil)piridin-3-ilo
1820	F	H	H	H	1,3-difluoro-2-propilo	2-bromo-4-metil-6-(heptafluoroisopropil)piridin-3-ilo

Tabla 2(23)

Compuesto No.	X_1	X_2	X_3	X_4	R_1	Q
1821	F	H	H	H	1-cloro-3-fluoro-2-propilo	2-bromo-4-metil-6-(heptafluoroisopropil)piridin-3-ilo
1822	F	H	H	H	1-metil-2,2,2-trifluoroetilo	2-bromo-4-metil-6-(heptafluoroisopropil)piridin-3-ilo
1823	F	H	H	H	3,3,3-trifluoro-n-propilo	2-bromo-4-metil-6-(heptafluoroisopropil)piridin-3-ilo
1824	F	H	H	H	2,2,3,3,3-pentafluoro-n-propilo	2-bromo-4-metil-6-(heptafluoroisopropil)piridin-3-ilo
1825	F	H	H	H	4,4,4-trifluoro-n-butilo	2-bromo-4-metil-6-(heptafluoroisopropil)piridin-3-ilo
1826	F	H	H	H	2,2,3,3-tetrafluorociclobutilo	2-bromo-4-metil-6-(heptafluoroisopropil)piridin-3-ilo
1827	F	H	H	H	2-cloroetilo	2-bromo-4-metil-6-(heptafluoroisopropil)piridin-3-ilo
1828	F	H	H	H	2,2-dicloroetilo	2-bromo-4-metil-6-(heptafluoroisopropil)piridin-3-ilo
1829	F	H	H	H	2,2,2-tricloroetilo	2-bromo-4-metil-6-(heptafluoroisopropil)piridin-3-ilo
1830	F	H	H	H	1,3-dicloro-2-propilo	2-bromo-4-metil-6-(heptafluoroisopropil)piridin-3-ilo
1831	F	H	H	H	3-cloro-n-propilo	2-bromo-4-metil-6-(heptafluoroisopropil)piridin-3-ilo
1832	F	H	H	H	2-bromoetilo	2-bromo-4-metil-6-(heptafluoroisopropil)piridin-3-ilo
1833	F	H	H	H	3-bromo-n-propilo	2-bromo-4-metil-6-(heptafluoroisopropil)piridin-3-ilo
1834	F	H	H	H	2-yodoetilo	2-bromo-4-metil-6-(heptafluoroisopropil)piridin-3-ilo
1835	F	H	H	H	(6-cloropiridin-3-il)metilo	2-bromo-4-metil-6-(heptafluoroisopropil)piridin-3-ilo
1836	F	H	H	H	Et	2-cloro-6-metil-4-heptafluoroisopropilfenilo
1837	F	H	H	H	i-Pr	2-cloro-6-metil-4-heptafluoroisopropilfenilo
1838	F	H	H	H	Vinilo	2-cloro-6-metil-4-heptafluoroisopropilfenilo
1839	F	H	H	H	ciclobutilo	2-cloro-6-metil-4-heptafluoroisopropilfenilo
1840	F	H	H	H	Ciclopentilo	2-cloro-6-metil-4-heptafluoroisopropilfenilo

Tabla 2(24)

Compuesto No.	X_1	X_2	X_3	X_4	R_1	Q
1841	F	H	H	H	3-cianobenzilo	2-cloro-6-metil-4-heptafluoroisopropilfenilo
1842	F	H	H	H	4-cianobenzilo	2-cloro-6-metil-4-heptafluoroisopropilfenilo
1843	F	H	H	H	2-cianoetilo	2-cloro-6-metil-4-heptafluoroisopropilfenilo
1844	F	H	H	H	2-(metiltio)etilo	2-cloro-6-metil-4-heptafluoroisopropilfenilo
1845	F	H	H	H	2-(etiltio)etilo	2-cloro-6-metil-4-heptafluoroisopropilfenilo
1846	F	H	H	H	1-metil-2-(metiltio)etilo	2-cloro-6-metil-4-heptafluoroisopropilfenilo
1847	F	H	H	H	2-(etilsulfinil)etilo	2-cloro-6-metil-4-heptafluoroisopropilfenilo
1848	F	H	H	H	2-fluoroetilo	2-cloro-6-metil-4-heptafluoroisopropilfenilo
1849	F	H	H	H	2,2-difluoroetilo	2-cloro-6-metil-4-heptafluoroisopropilfenilo
1850	F	H	H	H	2,2,2-trifluoroetilo	2-cloro-6-metil-4-heptafluoroisopropilfenilo
1351	F	H	H	H	1,3-difluoro-2-propilo	2-cloro-6-metil-4-heptafluoroisopropilfenilo
1852	F	H	H	H	1-cloro-3-fluoro-2-propilo	2-cloro-6-metil-4-heptafluoroisopropilfenilo
1853	F	H	H	H	1-metil-2,2,2-trifluoroetilo	2-cloro-6-metil-4-heptafluoroisopropilfenilo
1854	F	H	H	H	3,3,3-trifluoro-n-propilo	2-cloro-6-metil-4-heptafluoroisopropilfenilo
1855	F	H	H	H	2,2,3,3,3-pentafluoro-n-propilo	2-cloro-6-metil-4-heptafluoroisopropilfenilo
1856	F	H	H	H	4,4,4-trifluoro-n-butilo	2-cloro-6-metil-4-heptafluoroisopropilfenilo
1857	F	H	H	H	2,2,3,3-tetrafluorociclobutilo	2-cloro-6-metil-4-heptafluoroisopropilfenilo
1858	F	H	H	H	2-cloroetilo	2-cloro-6-metil-4-heptafluoroisopropilfenilo
1859	F	H	H	H	2,2-dicloroetilo	2-cloro-6-metil-4-heptafluoroisopropilfenilo
1860	F	H	H	H	2,2,2-tricloroetilo	2-cloro-6-metil-4-heptafluoroisopropilfenilo

459

Tabla 2(25)

Compuesto No.	X_1	X_2	X_3	X_4	R_1	Q
1861	F	H	H	H	1,3-dicloro-2-propilo	2-cloro-6-metil-4-heptafluoroisopropilfenilo
1862	F	H	H	H	3-cloro-n-propilo	2-cloro-6-metil-4-heptafluoroisopropilfenilo
1863	F	H	H	H	2-bromoetilo	2-cloro-6-metil-4-heptafluoroisopropilfenilo
1864	F	H	H	H	3-bromo-n-propilo	2-cloro-6-metil-4-heptafluoroisopropilfenilo
1865	F	H	H	H	2-yodoetilo	2-cloro-6-metil-4-heptafluoroisopropilfenilo
1866	F	H	H	H	(6-cloropiridin-3-il)metilo	2-cloro-6-metil-4-heptafluoroisopropilfenilo
1867	F	H	H	H	Et	2-yodo-6-n-propil-4-heptafluoroisopropilfenilo
1868	F	H	H	H	i-Pr	2-yodo-6-n-propil-4-heptafluoroisopropilfenilo
1869	F	H	H	H	Vinilo	2-yodo-6-n-propil-4-heptafluoroisopropilfenilo
1870	F	H	H	H	ciclobutilo	2-yodo-6-n-propil-4-heptafluoroisopropilfenilo
1871	F	H	H	H	Ciclopentilo	2-yodo-6-n-propil-4-heptafluoroisopropilfenilo
1872	F	H	H	H	3-cianobenzilo	2-yodo-6-n-propil-4-heptafluoroisopropilfenilo
1873	F	H	H	H	4-cianobenzilo	2-yodo-6-n-propil-4-heptafluoroisopropilfenilo
1874	F	H	H	H	2-cianoetilo	2-yodo-6-n-propil-4-heptafluoroisopropilfenilo
1875	F	H	H	H	2-(metiltio)etilo	2-yodo-6-n-propil-4-heptafluoroisopropilfenilo
1876	F	H	H	H	2-(etiltio)etilo	2-yodo-6-n-propil-4-heptafluoroisopropilfenilo
1877	F	H	H	H	1-metil-2-(metiltio)etilo	2-yodo-6-n-propil-4-heptafluoroisopropilfenilo
1878	F	H	H	H	2-(etilsulfinil)etilo	2-yodo-6-n-propil-4-heptafluoroisopropilfenilo
1879	F	H	H	H	2-fluoroetilo	2-yodo-6-n-propil-4-heptafluoroisopropilfenilo
1880	F	H	H	H	2,2-difluoroetilo	2-yodo-6-n-propil-4-heptafluoroisopropilfenilo

Tabla 2(26)

Compuesto No.	X_1	X_2	X_3	X_4	R_1	Q
1881	F	H	H	H	2,2,2-trifluoroetilo	2-yodo-6-n-propil-4-heptafluoroisopropilfenilo
1882	F	H	H	H	1,3-difluoro-2-propilo	2-yodo-6-n-propil-4-heptafluoroisopropilfenilo
1883	F	H	H	H	1-cloro-3-fluoro-2-propilo	2-yodo-6-n-propil-4-heptafluoroisopropilfenilo
1884	F	H	H	H	1-metil-2,2,2-trifluoroetilo	2-yodo-6-n-propil-4-heptafluoroisopropilfenilo
1885	F	H	H	H	3,3,3-trifluoro-n-propilo	2-yodo-6-n-propil-4-heptafluoroisopropilfenilo
1886	F	H	H	H	2,2,3,3,3-pentafluoro-n-propilo	2-yodo-6-n-propil-4-heptafluoroisopropilfenilo
1887	F	H	H	H	4,4,4-trifluoro-n-butilo	2-yodo-6-n-propil-4-heptafluoroisopropilfenilo
1888	F	H	H	H	2,2,3,3-tetrafluorociclobutilo	2-yodo-6-n-propil-4-heptafluoroisopropilfenilo
1889	F	H	H	H	2-cloroetilo	2-yodo-6-n-propil-4-heptafluoroisopropilfenilo
1890	F	H	H	H	2,2-dicloroetilo	2-yodo-6-n-propil-4-heptafluoroisopropilfenilo
1891	F	H	H	H	2,2,2-tricloroetilo	2-yodo-6-n-propil-4-heptafluoroisopropilfenilo
1892	F	H	H	H	1,3-dicloro-2-propilo	2-yodo-6-n-propil-4-heptafluoroisopropilfenilo
1893	F	H	H	H	3-cloro-n-propilo	2-yodo-6-n-propil-4-heptafluoroisopropilfenilo
1894	F	H	H	H	2-bromoetilo	2-yodo-6-n-propil-4-heptafluoroisopropilfenilo
1895	F	H	H	H	3-bromo-n-propilo	2-yodo-6-n-propil-4-heptafluoroisopropilfenilo
1896	F	H	H	H	2-yodoetilo	2-yodo-6-n-propil-4-heptafluoroisopropilfenilo
1897	F	H	H	H	(6-cloropiridin-3-il)metilo	2-yodo-6-n-propil-4-heptafluoroisopropilfenilo
1898	Cl	H	H	H	i-Pr	2-metil-4-heptafluoroisopropilfenilo
1899	Cl	H	H	H	2,2,2-tricloroetilo	2-metil-4-heptafluoroisopropilfenilo
1900	Cl	H	H	H	i-Pr	2,6-dimetil-4-heptafluoroisopropilfenilo

Tabla 2(27)

Compuesto No.	X_1	X_2	X_3	X_4	R_1	Q
1901	Cl	H	H	H	2,2,2-tricloroetilo	2,6-dimetil-4-heptafluoroisopropilfenilo
1902	Cl	H	H	H	2,2,2-tricloroetilo	2,4-bistrifluorometilfenilo
1903	Cl	H	H	H	2,2,2-tricloroetilo	2-(1,1,1,3,3,3-hexafluoroisopropiloxi)-4-metilpiridin-5-ilo
1904	Br	H	H	H	i-Pr	2,6-dimetil-4-heptafluoroisopropilfenilo
1905	Br	H	H	H	2,2,2-tricloroetilo	2,6-dimetil-4-heptafluoroisopropilfenilo
1906	F	F	H	H	2,2,2-tricloroetilo	2-metil-4-heptafluoroisopropilfenilo
1907	F	F	H	H	2,2,2-tricloroetilo	2,6-dimetil-4-heptafluoroisopropilfenilo
1908	F	F	F	H	i-Pr	2,6-dimetil-4-heptafluoroisopropilfenilo
1909	H	Me	H	H	i-Pr	2-metil-4-heptafluoroisopropilfenilo
1910	H	Me	H	H	2,2,2-tricloroetilo	2-metil-4-heptafluoroisopropilfenilo
1911	H	Me	H	H	i-Pr	2,6-dimetil-4-heptafluoroisopropilfenilo
1912	H	Me	H	H	2,2,2-tricloroetilo	2,6-dimetil-4-heptafluoroisopropilfenilo
1913	H	MeO	H	H	i-Pr	2-metil-4-heptafluoroisopropilfenilo
1914	H	MeO	H	H	2,2,2-tricloroetilo	2-metil-4-heptafluoroisopropilfenilo
1915	H	F	H	H	i-Pr	2-metil-4-heptafluoroisopropilfenilo
1916	H	F	H	H	2,2,2-tricloroetilo	2-metil-4-heptafluoroisopropilfenilo
1917	H	F	H	H	i-Pr	2,6-dimetil-4-heptafluoroisopropilfenilo
1918	H	F	H	H	2,2,2-tricloroetilo	2,6-dimetil-4-heptafluoroisopropilfenilo
1919	H	Cl	H	H	i-Pr	2-metil-4-heptafluoroisopropilfenilo
1920	H	Cl	H	H	2,2,2-tricloroetilo	2-metil-4-heptafluoroisopropilfenilo

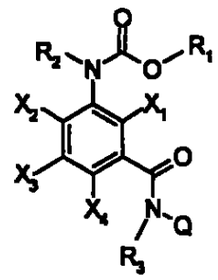
Tabla 2(28)

Compuesto No.	X_1	X_2	X_3	X_4	R_1	Q
1921	H	Cl	H	H	i-Pr	2,6-dimetil-4-heptafluoroisopropilfenilo
1922	H	Cl	H	H	2,2,2-tricloroetilo	2,6-dimetil-4-heptafluoroisopropilfenilo
1923	H	H	Me	H	2,2,2-tricloroetilo	2,6-dimetil-4-heptafluoroisopropilfenilo
1924	H	H	CF_3	H	i-Pr	2-metil-4-heptafluoroisopropilfenilo
1925	H	H	CF_3	H	2,2,2-tricloroetilo	2-metil-4-heptafluoroisopropilfenilo
1926	H	H	CF_3	H	i-Pr	2,6-dimetil-4-heptafluoroisopropilfenilo
1927	H	H	CF_3	H	2,2,2-tricloroetilo	2,6-dimetil-4-heptafluoroisopropilfenilo
1928	H	H	NH_2	H	i-Pr	2,6-dimetil-4-heptafluoroisopropilfenilo
1929	H	H	Me_2N	H	2,2,2-tricloroetilo	2,6-dimetil-4-heptafluoroisopropilfenilo
1930	H	H	H	Me	i-Pr	2-metil-4-heptafluoroisopropilfenilo
1931	H	H	H	Me	2,2,2-tricloroetilo	2-metil-4-heptafluoroisopropilfenilo
1932	H	H	H	Me	i-Pr	2,6-dimetil-4-heptafluoroisopropilfenilo
1933	H	H	H	Me	2,2,2-tricloroetilo	2,6-dimetil-4-heptafluoroisopropilfenilo
1934	H	H	H	F	i-Pr	2-metil-4-heptafluoroisopropilfenilo
1935	H	H	H	F	2,2,2-tricloroetilo	2-metil-4-heptafluoroisopropilfenilo
1936	H	H	H	F	i-Pr	2,6-dimetil-4-heptafluoroisopropilfenilo
1937	H	H	H	F	2,2,2-tricloroetilo	2,6-dimetil-4-heptafluoroisopropilfenilo
1938	H	H	H	Cl	i-Pr	2-metil-4-heptafluoroisopropilfenilo
1939	H	H	H	Cl	2,2,2-tricloroetilo	2-metil-4-heptafluoroisopropilfenilo
1940	H	H	H	Cl	i-Pr	2,6-dimetil-4-heptafluoroisopropilfenilo

Tabla 2(continuación)

Compuesto No.	X_1	X_2	X_3	X_4	R_1	Q
1941	H	H	H	Cl	2,2,2-tricloroetilo	2,6-dimetil-4-heptafluoroisopropilfenilo
1942	H	H	H	Br	i-Pr	2-metil-4-heptafluoroisopropilfenilo
1943	H	H	H	Br	2,2,2-tricloroetilo	2-metil-4-heptafluoroisopropilfenilo
1944	H	H	H	I	2,2,2-tricloroetilo	2-metil-4-heptafluoroisopropilfenilo
1945	H	H	H	I	i-Pr	2,6-dimetil-4-heptafluoroisopropilfenilo
1946	H	H	H	I	t-Bu	2-metil-4-heptafluoroisopropilfenilo
1947	H	H	H	I	2,2,2-tricloroetilo	2,6-dimetil-4-heptafluoroisopropilfenilo

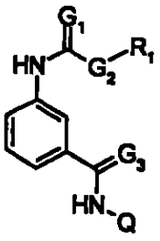
Tabla 3



(1-C)

Compuesto No.	X_1	X_2	X_3	X_4	R_1	R_2	R_3	Q
1948	H	H	H	H	2,2,2-tricloroetilo	Me	H	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
1949	H	H	H	H	2,2,2-tricloroetilo	H	Me	2-metil-4-heptafluoroisopropilfenilo
1950	H	H	H	H	i-Pr	H	Me	2,6-dimetil-4-heptafluoroisopropilfenilo
1951	H	H	H	H	2,2,2-tricloroetilo	H	Me	2,6-dimetil-4-heptafluoroisopropilfenilo
1952	H	H	H	H	i-Pr	H	Me	2-metil-6-cloro-4-heptafluoroisopropilfenilo
1953	H	H	H	H	2,2,2-tricloroetilo	H	Me	2-metil-6-cloro-4-heptafluoroisopropilfenilo
1954	H	H	H	H	i-Pr	H	Me	2-metil-6-bromo-4-heptafluoroisopropilfenilo
1955	H	H	H	H	2,2,2-tricloroetilo	H	Me	2-metil-6-bromo-4-heptafluoroisopropilfenilo
1956	H	H	H	H	2,2,2-tricloroetilo	H	Et	2,6-dimetil-4-heptafluoroisopropilfenilo
1957	H	H	H	H	2,2,2-tricloroetilo	H	i-Pr	2,6-dimetil-4-heptafluoroisopropilfenilo
1958	H	H	H	H	2,2,2-tricloroetilo	Me	H	2,6-dimetil-4-heptafluoroisopropilfenilo
1959	F	H	H	H	2,2,2-tricloroetilo	Me	H	2,6-dimetil-4-heptafluoroisopropilfenilo
1960	H	H	MeNH	H	i-Pr	Me	H	2,6-dimetil-4-heptafluoroisopropilfenilo

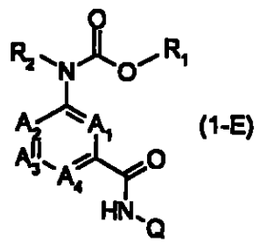
Tabla 4



(1-D)

Compuesto No.	G_1	G_2	G_3	R_1	Q
1961	O	S	O	Me	2,6-dimetil-4-heptafluoroisopropilfenilo
1962	O	S	O	Et	2,6-dimetil-4-heptafluoroisopropilfenilo
1963	O	O	S	IPr	2,6-dimetil-4-heptafluoroisopropilfenilo
1964	O	O	S	2,2,2-tricloroetilo	2,6-dimetil-4-heptafluoroisopropilfenilo

Tabla 5(1)



(1-E)

Compuesto No.	A_1	A_2	A_3	A_4	R_1	R_2	Q
1965	N	C	C	C	i-Pr	H	2-metil-4-heptafluoroisopropilfenilo
1966	N	C	C	C	2,2,2-tricloroetilo	H	2-metil-4-heptafluoroisopropilfenilo
1967	N	C	C	C	i-Pr	H	2,6-dimetil-4-heptafluoroisopropilfenilo
1968	N	C	C	C	2,2,2-tricloroetilo	H	2,6-dimetil-4-heptafluoroisopropilfenilo
1969	N	C	C	C	2-cloroetilo	H	2,6-dimetil-4-heptafluoroisopropilfenilo
1970	N	C	C	C	2-fluoroetilo	H	2,6-dimetil-4-heptafluoroisopropilfenilo
1971	N	C	C	C	Et	H	2,6-dimetil-4-heptafluoroisopropilfenilo
1972	N	C	C	C	vinilo	H	2,6-dimetil-4-heptafluoroisopropilfenilo
1973	N	C	C	C	ciclobutilo	H	2,6-dimetil-4-heptafluoroisopropilfenilo
1974	N	C	C	C	Ciclopentilo	H	2,6-dimetil-4-heptafluoroisopropilfenilo
1975	N	C	C	C	3-cianobenzilo	H	2,6-dimetil-4-heptafluoroisopropilfenilo
1976	N	C	C	C	4-cianobenzilo	H	2,6-dimetil-4-heptafluoroisopropilfenilo
1977	N	C	C	C	2-cianoetilo	H	2,6-dimetil-4-heptafluoroisopropilfenilo
1978	N	C	C	C	2-(metiltio)etilo	H	2,6-dimetil-4-heptafluoroisopropilfenilo
1979	N	C	C	C	2-(etiltio)etilo	H	2,6-dimetil-4-heptafluoroisopropilfenilo
1980	N	C	C	C	1-metil-2-(metiltio)etilo	H	2,6-dimetil-4-heptafluoroisopropilfenilo

Tabla 5(2)

Compuesto No.	A_1	A_2	A_3	A_4	R_1	R_2	Q
1981	N	C	C	C	2-(etilsulfinil)etilo	H	2,6-dimetil-4-heptafluoroisopropilfenilo
1982	N	C	C	C	2-fluoroetilo	H	2,6-dimetil-4-heptafluoroisopropilfenilo
1983	N	C	C	C	2,2-difluoroetilo	H	2,6-dimetil-4-heptafluoroisopropilfenilo
1984	N	C	C	C	2,2,2-trifluoroetilo	H	2,6-dimetil-4-heptafluoroisopropilfenilo
1985	N	C	C	C	1,3-difluoro-2-propilo	H	2,6-dimetil-4-heptafluoroisopropilfenilo
1986	N	C	C	C	1-cloro-3-fluoro-2-propilo	H	2,6-dimetil-4-heptafluoroisopropilfenilo
1987	N	C	C	C	1-metil-2,2,2-trifluoroetilo	H	2,6-dimetil-4-heptafluoroisopropilfenilo
1988	N	C	C	C	3,3,3-trifluoro-n-propilo	H	2,6-dimetil-4-heptafluoroisopropilfenilo
1989	N	C	C	C	2,2,3,3,3-pentafluoro-n-propilo	H	2,6-dimetil-4-heptafluoroisopropilfenilo
1990	N	C	C	C	4,4,4-trifluoro-n-butilo	H	2,6-dimetil-4-heptafluoroisopropilfenilo
1991	N	C	C	C	2,2,3,3-tetrafluorociclobutilo	H	2,6-dimetil-4-heptafluoroisopropilfenilo
1992	N	C	C	C	2,2-dicloroetilo	H	2,6-dimetil-4-heptafluoroisopropilfenilo
1993	N	C	C	C	1,3-dicloro-2-propilo	H	2,6-dimetil-4-heptafluoroisopropilfenilo
1994	N	C	C	C	3-cloro-n-propilo	H	2,6-dimetil-4-heptafluoroisopropilfenilo
1995	N	C	C	C	2-bromoetilo	H	2,6-dimetil-4-heptafluoroisopropilfenilo
1996	N	C	C	C	3-bromo-n-propilo	H	2,6-dimetil-4-heptafluoroisopropilfenilo
1997	N	C	C	C	2-yodoetilo	H	2,6-dimetil-4-heptafluoroisopropilfenilo
1998	N	C	C	C	(6-cloropiridin-3-il)metilo	H	2,6-dimetil-4-heptafluoroisopropilfenilo
1999	N	C	C	C	Et	H	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
2000	N	C	C	C	i-Pr	H	2,6-dimetil-4-(nonafluoro-2-butil)fenilo

Tabla 5(3)

Compuesto No.	A_1	A_2	A_3	A_4	R_1	R_2	Q
2001	N	C	C	C	vinilo	H	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
2002	N	C	C	C	ciclobutilo	H	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
2003	N	C	C	C	Ciclopentilo	H	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
2004	N	C	C	C	3-cianobenzilo	H	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
2005	N	C	C	C	4-cianobenzilo	H	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
2006	N	C	C	C	2-cianoetilo	H	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
2007	N	C	C	C	2-(metiltio)etilo	H	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
2008	N	C	C	C	2-(etiltio)etilo	H	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
2009	N	C	C	C	1-metil-2-(metiltio)etilo	H	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
2010	N	C	C	C	2-(etilsulfinil)etilo	H	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
2011	N	C	C	C	2-fluoroetilo	H	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
2012	N	C	C	C	2,2-difluoroetilo	H	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
2013	N	C	C	C	2,2,2-trifluoroetilo	H	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
2014	N	C	C	C	1,3-difluoro-2-propilo	H	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
2015	N	C	C	C	1-cloro-3-fluoro-2-propilo	H	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
2016	N	C	C	C	1-metil-2,2,2-trifluoroetilo	H	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
2017	N	C	C	C	3,3,3-trifluoro-n-propilo	H	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
2018	N	C	C	C	2,2,3,3,3-pentafluoro-n-propilo	H	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
2019	N	C	C	C	4,4,4-trifluoro-n-butilo	H	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
2020	N	C	C	C	2,2,3,3-tetrafluorociclobutilo	H	2,6-dimetil-4-(nonafluoro-2-butil)fenilo

Tabla 5(4)

Compuesto No.	A_1	A_2	A_3	A_4	R_1	R_2	Q
2021	N	C	C	C	2-cloroetilo	H	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
2022	N	C	C	C	2,2-dicloroetilo	H	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
2023	N	C	C	C	2,2,2-tricloroetilo	H	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
2024	N	C	C	C	1,3-dicloro-2-propilo	H	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
2025	N	C	C	C	3-cloro-n-propilo	H	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
2026	N	C	C	C	2-bromoetilo	H	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
2027	N	C	C	C	3-bromo-n-propilo	H	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
2028	N	C	C	C	2-yodoetilo	H	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
2029	N	C	C	C	(6-cloropiridin-3-il)metilo	H	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
2030	N	C	C	C	Et	H	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
2031	N	C	C	C	i-Pr	H	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
2032	N	C	C	C	Vinilo	H	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
2033	N	C	C	C	ciclobutilo	H	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
2034	N	C	C	C	Ciclopentilo	H	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
2035	N	C	C	C	3-cianobenzilo	H	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
2036	N	C	C	C	4-cianobenzilo	H	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
2037	N	C	C	C	2-cianoetilo	H	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
2038	N	C	C	C	2-(metiltio)etilo	H	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
2039	N	C	C	C	2-(etiltio)etilo	H	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
2040	N	C	C	C	1-metil-2-(metiltio)etilo	H	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo

Tabla 5(5)

Compuesto No.	A_1	A_2	A_3	A_4	R_1	R_2	Q
2041	N	C	C	C	2-(etilsulfinil)etilo	H	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
2042	N	C	C	C	2-fluoroetilo	H	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
2043	N	C	C	C	2,2-difluoroetilo	H	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
2044	N	C	C	C	2,2,2-trifluoroetilo	H	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
2045	N	C	C	C	1,3-difluoro-2-propilo	H	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
2046	N	C	C	C	1-cloro-3-fluoro-2-propilo	H	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
2047	N	C	C	C	1-metil-2,2,2-trifluoroetilo	H	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
2048	N	C	C	C	3,3,3-trifluoro-n-propilo	H	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
2049	N	C	C	C	2,2,3,3,3-pentafluoro-n-propilo	H	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
2050	N	C	C	C	4,4,4-trifluoro-n-butilo	H	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
2051	N	C	C	C	2,2,3,3-tetrafluorociclobutilo	H	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
2052	N	C	C	C	2-cloroetilo	H	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
2053	N	C	C	C	2,2-dicloroetilo	H	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
2054	N	C	C	C	2,2,2-tricloroetilo	H	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
2055	N	C	C	C	1,3-dicloro-2-propilo	H	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
2056	N	C	C	C	3-cloro-n-propilo	H	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
2057	N	C	C	C	2-bromoetilo	H	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
2058	N	C	C	C	3-bromo-n-propilo	H	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
2059	N	C	C	C	2-yodoetilo	H	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
2060	N	C	C	C	(6-cloropiridin-3-il)metilo	H	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo

Tabla 5(6)

Compuesto No.	A_1	A_2	A_3	A_4	R_1	R_2	Q
2061	N-óxido	C	C	C	i-Pr	H	2,6-dimetil-4-heptafluoroisopropilfenilo
2062	N-óxido	C	C	C	2,2,2-tricloroetilo	H	2,6-dimetil-4-heptafluoroisopropilfenilo
2063	N-óxido	C	C	C	Et	H	2,6-dimetil-4-heptafluoroisopropilfenilo
2064	N-óxido	C	C	C	Vinilo	H	2,6-dimetil-4-heptafluoroisopropilfenilo
2065	N-óxido	C	C	C	ciclobutilo	H	2,6-dimetil-4-heptafluoroisopropilfenilo
2066	N-óxido	C	C	C	Ciclopentilo	H	2,6-dimetil-4-heptafluoroisopropilfenilo
2067	N-óxido	C	C	C	3-cianobenzilo	H	2,6-dimetil-4-heptafluoroisopropilfenilo
2068	N-óxido	C	C	C	4-cianobenzilo	H	2,6-dimetil-4-heptafluoroisopropilfenilo
2069	N-óxido	C	C	C	2-cianoetilo	H	2,6-dimetil-4-heptafluoroisopropilfenilo
2070	N-óxido	C	C	C	2-(metilio)etilo	H	2,6-dimetil-4-heptafluoroisopropilfenilo
2071	N-óxido	C	C	C	2-(etilio)etilo	H	2,6-dimetil-4-heptafluoroisopropilfenilo
2072	N-óxido	C	C	C	1-metil-2-(metilio)etilo	H	2,6-dimetil-4-heptafluoroisopropilfenilo
2073	N-óxido	C	C	C	2-(etilsulfinil)etilo	H	2,6-dimetil-4-heptafluoroisopropilfenilo
2074	N-óxido	C	C	C	2-fluoroetilo	H	2,6-dimetil-4-heptafluoroisopropilfenilo
2075	N-óxido	C	C	C	2,2-difluoroetilo	H	2,6-dimetil-4-heptafluoroisopropilfenilo
2076	N-óxido	C	C	C	2,2,2-trifluoroetilo	H	2,6-dimetil-4-heptafluoroisopropilfenilo
2077	N-óxido	C	C	C	1,3-difluoro-2-propilo	H	2,6-dimetil-4-heptafluoroisopropilfenilo
2078	N-óxido	C	C	C	1-cloro-3-fluoro-2-propilo	H	2,6-dimetil-4-heptafluoroisopropilfenilo
2079	N-óxido	C	C	C	1-metil-2,2,2-trifluoroetilo	H	2,6-dimetil-4-heptafluoroisopropilfenilo
2080	N-óxido	C	C	C	3,3,3-trifluoro-n-propilo	H	2,6-dimetil-4-heptafluoroisopropilfenilo

Tabla 5(7)

Compuesto No.	A_1	A_2	A_3	A_4	R_1	R_2	Q
2081	N-óxido	C	C	C	2,2,3,3,3-pentafluoro-n-propilo	H	2,6-dimetil-4-heptafluoroisopropilfenilo
2082	N-óxido	C	C	C	4,4,4-trifluoro-n-butilo	H	2,6-dimetil-4-heptafluoroisopropilfenilo
2083	N-óxido	C	C	C	2,2,3,3-tetrafluorociclobutilo	H	2,6-dimetil-4-heptafluoroisopropilfenilo
2084	N-óxido	C	C	C	2-cloroetilo	H	2,6-dimetil-4-heptafluoroisopropilfenilo
2085	N-óxido	C	C	C	2,2-dicloroetilo	H	2,6-dimetil-4-heptafluoroisopropilfenilo
2086	N-óxido	C	C	C	1,3-dicloro-2-propilo	H	2,6-dimetil-4-heptafluoroisopropilfenilo
2087	N-óxido	C	C	C	3-cloro-n-propilo	H	2,6-dimetil-4-heptafluoroisopropilfenilo
2088	N-óxido	C	C	C	2-bromoetilo	H	2,6-dimetil-4-heptafluoroisopropilfenilo
2089	N-óxido	C	C	C	3-bromo-n-propilo	H	2,6-dimetil-4-heptafluoroisopropilfenilo
2090	N-óxido	C	C	C	2-yodoetilo	H	2,6-dimetil-4-heptafluoroisopropilfenilo
2091	N-óxido	C	C	C	(6-cloropiridin-3-il)metilo	H	2,6-dimetil-4-heptafluoroisopropilfenilo
2092	N-óxido	C	C	C	Et	H	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
2093	N-óxido	C	C	C	i-Pr	H	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
2094	N-óxido	C	C	C	vinilo	H	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
2095	N-óxido	C	C	C	ciclobutilo	H	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
2096	N-óxido	C	C	C	Ciclopentilo	H	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
2097	N-óxido	C	C	C	3-cianobenzilo	H	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
2098	N-óxido	C	C	C	4-cianobenzilo	H	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
2099	N-óxido	C	C	C	2-cianoetilo	H	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
2100	N-óxido	C	C	C	2-(metiltio)etilo	H	2,6-dimetil-4-(nonafluoro-2-butil)fenilo

Tabla 5(8)

Compuesto No.	A_1	A_2	A_3	A_4	R_1	R_2	Q
2101	N-óxido	C	C	C	2-(etiltio)etilo	H	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
2102	N-óxido	C	C	C	1-metil-2-(metiltio)etilo	H	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
2103	N-óxido	C	C	C	2-(etilsulfinil)etilo	H	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
2104	N-óxido	C	C	C	2-fluoroetilo	H	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
2105	N-óxido	C	C	C	2,2-difluoroetilo	H	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
2106	N-óxido	C	C	C	2,2,2-trifluoroetilo	H	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
2107	N-óxido	C	C	C	1,3-difluoro-2-propilo	H	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
2108	N-óxido	C	C	C	1-cloro-3-fluoro-2-propilo	H	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
2109	N-óxido	C	C	C	1-metil-2,2,2-trifluoroetilo	H	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
2110	N-óxido	C	C	C	3,3,3-trifluoro-n-propilo	H	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
2111	N-óxido	C	C	C	2,2,3,3,3-pentafluoro-n-propilo	H	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
2112	N-óxido	C	C	C	4,4,4-trifluoro-n-butilo	H	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
2113	N-óxido	C	C	C	2,2,3,3-tetrafluorociclobutilo	H	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
2114	N-óxido	C	C	C	2-cloroetilo	H	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
2115	N-óxido	C	C	C	2,2-dicloroetilo	H	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
2116	N-óxido	C	C	C	2,2,2-tricloroetilo	H	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
2117	N-óxido	C	C	C	1,3-dicloro-2-propilo	H	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
2118	N-óxido	C	C	C	3-cloro-n-propilo	H	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
2119	N-óxido	C	C	C	2-bromoetilo	H	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
2120	N-óxido	C	C	C	3-bromo-n-propilo	H	2,6-dimetil-4-(nonafluoro-2-butil)fenilo

Tabla 5(9)

Compuesto No.	A_1	A_2	A_3	A_4	R_1	R_2	Q
2121	N-óxido	C	C	C	2-yodoetilo	H	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
2122	N-óxido	C	C	C	(6-cloropiridin-3-il)metilo	H	2,6-dimetil-4-(nonafluoro-2-butil)fenilo
2123	N-óxido	C	C	C	Et	H	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
2124	N-óxido	C	C	C	i-Pr	H	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
2125	N-óxido	C	C	C	vinilo	H	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
2126	N-óxido	C	C	C	ciclobutilo	H	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
2127	N-óxido	C	C	C	Ciclopentilo	H	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
2128	N-óxido	C	C	C	3-cianobenzilo	H	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
2129	N-óxido	C	C	C	4-cianobenzilo	H	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
2130	N-óxido	C	C	C	2-cianoetilo	H	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
2131	N-óxido	C	C	C	2-(metiltio)etilo	H	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
2132	N-óxido	C	C	C	2-(etiltio)etilo	H	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
2133	N-óxido	C	C	C	1-metil-2-(metiltio)etilo	H	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
2134	N-óxido	C	C	C	2-(etilsulfinil)etilo	H	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
2135	N-óxido	C	C	C	2-fluoroetilo	H	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
2136	N-óxido	C	C	C	2,2-difluoroetilo	H	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
2137	N-óxido	C	C	C	2,2,2-trifluoroetilo	H	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
2138	N-óxido	C	C	C	1,3-difluoro-2-propilo	H	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
2139	N-óxido	C	C	C	1-cloro-3-fluoro-2-propilo	H	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
2140	N-óxido	C	C	C	1-metil-2,2,2-trifluoroetilo	H	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo

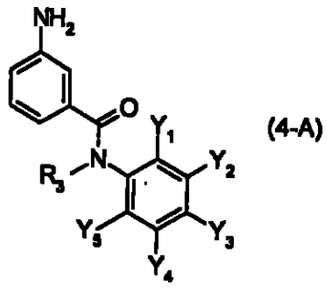
Tabla 5(10)

Compuesto No.	A_1	A_2	A_3	A_4	R_1	R_2	Q
2141	N-óxido	C	C	C	3,3,3-trifluoro-n-propilo	H	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
2142	N-óxido	C	C	C	2,2,3,3,3-pentafluoro-n-propilo	H	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
2143	N-óxido	C	C	C	4,4,4-trifluoro-n-butilo	H	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
2144	N-óxido	C	C	C	2,2,3,3-tetrafluorociclobutilo	H	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
2145	N-óxido	C	C	C	2-cloroetilo	H	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
2146	N-óxido	C	C	C	2,2-dicloroetilo	H	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
2147	N-óxido	C	C	C	2,2,2-tricloroetilo	H	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
2148	N-óxido	C	C	C	1,3-dicloro-2-propilo	H	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
2149	N-óxido	C	C	C	3-cloro-n-propilo	H	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
2150	N-óxido	C	C	C	2-bromoetilo	H	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
2151	N-óxido	C	C	C	3-bromo-n-propilo	H	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
2152	N-óxido	C	C	C	2-yodoetilo	H	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
2153	N-óxido	C	C	C	(6-cloropiridin-3-il)metilo	H	2,6-dibromo-4-(heptafluoro-n-propiltio)fenilo
2154	C	N	C	C	i-Pr	H	2-metil-4-heptafluoroisopropilfenilo
2155	C	N	C	C	2,2,2-tricloroetilo	H	2-metil-4-heptafluoroisopropilfenilo
2156	C	N	C	C	i-Pr	H	2,6-dimetil-4-heptafluoroisopropilfenilo
2157	C	N	C	C	2,2,2-tricloroetilo	H	2,6-dimetil-4-heptafluoroisopropilfenilo
2158	C	C	N	C	i-Pr	H	2-metil-4-heptafluoroisopropilfenilo
2159	C	C	N	C	2,2,2-tricloroetilo	H	2-metil-4-heptafluoroisopropilfenilo
2160	C	C	N	C	i-Pr	H	2,6-dimetil-4-heptafluoroisopropilfenilo

Tabla 5(11)

Compuesto No.	A_1	A_2	A_3	A_4	R_1	R_2	Q
2161	C	C	N	C	2,2,2-tricloroetilo	H	2,6-dimetil-4-heptafluoroisopropilfenilo
2162	C	C	C	N	i-Pr	H	2-metil-4-heptafluoroisopropilfenilo
2163	C	C	C	N	2,2,2-tricloroetilo	H	2-metil-4-heptafluoroisopropilfenilo
2164	C	C	C	N	i-Pr	H	2,6-dimetil-4-heptafluoroisopropilfenilo
2165	C	C	C	N	2,2,2-tricloroetilo	H	2,6-dimetil-4-heptafluoroisopropilfenilo
2166	C	C	C	N-óxido	i-Pr	H	2,6-dimetil-4-heptafluoroisopropilfenilo
2167	C	C	C	N-óxido	2,2,2-tricloroetilo	H	2,6-dimetil-4-heptafluoroisopropilfenilo
2168	N	C	C	C	2,2,2-tricloroetilo	Me	2,6-dimetil-4-heptafluoroisopropilfenilo

Tabla 6(1)



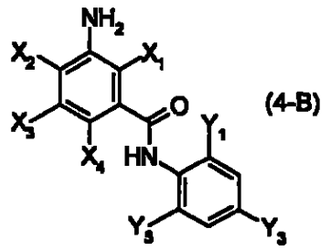
(4-A)

Compuesto No.	R_3	Y_1	Y_2	Y_3	Y_4	Y_5
I-1	H	Me	H	Heptafluoro-n-propilo	H	Me
I-2	H	H	H	Heptafluoroisopropilo	H	H
I-3	H	H	Me	Heptafluoroisopropilo	H	H
I-4	H	H	MeO	Heptafluoroisopropilo	H	H
I-5	H	H	Cl	Heptafluoroisopropilo	H	H
I-6	H	Me	H	Heptafluoroisopropilo	H	H
I-7	H	Me	H	Heptafluoroisopropilo	H	Me
I-8	H	Me	H	Heptafluoroisopropilo	H	Fenilo
I-9	H	Me	H	Heptafluoroisopropilo	Me	H
I-10	H	Me	Me	Heptafluoroisopropilo	H	H
I-11	H	Me	Me	Heptafluoroisopropilo	H	Cl
I-12	H	Me	I	Heptafluoroisopropilo	H	Cl
I-13	Me	Me	H	Heptafluoroisopropilo	H	Me
I-14	i-Pr	Me	H	Heptafluoroisopropilo	H	Me
I-15	H	Et	H	Heptafluoroisopropilo	H	H
I-16	H	Et	H	Heptafluoroisopropilo	H	Me
I-17	H	Et	H	Heptafluoroisopropilo	H	Et
I-18	H	Et	H	Heptafluoroisopropilo	H	I
I-19	H	n-Pr	H	Heptafluoroisopropilo	H	H
I-20	H	i-Pr	H	Heptafluoroisopropilo	H	Me
I-21	H	MeO	H	Heptafluoroisopropilo	H	Me
I-22	H	Cl	H	Heptafluoroisopropilo	H	Et
I-23	H	Cl	H	Heptafluoroisopropilo	Me	H
I-24	H	Cl	H	Heptafluoroisopropilo	MeO	H
I-25	H	Cl	Me	Heptafluoroisopropilo	H	Me

Tabla 6(2)

Compuesto No.	R_3	Y_1	Y_2	Y_3	Y_4	Y_5
I-26	H	Br	H	Heptafluoroisopropilo	H	Me
I-27	H	Br	H	Heptafluoroisopropilo	H	Et
I-28	H	Br	H	Heptafluoroisopropilo	H	n-Pr
I-29	H	Br	H	Heptafluoroisopropilo	H	n-Bu
I-30	H	Br	Me	Heptafluoroisopropilo	H	Me
I-31	H	I	H	Heptafluoroisopropilo	H	Me
I-32	H	I	H	Heptafluoroisopropilo	H	n-Pr
I-33	H	Me	H	Nonafluoro-n-butilo	H	Me
I-34	H	Me	H	Nonafluoro-2-butilo	H	Me
I-35	H	H	H	Trifluorometilti o	H	H
I-36	H	Br	H	Trifluorometilti o	H	Br
I-37	H	H	H	Trifluorometilsulfonilo	H	H
I-38	H	Br	H	Trifluorometilsulfonilo	H	Br
I-39	H	Me	H	2,2,2-trifluoroetoxi	H	H
I-40	H	H	H	Heptafluoroisopropiltio	H	H
I-41	H	Cl	H	Heptafluoroisopropiltio	H	Cl
I-42	H	Br	H	Heptafluoroisopropiltio	H	Br
I-43	H	Cl	H	Heptafluoro-n-propiltio	H	Cl
I-44	H	Br	H	Heptafluoro-n-propiltio	H	Br
I-45	H	Cl	H	Heptafluoro-n-propilsulfinilo	H	Cl
I-46	H	Br	H	Nonafluoro-n-butiltio	H	Br
I-47	H	Br	H	Pentafluoroetiltio	H	Br
I-48	H	Br	H	Heptafluoro-n-propilsulfinilo	H	Br
I-49	Me	Me	H	Heptafluoro-n-propiltio	H	Me
I-50	Me	Br	H	Heptafluoro-n-propiltio	H	Br

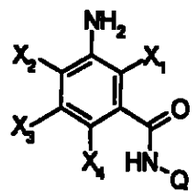
Tabla 7



(4-B)

Compuesto No.	X_1	X_2	X_3	X_4	Y_1	Y_3	Y_5
I-51	Me	H	H	H	Me	Heptafluoroisopropilo	H
I-52	Me	H	H	H	Me	Heptafluoroisopropilo	Me
I-53	H	Me	H	H	Me	Heptafluoroisopropilo	H
I-54	H	Me	H	H	Me	Heptafluoroisopropilo	Me
I-55	H	H	H	Me	Me	Heptafluoroisopropilo	H
I-56	H	H	H	Me	Me	Heptafluoroisopropilo	Me
I-59	F	H	H	H	Me	Heptafluoroisopropilo	Me
I-60	F	H	H	H	Me	Heptafluoroisopropiltio	Me
I-61	H	F	H	H	Me	Heptafluoroisopropilo	Me
I-62	H	H	H	F	Me	Heptafluoroisopropilo	H
I-63	H	H	H	F	Me	Heptafluoroisopropilo	Me
I-64	Cl	H	H	H	Me	Heptafluoroisopropilo	H
I-65	Cl	H	H	H	Me	Heptafluoroisopropilo	Me
I-66	H	Cl	H	H	Me	Heptafluoroisopropilo	H
I-67	H	Cl	H	H	Me	Heptafluoroisopropilo	Me
I-68	H	H	H	Cl	Me	Heptafluoroisopropilo	H
I-69	H	H	H	Cl	Me	Heptafluoroisopropilo	Me
I-70	Br	H	H	H	Me	Heptafluoroisopropilo	Me
I-71	H	H	H	Br	Me	Heptafluoroisopropilo	H
I-72	H	I	H	H	Me	Heptafluoroisopropilo	H
I-73	H	H	H	I	Me	Heptafluoroisopropilo	H
I-74	H	H	H	I	Me	Heptafluoroisopropilo	Me
I-75	H	H	CF_3	H	Me	Heptafluoroisopropilo	H
I-76	H	H	CF_3	H	Me	Heptafluoroisopropilo	Me
I-77	H	MeO	H	H	Me	Heptafluoroisopropilo	H
I-78	H	H	NH_2	H	Me	Heptafluoroisopropilo	H
I-79	H	H	NH_2	H	Me	Heptafluoroisopropilo	Me
I-80	Cl	Cl	H	Cl	Me	Heptafluoroisopropilo	H

Tabla 8



(4-C)

Compuesto No.	X_1	X_2	X_3	X_4	Q
I-81	H	H	H	H	2-metil-4-heptafluoroisopropil-1-naftilo
I-82	H	H	H	H	4-heptafluoroisopropil-5,6,7,8-tetrahidro-1-naftilo
I-83	H	H	H	H	2-cloro-4-heptafluoroisopropil-5,6,7,8-tetrahidro-1-naftilo
I-84	H	H	H	H	2-((1,1,1,3,3,3-hexafluoro-2-propiloxi)piridin-5-il
I-85	Cl	H	H	H	2-((1,1,1,3,3,3-hexafluoro-2-propiloxi)-4-metilpiridin-5-il
I-86	H	H	H	H	2-bromo-4-metil-6-(1,1,1,3,3,3-hexafluoro-2-propiloxi)piridin-3-ilo

La tabla 9 muestra las propiedades físicas de los compuestos representados por las fórmulas (1) y (4) de la presente invención. Esta tabla también muestra valores de cambio ^{1}H-RMN obtenidos mediante el uso de tetrametilsilano como un material de referencia interno, y cloroformo-d como un disolvente.

Tabla 9 (1)

Compuesto No.	^{1}H-RMN (CDCl$_3$, ppm)
3	δ 1.30(6H,d,J=6.3Hz), 2.41(3H,s), 5.00-5.05(1H,m), 6.92(1H,s), 7.40-7.61(5H,m), 7.93(1H,s), 8.01(1H,s), 8.21(1H,d,J=8.8Hz)
4	δ 0.96(3H,t,J=7.3Hz), 1.38-1.47(2H,m), 1.63-1.71(2H,m), 2.41(3H,s), 4.19(2H,t,J=6.6Hz), 6.83(1H,s), 7.42-7.62(5H,m), 7.83(1H,s), 8.00(1H,s), 8.25(1H,d,J=8.5Hz)
5	δ 0.98(6H,d,J=6.8Hz), 1.94-2.05(1H,m), 2.42(3H,s), 3.98(2H,d,J=6.6Hz), 6.81(1H,s), 7.44-7.52(3H,m), 7.55-7.61(2H,m), 7.85(1H,s), 8.01(1H,s), 8.25(1H,d,J=8.6Hz)
6	δ 0.96(3H, t, J=7.6Hz), 1.29(3H, d, J=6.1Hz), 1.58-1.73(2H, m), 2.42(3H, s), 4.83-4.92(1H, m), 6.72(1H, s), 7.42-7.61(5H, m), 7.79(1H, s), 8.01(1H, s), 8.26(1H, d, J=8.5Hz)
7	δ 1.53(9H,s), 2.41(3H,s), 6.66(1H,s), 7.40-7.55(5H,m), 7.80(1H,s), 7.98(1H,d,J=1.7Hz), 8.23(1H,d,J=8.8Hz)
8	δ 0.98(9H, s), 2.41(3H, s), 3.89(2H, s), 6.94(1H, s), 7.41-7.50(3H, m), 7.54-7.57(1H, m), 7.62(1H, d, J=8.1Hz), 7.86(1H, s), 8.02(1H, s), 8.24(1H, d, J=8.8Hz)
9	δ 0.97(9H, s), 1.62(2H, t, J=7.6Hz), 2.41(3H, s), 4.25(2H, t, J=7.6Hz), 6.79(1H, br), 7.42-7.51(3H, m), 7.54-7.57(1H, m), 7.61(1H, d), 7.82(1H, s), 7.99(1H, s), 8.24(1H, d, J=8.5Hz)
10	δ 0.90(3H,t,J=7.3Hz), 0.91(3H,t,J=7.3Hz), 1.26-1.41(8H,m), 1.55-1.65(1H,m), 2.40(3H, s), 4.10(2H,t,J=5.4Hz), 7.01(1H,s), 7.40-7.50(3H,m), 7.55(1H,d,J=7.8Hz), 7.62(1H,d,J=7.8Hz), 7.91(1H,s), 8.01(1H,s), 8.21(1H,d,J=8.5Hz)
11	δ 2.42(3H,s), 4.55(1H,dd,J=1.7Hz, 6.3Hz), 4.83(1H,dd,J=1.7Hz, 13.9Hz), 7.29(1H,dd, J=6.3Hz, 13.9Hz), 7.42-7.50(3H,m), 7.61-7.63(1H,m), 7.77(1H,d,J=7.8Hz), 8.08(1H,s), 8.15(1H,d,J=7.8Hz), 8.30(1H,s), 8.92(1H,br-s)
12	δ 2.42(3H, s), 4.68-4.70(2H, m), 5.27-5.31(1H, m), 5.35-5.41(1H, m), 5.93-6.03(1H, m), 6.83(1H, br), 7.44-7.52(3H, m), 7.55-7.63(2H, m), 7.79(1H, br), 8.00(1H, s), 8.26(1H, d, J=8.8Hz)
13	δ 0.82(3H, d, J=7.1Hz), 0.84-0.99(7H, m), 1.02-1.12(2H, m), 1.36-1.42(1H, m), 1.50-1.59(1H, m), 1.68-1.72(2H, m), 1.94-1.99(1H, m), 2.11(1H, d, J = 1.7Hz), 2.42(3H, s), 4.65-4.72(1H, m), 6.74(1H, s), 7.42-7.62(5H, m), 7.80(1H, s), 8.02(1H, s), 8.25(1H, d, J=8.5Hz)
14	δ 2.38(3H,s), 5.19(2H,s), 7.19(1H,s), 7.32-7.61(10H,m), 7.91(1H,s), 8.00(1H,s), 8.16(1H,d,J=8.5Hz)
16	δ 2.34 (3H, s), 5.27(2H, s), 6.96 (1H, br-s), 7.40-7.58 (6H, m), 7.63-7.69 (3H, m), 7.79 (1H, s), 8.00 (1H, s), 8.25 (1H, d, J=8.8Hz)
17	δ 2.33(3H, s), 3.34(3H, s), 3.57-3.61(2H, m), 4.26-4.32(2H, m), 7.13(1H, s), 7.32-7.42(3H, m), 7.46-7.53(2H, m), 7.83(1H, s), 7.91(1H, d, J = 1.7Hz), 8.13(1H, d, J=8.5Hz)
18	δ 2.42(3H,s), 5.83(2H,s), 7.16(1H,br-s), 7.43-7.52(3H,m), 7.61(1H,d,J=8.1Hz), 7.68(1H,d,J=8.1Hz), 7.82(1H,s), 8.03(1H,s), 8.25(1H,d,J=8.5Hz)

Tabla 9 (2)

Compuesto No.	^{1}H-RMN ($CDCl_3$, ppm)
18	δ 2.42(3H,s), 5.83(2H,s), 7.16(1H,br-s), 7.43-7.52(3H,m), 7.61(1H,d,J=8.1Hz), 7.68(1H,d,J=8.1Hz), 7.82(1H,s), 8.03(1H,s), 8.25(1H,d,J=8.5Hz)
19	δ 2.40(3H, s), 3.74(2H, t, J=5.6Hz), 4.44(2H, t, J=5.6Hz), 7.19(1H, s), 7.42-7.50(3H, m), 7.55-7.58(1H, m), 7.63(1H, d, J=7.6Hz), 7.88(1H, s), 8.01(1H, s), 8.22(1H, d, J=8.8Hz)
20	δ 2.40(3H,s), 4.83(2H,s), 7.42-7.49(3H,m), 7.58-7.61(1H,m), 7.67-7.69(2H,m), 7.98(1H,s), 8.06(1H,s), 8.19(1H,d,J=8.5Hz)
21	δ 2.43(3H, s), 6.90(1H, s), 7.22(1H, br-s), 7.47-7.54(3H, m), 7.64-7.68(2H, m), 7.78(1H, s), 8.06(1H, s), 8.26(1H, d, J = 8.8Hz)
22	δ 2.01(6H,s), 2.42(3H,s), 6.95(1H,br), 7.44-7.52(3H,m), 7.57-7.62(2H,m), 7.80(1H,s), 8.02(1H,s), 8.24(1H,d,J=8.5Hz)
23	δ 2.41(3H,s), 7.23-7.29(1H,m), 7.40-7.55(7H,m), 7.61-7.64(1H,m), 7.72(1H,d,J=8.3Hz), 7.78(1H,s), 8.07(1H,s), 8.26(1H,d,J=8.8Hz)
24	δ 2.36(3H,s), 2.40(3H,s), 7.05-7.09(2H,m), 7.15(1H,s), 7.20(2H,d,J=8.1Hz), 7.47-7.52 (3H,m), 7.60-7.63(1H,m), 7.66-7.68(1H,m), 7.79(1H,s), 8.07(1H,s), 8.25(1H,d,J=8.8Hz)
25	δ 2.41(3H,s), 7.12-7.17(2H,m), 7.32-7.38(2H,m), 7.42-7.48(3H,m), 7.64(1H,d,J= 7.8Hz), 7.82(1H,d,J=7.8Hz), 7.99(1H,d,J=8.5Hz), 8.06(1H,d,J=8.5Hz), 8.51(1H,s), 9.52(1H,s)
59	δ 2.32(6H, s), 3.79(3H, s), 6.92(1H, br-s), 7.34(2H, s), 7.43(1H, t, J=7.8Hz), 7.52-7.62(3H, m), 8.00(1H, s)
60	δ 1.33(3H, t, J = 7.1Hz), 2.33(6H, s), 4.24(2H, q, J=7.1Hz), 6.80(1H, s), 7.35(2H, s), 7.44(1H, t, J=7.8Hz), 7.46(1H, s), 7.52-7.61(2H, m), 8.02(1H, s)
61	δ 0.99(3H, t, J=7.3Hz), 1.71(2H, m), 2.34(6H, s), 4.14(2H, t, J=6.9Hz), 6.79(1H, s), 7.35(2H, s), 7.41-7.47(2H, m), 7.59-7.61(2H, m), 8.02(1H, s)
62	δ 1.31(6H, d, J=6.3Hz), 2.33(6H, s), 5.03(1H, septet, J=6.3Hz), 6.74(1H, s), 7.35(2H, s), 7.43(1H, t, J=8.1Hz), 7.52(1H, s), 7.56-7.61(2H, m), 8.03(1H, s)
63	δ 0.96(3H, t, J=7.3Hz), 1.38-1.48(2H, m), 1.61-1.71(2H, m), 2.34(6H, s), 4.19(2H, t, J=6.9Hz), 6.76(1H, s), 7.35(2H, s), 7.42-7.46(2H, m), 7.58-7.61(2H, m), 8.02(1H, s)
64	δ 0.98(6H, d, J=6.8Hz), 1.94-2.04(1H, m), 2.34(6H, s), 3.97(2H, d, J=6.6Hz), 6.79(1H, s), 7.35(2H, s), 7.42-7.47(2H, m), 7.59-7.61(2H, m), 8.02(1H, s)

Tabla 9 (3)

Compuesto No.	^{1}H-RMN ($CDCl_3$, ppm)
66	δ 1.53(9H, s), 2.34(6H, s), 6.62(1H, s), 7.35(2H, s), 7.39-7.45(2H, m), 7.51-7.60(2H, m), 8.02(1H, s)
67	δ 0.99(9H, s), 2.34(6H, s), 3.90(2H, s), 6.79(1H, s), 7.35(2H, s), 7.43(1H, br-s), 7.46(1H, t, J = 8.1Hz), 7.59-7.63(2H, m), 8.03(1H, s)
68	δ 0.95(3H, d, J=6.8Hz), 0.96(3H, d, J=6.8Hz), 1.24(3H, d, J=6.3Hz), 1.81-1.89(1H, m), 2.34(6H, s), 4.75(1H, quint, J=6.3Hz), 6.77(1H, s), 7.35(2H, s), 7.44(1H, t, J=8.1Hz), 7.54-7.62(3H, m), 8.05(1H, s)
69	δ 0.94(3H, t, J=7.3Hz), 1.29(3H, d, J=6.3Hz), 1.32-1.45(2H, m), 1.46-1.58(1H, m), 1.61-1.70(1H, m), 2.35(6H, s), 4.93(1H, se-t., J=6.3Hz), 6.73(1H, s), 7.35(2H, s), 7.42-7.47(1H, m), 7.51(1H, s), 7.56-7.62(2H, m), 8.05(1H, s)
70	δ 0.93(3H, d, J = 6.6Hz), 0.94(3H, d, J = 6.6Hz), 1.29(3H, d, J = 6.3Hz), 1.31-1.37(1H, m), 1.57-1.75(2H, m), 2.34(6H, s), 4.96-5.05(1H, m), 6.70(1H, s), 7.35(2H, s), 7.42-7.46(2H, m), 7.57-7.61(2H, m), 8.04(1H, s)
71	δ 0.97(9H, s), 1.62(2H, t, J=7.6Hz), 2.34(6H, s), 4.25(2H, t, J=7.6Hz), 6.73(1H, s), 7.35(2H, s), 7.43-7.47(2H, m), 7.59-7.61(2H, m), 8.02(1H, s)
72	δ 1.27-1.34(2H, m), 1.50-1.66(4H, m), 1.74-1.83(2H, m), 2.18-2.32(1H, m), 2.34(6H, s), 4.07(2H, d, J=7.1Hz), 6.79(1H, s), 7.35(2H, s), 7.43-7.51(2H, m), 7.58-7.62(2H, m), 8.03(1H, s)
73	δ 1.62 (3H, d, J=6.6Hz), 2.33 (6H, s), 5.90 (1H, q, J=6.6Hz), 6.82 (1H, br-s), 7.28-7.45 (9H, m), 7.56 (1H, d, J=8.1Hz), 7.60 (1H, d, J=7.6Hz), 8.02 (1H, br-s)
74	δ 2.34 (6H, s), 3.02 (2H, t, J=7.1Hz), 4.42 (2H, t, J=7.1Hz), 6.74 (1H, br-s), 7.23-7.27 (2H, m), 7.31-7.35 (5H, m), 7.41-7.47 (2H, m), 7.58-7.62 (2H, m), 7.99 (1H, br-s)
75	δ 2.34(6H, s), 4.58(1H, dd, J=2.0Hz, 6.3Hz), 4.87(1H, dd, J=2.0Hz, 13.9Hz), 7.00(1H, s), 7.25(1H, dd, J=6.3Hz, 13.9Hz), 7.35(2H, s), 7.47(1H, t, J=7.8Hz), 7.55(1H, s), 7.63-7.65(2H, m), 8.03(1H, s)
76	δ 2.34(6H, s), 4.68-4.70(2H, m), 5.26-5.31(1H, m), 5.35-5.41(1H, m), 5.92-6.02(1H, m), 6.84(1H, s), 7.35(2H, s), 7.42-7.47(2H, m), 7.60-7.62(2H, m), 8.02(1H, s)
77	δ 2.33(6H, s), 2.53(1H, t, J=1.4Hz), 4.79(2H, d, J=1.4Hz), 6.97(1H, br-s), 7.35(2H, s), 7.44(1H, t, J=8.1Hz), 7.51(1H, s), 7.59-7.63(2H, m), 8.02(1H, s)
78	δ 1.60-1.70 (1H, m), 1.78-1.86 (1H, m), 2.07-2.18 (2H, m), 2.33 (6H, s), 2.35-2.43 (2H, m), 5.00-5.08 (1H, m), 6.80 (1H, s), 7.35 (2H, s), 7.41-7.46 (1H, m), 7.53-7.62 (3H, m), 8.03 (1H, s)
79	δ 1.68-1.80(6H, m), 1.86-1.94(2H, m), 2.34(6H, s), 5.20-5.23(1H, m), 6.72(1H, s), 7.35(2H, s), 7.42-7.62(4H, m), 8.04(1H, s)
81	δ 2.32(6H, s), 5.22(2H, s), 6.87(1H, s), 7.34(2H, s), 7.36-7.45(7H, m), 7.57-7.61(2H, m), 8.01(1H, s)

Tabla 9 (4)

Compuesto No.	^{1}H-RMN (CDCl$_3$, ppm)
82	δ 2.33 (9H, s), 5.18 (2H, s), 6.83 (1H, br-s), 7.14-7.20 (3H, m), 7.31 (1H, d, J=7.8Hz), 7.35 (2H, s), 7.44 (2H, t, J=7.8Hz), 7.52-7.62 (2H, m), 8.01 (1H, br-s)
83	δ 2.34 (6H, s), 5.28 (2H, s), 6.90 (1H, br-s), 7.35 (2H, s), 7.49-7.54 (4H, m), 7.61-7.66 (4H, m), 8.01 (1H, s)
84	δ 2.34 (6H, s), 5.24 (2H, s), 6.92 (1H, br-s), 7.35-7.52 (4H, m), 7.63-7.81 (6H, m), 8.02 (1H, s)
85	δ 2.34 (6H, s), 5.27 (2H, s), 6.97 (1H, br-s), 7.35 (2H, s), 7.45-7.52 (4H, m), 7.61-7.69 (4H, m), 8.01 (1H, s)
89	δ 2.34(6H, s), 5.34(2H, s), 6.90(1H, br), 7.28-7.30(3H, m), 7.35(2H, s), 7.39-7.49(3H, m), 7.59-7.64(2H, m), 8.04(1H, m)
90	δ 2.33(6H, s), 5.18(2H, s), 6.92(1H, s), 7.22-7.34(5H, m), 7.40-7.47(3H, m), 7.59-7.63(2H, m), 8.02(1H, s)
91	δ 2.33(6H, s), 5.18(2H, s), 6.86(1H, s), 7.29-7.38(6H, m), 7.43-7.47(2H, m), 7.60-7.62(2H, m), 8.01(1H, s)
92	δ 2.34 (6H, s), 5.32 (2H, s), 6.92 (1H, br-s), 7.36 (2H, s), 7.42 (1H, s), 7.48 (1H, t, J=7.8Hz), 7.58 (2H, d, J=9.0Hz), 7.62-7.66 (2H, m), 8.01 (1H, s), 8.25 (2H, d, J=9.0Hz)
93	δ 2.35 (6H, s), 3.93 (3H, s), 5.28 (2H, s), 6.88 (1H, br-s), 7.36 (2H, s), 7.41 (1H, s), 7.45-7.49 (4H, m), 7.63 (2H, d, J=6.8Hz), 8.02 (1H, s), 8.05 (1H, d, J = 6.8Hz)
94	δ 2.32 (6H, s), 2.62 (1H, br), 3.87 (2H, t, J =4.4Hz), 4.29-4.32 (2H, m), 7.26 (1H, s), 7.34 (2H, s), 7.42 (1H, t, J=8.1Hz), 7.54-7.61 (2H, m), 7.77 (1H, s), 8.00 (1H, s)
95	δ 2.31(6H, s), 3.41(3H, s), 3.64-3.66(2H, m), 4.32-4.35(2H, m), 7.14(1H, s), 7.34(2H, s), 7.40(1H, t, J=7.8Hz), 7.55-7.60(2H, m), 7.67(1H, s), 8.00(1H, s)
96	δ 1.23(3H, t, J = 6.8Hz), 2.29(6H, s), 3.56(2H, q, J=6.8Hz), 3.67-3.70(2H, m), 4.31-4.34(2H, m), 7.26(1H, s), 7.33(2H, s), 7.38-7.40(1H, m), 7.52-7.60(2H, m), 7.83(1H, s), 8.00(1H, s)
97	δ 1.18(6H, d, J=6.1Hz), 2.29(6H, s), 3.63-3.69(3H, m), 4.30-4.32(2H, m), 7.26(1H, s), 7.33(2H, s), 7.38(1H, t, J=7.8Hz), 7.56-7.60(2H, m), 7.82(1H, s), 8.00(1H, s)
98	δ 2.28 (6H, s), 3.70-3.73 (2H, m), 4.33-4.36 (2H, m), 4.57 (2H, s), 7.23-7.39 (9H, m), 7.53 (1H, d, J=7.8Hz), 7.58 (1H, d, J=7.8Hz), 7.87 (1H, s), 7.99 (1H, s)
99	δ 1.20 (3H, t, J=8.1Hz), 1.95-2.00 (2H, m), 2.35 (6H, s), 3.47-3.57 (4H, m), 4.30 (2H, t, J=6.6Hz), 6.78 (1H, s), 7.35 (2H, s), 7.46 (2H, t, J=7.8Hz), 7.61 (2H, d, J=7.8Hz), 8.02 (1H, s)

Tabla 9 (5)

Compuesto No.	^{1}H-RMN (CDCl$_3$, ppm)
100	δ 1.30(3H, t, J=7.3Hz), 2.34(6H, s), 4.26(2H, q, J=7.3Hz), 4.72(2H, s), 7.35(2H, s), 7.36-7.40(1H, m), 7.52-7.60(3H, m), 7.77-7.79(1H, m), 7.90(1H, br-s)
101	δ 1.56(3H, d, J=7.3Hz), 2.33(6H, s), 3.79(3H, s), 5.18(1H, q, J=7.3Hz), 7.21(1H, br), 7.35(2H, s), 7.41(1H, t, J=7.8Hz), 7.55-7.62(3H, m), 7.98(1H, s)
102	δ 1.29(3H, t, J=6.8Hz), 1.55(3H, d, J=6.8Hz), 2.34(6H, s), 4.23(2H, q, J=6.8Hz), 5.16(1H, q, J=6.8Hz), 7.24(1H, br), 7.35(2H, s), 7.41(1H, t, J=7.8Hz), 7.55-7.62(3H, m), 7.96(1H, s)
103	δ 2.21(3H, s), 2.34(6H, s), 2.84(2H, t, J=6.1Hz), 4.46(2H, t, J=6.1Hz), 6.91(1H, br-s), 7.35(2H, s), 7.43(1H, t, J=7.8Hz), 7.52-7.70(3H, m), 8.03(1H, s)
104	δ 2.10(3H, s), 2.34(6H, s), 4.33-4.42(4H, m), 6.97(1H, br-s), 7.35(2H, s), 7.45(1H, t, J=7.8Hz), 7.57-7.64(3H, m), 8.01(1H, s)
105	δ 2.33(6H, s), 2.78(2H, t, J=6.3Hz), 4.40(2H, t, J=6.3Hz), 7.12(1H, br), 7.35(2H, s), 7.45(1H, t, J=7.8Hz), 7.60-7.65(3H, m), 8.01(1H, s)
108	δ 2.17(3H, s), 2.34(6H, s), 2.80(2H, t, J=6.6Hz), 4.37(2H, t, J=6.6Hz), 6.84(1H, br-s), 7.35(2H, s), 7.43-7.52(2H, m), 7.58-7.63(2H, m), 8.02(1H, s)
109	δ 1.25-1.31(3H, m), 2.33(6H, s), 2.57-2.64(2H, m), 2.81-2.85(2H, m), 4.32-4.38(2H, m), 6.92(1H, s), 7.35(2H, s), 7.42-7.49(1H, m), 7.58-7.63(3H, m), 8.03(1H, s)
110	δ 1.28(6H, d, J=6.6Hz), 2.34(6H, s), 2.84(2H, t, J=7.1Hz), 2.94-3.04(1H, m), 4.34(2H, t, J=7.1Hz), 6.88(1H, s), 7.35(2H, s), 7.42-7.49(1H, m), 7.52-7.64(3H, m), 8.02(1H, s)
111	δ 1.40(3H, d, J=6.1Hz), 2.17(3H, s), 2.34(6H, s), 2.67(1H, dd, J=6.1Hz, 13.7Hz), 2.77(1H, dd, J=6.1Hz, 13.7Hz), 5.08(1H, sextet, J=6.1Hz), 6.80(1H, s), 7.35(2H, s), 7.45(1H, t, J=7.8Hz), 7.52(1H, s), 7.57-7.63(2H, m), 8.04(1H, s)
112	δ 1.24-1.37 (3H, m), 2.35 (6H, s), 2.26-2.31 (2H, m), 2.95-3.06 (2H, m), 4.67-4.76 (2H, m), 7.35 (3H, s), 7.45 (2H, t, J=7.8Hz), 7.59-7.74 (2H, m), 8.08 (1H, br-s)
113	δ 1.36-1.43 (3H, m), 2.35 (6H, s), 3.04-3.10 (2H, m), 3.37 (2H, t, J=5.9Hz), 4.68-4.73 (2H, m), 7.00 (1H, br-s), 7.35 (2H, s), 7.46 (2H, t, J=7.8Hz), 7.55-7.70 (2H, m), 8.02-8.07 (1H, m)
116	δ 2.35(6H, s), 4.45(2H, dt, J=28.3Hz, 4.0Hz), 4.66(2H, dt, J=47.3Hz, 4.0Hz), 6.88(1H, br-s), 7.36(2H, s), 7.46-7.50(2H, m), 7.59-7.65(2H, m), 8.02(1H, s)
117	δ 2.34(6H, s), 4.38(2H, dt, J=3.9Hz, 13.6Hz), 6.00(1H, tt, J=3.9Hz, 47.3Hz), 7.05(1H, br-s), 7.35(2H, s), 7.47(1H, t, J=7.8Hz), 7.57-7.66(3H, m), 8.01(1H, s)
118	δ 2.33(6H, s), 4.57(2H, q, J=9.3Hz), 7.09(1H, br), 7.35(2H, s), 7.45-7.50(2H, m), 7.61-7.66(2H, m), 8.01(1H, s)

Tabla 9 (6)

Compuesto No.	^{1}H-RMN ($CDCl_3$, ppm)
119	δ 2.35(6H, s), 4.61-4.75(4H, m), 5.18-5.31(1H, m), 6.98(1H, br-s), 7.36(2H, m), 7.45-7.52(2H, m), 7.58-7.66(2H, m), 8.03(1H, s)
120	δ 2.35(6H, s), 3.75-3.83(2H, m), 4.46-4.80(2H, m), 5.19-5.24(1H, m), 6.97(1H, br-s), 7.36(2H, s), 7.36-7.48(2H, m), 7.60-7.66(2H, m), 8.03(1H, s)
121	(DMSO-d_6) δ 1.48 (3H, d, J=6.6Hz), 2.35 (6H, s), 5.35 (1H, septet, J=6.6Hz), 7.33 (2H, s), 7.42 (1H, t, J=7.8Hz), 7.68 (1H, d, J=7.8Hz), 7.76 (1H, d, J=7.8Hz), 8.11 (1H, s), 8.76 (1H, s), 9.26 (1H, s)
122	($CDCl_3$+DMSO-d_6) δ 2.35(6H, s), 5.87(1H, septet, J=6.3Hz), 7.33(2H, m), 7.44(1H, t, J=8.1Hz), 7.71-7.78(2H, m), 8.17(1H, s), 8.97(1H, m), 10.19(1H, s)
123	δ 2.34(6H, s), 2.48-2.59(2H, m), 4.42(2H, t, J=6.3Hz), 6.93(1H, br-s), 7.35(2H, s), 7.46(1H, t, J=7.8Hz), 7.57-7.64(3H, m), 8.01(1H, br-s)
124	δ 2.35(6H, s), 4.67(2H, t, J=13.2Hz), 6.98(1H, br-s), 7.29(2H, s), 7.36(1H, s), 7.50(1H, t, J=7.8Hz), 7.65-7.67(2H, m), 8.01(1H, s)
125	δ 1.51(3H, d, J=6.4Hz), 2.35(6H, s), 5.49-5.50(1H, m), 6.90(1H, br-s), 7.36(2H, s), 7.44(1H, br-s), 7.50(1H, t, J=7.8Hz), 7.62-7.67(2H, m), 8.02(1H, s)
126	δ 1.95-2.05(2H, m), 2.22-2.27(2H, m), 2.35(6H, s), 4.26(2H, t, J=6.4Hz), 6.81(1H, s), 7.36(2H, s), 7.45-7.49(2H, m), 7.61-7.63(2H, m), 8.02(1H, s)
127	δ 2.35(6H, s), 2.61-2.65(1H, m), 2.9-3.1(1H, m), 5.2-5.3(1H, m), 7.01(1H, br-s), 7.36(2H, s), 7.45-7.52(2H, m), 7.62-7.68(2H, m), 8.01(1H, s)
128	δ 2.34(6H, s), 5.84(2H, s), 7.03(1H, s), 7.36(2H, s), 7.44-7.52(2H, m), 7.65-7.67(2H, m), 8.04(1H, s)
129	δ 2.36(6H, s), 7.33(2H, s), 7.40-7.46(1H, m), 7.65(1H, d, J=7.8Hz), 7.90(1H, d, J=7.8Hz), 7.95(1H, d, J=1.7Hz), 8.55(1H, s), 9.07(1H, s)
130	δ 2.35(6H, s), 3.74-3.77(2H, m), 4.44-4.47(2H, m), 6.87(1H, br), 7.36(2H, s), 7.43-7.52(2H, m), 7.59-7.64(2H, m), 8.02(1H, s)
131	δ 2.32(6H, s), 4.53(2H, d, J=5.9Hz), 5.90(1H, t, J=5.9Hz), 7.11(1H, br-s), 7.35(2H, s), 7.45(1H, t, J=8.1Hz), 7.60-7.64(3H, m), 8.01(1H, br-s)
132	δ 2.33(6H, s), 4.84(2H, s), 7.29(1H, br), 7.35(2H, s), 7.47(1H, t, J = 7.8Hz), 7.58(1H, s), 7.64-7.66(2H, m), 8.04(1H, s)
133	δ 2.35(6H, s), 6.90(1H, s), 7.17(1H, br), 7.36(2H, s), 7.42(1H, s), 7.50-7.54(1H, m), 7.66-7.71(2H, m), 8.06(1H, s)

Tabla 9 (7)

Compuesto Nº	^{1}H-RMN ($CDCl_3$, ppm)
134	δ 2.35(6H, s), 3.83(4H, d, J=5.1Hz), 5.22(1H, quint, J=5.1Hz), 6.93(1H, s), 7.36(2H, s), 7.49(1H, s), 7.48(1H, t, J=7.8Hz), 7.60-7.66(2H, m), 8.03(1H, s)
135	δ 2.01(6H, s), 2.35(6H, s), 6.88(1H, br), 7.36(2H, s), 7.43-7.52(2H, m), 7.58-7.65(2H, m), 8.03(1H, s)
136	δ 2.17(2H, quint, J=6.3Hz), 2.34(6H, s), 3.66(2H, t, J=6.3Hz), 4.36(2H, t, J=6.3Hz), 6.83(1H, s), 7.35(2H, s), 7.43-7.48(1H, m), 7.52(1H, s), 7.59-7.63(2H, m), 8.02(1H, s)
137	δ 2.35(6H, s), 3.58(2H, t, J=5.9Hz), 4.51(2H, t, J=5.9Hz), 6.86(1H, br), 7.36(2H, s), 7.43-7.52(2H, m), 7.60-7.64(2H, m), 8.02(1H, s)
138	δ 2.34(6H, s), 5.03(2H, s), 7.15(1H, br), 7.35(2H, s), 7.47-7.54(2H, m), 7.64-7.69(2H, m), 8.06(1H, s)
139	δ 2.25(2H, quint, J=6.1Hz), 2.34(6H, s), 3.51(2H, t, J=6.1Hz), 4.35(2H, t, J=6.1Hz), 6.83(1H, s), 7.35(2H, s), 7.46(1H, t, J=8.1Hz), 7.54(1H, s), 7.58-7.64(2H, m), 8.02(1H, s)
140	δ 2.34(6H, s), 3.34-3.39(2H, m), 4.42-4.47(2H, m), 6.91-6.99(1H, br), 7.35(2H, s), 7.43-7.49(1H, m), 7.56-7.64(3H, m), 8.03(1H, s)
141	(DMSO-d_6) δ 1.82(3H, s), 2.28(6H, s), 3.33(2H, q, J=5.9Hz), 4.11(2H, t, J=5.9Hz), 7.44(2H, s), 7.46(1H, d, J=7.8Hz), 7.62-7.69(2H, m), 8.04(1H, t, J=5.9Hz), 8.09(1H, s), 9.90(1H, s), 9.93(1H, s)
146	δ 2.34(6H, s), 2.36(3H, s), 7.05-7.08(2H, m), 7.17-7.20(2H, m), 7.33(2H, s), 7.43(1H, t, J=7.8Hz), 7.68(1H, d, J=7.8Hz), 7.80(1H, d, J=7.8Hz), 8.17(1H, s), 8.67(1H, s), 9.29(1H, s)
147	δ 2.35(6H, s), 7.33(2H, s), 7.41-7.57(5H, m), 7.72(1H, d, J=7.8Hz), 7.82(1H, d, J=7.8Hz), 8.18(1H, s), 9.01(1H, s), 9.73(1H, s)
148	δ 2.35(6H, s), 7.13-7.18(2H, m), 7.32-7.37(4H, m), 7.41-7.45(1H, m), 7.70(1H, d, J=7.6Hz), 7.81(1H, d, J=7.6Hz), 8.16(1H, s), 9.04(1H, s), 9.69(1H, s)
149	δ 2.34(6H, s), 7.32(2H, s), 7.33-7.36(1H, m), 7.42-7.52(3H, m), 7.65(1H, d, J=2.4Hz), 7.70(1H, d, J=7.8Hz), 7.80-7.88(4H, m), 8.20(1H, s), 8.76(1H, s), 9.48(1H, s)
154	δ 2.08-2.14 (1H, m), 2.19-2.30 (1H, m), 2.35 (6H, s), 3.86-4.01 (4H, m), 5.37-5.39 (1H, m), 6.87 (1H, br-s), 7.35 (2H, s), 7.46 (2H, t, J=7.6Hz), 7.58-7.63 (2H, m), 8.01 (1H, s)
155	δ 2.34 (6H, s), 5.18 (2H, s), 6.38 (1H, d, J=3.2Hz), 6.48 (1H, d, J=3.2Hz), 6.83 (1H, br-s), 7.35 (2H, s), 7.43-7.47 (3H, m), 7.57-7.63 (2H, m), 8.01 (1H, s)
156	δ 2.34 (6H, s), 5.10 (2H, s), 6.48 (1H, s), 6.79 (1H, br-s), 7.35 (2H, s), 7.39-7.47 (3H, m), 7.53 (1H, s), 7.59-7.63 (2H, m), 8.01 (1H, br-s)

Tabla 9 (8)

Compuesto No.	^{1}H-RMN (CDCl$_3$, ppm)
157	δ 1.58-1.67 (1H, m), 1.93-1.95 (2H, m), 2.01-2.09 (1H, m), 2.34 (6H, s), 3.78-3.93 (2H, m), 4.06-4.23 (2H, m), 4.31 (1H, dd, J=3.2Hz, 11.2Hz), 6.95 (1H, br-s), 7.35 (2H, s), 7.45 (2H, t, J=7.8Hz), 7.50-7.56 (1H, m), 7.63 (1H, d, J=7.1Hz), 8.04 (1H, s)
158	δ 1.66-1.73 (1H, m), 2.09-2.13 (1H, m), 2.34 (6H, s), 2.60-2.70 (1H, m), 3.64-3.68 (1H, m), 3.73-3.79 (1H, m), 3.85-3.92 (2H, m), 4.09-4.15 (2H, m), 6.87 (1H, br-s), 7.35 (2H, s), 7.46 (2H, t, J=7.8Hz), 7.61-7.66 (2H, m), 8.01 (1H, br-s)
159	δ 2.34 (6H, s), 5.38 (2H, s), 6.83 (1H, br-s), 6.98-7.02 (1H, m), 7.16 (1H, d, J=2.9Hz), 7.34-7.36 (3H, m), 7.43-7.47 (2H, m), 7.59-7.63 (2H, m), 8.01 (1H, s)
160	δ 2.34 (6H, s), 5.23 (2H, s), 6.83 (1H, br-s), 7.14 (1H, d, J=8.1Hz), 7.33-7.37 (3H, m), 7.45 (2H, t, J=7.8Hz), 7.61-7.64 (2H, m), 8.02 (1H, s)
161	δ 2.32 (6H, s), 5.34 (2H, s), 7.24-7.28 (2H, m), 7.35 (2H, s), 7.39 (1H, d, J=7.8Hz), 7.43 (1H, d, J=7.8Hz), 7.55 (1H, s), 7.61 (2H, t, J=7.8Hz), 7.73 (1H, dt, J=1.7Hz, 7.8Hz), 8.03 (1H, s), 8.61 (1H, br-s)
162	δ 2.36 (6H, s), 5.36 (2H, s), 6.37 (1H, br-s), 6.70 (1H, s), 7.31-7.39 (4H, m), 7.73-7.82 (4H, m), 8.58-8.61 (1H, m), 8.72 (1H, d, J=2.0Hz)
163	δ 2.34 (6H, s), 5.22 (2H, s), 6.89 (1H, br-s), 7.35-7.49 (5H, m), 7.62 (2H, d, J = 7.3Hz), 7.72-7.77 (1H, m), 8.00 (1H, br-s), 8.45 (1H, d, J 2.4Hz
164	δ1.23 (6H, d, J=6.8Hz), 2.34 (3H, s), 3.18 (1H, septet, J=6.8Hz), 3.81 (3H, s), 6.84 (1H, s), 7.36 (1H, s), 7.42 (1H, s), 7.46 (1H, t, J=7.8Hz), 7.56-7.63 (3H, m), 8.01 (1H, s)
165	δ1.22 (6H, d, J=6.8Hz), 1.33 (3H, t, J=7.3Hz), 2.33 (3H, s), 3.17 (1H, septet, J=6.8Hz), 4.24 (2H, q, J=7.3Hz), 6.80 (1H, s), 7.35 (1H, s), 7.41 (1H, s), 7.44 (1H, t, J=7.8Hz), 7.58-7.62 (3H, m), 8.02 (1H, s)
166	δ 1.32(6H, d, J=6.1Hz), 3.03(1H, septet, J=6.1Hz), 6.71(1H, s), 7.40-7.44(1H, m), 7.54(1H, d, J=2.0Hz), 7.56(1H, d, J=2.0Hz), 7.60(2H, d, J=8.8Hz), 7.60(2H, d, J=8.8Hz), 7.98(1H, s), 8.03(1H, s)
167	δ1.32 (6H, d, J=6.1Hz), 2.53 (3H, d, J=8.8Hz), 5.04 (1H, septet, J=6.1Hz), 6.71 (1H, br s), 7.41-7.65 (6H, m), 7.95-7.97 (2H, m)
168	δ 1.32(6H, d, J=6.1Hz), 1.33(3H, t, J=7.6Hz), 2.74(2H, q, J=7.6Hz), 5.04(1H, septet, J=6.1Hz), 6.70(1H, s), 7.43-7.56(4H, m), 7.60(1H, d, J=8.1Hz), 7.86(1H, s), 8.00(1H, s), 8.27(1H, d, J=8.5Hz)
169	δ 1.02(3H, t, J=7.3Hz), 1.32(6H, d, J=6.3Hz), 1.67-1.77(2H, m), 2.70(2H, t, J=7.3Hz), 5.03(1H, septet, J=6.3Hz), 6.72(1H, s), 7.43-7.60(5H, m), 7.89(1H, s), 8.03(1H, s), 8.29(1H, d, J=8.5Hz)
170	δ1.32 (6H, d, J=6.4Hz), 3.89 (3H, s), 5.04 (1H, septet, J=6.4Hz), 6.73 (1H, br s), 7.05-7.08 (1H, m), 7.42-7.46 (1H, m), 7.51-7.58 (3H, m), 7.80 (1H, s), 8.00 (1H, s), 8.15 (1H, s)
171	δ1.32 (6H, d, J=6.4Hz), 5.03 (1H, septet, J=6.4Hz), 6.75 (1H, s), 7.28-7.47 (2H, m), 7.52-7.58 (2H, m), 7.72-7.75 (1H, m), 7.92 (1H, s), 8.00 (1H, s), 8.37 (1H, s)

Table 9 (10)

Compounds No.	^{1}H-RMN ($CDCl_3$, ppm)
172	δ1.31 (6H, d, J=6.3Hz), 2.30 (3H, s), 2.47 (3H, d, J=5.9Hz), 5.01-5.09 (1H, m), 6.72 (1H, br-s), 7.40-7.47 (2H, m), 7.56-7.60 (2H, m), 7.77 (1H, d, J=8.6Hz), 7.83 (1H, br-s), 8.00 (1H, br-s)
173	δ 1.31 (6H, d, J=6.1Hz), 2.35 (3H, s), 2.52 (3H, d, J=5.0Hz), 4.99-5.09 (1H, m), 6.71 (1H, br-s), 7.30 (1H, br-s), 7.44 (1H, t, J=7.8Hz), 7.52-7.57 (1H, m), 7.61 (1H, d, J=7.8Hz), 7.72 (1H, s), 7.98 (1H, s), 8.06 (1H, s)
174	δ 1.23(6H, t, J=7.6Hz), 1.32(6H, d, J=6.1Hz), 2.69(4H, q, J=7.6Hz), 5.03(1H, septet, J=6.1Hz), 6.70(1H, s), 7.39(2H, s), 7.42-7.47(2H, m), 7.58-7.62(2H, m), 8.01(1H, s)
175	δ 1.22(3H, t, J=7.6Hz), 1.31(6H, d, J=6.3Hz), 2.34(3H, s), 2.69(2H, q, J=7.6Hz), 5.03(1H, septet, J=6.3Hz), 6.70(1H, s), 7.37(2H, s), 7.42-7.47(2H, m), 7.58-7.61(2H, m), 8.02(1H, s)
176	δ1.22 (6H, d, J=6.8Hz), 1.31 (6H, d, J=6.3Hz), 2.33 (3H, s), 3.17 (1H, septet, J=6.8Hz), 5.03 (1H, septet, J=6.3Hz), 6.76 (1H, s), 7.35 (1H, s), 7.41 (1H, s), 7.44 (1H, t, J=8.1Hz), 7.56-7.62 (3H, m), 8.03 (1H, s)
177	δ 1.32(6H, d, J=6.1Hz), 2.35(3H, s), 3.85(3H, s), 5.04(1H, septet, J=6.1Hz), 6.67(1H, s), 6.96(1H, s), 7.13(1H, s), 7.44(1H, t, J=8.1Hz), 7.59-7.65(3H, m), 7.96(1H, s)
178	δ 1.30(6H, d, J=6.1Hz), 2.42(3H, s), 5.00(1H, septet, J=6.1Hz), 6.63(1H, s), 7.27-7.41(8H, m), 7.45(1H, s), 7.53(1H, s), 7.58(1H, d, J=7.8Hz), 7.74(1H, s)
179	δ1.31 (6H, d, J=6.1Hz), 2.61 (3H, d, J=6.3Hz), 5.05 (1H, septet, J=6.1Hz), 6.76 (1H, br s), 7.45-7.58 (3H, m), 7.70 (1H, d, J=8.1Hz), 7.96 (1H, t, J=1.8Hz), 8.56-8.58 (1H, m), 8.70 (1H, br s)
180	δ 1.24(3H, t, J=7.6Hz), 1.31(6H, d, J=6.3Hz), 2.75(2H, q, J=7.6Hz), 5.03(1H, septet, J=6.3Hz), 6.74(1H, s), 7.42-7.47(2H, m), 7.57-7.67(4H, m), 8.02(1H, s)
181	δ 0.93(3H, t, J=7.5Hz), 1.32(6H, d, J=6.1Hz), 1.63-1.71(2H, m), 2.70(2H, t, J=7.6Hz), 5.04(1H, septet, J=6.1Hz), 6.72(1H, s), 7.44-7.48(2H, m), 7.57-7.63(3H, m), 7.68(1H, s), 8.02(1H, s)
182	δ1.32 (6H, d, J=6.4Hz), 3.92 (3H, s), 5.06 (1H, septet, J=6.4Hz), 6.73 (1H, s), 7.46-7.50 (1H, m), 7.55-7.60 (2H, m), 7.69 (1H, d, J=7.8Hz), 7.96 (1H, s), 8.48 (1H, d, J=1.2Hz), 8.58 (1H, s)
183	δ1.31 (6H, d, J=6.2Hz), 2.30 (3H, s), 2.44 (3H, d, J=6.4Hz), 5.01-5.05 (1H, m), 6.72 (1H, br-s), 7.44-7.48 (2H, m), 7.61-7.62 (2H, m), 7.78 (1H, s), 8.03 (1H, br-s)
184	δ 1.32 (6H, d, J=6.1Hz), 2.35 (3H, s), 2.58 (3H, d, J=6.8Hz), 5.01-5.07 (1H, s), 6.68 (1H, br-s), 7.35 (1H, s), 7.46 (1H, t, J=7.8Hz), 7.61-7.65 (2H, m), 7.72 (1H, s), 8.01 (1H, s)
185	δ1.31 (6H, d, J=6.4Hz), 2.49 (3H, s), 4.77 (2H, br-s), 5.06 (1H, sept, J=6.4Hz), 6.73 (1H, br-s), 7.44-7.49 (1H, m), 7.55 (1H, s), 7.61-7.63 (2H, m), 7.81 (1H, s), 8.05 (1H, br-s)
186	δ1.32 (6H, d, J=6.4Hz), 2.61 (3H, s), 5.05 (1H, septet), 6.73 (1H, br-s), 7.44-7.48 (2H, m), 7.57-7.64 (2H, m), 7.95 (1H, br-s), 8.06 (1H, br-s)

Compuesto No.	^{1}H-RMN ($CDCl_3$, ppm)
187	δ 4.84(2H, s), 7.28(1H, br), 7.45(1H, t, J=8.1Hz), 7.59-7.65(4H, m), 7.81(2H, d, J=8.5Hz), 7.99(1H, s), 8.17(1H, s)
188	δ 2.53 (3H, d, J=8.8Hz), 4.85 (2H, s), 7.15 (1H, br s), 7.45-7.65 (6H, m), 8.00-8.02 (2H, m)
189	δ 1.34(3H, t, J=7.6Hz), 2.75(2H, q, J=7.6Hz), 4.85(2H, s), 7.10(1H, s), 7.47-7.52(3H, m), 7.59-7.66(2H, m), 7.87(1H, s), 8.05(1H, s), 8.27(1H, d, J=8.8Hz)
190	δ 1.02(3H, t, J=7.3Hz), 1.67-1.77(2H, m), 2.70(2H, t, J=7.6Hz), 4.85(2H, s), 7.10(1H, br-s), 7.44-7.52(3H, m), 7.59-7.65(2H, m), 7.88(1H, s), 8.07(1H, s), 8.30(1H, d, J=8.5Hz)
191	δ3.89 (3H, s), 4.85 (2H, s), 7.06 (1H, dd, J=8.5Hz, 2.0Hz), 7.18 (1H, br s), 7.46-7.54 (2H, m), 7.61-7.63 (2H, m), 7.79-7.80 (1H, m), 8.01 (1H, s), 8.10 (1H, s)
192	δ4.86(2H,s), 7.09(1H,br.), 7.43-7.79(5H,m), 8.03(1H,br.), 8.56(1H,br), 8.76(1H,d,J=8.8Hz)
193	δ4.86 (2H, s), 7.16 (1H, br s), 7.47-7.74 (5H, m), 7.93 (1H, s), 8.02 (1H, s), 8.23 (1H, s)
194	δ 2.30 (3H, s), 2.47 (3H, d, J=6.0Hz), 4.85 (2H, s), 7.12 (1H, br-s), 7.42 (1H, d, J=9.0Hz), 7.49 (1H, t, J=8.1Hz), 7.62-7.67 (2H, m), 7.78-7.81 (2H, m), 8.03 (1H, br-s)
195	δ 2.35 (3H, s), 2.52 (3H, d, J=8.9Hz), 4.86 (2H, s), 7.05 (1H, br-s), 7.31 (1H, s), 7.50 (1H, t, J=7.8Hz), 7.60-7.67 (2H, m), 7.71 (1H, s), 8.03 (1H, s), 8.07 (1H, s)
196	δ 1.23(6H, t, J=7.6Hz), 2.70(4H, q, J=7.6Hz), 4.85(2H, s), 7.03(1H, br), 7.39(3H, s), 7.50(1H, t, J=8.1Hz), 7.65(1H, d, J=8.1Hz), 7.69(1H, br-s), 8.04(1H, s)
197	δ 1.23(3H, t, J=7.6Hz), 2.35(3H, s), 2.69(2H, q, J=7.6Hz), 4.85(2H, s), 7.05(1H, br), 7.37(2H, s), 7.42(1H, s), 7.50(1H, t, J=7.8Hz), 7.64-7.66(2H, m), 8.04(1H, s)
198	δ1.23 (6H, d, J=6.8Hz), 2.34 (3H, s), 3.17 (1H, septet, J=6.8Hz), 4.85 (2H, s), 7.18 (1H, br-s), 7.36 (1H, s), 7.42 (1H, s), 7.49 (1H, t, J=8.1Hz), 7.55 (1H, s), 7.65-7.67 (2H, m), 8.05 (1H, s)
199	δ 2.36(3H, s), 3.86(3H, s), 4.85(2H, s), 6.96(1H, s), 7.01(1H, br), 7.14(1H, s), 7.49(1H, t, J=8.1Hz), 7.64-7.68(3H, m), 7.99(1H, s)
200	δ 2.43(3H, s), 4.83(2H, s), 6.99(1H, br), 7.33-7.42(8H, m), 7.45(1H, s), 7.54(1H, s), 7.64(1H, d, J=6.3Hz), 7.78(1H, s)
201	δ 2.47(3H,s), 4.86(2H,s), 7.06(1H,s), 7.11(1H,br.), 7.24-7.27(1H,m), 7.53(1H,t,J=7.3Hz), 7.66(2H,t,J=7.3Hz), 7.95(1H,s), 8.17(1H,s), 8.85(1H,s)

Tabla 9 (11)

Compuesto No.	^{1}H-RMN (CDCl$_3$, ppm)
202	δ1.57 (3H, s), 4.86 (2H, s), 7.10 (1H, br s), 7.52 (2H, t, J=7.8Hz), 7.63-7.65 (1H, m), 7.72-7.74 (1H, m), 8.03(1H, br-s), 8.57-8.59 (1H, m), 9.70 (1H, br s)
203	δ 2.10 (3H, s), 4.84 (2H, s), 7.11 (1H, d, J=8.8Hz), 7.18-7.22 (2H, m), 7.47 (1H, t, J=7.8Hz), 7.61 (1H, d, J=7.8Hz), 7.65 (1H, d, J=7.8Hz), 7.80 (1H, br-s), 8.00 (1H, br-s)
204	δ1.50 (9H, s), 2.23 (3H, s), 4.85 (2H, s), 6.46 (1H, br-s), 7.20 (1H, br-s), 7.45-7.49 (2H, m), 7.50 (1H, d, J=7.3Hz), 7.65 (1H, d, J=7.3Hz), 7.89 (1H, br-s), 7.99 (1H, br-s), 8.19 (1H, d, J=8.8Hz)
205	δ 1.26(3H, t, J=7.6Hz), 2.76(2H, q, J=7.6Hz), 4.85(2H, s), 7.06(1H, br), 7.47-7.53(2H, m), 7.58-7.61(2H, m), 7.67-7.69(2H, m), 8.05(1H, s)
206	δ 1.25(3H, t, J=7.3Hz), 2.77(2H, q, J=7.3Hz), 4.85(2H, s), 7.06(1H, br), 7.49-7.53(2H, m), 7.62(1H, s), 7.68-7.70(2H, m), 7.74(1H, s), 8.06(1H, s)
207	δ 1.24(3H, t, J=7.3Hz), 2.77(2H, q, J=7.3Hz), 4.86(2H, s), 7.07(1H, br), 7.50-7.58(3H, m), 7.70-7.72(2H, m), 7.96(1H, s), 8.07(1H, s)
208	δ 0.93(3H, t, J=7.3Hz), 1.63-1.69(2H, m), 2.70(2H, t, J=7.6Hz), 4.85(2H, s), 7.10(1H, s), 7.45(1H, s), 7.49-7.52(1H, m), 7.53(1H, s), 7.58-7.69(3H, m), 8.04(1H, s)
209	δ 0.93(3H, t, J=7.3Hz), 1.61-1.70(2H, m), 2.71(2H, t, J=7.3Hz), 4.85(2H, s), 7.10(1H, br-s), 7.48-7.53(2H, m), 7.63(1H, s), 7.67-7.70(2H, m), 7.74(1H, d, J=2.0Hz), 8.05(1H, s)
210	δ 0.90(3H, t, J=7.3Hz), 1.28-1.38(2H, m), 1.56-1.64(2H, m), 2.73(2H, t, J=7.8Hz), 4.85(2H, s), 7.06(1H, br-s), 7.49-7.53(2H, m), 7.60(1H, s), 7.67-7.74(3H, m), 8.04(1H, s)
211	δ3.93 (3H, s), 4.86 (2H, s), 7.13 (1H, br s), 7.53 (1H, t, J=8Hz), 7.61-7.65 (2H, m), 7.71 (1H, d, J=8Hz), 8.04 (1H, s), 8.48 (1H, d, J=1.2Hz), 8.58 (1H, s)
212	δ 2.47(3H, s), 4.85(2H, s), 7.08(1H, br-s), 7.40(1H, s), 7.51(1H, t, J=7.8Hz), 7.63(1H, s), 7.67-7.71(3H, m), 8.03(1H, s)
213	δ4.86(2H,s), 7.06(1H, br.), 7.52(1H,t,J=7.8Hz), 7.67-7.71(3H,m), 7.67(2H,s), 8.05(1H,s)
214	δ 2.26 (3H, s), 2.45 (3H, d, J=6.4Hz), 4.86 (2H, s), 7.08 (1H, br-s), 7.49-7.53 (2H, m), 7.68-7.75 (3H, m), 8.05 (1H, br-s)
215	δ 2.35 (3H, s), 2.58 (3H, d, J=6.6Hz), 4.85 (2H, s), 7.08 (1H, br-s), 7.35 (1H, s), 7.51 (1H, t, J=8.1Hz), 7.68 (2H, d, J=8.1Hz), 7.73 (1H, s), 8.04 (1H, s)
216	δ 2.50 (3H, s), 4.77 (2H, br-s), 4.86 (2H, s), 7.12 (1H, br-s), 7.51-7.56 (2H, m), 7.69 (2H, d, J=7.3Hz), 8.84 (1H, s), 8.08 (1H, br-s)

Tabla 9 (12)

Compuesto No.	^{1}H-RMN ($CDCl_3$, ppm)
217	δ 2.43 (3H, s), 4.86 (2H, s), 7.12 (1H, br-s), 7.51 (1H, t, J=7.9Hz), 7.57 (1H, br-s), 7.69 (1H, d, J=7.9Hz), 7.76 (1H, br-s), 7.86 (1H, br-s), 8.08 (1H, br-s)
218	δ 2.51 (3H, s), 4.80 (2H, s), 7.00 (1H, br-s), 7.50-7.55 (2H, m), 7.68-7.70 (2H, m), 7.87 (1H, br-s), 8.08 (1H, br-s)
219	δ 2.62 (3H, s), 4.86 (2H, s), 7.00 (1H, br-s), 7.47 (1H, s), 7.52 (1H, t, J=7.8Hz), 7.68-7.70 (2H, m), 7.89 (1H, br-s), 8.07 (1H, br-s)
220	δ 2.12 (3H, s), 4.50 (2H, br-s), 4.86 (2H, s), 7.14 (1H, br-s), 7.29 (1H, br-s), 7.51 (1H, t, J=7.8Hz), 7.68-7.70 (2H, m), 7.77 (1H, br-s), 8.04 (1H, br-s)
221	δ 0.90(3H, t, J=7.3Hz), 1.28-1.37(2H, m), 1.55-1.63(2H, m), 2.48-2.60(2H, m), 2.73(2H, t, J=7.8Hz), 4.43(2H, t, J=6.3Hz), 6.85(1H, s), 7.46-7.50(2H, m), 7.60-7.68(3H, m), 7.73(1H, d, J=1.5Hz), 8.00(1H, s)
222	δ1.32 (6H, d, J=6.3Hz), 2.39 (3H, s), 5.04 (1H, septet, J=6.3Hz), 6.71 (1H, s), 7.43-7.47 (2H, m), 7.57-7.64 (3H, m), 7.73 (1H, s), 8.04 (1H, s)
223	δ 1.32(6H, d, J=6.3Hz), 5.03(1H, septet, J=6.3Hz), 7.41(1H, t, J=8.1Hz), 7.63-7.68(1H, m), 7.67(2H, s), 7.75(1H, d, J=7.6Hz), 8.00(1H, s), 8.06(1H, t, J=1.7Hz), 8.93(1H, s)
224	(DMSO-d_6) δ 1.31(6H, d, J=6.3Hz), 5.03(1H, septet, J=6.3Hz), 7.41(1H, t, J=8.1Hz), 7.64(1H, d, J=8.1Hz), 7.79(1H, d, J=8.1Hz), 7.93(1H, s), 8.00(1H, s), 8.19(1H, s), 8.26(1H, s), 9.36(1H, s)
225	δ 1.31(6H, d, J=6.3Hz), 2.34(6H, s), 5.03(1H, septet, J=6.3Hz), 6.73(1H, s), 7.33(2H, s), 7.44(1H, t, J=7.8Hz), 7.53-7.62(3H, m), 8.05(1H, s)
226	δ 1.31(6H, d, J=6.3Hz), 2.33(6H, s), 5.02(1H, septet, J=6.3Hz), 6.75(1H, s), 7.33(2H, s), 7.43(1H, t, J=7.8Hz), 7.52-7.61(3H, m), 8.04(1H, s)
227	δ 4.34(2H, s), 7.24(1H, s), 7.45(1H, t, J=7.8Hz), 7.59-7.62(4H, m), 7.77(2H, d, J=8.8Hz), 7.99(1H, s), 8.16(1H, s)
228	δ 2.39 (3H, s), 4.85 (2H, s), 7.11 (1H, br-s), 7.47-7.52 (2H, m), 7.58 (1H, s), 7.67-7.70 (2H, m), 7.73 (1H, s), 8.06 (1H, s)
229	(DMSO-d_6) δ 4.86(2H, s), 7.45(1H, t, J=7.8Hz), 7.72(1H, s), 7.73(1H, d, J=7.8Hz), 7.83-7.84(2H, m), 8.14(1H, s), 9.27(1H, s), 9.34(1H, s)
230	(DMSO-d6) δ 4.86(2H, s), 7.44(1H, t, J=8.1Hz), 7.67(1H, s), 7.69(1H, s), 7.71-7.74(1H, m), 7.85(1H, d, J=7.3Hz), 8.15(1H, s), 9.31(1H, s), 9.41(1H, br-s)
231	(DMSO-d_6) δ 4.96(2H, s), 7.51(1H, t, J=7.8Hz), 7.65-7.73(2H, m), 8.13(1H, s), 8.15(1H, s), 8.49(1H, s), 10.41(1H, s), 10.58(1H, s)

Tabla 9 (13)

Compuesto No.	^{1}H-RMN (CDCl$_3$, ppm)
232	(DMSO-d_6) δ 4.86(2H, s), 7.45(1H, t, J=7.8Hz), 7.70(1H, d, J=7.8Hz), 7.88(1H, d, J=7.8Hz), 7.94(1H, s), 8.08(1H, s), 8.16(1H, s), 9.33(1H, s), 9.42(1H, s)
233	δ 2.34(6H, s), 4.85(2H, s), 7.10(1H, br), 7.34(2H, s), 7.47-7.51(2H, m), 7.65-7.68(2H, m), 8.06(1H, s)
234	δ 2.34(6H, s), 4.85(2H, s), 7.10(1H, br), 7.35(2H, s), 7.47-7.52(2H, m), 7.65-7.68(2H, m), 8.05(1H, s)
235	δ 4.84(2H, s), 7.17(1H, br-s), 7.49(1H, t, J=7.8Hz), 7.63(1H, d, J=7.8Hz), 7.67(1H, d, J=7.8Hz), 7.94(1H, s), 8.07(1H, s)
236	δ 4.85(2H, s), 7.14(1H, s), 7.51(1H, t, J=7.8Hz), 7.69-7.73(2H, m), 7.83(1H, s), 7.86(2H, s), 8.07(1H, s)
237	δ 2.48-2.60(2H, m), 4.43(2H, t, J=6.3Hz), 6.90(1H, s), 7.48(1H, t, J=7.8Hz), 7.63-7.69(2H, m), 7.86(3H, s), 8.03(1H, s)
238	(DMSO-d_6) δ 2.50-2.61(2H, m), 4.41(2H, t, J=6.3Hz), 7.43(1H, t, J=7.3Hz), 7.70(1H, d, J=7.8Hz), 7.71(1H, s), 7.80-7.84(2H, m), 8.06(1H, s), 8.82(1H, s), 9.26(1H, s)
239	δ 1.34(3H, t, J=7.3Hz), 4.26(2H, q, J=7.3Hz), 6.77(1H, br-s), 7.46-7.53(3H, m), 7.70(1H, brd, J=7.3Hz), 7.86-7.94(3H, m), 8.39(1H, s), 8.71(1H, d, J=8.8Hz)
240	δ 1.32(6H, d, J=6.3Hz), 5.06(1H, septet, J=6.3Hz), 6.74(1H, s), 7.45-7.52(2H, m), 7.70(1H, d, J=7.3Hz), 7.86-7.94(3H, m), 8.40(1H, s), 8.71(1H, d, J=8.8Hz)
241	δ 4.58(1H, dd, J=2.0Hz, 5.9Hz), 4.85(1H, dd, J=2.0Hz, 4.2Hz), 7.06(1H, br-s), 7.30(1H, d, J=6.4Hz), 7.49-7.57(2H, m), 7.74(1H, d, J=7.8Hz), 7.87(1H, d, J=7.8Hz), 7.91(1H, s), 7.99(1H, s), 8.40(1H, s), 8.71(1H, d, J=8.8Hz)
242	δ1.62-1.70(2H, m), 1.71-1.87(4H, m), 1.89-1.96(2H, m), 5.22-5.26(1H, m), 6.72(1H, s), 7.45-7.51(2H, m), 7.70(1H, brd, J=7.3Hz), 7.86-7.93(3H, m), 8.34(1H, s), 8.70(1H, d, J=8.8Hz)
243	δ 3.76(2H, t, J=5.4Hz), 4.47(2H, t, J=5.4Hz), 6.97(1H, br-s), 7.47-7.56(2H, m), 7.69(1H, d, J=7.8Hz), 7.86-7.91(2H, m), 7.97(1H, s), 8.39(1H, s), 8.71(1H, d, J=8.8Hz)
244	δ 2.82(2H, t, J=6.3Hz), 4.41(2H, t, J=6.3Hz), 7.46(1H, t, J=7.8Hz), 7.54-7.57(1H, m), 7.81(1H, d, J=8.3Hz), 7.88(1H, d, J=8.9Hz), 7.91(1H, s), 8.10(1H, s), 8.56-8.63(2H, m), 9.55(1H, br-s)
245	δ4.40(2H, dt, J=3.9Hz, 14.1Hz), 6.04(1H, tt, J=3.9Hz, 55.3Hz), 7.43-7.48(1H, m), 7.55(1H, d, J=7.8Hz), 7.80(1H, d, J=7.3Hz), 7.86(1H, d, J=8.8Hz), 7.91(1H, s), 8.07(1H, s), 8.53(1H, s), 8.64(1H, d, J=8.8Hz), 9.42(1H, s)
246	δ4.56(2H, d, J=5.9Hz), 5.92(1H, t, J=5.9Hz), 6.97(1H, br-s), 7.49-7.57(2H, m), 7.69(1H, d, J=7.3Hz), 7.87-7.92(2H, m), 7.98(1H, s), 8.39(1H, s), 8.71(1H, d, J=8.8Hz)

Tabla 9 (14)

Compuesto No.	^{1}H-RMN (CDCl$_3$, ppm)
247	δ 4.86(2H, s), 7.15(1H, br-s), 7.50-7.59(2H, m), 7.72(1H, d, J=7.8Hz), 7.86-7.92(2H, m), 8.02(1H, s), 8.40(1H, s), 8.71(1H, d, J=8.8Hz)
248	δ5.05(2H, s), 7.09(1H, br-s), 7.51-7.59(2H, m), 7.73(1H, d, J=7.8Hz), 7.88(1H, d, J=8.3Hz), 7.92(1H, s), 8.03(1H, s), 8.39(1H, s), 8.72(1H, d, J=8.8Hz)
249	δ 2.49-2.60(2H, m), 4.44(2H, t, J=6.3Hz), 6.86(1H, br-s), 7.48-7.56(2H, m), 7.69(1H, d, J=6.3Hz), 7.88(1H, d, J=8.8Hz), 7.92(1H, s), 7.96(1H, s), 8.39(1H, s), 8.71(1H, d, J=8.8Hz)
250	δ4.68(2H, t, J=13.2Hz), 708(1H, br-s), 7.50-7.59(2H, m), 7.70(1H, br-d, J=7.3Hz), 7.87-7.92(2H, m), 8.30(1H, s), 8.39(1H, s), 8.71(1H, d, J=8.7Hz)
251	δ5.29(2H, s), 6.92(1H, br-s), 7.47-7.55(4H, m), 7.65-7.70(3H, m), 7.87(1H, d, J=8.8Hz), 7.92(1H, s), 7.97(1H, s), 8.38(1H, br-s), 8.71(1H, d, J=8.8Hz)
252	δ5.23(2H, s), 6.82(1H, br-s), 7.37(1H, d, J=8.3Hz), 7.50-7.53(2H, m), 7.6(1H, m), 7.75(1H, dd, J=2.4Hz, 8.3Hz), 7.87-7.96(3H, m), 8.38(1H, br-s), 8.47(1H, d, J=2.4Hz), 8.72(1H, d, J=8.3Hz)
253	δ 1.31(6H, d, J=6.3Hz), 2.39(6H, s), 5.02(1H, septet, J=6.3Hz), 6.75(1H, br-s), 7.33(2H, s), 7.43(1H, t, J=7.8Hz), 7.54-7.61(3H, m), 8.04(1H, s)
254	δ 2.34(6H, s), 4.39(2H, dt, J=3.9Hz, 13.6Hz), 6.01(1H, tt, J=3.9Hz, 54.6Hz), 6.98(1H, s), 7.34(2H, s), 7.46-7.50(2H, m), 7.60-7.66(2H, m), 8.02(1H, s)
255	δ 2.34 (6H, s), 4.61-4.66 (2H, m), 4.71-4.77 (2H, m), 5.18-5.30 (1H, m), 7.12 (1H, s), 7.34 (2H, s), 7.45-7.50 (1H, m), 7.52-7.66 (2H, m), 7.76-7.84 (1H, m), 8.04 (1H, s)
256	δ 2.34(6H, s), 4.55(2H, q, J=8.3Hz), 7.02(1H, s), 7.34(2H, s), 7.45-7.51(2H, m), 7.62-7.67(2H, m), 8.02(1H, s)
257	δ 2.34(6H, s), 4.85(2H, s), 7.10(1H, br), 7.34(2H, s), 7.47-7.51(2H, m), 7.63-7.67(2H, m), 8.05(1H, s)
258	δ1.48(3H, d, J=6.8Hz), 2.34(6H, s), 5.30-5.36(1H, m), 6.95(1H, br-s), 7.30(2H, s), 7.46-7.51(2H, m), 7.60-7.67(2H, m), 8.03(1H, br-s)
259	δ 2.35(6H, s), 2.49-2.59(2H, m), 4.42(2H, t, J=6.3Hz), 6.85(1H, br-s), 7.34(2H, s), 7.45-7.49(2H, m), 7.60-7.65(2H, m), 8.02(1H, br-s)
300	δ 4.85(2H, s), 7.10(1H, br), 7.50(1H, t, J=7.8Hz), 7.68-7.71(3H, m), 7.72(2H, s), 8.04(1H, s)
301	δ 4.85(2H, s), 7.08(1H, br), 7.51-7.55(1H, m), 7.69-7.72(2H, m), 7.84(1H, s), 8.06(2H, s), 8.10(1H, s)

Table 9 (15)

Composto No.	^{1}H-RMN ($CDCl_3$, ppm)
331	δ 2.29(6H, s), 4.85(2H, s), 7.11-7.19(3H, m), 7.39(1H, s), 7.49(1H, t, J=7.9Hz), 7.66-7.73(2H, m), 8.00 (1H, s)
348	δ 2.35(6H, s), 3.81(3H, s), 6.80(1H, br), 7.36(2H, s), 7.44-7.63(4H, m), 8.02(1H, s)
377	δ 2.36(6H, s), 4.85(2H, s), 7.09(1H, s), 7.37(2H, s), 7.44(1H, s), 7.50(1H, t, J=8.3Hz), 7.67(2H, d, J=7.3Hz), 8.05 (1H, s)
424	δ4.85(2H, s), 7.10(1H, s), 7.51(1H, t, J=7.8Hz), 7.69-7.70(3H, m), 7.73(2H, s), 8.05(1H, s)
464	δ 2.47-2.59(2H, m), 4.41(2H, t, J=6.3Hz), 6.96(1H, br-s), 7.46(1H, t, J=7.8Hz), 7.63-7.67(2H, m), 7.83(1H, s), 7.91(2H, s), 8.00(1H, s)
471	δ 4.85(2H, s), 7.13(1H, br-s), 7.50(1H, t, J=7.8Hz), 7.68-7.74(3H, m), 7.92(2H, s), 8.04(1H, s)
511	(DMSO-d_6) δ 2.67-2.78(2H, m), 4.34(2H, t, J=5.9Hz), 7.50(1H, t, J=7.8Hz), 7.68-7.73(2H, m), 8.13(1H, s), 8.52(2H, s), 10.02(1H, s), 10.77(1H, s)
518	(DMSO-d_6) δ 4.96(2H, s), 7.52(1H, t, J=7.8Hz), 7.71-7.75(2H, m), 8.16(1H, s), 8.51(2H, s), 10.42(1H, s), 10.79(1H, s)
565	δ4.86(2H, s), 7.00(1H, br-s), 7.52(1H, t, J=8.3Hz), 7.70-7.73(3H, m), 7.93(2H, s), 8.06(1H, s)
605	δ 2.49-2.60(2H, m), 4.43(2H, t, J=6.3Hz), 6.82(1H, s), 7.49(1H, t, J=7.8Hz), 7.66-7.68(3H, m), 7.94(2H, s), 8.01(1H, s)
612	δ4.86(2H, s), 7.45(1H, t, J=7.8Hz), 7.72(1H, d, J=7.8Hz), 7.94(1H, br-s), 7.93(2H, s), 8.13(1H, s), 9.02(1H, s), 9.17(1H, s)
659	δ4.86(2H, s), 7.06(1H, s), 7.51(1H, t, J=7.8Hz), 7.69-7.71(3H, m), 7.93(2H, s), 8.06(1H, s)
706	δ4.84(2H, s), 7.40(1H, br-s), 7.48(1H, t, J=7.8Hz), 7.67-7.75(2H, m), 8.00(1H, s), 8.09(2H, s), 8.24(1H, s)
770	δ 2.39(3H, s), 4.86(2H, s), 7.00(1H, br-s), 7.48-7.67(5H, m), 7.79(1H, s), 8.04(1H, s), 8.24(1H, d, J=8.8Hz)
800	δ 2.31(6H, s), 4.85(2H, s), 7.11(1H, br-s), 7.43(2H, s), 7.47-7.53(2H, m), 7.66(1H, s), 7.67(1H, s), 8.05(1H, s)

497

Tabla 9 (16)

Compuesto No.	^{1}H-RMN ($CDCl_3$, ppm)
817	δ0.89(3H, t, J=7.3Hz), 1.24-1.37(2H, m), 1.55-1.63(2H, m), 2.47-2.59(2H, m), 2.70(2H, t, J=7.8Hz), 4.42(2H, t, J=5.9Hz), 6.96(1H, br-s), 7.41-7.47(2H, m), 7.57(1H, d, J=1.5Hz), 7.62-7.64(2H, m), 7.74(1H, s), 8.00(1H, s)
818	δ0.86(3H, t, J=7.3Hz), 1.24-1.33(2H, m), 1.49-1.57(2H, m), 2.45-2.56(2H, m), 2.67(2H, t, J=7.8Hz), 4.38(2H, t, J=6.3Hz), 7.15(1H, s), 7.38(1H, t, J=7.8Hz), 7.48(1H, s), 7.62-7.64(2H, m), 7.88(1H, s), 7.93(1H, d, J=2.0Hz), 8.01(1H, s)
819	δ 0.91(3H, t, J=7.3Hz), 1.25(3H, d, J=6.8Hz), 1.53-1.64(2H, m), 2.49-2.60(2H, m), 2.92-3.01(1H, m), 4.43(2H, t, J=5.9Hz), 6.87(1H, br), 7.46-7.51(2H, m), 7.62-7.67(3H, m), 7.74(1H, d, J=1.5Hz), 8.01(1H, s)
820	δ1.32(6H,d,J=6.3Hz), 2.36(3H,s), 5.01-5.07(1H,m), 6.69(1H,s), 7.11-7.13(2H,m), 7.44(1H,t,J=8.3Hz), 7.55-7.59(2H,m), 7.68(1H,br-s), 7.95(1H,d,J=8.3Hz), 7.99(1H,s)
821	δ 1.27(6H, d, J=6.8Hz), 1.31(6H, d, J=6.3Hz), 2.96(1H, septet, J=6.8Hz), 5.05(1H, septet, J=6.3Hz), 6.79(1H, s), 7.42-7.52(4H, m), 7.72(1H, d, J=7.8Hz), 7.86(1H, t, J=2.0Hz), 8.14(1H, s), 8.21(1H, d, J=8.3Hz)
822	δ 1.33(6H,d,J=6.6Hz), 5.01-5.09(1H,m), 6.73(1H,s), 7.41-7.52(2H,m), 7.57-7.60(1H,m), 7.65(1H,s), 8.05(1H,s), 8.20(2H,s), 8.35(1H,s)
823	δ 1.32(6H, d, J=6.3Hz), 5.04(1H, septet, J=6.3Hz), 6.70(1H, br-s), 6.98-7.06(1H, m), 7.45(1H, t, J=7.8Hz), 7.53-7.55(1H, m), 7.62(1H, d, J=8.8Hz), 7.94(2H, s), 8.07-8.14(1H, m)
824	δ1.32 (6H, d, J=6.1Hz), 2.46 (3H, s), 2.54 (3H, d, J=1Hz), 5.04 (1H, septet, J=6.1Hz), 6.72 (1H, s), 7.40-7.44 (2H, m), 7.51-7.56 (3H, m), 7.94 (1H, s), 7.97 (1H, s)
825	δ 1.31(6H, d, J=6.3Hz), 2.30(3H, s), 5.03(1H, septet, J=6.3Hz), 6.72(1H, s), 7.20(1H, d, J=2.2Hz), 7.32(1H, d, J=2.2Hz), 7.43(1H, t, J=7.8Hz), 7.59-7.62(3H, m), 8.00(1H, s)
826	δ1.31 (6H, d, J=6.3Hz), 2.28 (3H, s), 2.31 (3H, s), 5.03 (1H, septet, J=6.3Hz), 6.71 (1H, br-s), 7.01 (1H, s), 7.13 (1H, s), 7.43 (1H, t, J=7.8Hz), 7.61-7.63 (3H, m), 7.97 (1H, s)
827	δ 1.31(6H, d, J=6.1Hz), 2.25(6H, s), 5.03(1H, septet, J=6.1Hz), 6.70(1H, br-s), 7.26(2H, s), 7.38(1H, br-s), 7.43(1H, t, J=7.8Hz), 7.55-7.61(2H, m), 8.01(1H, s)
828	δ 1.31(6H, d, J=6.3Hz), 2.24(6H, s), 5.02(1H, septet, J=6.3Hz), 6.71(1H, br-s), 7.26(2H, s), 7.39-7.44(2H, m), 7.55-7.60(2H, m), 8.00(1H, s)
829	δ1.31 (6H, d, J=6.4Hz), 2.23 (6H, s), 5.03 (1H, septet, J=6.4Hz), 6.69 (1H, br-s), 7.37 (1H, br-s), 7.43 (1H, t, J=7.8Hz), 7.48 (2H, s), 7.55-7.61 (2H, m), 8.01 (1H, br-s)
830	δ1.32 (6H, d, J=6.3Hz), 2.35 (6H, s), 5.04 (1H, septet, J=6.3Hz), 6.72 (1H, s), 7.32-7.36 (3H, m), 7.41-7.46 (4H, m), 7.56-7.63 (4H, m), 8.00 (1H, s)
831	δ1.32 (6H, d, J=6Hz), 2.30 (3H, s), 2.32 (6H, s), 5.04 (1H, septet, J=6Hz), 6.73 (1H, s), 7.08 (2H, s), 7.22-7.26 (4H, m), 7.43-7.48 (2H, m), 7.61-7.63 (2H, m), 8.01 (1H, s)

Table 9 (17)

Compounds No.	^{1}H-RMN ($CDCl_3$, ppm)
832	δ1.32(6H, d, J=6Hz), 2.31(6H, s), 2.42(3H, s), 5.04(1H, septet, J=6Hz), 6.71(1H, s), 7.16(1H, d, J=8Hz), 7.30-7.59(7H, m), 7.62(2H, t, J=8Hz), 8.01(1H, s)
833	δ1.31(6H, d, J=6Hz), 2.33(6H, s), 2.49(3H, s), 5.03(1H, septet, J=6Hz), 6.73(1H, s), 7.12-7.25(2H, m), 7.32(2H, s), 7.42-7.52(4H, m), 7.59-7.62(2H, m), 7.99(1H, s)
834	δ1.32(6H, d, J=6Hz), 2.32(6H, s), 3.80(3H, s), 5.04(1H, septet, J=6Hz), 6.73(1H, s), 6.97(1H, d, J=8Hz), 7.02(1H, t, J=7Hz), 7.27(2H, s), 7.30(2H, d, J=7Hz), 7.34-7.46(2H, m), 7.60-7.63(2H, m), 7.99(1H, s)
835	δ1.32(6H, d, J=7Hz), 2.34(6H, s), 3.97(3H, s), 5.04(1H, septet, J=7Hz), 6.72(1H, s), 6.88-6.91(1H, m), 7.11(1H, t, J=2Hz), 7.16(1H, td, J=8Hz, 1Hz), 7.33-7.37(3H, m), 7.43-7.50(2H, m), 7.59-7.64(2H, m), 8.01(1H, s)
836	δ1.32(6H, d, J=7Hz), 2.33(6H, s), 3.85(3H, s), 5.04(1H, septet, J=7Hz), 6.73(1H, br-s), 6.96(2H, d, J=9Hz), 7.29(2H, s), 7.42-7.52(4H, m), 7.60-7.63(2H, m), 8.00(1H, s)
837	δ1.32 (6H, d, J=6Hz), 1.44 (3H, t, J=7Hz), 2.33 (6H, s), 4.08 (2H, q, J=7Hz), 5.04 (1H, septet, J=6Hz), 6.72 (1H, s), 6.94-6.97 (2H, m), 7.29 (2H, s), 7.42-7.52 (4H, m), 7.61-7.63 (2H, m), 7.99 (1H, s)
838	δ1.31 (6H, d, J=6Hz), 2.34 (6H, s), 2.93 (3H, s), 5.04 (1H, septet, J=6Hz), 6.72 (1H, s), 7.31-7.65 (10H, m), 8.00 (1H, s).
839	δ1.31 (6H, d, J=6.3Hz), 2.34 (6H, s), 5.04 (1H, septet, J=6.3Hz), 6.72 (1H, s), 7.12-7.32 (5H, m), 7.41-7.48 (3H, m), 7.61-7.63 (2H, m), 7.99 (1H, s)
840	δ1.32(6H, d, J=7Hz), 2.34(6H, s), 5.03(1H, septet, J=7Hz), 6.74(1H, br s), 7.01-7.05(1H, m), 7.28-7.64(9H, m), 8.02(1H, s)
841	δ1.31 (6H, d, J 7Hz), 2.34 (6H, s), 5.04 (1H, septet, J=7Hz), 6.73 (1H, s), 7.11 (2H, t, J=9Hz), 7.28 (2H, s), 7.42-7.63 (6H, m), 8.01 (1H, s)
842	δ1.24 (6H, d, J=6.8Hz), 1.31 (6H, d, J=6.3Hz), 2.32 (3H, s), 2.86 (1H, septet, J=6.8Hz), 5.03 (1H, septet, J=6.3Hz), 6.74 (1H, s), 7.08 (1H, s), 7.33 (1H, d, J=2.0Hz), 7.43 (1H, t, J=7.8Hz), 7.61-7.65 (3H, m), 7.90 (1H, s)
843	δ1.32 (6H, d, J=6.3Hz), 2.37 (3H, s), 5.03 (1H, septet, J=6.3Hz), 6.74 (1H, s), 7.46 (1H, t, J=7.8Hz), 7.51-7.57 (2H, m), 7.61-7.65 (2H, m), 7.90 (1H, s), 8.08 (1H, s)
844	δ 1.32(6H, d, J=6.3Hz), 7.35(3H, s), 5.03(1H, septet, J=6.3Hz), 6.72(1H, s), 7.09(1H, s), 7.21(1H, d, J=2.2Hz), 7.44(1H, t, J=8.1Hz), 7.52-7.61(3H, m), 8.02(1H, s)
845	δ 1.29(6H, d, J=6.8Hz), 1.31(6H, d, J=6.3Hz), 2.98(1H, septet, J=6.9Hz), 5.04(1H, septet, J=6.3Hz), 6.70(1H, s), 7.42-7.48(2H, m), 7.56-7.67(4H, m), 7.92(1H, s)
846	δ 1.32(6H, d, J=6.3Hz), 5.03(1H, septet, J=6.3Hz), 6.75(1H, br-s), 7.41-7.51(2H, m), 7.62-7.65(1H, m), 7.91(1H, br-s), 8.08(1H, s)

Tabla 9 (18)

Compuesto No.	^{1}H-RMN (CDCl$_3$, ppm)
847	(DMSO-d_6) δ 1.24-1.44(5H, m), 1.68-1.80(5H, m), 2.46-2.50(1H, m), 4.97(2H, s), 7.19(2H, d, J=8.8Hz), 7.47(1H, t, J=7.8Hz), 7.60-7.70(4H, m), 8.04(1H, s), 10.19(1H, s), 10.37(1H, s)
848	δ 4.84(2H, s), 7.29(1H, d, J=7.8Hz), 7.35(1H, br-s), 7.48(1H, t, J=7.8Hz), 7.56-7.67(3H, m), 7.75(1H, d, J=7.3Hz), 7.97(1H, s), 8.23(1H, s), 8.37(1H, d, J=7.8Hz)
849	δ 4.85(2H, s), 7.12(1H, br-s), 7.47(1H, t, J=7.8Hz), 7.59-7.67(4H, m), 7.72-7.75(2H, m), 7.99(1H, s), 8.03(1H, s)
850	(DMSO-d_6) δ 4.87(2H, s), 7.43(1H, t, J=7.8Hz), 7.65(1H, d, J=7.8Hz), 7.82(1H, d, J=7.8Hz), 7.96(2H, d, J=8.8Hz), 8.07(1H, s), 8.18-8.22(2H, m), 9.66(1H, br), 10.51(1H, s)
851	δ4.85(2H, s), 6.67(1H, br-s), 7.47(1H, t, J=7.8Hz), 7.60-7.64(2H, m), 7.65(2H, d, J=8.8Hz), 7.74(2H, d, J=8.8Hz), 7.98(1H, s), 8.00(1H, s)
852	δ4.86(2H, s), 7.09(1H, br-s), 7.48-7.53(1H, m), 7.61-7.65(2H, m), 7.81(2H, d, J=8.8Hz), 7.95(2H, d, J=8.8Hz), 7.95-8.04(1H, m), 8.14(1H, s)
854	δ0.90(3H, t, J=7.3Hz), 1.28-1.38(2H, m), 1.56-1.65(2H, m), 2.72(2H, t, J=7.8Hz), 4.85(2H, s), 7.14(1H, br-s), 7.45(1H, s), 7.50(1H, t, J=7.8Hz), 7.58(1H, d, J=1.5Hz), 7.66-7.68(3H, m), 8.04(1H, s)
855	δ 0.88(3H, t, J=7.3Hz), 1.24-1.35(2H, m), 1.52-1.60(2H, m), 2.70(2H, t, J=7.8Hz), 4.84(2H, s), 7.27(1H, s), 7.46-7.50(2H, m), 7.67-7.69(2H, m), 7.76(1H, s), 7.94(1H, d, J=1.5Hz), 8.06(1H, s)
856	δ 0.81(3H, t, J=7.3Hz), 1.25(3H, d, J=5.9Hz), 1.55-1.65(2H, m), 2.91-3.01(1H, m), 4.85(2H, s), 7.14(1H, br), 7.50-7.53(2H, m), 7.61-7.77(4H, m), 8.05(1H, s)
857	δ0.90(3H, t, J=7.3Hz), 1.31(3H, d, J=6.8Hz), 1.63-1.74(2H, m), 2.82-2.91(1H, m), 4.85(2H, s), 7.22(1H, s), 7.47-7.53(3H, m), 7.58-7.62(1H, m), 7.66(1H, d,J=8.3Hz), 7.93(1H, s), 8.05(1H, s), 8.13-8.15(1H, m)
858	δ 2.36(3H,s), 4.85(2H,s), 7.11-7.14(3H,m), 7.49(1H,t,J=8.3Hz), 7.61-7.69(3H,m), 7.95(1H,d,J=8.3Hz), 8.02(1H,s)
859	δ 2.31 (3H, s), 4.34 (2H, q, J=7.8Hz), 4.84 (2H, s), 6.80-6.86 (2H, m), 7.16 (1H, br-s), 7.47 (1H, t, J=7.8Hz), 7.60-7.72 (4H, m), 7.99 (1H, br-s)
860	δ 2.39(3H,s), 4.85(2H,s), 7.09-8.14(9H,m)
861	δ 2.31(3H,s), 4.84(2H,s), 7.17(1H,br), 7.20-7.23(2H,m), 7.47(1H,t,J=8.1), 7.58- 7.67(3H,m), 7.84-7.87(1H,m), 8.00(1H,s)
862	δ 1.27(6H, d, J=6.8Hz), 2.97(1H, septet, J=6.8Hz), 4.85(2H, s), 7.18(1H, br), 7.46-7.51(3H, m), 7.57(1H, dd, J=1.5Hz, 7.8Hz), 7.74(1H, d, J=7.8Hz), 7.94(1H, s), 8.14(1H, s), 8.21(1H, d, J=8.3Hz)

Tabla 9 (19)

Compuesto No.	^{1}H-RMN (CDCl$_3$, ppm)
863	δ1.87(2H,s), 7.51-8.01(8H,m), 8.86(1H,s)
864	δ 4.87(2H,s), 7.09(1H,br.), 7.49-7.58(4H,m), 8.07(1H,br.), 8.20(3H,s)
865	δ 4.86(2H, s), 7.08(1H, br-s), 7.48-7.60(3H, m), 7.64(1H, d, J=2.4Hz), 7.72(1H, d, J=7.3Hz), 7.98(1H, s), 8.18(1H, s), 8.39(1H, d, J=8.8Hz)
866	δ 4.85(2H, s), 7.06(1H, br), 7.41-7.51(2H, m), 7.60(1H, s), 7.65-7.74(4H, m), 7.97(1H, s)
867	δ1.86 (2H, s), 7.10 (1H, br-s), 7.48-7.57 (2H, m), 7.71 (1H, d, J=8.3Hz), 7.90-7.97 (3H, m), 8.19 (1H, br-s), 8.22 (1H, d, J=8.6Hz)
868	δ 4.85(2H, s), 7.12(1H, br-s), 7.46-7.56(4H, m), 7.71(1H, d, J=7.8Hz), 7.93(1H, s), 8.14(1H, s), 8.48(1H, d, J=8.8Hz)
869	δ 4.84(2H, s), 6.97-7.05(1H, m), 7.22(1H, br-s), 7.48(1H, t, J=7.8Hz), 7.59(1H, d, J=7.8Hz), 7.69(1H, d, J=7.8Hz), 7.96(1H, s), 7.98(1H, s), 8.05-8.12(1H, m)
870	δ 2.46 (3H, s), 2.55 (3H, d, J=14Hz), 4.86 (2H, s), 7.13 (1H, br s), 7.49 (1H, s), 7.46-7.62 (4H, m), 7.88 (1H, s), 7.99 (1H, s)
871	δ 2.34(3H,s), 2.38(3H,s), 4.85(2H,s), 6.97-8.03(8H,m)
872	δ 2.31(6H, s), 3.99(1H, s), 4.95(2H, s), 7.15(1H, br-s), 7.45-7.51 (4H, m), 7.64-7.66(2H, m), 8.01(1H, s)
873	δ 2.34(6H, s), 3.74(1H, s), 4.85(2H, s), 7.08(1H, br-s), 7.48(1H, s), 7.49(2H, s), 7.52(1H, s), 7.65-7.67(2H, m), 8.04(1H, s)
874	δ 2.30(6H, s), 4.87(2H,s), 7.08(1H,br), 7.49-7.58(4H,m), 8.07(1H,br), 8.20(3H,s)
875	δ 2.25(6H, s), 4.85(2H, s), 7.07(1H, br), 7.12(2H, s), 7.36(1H, br-s), 7.48(1H, t, J=7.8Hz), 7.64-7.66(2H, m), 8.02(1H, s)
876	δ 2.28 (3H, s), 2.31 (3H, s), 4.84 (2H, s), 7.00 (1H, s), 7.12 (1H, s), 7.18 (1H, br), 7.47 (1H, t, J=7.8Hz), 7.60 (1H, s), 7.66-7.68 (2H, m), 7.99 (1H, s)
877	δ 2.19(6H, s), 4.82(2H, s), 7.22(2H, s), 7.41(1H, t, J=8.1Hz), 7.48(1H, br), 7.61-7.66(3H, m), 7.99(1H, s)

501

Tabla 9 (20)

Compuesto No.	^{1}H-RMN (CDCl$_3$, ppm)
878	δ 2.22 (6H, s), 4.84 (2H, s), 7.13 (1H, br-s), 7.39 (1H, s), 7.45-7.49 (3H, m), 7.64-7.65 (2H, m), 8.01 (1H, br-s)
879	δ 2.35 (6H, s), 4.85 (2H, s), 7.09 (1H, s), 7.32-7.69 (11H, m), 8.02 (1H, s)
880	δ 2.30 (3H, s), 2.32 (6H, s), 4.85 (2H, s), 7.09 (2H, s), 7.13 (1H, s), 7.21-7.27 (4H, m), 7.46-7.51 (2H, m), 7.68 (2H, d, J=7Hz), 8.03 (1H, s)
881	δ 2.34(6H, s), 2.42(3H, s), 4.85(2H, s), 7.12-7.23(2H, m), 7.29-7.39(4H, m), 7.47-7.52(2H, m), 7.68(2H, d, J=7Hz), 8.03(1H, s)
882	δ 2.34(6H, s), 2.40(3H, s), 4.85(2H, s), 7.13(1H, d, J=4Hz), 7.23-7.26(2H, m), 7.30(2H, s), 7.33-7.50(4H, m), 7.67(2H, d, J=8Hz), 8.02(1H, s)
883	δ 2.32(6H, s), 3.81(3H, s), 4.85(2H, s), 6.97-7.04(2H, m), 7.10(1H, br s), 7.28(2H, s), 7.30-7.34(2H, m), 7.42(1H, s), 7.49(1H, t, J=8Hz), 7.66-7.70(2H, m), 7.90(1H, s)
884	δ 2.35(6H, s), 3.88(3H, s), 4.85(2H, s), 6.89-6.91(1H, m), 7.10-7.18(3H, m), 7.33-7.37(3H, m), 7.47-7.52(2H, m), 7.68(2H, d, J=7Hz), 8.03(1H, s)
885	δ 2.33(6H, s), 3.86(3H, s), 4.85(2H, s), 6.96(2H, d, J=9Hz), 7.14(1H, br s), 7.30(2H, s), 7.47-7.53(4H, m), 7.68(2H, d, J=7Hz), 8.02(1H, s)
886	δ1.44 (3H, t, J=7Hz), 2.33 (6H, s), 4.08 (2H, q, J=7Hz), 4.85 (2H, s), 6.95 (2H, d, J=9Hz), 7.13 (1H, s), 7.30 (2H, s), 7.45-7.52 (4H, m), 7.68 (2H, d, J=7Hz), 8.01 (1H, s)
887	δ 2.33 (6H, s), 2.53 (3H, s), 4.84 (2H, s), 7.14 (1H, s), 7.30-7.36 (4H, m), 7.46-7.57 (4H, m), 7.67 (2H, d, J=6Hz), 8.02(1H, s)
888	δ 2.34 (6H, s), 4.85 (2H, s), 7.10-7.34 (6H, m), 7.41-7.52 (3H, m), 7.68 (2H, d, J=8Hz), 8.02 (1H, s)
889	δ 2.34(6H, s), 4.85(2H, s), 7.01-7.06(1H, m), 7.16(1H, br s), 7.25-7.50(8H, m), 7.68(1H, d, J=8Hz), 8.03(1H, s)
890	δ 2.33 (6H, s), 4.85 (2H, s), 7.09-7.15 (3H, m), 7.29 (2H, s), 7.46-7.55 (4H, m), 7.67-7.69 (2H, m), 8.03 (1H, s)
891	δ 2.34(6H, s), 4.85(2H, s), 7.09(1H, br s), 7.18-7.30(4H, m), 7.34-7.51(3H, m), 7.67-7.69(2H, m), 8.04(1H, s)
892	δ 2.30(9H, s), 4.85(2H, s), 7.05(1H, t, J=8.8Hz), 7.14(1H, br s), 7.28(2H, s), 7.32-7.51(4H, m), 7.67-7.69(2H, m), 8.03(1H, s)

502

Tabla 9 (21)

Compuesto No.	^{1}H-RMN ($CDCl_3$, ppm)
893	δ 2.31(6H, s), 4.85(2H, s), 6.69(1H, s), 7.09(1H, br-s), 7.25(2H, s), 7.41(1H, s), 7.47-7.51(2H, m), 7.66-7.68(2H, m), 7.72(1H, s), 8.02(1H, s)
894	δ 2.30(6H, s), 4.84(2H, s), 7.07-7.09(1H, m), 7.25(1H), 7.27-7.29(1H, m), 7.36(2H, s), 7.36(2H, s), 7.45-7.50(2H, m), 7.65-7.67(2H, m), 8.02(1H, s)
895	δ 2.32(6H, s), 4.85(2H, s), 7.18(1H, s), 7.35-7.50(7H, m), 7.67(2H, d, J=6.8Hz), 8.02(1H, s)
896	δ 2.31(3H, s), 4.85(2H, s), 7.10(1H, br), 7.20(1H, d, J=2.2Hz), 7.32(1H, d, J=2.2Hz), 7.49(1H, t, J=7.8Hz), 7.57(1H, s), 7.66-7.68(2H, m), 8.02(1H, s)
897	(DMSO-d_6) δ 4.85(2H, s), 7.44(1H, t, J=7.8Hz), 7.63-7.68(2H, m), 7.72(1H, d, J=2.4Hz), 7.84(1H, s), 8.06(1H, s), 8.80(1H, s), 9.09(1H, s)
898	δ4.85(2H, s), 7.00(1H, br-s), 7.51(1H, t, J=8.3Hz), 7.69-7.72(5H, m), 8.05(1H, s)
899	δ4.86(2H, s), 7.00(1H, br-s), 7.53(1H, t, J=7.8Hz), 7.67-7.73(2H, m), 7.92(1H, s), 8.05(2H, s), 8.11(1H, s)
900	(DMSO-d_6) δ 4.98(2H, s), 7.52(1H, t, J=7.8Hz), 7.70-7.75(2H, m), 8.17(1H, s), 8.31(2H, s), 10.42(1H, s), 10.63(1H, s)
901	(DMSO-d_6) δ 1.24-1.47(5H, m), 1.66-1.80(5H, m), 2.54-2.60(1H, m), 4.96(2H, s), 7.48(1H, t, J = 7.8Hz), 7.60(2H, s), 7.67-7.71(2H, m), 8.11(1H, s), 10.24(1H, s), 10.37(1H, s)
902	(DMSO-d_6) δ 4.86(2H, s), 7.44(1H, t, J=7.8Hz), 7.67(1H, d, J=7.8Hz), 7.82(1H, d, J=2.0Hz), 7.85(1H, s), 8.05(1H, d, J=2.0Hz), 8.06(1H, d, J=7.8Hz), 9.04(1H, s), 9.27(1H, s)
903	δ4.86(2H, s), 7.00(1H, br-s), 7.51(1H, t, J=7.8Hz), 7.70(2H, d, J=7.8Hz), 7.75(1H, s), 7.94(2H, s), 8.06(1H, s)
904	δ 2.20(3H,s), 4.85(2H,s), 6.60(1H,d,J=2.4Hz), 7.17(1H,br.), 7.50(1H,t,J=7.8Hz), 7.54(1H,s), 7.59(1H,s), 7.69(1H,d,J=7.8Hz), 7.72(1H,br), 8.03(1H,s)
905	δ 2.36(3H, s), 4.85(2H, s), 7.08(1H, br-s), 7.10(1H, s), 7.22-7.23(1H, m), 7.50(1H, t, J=8.1Hz), 7.59(1H, s), 7.67-7.69(2H, m), 8.04(1H, s)
906	δ 2.36(3H,s), 4.86(2H,s), 4.98(2H,s), 7.04(1H,br.), 7.12(1H,d,J=2.4Hz), 7.27(1H,s), 7.50(1H,t,J=7.8Hz), 7.56(1H,s), 7.67-7.70(2H,m), 8.02(1H,s)
907	δ 2.38 (3H, s), 4.85 (2H, s), 7.14 (1H, br), 7.49-7.53 (2H, m), 7.62-7.70 (3H, m), 7.85 (1H, s), 8.09 (1H, s)

503

Tabla 9 (22)

Compuesto Nº.	^{1}H-RMN ($CDCl_3$, ppm)
908	δ 2.28 (3H, s), 4.84 (2H, s), 7.11 (1H, br-s), 7.48 (1H, t, J=7.8Hz), 7.55 (1H, s), 7.59 (1H, s), 7.64-7.68 (3H, m), 8.01 (1H, br-s)
909	δ1.24 (6H, d, J=6.8Hz), 2.33 (3H, s), 2.86 (1H, septet, J=6.8Hz), 4.85 (2H, s), 7.09 (1H, s), 7.16 (1H, br), 7.33 (1H, d, J=2.0Hz), 7.42 (1H, t, J=7.8Hz), 7.60 (1H, s), 7.67-7.69 (2H, m), 8.00 (1H, s)
910	δ 2.23(3H,s), 4.86(2H,s), 6.51(1H,s), 6.78(1H,d,J=2.4Hz), 7.15(1H,br.), 7.49(1H,br.), 7.51(1H,t,J=7.8), 7.56(1H,s), 7.71(1H,d,J=6.8Hz), 8.05(1H,s)
911	δ 1.29(6H, d, J=7.3Hz), 2.98(1H, septet, J=7.3Hz), 4.85(2H, s), 7.10(1H, br), 7.47-7.52(2H, m), 7.56-7.58(2H, m), 7.65(1H, d, J=7.3Hz), 7.72(1H, br), 7.96(1H, s)
912	δ 2.37(3H,s), 4.85(2H,s), 4.86(2H,s), 7.06(1H,br), 7.16(1H,d,J=2.4Hz), 7.43(1H,d,J=2.4Hz), 7.50(1H,t,J=7.8Hz), 7.56(1H,s), 7.69(1H,s), 7.70(1H,s), 8.03(1H,s)
913	(DMSO-d_6) δ 4.96(2H, s), 7.49(1H, t, J=7.8Hz), 7.64(1H, d, J=7.8Hz), 7.71(1H, d, J=7.8Hz), 8.02(1H, d, J=2.0Hz), 8.10(1H, s), 8.30(1H, d, J=2.0Hz), 10.34(1H, s), 10.38(1H, s)
914	(DMSO-d_6) δ 1.29(6H, d, J=6.9Hz), 2.95(1H, septet, J=6.8Hz), 4.86(2H, s), 7.42(1H, t, J=7.8Hz), 7.52(1H, d, J=1.5Hz), 7.68(1H, d, J=7.8Hz), 7.74(1H, d, J=1.5Hz), 7.85(1H, d, J=7.8Hz), 8.09(1H, s), 9.27(1H, s), 9.66(1H, s)
915	δ 4.85(2H, s), 7.04(1H, br), 7.47-7.55(2H, m), 7.63-7.70(3H, m), 7.90(1H, d, J=1.5Hz), 7.99(1H, s)
916	(DMSO-d6) δ 4.86(2H, s), 7.43(1H, t, J=7.2Hz), 7.70(1H, d, J=7.8Hz), 7.84(1H, d, J=7.8Hz), 8.10(1H, s), 9.46(1H, br-s), 9.73(1H, br-s)
917	δ 2.22 (6H, s), 3.79 (2H, t, J=5.4Hz), 4.42 (2H, t, J=5.4Hz), 7.37 (1H, t, J=7.8Hz), 7.44 (2H, s), 7.63 (1H, d, J=7.8Hz), 7.71 (1H, d, J=7.8Hz), 8.12 (1H, br-s), 9.37 (1H, s), 9.60 (1H, br-s)
918	δ 2.34(6H, s), 2.53-2.56(2H, m), 4.43(2H, t, J=6.3Hz), 6.80(1H, br-s), 7.41(1H, s), 7.47(2H, s), 7.50(1H, s), 7.62-7.64(2H, m), 7.9(1H, s)
919	(DMSO-d_6) δ 2.66-2.78(2H, m), 4.34(2H, t, J=5.9Hz), 7.49(1H, t, J=7.8Hz), 7.66-7.72(2H, m), 8.12(1H, s), 8.30(2H, s), 10.00(1H, s), 10.60(1H, s)
920	δ 1.32 (6H, d, J=6.1Hz), 2.51 (3H, s), 5.01-5.07 (1H, m), 6.72 (1H, br-s), 7.50 (1H, t, J=7.8Hz), 7.54-7.57 (2H, m), 7.64 (1H, d, J=8.1Hz), 7.71 (2H, d, J=7.3Hz), 7.85 (1H, s), 8.01-8.03 (1H, m), 8.13 (1H, s), 8.45-8.48 (1H, m)
921	δ1.32 (6H, d, J=6.1Hz), 1.74-1.77 (2H, m), 1.84-1.87 (2H, m), 2.74 (2H, t, J=6.4Hz), 3.02 (2H, q, J =6.4Hz), 5.04 (1H, septet, J=6.1Hz), 6.73 (1H, br s), 7.42-7.46 (2H, m), 7.52-7.55 (1H, m), 7.62 (1H, br s, J=8Hz), 7.76 (1H, br s), 7.96 (1H, br s), 8.03-8.06 (1H, m)
922	δ1.31 (6H, d, J=6.4Hz), 1.68-1.76 (4H, m), 2.81 (2H, t, J=5.7Hz), 2.99 (2H, q, J=6.1Hz), 5.03 (1H, septet, J=6.4Hz), 6.73 (1H, br-s), 7.43-7.47 (2H, m), 7.59-7.64 (3H, m), 8.03 (1H, s)

504

Table 9 (23)

Compound No.	^{1}H-NMR (CDCl$_3$, ppm)
923	δ1.31 (6H, d, J=6.4Hz), 3.83 (3H, s), 5.02 (1H, septet, J=6.4Hz), 6.55 (1H, s), 6.78 (1H, br-s), 7.41-7.50 (2H, m), 7.57 (1H, d, J=7.8Hz), 8.03 (1H, br-s), 8.09 (1H, br-s)
924	δ1.32 (6H, d, J=6.3Hz), 3.86 (3H, s), 5.04 (1H, septet, J=6.3Hz), 6.72 (1H, br-s), 7.49-7.53 (2H, m), 7.63 (1H, d, J=7.3Hz), 7.80 (1H, br-s), 8.14 (1H, br-s)
925	δ1.32 (6H, d, J=5.9Hz), 3.89 (3H, s), 5.04 (1H, septet, J=5.9Hz), 6.72 (1H, s), 7.47-7.50 (2H, m), 7.70 (1H, d, J=8.3Hz), 7.90 (1H, br-s), 8.14 (1H, br-s)
926	δ1.32 (6H, d, J=6.1Hz), 3.88 (3H, s), 3.93 (3H, s), 5.04 (1H, septet), 6.78 (1H, br-s), 7.47 (1H, br-s), 7.64-7.68 (2H, m), 8.05 (1H, br-s), 9.40 (1H, br-s)
927	δ1.33 (6H, d, J=5.9Hz), 2.34 (3H, s), 5.02 (1H, septet, J=5.9Hz), 6.74 (1H, br-s), 7.24 (1H, s), 7.44 (1H, t, J=7.8Hz), 7.49-7.52 (1H, m), 7.58-7.60 (1H, m), 7.82 (1H, br-s), 8.07 (1H, br-s), 8.71(1H, s)
928	δ1.31 (6H, d, J=6.4Hz), 2.35 (3H, s), 5.01-5.07 (1H, m), 6.74 (1H, br-s), 7.25 (1H, m), 7.46 (1H, t, J=7.8Hz), 7.58-7.63 (2H, m), 7.68 (1H, br-s), 8.07 (1H, br-s)
929	δ1.32 (6H, d, J=5.9Hz), 5.03 (1H, septet, J=5.9Hz), 6.52 (1H, septet, J=6.3Hz), 6.71 (1H, br-s), 6.99 (1H, d, J=8.8Hz), 7.43 (1H, t, J=7.8Hz), 7.51-7.58 (2H, m), 7.92 (1H, br-s), 8.01 (1H, br-s), 8.14 (1H, dd, J=8.8Hz, 2.4Hz), 8.34 (1H, d, J=2.4Hz)
930	δ1.32 (6H, d, J=5.9Hz), 2.33 (3H, s), 5.50 (1H, septet, J=5.9Hz), 6.53 (1H, septet, J=6.4Hz), 6.74 (1H, br-s), 6.87 (1H, s), 7.43 (1H, t, J=7.8Hz), 7.54-7.58 (2H, m), 7.64 (1H, br-s), 8.04 (1H, br-s), 8.37 (1H, s)
931	δ1.32 (6H, d, J=6.3Hz), 5.05 (1H, septet, J=6.3Hz), 6.30 (1H, septet, J=6.3Hz), 6.69 (1H, br-s), 7.01 (1H, d, J=2.8Hz), 7.47 (1H, t, J=7.8Hz), 7.56 (1H, dd, J=7.8Hz, 1.5Hz), 7.68 (1H, d, J=7.8Hz), 7.90 (1H, br-s), 8.27 (1H, br-s), 8.82 (1H, d, J=8.8Hz)
932	δ1.32 (6H, d, J=6.4Hz), 2.29 (3H, s), 2.41 (3H, s), 5.04 (1H, septet, J=6.4Hz), 6.58 (1H, septet, J=6.4Hz), 6.72 (2H, s), 7.37-7.46 (2H, m), 7.53-7.57 (1H, m), 7.60 (1H, d, J=7.8Hz), 8.05 (1H, br-s)
933	δ 2.49 (3H, s), 4.85 (2H, s), 7.16 (1H, br-s), 7.48-7.57 (3H, s), 7.70 (2H, s), 7.76 (1H, d, J=7.6Hz), 7.92 (1H, s), 8.00 (1H, dd, J=3.4Hz, 6.8Hz), 8.13 (1H, s), 8.47 (1H, dd, J=3.4Hz, 6.8Hz)
934	δ1.75-1.79 (2H, m), 1.84-1.87 (2H, m), 2.74 (2H, t, J=6.4Hz), 3.02 (2H, q, J=6.4Hz), 4.85 (2H, s), 7.13 (1H, br s), 7.41-7.51 (2H, m), 7.59-7.69 (2H, m), 7.76 (1H, br s), 8.00 (1H, br s), 8.06 (1H, bg d, J=8.5Hz)
935	δ1.65-1.76 (4H, m), 2.81 (2H, t, J=6.1Hz), 2.99 (2H, q, J=6.4Hz), 4.95 (2H, s), 7.10 (1H, br-s), 7.46-7.52 (2H, m), 7.89 (1H, s), 7.67-7.69 (2H, m), 8.04 (1H, s)
936	δ3.86 (3H, s), 4.85 (2H, s), 6.58 (1H, s), 7.10 (1H, br-s), 7.51 (1H, t, J=7.8Hz), 7.60 (1H, d, J =7.8Hz), 7.65 (1H, d, J=7.8Hz), 7.84 (1H, br-s), 8.10 (1H, br-s)
937	δ3.85 (3H, s), 4.85 (2H, s), 7.16 (1H, br-s), 7.51 (1H, t, J=7.9Hz), 7.62 (1H, d, J=7.9Hz), 7.68 (1H, d, J=7.9Hz), 7.85 (1H, br-s), 8.12 (1H, br-s)

505.

Tabla 9 (24)

Compuesto No.	^{1}H-RMN (CDCl$_3$, ppm)
938	δ3.87 (3H, s), 4.85 (2H, s), 7.21 (1H, br-s), 7.51 (1H, t, J=8.3Hz), 7.61 (1H, d, J=8.3Hz), 7.68 (1H, d, J=8.3Hz), 7.92 (1H, br-s), 8.13 (1H, br-s)
939	δ3.89 (3H, s), 3.94 (3H, s), 4.86 (2H, s), 7.20 (1H, br-s), 7.52 (1H, t, J=7.8Hz), 7.70-7.73 (2H, m), 8.09 (1H, br-s), 9.44 (1H, s)
940	δ4.87 (2H, s), 7.07-7.11 (2H, m), 7.31-7.34 (1H, m), 7.47-7.52 (2H, m), 7.67-7.69 (1H, m), 8.01 (1H, dd, J=8.0Hz, 1.4Hz), 8.19 (1H, br-s), 8.56-8.60 (1H, m), 11.3 (1H, br-s)
941	δ4.84 (2H, s), 7.19 (1H, br-s), 7.33 (1H, dd, J=8.3Hz, 4.8Hz), 7.44 (1H, t, J=8.3Hz), 7.58-7.59 (2H, m), 7.94-7.97 (2H, m), 8.44 (1H, dd, J=4.8Hz, 1.4Hz), 9.14 (1H, br-s)
942	δ 2.44 (3H, s), 4.86 (2H, s), 7.13 (1H, br-s), 7.52 (1H, t, J=7.8Hz), 7.59 (1H, d, J=2.9Hz), 7.63-7.65 (2H, m), 7.76 (1H, s), 8.09 (1H, s), 9.23 (1H, s)
943	δ4.95 (2H, s), 6.52 (1H, septet, J=6.3Hz), 6.99 (1H, d, J=8.8Hz), 7.07 (1H, br-s), 7.48 (1H, t, J=8.3Hz), 7.61-7.62 (2H, m), 7.86 (1H, s), 8.02 (1H, s), 8.15 (1H, dd, J=8.8Hz, 2.5Hz), 8.33 (1H, d, J=2.5Hz)
944	δ 2.35 (3H, s), 4.85 (2H, s), 6.55 (1H, septet, J=6.4Hz), 6.89 (1H, s), 7.08 (1H, br-s), 7.49 (1H, t, J=7.8Hz), 7.59 (1H, s), 7.63 (2H, d, J=8.3Hz), 8.05 (1H, s), 8.40 (1H, s)
945	δ 2.34 (3H, s), 4.85 (2H, s), 7.17 (1H, br-s), 7.22-7.26 (1H, m), 7.49 (1H, t, J=7.8Hz), 7.60-7.66 (2H, m), 7.75 (1H, br-s), 8.07 (1H, br-s), 8.73 (1H, br-s)
946	δ4.86 (2H, s), 7.13 (1H, br-s), 7.52 (1H, t, J=8.3Hz), 7.67 (1H, d, J=8.3Hz), 7.74 (1H, d, J=8.3Hz), 8.02 (1H, s), 8.05 (1H, s), 8.66 (1H, s), 8.70 (1H, br-s)
947	δ 2.36 (3H, s), 5.05 (2H, s), 7.16 (1H, br-s), 7.25 (1H, s), 7.51 (1H, t, J=7.8Hz), 7.68-7.70 (3H, m), 8.08 (1H, br-s)
948	δ4.86 (2H, s), 6.30 (1H, septet, J=6.4Hz), 7.00 (1H, d, J=8.8Hz), 7.04 (1H, br-s), 7.52 (1H, t, J=7.8Hz), 7.63 (1H, dd, J=7.8Hz, 1.5Hz), 7.70 (1H, d, J=7.8Hz), 8.04 (1H, br-s), 8.27 (1H, br-s), 8.83 (1H, d, J=8.8Hz)
992	δ 2.37 (3H, s), 4.85 (2H, s), 6.33 (1H, septet, J=5.8Hz), 6.87 (1H, s), 7.05 (1H, br-s), 7.49-7.53 (2H, m), 7.66-7.68 (2H, m), 8.05 (1H, s)
1010	δ1.33 (6H, d, J=6.4Hz), 2.37 (3H, s), 5.04 (1H, septet, J=6.4Hz), 6.34 (1H, septet, J=6.4Hz), 6.72 (1H, br-s), 6.88 (1H, s), 7.45 (1H, t, J=7.8Hz), 7.58-7.64 (3H, m), 8.05 (1H, s)
1039	δ 2.38 (3H, s), 4.86 (2H, s), 6.34 (1H, septet), 6.89 (1H, s), 7.09 (1H, br-s), 7.51 (1H, t, J=7.8Hz), 7.57 (1H, br-s), 7.66 (1H, br-s), 7.68 (1H, d, J=7.8Hz), 8.07 (1H, s)
1086	δ 2.37 (3H, s), 4.85 (2H, s), 6.33 (1H, septet, J=5.8Hz), 6.87 (1H, s), 7.05 (1H, br-s), 7.49-7.53 (2H, m), 7.66-7.68 (2H, m), 8.05 (1H, s)

506

Tabla 9 (25)

Compuesto No.	^{1}H-RMN (CDCl$_3$, ppm)
1104	δ1.32 (6H, d, J=6.4Hz), 2.29 (3H, s), 2.41 (3H, s), 5.04 (1H, septet, J=6.4Hz), 6.58 (1H, septet, J=6.4Hz), 6.72 (2H, s), 7.37-7.46 (2H, m), 7.53-7.57 (1H, m), 7.60 (1H, d, J=7.8Hz), 8.05 (1H, br-s)
1180	δ 2.46 (3H, s), 4.86 (2H, s), 7.11 (1H, s), 7.51-7.86 (5H, m), 8.10 (1H, br-s)
1198	δ 1.31(6H, d, J=6.3Hz), 2.40(3H, s), 5.03(1H, septet, J=6.3Hz), 6.72(1H, s), 7.42-7.47(2H, m), 7.56(1H, s), 7.60-7.63(2H, m), 7.74(1H, s), 8.03(1H, s)
1227	δ 2.41(3H, s), 4.85(2H, s), 7.05(1H, br), 7.44(1H, s), 7.51(1H, t, J=8.1Hz), 7.57(1H, s), 7.67-7.70(3H, m), 8.05(1H, s)
1245	δ 1.31(6H, d, J=6.1Hz), 2.42(3H, s), 5.04(1H, septet, J=6.1Hz), 6.71(1H, s), 7.45(1H, d, J=8.1Hz), 7.48(1H, s), 7.61-7.64(2H, m), 7.72-7.74(2H, m), 8.04(1H, s)
1274	δ 2.43(3H, s), 4.86(2H, s), 7.08(1H, br), 7.48-7.53(2H, m), 7.68-7.73(4H, m), 8.06(1H, s)
1292	δ 1.32(6H, d, J=6.3Hz), 2.42(3H, s), 5.04(1H, septet, J=6.3Hz), 6.72(1H, s), 7.44-7.52(2H, m), 7.62-7.66(3H, m), 7.93(1H, s), 8.04(1H, s)
1321	δ 2.43(3H, s), 4.86(2H, s), 7.08(1H, br), 7.50-7.54(2H, m), 7.63(1H, s), 7.70-7.72(2H, m), 7.94(1H, s), 8.08(1H, s)
1361	δ 0.87(3H, t, J=7.3Hz), 1.53-1.63(2H, m), 2.44-2.96(2H, m), 2.64(2H, t, J=7.8Hz), 4.38(2H, t, J=6.3Hz), 7.16(1H, s), 7.38(1H, t, J=7.8Hz), 7.48(1H, s), 7.61-7.64(2H, m), 7.91-7.94(2H, m), 8.00(1H, s)
1368	δ 0.93(3H, t, J=7.3Hz), 1.59-1.69(2H, m), 2.71(2H, t, J=7.8Hz), 4.86(2H, s), 7.11(1H, br), 7.49-7.54(2H, m), 7.62(1H, s), 7.69-7.72(2H, m), 7.96(1H, d, J=1.5Hz), 8.07(1H, s)
1385	δ 2.35(3H, s), 2.44(3H, s), 4.86(2H, s), 6.74(1H, s), 7.34-7.38(3H, m), 7.46(1H, s), 7.52(1H, d, J=8.8Hz), 7.89(1H, s), 8.35(1H, d, J=8.8Hz)
1386	δ 1.32(6H, d, J=6.3Hz), 2.40(6H, s), 2.41(3H, s), 5.03(1H, septet, J=6.3Hz), 6.48(1H, br-s), 7.15(1H, s), 7.28-7.37(4H, m), 7.95(1H, d, J=8.3Hz)
1387	δ 2.40(6H, s), 2.45(3H, s), 4.86(2H, s), 6.80(1H, br), 7.16(1H, s), 7.32-7.42(4H, m), 7.85(1H, br)
1388	δ1.35(3H, t, J=7.3Hz), 2.36(6H, s), 4.28(2H, q, J=7.3Hz), 6.91 (1H, s), 7.29 (1H, t, J=8.3Hz), 7.37 (2H, s), 7.74-7.79 (2H, m), 8.32 (1H, br-d, J=5.9Hz)
1389	δ1.34 (6H, d, J=6.3Hz), 2.36 (6H, s), 5.07 (1H, septet, J=6.3Hz), 6.86 (1H, br-s), 7.30 (1H, t, J=8.1Hz), 7.37 (2H, s), 7.72-7.79 (2H, m), 8.32 (1H, br)

507.

Tabla 9 (26)

Compuesto No.	^{1}H-RMN (CDCl$_3$, ppm)
1408	δ 2.37(6H, s), 4.70(4H, dt, J=2.0Hz, 46.8Hz), 5.28(1H, tt, J=4.4Hz, 24.9Hz), 7.08(1H, br-s), 7.23(1H, t, J=8.3Hz), 7.37(2H, s), 7.76(1H, d, J=12.2Hz), 7.81(1H, dt, J=1.4Hz, 7.8Hz), 8.29(1H, br-s)
1411	δ 2.37(6H, s), 2.51-2.62(2H, m), 4.46(2H, t, J=6.4Hz), 6.97(1H, br-s), 7.32(1H, t, J=8.3Hz), 7.37(2H, s), 7.74-7.82(2H, m), 8.28(1H, br-s)
1416	δ 2.37(6H, s), 3.76-3.79(2H, m), 4.49(2H, t, J=5.4Hz), 7.02(1H, br), 7.32(1H, t, J=7.8Hz), 7.37(2H, s), 7.74-7.81(2H, m), 8.30(1H, br)
1418	δ 2.37 (6H, s), 4.68 (2H, s), 7.21 (1H, br), 7.32-7.37 (3H, m), 7.76-7.85 (2H, m), 8.31 (1H, br)
1421	δ 2.36(6H, s), 3.60(2H, t, J=5.9Hz), 4.54(2H, t, J=5.9Hz), 7.03(1H, br), 7.32(1H, t, J=7.8Hz), 7.37(2H, s), 7.76-7.81(2H, m), 8.29(1H, br)
1435	δ1.35(3H, t, J=7.3Hz), 2.36(6H, s), 4.25(2H, q, J=7.3Hz), 6.89(1H, br-s), 7.30(1H, t, J=7.8Hz), 7.35(2H, s), 7.74-7.78(2H, m), 8.32(1H, br-s)
1455	δ 2.33(6H, s), 4.70(4H, ddd, J=48.4Hz, 2.4Hz, 4.3Hz), 5.28(1H, tt, J=20.0, 4.3Hz), 7.03(1H, br-s), 7.32(1H, d, J=8.3Hz), 7.35(2H, s), 7.75-7.83(2H, m), 8.29(1H, br-s)
1458	δ 2.36(6H, s), 2.51-2.62(2H, m), 4.47(2H, t, J=6.3Hz), 6.95(1H, br-s), 7.32(1H, t, J=7.3Hz), 7.35(2H, s), 7.74-7.82(2H, m), 8.29(1H, br-s)
1463	δ 2.36(6H, s), 3.77(2H, t, J=5.4Hz), 4.49(2H, t, J=5.4Hz), 7.03(1H, br), 7.31(1H, t, J=8.3Hz), 7.35(2H, s), 7.76-7.80(2H, m), 8.29(1H, br)
1465	δ 2.36(6H, s), 4.88(2H, s), 7.18(1H, br), 7.35(1H, t, J=8.3Hz), 7.36(2H, s), 7.75-7.85(2H, m), 8.31(1H, br)
1899	δ 1.33(6H, d, J=6.3Hz), 2.37(3H, s), 5.05(1H, septet, J=6.3Hz), 7.21(1H, br-s), 7.32(1H, d, J=8.8Hz), 7.39(1H, t, J=8.1Hz), 7.46(1H, s), 7.50-7.53(2H, m), 8.30-8.36(2H, m)
1899	δ 2.38(3H, s), 4.87(2H, s), 7.40-7.51(5H, m), 7.62(1H, s), 8.27-8.30(2H, m)
1900	δ 1.34(6H, d, J=6.1Hz), 2.41(6H, s), 5.05(1H, septet, J=6.1Hz), 7.22-7.26(2H, m), 7.31-7.40(4H, m), 8.33(1H, dd, J=1.5Hz, 8.1Hz)
1901	δ 2.40(6H, s), 4.86(2H, s), 7.29(1H, s), 7.37(2H, s), 7.38-7.43(2H, m), 7.50(1H, s), 8.28(1H, d, J=6.8Hz)
1902	δ 4.88(2H, s), 7.39(1H, dd, J=1.5Hz, 7.3Hz), 7.44-7.51(2H, m), 7.88-7.92(2H, m), 8.03(1H, s), 8.36(1H, d, J=8.3Hz), 8.70(1H, d, J=8.3Hz)

508

Tabla 9 (27)

Compuesto No.	^{1}H-RMN ($CDCl_3$, ppm)
1903	δ 2.37 (3H, s), 4.88 (2H, s), 6.55 (1H, septet, J=6.3Hz), 6.90 (1H, s), 7.32 (1H, s), 7.41-7.48 (3H, m), 8.31 (1H, br-s), 8.49 (1H, s)
1904	δ 1.34(6H, d, J=6.3Hz), 2.44(6H, s), 5.05(1H, septet, J=6.3Hz), 7.13(1H, s), 7.25-7.28(2H, m), 7.37(2H, s), 7.41(1H, t, J=8.3Hz), 8.31(1H, dd, J=1.5Hz, 8.3Hz)
1905	δ 2.46(6H, s), 4.88(2H, s), 7.15(1H, br), 7.33-7.37(3H, m), 7.43-7.53(2H, m), 8.25(1H, d, J=8.3Hz)
1906	δ 2.40(3H,s), 4.86(2H,s), 7.05-7.10(2H,m), 7.47(1H,s), 7.53(1H,d,J=8.8Hz), 7.58(1H,br), 8.22(1H,br), 8.28(1H,d,J=8.8Hz).
1907	δ 2.40(6H,s), 4.86(2H,s), 7.00-7.11(3H,m), 7.37(2H,s), 8.18(1H,br)
1908	δ 1.33(6H,d,J=6.3Hz), 2.39(6H,s), 5.04(1H,septet,J=6.3Hz), 6.81(1H,br), 7.30(1H,br), 7.37(2H,s), 8.23(1H,br)
1909	δ 1.33(6H, d, J=6.1Hz), 2.34(3H, s), 2.42(3H, s), 5.05(1H, septet, J=6.1Hz), 6.46(1H, br), 7.30(1H, d, J=8.1Hz), 7.45(1H, s), 7.49(1H, d, J=8.5Hz), 7.60(1H, dd, J = 1.7Hz, 8.1Hz), 7.83(1H, s), 8.27(1H, d, J=8.5Hz), 8.46(1H, br)
1910	δ 2.39(3H, s), 2.42(3H, s), 4.86(2H, s), 6.77(1H, br), 7.35(1H, d, J=8.1Hz), 7.46(1H, s), 7.50(1H, d, J=8.8Hz), 7.65(1H, dd, J=2.0Hz, 8.1Hz), 7.80(1H, s), 8.27(1H, d, J=8.8Hz), 8.36(1H, br)
1911	δ 1.33(6H, d, J=6.3Hz), 2.34(9H, s), 5.04(1H, septet, J=6.3Hz), 6.48(1H, br-s), 7.31(1H, d, J=7.8Hz), 7.34(2H, s), 7.55(1H, s), 7.64(1H, dd, J=1.5Hz, 7.8Hz), 8.46(1H, s)
1912	δ 2.34(6H, s), 2.40(3H, s), 4.86(2H, s), 6.78(1H, br), 7.34-7.36(3H, m), 7.50(1H, s), 7.69(1H, dd, J=1.5Hz, 7.8Hz), 8.36(1H, s)
1913	δ1.32(6H,d,J=6.3Hz), 2.43(3H,s),3.96(3H,s), 5.05(1H,sept.,J=6.3Hz), 6.98(1H,d,J=8.5Hz), 7.24(1H,s), 7.44(1H,s), 7.49(1H,d,J=8.5Hz), 7.71(1H,dd,J=2.2Hz, 8.5Hz), 7.82(1H,s), 8.25(1H,d,J=8.5Hz), 8.68(1H,s)
1914	δ 2.43(3H,s), 4.00(3H,s), 4.87(2H,s), 7.02(1H,d,J=8.5Hz), 7.45(1H,s), 7.50(1H,d,J=8.5Hz), 7.54(1H,s), 7.74-7.79(2H,m), 8.28(1H,d,J=8.5Hz), 8.66(1H,s)
1915	δ 1.33(6H, d, J=6.3Hz), 2.42(3H, s), 5.00-5.10(1H, m), 6.91(1H, br), 7.20(1H, dd, J=8.5Hz, 10.5Hz), 7.46(1H, s), 7.49(1H, d, J=8.8Hz), 7.62-7.66(1H, m), 7.82(1H, s), 8.20(1H, d, J=8.8Hz), 8.71(1H, d, J=6.1Hz)
1916	δ 2.46(3H, s), 4.87(2H, s), 7.23-7.29(2H, m), 7.47(1H, s), 7.51(1H, d, J=8.8Hz), 7.68-7.73(1H, m), 7.78(1H, s), 8.23(1H, d, J=8.5Hz), 8.68(1H, d, J=6.1Hz)
1917	δ 1.33(6H, d, J=6.3Hz), 2.34(6H, s), 5.04(1H, septet, J=6.3Hz), 6.91(1H, s), 7.20(1H, dd, J=8.5Hz, 10.5Hz), 7.35(2H, s), 7.56(1H, s), 7.66-7.70(1H, m), 8.71(1H, br-d, J=6.6Hz)

509

Tabla 9 (28)

Compuesto No.	^{1}H-RMN (CDCl$_3$, ppm)
1918	δ 2.34(6H, s), 4.87(2H, s), 7.22(1H, dd, J=8.8Hz, 10.5Hz), 7.32(2H, s), 7.75-7.79(1H, m), 7.87(1H, s), 8.56(1H, s), 8.63(1H, br)
1919	δ1.34(6H,d,J=6.3Hz), 2.43(3H,s), 5.06(1H,septet,J=6.3Hz), 7.21(1H,s), 7.46(1H,s), 7.49- 7.52(2H,m), 7.61(1H,dd,J=2.2Hz, 8.5Hz), 7.82(1H,s), 8.24(1H,d,J=8.5Hz), 8.78(1H,d,J=2.2Hz)
1920	δ 2.43(3H,s), 4.88(2H,s), 7.47(1H,s), 7.50-7.57(3H,m), 7.66(1H,dd,J=2.0Hz, 8.3Hz), 7.78(1H,s), 8.26(1H,d,J=8.3Hz), 8.72(1H,s)
1921	δ 1.34(6H, d, J=6.1Hz), 2.34(6H, s), 5.05(1H, septet, J=6.1Hz), 7.23(1H, s), 7.35(2H, s), 7.51(1H, d, J=8.3Hz), 7.63-7.69(2H, m), 8.76(1H, s)
1922	δ 2.35(6H, s), 4.88(2H, s), 7.30(2H, s), 7.50(1H, br), 7.53-7.59(2H, m), 7.78(1H, dd, J=2.0Hz, 8.3Hz), 8.72(1H, s)
1923	δ 2.35(6H, s), 2.45(3H, s), 4.84(2H, s), 7.00(1H, br), 7.36(2H, s), 7.41(1H, s), 7.48(2H, s), 7.83(1H, s)
1924	δ 1.33(6H, d, J=6.1Hz), 2.46(3H, s), 5.05(1H, septet, J=6.1Hz), 6.89(1H, br-s), 7.48(1H, s), 7.51(1H, d, J=9.1Hz), 7.79(2H, s), 7.89(1H, s), 8.18(1H, d, J=9.1Hz), 8.19(1H, s)
1925	δ 2.43(3H, s), 4.86(2H, s), 7.32(1H, br-s), 7.49(1H, s), 7.52(1H, d, J=8.8Hz), 7.78(1H, s), 7.85(1H, s), 7.94(1H, s), 8.18(1H, d, J=8.8Hz), 8.24(1H, s)
1926	δ 1.32(6H, d, J=6.1Hz), 2.34(6H, s), 5.04(1H, septet, J=6.1Hz), 6.87(1H, s), 7.36(2H, s), 7.50(1H, s), 7.83(1H, s), 7.90(1H, s), 8.20(1H, s)
1927	δ 2.35(6H, s), 4.86(2H, s), 7.26(1H, s), 7.37(2H, s), 7.48(1H, s), 7.89(1H, s), 7.97(1H, s), 8.24(1H, s)
1928	δ1.31(6H,d,J=6.3Hz), 2.33(6H,s), 3.89(2H,br.), 4.97-5.04(1H,m), 6.59(1H,s), 6.92(1H,s), 7.02(1H,s), 7.23-7.26(1H,m), 7.34(2H,s), 7.39(1H,br)
1929	δ 2.35(6H,s), 3.04(6H,s), 4.84(2H,s), 6.94(2H,br), 7.04(1H,s), 7.30(1H,s), 7.369(2H,s), 7.404(1H,s)
1930	δ 1.30(6H, d, J=6.3Hz), 2.37(3H, s), 2.48(3H, s), 5.02(1H, septet, J=6.3Hz), 6.57(1H, s), 7.20-7.28(2H, m), 7.44(2H, s), 7.50(1H, d, J=8.3Hz), 7.76(1H, s), 8.28(1H, d, J=9.1Hz)
1931	δ 2.39(3H, s), 2.48(3H, s), 4.84(2H, s), 7.22(3H, d, J=8.3Hz), 7.44-7.54(3H, m), 7.80(1H, s), 8.13(1H, d, J=8.1Hz), 8.20(1H, s), 9.04(1H, s)
1932	δ 1.30(6H, d, J=6.1Hz), 2.39(6H, s), 2.48(3H, s), 5.02(1H, septet, J=6.1Hz), 6.63(1H, s), 7.19-7.25(3H, m), 7.36(2H, s), 7.81(1H, s)

510.

Tabla 9 (29)

Compuesto No.	^{1}H-RMN ($CDCl_3$, ppm)
1933	δ 2.40(6H, s), 2.50(3H, s), 4.84(2H, s), 7.01(1H, br-s), 7.18(1H, s), 7.24-7.27(1H, m), 7.31-7.34(1H, m), 7.37(2H, s), 7.82(1H, s)
1934	δ 1.31(6H, d, J=6.1Hz), 2.41(3H, s), 5.04(1H, septet, J=6.1Hz), 6.69(1H, s), 7.16-7.21(1H, m), 7.46(1H, s), 7.5(1H, d, J=8.8Hz), 7.89(1H, dd, J=2.9Hz, 6.6Hz), 7.96(1H, br), 8.40(1H, d, J=8.8Hz), 8.57(1H, d, J=17.6Hz)
1935	δ 2.42(3H, s), 4.84(2H, s), 7.04(1H, br), 7.20-7.27(1H, m), 7.46(1H, s), 7.51(1H, d, J=8.5Hz), 7.94(1H, br), 8.01(1H, dd, J=2.9Hz, 6.6Hz), 8.40(1H, d, J=8.5Hz), 8.57(1H, br-d, J=17.6Hz)
1936	δ 1.31(6H, d, J=6.3Hz), 2.35(6H, s), 5.02(1H, septet, J=6.3Hz), 6.70(1H, s), 7.19(1H, dd, J=9.0Hz, 11.2Hz), 7.36(2H, s), 7.83(1H, dd, J=2.9Hz, 6.6Hz), 7.99(1H, br), 8.01(1H, d, J=5.1Hz)
1937	δ 2.36(6H, s), 4.84(2H, s), 7.10(1H, br-s), 7.21-7.26(1H, m), 7.36(2H, s), 7.94-8.03(3H, m)
1938	δ 1.31(6H, d, J=6.3Hz), 2.41(3H, s), 5.03(1H, septet, J=6.3Hz), 6.68(1H, s), 7.40(1H, d, J=8.8Hz), 7.46(1H, s), 7.51(1H, d, J=8.5Hz), 7.67(1H, d, J=8.5Hz), 7.78(1H, d, J=2.7Hz), 8.06(1H, s), 8.32(1H, d, J=8.8Hz)
1939	δ 2.42(3H, s), 4.84(2H, s), 7.38(1H, d, J=8.8Hz), 7.45-7.49(2H, m), 7.72(1H, d, J=7.3Hz), 7.93(1H, s), 8.17(1H, d, J=8.5Hz), 8.52(1H, s), 9.43(1H, s)
1940	δ 1.31(6H, d, J=6.1Hz), 2.40(6H, s), 5.03(1H, septet, J=6.1Hz), 6.70(1H, s), 7.36(2H, s), 7.41(1H, d, J=8.8Hz), 7.63-7.66(2H, m), 7.75(1H, d, J=2.7Hz)
1941	δ 2.40(6H, s), 4.84(2H, s), 7.08(1H, br), 7.37(2H, s), 7.46(1H, d, J=8.8Hz), 7.64-7.70(2H, m), 7.82(1H, d, J=2.7Hz)
1942	δ1.31(6H,d,J=6.3Hz), 2.41(3H,s), 4.97-5.07(1H,m), 6.70(1H,s), 7.45-7.58(4H,m), 7.72-7.75(2H,m), 8.30(1H,d,J=8.8Hz)
1943	δ 2.44(3H,s), 4.85(2H,s), 7.43-7.47(2H,m), 7.54(1H,d,J=8.9Hz), 7.61(1H,d,J=8.5Hz), 7.86(1H,s), 7.99(1H,d,J=8.1Hz), 9.09(1H,s), 9.89(1H,s)
1944	δ 2.43(3H,s), 4.84(2H,s), 7.36(1H,s), 7.44(1H,s), 7.47(1H,d,J=8.5Hz), 7.79(2H,d,J=8.5Hz), 8.08(1H,d,J=8.5Hz), 8.62(1H,s), 9.65(1H,s)
1945	δ 1.31(6H, d, J=6.3Hz), 2.45(6H, s), 5.03(1H, septet, J=6.3Hz), 6.66(1H, s), 7.16-7.21(2H, m), 7.36(2H, s), 7.76(1H, s), 7.92(1H, dd, J=2.7Hz, 8.8Hz)
1946	δ1.52(9H,s), 2.41(3H,s), 6.58(1H,s), 7.19(1H,dd,J=2.7Hz, 8.5Hz), 7.41(1H,s), 7.45(1H,s), 7.51(1H,d,J=7.1Hz), 7.69(1H,s), 7.79(1H,d,J=8.5Hz), 8.30(1H,d,J=8.5Hz)
1947	δ 2.44(3H, s), 2.45(3H, s), 4.83(2H, d, J=1.7Hz), 7.00(1H, br), 7.07-7.27(2H, m), 7.36(2H, s), 7.74-7.77(1H, d, J=10.3Hz), 7.86(1H, dd, J=8.5Hz, 10.3Hz)

511

Tabla 9 (30)

Compuesto No.	^{1}H-RMN (CDCl$_3$, ppm)
1948	δ3.45(3H, s), 4.80(2H, s), 7.53-7.57(2H, m), 7.66(1H, s), 7.82(1H, d, J=7.8Hz), 7.93-7.95(3H, m)
1949	δ 2.30(3H, s), 3.41(3H, s), 4.77(2H, s), 6.77(1H, s), 6.95-7.00(1H, m), 7.07-7.16(2H, m), 7.29-7.41(4H, m)
1950	δ 1.26(6H, d, J = 5.9Hz), 2.28(6H, s), 3.33(3H, s), 4.96(1H, septet, J=5.9Hz), 6.47(1H, s), 6.88(1H, d, J=7.8Hz), 7.04(1H, t, J=7.8Hz), 7.21(2H, s), 7.23-7.47(2H, m)
1951	δ 2.29(6H, s), 3.34(3H, s), 4.77(2H, s), 6.81(1H, br), 6.99(1H, d, J=7.8Hz), 7.10(1H, t, J=7.8Hz), 7.22(2H, s), 7.24-7.26(1H, m), 7.42(1H, s)
1954	δ 1.26(6H, d, J=6.3Hz), 2.34(3H, s), 3.34(3H, s), 4.97(1H, septet, J=6.3Hz), 6.46(1H, s), 6.99(1H, d, J=7.8Hz), 7.07(1H, t, J=7.8Hz), 7.28-7.31(2H, m), 7.40-7.44(1H, m), 7.62(1H, s)
1955	δ 2.35(3H, s), 3.36(3H, s), 4.77(2H, s), 7.02-7.13(3H, m), 7.29-7.37(2H, m), 7.44-7.52(1H, m), 7.62(1H, s)
1956	δ 1.26(3H, t, J=7.3Hz), 2.29(6H, s), 3.86(2H, q, J=7.3Hz), 4.76(2H, s), 6.86(1H, br), 6.92-6.95(1H, m), 7.08(1H, t, J=8.1Hz), 7.22(2H, m), 7.23-7.30(1H, m), 7.38(1H, t, J=2.0Hz)
1957	δ 1.46(6H, d, J=6.3Hz), 2.07(6H, s), 4.77(2H, s), 5.40(1H, septet, J=6.3Hz), 6.78(1H, br), 6.98(1H, d, J=7.8Hz), 7.14-7.19(1H, m), 7.17(2H, s), 7.29(1H, s), 7.46(1H, d, J=7.8Hz)
1958	δ 2.34 (6H, s), 3.45 (3H, s), 4.80 (2H, s), 7.36 (2H, s), 7.50-7.56 (3H, m), 7.78 (1H, d, J=6.1Hz), 7.90 (1H, s)
1959	(DMSO-d_6) δ 2.32 (6H, s), 3.30 (3H, s), 4.86 (2H, s), 6.83 (1H, t, J=7.4Hz), 7.40 (1H, t, J=7.4Hz), 7.44 (2H, s), 7.67 (1H, t, J=7.4Hz), 10.05 (1H, s)
1960	δ1.29(6H,d,J=6.3Hz), 2.35(6H,s), 3.35(3H,s), 3.38(3H,s), 4.97-5.03(1H,m), 7.36(2H,s), 7.58(1H,s), 7.76(1H,s), 7.84(1H,s), 8.56(1H,s)
1961	(DMSO-d_6) δ 2.28(6H, s), 2.33(3H, s), 7.44(2H, s), 7.48(1H, t, J =7.8Hz), 7.66-7.75(2H, m), 8.11(1H, t, J=2.0Hz), 9.96(1H, s), 10.56(1H, s)
1962	(DMSO-d_6) δ1.34 (3H, t, J=7.3Hz), 2.34 (6H, s), 2.96 (2H, q, J=7.3Hz), 7.33 (2H, s), 7.41 (1H, t, J=7.8Hz), 7.67 (1H, d, J=7.8Hz), 7.83-7.85 (1H, m), 8.11 (1H, d, J=2.0Hz), 8.79 (1H, s), 9.58 (1H, s)
1963	δ 1.32(6H,d,J=6.6Hz), 2.37(6H,s), 5.00-5.06(1H,m), 6.69(1H,s), 7.35-7.65(5H,m), 8.09(1H,s), 8.72(1H,s)
1964	δ 2.37(6H,s), 4.85(2H,s), 7.07(1H,br.), 7.39(2H,s), 7.45(1H,t,J=8.1Hz), 7.61-7.68(2H,m), 8.11(1H,s), 8.69(1H,s)

S12

Tabla 9 (31)

Compuesto No.	^{1}H-RMN ($CDCl_3$, ppm)
1967	δ1.34 (6H, d, J=6.3Hz), 2.34 (6H, s), 5.09 (1H, septet, J=6.3Hz), 7.29 (1H, br-s), 7.35 (2H, s), 7.91 (1H, t, J=7.8Hz), 7.97 (1H, d, J=7.8Hz), 8.21 (1H, d, J=7.8Hz), 9.19 (1H, br-s)
1968	δ 2.35 (6H, s), 4.39 (2H, s), 7.36 (2H, s), 7.63(1H,br-s),7.97 (1H, dd, J=8.3Hz, 7.6Hz), 8.05 (1H, d, J=7.6Hz), 8.21 (1H, d, J=8.3Hz), 9.17 (1H, br-s)
1969	δ 2.35 (6H, s), 3.77-3.80 (2H, m), 4.48-4.52 (2H, m), 7.36 (2H, s), 7.46 (1H, br-s), 7.94 (1H, t, J=7.8Hz), 8.02 (1H, dd, J=7.8Hz, 1.0Hz), 8.19 (1H, dd, J =7.8Hz, 1.0Hz), 9.17 (1H, br-s)
2061	δ1.36 (6H, d, J=6.4Hz), 2.52 (6H, s), 5.07-5.14 (1H, m), 7.36 (2H, s), 7.56 (1H, t, J=8.2Hz), 8.15 (1H, dd, J=8.2Hz, 1.9Hz), 8.44 (1H, dd, J=8.2Hz, 1.9Hz), 9.45 (1H, br-s), 12.9 (1H, br-s)
2062	δ 2.37 (6H, s), 4.91 (2H, s), 7.36 (2H, s), 7.61 (1H, t, J=8.3Hz), 8.23 (1H, dd, J=8.3Hz, 1.9Hz), 8.46 (1H, dd, J=8.3Hz, 1.9Hz), 8.81 (1H, br-s), 12.7 (1H, br-s)
2157	δ 2.36 (6H, s), 4.90 (2H, s), 7.38 (2H, s), 7.52-7.60 (2H, m), 8.44 (1H, s), 8.56 (1H, d, J=5.4Hz), 8.58 (1H, br-s)
2164	δ1.33 (6H, d, J=5.8Hz), 2.35 (6H, s), 5.03-5.07 (1H, m), 7.06 (1H, s), 7.35 (2H, s), 7.93 (1H, d, J=2.4Hz), 7.95 (1H, d, J=5.9Hz, 2.4Hz), 8.49 (1H, d, J=5.9Hz), 9.58 (1H, br-s)
2165	(DMSO-d_6) δ 2.26 (6H, s), 5.02 (2H, s), 7.43 (2H, s), 7.75 (1H, dd, J=5.4Hz, 2.0Hz), 8.31 (1H, d, J=2.0Hz), 8.60 (1H, d, J=5.4Hz), 10.41 (1H, br-s), 10.92 (1H, br-s)
2167	(DMSO-d_6) δ 2.36 (6H, s), 4.90 (2H, s), 7.34 (2H, s), 7.94 (1H, dd, J=7.3Hz, 3.4Hz), 8.31 (1H, d, J=7.3Hz), 8.60 (1H, d, J=3.4Hz), 10.90 (1H, br-s), 13.65 (1H, br-s)
2168	(DMSO-d_6) δ 2.30(6H, s), 3.61(3H, s), 5.03(2H, s), 7.47(2H, s), 7.92(1H, d, J=7.6Hz), 7.98(1H, d, J=7.6Hz), 8.08(1H, t, J=7.6Hz), 10.18(1H, s)

513.

Tabla 9 (32)

Compuesto No.	^{1}H-RMN (CDCl$_3$, ppm)
I-1	δ 2.34(6H, s), 3.87(2H, br-s), 6.86-6.89(1H, m), 7.21-7.30(3H, m), 7.33(2H, s), 7.39(1H, s)
I-2	δ 3.87(2H, br), 6.84-7.00(1H, m), 7.14-7.17(1H, m), 7.20(1H, t, J=2.0Hz), 7.24-7.28(1H, m), 7.60(2H, d, J=8.6Hz), 7.78(2H, d, J=8.6Hz), 7.90(1H, br-s)
I-3	δ 2.51 (3H, d, J=8.8Hz), 3.86 (2H, br-s), 6.83-8.68 (1H, m), 7.13-7.25 (3H, m), 7.26-7.63 (3H, m), 7.90 (1H, br-s)
I-4	δ3.87 (2H, br-s), 3.89 (3H, s), 6.86-6.88 (1H, m), 6.99 (1H, dd, J=8.6Hz, 2.0Hz), 7.15-7.20 (2H, m), 7.27 (1H, t, J=7.8Hz), 7.51 (1H, d, J=8.6Hz), 7.83 (1H, s), 7.93 (1H, s)
I-5	δ3.89 (2H, br-s), 6.86-6.89 (1H, m), 7.12-7.30 (3H, m), 7.52-7.59 (2H, m), 7.76-7.93 (2H, m)
I-6	δ 2.43(3H, s), 3.83(2H,br), 6.85-6.88(1H,m), 7.14-7.17(1H,m), 7.21-7.29(2H,m), 7.45(1H, s), 7.49(1H,d,J=8.8Hz), 7.76(1H,br), 8.27(1H,d,J=8.8Hz)
I-7	δ 2.34(6H, s), 3.87(2H, br), 6.86-6.89(1H, m), 7.20-7.35(6H, m)
I-8	δ 2.42(3H, s), 3.79(2H, br-s), 6.80(1H, dd, J=2.2Hz, 7.8Hz), 6.90(1H, d, J=7.8Hz), 7.05(1H, s), 7.15(1H, t, J=7.8Hz), 7.26-7.44(7H, m), 7.53(1H, s)
I-9	δ 2.33 (3H, s), 2.52 (3H, d, J=8.8Hz), 3.89 (2H, br-s), 6.86-6.89 (1H, m), 7.14-7.16 (1H, m), 7.22 (1H, s), 7.28-7.30 (2H, m), 7.65 (1H, br-s), 8.11 (1H, s)
I-10	δ 2.28 (3H, s), 2.46 (3H, d, J=6.1Hz), 3.88 (2H, br-s), 6.84-6.89 (1H, m), 7.15-7.19 (1H, m), 7.23-7.29 (2H, m), 7.41 (1H, d, J=9.1Hz), 7.73 (1H, br-s), 7.81 (1H, d, J=9.1Hz)
I-12	δ 2.50 (3H, s), 3.92 (2H, br-s), 6.89-6.92 (1H, m), 7.24-7.32 (3H, m), 7.46 (1H, s), 7.76 (1H, br-s)
I-13	δ 2.27(6H, s), 3.31(3H, s), 6.40-6.43(1H, m), 6.54-6.58(1H, m), 6.71(1H, t, J=2.0Hz), 6.76-6.86(1H, m), 7.22(2H, s)
I-14	δ 1.45(6H, d, J=6.3Hz), 2.07(6H, s), 3.53(2H, br), 5.37(1H, septet, J=6.3Hz), 6.56-6.63(3H, m), 6.96(1H, t, J=7.8Hz), 7.16(2H, s)
I-15	δ 1.32(3H, t, J=7.6Hz), 2.72(2H, q, J=7.6Hz), 3.88(2H, br), 6.85-6.89(1H, m), 7.13-7.14(1H, m), 7.22-7.30(2H, m), 7.46(1H, s), 7.50(1H, d, J=8.8Hz), 7.80(1H, br-s), 8.29(1H, d, J=8.8Hz)
I-16	δ 1.17(3H, t, J=7.6Hz), 2.28(3H, s), 2.65(2H, q, J=7.6Hz), 3.85(2H, br-s), 6.82-6.85(1H, m), 7.21-7.23(3H, m), 7.34(2H, s), 7.64(1H, s)

S14

Tabla 9 (33)

Compuesto No.	^{1}H-RMN (CDCl$_3$, ppm)
I-17	δ 1.22(6H, t, J=7.6Hz), 2.69(4H, q, J=7.6Hz), 3.86(2H, br-s), 6.86-6.89(1H, m), 7.15-7.36(4H, m), 7.38(2H, s)
I-18	δ 1.23(3H, t, J=7.3Hz), 2.76(2H, q, J=7.3Hz), 3.88(2H, br-s), 6.88-6.91(1H, m), 7.26-7.32(3H, m), 7.50(1H, s), 7.53(1H, s), 7.95(1H, d, J=1.5Hz)
I-19	δ 1.00(3H, t, J=7.3Hz), 1.65-1.75(2H, m), 2.67(2H, t, J=7.3Hz), 3.89(2H, br), 6.84-6.88(1H, m), 7.11-7.29(3H, m), 7.43(1H, s), 7.49(1H, d, J=8.5Hz), 7.85(1H, br-s), 8.27(1H, d, J=7.8Hz)
I-20	δ1.22 (6H, d, J=6.8Hz), 2.32 (3H, s), 3.17 (1H, septet, J=6.8Hz), 3.87 (2H, br-s), 6.85-6.93 (1H, m), 7.20-7.29 (3H, m), 7.35 (1H, s), 7.40-7.45 (2H, m).
I-21	δ 2.35(3H, s), 3.85(5H, s), 6.85-6.89(1H, m), 6.95(1H, s), 7.13(1H, s), 7.23-7.30(3H, m), 7.62(1H, s)
I-22	δ 1.25(3H, t, J=7.6Hz), 2.76(2H, q, J=7.6Hz), 3.88(2H, br-s), 6.87-6.91(1H, m), 7.24-7.31(3H, m), 7.47(1H, s), 7.55(1H, s), 7.57(1H, s)
I-23	δ 2.62 (3H, d, J=6.4Hz), 3.91 (2H, br-s), 6.89 (1H, d, J=8.0Hz), 7.20-7.32 (4H, m), 7.49 (1H, d, J=9.0Hz), 8.58-8.60 (1H, m)
I-24	δ3.91 (2H, br-s), 3.92 (3H, s), 6.89-6.92 (1H, m), 7.21-7.33 (3H, m), 7.59 (1H, d, J=1.2Hz), 8.50 (1H, s), 8.54 (1H, s)
I-25	δ 2.35 (3H, s), 2.57 (3H, d, J=6.8Hz), 3.88 (2H, br-s), 6.88-6.91 (1H, m), 7.25-7.34 (4H, m), 7.67 (1H, s)
I-26	δ 2.41(3H, s), 3.88(2H, br-s), 6.87-6.91(1H, m), 7.25-7.31(3H, m), 7.47(1H, s), 7.65(1H, s), 7.72(1H, s)
I-27	δ 1.23(3H, t, J=7.3Hz), 2.74(2H, q, J=7.3Hz), 3.87(2H, br-s), 6.86-6.91(1H, m), 7.25-7.31(3H, m), 7.50(1H, s), 7.59(1H, s), 7.73(1H, d, J=1.5Hz)
I-28	(DMSO-d_6) δ 0.84(3H, t, J=7.3Hz), 1.48-1.58(2H, m), 2.66(2H, t, J=7.3Hz), 5.36(2H, br-s), 6.77(1H, dd, J=1.0Hz, 7.8Hz), 7.10-7.19(3H, m), 7.59(1H, s), 7.80(1H, s), 10.03(1H, s)
I-29	δ 0.90(3H, t, J=7.3Hz), 1.25-1.37(2H, m), 1.55-1.63(2H, m), 2.72(2H, t, J=7.8Hz), 3.89(2H, br), 6.87-6.91(1H, m), 7.24-7.31(3H, m), 7.48(1H, s), 7.55(1H, s), 7.73(1H, d, J=1.5Hz)
I-30	δ 2.39(3H,s), 2.66(3H,d,J=6.9Hz), 7.43(1H,s), 7.75-7.79(2H,m), 8.33(1H,d,J=8.3Hz), 8.48(1H,d,J=8.3Hz), 8.80(1H,s)
I-31	δ 2.41(3H, s), 3.88(2H, s), 6.86-6.91(1H, m), 7.28-7.32(3H, m), 7.49(1H, s), 7.58(1H, s), 7.93(1H, d, J=1.2Hz)

515.

Tabla 9 (34)

Compuesto No.	^{1}H-RMN ($CDCl_3$, ppm)
I-32	δ 0.91(3H, t, J=7.3Hz), 1.58-1.67(2H, m), 2.69(2H, t, J=7.8Hz), 3.88(2H, br-s), 6.87-6.90(1H, m), 7.26-7.31(3H, m), 7.50(1H, s), 7.54(1H, s), 7.95(1H, d, J=2.0Hz)
I-33	δ 2.33(6H, s), 3.87(2H, br-s), 6.86-6.89(1H, m), 7.21-7.29(3H, m), 7.34(2H, s), 7.52(1H, s)
I-34	δ 2.32(6H, s), 3.96(2H, br-s), 6.85-6.88(1H, m), 7.20-7.28(3H, m), 7.33(2H, s), 7.60(1H, s)
I-35	δ 3.86(2H, br), 6.84-6.87(1H, m), 7.13-7.28(3H, m), 7.63-7.64(2H, m), 7.70-7.74(2H, m), 7.91(1H, br-s)
I-36	δ 3.99(2H, br-s), 6.85-6.88(1H, m), 7.23-7.34(3H, m), 7.91(2H, s), 8.69(1H, s)
I-37	δ 3.91(2H, br), 6.88-6.91(1H, m), 7.15-7.21(2H, m), 7.29(1H, t, J=7.8Hz), 7.94-7.98(2H, m), 8.03(2H, d, J=8.8Hz), 8.11(1H, s)
I-38	(DMSO-d_6) δ 5.39(2H, br-s), 6.77-6.80(1H, m), 7.12-7.19(3H, m), 8.49(2H, s), 10.53(1H, s)
I-39	(DMSO-d_6) δ 2.30(3H, s), 4.32(2H, br-s), 4.39(2H, q, J=8.3Hz), 6.79-6.86(3H, m), 7.18-7.27(2H, m), 7.45(1H, d, J=8.8Hz), 7.56(1H, s), 8.91 (1H, br-s)
I-40	δ3.87(2H, br-s), 6.85-6.88(1H, m), 7.14(1H, dd, J=9.3Hz, 1.0Hz), 7.19(1H, t, J=2.0Hz), 7.27(1H, t, J=7.9Hz), 7.64(2H, d, J=8.7Hz), 7.71(2H, d, J=8.7Hz), 7.86(1H, s)
I-42	δ3.88(2H, s), 6.90(1H, d, J=6.8Hz), 7.23-7.32(3H, m), 7.60(1H, s), 7.92(2H, s)
I-43	δ3.89(2H, br-s), 6.90(1H, dt, J=2.5Hz, 6.3Hz), 7.25-7.32(3H, m), 7.59(1H, s), 7.72(2H, s)
I-44	δ3.89(2H, br-s), 6.90(1H, dt, J=2.5Hz, 6.4Hz), 7.28-7.30(3H, m), 7.60(1H, s), 7.93(2H, s)
I-45	δ3.92(2H, s), 6.92(1H, dt, J=1.5Hz, 7.3Hz), 7.23-7.30(3H, m), 7.79(1H, s), 8.04(2H, s)
I-46	δ3.89(2H, br-s), 6.90(1H, dd, J=2.4Hz, 4.9Hz), 7.23-7.32(3H, m), 7.61(1H, s), 7.93(2H, s)
I-47	δ3.88(2H, br-s), 6.90(1H, d, J=6.3Hz), 7.23-7.32(3H, m), 7.62(1H, s), 7.92(2H, s)

Tabla 9 (35)

Compuesto No.	^{1}H-RMN (CDCl$_3$, ppm)
I-48	6.90-6.94(1H, m), 7.28-7.33(3H, m), 7.73(1H, s), 8.02(1H, s), 6.25(1H, s)
I-49	δ 2.31(6H, s), 2.90(3H, s), 6.81(1H, dd, J=1.9Hz, 7.8Hz), 7.15-7.18(2H, m), 7.30(1H, t, J=7.8Hz), 7.42(1H, s), 7.52(2H, s)
I-50	δ 2.91(3H, s), 6.82-6.85(1H, m), 7.21-7.23(2H, m), 7.32(1H, t, J=7.8Hz), 7.64(1H, s), 7.93(2H, s)
I-51	δ 2.29(3H,s), 2.34(3H,s), 3.82(2H,br), 6.81(1H,d,J=8.1Hz), 6.92(1H,d,J=8.1Hz), 7.11 (1H,t,J=7.8Hz), 7.41-7.44(2H,m), 7.50(1H,d,J=8.3Hz), 8.36(1H,d,J=8.3Hz)
I-53	δ 2.23(3H, s), 2.39(3H, s), 3.82(2H, br), 7.10-7.16(2H, m), 7.24(1H, d, J=1.7Hz), 7.44(1H, s), 7.49(1H, d, J=8.1Hz), 7.73(1H, s), 8.30(1H, d, J=8.8Hz)
I-55	δ 2.34(3H, s), 2.40(3H, s), 3.70(2H, br), 6.72(1H, dd, J = 2.4Hz, 8.1Hz), 6.83(1H, d, J=2.4Hz), 7.07(1H, d, J=8.1Hz), 7.36(1H, s), 7.44(1H, s), 7.50(1H, d, J=8.5Hz), 8.30(1H, d, J=8.5Hz)
I-56	δ 2.38(6H, s), 2.42(3H, s), 3.70(2H, br), 6.72(1H, dd, J=2.4Hz, 8.1Hz), 6.89(1H, d, J=2.4Hz), 7.05(1H, s), 7.07(1H, d, J=8.1Hz), 7.36(2H, s)
I-59	δ 2.37 (6H, s), 3.90 (2H, br-s), 6.96-7.01 (1H, m), 7.10 (1H, t, J=7.8Hz), 7.36 (2H, s), 7.43-7.47 (1H, m), 7.56 (1H, d, J=13.2Hz)
I-60	δ 2.33(6H, s), 6.99(1H, dt, J=1.5Hz, 7.8Hz), 7.10(1H, t, J=7.8Hz), 7.43(2H, s), 7.46(1H, d, J=7.8Hz), 7.84(1H, d, J=13.2Hz)
I-61	δ 2.33(6H, s), 3.93(2H, s), 7.05-7.14(1H, m), 7.17-7.21(1H, m), 7.31(1H, s), 7.35(2H, s), 7.37-7.40(1H, m)
I-62	δ 2.40(3H, s), 3.77(2H, br), 6.79-6.83(1H, m), 6.97-7.03(1H, m), 7.44-7.51(3H, m), 8.42(1H, d, J=8.8Hz), 8.60(1H, br-d, J=18.8Hz)
I-63	δ 2.35(6H, s), 3.74(2H, br-s), 6.77-6.83(1H, m), 7.01(1H, dd, J=8.8Hz, 11.7Hz), 7.35(2H, s), 7.42(1H, dd, J=2.9Hz, 6.6Hz), 8.01(1H, d, J=15.6Hz)
I-64	δ 2.38(3H, s), 4.27(2H, br), 6.89(1H, dd, J=1.5Hz, 8.1Hz), 7.05(1H, d, J=8.8Hz), 7.18(1H, t, J=8.1Hz), 7.45(1H, s), 7.51(1H, d, J=8.1Hz), 7.60(1H, s), 8.34(1H, d, J=8.8Hz)

S17.

Tabla 9 (36)

Compuesto No.	^{1}H-RMN ($CDCl_3$, ppm)
I-65	δ 2.40(6H, s), 4.27(2H, br-s), 6.83(1H, dd, J=1.5Hz, 7.8Hz), 7.03(1H, dd, J=1.5Hz, 7.8Hz), 7.16(1H, t, J=7.8Hz), 7.29(1H, s), 7.36(2H, s)
I-66	δ 2.39(3H,s), 4.27(2H,br), 7.08(1H,dd,J=2.2Hz, 8.3Hz), 7.32-7.36(2H,m), 7.45(1H,s), 7.50(1H,d,J=8.5Hz), 7.63(1H,s), 8.24(1H,d,J=8.5Hz)
I-67	δ 2.33(6H, s), 4.27(2H, br-s), 7.15(1H, d, J=8.1Hz), 7.35-7.38(5H, m)
I-68	δ 2.41(3H, s), 3.87(2H, br), 6.73(1H, dd, J=2.9Hz, 8.5Hz), 7.18(1H, d, J=2.9Hz), 7.21(1H, d, J=8.8Hz), 7.45(1H, s), 7.50(1H, d, J=8.8Hz), 8.12(1H, s), 8.34(1H, d, J=8.5Hz)
I-69	δ 2.39(6H, s), 3.85(2H, br-s), 6.72(1H, dd, J=2.7Hz, 8.5Hz), 7.15(1H, d, J=2.7Hz), 7.22(1H, d, J=8.5Hz), 7.36(2H, s), 7.66(1H, s)
I-70	δ 2.43(6H, s), 4.34(2H, br), 6.86(1H, dd, J=7.9Hz, 8.3Hz), 6.96(1H, dd, J=1.9Hz, 8.3Hz), 7.13(1H, s), 7.19(1H, t, J=8.3Hz), 7.36(2H, s)
I-71	δ 2.41(3H,s), 3.87(2H,br), 6.66(1H,dd,J=2.9Hz, 8.5Hz), 7.03(1H,d,J=2.9Hz), 7.38(1H,d,J=8.5Hz), 7.45(1H,s), 7.50(1H,d,J=8.5Hz), 7.75(1H,br-s), 8.33(1H,d,J=8.5Hz)
I-72	δ 2.40(3H, s), 3.94(2H, br), 7.05-7.16(2H, m), 7.36(1H, dd, J=2.2Hz, 8.5Hz), 7.45(1H, s), 7.50(1H, d, J=9.0Hz), 7.66(1H, s), 8.24(1H, d, J=9.0Hz)
I-73	δ 2.41(3H,s), 3.88(2H,br-s), 6.54(1H,dd,J=2.9Hz, 8.5Hz), 6.68(1H,d,J=2.9Hz), 7.37 (1H,s), 7.45(1H,s), 7.52(1H,d,J=9.3Hz), 7.61(1H,d,J=8.3Hz), 8.32(1H,d,J=8.5Hz)
I-74	δ 2.44(6H, s), 3.86(2H, br-s), 6.52(1H, dd, J=2.9Hz, 8.5Hz), 6.93(1H, s, J=2.9Hz), 7.12(1H, s), 7.35(2H, s), 7.62(1H, d, J=8.5Hz)
I-75	δ 2.38(3H, s), 4.39(2H, s), 7.08(1H, s), 7.40(1H, d, J=1.7Hz), 7.43-7.50(3H, m), 7.90(1H, d, J=9.1Hz), 8.73(1H, s)
I-76	δ 2.27(6H, s), 4.09(2H, br-s), 7.08(1H, s), 7.33(2H, s), 7.37(1H, s), 7.43(1H, s), 7.83(1H, s)
I-77	δ 2.39(3H,s), 2.93(3H,s), 3.95(2H,br), 6.84(1H,d,J=8.3Hz), 7.21-7.27(2H,m), 7.44 (1H,s), 7.48(1H,d,J=8.5Hz), 7.69(1H,s), 8.28(1H,d,J=8.5Hz)
I-79	δ 2.33(6H,s), 3.76(4H,br), 6.19(1H,d,J=2.0Hz), 6.60(2H,d,J=2.0Hz), 7.34(1H,br), 7.52(2H,s)
I-80	δ 2.38(3H,s), 4.65(2H,s), 7.26(1H,s), 7.34(1H,s), 7.47(1H,s), 7.52(1H,d,J=8.5Hz), 8.29 (1H,d,J=8.5Hz)

510.

Tabla 9 (37)

Compuesto No.	^{1}H-RMN (CDCl$_3$, ppm)
I-81	δ 2.50 (3H, s), 3.90 (2H, s), 6.91-6.94 (1H, m), 7.27-7.35 (3H, m), 7.48-7.57 (2H, m), 7.70 (1H, s), 7.75 (1H, s), 8.01-8.04 (1H, m), 8.45-8.48 (1H, m)
I-82	δ1.74-1.78 (2H, m), 1.82-1.88 (2H, m), 2.72 (2H, t, J=6.0Hz), 3.01 (2H, q, J=6.0Hz), 3.85 (2H, br-s), 6.85-6.89 (1H, m), 7.14-7.16 (1H, m), 7.22-7.29 (2H, m), 7.42 (1H, d, J=8.6Hz), 7.70 (1H, br-s), 8.10 (1H, d, J=9.0Hz)
I-83	δ1.71-1.79 (4H, m), 2.81 (2H, t, J=6.1Hz), 2.99 (2H, q, J=6.3Hz), 3.87 (2H, br-s), 6.87-6.90 (1H, m), 7.24-7.29 (3H, m), 7.47-7.52 (2H, m)
I-84	δ3.87 (2H, br-s), 6.51 (1H, septet, J=6.3Hz), 6.85-6.88 (1H, m), 6.99 (1H, d, J=8.7Hz), 7.15 (1H, d, J=7.3Hz), 7.20 (1H, t, J=2.0Hz), 7.25-7.29 (1H, m), 7.75 (1H, br-s), 8.15 (1H, dd, J=8.7Hz, 2.4Hz), 8.30 (1H, d, J=2.4Hz)
I-85	δ 2.37(3H, s), 4.27(2H, br-s), 6.55(1H, septet, J=6.3Hz), 6.88-6.91(2H, m), 7.06(1H, dd, J=7.3Hz, 1.5Hz), 7.18(1H, t, J=7.3Hz), 7.37(1H, br-s), 8.50(1H, br-s)
I-86	δ 2.37(3H, s), 3.88(2H, br-s), 6.34(1H, septet, J=6.3Hz), 6.88(1H, s), 6.89-6.91(1H, m), 7.23-7.31(3H, m), 7.47(1H, br-s)

Los insecticidas contenidos en los compuestos representados por la fórmula (1) de la presente invención como ingredientes activos son adecuados para impedir o para prevenir contra las pestes de insectos tales como pestes de insectos, de agricultura, horticultura y de granos almacenados que son nocivos al arroz paddy, los árboles frutales, a los vegetales, y a otros cultivos y a las plantas de fluencia y a las pestes sanitarias o nematodos. Por ejemplo, los insecticidas tienen una actividad insecticida fuerte en las siguientes pestes de insectos: Lepidópteros tales como el gusano del algodón (Diaphania indica), el tortrix del té oriental (Homona magnanima), la oruga tejedora del repollo (ellulla undalis), el trotrix de la fruta de verano (Adoxophyes orana fasciata), el tortrix del té pequeño (Adoxophies sp.), el tortrix de la manzana (Archips fuscocupreanus), la polilla de la fruta del durazno (Carposina niponensis), la polilla de la fruta Manchuriana (Grapholita inopinata), la polilla de la fruta oriental (Grapholita molesta), el perforador de las vainas de la soya (Leguminivora glycinivorella), el enrollador de hojas de la mora (Olethreutes mori), el minador de la hoja de los cítricos (Phyllocnistis citrella), la polilla de la fruta del palosanto (Stathmopoda masinissa), el enrollador de hoja del té (Caloptilia theivora), Caloptilia sp. (Caloptilia zachrysa), el minador de la hoja del manzano (Phyllonorycter ringoniella), el minador de la corteza de la pera (Spulerrina astaurota), la garra pequeña de los cítricos (Papilio xuthus), la oruga común del repollo (Pieris rapae crucivora), oruga del cogollo del tabaco (Heliothis armigera),la polilla o gusano del manzano (Lapsey resia pomonelia), la polilla de espalda de diamante (Plutella xylostella), la polilla de la fruta del manzano (Argyresthia conjugella), la polilla de la fruta del durazno (Carposina niponensis), el taladrador del vástago del arroz (Chilo suppressalis), el enrollador de la hoja del arroz (Cnaphalocrocis medinalis), la polilla del tabaco (Ephestia elutella), la palomilla de la mora (Glyphodes pyloalis), el taladrador paddy (Scirpophaga incertulas), el agujón del arroz (Parnara guttata), el gusano trozador del arroz

520

(Pseudaletia separata), el taladrador rosado (Sesamia inferens), el gusano del repollo (Mamestra brassicae), el gusano cortador común (Spodoptera litura), el gusano de la remolacha (Spodoptera exigua), el gusano cortador negro (Agrotis ipsilon), la polilla del nabo (Agrotis segetum), la semi oruga agrimensora de la remolacha (Autographa nigrisigna), y la oruga agrimensora del repollo (Trichoplusia ni); Hemípteros tales como la saltarilla aster (Macrosteles fascifrons), la saltarilla del arroz verde (Nephotettix cincticeps), la saltarilla del arroz café (Nilaparvata lugens), la saltarilla de plantas cafés pequeñas (Laodelphax striatellus), la saltarilla de las plantas de arroz con la espalda blanca (Sogatella furcifera), pulguilla de los cítricos (Diaphorina citri), mariposa blanca de la uva (Aleurolobus taonabae), la mariposa blanca del mal de plomo (Bemisia argentifolii), la mariposa blanca de la patata dulce (Bemisia tabaci), la mariposa blanca de invernadero (Trialeurodes vaporariorum), áfido del nabo (Lipaphis erysimi), áfido del algodón (Aphis gossypii), áfido del manzano (Aphis Citricola), el áfido del durazno verde (Myzus persicae), la ochinilla de cera India (Ceroplastes ceriferus), el chinche del banano (Pseudococcus Comstocki), el chinche Japones (Planococcus kraunhiae), la cochinilla algodonosa de los cítricos (Pulvinaria aurantii), la cochinilla canfor (Pseudaonidia duplex), la cochinilla San José (Comstockaspis perniciosa), la cochinilla de cabeza de flecha (Unaspis yanonensis), el gusano verde con alas cafés(Plautia Stali),y el gusano oloroso café (Halyomorpha mista); coleópteros tales como el escarabajo de la soya (Anomala rufocuprea), el escarabajo Japones (Popillia japonica), el escarabajo cigarrillo (Lasioderma serricorne), el escarabajo de poste con polvo (Lyctusbrunneus), la pájara de ventiocho puntos (Epilachna vigintioctopunctata), el gorgojo del grano adzuki (Callosobruchus chinensis), el gorgojo de los vegetales (Listroderes costirostris), el gorgojo del maíz (Sitophilus zeamais), elgorgojo bola (Anthonomus gradis gradis), el gorgojo del arroz de agua (Lissorhoptrus oryzophilus), el gorgojo

de la hoja del cocohombro, (Aulacophora femoralis), el gorgojo de la hoja del arroz (Oulema oryzae), el gorgojo volador rayado (Phyllotreta striolata), el gorgojo del golpe del pino (Tomicus piniperda), el gorgojo de la papa colorada (Leptinotarsa decemlineata), el gorgojo del frijol mexicano (Epilachna varivestis), el gusano de la raíz del maíz (Diabrotica sp.), el gorgojo de cuernos largos con manchas amarillas (Psacothea hilaris), y el gorgojo de cuernos largos de puntos blancos (Anoplophora malasiaca); Dípteros tales como la mosca del melón (Dacus (Bactrocera) dorsalis), el minador de la hoja del arroz (Agromyza oryzae), el gusanillo de la cebolla (Delia antiqua), el gusanillo de la semilla de maíz (Delia platura), la mosquilla agalla de la vaina del grano de soya (Asphondylia sp.), la mosca de casa (Musca doméstica), el minado de la hoja del melocotón de jardín (Chromatomyia horticola), el minador de la hoja de las legumbres (Liriomyza trifolii), el minador de la hoja de la nuez (Liriomyza bryoniae), y el mosquito doméstico común (Culex pipiens pipiens); nemátodos tales comoel nematodo de la lesión de la raíz del café (Pratylenchus coffeae), el nematodo de la lesión de la raíz (Pratylenchus sp.), el nematodo quiste de la papa (Globodera rostochiensis), el nematodo del nodo de raíz (Meloidogyne sp.), el nematodo de los cítricos (Tylenchulus semipenetrans), el nemátodo (Aphelenchus avenae), y el nematodo foliar del crisantemo (Aphelenchoides ritzemabosi); tisanópteros tales como el trips del melón (Thrips palmi), el trips de la flor del oeste (Frankliniella occidentalis), el trips del té amarillo (Scirtothrips dorsalis), el trips de chupador de miel (Thrips flavus), y el trips de la cebolla (Thrips tabaci); Ortópteros tales como la cucaracha alemana (Blattella germanica), la cucaracha americana (Periplaneta americana), y el saltamontes de arroz (Oxya yezoensis).

Los insecticidas representados por los compuestos representados por la fórmula (1) de la presente invención como ingredientes activos tienen un efecto preventivo

522
522

significativo en las pestes de los insectos anteriormente descritos nocivo a los cultivos de tierras bajas, cultivos de campos secos, árboles frutales, vegetales y otros cultivos, y plantas de florescencia. El efecto como en los insecticidas de la presente invención puede ser logrado por medio de tratar aguas blandas o paddy con, suelos y hojas de los campos paddy, campos secos, árboles frutales, vegetales y otros cultivos, o plantas de florescencia antes cultivar los insectos nocivos o al mismo tiempo de observación del crecimiento de insectos nocivos en la estación de crecimiento predicha de los insectos nocivos.

Los insecticidas de la presente invención son formados generalmente en formulaciones adecuadas para uso de acuerdo con un método normal de formulación de pesticidas en agricultura/horticultura. Particularmente, un compuesto representado por la fórmula (1) puede ser mezclado con u vehículo inerte apropiado, y si se requiere, un auxiliar en una proporción adecuada, y la mezcla resultante se somete a disolución, separación, suspensión, mezclado, impregnación, absorción, o adhesión para formar una formulación adecuada, tal como una suspensión, una emulsión, una droga líquida, un polvo humectable, un gránulo, un polvo o una tableta. Como el vehículo inerte usado en la presente invención, sea un sólido o líquido puede ser usado. Ejemplo de un material utilizable como vehículo sólido se incluye la harina de grano de soya, harina de grano, harina de madera, harina de corteza, harina de aserrín, harina de palo de tabaco, harina de cáscara de nuez, salvado, polvo de celulosa, un residuo después de la extracción de una planta, un polímero sintético tal como un polvo de resina sintética, arcilla (por ejemplo, caolín, bentonita, o arcilla ácida blanca=, talco)por ejemplo, talco o pirofilita), sílice (por ejemplo, diatomita, polvo de sílice, mica, carbón blanco (silicato sintético de alta dispersión llamado "polvo fino de silicato hidroso", o "silicato hidroso", algunos productos que contienen silicato de calcio

S13
S23

como componentes principales)), carbón activado, polvo de azufre, piedra pomo, diatomita calcinada, polvo de ladrillo, cenizas volátiles, arena, polvos de mineral inorgánico tales como carbonato de calcio y fosfato de calcio, fertilizadores químicos tal como sulfato de amonio, fosfato de amino, nitrato de amonio, urea, y cloruro de amonio, y compost. Estos vehículos son usados juntos o en una mezcla de por lo menos de dos clases.

Como material utilizable como vehículo líquido, un material que tenga una habilidad disolvente o un material que no tenga habilidad disolvente pero que tenga una habilidad para dispersar un compuesto de ingrediente activo con la ayuda de un auxiliar seleccionado. Ejemplos típicos de vehículos líquidos se dan en seguida, y estos ejemplos pueden ser usados solos o en mezcla de dos o más clases. Ejemplos de los vehículos líquidos incluyen agua, alcoholes (por ejemplo, metanol, etanol, isopropanol, butanol y etilenglicol); cetonas (por ejemplo, acetona, cetona de metiletilo, metil isobutil cetona, diisobutil cetona, y ciclohexanona); éteres (por ejemplo dietil éter, dioxano, celosolvo, diisopropil éter y tetrahidrofurano); hidrocarburos alifáticos (por ejemplo, querosina y aceite mineral); hidrocarburos aromáticos (por ejemplo, benceno, tolueno, xileno, disolvente de nafta, y alquilnaftaleno); hidrocarburos halogenados (por ejemplo, diclorometano, cloroformo, tetracloruro de carbono, y clorobenceno); ésteres (por ejemplo, acetato de etilo, acetto de butilo, propionato de etilo, ftalato de diisobutilo, ftalato de dibutilo, y ftalato de dioctilo); amidas (por ejemplo dimetilformamida, dietilformamida, y dimetilacetamida); y nitrilos (por ejemplo, acetonitrilos).

Ejemplos típicos y otros auxiliares se dan enseguida, y estos ejemplos son usados solos o en combinación de acuerdo con los propósitos. El auxiliar no es usado necesariamente. Por ejemplo, un tensoactivo es usado para emulsificar, dispersar,

S14
S24

solubilizar y/o humectar los compuestos de ingrediente activo. Ejemplos de estos tensoactivos incluyen

polioxietilen alquil éter, polioxietilen alquil aril éter, ésteres de ácidos grasos mayores de polioxietileno, ésteres de ácido de resina de polioxietileno, monolaurato de polioxietilen surbitan, monoleato de polioxietileno sorbitan, sulfonato de alquilarilo, nafatalensulfonato, sulfonato de lignino, sulfatos de alcoholes mayores. Ejemplos de otros auxiliares usados para estabilizar la dispersión del compuesto de ingrediente activo y pesar/aglomerar el compuesto de ingrediente activo se dan enseguida. Ejemplos de tales auxiliares incluyen la caseina, la gelatina, el almidón, la celulosa de metilo, la celulosa de carboximetilo, la goma arábiga, el alcohol de polivinilo, la turpentina de madera, el aceite de salvado, la bentonita, la goma de xantano, y la lignina-sulfonato.

Otros auxiliares para mejorar la fluidez de un producto sólido pueden ser usados. Ejemplos de tales auxiliares incluyen la cera, estearatos, y fosfatos de alquilo. También, un auxiliar tal como un condensado de ácido naftalensulfónico o un fosfato condensado de el, puede ser usado como defloculante para un producto en suspensión. Adicionalmente, un auxiliar tal como el aceite de silicona puede ser usado como un agente desespumante.

Los compuestos representados por la fórmula (1) de la presente invención son estables a la luz, el calor y la oxidación. Sin embargo, una cantidad apropiada de un antioxidante o un absorbedor de ultravioleta, por ejemplo, un derivado de fenol tal como el BHT (2,6-di-t-butil-4-metil fenol) o un BHA (hidroxianisol butilado), un derivado de bisfenol, una arilamina tal como la fenil-α-naftilamina, fenil-β-naftilamina, o un condensado de fenitidina y acetona, o un compuesto de

benzofenona, pueden ser agregados como un estabilizador para producir composiciones que tengan un efecto estable.

Cuando un compuesto representado por la fórmula (1) de la presente invención es usado como un ingrediente activo, generalmente, la cantidad del mismo usada en un polvo es de 0,5% en peso a 20%, la cantidad en una emulsión es de 5% en peso a 50% en peso, la cantidad en un polvo humectable es de 10% en peso a 90% en peso, y la cantidad en una formulación fluíble es de 10% en peso a 90% en peso. Con respecto a la cantidad del vehículo en una formulación, la cantidad en un polvo es de 60% en peso a 99% en peso, la cantidad en una emulsión es de 40% en peso a 95% en peso, la cantidad en un polvo humectable es de 10% en peso a 90% en peso, la cantidad en u gránulo es de 80% en peso a 99% en peso, y la cantidad en una formulación fluíble es de 10% en peso a 90% en peso. Con respecto a la cantidad de los auxiliares en una formulación, la cantidad en un polvo es de 0,1% en peso a 20% en peso, la cantidad en una emulsión es de 1% en peso a 20% en peso, la cantidad en un polvo humectable es de 0,1% en peso a 20% en peso, la cantidad en gránulo es de 0,1% en peso a 20% en peso, y la cantidad en una formulación fluíble es de o,1% en peso a 20% en peso.

Para poder impedir los diversos insectos nocivos, el compuesto de la presente invención está usado directamente o diluido apropiadamente con agua o suspendido en agua, en una cantidad efectiva del mismo para impedir las pestes y es aplicado a los cultivos en los cuales el crecimiento de los insectos nocivos está predicho, o en lugar en donde el crecimiento de los insectos nocivos no es deseable. La cantidad del compuesto usado depende de los diversos factores, por ejemplo, el propósito, los insectos objeto, las condiciones de crecimiento de las cosechas, la tendencia de crecer de los insectos, el tiempo, las condiciones

S16.
S26

ambientales, formulaciones, métodos de aplicación, lugares de aplicación, y tiempos de aplicación. Sin embargo, el contenido del ingrediente activo usado es de generalmente 0,0001 ppm a 5000 ppm, y preferiblemente 0,01 ppm a 1000 ppm. La cantidad del ingrediente activo por 10a es generalmente 1 g a 300 g.

Un insecticida que contiene como un ingrediente activo los compuestos representados por la fórmula (1) de la presente invención pueden ser usado de manera única para impedir las pestes de insectos tales como pestes de insectos en agricultura, horticultura, o para granos almacenados que son nocivos al arroz paddy, los árboles frutales, a los vegetales, y a otros cultivos y plantas de fluencia y a las pestes sanitarias o nematodos. Para poder obtener adicionalmente un efecto preventivo excelente sobre diversos insectos nocivos que ocurren simultáneamente, por lo menos uno de otros insecticidas y/o fungicidas pueden ser combinados por los compuestos representados por la fórmula (1) de la presente invención.

Ejemplos de tales pesticidas que pueden ser combinados los compuestos representados por la fórmula (1) de la presente invención incluyen insecticidas de piretroide sintético tales como aletrin, tettrametrin, resmetrin, fenotrin, furametrin, permetrin, cipermetrin, deltametrin, cihalotrin, ciflutrin, fenpropatrin, tralometrin, cicloprotrin, flucitrinato, fluvalinato, acrinatrin, teflutrin, bifentrin, empentrin, beta-ciflutrin, zeta-cipermetrin, y fenvalerato, y diversos isómeros de ellos y extractos de piretrum; los insecticidas de organofosfato tales como el DDVP, cianofós, fentión, fenitrotión, tetraclorvinfós, dimetilvinfós, propafós, metilparatión, temefós, foxim, acefato, isofenfós, salitión, DEP, EPN, etión, mecarbam, piridafentión, diazinon, pirimifós-metilo, etrimfós, isoxatión, quinalfós, clorpirifós-metilo, clorpirifós, fosalón, fosmet, metidatión, oxideprofós, vamidotión, malatión, fentoato, dimetoato,

527

formotión, tiometon, etiltiometon, forato, terbufós, profenofós, protiofós, sulprofós, piraclofós, monocrotofós, nalod, fostiazato, y cadusafos; insecticidas de carbamatos tales como NAC, MTMC, MIPC, BPMC, XMC, PHC, MPMC, etiofencarb, bendiocarb, pirimicarb, carbosulfan, benfuracarb, metomil, oxamil, y aldicarb; insecticidas de arilpropiléter tales como etofenprox y halfenprox; insecticidas de sililéter tales como silafluofen; productos naturales insecticidas tales como nicotina-sulfato, complejo de polinactina, abamectina, milbemectina, y agentes BT; insecticidas tals como, cartap, tiociclam, bensultap, diflubenzuron, clorfluazuron, teflubenzuron, triflumuron, flufenoxuron, flucicloxuron, hexaflumuron, fluazuron, imidacloprid, nitenpiram, acetamiprid, dinotefuran, pimetrozina, fipronil, buprofezina, fenoxicarb, piriproxifen, metopreno, hidropreno, quinopreno, diafentiuron, triazamato, tebufenozida, y endosulfan; acaricidas tales como dicofol, clorobenzilato, bromopropilato, tetradifon, CPCBS, BPPS, quinometionato, amitraz, benzoximato, hexitiazox, óxido de fenbutatina, cihexatina, dienoclor, clofentezina, piridaben, fenpiroximato, fenazaquina, y tebufenpirad; y otros insecticidas tales como novaluron, noviflumuron, benzoato de emamectina, clotianidina, tiacloprid, tiametoxam, flupirazofos, acequinocil, bifenazato, cromafenozida, etoxazol, fluacripirim, flufenzina, halofenozida, indoxacarb, metoxifenozida, espirodiclofen, tolfenpirad, gama-cihalotrina, etiprol, amidoflumet, bistrifluron, flonicamid, flubrocitrinato, flufenerim, piridalil, pirimidifen, espinosad, y espiromesifen.

Ejemplos de fungicidas que pueden ser combinados con los compuestos representados por la fórmula (1) de la presente invención incluyen los fungicidas de azol tales como triadimefon, hexaconazol, propiconazol, ipconazol, procloraz, y triflumizol; fungicidas de pirimidina tales como pirifenox y fenarimol; fungicidas de anilinopirimidina tales como mepanipirim y ciprodinil; fungicidas de acilalanina

~~518~~.
528

tales como metalaxil, oxadixil, y benalaxil; fungicidas de benzimidazol tales como tiofanato-metilo y benomil; fungicidas de ditiocarbamato tales como mancozeb, propineb, zineb, y metiram; fungicidas de organocloro tales como tetracloroisoftalonitrilo; fungicidas de carboxamida tales como carpropamida y etaboxam; fungicidas de morfolina tales como dimetomorf; fungicidas de estrobilurina tales como azoxistrobina, kresoxim-metilo, metominostrobina, orisastrobina, fluoxastrobina, trifloxistrobina, dimoxistrobina, piraclostrobina, y picoxistrobina; fungicidas de dicarboxiimida tales como iprodiona y procimidona; fungicidas aplicados al suelo tales como flusulfamida, dazomet, isotiocianato de metilo, y cloropicrina; fungicidas de cobre tales como cloruro de cobre básico, sulfato de cobre básico, sulfonato nonilfenol de cobre, oxina-cobre, y DBEDC; fungicidas inorgánicos tales como azufre y sulfatote zinc; fungicidas organofosfato tales como edifenfos, tolclofos-metilo, y fosetil-aluminio; inhibidores de biosíntesis de la melanina tales como ftalidA, triciclazol, piroquilon, y diclocimet; antibióticos tales como kasugamicina, validamicina, y polioxinas; productos naturales fungicidas tales como aceite de semilla colza; y otros fungicidas tales como bentiavalicarb-isopropilo, iprovalicarb, ciflufenamid, fenhexamid, quinoxifen, espiroxamina, diflumetorim, metrafenona, picobenzamida, proquinazida, siltiofam, oxipoconazol, famoxadona, ciazofamida, fenamidona, furametpir, zoxamida, boscalida, tiadinilo, simeconazol, clorotalonil, cimoxanil, captan, ditianon, fluazinam, folpet, diclofluanid, (RS)-N-[2-(1,3-dimetilbutil)tiofen-3-il]-1-metil-3-trifluorometil-1H-pirazol-4-carboxamida (pentiopirad; propuesto ISO), oxicarboxina, mepronil, flutolanil, triforina, ácido oxolínico, probenazol, acibenzolar-S-metilo, isoprotiolana, ferimzona, diclomezina, pencicuron, fluoroimida, quinometionato, iminoctadina-triacetato, e iminoctadina-albesilato.

519
529

Cuando los compuestos representados por la fórmula (1) de la presente invención son combinados con por lo menos un tipo de otro insecticida y/o fungicida, las composiciones mezcladas de los compuestos representados por la fórmula (1) y otros insecticidas y/o fungicidas pueden ser usados, o los compuestos representados por la fórmula (1) pueden ser mezclados con otros insecticidas y/o fungicidas durante el tratamiento de agricultura.

A parte de los insecticidas y fungicidas descritos anteriormente, los compuestos representados por la fórmula (1) pueden ser mezclados con un herbicida, un fertilizante, un mejorante, un protector de plantas, tales como un regulador de crecimiento de plantas, o recursos para formar composiciones multipropósito que tengan una eficiencia superior o composiciones de las cuales un efecto aditivo o un efecto sinergístico pueda ser esperado.

Aunque ejemplos representativos de la presente invención serán descritos enseguida, la presente invención no está limitada a estos ejemplos.

Ejemplo 1

(1-1) Producción de N-(2,6-dimetil-4-heptafluoroisopropil)fenil-3-nitrobenzamida

A una solución preparada agregando 20,0 g de de 2,6-dimetil-4-heptafluoroisopropilanilina y 11.0 g de piridina a 100 ml de tetrahidrofurano y luego se agita la mezcla resultante a temperatura ambiente agregando gota a gota una solución de 13.0 g de cloruro de 3-nitrobenzoilo en 20 ml de tetrahidrofurano. Después de que la mezcla resultante se agitara a temperatura ambiente durante 10 horas, se le agrega acetato de etilo y agua a la solución de reacción. Entonces,

una operación de separación se lleva a cabo, y una capa orgánica se separa y luego se seca con sulfato de magnesio anhidroso. La solución se filtra y luego el filtrado se recolecta y el disolvente del filtrado se destila bajo presión reducida. El residuo se lava con una mezcla disolvente de n-hexano-diisopropiléter para obtener 26.0 g (producción 85%) del compuesto titulado como un sólido blanco.

^{1}H-RMN (CDC_3, ppm) δ 2.33 (6H, s), 7.37 (2H, s), 7.68 (IH, s), 7.72 (1H, t, J=8.1Hz), 8.28 (1H, d, J=8.1Hz), 8.44 (1H, dd, J=1.2Hz, 8.1Hz), 8.75 (1H, t, J=1.2Hz)

(1-2) Producción de N-(2,6-dimetil-4-heptafluoroisopropil)fenilo 3-aminobenzamida

A una solución preparada agregando 0.90 g de N-(2,6-dimetil-4-heptafluoroisopropi)fenilo 3-nitrobenzamida y 1.56 g de anhídrido de cloruro de estaño a 25 ml de etanol y agitando la mezcla resultante a temperatura ambiente se le agrega 2 ml de ácido clorhídrico concentrado. La mezcla resultante entonces se agita bajo calor a 60° C durante 1 hora. Después de que la temperatura regreso a la temperatura ambiente, la solución de la reacción se vierte en agua y luego se neutraliza con carbonato de potasio. Luego, se agrega acetato de etilo a la solución de reacción, y los materiales insolubles se filtran. Luego, una capa orgánica se separa y luego se seca con sulfato de magnesio anhidroso. La solución se filtra, y luego el filtrado se recolecta, y el disolvente del filtrado se destila bajo presión reducida. El residuo se lava con hexano para obtener 0.44 g (producción 53%) del compuesto titulado como un sólido blanco.

^{1}H-RMN ($CDCl_3$, ppm) δ 2.34 (6H, s), 3.87 (2H, amplio), 6.86-6.89 (1H, m), 7.20-7.35 (6H, m)

(1-3) Producción de N-(2,6-dimetil-4-heptafluoroisopropi.l)fenilo 3-(2-cloroetoxicarbonilamino)benzamida (Compuesto No. 130)

A una solución preparada agregando 0.20 g de N-(2,6-dimetil-4-heptafluoroisopropil)fenilo 3-aminobenzamida y 0.08 g de piridina en 5 ml de tetrahidrofurano y agitando la mezcla resultante a temperatura ambiente se agrega gota a gota a una solución de 0.07 g de cloroformato de 2-cloroetilo en 1 ml de tetrahidrofurano. Después la mezcla resultante se agita durante 2 horas, se agrega acetato de etilo y agua a la solución de reacción. Luego, una operación de separación se lleva a cabo, y una capa orgánica se separa y luego se seca con sulfato de magnesio anhidroso. La solución se filtra, y luego el filtrado se recolecta, y el disolvente del filtrado se destila bajo presión reducida. El residuo se purifica por cromatografía de columna de gel de sílice (eluyente; hexano: acetato de etilo = 4:1) para obtener 0.23 g (producción 91%) del compuesto titulado como un sólido blanco.

^{1}H-RMN ($CDCl_3$, ppm) δ 2.35 (6H, s), 3.74-3.77 (2H, m), 4.44-4.47 (2H, m), 6.87 (1H, amplio), 7.36 (2H, s), 7.43-7.52 (2H, m), 7.59-7.64 (2H, m), 8.02 (1H, s)

Los compuestos mostrados en la tabla 6 pueden ser producidos como intermedios de producción útiles para producir los compuestos representados por la fórmula (1) de la presente invención de acuerdo con los procesos descritos en los Ejemplos 1-1 y 1-2.

Ejemplo 2

Producción de N-(2,6-dimetil-4-heptafluoroisopropil)fenilo 3-(etiltiocarbonilamino)benzamida (Compuesto No. 1962)

A una solución preparada agregando 0.25 g de N-(2,6-dimetil-4-heptafluoroisopropil)fenilo 3-aminobenzamida producido en (1-2) del Ejemplo 1 y 0.06 g de piridina en 5 ml de tetrahidrofurano y luego se agita la mezcla de reacción a temperatura ambiente se agrega gota a gota a solución de 0.08 g de clorotioformato de etilo en 1ml de tetrahidrofurano. Después la mezcla resultante se agita durante 2 horas, se agrega acetato de etilo y agua a la solución de reacción Luego, una operación de separación se lleva a cabo, y una capa orgánica se separa y luego se seca con sulfato de magnesio anhidroso. La solución se filtra, y luego el filtrado se recolecta, y el disolvente del filtrado se destila bajo presión reducida. El residuo se lava con hexano para obtener 0.27 g (producción 89%) del compuesto titulado como un sólido blanco.

^{1}H-RMN ($CDCl_3$+DMSO-d_6, ppm) δ 1.34 (3H, t, J=7.3 Hz), 2.34 (6H, s), 2.96 (2H, q, J=7.3 Hz), 7.33 (2H, s), 7.41 (1H, t, J=7.8 Hz), 7.67 (1H, d, J=7.8Hz), 7.83-7.85 (1H, m), 8.11 (1H, d, J=2.0 Hz), 8.79 (1H, s), 9.58 (1H, s)

Ejemplo 3

Producción de N-(2,6-dimetil-4-heptafluoroisopropil)fenilo 3-[(4-cianobenzil)oxicarbonilamino]benzamida (Compuesto No. 85)

A una solución preparada se le agrega 0.30 g de cloruro de 3-isocianatobenzoilo en 10 ml de éter y luego se agita la mezcla resultante a 2° C se agrega gota a gota, durante 5 minutos a una temperatura mantenida a 2° C, una solución de 0.23 g de alcohol de 4-cianobenzilo y 0.32 g de tri-n-butilamina en 5 ml de éter.

Después la mezcla resultante se agita a 2° C durante 2 horas, la temperatura se regresa a la temperatura ambiente, y luego una solución de 0.49 g de 2,6-dimetil-4-heptafluoroisopropilanilina en 5 ml de éter se agrega gota a gota a la mezcla, seguido por agitación a temperatura ambiente durante 8 horas. Entonces, se agrega acetato de etilo a la solución de reacción, y la solución de reacción se lava con agua dos veces. Luego, una capa orgánica se seca con sulfato de magnesio anhidroso. La solución se filtra, y luego el filtrado se recolecta, y el disolvente del filtrado se destila bajo presión reducida. El residuo se purifica por cromatografía de columna de gel de sílice (eluyente; hexano: acetato de etilo = 2:1 a 1:1) para obtener 0.50 g (producción 40%) del compuesto titulado como un material aceitoso.

^{1}H_RMN (CDCl, ppm) δ 2.34 (6H, s), 5.27 (2H, s), 6.97 (1H, amplio-s), 7.35 (2H, s), 7.45-7.52 (4H, m), 7.61-7.69 (4H, m), 8.01 (1H, s)

De manera similar, N-(2,6-dimetil-4-heptafluoroisopropil)fenilo 3-[(6-cloropiridina-3-il)metoxicarbonilamino]benzamida (Compuesto No. 163) se produce usando 2-cloro-5-hidroximetilpiridina.

^{1}H_RMN ($CDCl_3$, ppm) δ 2.34 (6H,s), 5.22 (2H, s), 6.89 (1H, amplio-s), 7.35-7.49 (5H, m), 7.62 (2H, d, J=7.3 Hz), 7.72-7.77 (1H, m), 8.00 (1H, amplio-s), 8.45 (1H, d, J=2.4 Hz)

N-(2,6-dimetil-4-heptafluoroisopropil)fenilo 3-[(tetrahidrofuran-3-il)metoxicarbonilamino]benzamida (Compuesto No. 158) se produce por el mismo proceso que se describió anteriormente usando 3-hidroximetiltetrahidrofuranoexcepto que el disolvente se cambio a tetrahidrofurano.

GLA
534

^{1}H_RMN ($CDCl_3$, ppm) δ 1.66-1.73 (1H, m), 2.05-2.13 (1H, m), 2.34 (6H, s), 2.60-2.70 (1H, m), 3.64-3.68 (1H, m), 3.73-3.79 (1H, m), 3.85-3.92 (2H, m), 4.09-4.15 (2H, m), 6.87 (1H, amplio-s), 7.35 (2H,s), 7.46 (2H, t, J=7.8 Hz), 7.61-7.66 (2H, m), 8.01 (1H, amplio-s)

Ejemplo 4

(4-1) Producción de N-(2,6-dimetil-4-heptafluoroisopropil)fenilo 3-aminobenzotioamida

A 10 ml de tolueno se le agrega 0.35 g de N-(2,6-dimetil-4-heptafluoroisopropil)fenilo 3-aminobenzamida producido en el Ejemplo (1-2) y 0.19 g del reactivo de Lawesson's. Entonces, la mezcla resultante se agita bajo calor a una temperatura de reflujo durante 6 horas. La solución de la reacción se concentra bajo presión reducida, y el disolvente se destila. El residuo se purifica por cromatografía de columna de gel de sílice (eluyente; hexano: acetato de etilo = 3:1) para obtener 0.07 g (producción 20%) del compuesto titulado.

^{1}H-RMN ($CDCl_3$, ppm) δ 2.36 (6H, s), 3.87 (2H, amplio-s), 6.84-6.87 (1H, m), 7.18-7.24 (2H, m), 7.33 (1H, s), 7.39 (2H, s), 8.56 (1H, amplio-s)

(4-2) Producción de N-(2,6-dimetil-4-heptafluoroisopropil)fenilo 3-(2,2,2-tricloroetoxicarbonilamino)benzotioamida (Compuesto No. 1964)

A una solución preparada por medio de agregar 0.07g de N-(2,6-dimetil-4-heptafluoroisopropil)fenilo 3-aminobenzotioamida y 0.03 g de piridina en 5 ml de

tetrahidrofurano y luego agitar la mezcla de reacción a temperatura ambiente se agrega gota a gota una solución de 0.05 g de cloroformato de 2,2,2-tricloroetil en 1 ml de tetrahidrofurano. Después la mezcla resultante se agita 2 horas, se agrega acetato de etilo y agua a la solución de reacción, y una operación de separación se lleva a cabo. Entonces, una capa orgánica se separa y se seca con sulfato de magnesio anhidroso. La solución se filtra, y luego el filtrado se recolecta, y el disolvente del filtrado se destila bajo presión reducida. El residuo se purifica por cromatografía de columna de gel de sílice (eluyente; hexano: acetato de etilo = 4:1) para obtener 0.09 g (producción 90%) del compuesto titulado como un sólido blanco.

^{1}H-RMN($CDCl_3$, ppm) δ 2.37 (6H, s), 4.85 (2H, s), 7.07 (1H, amplio), 7.39 (2H, s), 7.45 (1H, t, J=8.1 Hz), 7.61-7.68 (2H, m), 8.11 (1H, s), 8.69(1H, s)

Ejemplo 5

(5-1) Producción de N-(2,6-dimetil-4-heptafluoroisopropil)fenilo 6-cloropiridina-2-carboxamida

Primero, a una solución preparada por agregar 2.36 g de ácido 6-cloropiridina-2-carboxílico y 5 gotitas de N,N-dimetilformamida a 30 ml de tolueno se le agrega 2.14 g de cloruro de tionilo, y luego la mezcla resultante se agita bajo calor a 80° C durante 2 horas. Entonces, el disolvente se destila bajo presión reducida, y el residuo se disuelve en 10 ml de tetrahidrofurano. La solución resultante es agregada gota a gota, a temperatura ambiente, a una solución obtenida agregando 3.83 g de 2,6-dimetil-4-heptafluoroisopropilanilina y 1.28 g de piridina a 20 ml de tetrahidrofurano, seguido por agitación durante 5 horas. Entonces, se

agrega acetato de etilo y agua a la solución de reacción, y una operación de separación se lleva a cabo. Entonces, una capa orgánica se separa y se seca con sulfato de magnesio anhidroso. La solución se filtra, y luego el filtrado se recolecta, y el disolvente del filtrado se destila bajo presión reducida. El residuo se purifica por cromatografía de columna de gel de sílice (eluyente; hexano: acetato de etilo = 4:1) para obtener 3.90 g (producción 67%) del compuesto titulado como un sólido.

^{1}H-RMN ($CDCl_3$, ppm) δ 2.36 (6H, s), 7.36 (2H, s), 7.56 (1H, dd, J=1.0 Hz, 8.1 Hz), 7.88 (1H, dd, J=7.6Hz, 8.1Hz), 8.23 (1H, dd, J=1.0Hz, 7.6Hz), 9.27 (1H, amplio-s)

(5-2) Producción de N-(2,6-dimetil-4-heptafluoroisopropil)fenilo 6-cloropiridina-2-carboxamida

En un autoclave de 200 ml se carga 3.08 g de N-(2,6-dimetil-4-heptafluoroisopropil)fenilo 6-cloropiridien-2-carboxamida, 30 ml de 28% de agua con amoniaco, 0.20 g de sulfato de cobre, y 70 ml de metanol, y la mezcla resultante se agita bajo calor a 150 ° C durante 2 horas. Después la mezcla se enfría a temperatura, se destila el amoniaco a 60° C bajo presión atmosférica y, se destila el metanol bajo presión reducida. Entonces, se agrega acetato de etilo y agua a una solución de reacción, y una operación de separación se lleva a cabo. Entonces, una capa orgánica se separa y se seca con sulfato de magnesio anhidroso. La solución se filtra, y luego el filtrado se recolecta, y el disolvente del filtrado se destila bajo presión reducida. El residuo se purifica por cromatografía de columna de gel de sílice (eluyente; hexano: acetato de etilo = 3:2 a 2:3) para obtener 2.90 g (producción 98%) del compuesto titulado como un material aceitoso.

527
537

^{1}H-RMN ($CDCl_3$, ppm) δ 2.35 (6H, s), 4.57 (2H, amplio-s), 6.69-6.74 (1H, m), 7.34 (2H, s), 7.62-7.66 (2H, m), 9.39 (1H, amplio-s)

(5-3) Producción de N-(2,6-dimetil-4-heptafluoroisopropil)fenilo 6-(2,2,2-tricloroetoxicarbonilamino)piridina-2-carboxamida (Compuesto No. 1968)

A una solución preparada agregando 0.15 g de N-(2,6-dimetil-4-heptafluoroisopropil)fenilo 6-aminopiridina-2-carboxamida y 0.06 g de piridina en 5 ml de tetrahidrofurano y se agita la mezcla de reacción a temperatura ambiente se agrega gota a gota una solución de 0.085 g de cloroformato 2,2,2-tricloroetilo en 1 ml de tetrahidrofurano. Después la mezcla resultante se agita durante 2 horas, se agrega acetato de etilo y agua a la solución de reacción, y una operación de separación se lleva a cabo. Entonces, una capa orgánica se separa y se seca con sulfato de magnesio anhidroso. La solución se filtra, y luego el filtrado se recolecta, y el disolvente del filtrado se destila bajo presión reducida. El residuo se purifica por cromatografía de columna de gel de sílice (eluyente; hexano: acetato de etilo =10:1) para obtener 0.13 g (producción 61%) del compuesto titulado como un sólido blanco.

^{1}H-RMN ($CDCl_3$, ppm) δ 2.35 (6H, s), 4.89 (2H, s), 7.36 (2H, s), 7.63 (1H, amplio-s), 7.97 (1H, dd, J=7.6 Hz, 8.3Hz), 8.05 (1H, d, J=7.6 Hz), 8.21 (1H, d, J=8.3 Hz), 9.17 (1H, amplio-s)

(5-4) Producción de N-(2,6-dimetil-4-heptafluoroisopropil)fenilo 6-(2,2,2-tricloroetoxicarbonilamino)piridina-N-óxido-2-carboxamida (Compuesto No. 2062)

528
538

A 10 ml de benzeno se le agrega 0.26 g de N-(2,6-dimetil-4-heptafluoroisopropil)fenilo 6-(2,2,2-tricloroetoxicarbonilamino)piridina-2-carboxamida producido en el Ejemplo 5-3, y luego la mezcla resultante se agita. Entonces, se agrega 0.08 g ácido de m-cloroperbenzoico a la mezcla a temperatura ambiente. Después la mezcla resultante se agita a 70° C durante 1 hora, se agrega 0.2 g de ácido de m-cloroperbenzoico adicional a la mezcla, seguido por agitación a 70° C durante 7 horas. Entonces, la mezcla se diluye con acetato de etilo, y una capa orgánica se lava con una solución acuosa saturada de carbonato sodio hidrógeno tres veces y secada con sulfato de magnesio anhidroso. Entonces, el disolvente se destila bajo presión reducida. El residuo se purifica por cromatografía de columna de gel de sílice (eluyente; hexano: acetato de etilo = 10:1) para obtener 0.11 g (producción 41%) del compuesto titulado como un material amorfo.

^{1}H-RMN ($CDCl_3$, ppm) δ 2.37 (6H, s), 4.91 (2H, s), 7.36 (2H, s), 7.61 (1H, t, J=8.3 Hz), 8.23 (1H, dd, J=8.3 Hz, 1.9 Hz), 8.45 (1H, dd, J=8.3 Hz, 1.9 Hz), 9.81 (1H, amplio-s), 12.70 (1H, amplio-s)

(5-5) Producción de N-(2,6-dimetil-4-heptafluoroisopropil)fenilo 6- (metilamino) piridina-2-carboxamida

N-(2,6-dimetil-4-heptafluoroisopropil)fenilo 6-(metilamino) piridina-2-carboxamida se produce usando N-(2,6-dimetil-4-heptafluoroisopropil) fenilo 6-cloropiridina-2-carboxamida producido en el Ejemplo 5-1 y una solución acuosa de metilamina como materiales de reacción de acuerdo con el proceso descrito en el Ejemplo 5-2.

529
539

^{1}H-RMN ($CDCl_3$, ppm) δ 2.30 (6H, s), 2.92 (3H, s), 6.71 (1H, d, J=8.3Hz), 6.85 (1H, d, J=4.9Hz), 7.22 (1H, d, J=7.0Hz), 7.44 (2H, s), 7.55 (1H, dd, J=7.0Hz, 8.3Hz), 10.05 (1H, s)

(5-6) Producción de N-(2,6-dimetil-4-heptafluoroisopropil)fenilo 6-[N-(2,2,2-tricloroetoxicarbonil)-N-metilamino]piridina-2-carboxamida (Compuesto No. 2168)

N-(2,6-dimetil-4-heptafluoroisopropil)fenilo 6-[N-(2,2,2-tricloroetoxicarbonil)-N-metilamino]piridina-2-carboxamida se produce usando N-(2,6-dimetil-4-heptafluoroisopropil)fenilo 6-(metilamino)piridina-2-carboxamida producido en el Ejemplo 5-5 como un material de partida de acuerdo con el proceso descrito en el Ejemplo 5-3.

^{1}H-RMN ($CDCl_3$, ppm) δ 2.30 (6H, s), 3.61 (3H, s), 5.03 (2H, s), 7.47 (2H, s), 7.92 (1H, d, J=7.6Hz), 7.98 (1H, d, J=7.6Hz), 8.08 (1H, t, J=7.6Hz), 10.18 (1H, s)

Ejemplo 6

(6-1) Producción 3-(2,2,2-tricloroetoxicarbonilamino) benzoato de etilo

A una solución preparada agregando 1.0 g de m-aminobenzoato de etilo y 0.72 g de piridina en 10 ml de tetrahidrofurano y agitando la mezcla resultante a temperatura ambiente se agrega gota a gota a una solución de 1.55 g de cloroformato de 2,2,2-tricloroetilo en 5 ml de tetrahidrofurano. Después la mezcla de reacción se agita durante 2 horas, se agrega acetato de etilo y agua a la solución de reacción, y una operación de separación se lleva acabo. Entonces, una capa orgánica se separa y se seca con sulfato de magnesio anhidroso. La

530
540

solución se filtra, y luego el filtrado se recolecta, y el disolvente del filtrado se destila bajo presión reducida el residuo se lava con hexano para obtener 1.89 g (producción 91%) del compuesto titulado.

^{1}H-RMN ($CDCl_3$, ppm) δ 1.40 (3H, t, J=7.3Hz), 4.38 (2H, q, J=7.3Hz), 4.84 (2H, s), 6.96 (1H, amplio-s), 7.43 (1H, t, J=7.8Hz), 7.76-7.82 (2H, m), 7.99 (1H, t, J=2.0Hz)

(6-2) Producción de 3-[N-metil-N-(2,2,2-tricloroetoxicarbonil)amino]benzoato de etilo

A una suspensión de 0.14 g de hidruro de sodio al 60% en 5 ml de tetrahidrofurano se agrega gota a gota una solución de 1.0 g 3-(2,2,2-tricloroetoxicarbonilamino)benzoato de etilo en 5 ml de tetrahidrofurano, y la mezcla resultante se agita a temperatura ambiente. Entonces, una solución de 0.45 g de sulfato de dimetilo en 5 ml de tetrahidrofurano se agrega gota a gota, y la mezcla resultante se agita a temperatura ambiente durante 3 horas. Después se agrega agua a la mezcla, la mezcla se someta a extracción con acetato de etilo, y una capa orgánica lava dos veces con agua y se seca con sulfato de magnesio anhidroso. Entonces, el disolvente se destila bajo presión reducida. El residuo se purifica por cromatografía de columna de gel de sílice (eluyente; hexano: acetato de etilo = 4:1) para obtener 0.84 g (producción 79%) del compuesto titulado como un material aceitoso.

^{1}H-RMN ($CDCl_3$, ppm) δ 1.40 (3H, t, J=7.1Hz), 3.41 (3H, s), 4.39 (2H, q, J=7.1Hz), 4.77 (2H,s), 7.43-7.52 (2H, m), 7.93-8.01 (2H, m)

534
541

(6-3) Producción de ácido 3-[N-metil-N-(2,2,2-tricloroetoxicarbonil)amino]benzoico

A 5 ml de etanol se le agrega 0.5 g de 3-[N-metil-N-(2,2,2-tricloroetoxicarbonil)amino]benzoato de etilo y una solución acuosa de hidróxido de sodio al 1 N, y la mezcla resultante se agita a temperatura ambiente durante 1.5 horas. Después la solución de reacción se controla a n pH 3 por medio de agregar gota a gota ácido clorhídrico al 1 N, se agrega acetato de etilo a la solución de reacción, y una capa orgánica se separa. La capa orgánica se lava con agua dos veces y se lava con una solución salina saturada una vez, y entonces se seca con sulfato de magnesio anhidroso. El disolvente se destila bajo presión reducida para obtener 0.45 g (producción 98%) del compuesto titulado como un sólido.

^{1}H-RMN ($CDCl_3$, ppm) δ 3.43 (3H, s), 4.79 (2H, s), 7.41-7.60 (2H, m), 7.93-8.05 (2H, m)

(6-4) Producción de N-(2,6-dimetil-4-heptafluoroisopropil)fenilo 3-[N'-metil-N'-(2,2,2-tricloroetoxicarbonil)amino]benzamida (Compuesto No. 1958)

Una solución de 0.30 g de ácido 3-[N-metil-N-(2,2,2-tricloroetoxicarbonil)amino]benzoico y 0.07 g de N-metilmorfolina en 5 ml de tetrahidrofurano se agitan bajo enfriamiento a -15° C. Una solución de 0.09 g de cloroformato isopropilo en 5 ml de tetrahidrofurano se agrega gota a gota a una solución, y entonces una solución de 0.20 g de 2,6-dimetil-4-heptafluoroisopropilanilina en 5 ml de tetrahidrofurano se agregan gota a gota a la mezcla resultante. Entonces, la mezcla resultante se agita a -15 ° C durante 1 hora

y a temperatura ambiente durante 24 horas. Después de que la temperatura regresa a la temperatura ambiente, se agrega acetato de etilo y agua a la solución de reacción, y una operación de separación se lleva a cabo. Entonces, una capa orgánica se lava con agua dos veces y se seca con sulfato de magnesio anhidroso. El disolvente se destila bajo presión reducida El residuo se purifica por cromatografía de columna de gel de sílice (eluyente; hexano: acetato de etilo = 4:1 a 2:1) para obtener 0.05 g (producción 5%) del compuesto titulado como un material aceitoso.

^{1}H-RMN ($CDCl_3$, ppm) δ 2.34 (6H, s), 3.45 (3H, s), 4.80 (2H, s), 7.36 (2H, s), 7.50-7.56 (3H, m), 7.78 (1H, d, J=6.1Hz), 7.90 (1H, s)

Ejemplo 7

(7-1) Producción de N-(2,6-dimetil-4-heptafluoroisopropil)fenilo 2-yodo-5-aminobenzamida

A una solución preparada agregando 0.70 g de N-(2,6-dimetil-4-heptafluoroisopropil)fenilo 3-aminobenzamida producido en el Ejemplo 1-2 en 8 ml de N,N-dimetilformamida y luego agitando la mezcla resultante en un baño de agua con hielo se agrega gota a gota una solución de 0.39 g de N-yodosuccinimida en 2 ml de N,N-dimetilformamida. Después de la adición gota a gota la temperatura regresa a la temperatura ambiente, y entonces la mezcla se agita adicionalmente durante 3 horas. Luego, se agrega acetato de etilo y agua a la solución de reacción, y una operación de separación se lleva a cabo. Entonces, una capa orgánica se separa y se seca con sulfato de magnesio anhidroso El disolvente se destila bajo presión reducida. El residuo se purifica por

543

cromatografía de columna de gel de sílice (eluyente; hexano: acetato de etilo = 3:2) para obtener 0.67 g (producción 73%) del compuesto titulado como un sólido.

^{1}H-RMN ($CDCl_3$, ppm) δ 2.44 (6H, s), 3.86 (2H, amplio-s), 6.52 (1H, dd, J-2.9Hz, 8.5Hz), 6.91 (1H, d, J=2.9Hz), 7.12 (1H, s), 7.35 (2H, s), 7.62 (1H, d, J=8.5Hz)

(7-2) Producción de N-(2,6-dimetil-4-heptafluoroisopropil)fenilo 2-yodo-5-(isopropiloxicarbonilamino)benzamida (Compuesto No. 1945)

A una solución obtenida por medio de agregar 0.20 g de N-(2,6-dimetil-4-heptafluoroisopropil)fenilo 2-yodo-5-aminobenzamida y 0.06 g de piridina en 5 ml de tetrahidrofurano y luego agitar la mezcla a temperatura ambiente se agrega gota a gota una solución de 0.05 g de cloroformato de isopropilo en 1 ml de tetrahidrofurano. Después de reacción durante 2 horas, se agrega acetato de etilo y agua a la solución de reacción, y una operación de separación se lleva a cabo. Luego, una capa orgánica se separa y se seca con sulfato de magnesio anhidroso. La solución se filtra, y luego el filtrado se recolecta y el disolvente del filtrado se destila bajo presión reducida. El residuo se purifica por cromatografía de columna de gel de sílice (eluyente; hexano: acetato de etilo = 4:1) para obtener 0.22 g (producción 96%) del compuesto titulado como un sólido.

^{1}H-RMN ($CDCl_3$, ppm) δ 1.31 (6H, d, J=6.3Hz), 2.45 (6H, s), 5.03 (1H, septeto, J=6.3Hz), 6.66 (1H, s), 7.16-7.21 (2H, m), 7.36 (2H, s), 7.76 (1H, s), 7.82 (1H, dd, J=2.7Hz, 8.8Hz)

Ejemplo 8

534
544

(8-1) Producción de N-(2,6-dimetil-4-heptafluoroisopropil)fenilo 2-cloro-3-nitrobenzamida

Primero, a una solución preparada agregando2.50 g de ácido 2-cloro-3-nitrobenzoicoy 5 goticas de N,N-dimetilformamida en 30 ml de tolueno se le agrega 1.62 g de cloruro de tionilo, la mezcla resultante se agita bajo calor a 80 ° C durante 2 horas. Entonces, el disolvente se destila bajo presión reducida, y el residuo se disulve en 10 ml de tetrahidrofurano. La solución resultante se agrega gota a gota a una solución de 3.24 g de 2,6-dimetil-4-heptafluoroisopropilanilina y 1.77 g de piridina en 20 ml de tetrahidrofurano a temperatura ambiente, y la mezcla se agita durante 5 horas. Luego, se agrega acetato de etilo y agua a la solución de reacción, y una operación de separación se lleva a cabo. Luego, una capa orgánica se separa y se seca con sulfato de magnesio anhidroso. La solución se filtra, y luego el filtrado se recolecta, y el disolvente del filtrado se destila bajo presión reducida. El residuo se purifica cromatografía de columna de gel de sílice (eluyente; hexano: acetato de etilo = 4:1) para obtener 3.38 g (producción 64%) del compuesto titulado como un sólido.

^{1}H-RMN ($CDCl_3$, ppm) δ 2.42 (6H, s), 7.34 (1H, s), 7.37 (1H, s), 7.55 (1H, t, J=7.8Hz), 7.80 (1H, dd, J=1.5Hz, 7.8Hz), 7.86 (1H, dd, J=1.5Hz, 7.8Hz), 9.58 (1H,s)

(8-2) Producción de N-(2,6-dimetil-4-heptafluoroisopropil)fenilo 2-fluoro-3-nitrobenzamida

En 25 ml de N,N-dimetilformamida secado con un tamiz molecular se le agregan 2.35 g de N-(2,6-dimetil-4-heptafluoroisopropil)fenilo 2-cloro-3-nitrobenzamida y

535
545

0.87 g de fluoruro de potasio (secado por rociado), y la mezcla resultante se agita bajo calor a 150 ° C durante 3 horas. Después de que la temperatura regresa a la temperatura ambiente, se agrega acetato de etilo y agua a la solución de reacción, y una operación de separación se lleva a cabo. Entonces, una capa orgánica se separa, se lava con agua dos veces, se seca con sulfato de magnesio anhidroso. La solución se filtra, y entonces el filtrado se recolecta, y el disolvente del filtrado se destila bajo presión reducida. El residuo se purifica por cromatografía de columna de gel de sílice (eluyente; hexano: acetato de etilo = 4:1) para obtener 1.02 g (producción 45%) del compuesto titulado como un sólido.

^{1}H-RMN ($CDCl_3$, ppm) δ 2.37 (6H, s), 7.39 (2H, s), 7.48-7.53 (1H, m), 7.87 (1H, d, J=11.5Hz), 8.23-8.28 (1H, m), 8.42-8.46 (1H, m)

(8-3) Producción de N-(2,6-dimetil-4-heptafluoroisopropil)fenilo 2-fluoro-3-aminobenzamida

El compuesto titulado se produce usando N-(2,6-dimetil-4-heptafluoroisopropil)fenilo 2-fluoro-3-nitrobenzamida producido en el Ejemplo 8-2 como un material de partida de acuerdo el mimo proceso del Ejemplo 1-2 (producción 72%).

^{1}H-RMN ($CDCl_3$, ppm) δ 2.37 (6H, s), 3.90 (2H, amplio-s), 6.96-7.01 (1H, m), 7.10 (1H, t, J=7.8Hz), 7.36 (2H, s), 7.43-7.47 (1H, m), 7.86 (IH. d, J=13.2Hz)

(8-4) Producción de N-(2,6-dimetil-4-heptafluoroisopropil)fenilo 2-fluoro-3-(isopropiloxicarbonilamino)benzamida (Compuesto No. 1389)

El compuesto titulado se produce usando N-(2,6-dimetil-4-heptafluoroisopropil)fenilo 2-fluoro-3-aminobenzamida producido en el Ejemplo 8-3 como un material de partida de acuerdo con el mismo proceso del Ejemplo 7-2 (producción 72%).

^{1}H-RMN ($CDCl_3$, ppm) δ 1.34 (6H, d, J=6.3Hz), 2.36 (6H,s), 5.07 (1H, septeto, J=6.3Hz), 6.86 (1H, amplio-s), 7.30 (1H, t, J=8.1Hz), 7.37 (2H, s), 7.72-7.79 (2H, m), 8.32 (1H, amplio)

Ejemplo 9

(9-1) Producción de ácido 3-[(2,2,2-tricloroetoxi) carbonilamino]benzoico

A una solución acuosa (200 ml) de 8.22 g de ácido de m-aminobenzoico y 4.8 g de hidróxido de sodio se agrega gota a gota 25.0 g de cloroformato 2,2,2-tricloroetilo a temperatura ambiente. Durante la adición gota a gota, a solución de reacción se controla a un pH de 10 o más por medio de agregar apropiadamente una solución acuosa de hidróxido de sodio al 1N. Después de la reacción, la solución se controla a un pH de 1 agregando ácido clorhídrico al 1N, y los precipitados se recolectaron por filtración. Los cristales crudos resultantes se secaron y entonces lavados con un disolvente mezclado de acetato de etilo/n-hexano para obtener 16.2 g (producción 87%) del compuesto titulado como un sólido.

^{1}H-RMN ($CDCl_3$, ppm) δ 4.85 (2H, s), 7.38 (1H, d, J=7.8Hz), 7.75 (1H, d, J=7.8Hz), 7.79-7.80 (1H, m), 8.14 (1H s), 9.02 (1H, s)

(9-2) Producción de cloruro de 3-[(2,2,2-tricloroetoxi) carbonilamino]benzoilo

537.
547

A una solución de tolueno (10 ml) de 1.0 g de ácido 3-[(2,2,2-tricloroetoxi) carbonilamino]benzoico producido en el Ejemplo 9-1 se agrega 2 ml de cloruro de tionilo, y la mezcla resultante se agita a 100 ° C. El disolvente se destila bajo presión reducida y el residuo se disuelve en tolueno. El disolvente se destila nuevamente bajo presión reducida para obtener 1.0 g (producción 95%) del compuesto titulado como un sólido.

^{1}H-RMN ($CDCl_3$, ppm) δ 4.86 (2H, s), 7.00 (1H, amplio-s), 7.51 (1H, t, J=7.8Hz), 7.84 (1H, d, J=7.8Hz), 7.88 (1H, d, J=7.8Hz), 8.16 (1H, s)

(9-3) Producción de N-(2,6-dimetil-4-(nonafluoro-2-butil)fenilo 3-[(2,2,2-tricioroetoxi)carbonilamino]benzamida (Compuesto No. 257)

Primero, a una solución preparada agregando 0.34 g de 2,6-dimetil-4-(nonafluoro-2-butil) anilina y 0.09 g de piridina a 5ml de tetrahidrofurano y se agita la mezcla resultante a temperatura ambiente se agrega 0.33 g de cloruro de 3-[(2,2,2-tricloroetoxi)carbonilamino]benzoilo producido en el Ejemplo 9-2. Después de reacción durante 5 horas, se agrega acetato de etilo y agua a la solución de reacción, y una operación de separación se lleva acabo. Entonces, una capa orgánica se separa y se seca con sulfato de magnesio anhidroso. La solución se filtra, y entonces el filtrado se recolecta, y el disolvente del filtrado se destila bajo presión reducida. El residuo se purifica por cromatografía de columna de gel de sílice (eluyente; hexano: acetato de etilo =4:1) para obtener 0.45 g (producción 71%) del compuesto titulado como un sólido.

538.
548

^{1}H-RMN ($CDCl_3$, ppm) δ 2.34 (6H, s), 4.85 (2H, s), 7.10 (1H, s), 7.34 (2H, s), 7.47-7.51 (2H, m), 7.63-7.67 (2H, m), 8.05 (1H, s)

Los siguientes compuestos fueron producidos de acuerdo con los procesos descritos en los Ejemplos 9-1 y 9-2.

cloruro de 3-(etoxicarbonilamino)benzoilo

cloruro de 3-(isopropilpropiloxicarbonilamino)benzoilo

cloruro de 3-[(ciclobutiloxi)carbonilamino]benzoilo

cloruro de 3-[(ciclopentiloxi)carbonilamino]benzoilo

cloruro de 3-[(3-cianobenziloxi)carbonilamino]benzoilo

cloruro de 3-[(4-cianobenziloxi)carbonilamino]benzoilo

cloruro de 3-[(2-cianoetoxi)carbonilamino]benzoilo

cloruro de 3-[(2-metiltioetoxi)carbonilamino]benzoilo

cloruro de 3-[(2-etiltioetoxi)carbonilamino]benzoilo

cloruro de 3-[(2-etilsulfiniletoxi)carbonilamino]benzoilo

cloruro de 3-[(2-fluoroetoxi)carbonilamino]benzoilo

cloruro de 3-[(2,2-difluoroetoxi)carbonilamino]benzoilo

cloruro de 3-[(2,2,2-trifluoroetoxi)carbonilamino]benzoilo

cloruro de 3-[(1,3-difluoro-2-propiloxi)carbonilamino]benzoilo

cloruro de 3-[(1-cloro-3-fluoro-2-propiloxi)carbonilamino]benzoilo

cloruro de 3-[(3,3,3-trifluoro-n-propiloxi)carbonilamino]benzoilo

cloruro de 3-[(2,2,3,3,3-pentafluoro-n-propiloxi)carbonilamino]benzoilo

cloruro de 3-[(4,4,4-trifluoro-n-butiloxi)carbonilamino]benzoilo

cloruro de 3-[(2,2,3,3-tetrafluorociclobutiloxi)carbonilamino]benzoilo

~~539~~
549

cloruro de 3-[(2-cloroetoxi)carbonilamino]benzoilo

cloruro de 3-[(2,2-dicloroetoxi)carbonilamino]benzoilo

cloruro de 3-[(1,3-dicloro-2-propiloxi)carbonilamino]benzoilo

cloruro de 3-[(3-cloro-n-propiloxi)carbonilamino]benzoilo

cloruro de 3-[(2-bromoetoxi)carbonilamino]benzoilo

cloruro de 3-[(3-bromo-n-propiloxi)carbonilamino]benzoilo

cloruro de 3-[(2-yodoetoxi)carbonilamino]benzoilo

cloruro de 3-[(6-cloropiridina-3-il)metoxicarbonilamino]benzoilo

Ejemplo 10

(10-1) Producción de N-(2,4-bistrifluorometilfenil) 3-isocianatobenzamida

A una solución de 1,4-dioxano (20 ml) de 0.57 g de dímero defosgenose le agrega una solución de 1,4-dioxano (5 ml) de 2.0 g de N-(2,4-bistrifluorometilfenil) 3-aminobenzamida (producida usando 2,4-bistrifluorometilanilina como material partida de acuerdo don el proceso descrito en el Ejemplo 1-2), y la mezcla resultante se agita a 60° C durante 3 horas. Luego, el disolvente se destila bajo presión reducida y el residuo se disuelve en 10 ml de 1,4-dioxano. Entonces, el disolvente se destila nuevamente bajo presión reducida. El producto se lava con n-hexano y se filtra para obtener 1.54 g (producción 72%) del compuesto titulado.

^{1}H-RMN ($CDCl_3$, ppm) δ 7.33-7.36 (1H, m), 7.51 (1H, t, J=7.8Hz), 7.62-7.65 (2H, m), 7.88-7.92 (2H, m), 8.31 (1H, amplio-s), 8.70 (1H, d, J=8.8Hz)

540.
550

(10-2) Producción de N-(2,4-bistrifluorometilfenil) 3-[2,2,3,3,3-pentafluoro-n-propiloxi)carbonilamino]benzamida (Compuesto No. 250)

Primero, a una solución del tetrahidrofurano anhidroso (15ml) de 0.5 g de N-(2,4-bistrifluorometilfenil) 3-isocianatobenzamida producido en el Ejemplo 10-1 se le agrega 0.40 g de 2,2,3,3,3-pentafluoro-n-propanol y 0.13 g de trietilamina, y la mezcla resultante se agita a temperatura ambiente durante 5 horas. La mezcla se diluye con acetato de etilo (20 ml), y una capa orgánica se lava con una solución acuosa de hidróxido de sodio y ácido clorhídrico 1N. El disolvente se destila bajo presión reducida. El residuo se purifica por cromatografía de columna de gel de sílice (eluyente; hexano: acetato de etilo = 4:1) para obtener 0.49 g (producción 70%) del compuesto titulado.

^{1}H-RMN ($CDCl_3$, ppm) δ 4.68 (2H, t, J-=13.2Hz), 7.08 (1H, amplio-s), 7.50-7.59 (2H, m), 7.70 (1H, amplio-s), 7.87-7.92 (2H, m), 8.00 (1H, s), 8.39 (1H,s), 8.71 (1H, d, J=8.8Hz)

Ejemplo 11

(11-1) Producción de N-(2,6-dimetil-4-heptafluoroisopropil)fenilo 3-(benziloxicarbonil)benzamida

Una mezcla de 3.24 g de alcohol de benzilo y 2.85 g de piridina se agrega gota a gota a una solución de tetrahidrofurano (60 ml) de 6.09 g de cloruro de isoftaloílo a temperatura ambiente. Después de que la mezcla resultante se agita durante 2 horas, una solución de tetrahidrofurano (10 ml) de 2,6-dimetil-4-heptafluoroisopropilanilina se le agrega a se le agrega a la mezcla en un baño de

hielo, seguido por agitación a temperatura ambiente durante 2 horas. La solución de reacción se diluye con acetato de etilo (50 ml), y una capa orgánica se lava con ácido clorhídrico al 1N.El disolvente se destila bajo presión reducida. El residuo se purifica por cromatografía de columna de gel de sílice (eluyente; hexano: acetato de etilo = 9:1) para obtener 9.5 g (producción 60%) del compuesto titulado como n material amorfo.

^{1}H-RMN ($CDCl_3$, ppm) δ 2.33 (6H, s), 5.41 (2H,s), 7.34-7.48 (7H,m), 7.56 (1H,s), 7.61 (1H, t, J=7.8Hz), 8.17 (1H, t, J=7.8Hz), 8.28 (1H, d, J=7.8Hz), 8.57 (1H, s)

(11-2) Producción de ácido de 3-[(2,6-dimetil-4-heptafluoroisopropilfenil)aminocarbonil]benzoico

La reducción catalítica del hidrógeno se lleva a cabo a presión normal usando una solución de metanol (20 ml) de 2.0 g de N-(2,6-dimetil-4-heptafluoroisopropil)fenilo 3-(benziloxicarbonil)benzamida producido en el Ejemplo 11-1 y 0.2 g de 10% paladio-carbono (húmedo, 50% de producto) para producir 1.59 g (producción 96%) del compuesto titulado como un sólido.

^{1}H-RMN ($CDCl_3$, ppm) δ 2.36 (6H, s), 7.37 (2H,s), 7.59 (1H,s), 7.67 (1H, t, J=7.8Hz), 8.23 (1H, d, J=7.8Hz), 8.32 (1H, d, J=7.8Hz), 8.62 (1H, s)

(11-3) Producción de N-(2,6-dimetil-4-heptafluoroisopropilfenil) 3-isocianatobenzamida

Primero, a una solución de acetona (25 ml) de 1.4 g de ácido-[(2,6-dimetil-4-heptafluoroisopropilfenil)aminocarbonil]benzoico producido en el Ejemplo 11-2 y a

~~542~~
552

0.38 g de trietilamina se le agrega 0.44 g de cloroformato de etilo en un baño de agua con hielo, y la mezcla resultante se agita a temperatura ambiente durante 1 hora. Entonces, una solución acuosa (10 ml) de 0.32 g de azida de sodio se agrega a la mezcla, seguido por agitación a temperatura ambiente durante 2 horas. La solución de reacción se vierte en agua con hielo (150 ml), y los precipitados se extraen con acetato de etilo (50 ml) y luego se seca con sulfato de magnesio anhidroso. Después de que el sulfato de magnesio anhidroso se filtra, se agrega tolueno (50 ml) al filtrado, y el disolvente de punto ajo de ebullición se destila por medio de calentar a 110° C usando un tubo Dean y Stark. Después el final de la generación de gas confirmada, la temperatura se regresa a la temperatura ambiente, y entonces el disolvente residual se destila bajo presión reducida para obtener 1.23 g (producción 88%) del compuesto titulado como un sólido.

^{1}H-RMN ($CDCl_3$, ppm) δ 2.35 (6H, s), 7.32 (1H, d, J=7.8Hz), 7.37 (2H,s), 7.39 (1H,s), 7.49 (1H, t, J=7.8Hz), 7.67 (1H,s), 7.72 (1H, d, J=7.8Hz)

(11-4)Producción de N-(2,6-dimetil-4-heptafluoroisopropilfenil) 3-[(1-cloro-3-trifluorometil-2-propil)oxicarbonilamino]benzamida (Compuesto No. 120)

El compuesto titulado se produce usando N-(2,6-dimetil-4-heptafluoroisopropilfenil) 3-isocianatobenzamida producido en el Ejemplo 11-3 de acuerdo con el proceso descrito en el Ejemplo 10-2.

^{1}H-RMN ($CDCl_3$, ppm) δ 2.35 (6H, s), 3.75-3.83 (2H, m), 4.46-4.80 (2H, m), 5.19-5.24 (1H,m), 6.97 (1H, amplio-s), 7.36 (2H, s), 7.36-7.48 (2H, m), 7.60-7.66 (2H, m), 8.03 (1H, s)

~~543~~
553

Los siguientes compuestos son producidos de acuerdo con el proceso descrito en los Ejemplos 10 y 11.

N-26-dimetil-4-(nonafluoro-2-butil)fenil 3-isocianatobenzamida

N-2,6-dimetil-4-[(heptafluoro-n-propil)tio]fenilo 3- socianatobenzamida

N-2, 6-dibromo-4-[(heptafluoro-n-propil)tio]fenilo 3-isocianatobenzamida

N-2,6-dicioro-4-[(heptafluoro-n-propil)tio]fenilo 3-isocianatobenzamida

N-2,6-dimetil-4-[(heptafluoroisopropil)tio]fenilo 3-isocianatobenzamida

N-2,6-dibromo-4-[(heptafluoroisopropil)tio]fenil 3-isocianatobenzamida

N-2,6-dicloro-4-[(heptafluoroisopropil)tio]fenilo 3-isocianatobenzamida

N-2,6-dimetil-4-[(nonafluoro-2-butil)tio]fenilo 3-isocianatobenzamida

N-2,6-dibromo-4-[(nonafluoro-2-butil)tio]fenilo 3-isocianatobenzamida

N-2, 6-dicloro-4-[(nonafluoro-2-butil)tio]fenilo 3-isocianatobenzamida

N-2,6-dimetil-4-[(heptafluoro-n-propil)sulfinil]fenil 3-isocianatobenzamida

N-2,6-dibromo-4-[(heptafluoro-n-propil)sulfinil]fenilo 3-isocianatobenzamida

N-2,6-dicloro-4-[(heptafluoro-n-propil)sulfinil]fenilo 3-isocianatobenzamida

N-2,6-dimetil-4-[(heptafluoro-n-propil)sulfonil]fenilo 3-Isocianatobenzamida

N-2,6-dibromo-4-[(heptafluoro-n-propil)sulfonil]fenil 3-isocianatobenzamida

N-2, 6-dicloro-4-[(heptafluoro-n-propil)sulfoniljfenil 3-isocianatobenzamida

Ejemplo 12

(12-1) Producción de 4-(heptafluoro-n-propiltio)anilina

A una solución de acetonitrilo (20 ml) de 4-aminotiofenol (1.25 g, 9.98 mmol) y trietilamina (1.11 g, 11.0 mmol) se le agrega 1-yodoheptafluoro-n-propano (5.91 g,

19.9 mmol), y la mezcla resultante se agita a temperatura ambiente durante 3 horas. La mezcla se diluye con éter, y se lava con una solución acuosa de hidróxido de sodio 1N. Entonces, el producto se purifica por cromatografía de columna de gel de sílice (eluyente; hexano: acetato de etilo =4:1) para obtener 1.85 g (producción 63%) del compuesto titulado.

^{1}H-RMN ($CDCl_3$, ppm) δ 3.95 (2H, s), 6.66 (2H, d, J=8.8Hz), 7.40 (2H, d, J=8.8Hz)

(12-2) Producción de 2,6-dibromo-4-(heptafluoro-n-propiltio)anilina

Primero, a una solución de 0.77 g de 4-(heptafluoro-n-propiltio)anilina producida en el Ejemplo 12-1 en 15 ml de N,N-dimetildurantemamida se agrega 0.98 g de N-bromosuccinimida. Después la mezcla resultante se agita a 60° C durante 2 horas, luego se agrega éter y agua a la mezcla. Entonces, una capa orgánica se separa, se lava con agua dos veces y se seca con sulfato de magnesio anhidroso. El disolvente se destila bajo presión reducida. El residuo se purifica por cromatografía de columna de gel de sílice (eluyente; hexano: acetato de etilo = 9:1) para obtener 1.19 g (producción 100%) del compuesto titulado como un material aceitoso rojo.

^{1}H-RMN ($CDCl_3$, ppm) δ 4.98 (2H, amplio-s), 7.66(2H, s)

(12-3) Producción de N-{2,6-dibromo-4-(heptafluoro-n-propiltio)}fenilo 3-nitrobenzamida

A una solución preparada por medio agregar 1.08 g de 2,6-dibromo-4-(heptafluoro-n-propiltio)anilina producida en el Ejemplo 12-2 y 0.4 g de piridinaen 20 ml de

~~545~~
555

tetrahidrofurano y se agita la mezcla resultante a temperatura ambiente se agrega gota a gota una solución de 0.55 g de cloruro de 3-nitrobenzoilo en 20 ml de tetrahidrofurano. Después que la mezcla resultante se agita temperatura ambiente durante 10 horas, se agrega acetato de etilo y agua a la solución de reacción, y una operación de separación se lleva a cabo. Entonces, una capa orgánica se separa y se seca con sulfato de magnesio anhidroso. La solución se filtra, y entonces el filtrado se recolecta, y el disolvente del filtrado se destila bajo presión reducida. El residuo se purifica por cromatografía de columna de gel de sílice (eluyente; hexano: acetato de etilo =4:1) para obtener 0.86 g (producción 48%) del compuesto titulado como un sólido blanco.

^{1}H-RMN ($CDCl_3$, ppm) δ 7.73 (1H, s, J=7.8Hz), 7.77 (1H, t, J=7.8Hz), 7.96 (2H, s), 8.31 (1H, s), 8.47-8.50 (1H, m), 8.79 (1H, t, J=2.0Hz)

(12-4) Producción de N-{2,6-dibromo-4-(heptafluoro-n-propiltio)}fenilo 3-aminobenzamida

A una solución preparada por medio de agregar 0.97 g de N-{2,6-dibromo-4-(heptafluoro-n-propiltio)}fenilo 3-nitrobenzamida producida en el Ejemplo 12-3 y 0.95 g de cloruro de estaño (II) (anhidroso) a 20 ml de etanol y se agita la mezcla resultante a temperatura ambiente se agrega 2 ml de ácido clorhídrico concentrado y la mezcla resultante se agita bajo calor a 60 ° C durante 1 hora. Después de que la temperatura retorna a temperatura ambiente, la solución de reacción se vierte en agua, y la solución se neutraliza con carbonato de potasio. Entonces, se agrega acetato de etilo a la solución y el material insoluble se filtra. Entonces, una capa orgánica se separa y se seca con sulfato de magnesio anhidroso. La solución se filtra, y entonces el filtrado se recolecta, y el disolvente

545.
556

del filtrado se destila bajo presión reducida. El residuo se lava con hexano para obtener 0.75 g (producción 81%) del compuesto titulado como un sólido blanco.

^{1}H-RMN ($CDCl_3$, ppm) δ 3.89 (2H, amplio-s), 6.90 (1H, dt, J=2.5Hz, 6.4Hz), 7.28-7.30 (3H, m), 7.60 (1H, s), 7.93 (2H, s)

(12-5) Producción de N-{2,6-dibromo-4-(heptafluoro-n-propiltio)}fenilo 3-(2,2,2-tricloroetoxicarbonilamno)benzamida (Compuesto No. 612)

A una solución preparada por medio de agregar 0.10 g de N-{2,6-dibromo-4-(heptafluoro-n-propiltio)}fenilo 3-aminobenzamida y 0.02 g de piridina a 5 ml de tetrahidrofurano y se agita la mezcla resultante a temperatura ambiente se agrega gota a gota una solución de 0.04 g de cloroformato de 2,2,2-tricloroetilo en 1 ml de tetrahidrofurano. Después de 2 horas de reacción, a la solución de reacción se le agrega acetato de etilo y agua, y una operación de separación se lleva a cabo. Entonces, una capa orgánica se separa y se seca con sulfato de magnesio anhidroso. La solución se filtra, y entonces el filtrado se recolecta, y el disolvente del filtrado se destila bajo presión reducida. El residuo se purifica por cromatografía de columna de gel de sílice (eluyente; hexano: acetato de etilo =4:1) para obtener 0.11 g (producción 84%) del compuesto titulado como un sólido.

^{1}H-RMN ($CDCl_3$, ppm) δ 4.86 (2H, s), 7.45 (1H, t, J=7.8Hz), 7.72 (1H, d, J=7.8Hz), 7.93 (2H, s), 7.94 (1H, amplio-s), 8.13 (1H, s), 9.02 (1H, s), 9.17 (1H, s)

(12-6) Producción de N-{2,6-dibromo-4-(heptafluoro-n-propilsulfinil)}fenilo 3-nitrobenzamida y N-{2,6-dibromo-4-(heptafluoro-n-propilsulfonil)}fenilo 3-nitrobenzamida

547
557

Una solución preparada por medio de agregar 0.5 g de N-{2,6-dibromo-4-(heptafluoro-n-propiltio)}fenilo 3-nitrobenzamida a 15 ml de cloroformo se agita a temperatura ambiente, y 0.5 g de ácido m-cioroperbenzoico se agrega a la mezcla. Después la mezcla resultante se agita a temperatura ambiente durante 1 semana, una solución acuosa de sulfito de sodio hidrógeno se agrega a la mezcla, seguido por agitación. Entonces, una capa orgánica se separa y se lava con una solución acuosa de hidróxido de sodio al 1N y agua salina saturada. Entonces, el disolvente se destila bajo presión reducida. El residuo se purifica por cromatografía de columna de gel de sílice (eluyente; hexano: acetato de etilo = 4:1) para obtener 0.21 g de N-({2,6-dibromo-4-(heptafluoro-n-propilsulfinil)}fenilo 3-nitrobenzamida y 0.12 g de N-{2,6-dibromo-4-(heptafluoro-n-propilsulfonil)}fenilo 3-nitrobenzamida como unos sólidos.

(Compuesto de sulfinilo) ^{1}H-RMN ($CDCl_3$, ppm) δ 7.76-7.82 (2H, m), 8.06 (1H, s), 8.29 (1H, s), 8.33-8.35 (1H, m), 8.49-8.53 (1H, m), 8.81 (1H, s)

(12-7) Producción de 2,6-dimetil-4-(heptafluoro-n-propiltio)anilina

A 20 ml de DMF se le agregan 3.0 g (1.3 mmol) de 2,6-dibromo-4-heptafluoro-n-propiltioanilina, 3.0 g (21.9 mmol) de carbonato de potasio, 0.75 g (0.65 mmol) de tetrakis (trifenilfosfina) paladio, y 0.17 g (1.3 mmol) de trimetilboroxina, y la mezcla resultante se agita a 135 ° C durante 6 horas. Después de que la solución de reacción se enfría a temperatura ambiente, los materiales insolubles se filtran con cerita. El filtrado es concentrado bajo presión reducida. El residuo se purifica por cromatografía de columna de gel de sílice (eluyente; n-hexano: acetato de etilo =

12:1 a 4:1) para obtener 1.17 g (producción 55%) del compuesto titulado como un material aceitoso.

^{1}H-RMN ($CDCl_3$, ppm) δ 2.17 (6H,s), 3.86 (2H, amplio-s), 7.22 (2H, s)

Los siguientes derivados de anilina pueden ser producidos de acuerdo con los procesos descritos en los Ejemplos 12-1, 12-2, 12-6, y 12-7.

2-metil-4-(pentafluoroetiltio)anilina

2-metil-4-(heptafluoro-n-propiltio)anilina

^{1}H-RMN ($CDCl_3$, ppm) δ 2.16 (3H, s), 3.90 (2H, amplio-s), 6.65 (1H, d, J=8.3Hz), 7.28-7.31 (2H, m)

2-bromo-4-(heptafluoro-n-propiltio)anilina

^{1}H-RMN ($CDCl_3$, ppm) δ 4.44 (2H, amplio-s), 6.75 (1H, d, J=8.8Hz), 7.36 (1H, dd, J=2.0Hz, 8.8Hz), 7.69 (1H, d, J=2.0Hz)

2-metil-4-(heptafluoroisopropiltio)anilina

2-metil-4-(nonafluoro-n-butiltio)anilina

2-metil-4-(pentafluoroetilsulfinil)anilina

2-metil-4-(heptafluoro-n-propilsulfinil)anilina

2-metil-4-(heptafluoroisopropilsulfinil)anilina

2-metil-4-(nonafluoro-n-butilsulfinil)anilina

2-metil-4-(pentafluoroetilsulfonil)anilina

2-metil-4-(heptafluoro-n-propilsulfonil)anilina

2-metil-4-(heptafluoroisopropilsulfonil)anilina

2-metil-4-(nonafluoro-n-butilsulfonil)anilina

~~549~~
559

2,6-dicloro-4-(pentafluoroetiltio)anilina

2, 6-dibromo-4-(pentafluoroetiltio)anilina

N-{2, 6-dibromo-4-(pentafluoroetiltio)}fenilo 3-nitrobenzamida

^{1}H-RMN ($CDCl_3$, ppm) δ 7.73 (1H,s), 7.77 (1H, t, J=7.8Hz), 7.96 (2H, s), 8.32 (1H, d, J=7.8Hz), 8.47-8.50 (1H, m), 8.80 (1H, t, J=2.0Hz)

2, 6-dimetil-4-(pentafluoroetiltio)anilina

2,6-dicloro-4-(heptafluoro-n-propiltio)anilina

^{1}H-RMN ($CDCl_3$, ppm) δ 4.82 (2H, amplio-s), 7.48 (2H, s)

N-{2,6-dicloro-4-(heptafluoro-n-propiltio)}fenilo 3-nitrobenzamida

^{1}H-RMN ($CDCl_3$, ppm) δ 7.70 (1H, s), 7.76 (2H, s), 7.77 (1H, t, J=7.8Hz), 8.31 (1H, d, J=7.8Hz), 8.48 (1H, d, J=7.8Hz), 8.78(1H, t, J=2.0Hz)

2,6-dibromo-4-(heptafluoro-n-propiltio)anilina

^{1}H-RMN ($CDCl_3$, ppm) δ 4.93 (2H, amplio-s), 7.66 (2H, s)

2,6-dimetil-4-(heptafluoro-n-propiltio)anilina

^{1}H-RMN ($CDCl_3$, ppm) δ 2.17 (6H, s), 3.86 (2H, amplio-s), 7.22 (2H, s)

N-{2, 6-dicloro-4-(heptafluoro-n-propiltio)}fenilo 2-cloro-3-nitrobenzamida

^{1}H-RMN ($CDCl_3$, ppm) δ 2.39 (6H, s), 7.30 (1H, s), 7.46 (2H, s), 7.57(1H, t, J=7.8Hz), 7.90 (1H, d, J=7.8Hz), 7.91(1H, d, J=7.8Hz)

2-bromo-4-(heptafluoro-n-propil)tio-6-metilanilina

~~550~~.
560

^{1}H-RMN ($CDCl_3$, ppm) δ 2.22 (3H, s), 4.40 (2H, amplio-s), 7.27 (1H, s), 7.60 (1H, d, J=2.0Hz)

2,6-dicloro-4-(heptafluoroisopropiltio)anilina

^{1}H-RMN ($CDCl_3$, ppm) δ 6.40 (2H, s), 7.52 (2H, s)

2,6-dibromo-4-(heptafluoroisopropiltio)anilina

N-{2,6-dicloro-4-(heptafluoroisopropiltio)}fenilo 3-nitrobenzamida

^{1}H-RMN ($CDCl_3$, ppm) δ 7.73 (1H, s), 7.76 (1H, t, J=7.8Hz), 7.95 (2H,s), 8.31 (1H, d, J=7.8Hz), 8.48 (1H, d, J=7.8Hz), 8.79 (1H, t, J=1.5Hz)

2,6-dimetil-4-(heptafluoroisopropiltio)anilina

2,6-dicloro-4-(nonafluoro-n-butiltio)anilina

2,6-dibromo-4-(nonafluoro-n-butiltio)anilina

N-{2, 6-dicloro-4-(nonafluoro-n-butiltio)}fenilo 3-nitrobenzamida

^{1}H-RMN ($CDCl_3$, ppm) δ 7.76 (1H, s), 7.77 (1H, t, J=8.3Hz), 7.96 (2H, s), 8.32 (1H, d, J=8.3Hz), 8.48 (1H, d, J=8.3Hz), 8.80 (1H, t,J=2.0Hz)

2,6-dimetil-4-(nonafluoro-n-butiltio)anilina

2,6-dicloro-4-(pentafluoroetilsulfinil)anilina

2,6-dibromo-4-(pentafluoroetilsulfinil)anilina

2, 6-dimetil-4-(pentafluoroetilsulfinil)anilina

2,6-dicloro-4-(heptafluoro-n-propilsulfinil)anilina

2,6-dibromo-4-(heptafluoro-n-propilsulfinil)anilina

N-{ 2, 6-dicloro-4-(heptafluoro-n-propilsulfinil)}fenilo 3-nitrobenzamida

^{1}H-RMN ($CDCl_3$, ppm) δ 7.76-7.82 (2H, m), 8.06 (1H, s), 8.29 (1H, s), 8.33-8.35 (1H, m), 8.49-8.53 (1H, m), 8.81 (1H, s)

551
561

2,6-dimetil-4-(heptafluoro-n-propilsulfinil)anilina

2,6-dicloro-4-(heptafluoroisopropilsulfinil)anilina

2,6-dibromo-4-(heptafluoroisopropilsulfinil)anilina

2, 6-dimetil-4-(heptafluoroisopropilsulfinil)anilina

2,6-dicloro-4-(nonafluoro-n-butilsulfinil)anilina

2,6-dibromo-4-(nonafluoro-n-butilsulfinil)anilina

2,6-dimetil-4-(nonafluoro-n-butilsulfinil)anilina

2,6-dicloro-4-(pentafluoroetilsulfonil)anilina

2,6-dibromo-4-(pentafluoroetilsulfonil)anilina

2,6-dimetil-4-(pentafluoroetilsulfonil)anilina

2,6-dicloro-4-(heptafluoro-n-propilsulfonil)anilina

2,6-dibromo-4-(heptafluoro-n-propilsulfonil)anilina

2,6-dimetil-4-(heptafluoro-n-propilsulfonil)anilina

2,6-dicloro-4-(heptafluoroisopropilsulfonil)anilina

N-{2, 6-dicloro-4-(heptafluoroisopropilsulfonil)}fenilo 3-nitrobenzamida

^{1}H-RMN ($CDCl_3$, ppm) δ 7.79 (1H, t, J=7.8Hz), 7.98 (1H, s), 8.07 (2H,s), 8.33 (1H, d, J=7.8Hz), 8.51 (1H, d, J=7.8Hz), 8.81 (1H, t, J=2.0Hz)

2,6-dibromo-4-(heptafluoroisopropilsulfonil)anilina

2, 6-dimetil-4-(heptafluoroisopropilsulfonil)anilina

2,6-dicloro-4-(nonafluoro-n-butilsulfonil)anilina

2,6-dibromo-4-(nonafluoro-n-butilsulfonil)anilina

2,6-dimetil-4-(nonafluoro-n-butilsulfonil)anilina

Ejemplo 13

~~551~~
562

(13-1) Producción de 2,6-dimetil-4-(1,1,1,3,3,3-hexafluoro-2-hidroxi-2-propil)anilina

Una mezcla de 2.42 g de 2,6-dimetilanilina, 7.35 g de hidrato de hexafluoroacetona, y 0.04 g de monohidrato de ácido p-toluenesulfónico se agita bajo calor a 100 ° C durante 5 horas. Después de que la temperatura retorna a la temperatura ambiente, la mezcla se diluye con acetato de etilo y se lava con solución acuosa de hidróxido de sodio al1N. Entonces, el disolvente se destila bajo presión reducida y los cristales crudos precipitados se lavan con n-hexano-acetato de etilo como solvente mezclado para obtener 4.47 g (producción 78%) del compuesto titulado como un sólido.

^{1}H-RMN ($CDCl_3$, ppm) δ 2.20 (6H, s), 3.26 (1H, amplio-s), 3.76 (2H, amplio-s), 7.25 (2H, s)

(13-2) Producción de N-[2,6-dimetil-4-(1,1,1,3,3,3-hexafluoro-2-hidroxi-2-propil)]fenilo 3-(2,2,2-tricloroetoxicarbonilamino)benzamida (Compuesto No. 872)

El compuesto titulado se produce como un material amorfo mediante el uso de 2, 6-dimetil-4-(1,1,1,3, 3,3-hexafluoro-2-hidroxi-2-propil)anilina producida en el Ejemplo 13-1 como un material de partida de acuerdo con el proceso descrito en el Ejemplo 9-3 (producción 92%).

^{1}H-RMN ($CDCl_3$, ppm) δ 2.31 (6H, s), 3.99 (1H, s), 4.85 (2H, s), 7.15 (1H, amplio-s), 7.45-7.51 (4H, m), 7.64-7.66 (2H, m), 8.01 (1H, s)

~~553~~
563

La formulación de los ejemplos que contienen los compuestos representados por la fórmula (1) de la presente invención como ingredientes activos se muestran adelante, sin embargo la presente invención no esta limitada a estos ejemplos. En cada uno de los ejemplos de formulación, "parte(s)" representa "parte(s) en peso".

Ejemplo de formulación 1

Una mezcla de 20 partes de un compuesto representado por la fórmula (1) de la presente invención, 10 partes de Sorpol 355S (tensoactivo producido por Toho CHemical Industry Co., Ltd.), y 70 partes de xileno se agitan uniformemente para producir una emulsión.

Ejemplo de formulación 2

Una mezcla de 10 partes de un compuesto representado por la fórmula (1) de la presente invención, 2 partes de alquilnaftalenosulfonato de sodio, 1 parte de lignin-sulfonato de sodio, 5 partes de carbón blanco, y 82 partes de diatomita se agitan uniformemente para producir un polvo humectable.

Ejemplo de formulación 3

Una mezcla de 0.3 partes de un compuesto representado por la fórmula (1) de la presente invención y 0.3 partes de carbón blanco se agitan uniformemente, y 99.2 partes de arcilla y 0.2 partes de Driless A (producido por Sankyo Co., Ltd.) se agregan a la mezcla. La mezcla resultante se muele uniformemente para producir un polvo.

554
564

Ejemplo de formulación 4

Una mezcla de 2 partes de un compuesto representado por la fórmula (1) de la presente invención, 2 partes de carbón blanco, 2 partes de lignin-sulfonato de sodio, y 94 partes de bentonita se muelen uniformemente, y entonces se agrega agua a la mezcla. La mezcla resultante se amasa, granula y entonces se seca para producir gránulos.

Ejemplo de formulación 5

Una mezcla de 20 partes de un compuesto representado por la fórmula (1) de la presente invención y 5 partes de una solución acuosa al 20% de polivinil alcohol se agita suficientemente y luego 75 partes de una solución acuosa al 0.8% de goma de xantano se agrega a la mezcla. Entonces, la mezcla resultante se agita de nuevo para producir un agente fluíble.

Los ejemplos de ensayo para la fabricación clara de los compuestos representados por la fórmula (1) de la presente invención tienen una actividad insecticida excelente como se muestra adelante, sin embargo la presente invención no esta limitada a estos ejemplos.

Ejemplo de ensayo 1 Ensayo insecticida para el gusano cortador común (Spodoptera litura)

Una pieza de hoja de repollo se sumerge en una solución preparada por medio de diluir un compuesto de ensayo a una concentración predeterminada durante 30 segundos, y luego se seca al aire. Entonces, la pieza de hoja de repollo se coloca

555
565

en una taza de polietileno de tamaño de 7 cm en la cual larvas de segunda vez del gusano cortador común se colocan. La taza se le permite mantenerse en una cámara termostática a 25° C Tres días después, se cuenta el número de larvas vivas y muertas. El ensayo se lleva a cabo en dos replicaciones cada una contiendo cinco larvas.

Como un resultado a una concentración de 1000 ppm, una mortalidad del 70% se exhibe por los Compuestos Nos. 20, 59, 60, 62, 64, 66,75, 78, 79, 81, 83, 84, 85, 90, 91, 92, 106, 108, 109, 111, 112, 116, 117, 118, 119, 120, 121, 123, 124, 125, 126, 127, 130, 131, 132, 134, 135, 136, 137, 138, 139, 140, 155, 156, 161, 163, 165, 174, 175, 176, 180, 181, 184, 186, 189, 190, 192, 196, 197, 198, 205, 206, 207, 208, 209, 210, 212, 213, 215, 216, 217, 218, 219, 220, 221, 224, 225, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 241, 246, 247, 248, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 300, 301, 348, 377, 424, 464, 471, 511, 518, 565, 605, 612, 659, 706, 770, 800, 817, 818, 819, 854, 855, 856, 857, 843, 844, 846, 847, 864, 867, 872, 873, 878, 890, 891, 892, 898, 899, 900, 902, 903, 905, 913, 915, 916, 919, 920, 922, 932, 933, 944, 948, 992, 1010, 1039, 1086, 1104, 1180, 1198, 1227, 1245, 1274, 1292, 1321, 1361, 1368, 1388, 1389, 1408, 1411, 1416, 1418, 1421, 1435, 1455, 1458, 1463, 1465, 1903, 1906, 1907, 1922, 1923, 1924, 1925, 1926, 1929, 1931, 1932, 1935, 1939, 1941, 1942, 1943, 1944, 1945, 1947, 1948, 1950, 1951, 1952, 1953, 1954, 1955, 1956, 1958,1959, 1963, 1964, 1967, 1968, 1969, 2061, 2062, 2164, 2165, y 2168.

Ejemplo de ensayo 2 Ensayo insecticida para la polilla de dorso de diamante (Plutella xylostella)

556
566

Una pieza de hoja de repollo se sumerge en una solución preparada por medio de diluir un compuesto de ensayo a una concentración predeterminada durante 30 segundos, y luego se seca al aire. Entonces, la pieza de hoja de repollo se coloca en una taza de polietileno de tamaño de 7 cm en la cual larvas de segunda vez del gusano cortador común se colocan. La taza se le permite mantenerse en una cámara termostática a 25° C Tres días después, se cuenta el número de larvas vivas y muertas. El ensayo se lleva a cabo en dos replicaciones cada una contiendo cinco larvas.

Como un resultado a una concentración de 1000 ppm, una mortalidad del 70% o más se exhibe por los Compuestos Nos. 3, 5, 7, 8, 20, 59, 60, 62, 66, 75, 77, 78, 79, 80, 84, 85, 92, 94, 95, 96, 99, 101, 103, 104, 106, 108, 109, 110, 111, 112, 113, 116, 117, 118, 119, 120, 121, 123, 126, 127, 130, 131, 132, 134, 136, 137, 138, 139, 140, 141, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 168, 171, 174, 175, 176, 180, 181, 183, 184, 186, 190, 192, 196, 197, 198, 201, 203, 204, 205, 206, 207, 208, 209, 212, 213, 214, 215, 217, 218, 219, 220, 221, 223, 224, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 246, 247, 248, 249, 250, 252, 253, 254, 255, 256, 257, 258, 259, 300, 301, 348, 377, 424, 464, 471, 511, 518, 565, 605, 612, 659, 706, 800, 817, 818, 819, 820, 829, 858, 863, 865, 867, 868, 871, 872, 873, 878, 896, 897, 898, 899, 900, 902, 908. 913. 915. 919, 920. 922. 930. 932. 933. 936. 939. 941, 942, 943, 944, 945, 947, 948, 992, 1010, 1039, 1086, 1104, 1180, 1227, 1245, 1274, 1292, 1321, 1361, 1368, 1388, 1389, 1408, 1411, 1416, 1418, 1421, 1435, 1455, 1458, 1463, 1465, 1903, 1906, 1907, 1916, 1923, 1926, 1928, 1929, 1931, 1933, 1939, 1945, 1947, 1950, 1951, 1952, 1953, 1954, 1955, 1956, 1958, 1959, 1963, 1964, 1967, 1968, 1969, 2061, 2062, 2164, 2165, 2167, y 2168.

567

Ejemplo de ensayo 3 Ensayo insecticida para saltamontes pequeños cafés (Laodelphax striatellus)

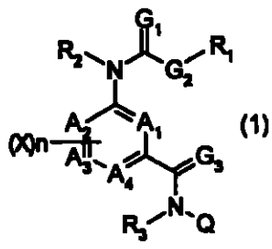
Una solución de acetona preparada por medio de diluir un compuesto de ensayo a una concentración predeterminada se rocía sobre plántulas de arroz, y las plántulas de arroz se secaron al aire. Diez saltamontes pequeños cafés y un químico original se usaron para el ensayo. A las plántulas de arroz se les permite permanecer en una cámara termostática a 25 °C Seis días después, el número de insectos vivos se examina, y tres días después el número de insectos muertos se examina. El ensayo se lleva a cabo como una replicación que contiene diez insectos.

Como resultado a una concentración de 1000 ppm, una mortalidad del 70% o más se exhibe por los Compuestos Nos. 108, 127, 184, 196, 197, 205, 209, 212, 215, 1321, 1361, 1368, 1408, 1411, 1416, 1435, 1455, 1458, 1463, 1958, 1959, y 1968.

558-568

REIVINDICACIONES

1. Un compuesto representado por la fórmula (1):



(1)

en donde A_1, A_2, A_3, y A_4 representan independientemente un átomo de carbono, un átomo de nitrógeno, o un átomo de nitrógeno oxidado; R_1 representa un grupo alquilo C1-C6 que puede ser sustituido, un grupo fenilo que puede ser sustituido, un grupo naftilo que puede ser sustituido, o un grupo heterocíclico que puede ser sustituido; R_2 y R_3 independientemente representan un átomo de hidrógeno, un grupo alquilo C_1-C_4 que puede ser sustituido, o un grupo alquilcarbonilo C1-C4 que puede ser sustituido; G_1, G_2, y G_3 representan independientemente un átomo de oxígeno o un átomo de azufre; Xs puede ser igual o diferente y cada uno representa un átomo de hidrógeno, un átomo de halógeno, un grupo alquilo C1-C4 que puede ser sustituido, o un grupo amino que puede ser sustituido; n representa un entero de 0 a 4; Q representa un grupo fenilo que puede ser sustituido, un grupo naftilo que puede ser sustituido, un grupo tetrahidronaftilo que puede ser sustituido, o un grupo heterocíclico que puede ser sustituido.

2. El compuesto de acuerdo con la reivindicación 1, en donde en la fórmula (1), A_1, A_2, A_3, y A_4 representan independientemente un átomo de carbono,

~~554~~
569

un átomo de nitrógeno, o un átomo de nitrógeno oxidado; R_1 representa lo siguiente:

un grupo alquilo C1-C6

un grupo haloalquilo C1-C6

un grupo alquenilo C2-C6

un grupo alquenilo C2-C6

un grupo haloalquenilo C2-C6

un grupo alquinilo C2-C6

un grupo haloalquinilo C2-C6

un grupo cicloalquilo C3-C8

un grupo halocicloalquilo C3-C8

un grupo fenilo,

un grupo fenilo sustituido que tiene uno o más sustituyentes que pueden ser iguales o diferentes y que son seleccionados de un átomo de halógeno, un grupo alquilo C1-C6, un grupo haloalquilo C1-C6, un grupo cicloalquilo C3-C8, un grupo halocicloalquilo C3-C8, un grupo alcoxi C1-C6, un grupo haloalcoxi C1-C6, un grupo alquiltio C1-C6, un grupo haloalquiltio C1-C6, un grupo alquilsulfinilo C1-C6, un grupo haloalquilsulfinilo C1-C6, un grupo alquilsulfonilo C1-C6, un grupo haloalquilsulfonilo C1-C6, un grupo ciano, un grupo nitro, un grupo hidroxilo, un grupo pentafluorosulfanilo, un grupo alquilcarbonilo C1-C4, un grupo haloalquilcarbonilo C1-C4, un grupo alquilcarboniloxi C1-C4, y un grupo alcoxicarbonilo C1-C4,

un grupo naftilo,

un grupo naftilo sustituido que tiene uno o más sustituyentes que pueden ser iguales o diferentes y que son seleccionados de un átomo de halógeno,

~~560~~
570

un grupo alquilo C1-C6, un grupo haloalquilo C1-C6, un grupo cicloalquilo C3-C8, un grupo halocicloalquilo C3-C8, un grupo alcoxi C1-C6, un grupo haloalcoxi C1-C6, un grupo alquiltio C1-C6, un grupo haloalquiltio C1-C6, un grupo alquilsulfinilo C1-C6, un grupo haloalquilsulfinilo C1-C6, un grupo alquilsulfonilo C1-C6, un grupo haloalquilsulfonilo C1-C6, un grupo ciano, un grupo nitro, un grupo hidroxilo, un grupo pentafluorosulfanilo, un grupo alquilcarbonilo C1-C4, un grupo haloalquilcarbonilo C1-C4, un grupo alquilcarboniloxi C1-C4, y un grupo alcoxicarbonilo C1-C4,

un grupo heterocíclico (que representa un grupo piridilo, un grupo piridino-N-óxido, un grupo piridiminilo, un grupo piridazilo, un grupo furilo, un grupo tetrahidrofurilo, un grupo tienilo, un grupo tetrahidrotienilo, un grupo tetrahidropiranilo, un grupo oxazolilo, un grupo isoxazolilo, un grupo oxadiazolilo, un grupo tiazolilo, un grupo isotiazolilo, un grupo tiadiazolilo, un grupo pirrol, un grupo imidazolilo, un grupo triazolilo, un grupo pirazolilo, o un grupo tetrazolilo),

un grupo heterocíclico sustituido (que representa un grupo piridilo, un grupo piridino-N-óxido, un grupo piridiminilo, un grupo piridazilo, un grupo furilo, un grupo tetrahidrofurilo, un grupo tienilo, un grupo tetrahidrotienilo, un grupo tetrahidropiranilo, un grupo oxazolilo, un grupo isoxazolilo, un grupo oxadiazolilo, un grupo tiazolilo, un grupo isotiazolilo, un grupo tiadiazolilo, un grupo pirrol, un grupo imidazolilo, un grupo triazolilo, un grupo pirazolilo, o un grupo tetrazolilo) que tiene uno o más sustituyentes que pueden ser iguales o diferentes y que son seleccionados de un átomo de halógeno, un grupo alquilo C1-C6, un grupo haloalquilo C1-C6, un grupo cicloalquilo C3-C8, un grupo halocicloalquilo C3-C8, un grupo alcoxi C1-C6, un grupo

S61
S71

haloalcoxi C1-C6, un grupo alquiltio C1-C6, un grupo haloalquiltio C1-C6, un grupo alquilsulfinilo C1-C6, un grupo haloalquilsulfinilo C1-C6, un grupo alquilsulfonilo C1-C6, un grupo haloalquilsulfonilo C1-C6, un grupo ciano, un grupo nitro, un grupo hidroxilo, un grupo pentafluorosulfanilo, un grupo alquilcarbonilo C1-C4, un grupo haloalquilcarbonilo C1-C4, un grupo alquilcarboniloxi C1-C4, y un grupo alcoxicarbonilo C1-C4,

$-E_1-Z_1-R_4$

(en donde E_1 representa un grupo alquileno C1-C4, un grupo alquenileno C2-C4, un grupo alquinileno C3-C4, un grupo haloalquileno C1-C4, un grupo haloalquenileno C2-C4, o un grupo haloalquinileno C3-C4; R_4 representa un átomo de hidrógeno, un grupo alquilo C1-C6, un grupo alquenilo C2-C6, un grupo alquinilo C2-C6, un grupo haloalquilo C1-C6, un grupo haloalquenilo C2-C6, un grupo haloalquinilo C2-C6,

un grupo cicloalquilo C3-C8,

un grupo halocicloalquilo C3-C8,

un grupo fenilo,

un grupo fenilo sustituido que tiene uno o más sustituyentes que pueden ser iguales o diferentes y que son seleccionados de un átomo de halógeno, un grupo alquilo C1-C6, un grupo haloalquilo C1-C6, un grupo cicloalquilo C3-C8, un grupo halocicloalquilo C3-C8, un grupo alcoxi C1-C6, un grupo haloalcoxi C1-C6, un grupo alquiltio C1-C6, un grupo haloalquiltio C1-C6, un grupo alquilsulfinilo C1-C6, un grupo haloalquilsulfinilo C1-C6, un grupo alquilsulfonilo C1-C6, un grupo haloalquilsulfonilo C1-C6, un grupo ciano, un grupo nitro, un grupo hidroxilo, un grupo pentafluorosulfanilo, un grupo

562
572

alquilcarbonilo C1-C4, un grupo haloalquilcarbonilo C1-C4, un grupo alquilcarboniloxi C1-C4, y un grupo alcoxicarbonilo C1-C4,

un grupo naftilo,

un grupo naftilo sustituido que tiene uno o más sustituyentes que pueden ser iguales o diferentes y que son seleccionados de un átomo de halógeno, un grupo alquilo C1-C6, un grupo haloalquilo C1-C6, un grupo cicloalquilo C3-C8, un grupo halocicloalquilo C3-C8, un grupo alcoxi C1-C6, un grupo haloalcoxi C1-C6, un grupo alquiltio C1-C6, un grupo haloalquiltio C1-C6, un grupo alquilsulfinilo C1-C6, un grupo haloalquilsulfinilo C1-C6, un grupo alquilsulfonilo C1-C6, un grupo haloalquilsulfonilo C1-C6, un grupo ciano, un grupo nitro, un grupo hidroxilo, un grupo pentafluorosulfanilo, un grupo alquilcarbonilo C1-C4, un grupo haloalquilcarbonilo C1-C4, un grupo alquilcarboniloxi C1-C4, y un grupo alcoxicarbonilo C1-C4,

un grupo heterocíclico (que representa un grupo piridilo, un grupo piridino-N-óxido, un grupo piridiminilo, un grupo piridazilo, un grupo furilo, un grupo tetrahidrofurilo, un grupo tienilo, un grupo tetrahidrotienilo, un grupo tetrahidropiranilo, un grupo oxazolilo, un grupo isoxazolilo, un grupo oxadiazolilo, un grupo tiazolilo, un grupo isotiazolilo, un grupo tiadiazolilo, un grupo pirrolo, un grupo imidazolilo, un grupo triazolilo, un grupo pirazolilo, o un grupo tetrazolilo),

un grupo heterocíclico sustituido (que representa un grupo piridilo, un grupo piridino-N-óxido, un grupo piridiminilo, un grupo piridazilo, un grupo furilo, un grupo tetrahidrofurilo, un grupo tienilo, un grupo tetrahidrotienilo, un grupo tetrahidropiranilo, un grupo oxazolilo, un grupo isoxazolilo, un grupo

~~563~~.
573

oxadiazolilo, un grupo tiazolilo, un grupo isotiazolilo, un grupo tiadiazolilo, un grupo pirrolo, un grupo imidazolilo, un grupo triazolilo, un grupo pirazolilo, o un grupo tetrazolilo) que tiene uno o más sustituyentes que pueden ser iguales o diferentes y que son seleccionados de un átomo de halógeno, un grupo alquilo C1-C6, un grupo haloalquilo C1-C6, un grupo cicloalquilo C3-C8, un grupo halocicloalquilo C3-C8, un grupo alcoxi C1-C6, un grupo haloalcoxi C1-C6, un grupo alquiltio C1-C6, un grupo haloalquiltio C1-C6, un grupo alquilsulfinilo C1-C6, un grupo haloalquilsulfinilo C1-C6, un grupo alquilsulfonilo C1-C6, un grupo haloalquilsulfonilo C1-C6, un grupo ciano, un grupo nitro, un grupo hidroxilo, un grupo pentafluorosulfanilo, un grupo alquilcarbonilo C1-C4, un grupo haloalquilcarbonilo C1-C4, un grupo alquilcarboniloxi C1-C4, y un grupo alcoxicarbonilo C1-C4; y Z_1 representa –O-, -S-, -SO-, -SO_2-, -C(=O)-, -C(=O)-O-, -OC(=O)-, -N(R_5)-, -C(=O)N(R_5)-, o N(R_5)C(=O)- (R_5 representa un átomo de hidrógeno, un grupo alquilo C1-C4, un grupo alquilcarbonilo C1-C4, un grupo haloalquilcarbonilo C1-C4, o un grupo alcoxicarbonilo C1-C4)) o

–E_2-R_6

(en donde E_2 representa un grupo alquileno C1-C4, un grupo alquenileno C2-C4, un grupo alquinileno C3-C4, un grupo haloalquileno C1-C4, un grupo haoalquenileno C2-C4, o un grupo haloalquinileno C3-C4, y R_6 representa un grupo cicloalquilo C3-C8, un grupo halocicloalquilo C3-C8,
un grupo ciano,
un grupo nitro,
un grupo hidroxilo,
un grupo fenilo,

564
574

un grupo fenilo sustituido que tiene uno o más sustituyentes que pueden ser iguales o diferentes y que son seleccionados de un átomo de halógeno, un grupo alquilo C1-C6, un grupo haloalquilo C1-C6, un grupo cicloalquilo C3-C8, un grupo halocicloalquilo C3-C8, un grupo alcoxi C1-C6, un grupo haloalcoxi C1-C6, un grupo alquiltio C1-C6, un grupo haloalquiltio C1-C6, un grupo alquilsulfinilo C1-C6, un grupo haloalquilsulfinilo C1-C6, un grupo alquilsulfonilo C1-C6, un grupo haloalquilsulfonilo C1-C6, un grupo ciano, un grupo nitro, un grupo hidroxilo, un grupo pentafluorosulfanilo, un grupo alquilcarbonilo C1-C4, un grupo haloalquilcarbonilo C1-C4, un grupo alquilcarboniloxi C1-C4, y un grupo alcoxicarbonilo C1-C4,

un grupo naftilo,

un grupo naftilo sustituido que tiene uno o más sustituyentes que pueden ser iguales o diferentes y que son seleccionados de un átomo de halógeno, un grupo alquilo C1-C6, un grupo haloalquilo C1-C6, un grupo cicloalquilo C3-C8, un grupo halocicloalquilo C3-C8, un grupo alcoxi C1-C6, un grupo haloalcoxi C1-C6, un grupo alquiltio C1-C6, un grupo haloalquiltio C1-C6, un grupo alquilsulfinilo C1-C6, un grupo haloalquilsulfinilo C1-C6, un grupo alquilsulfonilo C1-C6, un grupo haloalquilsulfonilo C1-C6, un grupo ciano, un grupo nitro, un grupo hidroxilo, un grupo pentafluorosulfanilo, un grupo alquilcarbonilo C1-C4, un grupo haloalquilcarbonilo C1-C4, un grupo alquilcarboniloxi C1-C4, y un grupo alcoxicarbonilo C1-C4,

un grupo heterocíclico (que representa un grupo piridilo, un grupo piridino-N-óxido, un grupo piridiminilo, un grupo piridazilo, un grupo furilo, un grupo tetrahidrofurilo, un grupo tienilo, un grupo tetrahidrotienilo, un grupo tetrahidropiranilo, un grupo oxazolilo, un grupo isoxazolilo, un grupo

~~565~~ 575

oxadiazolilo, un grupo tiazolilo, un grupo isotiazolilo, un grupo tiadiazolilo, un grupo pirrol, un grupo imidazolilo, un grupo triazolilo, un grupo pirazolilo, o un grupo tetrazolilo), o

un grupo heterocíclico sustituido (que representa un grupo piridilo, un grupo piridino-N-óxido, un grupo piridiminilo, un grupo piridazilo, un grupo furilo, un grupo tetrahidrofurilo, un grupo tienilo, un grupo tetrahidrotienilo, un grupo tetrahidropiranilo, un grupo oxazolilo, un grupo isoxazolilo, un grupo oxadiazolilo, un grupo tiazolilo, un grupo isotiazolilo, un grupo tiadiazolilo, un grupo pirrol, un grupo imidazolilo, un grupo triazolilo, un grupo pirazolilo, o un grupo tetrazolilo) que tiene uno o más sustituyentes que pueden ser iguales o diferentes y que son seleccionados de un átomo de halógeno, un grupo alquilo C1-C6, un grupo haloalquilo C1-C6, un grupo cicloalquilo C3-C8, un grupo halocicloalquilo C3-C8, un grupo alcoxi C1-C6, un grupo haloalcoxi C1-C6, un grupo alquiltio C1-C6, un grupo haloalquiltio C1-C6, un grupo alquilsulfinilo C1-C6, un grupo haloalquilsulfinilo C1-C6, un grupo alquilsulfonilo C1-C6, un grupo haloalquilsulfonilo C1-C6, un grupo ciano, un grupo nitro, un grupo hidroxilo, un grupo pentafluorosulfanilo, un grupo alquilcarbonilo C1-C4, un grupo haloalquilcarbonilo C1-C4, un grupo alquilcarboniloxi C1-C4, y un grupo alcoxicarbonilo C1-C4);

R_2 y R_3 representan independientemente un átomo de hidrógeno, un grupo alquilo C1-C4, un grupo alquilcarbonilo C1-C4, o un grupo haloalquilcarbonilo C1-C4; G_1, G_2, y G_3 representan independientemente un átomo de oxígeno o un átomo de azufre; Xs puede ser igual o diferente y cada uno representa un átomo de hidrógeno, un átomo de halógeno un grupo alquilo C1-C4, un grupo haloalquilo C1-C4, un grupo alcoxi C1-C4, un

~~576~~
576

grupo haloalcoxi C1-C4, un grupo alquiltio C1-C4, un grupo haloalquiltio C1-C4, un grupo alquilsulfinilo C1-C4, un grupo haloalquilsulfinilo C1-C4, un grupo alquilsulfonilo C1-C4, un grupo haloalquilsulfonilo C1-C4, un grupo ciano, un grupo nitro, un grupo amino que puede ser sustituido por un grupo alquilo C1-C4;

n representa un entero de 0 a 4; y

Q representa un grupo fenilo,

un grupo fenilo sustituido que tiene uno o más sustituyentes que pueden ser iguales o diferentes y que son seleccionados de un átomo de halógeno, un grupo alquilo C1-C6, un grupo haloalquilo C1-C6, un grupo cicloalquilo C3-C8, un grupo halocicloalquilo C3-C8, un grupo alcoxi C1-C6, un grupo haloalcoxi C1-C6, un grupo haloalquilo C1-C6, que puede ser sustituido por al menos un grupo hidroxilo, un grupo alquiltio C1-C6, un grupo haloalquiltio C1-C6, un grupo alquilsulfinilo C1-C6, un grupo haloalquilsulfinilo C1-C6, un grupo alquilsulfonilo C1-C6, un grupo haloalquilsulfonilo C1-C6, un grupo haloalquilsulfoniloxi C1-C6, un grupo alquilcarbonilo C1-C4, un grupo haloalquilcarbonilo C1-C4, un grupo ciano, un grupo nitro, un grupo hidroxilo, un grupo pentafluorosulfanilo, un grupo fenilo, un grupo fenilo sustituido (que puede tener los mismos o diferentes sustituyentes seleccionados de un átomo de halógeno, un grupo alquilo C1-C6, un grupo haloalquilo C1-C6, un grupo cicloalquilo C3-C8, un grupo halocicloalquilo C3-C8, un grupo alcoxi C1-C6, un grupo haloalcoxi C1-C6, un grupo alquiltio C1-C6, un grupo haloalquiltio C1-C6, un grupo alquilsulfinilo C1-C6, un grupo haloalquilsulfinilo C1-C6, un grupo alquilsulfonilo C1-C6, un grupo haloalquilsulfonilo C1-C6, un grupo haloalquilsulfoniloxi C1-C6,un grupo ciano, un grupo nitro, un grupo hidroxilo, un grupo pentafluorosulfanilo), un

~~567~~
577

grupo tienilo y un grupo tienilo sustituido (que puede tener los mismos o diferentes sustituyentes seleccionados de un átomo de halógeno, un grupo alquilo C1-C6, un grupo haloalquilo C1-C6, un grupo cicloalquilo C3-C8, un grupo halocicloalquilo C3-C8, un grupo alcoxi C1-C6, un grupo haloalcoxi C1-C6, un grupo alquiltio C1-C6, un grupo haloalquiltio C1-C6, un grupo alquilsulfinilo C1-C6, un grupo haloalquilsulfinilo C1-C6, un grupo alquilsulfonilo C1-C6, un grupo haloalquilsulfonilo C1-C6, un grupo haloalquilsulfoniloxi C1-C6, un grupo ciano, un grupo nitro, un grupo hidroxilo, y un grupo pentafluorosulfanilo),

un grupo naftilo,

un grupo naftilo sustituido que tiene uno o más sustituyentes que pueden ser iguales o diferentes y que son seleccionados de un átomo de halógeno, un grupo alquilo C1-C6, un grupo haloalquilo C1-C6, un grupo cicloalquilo C3-C8, un grupo halocicloalquilo C3-C8, un grupo alcoxi C1-C6, un grupo haloalcoxi C1-C6, un grupo haloalquilo que puede ser sustituido por al menos un grupo hidroxilo, un grupo alquiltio C1-C6, un grupo haloalquiltio C1-C6, un grupo alquilsulfinilo C1-C6, un grupo haloalquilsulfinilo C1-C6, un grupo alquilsulfonilo C1-C6, un grupo haloalquilsulfonilo C1-C6, un grupo ciano, un grupo nitro, un grupo hidroxilo, o un grupo pentafluorosulfanilo,

un grupo heterocíclico (que representa un grupo piridilo, un grupo piridino-N-óxido, un grupo piridiminilo, un grupo piridazilo, un grupo furilo, un grupo tienilo, un grupo oxazolilo, un grupo isoxazolilo, un grupo oxadiazolilo, un grupo tiazolilo, un grupo isotiazolilo, un grupo tiadiazolilo, un grupo pirrol, un grupo imidazolilo, un grupo triazolilo, un grupo pirazolilo, o un grupo tetrazolilo),

~~568~~.
578

un grupo heterocíclico sustituido (que representa un grupo piridilo, un grupo piridino-N-óxido, un grupo piridiminilo, un grupo piridazilo, un grupo furilo, un grupo tienilo, un grupo oxazolilo, un grupo isoxazolilo, un grupo oxadiazolilo, un grupo tiazolilo, un grupo isotiazolilo, un grupo tiadiazolilo, un grupo pirrol, un grupo imidazolilo, un grupo triazolilo, un grupo pirazolilo, o un grupo tetrazolilo) que tiene uno o más sustituyentes que pueden ser iguales o diferentes y que son seleccionados de un átomo de halógeno, un grupo alquilo C1-C6, un grupo haloalquilo C1-C6, un grupo alcoxi C1-C6, un grupo haloalcoxi C1-C6, un grupo haloalquilo C1-C6 que puede ser sustituido por al menos un grupo hidroxilo, un grupo alquiltio C1-C6, un grupo haloalquiltio C1-C6, un grupo alquilsulfinilo C1-C6, un grupo haloalquilsulfinilo C1-C6, un grupo alquilsulfonilo C1-C6, un grupo haloalquilsulfonilo C1-C6, un grupo ciano, un grupo nitro, un grupo hidroxilo, y un grupo pentafluorosulfanilo,

un grupo tetrahidronaftilo o,

un grupo tetrahidronaftilo sustituido que tiene uno o más sustituyentes que pueden ser iguales o diferentes y que son seleccionados de un átomo de halógeno, un grupo alquilo C1-C6, un grupo haloalquilo C1-C6, un grupo alcoxi C1-C6, un grupo haloalcoxi C1-C6, un grupo haloalquilo C1-C6 que puede ser sustituido por al menos un grupo hidroxilo, un grupo alquiltio C1-C6, un grupo haloalquiltio C1-C6, un grupo alquilsulfinilo C1-C6, un grupo haloalquilsulfinilo C1-C6, un grupo alquilsulfonilo C1-C6, un grupo haloalquilsulfonilo C1-C6, un grupo ciano, un grupo nitro, un grupo hidroxilo, y un grupo pentafluorosulfanilo (excluyendo un caso (1) en el cual Q representa 3,4-diclorofenilo cuando R_1 representa un grupo metilo, un caso

~~569~~
579

(2) en el cual Q representa un grupo fenilo no sustituido cuando R_1 representa un grupo etilo, y un caso (3) en el cual Q representa un grupo piridilo no sustituido cunado R_1 representa un grupo fenilo no sustituido).

3. El compuesto de acuerdo con la reivindicación 2, en donde en la fórmula (1), G_1 y G_3 cada uno representa un átomo de oxígeno, y Q representa un grupo fenilo,

un grupo fenilo sustituido que tiene uno o más sustituyentes que pueden ser iguales o diferentes y que son seleccionados de un átomo de halógeno, un grupo alquilo C1-C6, un grupo haloalquilo C1-C6, un grupo alcoxi C1-C6, un grupo haloalcoxi C1-C6, un grupo haloalquilo C1-C6 que puede ser sustituido por al menos un grupo hidroxilo, un grupo alquiltio C1-C6, un grupo haloalquiltio C1-C6, un grupo alquilsulfinilo C1-C6, un grupo haloalquilsulfinilo C1-C6, un grupo alquilsulfonilo C1-C6, un grupo haloalquilsulfonilo C1-C6, un grupo haloalquilsulfoniloxi C1-C6, un grupo alquilcarbonilo C1-C4, un grupo haloalquilcarbonilo C1-C4, un grupo ciano, un grupo nitro, un grupo hidroxilo, y un grupo pentafluorosulfanilo,

un grupo naftilo,

un grupo naftilo sustituido que tiene uno o más sustituyentes que pueden ser iguales o diferentes y que son seleccionados de un átomo de halógeno, un grupo alquilo C1-C6, un grupo haloalquilo C1-C6, un grupo alcoxi C1-C6, un grupo haloalcoxi C1-C6, un grupo haloalquilo C1-C6 que puede ser sustituido por al menos un grupo hidroxilo, un grupo alquiltio C1-C6, un grupo haloalquiltio C1-C6, un grupo alquilsulfinilo C1-C6, un grupo haloalquilsulfinilo C1-C6, un grupo alquilsulfonilo C1-C6, un grupo

haloalquilsulfonilo C1-C6, un grupo ciano, un grupo nitro, un grupo hidroxilo, y un grupo pentafluorosulfanilo, un grupo heterocíclico (que representa un grupo piridilo o un grupo pirazolilo),

un grupo heterocíclico sustituido (que representa un grupo piridilo o un grupo pirazolilo) que tiene uno o más sustituyentes que pueden ser iguales o diferentes y que son seleccionados de un átomo de halógeno, un grupo alquilo C1-C6, un grupo haloalquilo C1-C6, un grupo alcoxi C1-C6, un grupo haloalcoxi C1-C6, un grupo haloalquilo C1-C6 que puede ser sustituido por al menos un grupo hidroxilo, un grupo alquiltio C1-C6, un grupo haloalquiltio C1-C6, un grupo alquilsulfinilo C1-C6, un grupo haloalquilsulfinilo C1-C6, un grupo alquilsulfonilo C1-C6, un grupo haloalquilsulfonilo C1-C6, un grupo ciano, un grupo nitro, un grupo hidroxilo, y un grupo pentafluorosulfanilo,

un grupo tetrahidronaftilo o,
un grupo tetrahidronaftilo sustituido que tiene uno o más sustituyentes que pueden ser iguales o diferentes y que son seleccionados de un átomo de halógeno, un grupo alquilo C1-C6, un grupo haloalquilo C1-C6, un grupo alcoxi C1-C6, un grupo haloalcoxi C1-C6, un grupo haloalquilo C1-C6 que puede ser sustituido por al menos un grupo hidroxilo, un grupo alquiltio C1-C6, un grupo haloalquiltio C1-C6, un grupo alquilsulfinilo C1-C6, un grupo haloalquilsulfinilo C1-C6, un grupo alquilsulfonilo C1-C6, un grupo haloalquilsulfonilo C1-C6, un grupo ciano, un grupo nitro, un grupo hidroxilo, y un grupo pentafluorosulfanilo.

4. El compuesto de acuerdo con la reivindicación 3, en donde en la fórmula (1), Xs puede ser igual o diferente y cada uno representa un átomo de

hidrógeno, un átomo de halógeno, un grupo alquilo C1-C4, o un grupo trifluorometilo, y n es un entero de 0 a 4.

5. El compuesto de acuerdo con la reivindicación 4, en donde en la fórmula (1), R_1 representa:

un grupo alquilo C1-C6,
un grupo haloalquilo C1-C6,
un grupo alquenilo C2-C6,
un grupo haloalquenilo C2-C6,
un grupo alquinilo C2-C6,
un grupo haloalquinilo C2-C6,
un grupo cicloalquilo C3-C8,
un grupo halocicloalquilo C3-C8,

$-E_1-Z_1-R_4$

(en donde E_1 representa un grupo alquileno C1-C4, un grupo alquenileno C2-C4, un grupo alquinileno C3-C4, un grupo haloalquileno C1-C4, un grupo haloalquenileno C2-C4, o un grupo haloalquinileno C3-C4; R_4 representa un átomo de hidrógeno, un grupo alquilo C1-C6, un grupo alquenilo C2-C6, un grupo alquinilo C2-C6, un grupo haloalquilo C1-C6, un grupo haloalquenilo C2-C6, un grupo haloalquinilo C2-C6, y Z_1 representa –O-, -S-, -SO-, o $-SO_2$-), o

$-E_2-R_6$

(en donde E_2 representa un grupo alquileno C1-C4, un grupo alquenileno C2-C4, un grupo alquinileno C3-C4, un grupo haloalquileno C1-C4, un

grupo haoalquenileno C2-C4, o un grupo haloalquinileno C3-C4, y R_6 representa un grupo cicloalquilo C3-C8, un grupo halocicloalquilo C3-C8,

un grupo ciano,

un grupo nitro,

un grupo hidroxilo,

un grupo fenilo,

un grupo fenilo sustituido que tiene uno o más sustituyentes que pueden ser iguales o diferentes y que son seleccionados de un átomo de halógeno, un grupo alquilo C1-C6, un grupo haloalquilo C1-C6, un grupo alcoxi C1-C6, un grupo haloalcoxi C1-C6, un grupo alquiltio C1-C6, un grupo haloalquiltio C1-C6, un grupo alquilsulfinilo C1-C6, un grupo haloalquilsulfinilo C1-C6, un grupo alquilsulfonilo C1-C6, un grupo haloalquilsulfonilo C1-C6, un grupo ciano, un grupo nitro, un grupo hidroxilo, un grupo alquilcarbonilo C1-C4, un grupo haloalquilcarbonilo C1-C4, un grupo alquilcarboniloxi C1-C4, un grupo alcoxicarbonilo C1-C4, y un grupo pentafluorosulfanilo,

un grupo piridilo,

un grupo piridilo sustituido que tiene uno o más sustituyentes seleccionados de un átomo de halógeno, un grupo haloalquilo C1-C6, y un grupo haloalcoxi C1-C6, un grupo tienilo, o un grupo tetrahidrofurilo).

6. El compuesto de acuerdo con la reivindicación 5, en donde en la fórmula (1), A_1, A_2, A_3, y A_4 son todos átomos de carbono, o uno cualquiera de A_1, A_2, A_3, y A_4 es un átomo de nitrógeno o un átomo de nitrógeno oxidado, y G_2 es un átomo de oxígeno.

~~575~~
583

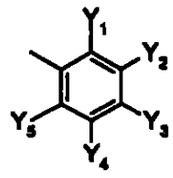
7. El compuesto de acuerdo con la reivindicación 6, en donde en la fórmula (1), Q representa un grupo fenilo,

un grupo fenilo sustituido que tiene uno o más sustituyentes que pueden ser iguales o diferentes y que son seleccionados de un átomo de halógeno, un grupo alquilo C1-C6, un grupo haloalquilo C1-C6, un grupo alcoxi C1-C6, un grupo haloalcoxi C1-C6, un grupo haloalquilo C1-C6 que puede ser sustituido por al menos un grupo hidroxilo, un grupo alquiltio C1-C6, un grupo haloalquiltio C1-C6, un grupo alquilsulfinilo C1-C6, un grupo haloalquilsulfinilo C1-C6, un grupo alquilsulfonilo C1-C6, un grupo haloalquilsulfonilo C1-C6, un grupo pentafluorosulfanilo, un grupo ciano, y un grupo nitro;

un grupo piridilo,

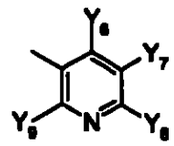
un grupo piridilo sustituido que tiene uno o más sustituyentes que pueden ser iguales o diferentes y que son seleccionados de un átomo de halógeno, un grupo alquilo C1-C6, un grupo haloalquilo C1-C6, un grupo alcoxi C1-C6, un grupo haloalcoxi C1-C6, un grupo haloalquilo C1-C6 que puede ser sustituido por al menos un grupo hidroxilo, un grupo alquiltio C1-C6, un grupo haloalquiltio C1-C6, un grupo alquilsulfinilo C1-C6, un grupo haloalquilsulfinilo C1-C6, un grupo alquilsulfonilo C1-C6, un grupo haloalquilsulfonilo C1-C6, un grupo pentafluorosulfanilo, un grupo ciano, y un grupo nitro.

8. El compuesto de acuerdo con la reivindicación 7, en donde en la fórmula (1), Q es un sustituyente representado por la fórmula (1-2) o (1-3):



(1-2)

(en donde Y_1, Y_2, Y_4, y Y_5 pueden ser iguales o diferentes y cada uno representa un átomo de hidrógeno, átomo de halógeno, un grupo alquilo C1-C6, un grupo haloalquilo C1-C6, un grupo alcoxi C1-C6, un grupo haloalcoxi C1-C6, un grupo alquiltio C1-C6, un grupo haloalquiltio C1-C6, un grupo alquilsulfinilo C1-C6, un grupo haloalquilsulfinilo C1-C6, un grupo alquilsulfonilo C1-C6, un grupo haloalquilsulfonilo C1-C6, un grupo pentafluorosulfanilo, un grupo ciano, o un grupo nitro, y Y_3 representa un grupo haloalquilo C1-C6, un grupo haloalcoxi C1-C6, un grupo haloalquilo C1-C6 que puede ser sustituido por al menos un grupo hidroxilo, un grupo haloalquiltio C1-C6, un grupo haloalquilsulfinilo C1-C6, un grupo haloalquilsulfonilo C1-C6, o un grupo pentafluorosulfanilo, pero solamente uno de Y_1 y Y_5 representa un átomo de hidrógeno)



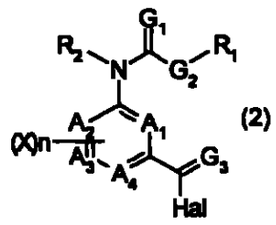
(1-3)

(en donde Y_6, Y_7, y Y_9 pueden ser iguales o diferentes y cada uno representa un átomo de hidrógeno, átomo de halógeno, un grupo alquilo C1-C6, un grupo haloalquilo C1-C6, un grupo alcoxi C1-C6, un grupo haloalcoxi C1-C6, un grupo alquiltio C1-C6, un grupo haloalquiltio C1-C6, un grupo alquilsulfinilo C1-C6, un grupo haloalquilsulfinilo C1-C6, un grupo alquilsulfonilo C1-C6, un grupo haloalquilsulfonilo C1-C6, un grupo

575.
585

pentafluorosulfanilo, un grupo ciano, o un grupo nitro, y Y_8 representa un grupo haloalquilo C1-C6, un grupo haloalcoxi C1-C6, un grupo haloalquilo C1-C6 que puede ser sustituido por al menos un grupo hidroxilo, un grupo haloalquiltio C1-C6, un grupo haloalquilsulfinilo C1-C6, un grupo haloalquilsulfonilo C1-C6, o un grupo pentafluorosulfanilo, pero solamente uno de Y_8 y Y_9 representa un átomo de hidrógeno).

9. Un compuesto representado por la fórmula (2):



(2)

un grupo alquilo C1-C6,

un grupo haloalquilo C1-C6,

un grupo alquenilo C2-C6,

un grupo haloalquenilo C2-C6,

un grupo alquinilo C2-C6,

un grupo haloalquinilo C2-C6,

un grupo cicloalquilo C3-C8,

un grupo halocicloalquilo C3-C8,

un grupo fenilo,

un grupo fenilo sustituido que tiene uno o más sustituyentes que pueden ser iguales o diferentes y que son seleccionados de un átomo de halógeno, un grupo alquilo C1-C6, un grupo haloalquilo C1-C6, un grupo cicloalquilo C3-C8, un grupo halocicloalquilo C3-C8, un grupo alcoxi C1-C6, un grupo

576.
586

haloalcoxi C1-C6, un grupo alquiltio C1-C6, un grupo haloalquiltio C1-C6, un grupo alquilsulfinilo C1-C6, un grupo haloalquilsulfinilo C1-C6, un grupo alquilsulfonilo C1-C6, un grupo haloalquilsulfonilo C1-C6, un grupo ciano, un grupo nitro, un grupo hidroxilo, un grupo pentafluorosulfanilo, un grupo alquilcarbonilo C1-C4, un grupo haloalquilcarbonilo C1-C4, un grupo alquilcarboniloxi C1-C4, y un grupo alcoxicarbonilo C1-C4,

un grupo naftilo,

un grupo naftilo sustituido que tiene uno o más sustituyentes que pueden ser iguales o diferentes y que son seleccionados de un átomo de halógeno, un grupo alquilo C1-C6, un grupo haloalquilo C1-C6, un grupo cicloalquilo C3-C8, un grupo halocicloalquilo C3-C8, un grupo alcoxi C1-C6, un grupo haloalcoxi C1-C6, un grupo alquiltio C1-C6, un grupo haloalquiltio C1-C6, un grupo alquilsulfinilo C1-C6, un grupo haloalquilsulfinilo C1-C6, un grupo alquilsulfonilo C1-C6, un grupo haloalquilsulfonilo C1-C6, un grupo ciano, un grupo nitro, un grupo hidroxilo, un grupo pentafluorosulfanilo, un grupo alquilcarbonilo C1-C4, un grupo haloalquilcarbonilo C1-C4, un grupo alquilcarboniloxi C1-C4, y un grupo alcoxicarbonilo C1-C4,

un grupo heterocíclico (que representa un grupo piridilo, un grupo piridino-N-óxido, un grupo piridiminilo, un grupo piridazilo, un grupo furilo, un grupo tetrahidrofurilo, un grupo tienilo, un grupo tetrahidrotienilo, un grupo tetrahidropiranilo, un grupo oxazolilo, un grupo isoxazolilo, un grupo oxadiazolilo, un grupo tiazolilo, un grupo isotiazolilo, un grupo tiadiazolilo, un grupo pirrol, un grupo imidazolilo, un grupo triazolilo, un grupo pirazolilo, o un grupo tetrazolilo),

un grupo heterocíclico sustituido (que representa un grupo piridilo, un grupo piridino-N-óxido, un grupo piridiminilo, un grupo piridazilo, un grupo furilo, un grupo tetrahidrofurilo, un grupo tienilo, un grupo tetrahidrotienilo, un grupo tetrahidropiranilo, un grupo oxazolilo, un grupo isoxazolilo, un grupo oxadiazolilo, un grupo tiazolilo, un grupo isotiazolilo, un grupo tiadiazolilo, un grupo pirrol, un grupo imidazolilo, un grupo triazolilo, un grupo pirazolilo, o un grupo tetrazolilo) que tiene uno o más sustituyentes que pueden ser iguales o diferentes y que son seleccionados de un átomo de halógeno, un grupo alquilo C1-C6, un grupo haloalquilo C1-C6, un grupo cicloalquilo C3-C8, un grupo halocicloalquilo C3-C8, un grupo alcoxi C1-C6, un grupo haloalcoxi C1-C6, un grupo alquiltio C1-C6, un grupo haloalquiltio C1-C6, un grupo alquilsulfinilo C1-C6, un grupo haloalquilsulfinilo C1-C6, un grupo alquilsulfonilo C1-C6, un grupo haloalquilsulfonilo C1-C6, un grupo ciano, un grupo nitro, un grupo hidroxilo, un grupo pentafluorosulfanilo, un grupo alquilcarbonilo C1-C4, un grupo haloalquilcarbonilo C1-C4, un grupo alquilcarboniloxi C1-C4, y un grupo alcoxicarbonilo C1-C4), o

$-E_1-Z_1-R_4$

(en donde E_1 representa un grupo alquileno C1-C4, un grupo alquenileno C2-C4, un grupo alquinileno C3-C4, un grupo haloalquileno C1-C4, un grupo haloalquenileno C2-C4, o un grupo haloalquinileno C3-C4; R_4 representa un átomo de hidrógeno, un grupo alquilo C1-C6, un grupo alquenilo C2-C6, un grupo alquinilo C2-C6, un grupo haloalquilo C1-C6, un grupo haloalquenilo C2-C6, un grupo haloalquinilo C2-C6,

un grupo cicloalquilo C3-C8,

un grupo halocicloalquilo C3-C8,

578.
587

un grupo fenilo,

un grupo fenilo sustituido que tiene uno o más sustituyentes que pueden ser iguales o diferentes y que son seleccionados de un átomo de halógeno, un grupo alquilo C1-C6, un grupo haloalquilo C1-C6, un grupo cicloalquilo C3-C8, un grupo halocicloalquilo C3-C8, un grupo alcoxi C1-C6, un grupo haloalcoxi C1-C6, un grupo alquiltio C1-C6, un grupo haloalquiltio C1-C6, un grupo alquilsulfinilo C1-C6, un grupo haloalquilsulfinilo C1-C6, un grupo alquilsulfonilo C1-C6, un grupo haloalquilsulfonilo C1-C6, un grupo ciano, un grupo nitro, un grupo hidroxilo, un grupo pentafluorosulfanilo, un grupo alquilcarbonilo C1-C4, un grupo haloalquilcarbonilo C1-C4, un grupo alquilcarboniloxi C1-C4, y un grupo alcoxicarbonilo C1-C4,

un grupo naftilo,

un grupo naftilo sustituido que tiene uno o más sustituyentes que pueden ser iguales o diferentes y que son seleccionados de un átomo de halógeno, un grupo alquilo C1-C6, un grupo haloalquilo C1-C6, un grupo cicloalquilo C3-C8, un grupo halocicloalquilo C3-C8, un grupo alcoxi C1-C6, un grupo haloalcoxi C1-C6, un grupo alquiltio C1-C6, un grupo haloalquiltio C1-C6, un grupo alquilsulfinilo C1-C6, un grupo haloalquilsulfinilo C1-C6, un grupo alquilsulfonilo C1-C6, un grupo haloalquilsulfonilo C1-C6, un grupo ciano, un grupo nitro, un grupo hidroxilo, un grupo pentafluorosulfanilo, un grupo alquilcarbonilo C1-C4, un grupo haloalquilcarbonilo C1-C4, un grupo alquilcarboniloxi C1-C4, y un grupo alcoxicarbonilo C1-C4,

un grupo heterocíclico (que representa un grupo piridilo, un grupo piridino-N-óxido, un grupo piridiminilo, un grupo piridazilo, un grupo furilo, un grupo tetrahidrofurilo, un grupo tienilo, un grupo tetrahidrotienilo, un grupo

~~579~~
589

tetrahidropiranilo, un grupo oxazolilo, un grupo isoxazolilo, un grupo oxadiazolilo, un grupo tiazolilo, un grupo isotiazolilo, un grupo tiadiazolilo, un grupo pirrolo, un grupo imidazolilo, un grupo triazolilo, un grupo pirazolilo, o un grupo tetrazolilo),

un grupo heterocíclico sustituido (que representa un grupo piridilo, un grupo piridino-N-óxido, un grupo piridiminilo, un grupo piridazilo, un grupo furilo, un grupo tetrahidrofurilo, un grupo tienilo, un grupo tetrahidrotienilo, un grupo tetrahidropiranilo, un grupo oxazolilo, un grupo isoxazolilo, un grupo oxadiazolilo, un grupo tiazolilo, un grupo isotiazolilo, un grupo tiadiazolilo, un grupo pirrolo, un grupo imidazolilo, un grupo triazolilo, un grupo pirazolilo, o un grupo tetrazolilo) que tiene uno o más sustituyentes que pueden ser iguales o diferentes y que son seleccionados de un átomo de halógeno, un grupo alquilo C1-C6, un grupo haloalquilo C1-C6, un grupo cicloalquilo C3-C8, un grupo halocicloalquilo C3-C8, un grupo alcoxi C1-C6, un grupo haloalcoxi C1-C6, un grupo alquiltio C1-C6, un grupo haloalquiltio C1-C6, un grupo alquilsulfinilo C1-C6, un grupo haloalquilsulfinilo C1-C6, un grupo alquilsulfonilo C1-C6, un grupo haloalquilsulfonilo C1-C6, un grupo ciano, un grupo nitro, un grupo hidroxilo, un grupo pentafluorosulfanilo, un grupo alquilcarbonilo C1-C4, un grupo haloalquilcarbonilo C1-C4, un grupo alquilcarboniloxi C1-C4, y un grupo alcoxicarbonilo C1-C4), y

Z_1 representa –O-, -S-, -SO-, -SO_2-, -C(=O)-, -C(=O)-O-, -OC(=O)-, -N(R_5)-, -C(=O)N(R_5)-, o N(R_5)C(=O)- (R_5 representa un átomo de hidrógeno, un grupo alquilo C1-C4, un grupo alquilcarbonilo C1-C4, un grupo haloalquilcarbonilo C1-C4, o un grupo alcoxicarbonilo C1-C4)), o

580.
590

$-E_2-R_6$

(en donde E_2 representa un grupo alquileno C1-C4, un grupo alquenileno C2-C4, un grupo alquinileno C3-C4, un grupo haloalquileno C1-C4, un grupo haoalquenileno C2-C4, o un grupo haloalquinileno C3-C4, y R_6 representa un grupo cicloalquilo C3-C8, un grupo halocicloalquilo C3-C8,

un grupo ciano,

un grupo nitro,

un grupo hidroxilo,

un grupo fenilo,

un grupo fenilo sustituido que tiene uno o más sustituyentes que pueden ser iguales o diferentes y que son seleccionados de un átomo de halógeno, un grupo alquilo C1-C6, un grupo haloalquilo C1-C6, un grupo cicloalquilo C3-C8, un grupo halocicloalquilo C3-C8, un grupo alcoxi C1-C6, un grupo haloalcoxi C1-C6, un grupo alquiltio C1-C6, un grupo haloalquiltio C1-C6, un grupo alquilsulfinilo C1-C6, un grupo haloalquilsulfinilo C1-C6, un grupo alquilsulfonilo C1-C6, un grupo haloalquilsulfonilo C1-C6, un grupo ciano, un grupo nitro, un grupo hidroxilo, un grupo pentafluorosulfanilo, un grupo alquilcarbonilo C1-C4, un grupo haloalquilcarbonilo C1-C4, un grupo alquilcarboniloxi C1-C4, y un grupo alcoxicarbonilo C1-C4,

un grupo naftilo,

un grupo naftilo sustituido que tiene uno o más sustituyentes que pueden ser iguales o diferentes y que son seleccionados de un átomo de halógeno, un grupo alquilo C1-C6, un grupo haloalquilo C1-C6, un grupo cicloalquilo C3-C8, un grupo halocicloalquilo C3-C8, un grupo alcoxi C1-C6, un grupo haloalcoxi C1-C6, un grupo alquiltio C1-C6, un grupo haloalquiltio C1-C6, un grupo alquilsulfinilo C1-C6, un grupo haloalquilsulfinilo C1-C6, un grupo

alquilsulfonilo C1-C6, un grupo haloalquilsulfonilo C1-C6, un grupo ciano, un grupo nitro, un grupo hidroxilo, un grupo pentafluorosulfanilo, un grupo alquilcarbonilo C1-C4, un grupo haloalquilcarbonilo C1-C4, un grupo alquilcarboniloxi C1-C4, y un grupo alcoxicarbonilo C1-C4, .

un grupo heterocíclico (que representa un grupo piridilo, un grupo piridino-N-óxido, un grupo piridiminilo, un grupo piridazilo, un grupo furilo, un grupo tetrahidrofurilo, un grupo tienilo, un grupo tetrahidrotienilo, un grupo tetrahidropiranilo, un grupo oxazolilo, un grupo isoxazolilo, un grupo oxadiazolilo, un grupo tiazolilo, un grupo isotiazolilo, un grupo tiadiazolilo, un grupo pirrol, un grupo imidazolilo, un grupo triazolilo, un grupo pirazolilo, o un grupo tetrazolilo), o

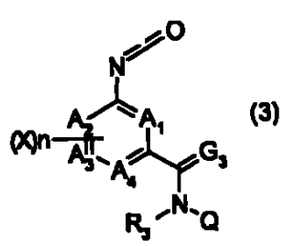
un grupo heterocíclico sustituido (que representa un grupo piridilo, un grupo piridino-N-óxido, un grupo piridiminilo, un grupo piridazilo, un grupo furilo, un grupo tetrahidrofurilo, un grupo tienilo, un grupo tetrahidrotienilo, un grupo tetrahidropiranilo, un grupo oxazolilo, un grupo isoxazolilo, un grupo oxadiazolilo, un grupo tiazolilo, un grupo isotiazolilo, un grupo tiadiazolilo, un grupo pirrol, un grupo imidazolilo, un grupo triazolilo, un grupo pirazolilo, o un grupo tetrazolilo) que tiene uno o más sustituyentes que pueden ser iguales o diferentes y que son seleccionados de un átomo de halógeno, un grupo alquilo C1-C6, un grupo haloalquilo C1-C6, un grupo cicloalquilo C3-C8, un grupo halocicloalquilo C3-C8, un grupo alcoxi C1-C6, un grupo haloalcoxi C1-C6, un grupo alquiltio C1-C6, un grupo haloalquiltio C1-C6, un grupo alquilsulfinilo C1-C6, un grupo haloalquilsulfinilo C1-C6, un grupo alquilsulfonilo C1-C6, un grupo haloalquilsulfonilo C1-C6, un grupo ciano, un grupo nitro, un grupo hidroxilo, un grupo pentafluorosulfanilo, un grupo

alquilcarbonilo C1-C4, un grupo haloalquilcarbonilo C1-C4, un grupo alquilcarboniloxi C1-C4, y un grupo alcoxicarbonilo C1-C4);

R_2 representa un átomo de hidrógeno, un grupo alquilo C1-C4, un grupo alquilcarbonilo C1-C4, o un grupo haloalquilcarbonilo C1-C4; G_1, G_2, y G_3 representan independientemente un átomo de oxígeno o un átomo de azufre;

Xs puede ser igual o diferente y cada uno representa un átomo de hidrógeno, un átomo de halógeno, un grupo alquilo C1-C4, un grupo haloalquilo C1-C4, un grupo alcoxi C1-C4, un grupo haloalcoxi C1-C4, un grupo alquiltio C1-C4, un grupo haloalquiltio C1-C4, un grupo alquilsulfinilo C1-C4, un grupo haloalquilsulfinilo C1-C4, un grupo alquilsulfonilo C1-C4, un grupo haloalquilsulfonilo C1-C4, un grupo ciano, un grupo nitro, o un grupo amino que puede ser sustituido por un grupo alquilo C1-C4;
n representa un entero de 0 a 4; y
Hal representa un átomo de halógeno (excluyendo el caso en el que R_1 es un grupo benzilo no sustituido cuando X es un átomo de hidrógeno).

10. Un compuesto representado por la fórmula (3):



(3)

585
593

en donde A_1, A_2, A_3, y A_4 representan independientemente un átomo de carbono, un átomo de nitrógeno, o un átomo de nitrógeno oxidado; R_3 representa un átomo de hidrógeno, un grupo alquilo C1-C4, un grupo alquilcarbonilo C1-C4 o un grupo haloalquilcarbonilo C1-C4; G_3 representa un átomo de oxígeno o un átomo de azufre; Xs puede ser igual o diferente y cada uno representa un átomo de hidrógeno, un átomo de halógeno, un grupo alquilo C1-C4, un grupo haloalquilo C1-C4, un grupo alcoxi C1-C4, un grupo haloalcoxi C1-C4, un grupo alquiltio C1-C4, un grupo haloalquiltio C1-C4, un grupo alquilsulfinilo C1-C4, un grupo haloalquilsulfinilo C1-C4, un grupo alquilsulfonilo C1-C4, un grupo haloalquilsulfonilo C1-C4, un grupo ciano, un grupo nitro, o un grupo amino que puede ser sustituido por un grupo alquilo C1-C4;

n representa un entero de 0 a 4; y

Q representa un grupo fenilo,

un grupo fenilo sustituido que tiene uno o más sustituyentes que pueden ser iguales o diferentes y que son seleccionados de un átomo de halógeno, un grupo alquilo C1-C6, un grupo haloalquilo C1-C6, un grupo cicloalquilo C3-C8, un grupo halocicloalquilo C3-C8, un grupo alcoxi C1-C6, un grupo haloalcoxi C1-C6, un grupo haloalquilo C1-C6 que puede ser sustituido por al menos un grupo hidroxilo, un grupo alquiltio C1-C6, un grupo haloalquiltio C1-C6, un grupo alquilsulfinilo C1-C6, un grupo haloalquilsulfinilo C1-C6, un grupo alquilsulfonilo C1-C6, un grupo haloalquilsulfonilo C1-C6, un grupo haloalquilsulfoniloxi C1-C6, un grupo alquilcarbonilo C1-C4, un grupo haloalquilcarbonilo C1-C4, un grupo ciano, un grupo nitro, un grupo hidroxilo, un grupo pentafluorosulfanilo, un grupo fenilo, un grupo fenilo sustituido (que puede tener los mismos o diferentes sustituyentes seleccionados de un átomo de halógeno, un grupo alquilo C1-C6, un grupo

~~584~~
594

haloalquilo C1-C6, un grupo cicloalquilo C3-C8, un grupo halocicloalquilo C3-C8, un grupo alcoxi C1-C6, un grupo haloalcoxi C1-C6, un grupo alquiltio C1-C6, un grupo haloalquiltio C1-C6, un grupo alquilsulfinilo C1-C6, un grupo haloalquilsulfinilo C1-C6, un grupo alquilsulfonilo C1-C6, un grupo haloalquilsulfonilo C1-C6, un grupo haloalquilsulfoniloxi C1-C6,un grupo ciano, un grupo nitro, un grupo hidroxilo, un grupo pentafluorosulfanilo), un grupo tienilo y un grupo tienilo sustituido (que puede tener los mismos o diferentes sustituyentes seleccionados de un átomo de halógeno, un grupo alquilo C1-C6, un grupo haloalquilo C1-C6, un grupo cicloalquilo C3-C8, un grupo halocicloalquilo C3-C8, un grupo alcoxi C1-C6, un grupo haloalcoxi C1-C6, un grupo alquiltio C1-C6, un grupo haloalquiltio C1-C6, un grupo alquilsulfinilo C1-C6, un grupo haloalquilsulfinilo C1-C6, un grupo alquilsulfonilo C1-C6, un grupo haloalquilsulfonilo C1-C6, un grupo haloalquilsulfoniloxi C1-C6, un grupo ciano, un grupo nitro, un grupo hidroxilo, y un grupo pentafluorosulfanilo),

un grupo naftilo,

un grupo naftilo sustituido que tiene uno o más sustituyentes que pueden ser iguales o diferentes y que son seleccionados de un átomo de halógeno, un grupo alquilo C1-C6, un grupo haloalquilo C1-C6, un grupo cicloalquilo C3-C8, un grupo halocicloalquilo C3-C8, un grupo alcoxi C1-C6, un grupo haloalcoxi C1-C6, un grupo haloalquilo que puede ser sustituido por al menos un grupo hidroxilo, un grupo alquiltio C1-C6, un grupo haloalquiltio C1-C6, un grupo alquilsulfinilo C1-C6, un grupo haloalquilsulfinilo C1-C6, un grupo alquilsulfonilo C1-C6, un grupo haloalquilsulfonilo C1-C6, un grupo ciano, un grupo nitro, un grupo hidroxilo, y un grupo pentafluorosulfanilo,

un grupo heterocíclico (que representa un grupo piridilo, un grupo piridino-N-óxido, un grupo piridiminilo, un grupo piridazilo, un grupo furilo, un grupo tienilo, un grupo oxazolilo, un grupo isoxazolilo, un grupo oxadiazolilo, un grupo tiazolilo, un grupo isotiazolilo, un grupo tiadiazolilo, un grupo pirrol, un grupo imidazolilo, un grupo triazolilo, un grupo pirazolilo, o un grupo tetrazolilo),

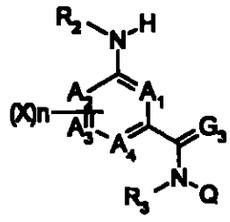
un grupo heterocíclico sustituido (que representa un grupo piridilo, un grupo piridino-N-óxido, un grupo piridiminilo, un grupo piridazilo, un grupo furilo, un grupo tienilo, un grupo oxazolilo, un grupo isoxazolilo, un grupo oxadiazolilo, un grupo tiazolilo, un grupo isotiazolilo, un grupo tiadiazolilo, un grupo pirrol, un grupo imidazolilo, un grupo triazolilo, un grupo pirazolilo, o un grupo tetrazolilo) que tiene uno o más sustituyentes que pueden ser iguales o diferentes y que son seleccionados de un átomo de halógeno, un grupo alquilo C1-C6, un grupo haloalquilo C1-C6, un grupo alcoxi C1-C6, un grupo haloalcoxi C1-C6, un grupo haloalquilo C1-C6 que puede ser sustituido por al menos un grupo hidroxilo, un grupo alquiltio C1-C6, un grupo haloalquiltio C1-C6, un grupo alquilsulfinilo C1-C6, un grupo haloalquilsulfinilo C1-C6, un grupo alquilsulfonilo C1-C6, un grupo haloalquilsulfonilo C1-C6, un grupo ciano, un grupo nitro, un grupo hidroxilo, y un grupo pentafluorosulfanilo,

un grupo tetrahidronaftilo o,
un grupo tetrahidronaftilo sustituido que tiene uno o más sustituyentes que pueden ser iguales o diferentes y que son seleccionados de un átomo de halógeno, un grupo alquilo C1-C6, un grupo haloalquilo C1-C6, un grupo alcoxi C1-C6, un grupo haloalcoxi C1-C6, un grupo haloalquilo C1-C6 que

~~586~~ 596

puede ser sustituido por al menos un grupo hidroxilo, un grupo alquiltio C1-C6, un grupo haloalquiltio C1-C6, un grupo alquilsulfinilo C1-C6, un grupo haloalquilsulfinilo C1-C6, un grupo alquilsulfonilo C1-C6, un grupo haloalquilsulfonilo C1-C6, un grupo ciano, un grupo nitro, un grupo hidroxilo, y un grupo pentafluorosulfanilo.

11. Un compuesto representado por la fórmula (4):



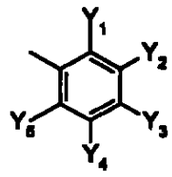
(4)

en donde A_1, A_2, A_3, y A_4 representan independientemente un átomo de carbono, un átomo de nitrógeno, o un átomo de nitrógeno oxidado; R_2 y R_3 representan independientemente un átomo de hidrógeno, un grupo alquilo C1-C4, un grupo alquilcarbonilo C1-C4, o un grupo haloalquilcarbonilo C1-C4; G_3 representa un átomo de oxígeno o un átomo de azufre; Xs puede ser igual o diferente y cada uno representa un átomo de hidrógeno, un átomo de halógeno, un grupo alquilo C1-C4, un grupo haloalquilo C1-C4, un grupo alcoxi C1-C4, un grupo haloalcoxi C1-C4, un grupo alquiltio C1-C4, un grupo haloalquiltio C1-C4, un grupo alquilsulfinilo C1-C4, un grupo haloalquilsulfinilo C1-C4, un grupo alquilsulfonilo C1-C4, un grupo haloalquilsulfonilo C1-C4, un grupo ciano, un grupo nitro, o un grupo amino que puede ser sustituido por un grupo alquilo C1-C4;

n representa un entero de 0 a 4; y

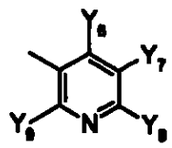
Q es un sustituyente representado por la fórmula (1-2) o (1-3):

587.
597



(1-2)

(en donde Y_1, Y_2, Y_4, y Y_5 pueden ser iguales o diferentes y cada uno representa un átomo de hidrógeno, átomo de halógeno, un grupo alquilo C1-C6, un grupo haloalquilo C1-C6, un grupo alcoxi C1-C6, un grupo haloalcoxi C1-C6, un grupo alquiltio C1-C6, un grupo haloalquiltio C1-C6, un grupo alquilsulfinilo C1-C6, un grupo haloalquilsulfinilo C1-C6, un grupo alquilsulfonilo C1-C6, un grupo haloalquilsulfonilo C1-C6, un grupo pentafluorosulfanilo, un grupo ciano, o un grupo nitro, y Y_3 representa un grupo haloalquilo C1-C6, un grupo haloalcoxi C1-C6, un grupo haloalquilo C1-C6 que puede ser sustituido por al menos un grupo hidroxilo, un grupo haloalquiltio C1-C6, un grupo haloalquilsulfinilo C1-C6, un grupo haloalquilsulfonilo C1-C6, o un grupo pentafluorosulfanilo, pero solamente uno de Y_1 y Y_5 representa un átomo de hidrógeno)



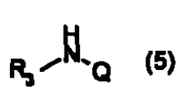
(1-3)

(en donde Y_6, Y_7, y Y_8 pueden ser iguales o diferentes y cada uno representa un átomo de hidrógeno, átomo de halógeno, un grupo alquilo C1-C6, un grupo haloalquilo C1-C6, un grupo alcoxi C1-C6, un grupo haloalcoxi C1-C6, un grupo alquiltio C1-C6, un grupo haloalquiltio C1-C6, un grupo alquilsulfinilo C1-C6, un grupo haloalquilsulfinilo C1-C6, un grupo

588
598

alquilsulfonilo C1-C6, un grupo haloalquilsulfonilo C1-C6, un grupo pentafluorosulfanilo, un grupo ciano, o un grupo nitro, y Y_8 representa un grupo haloalquilo C1-C6, un grupo haloalcoxi C1-C6, un grupo haloalquilo C1-C6 que puede ser sustituido por al menos un grupo hidroxilo, un grupo haloalquiltio C1-C6, un grupo haloalquilsulfinilo C1-C6, un grupo haloalquilsulfonilo C1-C6, o un grupo pentafluorosulfanilo, pero solamente uno de Y_6 y Y_9 representa un átomo de hidrógeno).

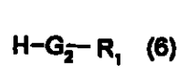
12. Un método para producir el compuesto de acuerdo con la reivindicación 1, el método comprende hacer reaccionar el compuesto representado por la fórmula (2) de acuerdo con la reivindicación 9 con un compuesto representado por la fórmula (5):



(5)

En donde R_3 y Q cada uno representa lo mismo como en la Reivindicación 1.

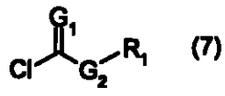
13. Un método para producir el compuesto de acuerdo con la reivindicación 1, el método comprende hacer reaccionar el compuesto representado por la fórmula (3) de acuerdo con la reivindicación 10 con un compuesto representado por la fórmula (6):



(6)

En donde R_1 y G_2 cada uno representa lo mismo como en la Reivindicación 1.

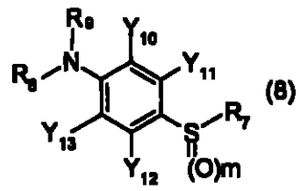
14. Un método para producir el compuesto de acuerdo con la reivindicación 1, el método comprende hacer reaccionar el compuesto representado por la fórmula (4) de acuerdo con la reivindicación 11 con un compuesto representado por la fórmula (7):



(7)

En donde R_1, G_1, y G_2 cada uno representa lo mismo como en la reivindicación 1.

15. Un derivado de anilina representado por la fórmula (8):

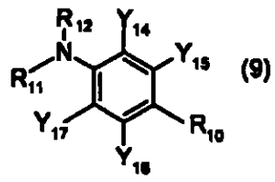


(8)

En donde R_7 representa un grupo haloalquilo C1-C6, Y_{10}, Y_{11}, Y_{12}, y Y_{13} pueden ser iguales o diferentes y cada uno representa un átomo de hidrógeno, un átomo de halógeno, un grupo alquilo C1-C6, un grupo haloalquilo C1-C6, un grupo alcoxi C1-C6, un grupo haloalcoxi C1-C6, un grupo alquiltio C1-C6, un grupo haloalquiltio C1-C6, un grupo alquilsulfinilo C1-C6, un grupo haloalquilsulfinilo C1-C6, un grupo alquilsulfonilo C1-C6,

un grupo haloalquilsulfonilo C1-C6, un grupo pentafluorosulfanilo, un grupo ciano, o un grupo nitro, y R_8 y R_9 representan independientemente un átomo de hidrógeno, un grupo alquilo C1-C4, un grupo m-nitrobenzoilo, o un grupo m-nitrobenzoilo sustituido, y m representa 0, 1, o 2.

16. Un derivado de anilina representado por la fórmula (9):



(9)

En donde R_{10} representa un grupo haloalquilo C1-C6 que puede ser sustituido por al menos un grupo hidroxilo, Y_{14}, Y_{15}, Y_{16}, y Y_{17} pueden ser iguales o diferentes y cada uno representa un átomo de hidrógeno, un átomo de halógeno, un grupo alquilo C1-C6, un grupo haloalquilo C1-C6, un grupo alcoxi C1-C6, un grupo haloalcoxi C1-C6, un grupo alquiltio C1-C6, un grupo haloalquiltio C1-C6, un grupo alquilsulfinilo C1-C6, un grupo haloalquilsulfinilo C1-C6, un grupo alquilsulfonilo C1-C6, un grupo haloalquilsulfonilo C1-C6, un grupo pentafluorosulfanilo, un grupo ciano, o un grupo nitro, y R_{11} y R_{12} representan independientemente un átomo de hidrógeno, un grupo alquilo C1-C4, un grupo m-nitrobenzoilo, o un grupo m-nitrobenzoilo sustituido.

17. Un insecticida que comprende el compuesto de acuerdo con una cualquiera de las reivindicaciones 1 a 8 como un ingrediente activo.

18. Un insecticida agrícola/hortícola que comprende el compuesto de acuerdo con una cualquiera de las reivindicaciones 1 a 8 como un ingrediente activo.

19. Un método para utilizar un químico comprende tratar un suelo o terreno de cultivo útil con una cantidad efectiva del compuesto de acuerdo con una cualquiera de las reivindicaciones 1 a 8, para proteger el terreno de cultivo útil de los organismos dañinos.

20. Un método para evitar pestes comprende utilizar el compuesto de acuerdo con una cualquiera de las reivindicaciones 1 a 8 y por lo menos un fungicida y/o insecticida en combinación.

21. El método para evitar pestes de acuerdo con la reivindicación 20, en donde el fungicida y/o insecticida se selecciona de:

fungicidas de azol tales como triadimefón, hexaconazol, propiconazol, ipconazol, procloraz, y triflumizol; fungicidas de pirimidina tales como pirifenox y fenarimol; fungicidas de anilinopirimidina tales como mepanipirim y ciprodinilo; fungicidas de acilalanina tales como metalaxilo, oxadixilo, y benalaxilo; fungicidas de benzimidazol tales como tiofanato-metilo y benomilo; fungicidas de ditiocarbamato tales como mancozeb, propineb, zineb, y metiram; fungicidas de organocloro tal como tetracloroisoftalonitrilo; fungicidas de carboxamida tales como carpropamida y etaboxam; fungicidas de morfolina tal como dimetomorf; fungicidas de estrobilurin tales como azoxistrobin, kresoxim-metilo, metominostrobin, orisastrobin, fluoxastrobin, trifloxistrobin, dimoxistrobin, piraclostrobin, y picoxistrobin;

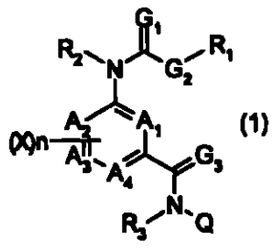
fungicidas de dicarboxiimida tales como iprodiona y procimidona; fungicidas aplicados al suelo tales como flusulfamida, dazomet, isotiocianato de metilo, y cloropicrin; fungicidas de cobre tales como cloruro de cobre básico, sulfato de cobre básico, nonilfenol sulfonato de cobre, oxina de cobre, y DBEDC; fungicidas inorgánicos tales como sulfato de zinc y azufre; fungicidas de organofosfato tales como edifenfos, tolclofos-metilo, y fosetil-aluminio; inhibidores de biosíntesis de melanina tales como ftalida, triciclazol, piroquilón, y diclocimet; antibióticos tales como kasugamicina, validamicina, y polioxinas; productos naturales fungicidas tales como aceite de colza; y otros fungicidas tales como bentiavalicarb-isopropilo, iprovalicarb, ciflufenamid, fenexamid, quinoxifen, espiroxamina, diflumetorim, metrafenona, picobenzamid, proquinazid, siltiofam, oxipoconazol, famoxadona, ciazofamid, fenamidona, furametpir, zoxamida, boscalid, tiadinilo, simeconazol, clorotalonilo, cimoxanil, captan, ditianon, fluazinam, folpet, diclofluanid, (RS)-N-[2-(1,3-dimetilbutil)tiofen-3-il]-1-metil-3-trifluorometil-1H-pirazole-4-carboxamida (pentiopirad; propuesto por ISO), oxicarboxin, mepronilo, flutolanilo, triforina, ácido oxolínico, probenazol, acibenzolar-S-metilo, isoprotiolano, ferimzona, diclomezina, pencicuron, fluoroimida, cinometionato, iminoctadina-triacetato, y iminoctadina-albesilato; insecticidas piretroides sintéticos tales como aletrin, tetrametrin, resmetrin, fenotrin, furametrin, permetrin, cipermetrin, deltametrin, cialotrin, ciflutrin, fenpropatrin, tralometrin, cicloprotrin, flucitrinato, fluvalinato, acrinatrin, teflutrin, bifentrin, empentrin, beta-ciflutrin, zeta-cipermetrin, y fenvalerato, y varios isómeros de estos y extractos de piretrum; insecticidas de organofosfato tales como DDVP, cianofos, fentión, fenitrotión, tetraclorvinfos, dimetilvinfos, propafos, metilparatión, temefos, foxim, acefato, isofenfos, salitión, DEP, EPN, etión, mecarbam, piridafentión,

diazinon, pirimifos-metilo, etrimfos, isoxatión, quinalfos, clorpirifos-metilo, clorpirifos, fosalona, fosmet, metidatión, oxideprofos, vamidotión, malatión, fentoato, dimetoato, formotión, tiometón, etiltiometón, forato, terbufos, profenofos, protiofos, sulprofos, piraclofos, monocrotofos, naled, fostiazato, y cadusafos; insecticidas de carbamato tales como NAC, MTMC, MIPC, BPMC, XMC, PHC, MPMC, etiofencarb, bendiocarb, pirimicarb, carbosulfan, benfuracarb, metomilo, oxamilo, y aldicarb; insecticidas de arilpropiléter tales como etofenprox y halfenprox; insecticidas de sililéter tal como silafluofen; productos naturales insecticidas tales como nicotina-sulfato, complejo de polinactin, abamectin, milbemectin, y agentes BT; insecticidas tales como, cartap, tiociclam, bensultap, diflubenzurón, clorfluazurón, teflubenzurón, triflumurón, flufenoxurón, flucicloxurón, hexaflumurón, fluazurón, imidacloprid, nitenpiram, acetamiprid, dinotefuran, pimetrozina, finoprilo, buprofezin, fenoxicarb, piriproxifen, metopreno, hidropreno, kinopreno, diafentiurón, triazamato, tebufenozida, y endosulfan; acaricidas tales como dicofol, clorobenzilato, bromopropilato, tetradifón, CP^CBS, BPPS, quinometionato, amitraz, benzoximato, hexitiazox, óxido de fenbutatin, cihexatin, dienoclor, clofentezina, piridaben, fenpiroximato, fenazaquin, y tebufenpirad; novalurón, noviflumurón; benzoato de emamectin; clotianidin; tiacloprid; tiametoxam; flupirazofos; acequinocilo; bifenazato; cromafenozida; etoxazol; fluacripirim; flufenzina; halofenozida; indoxacarb; metoxifenozida; espirodiclofen; tolfenpirad; gama-cihalotrin; etiprol; amidoflumet; bistriflurón; flonicamid; flubrocitrinato; flufenerim; piridalilo; pirimidifen; espinosad; y espiromesifen.

S94
604

RESUMEN

Un objeto de la presente invención es suministrar insecticidas que tienen alta efectividad. La presente invención suministra compuestos representados por la fórmula (1):



(1)

en donde A_1, A_2, A_3, y A_4 representan independientemente un átomo de carbono, un átomo de nitrógeno, o un átomo de nitrógeno oxidado; R_1 representa un grupo alquilo C1-C6 que puede ser sustituido, un grupo fenilo que puede ser sustituido, o un grupo heterocíclico que puede ser sustituido; R_2 y R_3 independientemente representan un átomo de hidrógeno, un grupo alquilo C_1-C_4 que puede ser sustituido, o un grupo alquilcarbonilo C1-C4 que puede ser sustituido; G_1, G_2, y G_3 representan independientemente un átomo de oxígeno o un átomo de azufre; Xs puede ser igual o diferente y cada uno representa un átomo de hidrógeno, un átomo de halógeno, un grupo alquilo C1-C4 que puede ser sustituido, o un grupo amino que puede ser sustituido; n representa un entero de 0 a 4; Q representa un grupo fenilo que puede ser sustituido, un grupo naftilo que puede ser sustituido, un grupo tetrahidronaftilo que puede ser sustituido, o un grupo heterocíclico que puede ser sustituido, los insecticidas que contienen los compuestos como ingredientes activos, y un método para producir los compuestos.

Los compuestos representados por la fórmula (1) exhiben un efecto preventivo excelente como insecticida y también exhibe un efecto preventivo excelente cuando se combina con otro insecticida, un acaricida, un nematocida, un fungicida, un herbicida, un regulador de crecimiento de plantas, o un pesticida biológico.

[redacted]

FORMATO DE DIGITALIZACION
RELACION DE ANEXOS

Royal Technologies S.A.

605

Item	Expediente No	06030672	No de Folio
		No de unidades	√
1	CD		
2	DVD		
3	REVISTA		
4	LIBRO		
5	PERIODICO		
6	DISQUETES		
7	SOBRE DE MANILA		
8	SOBRE BLANCO TAMAÑO CARTA x	1	
9	SOBRE BLANCO TAMAÑO OFICIO		
10	OTROS:		

Observaciones:

contiene alta final

~~597~~
606

SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO

NIT : 800176089-2

RECIBO OFICIAL DE CAJA : 06 - 19,917
FECHA : MARZO 13 DE 2006

SUPERINTENDENCIA Y COMERCIO
Radicacion : 06838672 [illegible] Folios: 597
Fecha (AMD): 2006-03-28 17:18:12
Tramite : 811 PCT-PATENT 376 FASE NAL1 411 PRESENTAC
Dependencia: 2420 DIVISION DE NUEVAS CREACIONES

***** C O N S I G N A C I O N *****

DEPOSITANTE	TIPO PAGO	BANCO	CUENTA	No. PAGO	FECHA PGO	Vr. PAGO
CAVELIER ABOGADOS	CONSIGNACION	BANCO POPULAR	050-00110-6	49935721	13/03/2006	38,686,520.00

***** C O N C E P T O *****

CANT.	RENTISTICO	CONCEPTO	TOTAL CONCEPTO
1	50005-01-01 SOLICITUDES	1 TRAMITES DE SOL. DE PATENTE DE IN	463,000.00
		TOTAL : $	463,000.00

SON: CUATROCIENTOS SESENTA Y TRES MIL PESOS

RESPONSABLE : _____

RECIBO DE CAJA APLICADO AL EXPEDIENTE No. _____

Cdo 11969-891-003-2

607 597

SUPERINDUSTRIA Y COMERCIO
Radicacion : 08[illegible]672 [illegible]
Fecha (AMD): 2008-03-28 17:18:12 Folios: 597
Tramite : 411 PCT-PATENT 370 FASE NACI 411 PRESENTAC
Dependencia: 2801 DIVISION DE NUEVAS CREACIONES

Industria y Comercio

SUPERINTENDENCIA

Delegatura de Propiedad Industrial
División de Nuevas Creaciones

REQUISITOS NECESARIOS PARA PRESENTACIÓN Y AGILIZACIÓN DEL TRAMITE

	USUARIO	RADICADOR
PATENTE DE INVENCIÓN (✓) MODELO DE UTILIDAD ( )	( )	( )
-Indicación de que se solicita la concesión de una patente.	( )	(✓)
-Datos de identificación del solicitante o de la persona que se presenta la solicitud.	( )	(✓)
-Descripción de la invención.	( )	(✓)
-Dibujos de ser estos pertinentes.	( )	(✓)
-Comprobante de Pago de las tasas establecidas.	( )	(✓)
COMPLETA (✓) INCOMPLETA ( )	( )	( )
DISEÑO INDUSTRIAL ( )		
-Indicación de que se solicita el registro de Diseño Industrial.	( )	( )
-Datos de identificación del solicitante o de la persona que se presenta la solicitud.	( )	( )
-Representación gráfica y fotográfica del Diseño Industrial o muestra del Material que incorpora el diseño.	( )	( )
-Comprobante de Pago de las tasas establecidas.	( )	( )
COMPLETA ( ) INCOMPLETA ( )	( )	( )
ESQUEMA DE TRAZADO ( )		
-Indicación de que se solicita el registro de Diseño Industrial:	( )	( )
-Datos de identificación del solicitante o de la persona que se presenta la solicitud.	( )	( )
-Representación gráfica del Esquema Trazado.	( )	( )
-Comprobante de Pago de las tasas establecidas.	( )	( )
COMPLETA ( ) INCOMPLETA ( )	( )	( )

Firma Responsable: _____

Fecha: _____

608
594

REPUBLICA DE COLOMBIA

SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO

Bogotá,
2020

Doctor(a)
FERRERO EMILIO
Apoderado(a) y/o Representante de
MITSUI CHEMICALS, INC.

REFERENCIA	Radicación No.	6 30672
	Solicitud internacional	JP2004/012416
	Fecha inicio fase nacional	29/03/2006
	Trámite	11
	Evento	378
	Actuación	430
	Oficio No.	5644

Como resultado del examen de forma, realizado con fundamento en el artículo 38 de la Decisión 486 de la Comisión de la Comunidad Andina, artículo 27 del Tratado de Cooperación en Materia de Patentes (PCT), regla 51 bis del Reglamento y Circular Única de la Superintendencia de Industria y Comercio, se le comunica que:

1. La solicitud no contiene la copia del documento en que consta la cesión del derecho a la patente del inventor al solicitante o a su causante. (Art. 26-k) Decisión 486.

En cumplimiento de lo dispuesto por el artículo 39 de la Decisión 486, se le requiere para que dentro del término de dos meses siguientes a la fecha de notificación del presente oficio, complete los requisitos anteriormente enunciados. En caso de no dar cumplimiento al presente requerimiento, la solicitud se considerará abandonada y perderá su prelación.

Notifíquese el presente oficio conforme a lo dispuesto en el numeral 5.2, literal e) del capítulo quinto del título primero de la Circular Unica No.10 de 2001.

DORIS ELENA POLO CORDOBA
Jefe de la división de Nuevas Creaciones (E)

El anterior requerimiento fue notificado por fijación en lista de fecha 8 MAYO 2006
adpa11

26.5.06.