



Industria y Comercio
SUPERINTENDENCIA

Delegatura de Propiedad Industrial
División de Nuevas Creaciones

OK
PCT



SOLICITUD
PATENTE DE INVENCION

10-11404

21. EXPEDIENTE No.

54. TÍTULO

TPIAZOLOFIFILINA CETONAS HERBICIDAS

51. CLASIFICACIÓN INTERNACIONAL

71. SOLICITANTE

BAYER CROPSCIENCE AG

DOMICILIO

MONHEIM, ALEMANIA

74. APODERADO

OSCAR CORREA

C.C. 79.524.634 de Bogotá

22. BOGOTÁ, D.C.,

**Industria y Comercio**

SUPERINTENDENCIA

PETITORIO

SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO



No. 10-011404- -00000-0000

Fecha: 2010-02-03 17:01:19 Dep. 2020 DIR.NUEVASCR
Tra. 11 PATENTE/II Evs: 379 FASENACIONALII
Act. 411 PRESENTACION Folios: 536**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: **BAYER CROPSCIENCE AG**
Sociedad constituida y existente bajo las
leyes de Alemania.Dirección: Alfred-Nobel-Strasse 50,
40789 Monheim,
AlemaniaDomicilio: Monheim,
Alemania**IDENTIFICACIÓN**C.C. ☐ NIT ☐C.E. ☐ Otro ☐

Cual _____

Número _____

3

**REPRESENTANTE
O APODERADO**Nombre: **OSCAR CORREA**
Dirección: Carrera 4ª. No. 72-35
Teléfono: 347 36 11
Fax: 211 86 50
E-mail: clientes@cavelier.com
Domicilio: Bogotá, Colombia.**IDENTIFICACIÓN**C.C. ☒ NIT ☐C.E. ☐ Otro ☐

Cual _____

Número 79.524.634 T.P 71.027

4

**INVENTOR (ES)
(72)****1. Andreas VAN ALMSICK**Am Braul 4b,
61184 Karben,
Alemania**3. Yoshitaka SATO**2-10-10 Toyosatonomori,
Tsukuba-city,
Ibaraki-pref. 300-2648,
Japón**5. Koichi ARAKI**2-4-39, Kamiya,
Ushiku-shi,
Ibaraki 300-1216,
Japón**7. Seiji UKAWA**6-18-5 Nishijonan,
Oyama-shi,
Tochigi 323-0820,
Japón**9. Chieko UENO**7-2-1, Joto,
Oyama-shi,
Tochigi 323-0807,
Japón**2. Shinichi NARABU**13550, Yuki, Oazai,
Yuki-shi,
Ibaraki 307-0001,
Japón**4. Kei DOMON**1361, I-201, Yokokura,
Oyama-shi 323-0813,
Japón**6. Shinichi SHIRAKURA**2-6-3, Ekihighashidouri,
Oyama-shi,
Tochigi 323-0022,
Japón**8. Teruyuki ICHIHARA**1-15-14-201, Ekiminami-cho,
Oyama-shi,
Tochigi 323-0822,
Japón

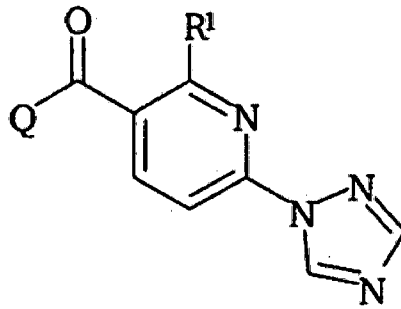
5

PCT (86)Solicitud Internacional No. PCT/EP2008/006063Fecha: 24 de julio de 2008Publicación Internacional No. WO 2009/018925 A8Fecha: 12 de febrero de 2009

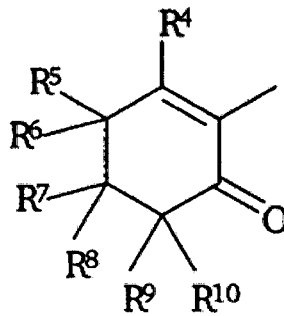
6	Título (54) TRIAZOLILPIRIDINA CETONAS HERBICIDAS		
7	Clasificación Internacional (51) <u>C07D 401/004</u> <u>A01N 43/653, 43/80</u> <u>C07D 413/14</u>		
8	Prioridad SI ☒ NO ☐	(33) País de Origen <u>JP</u>	(32) Fecha <u>3 de agosto de 2007</u>
			(31) Número de Solicitud <u>2007-202808</u>
9	Comprobante de pago No.: <u>10-7.882</u> Fecha: <u>1 de febrero de 2010</u>		
10	Anexos: ☒ Comprobante de pago de la tasa de presentación de la solicitud por \$ 554.000.00. ☐ Comprobante de pago por reivindicaciones adicionales después de la décima reivindicación por ☒ 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



Formula (I)



Formula (Q1)

12

Solicito la concesión de la patente,

NOMBRE: OSCAR CORREA

FIRMA :

C.C. 79.524.634 de Bogotá T.P. 71.027

DOCUMENTOS ANEXOS

1. ☒ Publicación Internacional WO 2009/018925 A8

Descripción:

Páginas 244 en el idioma original

Páginas 247 en español

Reivindicaciones: Número (s) 4

Figuras: Número (s)

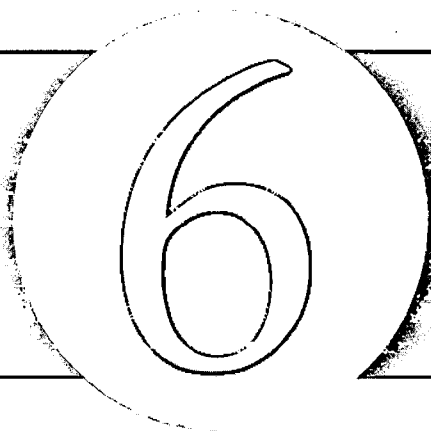
2. ☒ **Forma PCT/ISA/210.** Informe de Búsqueda Internacional.

3. ☒ **Forma PCT/IB/306.** Notificación de la inscripción del cambio en la dirección del inventor
Shinichi SHIRAKURA.

4. ☒ Extracto de publicación.

**NO SE REALIZARON MODIFICACIONES EN LA
FASE INTERNACIONAL**

Notaría
Sexta



DEL CIRCULO DE BOGOTA, D.C.

COPIA NUMERO 4

DE LA ESCRITURA NUMERO:
FECHA: 07/Diciembre/2009

6525

ACTO O CONTRATO:
PODER GENERAL
OTORGANTES:
CAVELIER ABOGADOS
RUSA MARGARITA SANTA CRUZ



AMPARO QUINTERO ARTURO

NOTARIA SEXTA

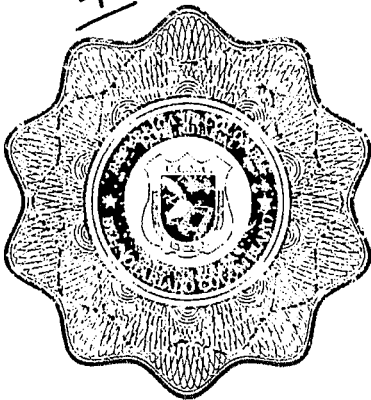
CARRERA 9 No. 69-31 - PBX: 317 01 00 - FAX: 314 56 41

Correo Electrónico: notaria6debgta@etb.net.co

4

1

AA 42357973



ESCRITURA PUBLICA NUMERO 6525

SEIS MIL QUINIENTOS VEINTICINCO

FECHA: DICIEMBRE SIETE (07)

DEL AÑO DOS MIL NUEVE (2009)

NOTARIA SEXTA (6ª) DE BOGOTA

D.C.

CLASE DE ACTO: PODER ESPECIAL

RAZON SOCIAL: CAVELIER ABOGADOS NIT: 860.041.367-3

En la ciudad de Bogotá, Distrito Capital, ante mí AMPARO QUINTERO

ARTURO %%% % % % % % - - - - -Notaria Sexta (6a) - - - - - de

éste Círculo Notarial, se otorgó la escritura pública que se consigna en los siguientes términos: - - - - -

CONSTANCIA SOBRE COMPARECENCIA Y DECLARACIONES ANTE EL NOTARIO: - - - - -

COMPARECIO: Con minuta (correo electrónico) compareció el señor

CARLOS ALBERTO GALLÓN GIRALDO, mayor de edad, vecino de esta ciudad, casado, identificado con la cédula de ciudadanía No. 19.066.425 de Bogotá, y dijo: - - - - -

ESTIPULACIONES:

PRIMERA. Que obra en su calidad de representante legal de la sociedad denominada CAVELIER ABOGADOS, NIT: 860.041.367-3 domiciliada en la Carrera 4 No. 72-35, Bogotá, Colombia. - - - - -

SEGUNDA: Que BAYER CROPSCIENCE AG, sociedad constituida y existente bajo las leyes de Alemania, domiciliada en Alfred-Nobel-Strasse 50, 40789 Monheim, Alemania, designó a CAVELIER ABOGADOS como su representante para la Propiedad Industrial en Colombia con facultades de nombrar apoderados tal como consta en la copia auténtica del documento de representación que se protocoliza.

TERCERA. Que en su carácter de representante legal de CAVELIER ABOGADOS, y en desarrollo de la facultad otorgada por BAYER CROPSCIENCE AG, confiere poder a los abogados OSCAR FERNANDO CORREA BARBOSA, T.P.A. No. 71.027, identificado con



cédula de ciudadanía número 79.524.634 de Bogotá, **ROSA MARGARITA SANTACRUZ**, T.P.A. No. 49.434, identificada con cédula de ciudadanía número 35.501.911 de Suba (Bogotá, D.E.), **LUZ CLEMENCIA DE PAEZ**, T.P.A. No. 23.555, identificada con cédula de ciudadanía número 35.456.344 de Usaquén y **GERMAN HUMBERTO MARIN RUALES**, T.P.A. No. 64.239, identificado con cédula de ciudadanía número 79.155.665 de Bogotá, mayores de edad, vecinos de Bogotá, para que representen a la sociedad a cuyo nombre actúa, ante cualesquiera entidades o personas, ejerzan o no jurisdicción, incluyendo 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, diseños industriales, trazado de circuitos integrados, secretos industriales; el registro de marcas de fábrica, colectivas, defensivas, de servicio, lemas comerciales, nombres comerciales, enseñas, variedades vegetales, denominaciones de origen e indicaciones de procedencia, 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, cancelación administrativa o judicial, nulidad, medidas cautelares, concesión de licencias, la tutela, la protección de secretos industriales y de nombres de dominio junto con su administración y pago; y en general los procesos civiles, penales, administrativos o contencioso-administrativos, de conciliación, arbitramento, tutela relacionados con estos derechos; acciones y procesos que promovamos o se nos promuevan. **CUARTO.** Que los apoderados designados están facultados en todos los asuntos arriba determinados para sustituir este mandato, transigir, conciliar, arbitrar, admitir los hechos del proceso, desistir, cancelar, recibir, renunciar y ratificar los actos de agentes oficiosos. **QUINTO.** Que protocoliza con la presente escritura, un certificado expedido por la Cámara de Comercio de Bogotá, que acredita la constitución y personería de la sociedad

4/20

400

12849

REPRESENTACION

REPRESENTATION

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

BAYER CROPSCIENCE AG

domiciliado (s) Alfred-Nobel-Strasse 50, 40789
en/of Monheim, Germany

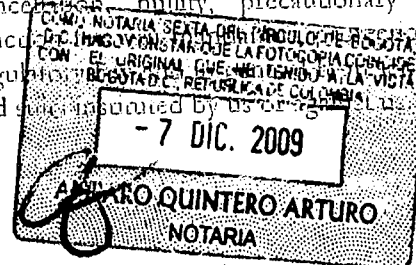
Por el presente nombramos a CAVELIER ABOGADOS, sociedad colectiva constituida de conformidad con las leyes de la República de Colombia, mediante Escritura Pública No. 6233 del 10 de septiembre de 1974, otorgada en la Notaría Sexta del Círculo de Bogotá, domiciliada en Bogotá D.C., con matrícula mercantil No. 00820237 y NIT 860041367-3, domiciliada en la Carrera 4a N° 72-35, Bogotá, Colombia, como nuestra representante en todos los asuntos de Propiedad Industrial, con facultad para recibir notificaciones y nombrar apoderados judiciales o extrajudiciales.

CAVELIER ABOGADOS también podrá representarnos, con las mismas facultades arriba indicadas, ante cualesquiera entidades o personas, ejerzan o no jurisdicción, autoridades administrativas o jurisdiccionales, tribunales de arbitramento, en asuntos de naturaleza civil, comercial, penal, constitucional, competencia, competencia desleal, administrativa, contencioso administrativa, protección del consumidor, variedades vegetales, nombres de dominio, oposiciones u observaciones, cancelación administrativa y judicial, nulidad, medidas cautelares, concesión de licencias, acciones de tutela, la protección de secretos industriales, derecho regulatorio y en general para que nos represente en cualesquiera acciones y procesos que promovamos o se nos promuevan.

La representante podrá, en nuestro nombre, designar apoderados para actuar ante autoridades administrativas y judiciales, por vía extrajudicial y también procesalmente en nuestro nombre, como demandantes, como demandados, como litisconsortes, como agentes oficiosos, como terceros, por llamamiento en garantía o como intervinientes ad excludendum. Dentro de esta autorización, la representante podrá facultar a los apoderados que ella designe para transigir, conciliar, admitir los hechos del proceso, desistir, cancelar, recibir, renunciar y sustituir el poder que se le otorgue. Así

Do hereby appoint CAVELIER ABOGADOS, a general partnership organized under the laws of the Republic of Colombia by means of Public Deed No. 6233 of September 10, 1974, granted at Notary Sixth of the Bogota Circuit, domiciled in Bogota D.C., with Mercantile Registration No. 00820237 and Taxpayer Identification Number 860041367-3, domiciled at Carrera 4a N° 72-35, Bogota, Colombia, as our representative for all Industrial Property matters with faculty to receive notifications and appoint attorneys in and out of Court.

CAVELIER ABOGADOS may also represent us, with the same faculties stated above, before any entities or persons, with or without jurisdiction, administrative or jurisdictional authorities, courts of arbitration, in civil, commercial, criminal, constitutional, competition, unfair competition, administrative, administrative contentious, consumer protection, plant varieties, domain names, opposition or observation matters, administrative and Court cancellation, nullity, precautionary measures, licensing, actions of trade secrets, regulatory actions and suits assumed by us or against us in any



The representative may, in our name, designate attorneys to act before administrative and judicial authorities, through out-of-court channels, and also procedurally in our name as plaintiff, defendant, joint litigant, representative without power of attorney, third party, when summoned to appear in court or as intervener ad excludendum. Under this authorization, the representative may empower the attorneys appointed thereby to compromise, conciliate, admit the facts of the case, desist, cancel, receive, resign and substitute power of attorney granted thereto. Likewise



smo, la representante tendrá la facultad para revocar
poder así otorgado en el momento que considere
 pertinente. La representante en todo caso podrá ratificar
os actos de agentes oficiosos.

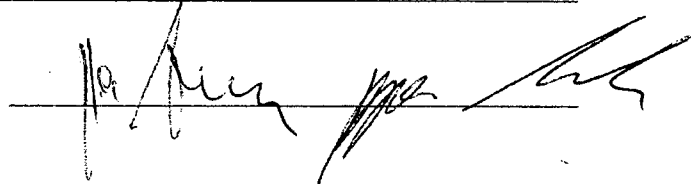
representative shall have the faculty of revoking the
power of attorney thus granted at any time it may deem
convenient. The representative may in any case ratify the
acts of representatives without a power of attorney.

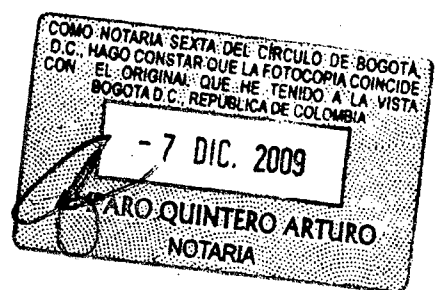
Dado y firmado hoy/Given and signed this _____

En/in _____

Por/by _____

Firma/Signature





BCS 07 1013-F PCT-CO

001000

URNr. 1868/2009

1. I certify that the individuals, named

- Mr. Dr. Ralf-Rüdiger Jesse, business address : D - 40789 Monheim, Alfred-Nobel-Straße 50 (Building 6100), Germany,
- Mr. Dr. Alexander Nowak, business address : D - 40789 Monheim, Alfred-Nobel-Straße 50 (Building 6100), Germany,

appeared before me and executed the foregoing document and signed personally

- personally known to me -.

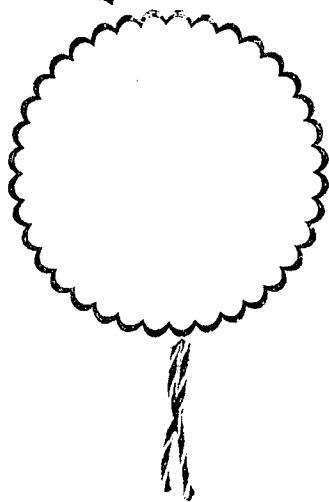
I further confirm that Mr. Dr. Ralf-Rüdiger Jesse and Mr. Dr. Alexander Nowak are authorised representatives of Bayer CropScience Aktiengesellschaft in Monheim and having today inspected the commercial register of the local court in Düsseldorf, are recorded in Section B 46985 as authorised representatives.

2. Ich beglaube die vor mir vollzogenen Unterschriften von:

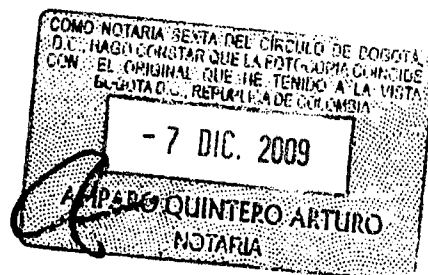
- Herrn Dr. Ralf-Rüdiger Jesse, geschäftsansässig in D - 40789 Monheim, Alfred-Nobel-Straße 50 (Building 6100), Bundesrepublik Deutschland,
- Herrn Dr. Alexander Nowak, geschäftsansässig in D - 40789 Monheim, Alfred-Nobel-Straße 50 (Building 6100), Bundesrepublik Deutschland,

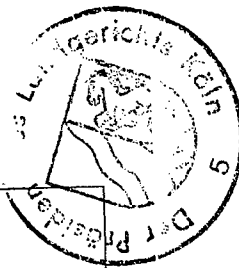
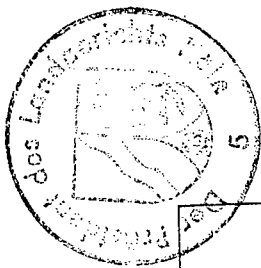
Ich bescheinige aufgrund Einsicht vom heutigen Tage in das Handelsregister des Amtsgerichts Düsseldorf - HRB 46985 -, dass Herr Dr. Ralf-Rüdiger Jesse und Herr Dr. Alexander Nowak berechtigt sind, die Bayer CropScience Aktiengesellschaft in Monheim am Rhein als Prokuristen einzeln zu vertreten.

Leverkusen, den 4. November 2009



Klaus Striewski
(Notar in Leverkusen)





APOSTILLE

(Convention de La Haye du 5 octobre 1961)

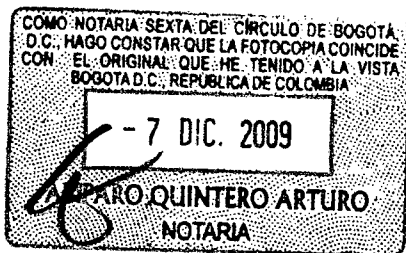
1. Land: Bundesrepublik Deutschland

Diese öffentliche Urkunde
2. ist unterschrieben von Klaus Striewski
3. in seiner Eigenschaft als Notar
4. sie ist versehen mit dem Siegel
des Notars Klaus Striewski in Leverkusen
Bestätigt

5. in Köln
6. am 17.11.2009
7. durch den Vizepräsidenten des Landgerichts
8. unter Nr.: 5596/09
9. Stempel:

10. Unterschrift:

Dr. Dumke
Dr. Dumke



Kostenberechnung

§ 141, 154 KostO.

Wert: EUR 3.000,-	
Geb. § 32, 65 (1)	EUR 10,00
Geb. § 33, 68	EUR 10,00
Geb. § 34	EUR 13,00
Umsatzsteuer	EUR 6,23
§ 151a, 19	% EUR 6,23
	Zus. EUR 39,23

Notar: Striewski, Notar

La presente traducción oficial No. 0149/09 fue elaborada por Hernando Torres Barrera, Traductor e Intérprete Oficial, según Resolución 01305 de 1998 del Ministerio de Justicia y del Derecho.

A continuación se traducen una certificación notarial y una apostilla en alemán, que acompañan a un DOCUMENTO DE REPRESENTACIÓN.

Protocolo Notarial No. 1868/2009

1) Certifico la autenticidad de las firmas, puestas en mi presencia, de:

- el señor Dr. Ralf-Püdiger Jesse, con domicilio profesional en D - 40789 Monheim, Alfred-Nobel-Straße 50 (Building 6100), República Federal de Alemania,
- el señor Dr. Alexander Nowak, con domicilio profesional en D - 40789 Monheim, Alfred-Nobel-Straße 50 (Building 6100), República Federal de Alemania,
- a quienes conozco personalmente -.

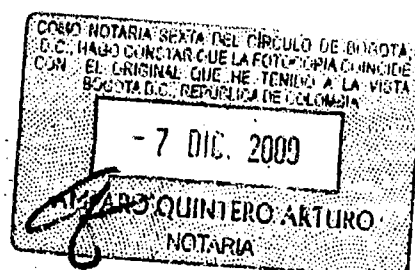
Con base en la inspección realizada por mí en la fecha del Registro Mercantil en el juzgado municipal de Düsseldorf - HRP 46965 -, hago constar que el señor Dr. Ralf-Püdiger Jesse y el señor Dr. Alexander Nowak están autorizados, en su calidad de apoderados generales, a representar individualmente a la Bayer CropScience Aktiengesellschaft en Monheim.

Leverkusen, 4 de noviembre de 2009.

HILO Y SELLO EN ALTO RELIEVE: KLAUS STRIEWSKI * NOTARIO EN LEVERKUSEN *


Klaus Striewski
(Notario en Leverkusen)


HERNANDO TORRES BARRERA
TRADUCTOR E INTERPRETE OFICIAL
RES. No. 1305 MINJUSTICIA 1998

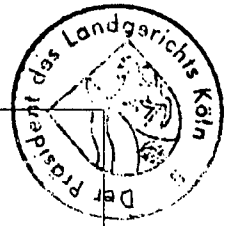


L'ESPACIO

EN

BLANCO

33



APOSTILLA

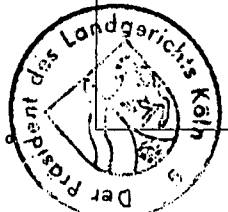
(Convention de la Hays du 5 octobre 1961)

1. País: **República Federal de Alemania**
Este documento público
2. está firmado por **Klaus Striewski**
3. en su calidad de **Notario**
4. lleva el sello del
Notario Klaus Striewski en Leverkusen

Certificado

5. en **Colonia**
6. el 17 de noviembre de 2009
7. por el **Vicepresidente del Tribunal Regional de Colonia**
8. bajo el No. 5596/09
9. Sello/timbre
10. Firma

Dr. Dumke



SELLO: EL PRESIDENTE DEL TRIBUNAL REGIONAL DE COLONIA

Cálculo de Gastos Notariales

§§ 141, 154 RostD (Reglamento de Gastos Notariales)

Valor: EUROS 3.000,--

Tasas §§ 32, 45 (1)	EUROS	10,00
Tasas §§ 58	EUROS	10,00
Tasas § 150		13,00
IVA		33,00
§ 151a, 19	%	EUROS 6,27
Total	EUROS	39,27

Firmado: Striewski, Notario

HERNANDO TORRES BARRERA
TRADUCTOR E INTERPRETE OFICIAL
RES. No. 1305 MINJUSTICIA 1998

Bogotá, D.C., 2 de diciembre de 2009

COMO NOTARIA SEXTA DEL CIRCULO DE BOGOTA D.C. HAGO CONSTAR QUE LA FOTOCOPIA COINCIDE CON EL ORIGINAL QUE HE TENIDO A LA VISTA BOGOTA D.C. REPUBLICA DE COLOMBIA
- 7 DIC. 2009
ARTURO QUINTERO ARTURO
NOTARIA

NOTARIA SEXTA
DE BOGOTA



01



* 3 7 3 7 4 5 3 6 *

CAMARA DE COMERCIO DE BOGOTA

SEDE CHAPINERO

23 DE NOVIEMBRE DE 2009

HORA 11:02:25

09NLA1123120

PAGINA: 1 de 3

CERTIFICADO DE EXISTENCIA Y REPRESENTACION LEGAL O INSCRIPCION DE DOCUMENTOS

CERTIFICA:

NOMBRE : CAVELIER ABOGADOS
N.I.T. : 860041367-3
DOMICILIO : BOGOTA D.C.

CERTIFICA:

NO: 00820237

CERTIFICA:

CONSTITUCION : QUE POR ESCRITURA PUBLICA NO. 0006233 DE NOTARIA SEXTA DE BOGOTA D.C. DEL 10 DE SEPTIEMBRE DE 1974 , INSCRITA EL 26 DE SEPTIEMBRE DE 1974 BAJO EL NUMERO 00021234 DEL LIBRO IX, SE CONSTITUYO LA SOCIEDAD CIVIL DENOMINADA: CAVELIER PERDOMO Y CAVELIER.

CERTIFICA :

QUE POR ESCRITURA PUBLICA NO. 0001000 DE NOTARIA SEXTA DE BOGOTA D.C. DEL 10 DE MARZO DE 1983 , INSCRITA EL 5 DE ABRIL DE 1983 BAJO EL NUMERO 00130769 DEL LIBRO IX, LA SOCIEDAD CAMBIO SU NOMBRE DE : CAVELIER PERDOMO Y CAVELIER. POR EL DE : CAVELIER ABOGADOS

CERTIFICA:

QUE POR ESCRITURA PUBLICA NUMERO 1.000 OTORGADA EN LA NOTARIA 6A. DE BOGOTA EL 10 DE MARZO DE 1.983, INSCRITA EN ESTA CAMARA DE COMERCIO EL 5 DE ABRIL DE 1.983 BAJO EL NUMERO 130769 DEL LIBRO IX, LA SOCIEDAD CAMBIO SU NOMBRE DE: CAVELIER PERDOMO Y CAVELIER, POR EL DE: CAVELIER ABOGADOS, E INTRODUJO OTRAS REFORMAS.

CERTIFICA:

CERTIFICA

QUE POR E.P.NO. 2.034 DE LA NOTARIA 6 DE SANTAFE DE BOGOTA DEL 18 DE ABRIL DE 1.995, INSCRITA EL 27 DE ABRIL DE 1.995 BAJO EL NO. 5.937 DEL LIBRO XIII, LA SOCIEDAD TRASLADO SU DOMICILIO DE LA CIUDAD DE SANTAFE DE BOGOTA D.C. AL MUNICIPIO DE TABIO (CUNDINAMARCA) .-.

CERTIFICA:

QUE POR ESCRITURA PUBLICA NO. 7710 DE LA NOTARIA SEXTA DE BOGOTA DEL 10 DE OCTUBRE DE 1984, INSCRITA EL 15 DE NOVIEMBRE DE 1984 BAJO EL NO. 1559 DEL LIBRO XIII, LA SOCIEDAD CAMBIO SU NATURALEZA JURIDICA DE SOCIEDAD COMERCIAL A SOCIEDAD CIVIL.

CERTIFICA:

REFORMAS:

ESCRITURAS NO.	FECHA	NOTARIA	INSCRIPCION
842	10-V-1.977	18. PTA.	27-V-1.977-NO. 46.204
3.420	1-VII-1.980	6A. PTA.	3-IX-1.980-NO. 89.582
4.844	10-IX-1.980	6A. PTA.	8-X-1.980-NO. 91.261
432	10-II-1.983	6A. PTA.	1-III-1.983-NO.129.337

COMO NOTARIA SEXTA DEL CIRCULO DE BOGOTA D.C. HAGO CONSTAR QUE LA FOTOCOPIA COINCIDE CON EL ORIGINAL QUE HE TENIDO A LA VISTA BOGOTA D.C. REPUBLICA DE COLOMBIA

7 DIC. 2009

ARTURO QUINTERO ARTURO
NOTARIA



7.710	10-X-1.984	6A. BTA.	15-XI-1.984-NO.	1.559
7.305	21-X-1.985	6A. BTA.	18-XI-1.985-NO.	1.906
2.567	29-IV-1.987	6A. BTA.	7-V- 1.987-NO.	2.386
4.278	3-VII-1.987	6A. BTA.	23-VII-1987 NO.	215.652
2.657	25- IV-1.988	6A. BTA.	19- V -1988-NO.	2,740
9.033	21-XII-1.990	6A. BTA.	10- I - 1991-NO.	3.786
25	3- I -1.991	6A. BTA.	10- I - 1991-NO.	3.787
1.608	8-III-1.991	6A. BTA.	14-III- 1991-NO.	3.841
2.155	2-IV- 1.991	6A. BTA.	8-IV - 1991-NO.	3.862
797	7-II -1.991	6A. BTA.	7- V -1991-NO.	3.882
1.739	14-III-1.991	6A. BTA.	7- V -1991-NO.	3.881
5.886	21-VIII-1.991	6A. BTA.	27-VIII-1991 NO.	4.019
8.596	4-XII -1.991	6A. BTA.	16-III -1992 NO.	4.430
1.494	10-III -1.992	6A. BTA.	19-III -1992 NO.	4.436
4.205	8 -VII -1.992	6A. BTA.	15-VII -1992 NO.	4.554
8.829	16-XII -1.992	6A. BTA.	24-XII -1992 NO.	4.819
12	5-I -1.993	6 STAFE BTA	13-I -1993 NO.	4.850
4.877	29-VI -1.993	6 STAFE BTA	7-VII -1993 NO.	5.065
5.216	12-VII -1.993	6 STAFE BTA	16-VII -1993 NO.	5.077
ACTA NO.71	2-IX- 1.993	JUNTA DE SOCIOS	29-IX- 1993 NO.	5.174
2.034	18-IV- 1.995	6 STAFE BTA	27- IV -1995 NO.	5.937
2.227	25-IV-1.995	6 STAFE BTA	18-VIII-1.995 NO.	6.092
7.594	12-XII-1.995	6 STAFE BTA	19- XII-1.995 NO.	6.294
676	11- II-1.997	6 STAFE BTA	14- II -1.997 NO.	6.873

CERTIFICA:

REFORMAS:

E. P.	NO.	FECHA	NOTARIA	CIUDAD	FECHA	NO. INSC.
0004506	1997/07/28	0006	BOGOTA	D.C.	1997/09/02	00007115
0002103	1998/04/08	0006	BOGOTA	D.C.	1998/04/21	00007426
0005326	1998/08/06	0006	BOGOTA	D.C.	1998/08/13	00007544
0005538	1998/08/14	0006	BOGOTA	D.C.	1998/08/27	00007564
0007760	1998/11/10	0006	BOGOTA	D.C.	1998/11/12	00007644
0006709	1997/11/04	0006	BOGOTA	D.C.	2000/12/04	00008481
0003034	2003/05/30	0006	BOGOTA	D.C.	2003/06/04	00882729
0003786	2004/07/16	0006	BOGOTA	D.C.	2004/07/28	00009703
0001433	2005/03/18	0006	BOGOTA	D.C.	2005/04/07	00009917
0000550	2005/08/26	0006	BOGOTA	D.C.	2005/08/26	00010008
0000550	2007/07/24	0006	BOGOTA	D.C.	2007/07/24	00010841
5453	2009/10/19	0006	BOGOTA	D.C.	2009/10/21	00012243

CERTIFICA:

VOLENCIA QUE LA SOCIEDAD NO SE HALLA DISUELTA. DURACION HASTA EL 30 DE SEPTIEMBRE DE 2024 .

CERTIFICA:

OBJETO SOCIAL: LA SOCIEDAD TENDRA POR OBJETO : EL EJERCICIO DE LA ACTIVIDAD PROFESIONAL DE ABOGADOS. EN DESARROLLO DE ESTE OBJETO LA SOCIEDAD PODRA ADQUIRIR, CONTRAER OBLIGACIONES Y CELEBRAR TODA CLASE DE CONTRATOS DIRECTAMENTE RELACIONADOS Y SUBORDINADOS AL MISMO, INCLUSIVE LOS DE ARRENDAMIENTO, HIPOTECA, MUTUO CON O SIN INTERES, MANDATO CIVIL Y COMERCIAL, Y SOCIEDAD, ASI COMO PARTICIPAR EN ASOCIACIONES CIENTIFICAS, GREMIALES O PROFESIONALES SIN ANIMO DE LUCRO.

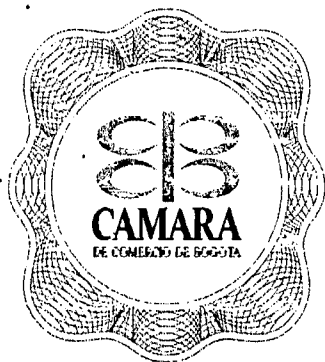
CERTIFICA:

CAPITAL Y SOCIOS: \$10,000.00 DIVIDIDO EN 10,000.00 CUOTAS CON VALOR NOMINAL DE \$1.00 CADA UNA, DISTRIBUIDO ASI :

- SOCIO CAPITALISTA (S)

ASOCIACION CAVELIER DEL DERECHO

N.I.T. 000008001722568



01



* 8 7 3 7 4 5 3 7 *

CAMARA DE COMERCIO DE BOGOTA

SEDE CHAPINERO

23 DE NOVIEMBRE DE 2009

HOPA 11:02:25

09NLA1123120

PAGINA: 2 de 3

NO. CUOTAS: 8,800.00	VALOR: \$8,800.00
GAUDEBERT DE CAVELIER AGNES JEANNE	C.E. 000000000131100
NO. CUOTAS: 1,200.00	VALOR: \$1,200.00
- SOCIO INDUSTRIAL (S)	
CHAVARRO JORGE	C.C. 000000016209380
NO. CUOTAS: 0.00	VALOR: \$0.00
SUAREZ DE PAEZ LUZ CLEMENCIA	C.C. 000000035456344
NO. CUOTAS: 0.00	VALOR: \$0.00
PEÑA VALENZUELA DANIEL	C.C. 000000079518915
NO. CUOTAS: 0.00	VALOR: \$0.00
MARIN PUALES GERMAN HUMBERTO	C.C. 000000079155665
NO. CUOTAS: 0.00	VALOR: \$0.00
TOTALES	
NO. CUOTAS: 10,000.00	VALOR: \$10,000.00

CERTIFICA:

QUE POR ESCRITURAS PUBLICAS NO. 001431 Y 001432 DEL 18 DE MARZO DE 2005 DE LA NOTARIA 06 DE BOGOTA D.C., INSCRITA EL 07 DE ABRIL DE 2005 BAJO EL NO. 0009918 Y 0009917, RESPECTIVAMENTE DEL LIBRO XIII, DE LAS MIL DOSCIENTAS (1200) PARTES DE INTERES SOCIAL RADICADAS EN CABEZA DE AGNES GAUDEBERT DE CAVELIER, SEISCIENTAS (600) PARTES ESTAN GRAVADAS O AFECTADAS EN PROPIEDAD FIDUCIARIA A FAVOR DE LAS SIGUIENTES PERSONAS: GERMAN CAVELIER FRANCO, ERNESTO CAVELIER FRANCO, JORGE CAVELIER FRANCO, INES CAVELIER FRANCO, GUILLERMO CAVELIER FRANCO, ELENA CAVELIER FRANCO, ALEJANDRO CAVELIER FRANCO, BEATRIS CAVELIER FRANCO, Y LUCIA CAVELIER FRANCO.

CERTIFICA:

REPRESENTACION LEGAL: EL REPRESENTANTE LEGAL ES EL DIRECTOR. EL SOCIO FUNDADOR GERMAN CAVELIER GAVIRIA TENDRA EL CARACTER DE PRESIDENTE DIRECTOR VITALICIO, PARTICIPARA POR DERECHO PROPIO EN EL CONSEJO SUPERIOR Y EN EL CONSEJO DIRECTIVO Y LLEVARA LA REPRESENTACION LEGAL DE LA SOCIEDAD CUANDO LO ESTIME PERTINENTE SIN LIMITACION ALGUNA. IGUAL PARTICIPACION Y ATRIBUCIONES TENDRA SU SUPLENTE AGNES GAUDEBERT DE CAVELIER CUANDO OCUPE EL CARGO, EN CASO DE FALTA ABSOLUTA DE GERMAN CAVELIER GAVIRIA. LOS SOCIOS COLECTIVOS ESTAN AUTORIZADOS PARA EJERCER LA REPRESENTACION DE LA SOCIEDAD EN CUALQUIER TIEMPO, SIN PERJUICIO DE LAS DELEGACIONES CONFERIDAS A LOS ORGANOS CREADOS POR LOS PRESENTES ESTATUTOS

CERTIFICA:

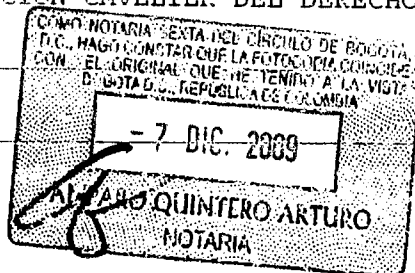
** NOMBRAMIENTOS **

QUE POR NO. 12 DE JUNTA DE SOCIOS DEL 14 DE AGOSTO DE 2009, INSCRITA EL 24 DE SEPTIEMBRE DE 2009 BAJO EL NUMERO 00012200 DEL LIBRO XIII, FUE (PON) NOMBRADO (S):

NOMBRE

IDENTIFICACION

DIRECTOR (REPRESENTANTE LEGAL DE LA ASOCIACION CAVELIER DEL DERECHO)



C.C. 000000019066425

NOMBRE

IDENTIFICACION

CAVELIER GAVIRIA GERMAN

C.C. 000000002877924

GAUDEBERT DE CAVELIER AGNES JEANNE

C.E. 0000000000131100

CERTIFICA:

FACULTADES DEL REPRESENTANTE LEGAL: APARTE DE LAS FACULTADES Y DEBERES QUE DE TIEMPO EN TIEMPO SE LE ASIGNEN POR EL CONSEJO SUPERIOR, EL DIRECTOR TENDRA LAS SIGUIENTES FUNCIONES : A) LA DE REPRESENTAR LEGALMENTE A LA SOCIEDAD ANTE LAS AUTORIDADES DE CUALQUIER ORDEN O NATURALEZA Y ANTE OTRAS PERSONAS NATURALES O JURIDICAS, CON FACULTADES PARA NOVAR, TRANSIGIR, COMPROMETER Y DESISTIR Y PARA COMPARECER EN JUICIOS INCLUSIVE EN AQUELLOS EN DONDE SE DISPUTE LA PROPIEDAD DE BIENES INMUEBLES; B) CUMPLIR Y HACER CUMPLIR LOS ESTATUTOS Y REGLAMENTOS DE LA SOCIEDAD; Y C) CREAR O SUPRIMIR TODOS LOS EMPLEOS QUE SEAN NECESARIOS DE ACUERDO CON EL CONSEJO SUPERIOR PARA EL BUEN FUNCIONAMIENTO DE LA SOCIEDAD, ASIGNARLES FUNCIONES, FIJAR SUS SALARIOS Y NOMBRAR LAS PERSONAS QUE DEBAN DESEMPEÑARLOS, ASI COMO RETIRARLOS Y REEMPLAZARLOS CUANDO HAYA LUGAR. CUANDO CUALQUIERA DE LOS ACTOS INDICADOS EN LA CLAUSULA ANTERIOR SE REFIERA A OPERACIONES CUYO MONTO EXCEDA DE LA SUMA EQUIVALENTE A CIENTO OCHENTA (180) SALARIOS MINIMOS MENSUALES, SU CELEBRACION REQUERIRA LA APROBACION PREVIA DEL CONSEJO SUPERIOR.

CERTIFICA:

★★ REVISOR FISCAL ★★

QUE POR ACTA NO. 0000071 DEL 2 DE SEPTIEMBRE DE 1993, INSCRITA EL 29 DE SEPTIEMBRE DE 1993 BAJO EL NUMERO 00005175 DEL LIBRO XIII, FUE (RON) NOMBRADO (S):

(RON) NOMBRADO (S) :

IDENTIFICACION

COMO NOTARIA SEXTA DEL CIRCULO DE BOGOTA
D.C. HAGO CONSTAR QUE LA FOTOCOPIA COINCIDE
CON EL ORIGINAL QUE FUE LEIDO A LA VISTA
BOGOTA D.C. REPUBLICA DE COLOMBIA

RINCON FANDINO MIGUEL ALFONSO

C.C. 000000002877024

CERTIFICA:

DE CONFORMIDAD CON LO ESTABLECIDO POR LA LEY 962 DE 2005, LOS ACTOS DE
EDUARDO QUINTERO ARTURO CERTIFICADOS QUEDAN EN FIRME CINCO (5) DIAS HABILES
DESPUES DE LA FECHA DE INSCRIPCION, SIEMPRE QUE NO SEAN OBJETO DE
RECURSOS EN LA VIA GUBERNATIVA.

* * * EL PRESENTE CERTIFICADO NO CONSTITUYE PERMISO DE
* * * FUNCIONAMIENTO EN NINGUN CASO

EL SECRETARIO DE LA CAMARA DE COMERCIO,

[illegible]



01



* 8 7 3 7 4 5 3 8 *

CAMARA DE COMERCIO DE BOGOTA

SEDE CHAPINERO

23 DE NOVIEMBRE DE 2009

HORA 11:02:25

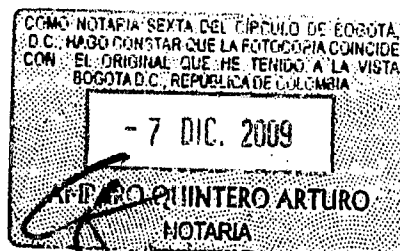
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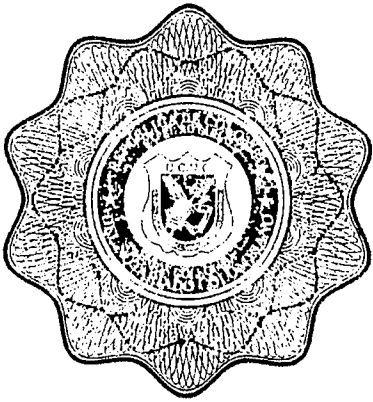
PAGINA: 3 de 3

VALOR : \$ 3,500

DE CONFORMIDAD CON EL DECRETO 2150 DE 1995 Y LA AUTORIZACION IMPARTIDA POR LA SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO, MEDIANTE EL OFICIO DEL 18 DE NOVIEMBRE DE 1996, LA FIRMA MECANICA QUE APARECE A CONTINUACION TIENE PLENA VALIDEZ PARA TODOS LOS EFECTOS LEGALES

Esteban R





CAVELIER ABOGADOS, igualmente
protocoliza copia autenticada del documento
de representación otorgado el día 4 de
noviembre de 2009 -----
por la Sociedad **BAYER CROPSCIENCE**
AG, documento que está debidamente

legalizado por Apostille. -----

Presente el señor **CARLOS ALBERTO GALLÓN GIRALDO**, domiciliado
en Bogotá, identificado como aparece al pie de su firma y manifestó que
está conforme con el contenido de esta escritura pública. -----

HASTA AQUI LA MINUTA

OTORGAMIENTO Y AUTORIZACION : Leída la presente escritura
pública por el Compareciente y habiéndosele hecho las advertencias
sobre los trámites y formalidades de rigor le impartió su aprobación y en
constancia la firma por ante mí el Notario que AUTORIZA.

DERECHOS NOTARIALES : RESOLUCION 9500 del 31 de diciembre
año 2003, \$ 41.610 ✓ ----- IVA. \$ 18,426 ✓ -----

PAPEL NOTARIAL : Esta escritura se extendió en las hojas de papel
sellado números : AA- 42357973 ✓ - 42357546 ✓ -----

EN BLANCO... EN BLANCO


CARLOS ALBERTO GALLÓN GIRALDO

CC.No. 19.066.425 R.L.

Representante legal **CAVELIER ABOGADOS**





AMPARO QUINTERO ARTURO

NOTARIA SEXTA (6a) DE BOGOTÁ D.C.

ELABORO : Mac.09-poder7362

✓3

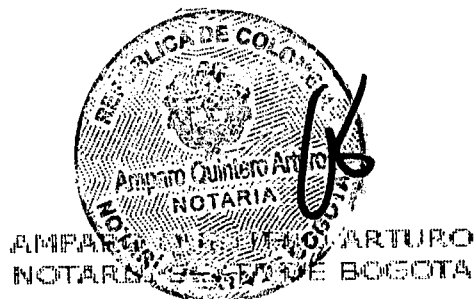
ES FIEL Y CUARTA COPIA (FOTOCOPIA) TOMADA DE LA ESCRITURA PUBLICA NUMERIO 6525 DE FECHA 07 DE DICIEMBRE DE 2009.

COPIA QUE EXPIDO EN 10 HOJAS RUBRICADAS EN SUS MARGENES , LA CUAL CARECE DE NOTAS DE REVOCATORIA, MODIFICACION O SUSTITUCION, POR TANTO SE PRESUME VIGENTE EL PODER EN ELLA CONTENIDO.

BOGOTA, D.C. 02 DE FEBRERO DE 2010

RESOLUCION 01 DE 2008

POR LA NOTARIA SEXTA DE BOGOTA D.C.



CORRECTED VERSION

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
12 February 2009 (12.02.2009)

PCT

(10) International Publication Number
WO 2009/018925 A8

(51) International Patent Classification:

C07D 401/04 (2006.01) A01N 43/653 (2006.01)
C07D 401/14 (2006.01) A01N 43/80 (2006.01)
C07D 413/14 (2006.01) A01N 47/40 (2006.01)

(21) International Application Number:

PCT/JP2008/006063

(22) International Filing Date: 24 July 2008 (24.07.2008)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

2007-202802 3 August 2007 (03.08.2007) JP

(71) Applicant (for all designated States except US): BAYER
CROPSCIENCE AG [DE/DE]; Alfred-Nobel-Strasse 50,
40789 Monheim (DE).

(72) Inventors; and

(75) Inventors/Applicants (for US only): VAN ALMSICK,
Andreas [DE/DE]; Am Ereul 4b, 61134 Karben (DE).
NARABU, Shinichi [JP/JP]; 13350, Yuki, Ozai, Yuki-chi,
Ibaraki 307-0001 (JP). SATO, Yoshitaka [JP/JP]; 2-10-10
Toyosatonomori, Teukuba-city, Ibaraki-pref. 300-2648
(JP). DOMON, Kei [JP/JP]; 1361, I-201, Yokokura,
Oyama-shi 323-0813 (JP). ARAKI, Koichi [JP/JP];
2-4-39, Kamiya, Uchiku-chi, Ibaraki 300-1216 (JP).
SHIRAKURA, Shinichi [JP/JP]; 2-6-3, Ekihigashidouri,
Oyama-shi, Tochigi 323-0022 (JP). UKAWA, Seiji
[JP/JP]; 6-18-5 Hichijonan, Oyama-shi, Tochigi 323-0220

(JP). ICHIHARA, Teruyuki [JP/JP]; 1-15-14-201, Ekim-
inami-cho, Oyama-shi, Tochigi 323-0822 (JP). UENO,
Chieko [JP/JP]; 7-2-1, Joto, Oyama-shi, Tochigi 323-0807
(JP).

(S1) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,
AO, AT, AU, AZ, BA, BE, BG, BH, BR, BW, BY, BZ, CA,
CH, CI, CO, CP, CU, CZ, DE, DK, DM, DO, DZ, EC, EE,
EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID,
IL, IN, IS, IE, IG, IM, IN, IP, IT, LA, LC, LE,
LF, LS, LT, LU, LY, MA, MD, ME, MG, MH, MI, MW,
MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT,
RO, RS, RU, SC, SE, SG, SK, SL, SM, ST, SV, SY, TJ,
TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM,
ZW.

(S4) Designated States (unless otherwise indicated, for every
kind of regional protection available): ARIPO (BW, GH,
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,
ZW), Eurasian (AM, AZ, BY, EG, FZ, MD, PU, TJ, TM),
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,
FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL,
NO, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG,
CI, CM, GA, GN, GQ, GW, ML, MP, NE, SN, TD, TG).

Published:

— with international search report

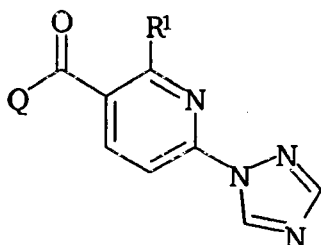
(48) Date of publication of this corrected version:

30 July 2009

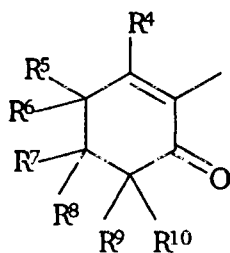
(15) Information about Correction:

see Notice of 30 July 2009

(54) Title: HERBICIDE TRIAZOLYL-PYRIDINE KETONES



Formula (I)



Formula (Q1)

(57) Abstract: Triazolylpyridine ketones expressed by the
following formula (I) and use thereof as herbicides. Formula
(I), wherein R¹ is alkyl or the like, and Q is Formula (Q1) or
the like.

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
12 February 2009 (12.02.2009)

PCT

(10) International Publication Number
WO 2009/018925 A1

(51) International Patent Classification:

C07D 401/04 (2006.01) A01N 43/653 (2006.01)
C07D 401/14 (2006.01) A01N 43/80 (2006.01)
C07D 413/14 (2006.01) A01N 47/40 (2006.01)

[JP/JP]; 6-13-5 Hishijonan, Oyama-shi, Tochigi 323-0820 (JP). ICHIHARA, Teruyuki [JP/JP]; 1-15-14-201, Ekim-inami-cho, Oyama-shi, Tochigi 323-0822 (JP). UENO, Chieko [JP/JP]; 7-2-1, Joto, Oyama-shi, Tochigi 323-0807 (JP).

(21) International Application Number:

PCT/EP2008/006063

(22) International Filing Date: 24 July 2008 (24.07.2008)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

2007-202808 3 August 2007 (03.08.2007) JP

(S1) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BE, BG, BH, BP, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GE, GD, GE, GH, GM, GT, HN, HP, HU, ID, IL, IN, IS, KE, KG, KM, KN, KP, KZ, LA, LC, LK, LP, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(71) Applicant (for all designated States except US): BAYER CROPSCIENCE AG [DE/DE]; Alfred-Nobel-Straße 50, 40789 Monheim (DE).

(72) Inventors; and

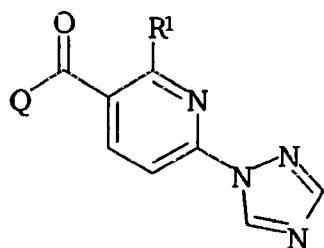
(75) Inventors/Applicants (for US only): VAN ALMSICK, Andreas [DE/DE]; Am Ercul 4b, 61184 Karben (DE). NARABU, Shinichi [JP/JP]; 13850, Yuki, Oaza, Yuki-shi, Ibaraki 307-0001 (JP). SATO, Yoshitaka [JP/JP]; 2-10-10 Toyosatonomori, Tsukuba-city, Ibaraki-pref. 300-2648 (JP). DOMON, Kei [JP/JP]; 1361, I-201, Yokokura, Oyama-shi 323-0813 (JP). ARAKI, Koichi [JP/JP]; 2-4-39, Kamiya, Uchiku-shi, Ibaraki 300-1216 (JP). SHIRAKURA, Shinichi [JP/JP]; 5-14-1, 303, Joto, Oyama-shi, Tochigi 323-0807 (JP). UKAWA, Seiji

(S4) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GE, GR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, NO, PL, PT, RO, SE, SI, SK, TP), OAPI (BF, BJ, CF, CG, CI, CM, GA, GU, GQ, GW, ML, MR, NE, NI, TD, TG).

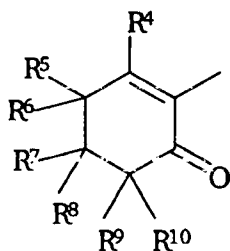
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(54) Title: HERBICIDE TRIAZOLYPYRIDINE KETONES



Formula (I)



Formula (Q1)

(57) Abstract: Triazolypyridine ketones expressed by the following formula (I) and use thereof as herbicides. Formula (I), wherein R¹ is alkyl or the like, and Q is Formula (Q1) or the like.

WO 2009/018925 A1

DESCRIPTION

Herbicide Triazolyipyridine Ketones

Technical Field

This invention relates to novel triazolyipyridine ketones, use thereof as herbicides, manufacturing methods thereof, and novel intermediates thereof.

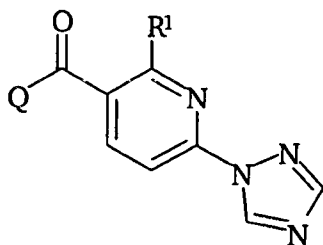
Background Art

It is already known that some kinds of aryl ketones show action as herbicides (For example, WO 97/46530-A, WO 99/03845-A, WO 00/15615-A, and Japanese Patent Application Laid-Open (JP-A) No.2005-60299).

Disclosure of Invention

However, compounds disclosed in the above publications are not sufficiently satisfactory in the effect and/or safety as herbicides.

The present inventors zealously studied in order to create novel compounds having higher effects and higher safety as herbicides. As a result, novel triazolyipyridine ketones of the following formula (I), which have excellent herbicide activity and show safety to crops, and which are represented by the following formula (I), have been founded out.

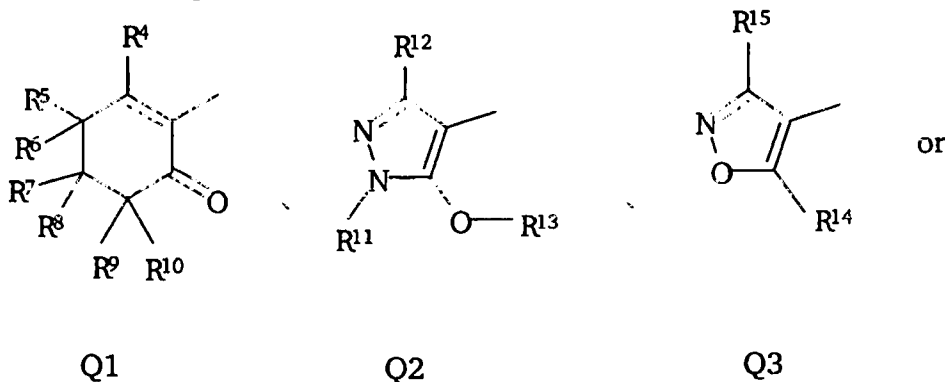


Formula (I)

In the formula, R^1 represents alkyl, cycloalkyl, cycloalkyl-alkyl, haloalkyl, alkenyl, alkynyl, aryl, aralkyl, alkoxyalkyl, cycloalkyl-alkoxyalkyl, haloalkoxyalkyl, alkenyloxyalkyl, alkynyloxyalkyl, alkylthioalkyl, alkylsulfinylalkyl, alkylsulfonylalkyl, cycloalkyl-alkylthioalkyl, cycloalkyl-alkylsulfinylalkyl, cycloalkyl-alkylsulfonylalkyl, haloalkylthioalkyl, haloalkylsulfinylalkyl, haloalkylsulfonylalkyl, alkenylthioalkyl, alkenylsulfinylalkyl, alkenylsulfonylalkyl, alkynylthioalkyl, alkynylsulfinylalkyl, alkynylsulfonylalkyl, alkoxyalkoxyalkyl, cycloalkyl-alkoxyalkoxyalkyl, haloalkoxyalkoxyalkyl, alkenyloxyalkoxyalkyl, alkynyloxyalkoxyalkyl, alkylthioalkoxyalkyl, alkylsulfinylalkoxyalkyl, alkylsulfonylalkoxyalkyl, cycloalkyl-alkylthioalkoxyalkyl, cycloalkyl-alkylsulfinylalkoxyalkyl, cycloalkyl-alkylsulfonylalkoxyalkyl, haloalkylthioalkoxyalkyl, haloalkylsulfinylalkoxyalkyl, haloalkylsulfonylalkoxyalkyl, alkenylthioalkoxyalkyl, alkenylsulfinylalkoxyalkyl, alkenylsulfonylalkoxyalkyl, alkynylthioalkoxyalkyl, alkynylsulfinylalkoxyalkyl, alkynylsulfonylalkoxyalkyl, cyclic ether-O-alkyl, cyclic ether-alkoxyalkyl, alkylsulfonylaminoalkoxyalkyl, cycloalkyl-alkylsulfonylaminoalkoxyalkyl, haloalkylsulfonylaminoalkoxyalkyl, alkylthio, alkylsulfinyl, alkylsulfonyl, alkoxy, haloalkoxy, alkoxyalkoxy, or NR^2R^3 , R^2 and R^3 respectively represent hydrogen or alkyl,

18

Q represents



R^4 represents hydroxy, halogen, alkylthio, substituted phenylthio, substituted benzylthio, substituted-1-pyrazolyl, substituted-1-imidazolyl, 1,2,4-triazolyl-1-yl, 1H-tetrazol-1-yl or 2H-tetrazol-2-yl,

R^5 , R^6 , R^7 , R^8 , R^9 , and R^{10} respectively represent hydrogen or alkyl,

R^5 and R^{10} together represent ethylene or $-\text{CH}=\text{CH}-$,

R^7 and R^8 together represent carbonyl,

R^{11} represents alkyl,

R^{12} represents hydrogen, alkyl, or cycloalkyl,

R^{13} represents hydrogen, alkyl, alkenyl, alkynyl, aralkyl, alkylsulfonyl, substituted phenylsulfonyl, acyl, or acylalkyl,

R^{14} represents alkyl or cycloalkyl, and

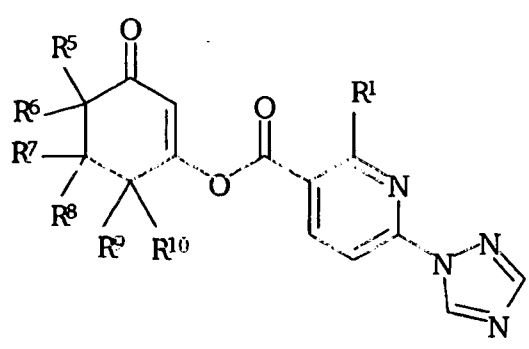
R^{15} represents hydrogen, alkoxycarbonyl, or alkylthio.

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Compounds of the above formula (I) of the present invention can be synthesized, for example, by means of either of the following manufacturing method (a), (b), (c), (d), (e), (f), (g), (h), (i), or (j).

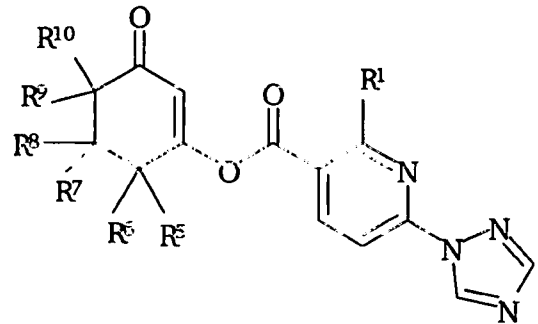
Manufacturing method (a)

In the case that compounds in which Q represents Q¹ and F⁴ represents hydroxyl, or Q represents Q² and F¹³ represents hydrogen are manufactured: a method of rearranging the compounds represented by the following formulae in the presence of a base and a cyanogen compound



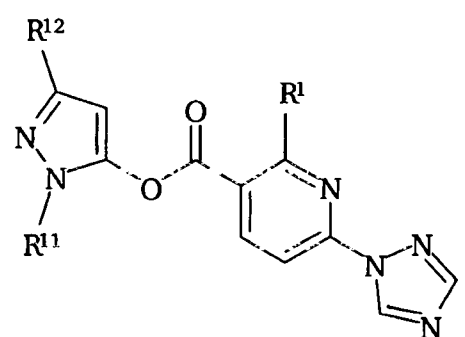
Formula (II)

or



Formula (III)

or

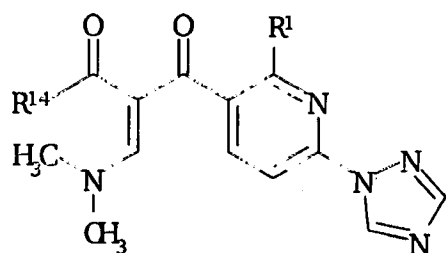


Formula (IV)

In the respective formulae, R¹, R⁵, R⁶, R⁷, R⁸, R⁹, R¹⁰, R¹¹, and R¹² have the same meanings as the aforementioned.

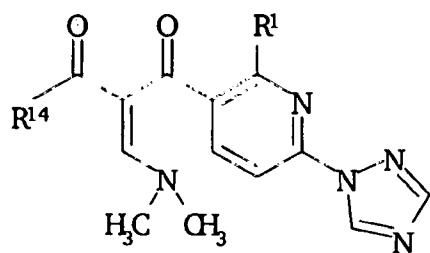
Manufacturing method (b)

In the case that compounds in which Q represents Q3 and R¹⁵ represents hydrogen are manufactured: a method for reacting the compounds represented by the following formulae with hydroxylamine hydrochloride



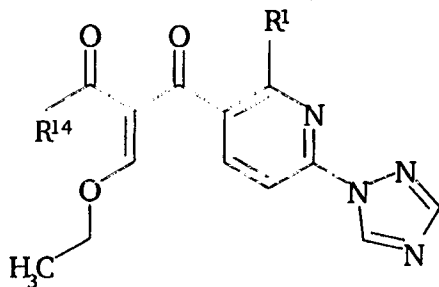
Formula (V)

or



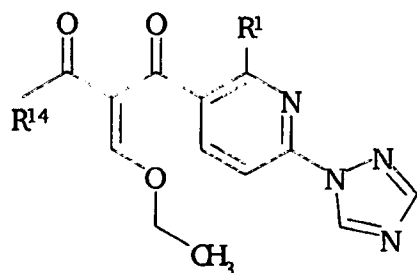
Formula (VI)

or



Formula (VII)

or



Formula (VIII)

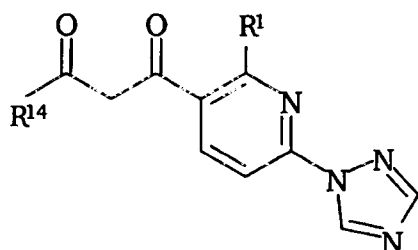
In the respective formulae, R^1 and R^{14} have the same meanings as the aforementioned.

Manufacturing method (c)

In the case that compounds in which Q represents Q3 and R^{15} represents alkoxy carbonyl are manufactured: a method for

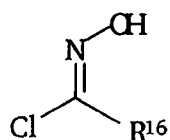
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reacting the compounds represented by the following formula (IX) with imidoyl chloride represented by the following formula (X)



Formula (IX)

In the formula, R^1 and R^{14} have the same meanings as the aforementioned.

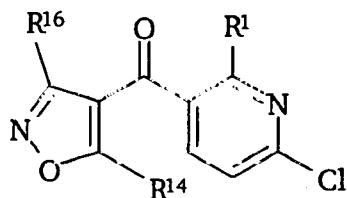


Formula (X)

In the formula, R^{16} represents alkoxy-carbonyl.

Manufacturing method (d)

In the case that compounds in which Q represents Q3 and R^{15} represents alkoxy-carbonyl are manufactured: a method for reacting the compounds represented by the following formula with 1H-1,2,4-triazole in the presence of a base

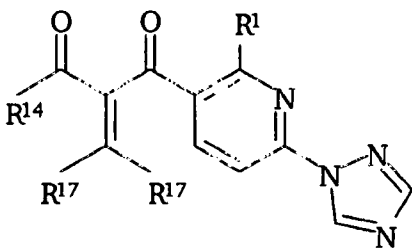


Formula (XI)

In the formula, R^1 , R^{14} , and R^{16} have the same meanings as the aforementioned.

Manufacturing method (e)

In the case that compounds in which Q represents Q3 and R^{15} represents alkylthio are manufactured: a method for reacting the compound represented by the following formula with hydroxylamine hydrochloride

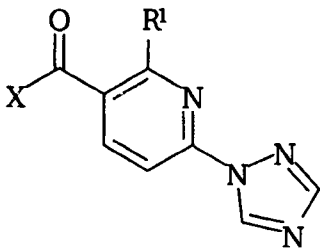


Formula (XII)

In the formula, R^1 and R^{14} have the same meanings as the aforementioned and R^{17} represents alkylthio.

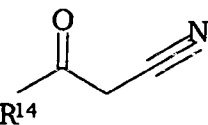
Manufacturing method (f)

In the case that compounds in which Q represents Q4 are manufactured: a method for reacting the compounds represented by the following formula (XIII) with the compounds represented by the following formula (XIV) in the presence of a base



Formula (XIII)

In the formula, R^1 has the same meanings as the aforementioned and X represents halogen.

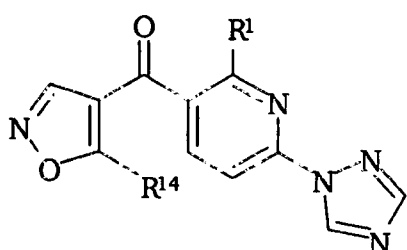


Formula (XIV)

In the formula, P^{14} has the same meanings as the aforementioned.

Manufacturing method (g)

In the case that compounds in which Q represents Q4 are manufactured: a method for causing the ring-opening reaction of the compounds represented by the following formula in the presence of a base

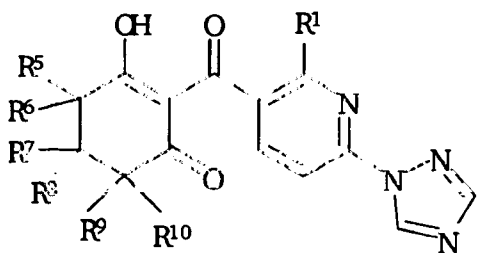


Formula (XV)

In the formula, P^1 and P^{14} have the same meanings as the aforementioned.

Manufacturing method (h)

In the case that compounds in which Q represents Q1 and P^4 represents halogen are manufactured: a method for reacting the compounds represented by the following formula with a halogenating agent

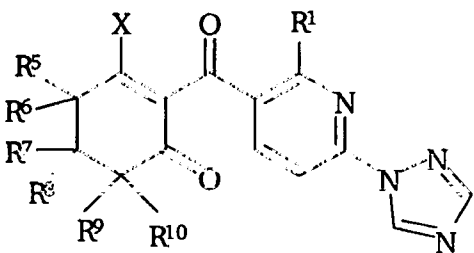


Formula (XVI)

In the formula, P^1 , P^5 , P^6 , P^7 , P^8 , P^9 , and P^{10} have the same meanings as the aforementioned.

Manufacturing method (i)

In the case that compounds in which Q represents Q1 and R4 represents alkylthio, substituted phenylthio, substituted benzylthio, substituted pyrazol-1-yl, substituted imidazol-1-yl, 1,2,4-triazol-1-yl, 1H-tetrazol-1-yl, or 2H-tetrazol-2-yl are manufactured: a method for reacting the compounds represented by the following formula (XVII) with the compounds represented by the following formula (XVIII)



Formula (XVII)

In the formula, R1, R5, R6, R7, R8, R9, R10 and X have the same meanings as the aforementioned.

R18 - H

Formula (XVIII)

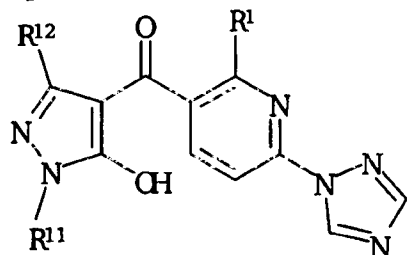
In the formula, R18 represents alkylthio, substituted phenylthio, substituted benzylthio, substituted pyrazol-1-yl, substituted imidazol-1-yl, 1,2,4-triazol-1-yl, 1H-tetrazol-1-yl, or 2H-tetrazol-2-yl.

Manufacturing method (j)

In the case that compounds in which Q represents Q2 and R13 represents alkyl, alkenyl, alkynyl, aralkyl, alkylsulfonyl, substituted phenylsulfonyl, acyl, or acylalkyl are manufactured: a method for reacting the compounds represented by the following formula (XIX) with the compounds represented

26

by the following formula (XX)



Formula (XIX)

In the formula, R^1 , R^{11} , and R^{12} have the same meanings as the aforementioned.

$R^{19} - X$

Formula (XX)

In the formula, X has the same meanings as the aforementioned, and R^{19} represents alkyl, alkenyl, alkynyl, aralkyl, alkylsulfonyl, substituted phenylsulfonyl, acyl, or acylalkyl.

The triazolylpyridine ketones of formula (I) provided by the present invention show stronger herbicide action than any of compounds described in the above prior art documents and have extremely superior effects as selective herbicides that do not substantially cause phytotoxicity to crops, especially effective to the general of broad-leaved weeds such as morning glories, knotweed, nightshade, fat hen, velvetleaf, amaranthus or the like, and effective to warm-season gramineous weeds such as livid amaranthus, green bristle grass, southern crabgrass, wire grass or the like, and show extremely excellent effects as herbicides for dry field crops such as wheat, corn or the like.

In the present specification, "Alkyl", for example, shows normal chain or branched chain C_{1-12} alkyl such as methyl, ethyl,

25

n- or iso-propyl, n-, iso-, sec-, or tert-butyl, n-pentyl, n-hexyl, n-heptyl, n-octyl, n-nonyl, n-decyl, n-undecyl, n-dodecyl or the like, and is preferably C₁₋₆ alkyl.

Moreover, for respective alkyl parts in respective groups having alkyls as a part of configuration, ones similar to those explained in the above "alkyl" can be exemplified.

"Acylamino", for example, shows alkylcarbonylamino, cyclopropylcarbonylamino, and benzoylamino, and here, as for alkyl part, alkyl having the same meanings as those explained in the above "alkyl" can be exemplified.

"Halogen" and respective halogen parts in respective halogen substituted groups show fluorine, chlorine, bromine, and iodine, and preferably show fluorine, chlorine, and bromine.

"Cycloalkyl" and the cycloalkyl part in a group having cycloalkyl as a part of configuration show C₃₋₆ cycloalkyl such as cyclopropyl, cyclobutyl, cyclopentyl, cyclohexyl, cycloheptyl, cyclooctyl or the like, and preferably show C₃₋₇ cycloalkyl.

"Alkenyl" and the alkenyl part in a group having alkenyl as a part of configuration show C₂₋₅ alkenyl such as vinyl, allyl, 1-propenyl, 1-(or 2-, or 3-)butenyl, 1-pentenyl or the like, and preferably show C₂₋₄ alkenyl.

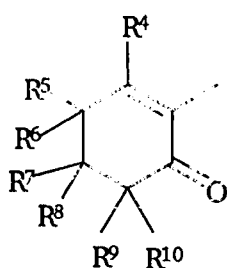
"Alkynyl" and the alkynyl part in a group having alkynyl as a part of configuration show C₂₋₅ alkynyl such as ethynyl, propargyl, 1-propynyl, butan-3-ynyl, pentan-4-ynyl or the like, and preferably show C₂₋₄ alkynyl.

"Aryl" and the aryl part of "aralkyl" show C₆₋₁₂ aryl such as phenyl, tolyl, xylyl, naphthyl, biphenyl or the like, and preferably show C₆₋₈ aryl. Preferred examples of "aralkyl" include benzyl, α -methylbenzyl, and phenethyl.

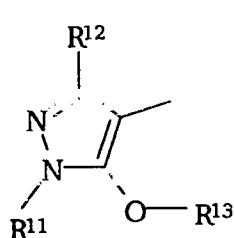
In the compounds of formula (I) of the present invention, the following compounds are preferred in which

R¹ represents C₁₋₆ alkyl, C₃₋₈ cycloalkyl, C₃₋₈ cycloalkyl-C₁₋₂ alkyl, C₁₋₆ haloalkyl, C₂₋₆ alkenyl, C₂₋₆ alkynyl, C₆₋₁₂ aryl, C₆₋₁₂ aryl-C₁₋₂ alkyl, C₁₋₆-alkoxy-C₁₋₄ alkyl, C₃₋₈ cycloalkyl-C₁₋₄ alkoxy-C₁₋₄ alkyl, C₁₋₆ haloalkoxy-C₁₋₄ alkyl, C₂₋₆ alkenyloxy-C₁₋₄ alkyl, C₂₋₆ alkynyloxy-C₁₋₄ alkyl, C₁₋₆ alkylthio-C₁₋₄ alkyl, C₁₋₆ alkylsulfinyl-C₁₋₄ alkyl, C₁₋₆ alkylsulfonyl-C₁₋₄ alkyl, C₃₋₈ cycloalkyl-C₁₋₄ alkylthio-C₁₋₄ alkyl, C₃₋₈ cycloalkyl-C₁₋₄ alkylsulfinyl-C₁₋₄ alkyl, C₃₋₈ cycloalkyl-C₁₋₄ alkylsulfonyl-C₁₋₄ alkyl, C₁₋₆ haloalkylthio-C₁₋₄ alkyl, C₁₋₆ haloalkylsulfinyl-C₁₋₄ alkyl, C₁₋₆ haloalkylsulfonyl-C₁₋₄ alkyl, C₂₋₆ alkenylthio-C₁₋₄ alkyl, C₂₋₆ alkenylsulfonyl-C₁₋₄ alkyl, C₂₋₆ alkenylsulfonyl-C₁₋₄ alkyl, C₂₋₆ alkynylthio-C₁₋₄ alkyl, C₂₋₆ alkynylsulfinyl-C₁₋₄ alkyl, C₂₋₆ alkynylsulfonyl-C₁₋₄ alkyl, C₁₋₆ alkoxy-C₁₋₄ alkoxy-C₁₋₄ alkyl, C₃₋₈ cycloalkyl-C₁₋₄ alkoxy-C₁₋₄ alkoxy-C₁₋₄ alkyl, C₁₋₆ haloalkoxy-C₁₋₄ alkoxy-C₁₋₄ alkyl, C₂₋₆ alkenyloxy-C₁₋₄ alkoxy-C₁₋₄ alkyl, C₂₋₆ alkynyloxy-C₁₋₄ alkoxy-C₁₋₄ alkyl, C₁₋₆ alkylthio-C₁₋₄ alkoxy-C₁₋₄ alkyl, C₁₋₆ alkylsulfinyl-C₁₋₄ alkoxy-C₁₋₄ alkyl, C₁₋₆ alkylsulfonyl-C₁₋₄ alkoxy-C₁₋₄ alkyl, C₃₋₈ cycloalkyl-C₁₋₄ alkylthio-C₁₋₄ alkoxy-C₁₋₄ alkyl, C₃₋₈ cycloalkyl-C₁₋₄ alkylsulfinyl-C₁₋₄ alkoxy-C₁₋₄ alkyl, C₃₋₈ cycloalkyl-C₁₋₄

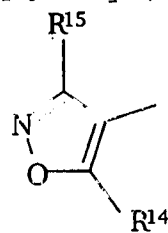
alkylsulfonyl-C₁₋₄ alkoxy-C₁₋₄ alkyl, C₁₋₆ haloalkylthio-C₁₋₄ alkoxy-C₁₋₄ alkyl, C₁₋₆ haloalkylsulfinyl-C₁₋₄ alkoxy-C₁₋₄ alkyl, C₁₋₆ haloalkylsulfonyl-C₁₋₄ alkoxy-C₁₋₄ alkyl, C₂₋₆ alkenylthio-C₁₋₄ alkoxy-C₁₋₄ alkyl, C₂₋₆ alkenylsulfinyl-C₁₋₄ alkoxy-C₁₋₄ alkyl, C₂₋₆ alkenylsulfonyl-C₁₋₄ alkoxy-C₁₋₄ alkyl, C₂₋₆ alkynylthio-C₁₋₄ alkoxy-C₁₋₄ alkyl, C₂₋₆ alkynylsulfinyl-C₁₋₄ alkoxy-C₁₋₄ alkyl, C₂₋₆ alkynylsulfonyl-C₁₋₄ alkoxy-C₁₋₄ alkyl, C₂₋₅ cyclic ether-O-C₁₋₄ alkyl, C₂₋₅ cyclic ether-C₁₋₄ alkoxy-C₁₋₄ alkyl, C₁₋₆ alkylsulfonylamino-C₁₋₄ alkoxy-C₁₋₄ alkyl, C₃₋₈ cycloalkyl-C₁₋₄ alkylsulfonylamino-C₁₋₄ alkoxy-C₁₋₄ alkyl, C₁₋₆ haloalkylsulfonylamino-C₁₋₄ alkoxy-C₁₋₄ alkyl, C₁₋₄ alkylthio, C₁₋₆ alkylsulfinyl, C₁₋₆ alkylsulfonyl, C₁₋₆ alkoxy, C₁₋₆ haloalkoxy, C₁₋₆ alkoxy-C₁₋₄ alkoxy, or NR²R³, R² and R³ respectively represent hydrogen or C₁₋₆ alkyl, Q represents



Q1

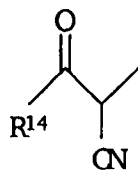


Q2



or

Q3



Q4

, R⁴ represents hydroxy, halogen, C₁₋₆ alkylthio, substituted phenylthio, substituted benzylthio,

substituted-1-pyrazolyl, substituted-1-imidazolyl,
1,2,4-triazol-1-yl, 1H-tetrazol-1-yl, or 2H-tetrazol-2-yl,
R⁵, R⁶, R⁷, R⁸, R⁹, and R¹⁰ respectively represent hydrogen
or C₁₋₆ alkyl,

R⁵ and R¹⁰ together represent ethylene or -CH=CH-,

R⁷ and R⁸ together represent carbonyl,

R¹¹ represents C₁₋₆ alkyl,

R¹² represents hydrogen, C₁₋₆ alkyl, or C₃₋₆ cycloalkyl,

R¹³ represents hydrogen, C₁₋₆ alkyl, C₂₋₆ alkenyl, C₂₋₆
alkynyl, C₆₋₁₀ aryl-C₁₋₂ alkyl, C₁₋₆ alkylsulfonyl, substituted
phenylsulfonyl, C₁₋₆ alkylcarbonyl, benzoyl,
heteroarylcarbonyl, C₁₋₆ alkyl-carbonyl-C₁₋₄ alkyl, benzoyl-C₁₋₄
alkyl, or heteroarylcarbonyl-C₁₋₄ alkyl,

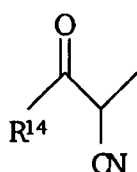
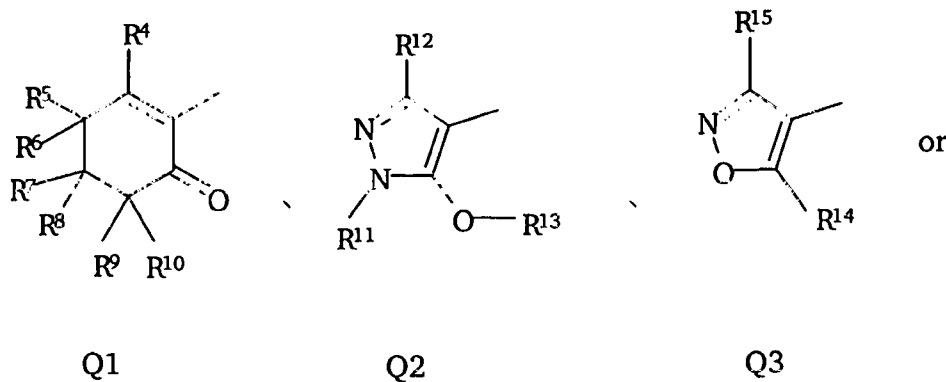
R¹⁴ represents C₁₋₆ alkyl or C₃₋₆ cycloalkyl, and R¹⁵
represents hydrogen, C₁₋₆ alkoxy-carbonyl or C₁₋₆ alkylthio.

Among the compounds of formula (I), the following
compounds are especially preferred in which

R¹ represents C₁₋₄ alkyl, C₃₋₇ cycloalkyl, C₃₋₇
cycloalkyl-C₁₋₂ alkyl, C₁₋₄ haloalkyl, C₂₋₄ alkenyl, C₂₋₄ alkynyl,
C₆₋₈ aryl, C₆₋₈ aryl-C₁₋₂ alkyl, C₁₋₄ alkoxy-C₁₋₄ alkyl, C₃₋₇
cycloalkyl-C₁₋₄ alkoxy-C₁₋₄ alkyl, C₁₋₄ haloalkoxy-C₁₋₄ alkyl, C₂₋₄
alkenyloxy-C₁₋₄ alkyl, C₂₋₄ alkynyloxy-C₁₋₄ alkyl, C₁₋₄
alkylthio-C₁₋₄ alkyl, C₁₋₄ alkylsulfinyl-C₁₋₄ alkyl, C₁₋₄
alkylsulfonyl-C₁₋₄ alkyl, C₃₋₇ cycloalkyl-C₁₋₄ alkylthio-C₁₋₄
alkyl, C₃₋₇ cycloalkyl-C₁₋₄ alkylsulfinyl-C₁₋₄ alkyl, C₃₋₇
cycloalkyl-C₁₋₄ alkylsulfonyl-C₁₋₄ alkyl, C₁₋₄ haloalkylthio-C₁₋₄
alkyl, C₁₋₄ haloalkylsulfinyl-C₁₋₄ alkyl, C₁₋₄

haloalkylsulfonyl-C₁₋₄ alkyl, C₂₋₄ alkenylthio-C₁₋₄ alkyl, C₂₋₄ alkenylsulfinyl-C₁₋₄ alkyl, C₂₋₄ alkenylsulfonyl-C₁₋₄ alkyl, C₂₋₄ alkynylthio-C₁₋₄ alkyl, C₂₋₄ alkynylsulfinyl-C₁₋₄ alkyl, C₂₋₄ alkynylsulfonyl-C₁₋₄ alkyl, C₁₋₄ alkoxy-C₁₋₄ alkoxy-C₁₋₄ alkyl, C₃₋₇ cycloalkyl-C₁₋₄ alkoxy-C₁₋₄ alkoxy-C₁₋₄ alkyl, C₁₋₄ haloalkoxy-C₁₋₄ alkoxy-C₁₋₄ alkyl, C₂₋₄ alkenyloxy-C₁₋₄ alkoxy-C₁₋₄ alkyl, C₂₋₄ alkynyloxy-C₁₋₄ alkoxy-C₁₋₄ alkyl, C₁₋₄ alkylthio-C₁₋₄ alkoxy-C₁₋₄ alkyl, C₁₋₄ alkylsulfinyl-C₁₋₄ alkoxy-C₁₋₄ alkyl, C₁₋₄ alkylsulfonyl-C₁₋₄ alkoxy-C₁₋₄ alkyl, C₃₋₇ cycloalkyl-C₁₋₄ alkylthio-C₁₋₄ alkoxy-C₁₋₄ alkyl, C₃₋₇ cycloalkyl-C₁₋₄ alkylsulfinyl-C₁₋₄ alkoxy-C₁₋₄ alkyl, C₃₋₇ cycloalkyl-C₁₋₄ alkylsulfonyl-C₁₋₄ alkoxy-C₁₋₄ alkyl, C₁₋₄ haloalkylthio-C₁₋₄ alkoxy-C₁₋₄ alkyl, C₁₋₄ haloalkylsulfinyl-C₁₋₄ alkoxy-C₁₋₄ alkyl, C₁₋₄ haloalkylsulfonyl-C₁₋₄ alkoxy-C₁₋₄ alkyl, C₂₋₄ alkenylthio-C₁₋₄ alkoxy-C₁₋₄ alkyl, C₂₋₄ alkenylsulfinyl-C₁₋₄ alkoxy-C₁₋₄ alkyl, C₂₋₄ alkenylsulfonyl-C₁₋₄ alkoxy-C₁₋₄ alkyl, C₂₋₄ alkynylthio-C₁₋₄ alkoxy-C₁₋₄ alkyl, C₂₋₄ alkynylsulfinyl-C₁₋₄ alkoxy-C₁₋₄ alkyl, C₂₋₄ alkynylsulfonyl-C₁₋₄ alkoxy-C₁₋₄ alkyl, C₂₋₄ cyclic ether-O-C₁₋₄ alkyl, C₂₋₄ cyclic ether-C₁₋₄ alkoxy-C₁₋₄ alkyl, C₁₋₄ alkylsulfonylamino-C₁₋₄ alkoxy-C₁₋₄ alkyl, C₃₋₇ cycloalkyl-C₁₋₄ alkylsulfonylamino-C₁₋₄ alkoxy-C₁₋₄ alkyl, C₁₋₄ haloalkylsulfonylamino-C₁₋₄ alkoxy-C₁₋₄ alkyl, C₁₋₄ alkylthio, C₁₋₄ alkylsulfinyl, C₁₋₄ alkylsulfonyl, C₁₋₄ alkoxy, C₁₋₄ haloalkoxy, C₁₋₄ alkoxy-C₁₋₄ alkoxy or NR²R³,

R² and R³ respectively represent hydrogen or C₁₋₄ alkyl,
Q represents



Q4

, R^4 represents hydroxy, halogen, C_{1-4} alkylthio, substituted phenylthio, substituted benzylthio, substituted-1-pyrazolyl, substituted-1-imidazolyl, 1,2,4-triazol-1-yl, 1H-tetrazol-1-yl, or 2H-tetrazol-2-yl,

R^5 , R^6 , R^7 , R^8 , R^9 , and R^{10} respectively represent hydrogen or C_{1-4} alkyl, R^5 and R^{10} together represent ethylene or $-CH=CH-$,

R^7 and R^8 together represent carbonyl,

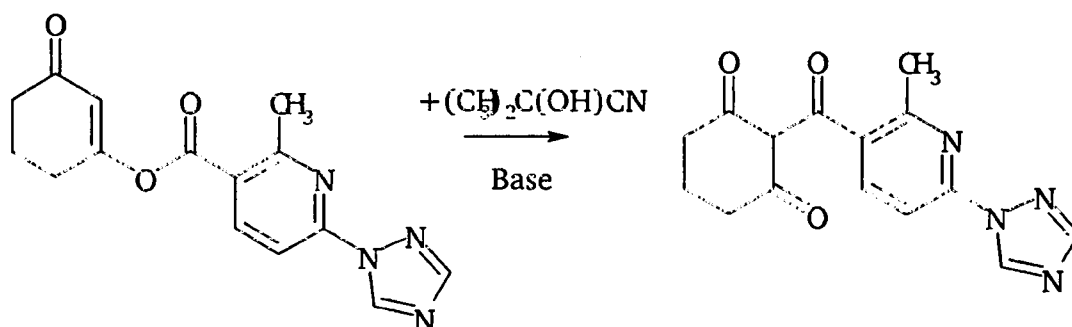
R^{11} represents C_{1-4} alkyl,

R^{12} represents hydrogen, C_{1-4} alkyl, or C_{3-7} cycloalkyl,

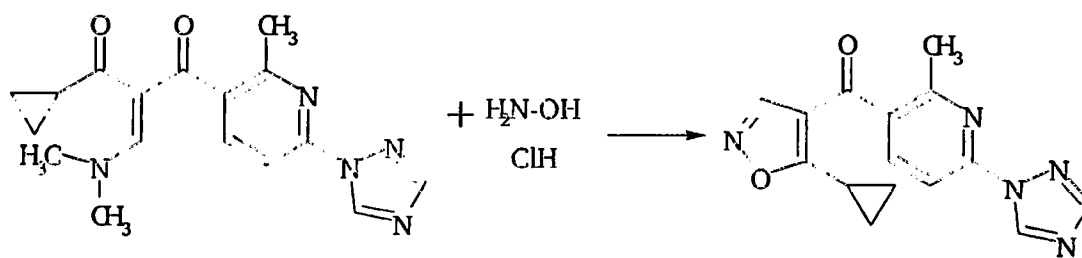
R^{13} represents hydrogen, C_{1-4} alkyl, C_{2-4} alkenyl, C_{2-4} alkynyl, C_{6-8} aryl- C_{1-2} alkyl, C_{1-4} alkylsulfonyl, substituted phenylsulfonyl, C_{1-4} alkylcarbonyl, benzoyl, heteroarylcarbonyl, C_{1-4} alkyl-carbonyl- C_{1-4} alkyl, benzoyl- C_{1-4} alkyl, or heteroarylcarbonyl- C_{1-4} alkyl,

R^{14} represents C_{1-4} alkyl or C_{3-7} cycloalkyl, and R^{15} represents hydrogen, C_{1-4} alkoxy-carbonyl or C_{1-4} alkylthio.

The case in which, for example, 3-oxo-1-cyclohexen-1-yl 2-methyl-6-(1H-1,2,4-triazol-1-yl) nicotinate is used as a raw material and acetocyanhydrin is used as a cyanogen compound in the manufacturing method (a) can be represented by the following reaction formula.

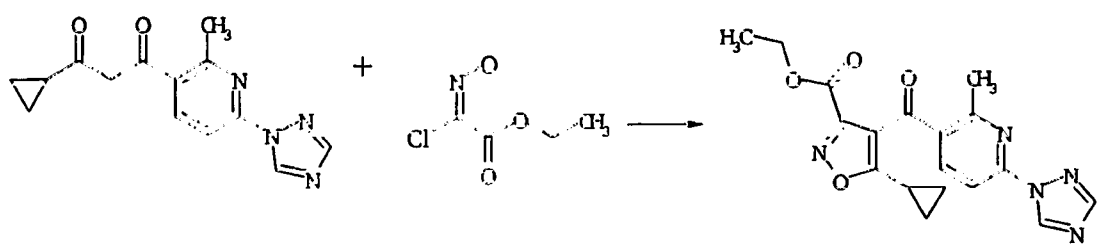


The case in which, for example, 1-cyclopropyl-2-[(dimethylamino)methylene]-3-[2-methyl-6-(1H-1,2,4-triazol-1-yl)pyridin-3-yl]propan-1,3-dione and hydroxylamine hydrochloride are used as raw materials in the manufacturing method (b) can be represented by the following reaction formula.

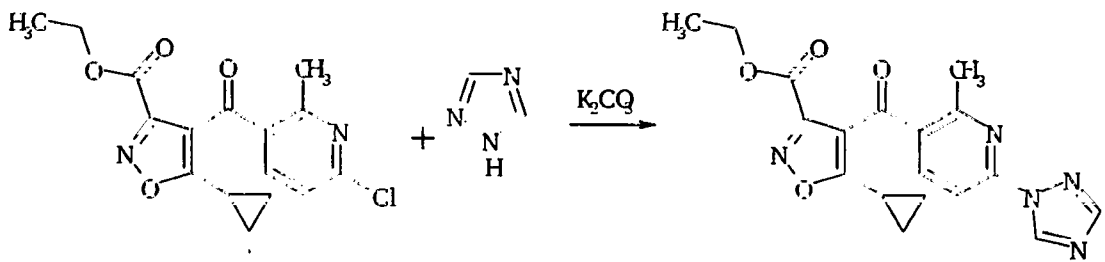


The case in which, for example, 1-cyclopropyl-3-[2-methyl-6-(1H-1,2,4-triazol-1-yl)pyridin-3-yl]propan-1,3-dione and ethyl chlorooxyimidoacetate are used as raw materials in the manufacturing method (c) can be

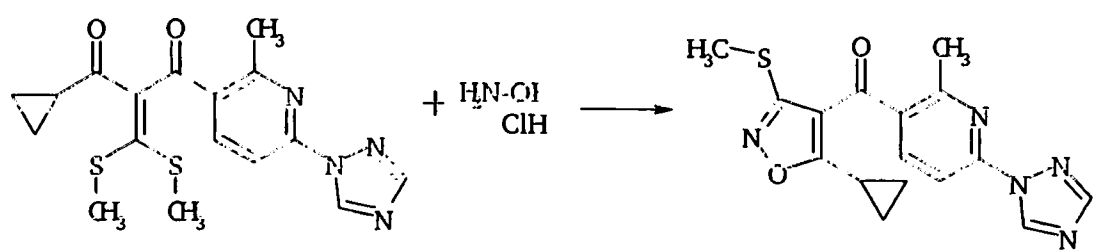
represented by the following reaction formula.



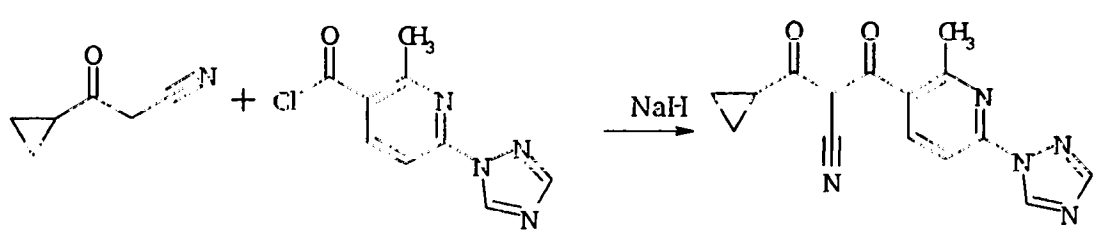
The case in which, for example, ethyl 4-[(6-chloro-2-methylpyridin-3-yl)carbonyl]-5-cyclopropylisoxazole-3-carboxylic acid ester and triazole are used as raw materials and, for example, potassium carbonate is used as a base in the manufacturing method (d) can be represented by the following reaction formula.



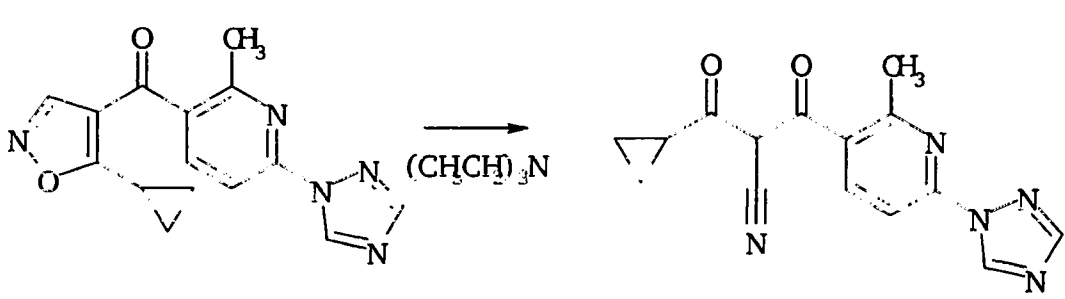
The case in which, for example, 2-[bis(methylthio)methylene]-1-cyclopropyl-3-[2-methyl-6-(1H-1,2,4-triazol-1-yl)pyridin-3-yl]-1-propan-1,3-dione and hydroxylamine hydrochloride are used as raw materials in the manufacturing method (e) can be represented by the following reaction formula.



The case in which, for example, 2-methyl-6-(1H-1,2,4-triazol-1-yl) nicotinic acid chloride is used as a raw material and, for example, sodium hydride is used as a base in the manufacturing method (f) can be represented by the following reaction formula.

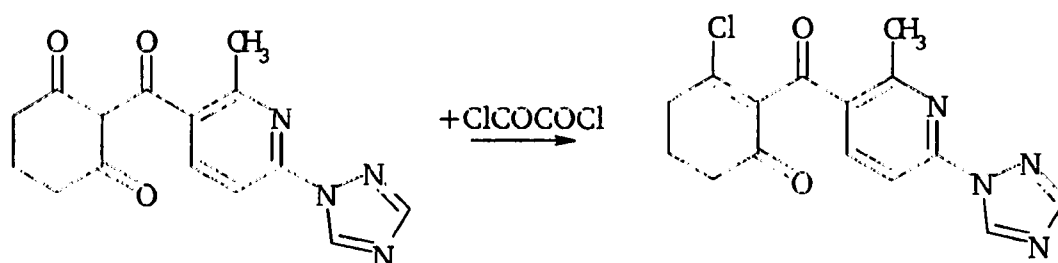


The case in which, for example, (5-cyclopropylisooxazol-4-yl) [2-methyl-6-(1H-1,2,4-triazol-1-yl)pyridin-3-yl]methanone is used as a raw material, and, for example, triethylamine is used as a base in the manufacturing method (g) can be represented by the following reaction formula.

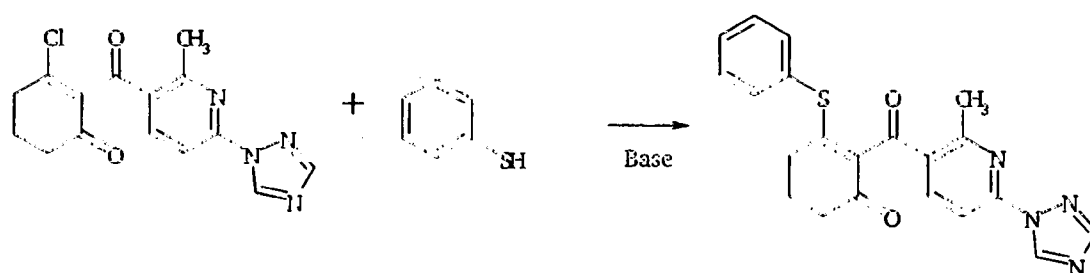


The case in which, for example, 2-([2-methyl-6-(1H-1,2,4-triazol-1-yl)pyridin-3-yl]) cyclohexan-1,3-dione is used as a raw material and, for example,

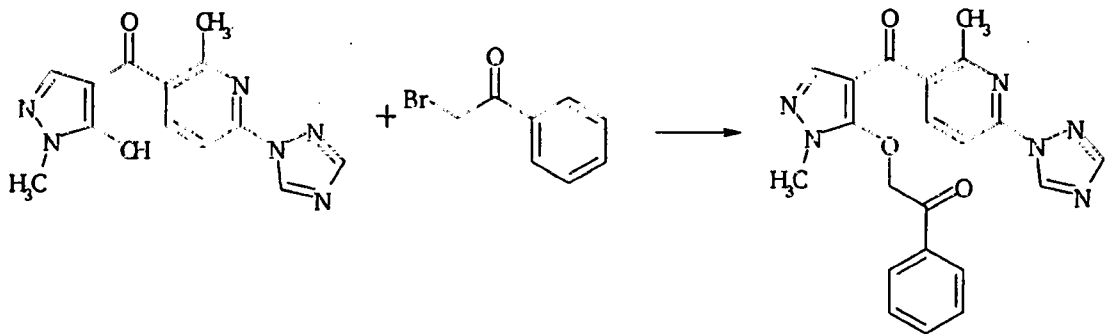
oxalyl dichloride is used as a chlorinating agent in the manufacturing method (h) can be represented by the following reaction formula.



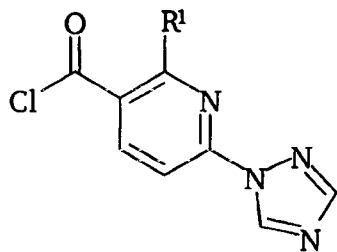
The case in which, for example, 3-chloro-2-([2-methyl-6-(1H-1,2,4-triazol-1-yl)pyridin-3-ylcarbonyl])-2-cyclohexen-1-one and thiophenol are used as raw materials in the manufacturing method (i) can be represented by the following reaction formula.



The case in which, for example, (5-hydroxy-1-methyl-1H-pyrazol-4-yl)[2-methyl-6-(1H-1,2,4-triazol-1-yl)pyridin-3-yl]methanone and phenacyl bromide are used as raw materials, and, for example, potassium carbonate is used as a base in the manufacturing method (j) can be represented by the following reaction formula.

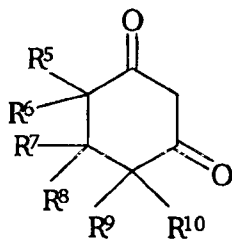


The compounds of formulae (II), (III), and (IV) serving as the raw materials in the manufacturing method (a) are novel ones, and can be obtained by reacting the compounds represented by the following formula (XXI) with the compounds represented by the following formula (XXII) or (XXIII).



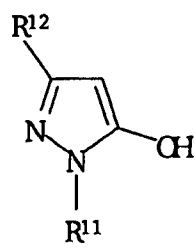
Formula (XXI)

In the formula, R¹ has the same meanings as the aforementioned.



Formula (XXII)

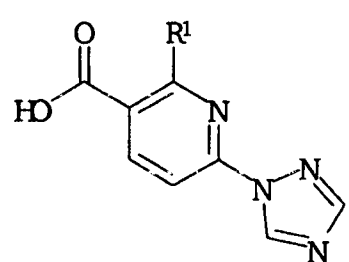
In the formula, R⁵, R⁶, R⁷, R⁸, R⁹ and R¹⁰ have the same meanings as the aforementioned.



Formula (XXIII)

In the formula, R^{11} and R^{12} have the same meanings as the aforementioned.

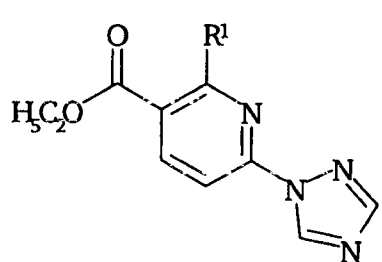
The compounds of formula (XXI) are novel ones, and can be obtained by reacting the compounds represented by the following formula with thionyl chloride.



Formula (XXIV)

In the formula, R^1 has the same meanings as the aforementioned.

The compounds of formula (XXIV) are novel ones, and can be obtained by hydrolyzing the compounds represented by the following formula.

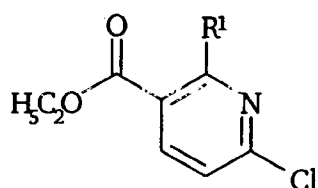


Formula (XXV)

In the formula, R^1 has the same meanings as the aforementioned.

The compounds of formula (XXV) are obtained by reacting

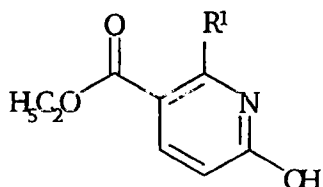
the compounds represented by the following formula with 1H-1,2,4-triazole.



Formula (XXVI)

In the formula, R^1 has the same meanings as the aforementioned.

The compounds of formula (XXVI) are obtained, for example, by reacting the compounds represented by the following formula with phosphorus oxychloride. (Refer to J. Org. Chem., 1954, vol. 19, No. 2, pages 183-193).



Formula (XXVII)

In the formula, R^1 has the same meanings as the aforementioned.

Among compounds of formula (XXVII), for example, 6-oxo compound that is the tautomer of a compound of formula (XXVII) in which R^1 is methyl is a publicly known compound described in J. Org. Chem., 1954, vol. 19, No. 2, pages 183-193.

Moreover, the tautomer of a compound of formula (XXVII) in which R^1 is trifluoromethyl is a publicly known compound described in WO2004/029027 or the like.

Among compounds of formula (XXIV), for example, a compound of formula (XXIV) in which R^1 is methoxymethyl,

trifluoroethoxymethyl, or 2-(methoxy)ethoxymethyl can be obtained by reacting the compound of formula (XXV) in which F^1 is bromomethyl with corresponding metal alkoxide, and subsequently by hydrolyzing the resultant product without isolating the product.

Moreover, the compound of formula (XXIV) in which F^1 is 2-(methoxy)ethoxymethyl can be synthesized by continuously subjecting ethyl 2-(bromomethyl)-6-chloronicotinate corresponding to formula (XXVI) in which F^1 is bromomethyl to a three-step reaction of alkoxyalkylation, triazolylolation, and hydrolysis without isolating the intermediate products.

Among compounds of formula (XXV), for example, the compound of formula (XXV) in which F^1 is methylthiomethyl can be obtained by reacting the compound of formula (XXV) in which F^1 is bromomethyl with corresponding metal thioalkoxide. Moreover, by oxidizing this methylthiomethyl compound, the compound of formula (XXV) in which F^1 is methylsulfonylmethyl can also be obtained.

Compounds of formulae (XXII) and (XXIII) are publicly known compounds.

Typical examples of the compounds of formula (XXII) include the following.

Cyclohexan-1,3-dione, 4-methylcyclohexan-1,3-dione,
4,4-dimethylcyclohexan-1,3-dione,
2,2,4,4-tetramethylcyclohexan-1,3,5-trione,
bicyclo[3.2.1]octan-2,4-dione,
bicyclo[3.2.1]-6-octen-2,4-dione.

Moreover, typical examples of the compounds of formula (XXIII) include the following.

1-Methyl-1H-pyrazol-5-ol, 1-ethyl-1H-pyrazol-5-ol,
1,3-dimethyl-1H-pyrazol-5-ol,
3-cyclopropyl-1-methyl-1H-pyrazol-5-ol.

Typical examples of the compounds of formulae (II), (III), and (IV) as the raw materials in the manufacturing method (a) include the following.

3-Oxo-1-cyclohexen-1-yl
2-(methoxymethyl)-6-(1H-1,2,4-triazol-1-yl)nicotinate,
3-oxo-1-cyclohexen-1-yl
2-[(methylthio)methyl]-6-(1H-1,2,4-triazol-1-yl)nicotinate,
4,4-dimethyl-3-oxo-1-cyclohexen-1-yl
2-methyl-6-(1H-1,2,4-triazol-1-yl)nicotinate,
4-oxobicyclo[3.2.1]-2-octen-2-yl
2-methyl-6-(1H-1,2,4-triazol-1-yl)nicotinate,
1-ethyl-1H-pyrazol-5-yl
2-methyl-6-(1H-1,2,4-triazol-1-yl)nicotinate,
1,3-dimethyl-1H-pyrazol-5-yl
2-(methoxymethyl)-6-(1H-1,2,4-triazol-1-yl)nicotinate,
3-cyclopropyl-1-methyl-1H-pyrazol-5-yl
2-methyl-6-(1H-1,2,4-triazol-1-yl)nicotinate,
1-methyl-1H-pyrazole-5-yl
2-[(methylthio)methyl]-6-(1H-1,2,4-triazol-1-yl)nicotinate.

The compounds of formulae (V) and (VI) as the raw materials in the manufacturing method (b) are novel ones, and, for example, can be obtained as a mixture of formulae (V) and (VI) by reacting

the compounds of formula (IX) with dimethylformamide dimethylacetal.

Moreover, the compounds of formulae (VII) and (VIII) are also novel ones, and can be obtained as a mixture of formulae (VII) and (VIII) by reacting the compounds of formula (IX) with ethyl orthoformate.

The compounds of formula (V) and the compounds of formula (VI), and the compounds of formula (VII) and the compounds of formula (VIII) are geometrical isomers.

Typical examples of compounds of formulae (V), (VI), (VII), and (VIII) as the raw materials in the manufacturing method (b) include the following.

(2E)-1-cyclopropyl-2-[(dimethylamino)methylene]-3-[2-methyl-6-(1H-1,2,4-triazol-1-yl)pyridin-3-yl]propan-1,3-dione,

(2E)-1-cyclopropyl-2-[(dimethylamino)methylene]-3-[2-methyl-6-(1H-1,2,4-triazole-1-yl)pyridin-3-yl]propan-1,3-dione,

(2E)-1-cyclopropyl-2-[(dimethylamino)methylene]-3-[2-(methoxymethyl)-6-(1H-1,2,4-triazol-1-yl)pyridin-3-yl]propan-1,3-dione,

(2E)-2-[(dimethylamino)methylene]-4,4-dimethyl-1-[2-methyl-6-(1H-1,2,4-triazol-1-yl)pyridin-3-yl]pentan-1,3-dione,

(2E)-1-cyclopropyl-2-[(dimethylamino)methylene]-3-[2-[(methylthio)methyl]-6-(1H-1,2,4-triazol-1-yl)pyridin-3-yl]propane-1,3-dione,

(2E)-1-cyclopropyl-2-[(dimethylamino)methylene]-3-[6-(1H-1,2,4-triazole-1-yl)-2-(trifluoromethyl)pyridin-3-yl]propan-1

,3-dione,

(2Z)-1-cyclopropyl-2-[(dimethylamino)methylene]-3-[2-(methoxymethyl)-6-(1H-1,2,4-triazol-1-yl)pyridin-3-yl]propane-1,3-dione,

(2Z)-1-cyclopropyl-2-[(dimethylamino)methylene]-3-[2-methyl-6-(1H-1,2,4-triazol-1-yl)pyridin-3-yl]propan-1,3-dione,

(2Z)-2-[(dimethylamino)methylene]-4,4-dimethyl-1-[2-methyl-6-(1H-1,2,4-triazol-1-yl)pyridin-3-yl]pentan-1,3-dione,

(2Z)-1-cyclopropyl-2-[(dimethylamino)methylene]-3-{2-[(methylthio)methyl]-6-(1H-1,2,4-triazol-1-yl)pyridin-3-yl}propane-1,3-dione},

(2Z)-1-cyclopropyl-2-[(dimethylamino)methylene]-3-[6-(1H-1,2,4-triazol-1-yl)-2-(trifluoromethyl)pyridin-3-yl]propan-1,3-dione,

(2E)-1-cyclopropyl-2-(ethoxymethylene)-3-[2-(methoxymethyl)-6-(1H-1,2,4-triazole-1-yl)pyridin-3-yl]propan-1,3-dione,

(2E)-1-cyclopropyl-2-(ethoxymethylene)-3-[2-methyl-6-(1H-1,2,4-triazol-1-yl)pyridin-3-yl]propan-1,3-dione,

(2E)-2-(ethoxymethylene)-4,4-dimethyl-1-[2-methyl-6-(1H-1,2,4-triazol-1-yl)pyridin-3-yl]pentan-1,3-dione,

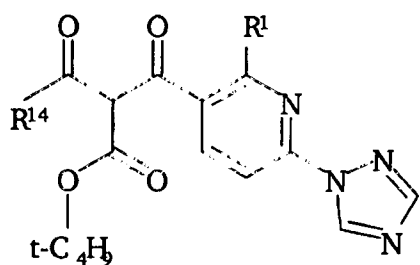
(2E)-1-cyclopropyl-2-(ethoxymethylene)-3-{2-[(methylthio)methyl]-6-(1H-1,2,4-triazol-1-yl)pyridin-3-yl}propan-1,3-dione,

(2E)-1-cyclopropyl-2-(ethoxymethylene)-3-[6-(1H-1,2,4-triazol-1-yl)-2-(trifluoromethyl)pyridin-3-yl]propan-1,3-dione,

(2Z)-1-cyclopropyl-2-(ethoxymethylene)-3-[2-(methoxymethyl)

-6-(1H-1,2,4-triazol-1-yl)pyridin-3-yl]propane-1,3-dione,
 (2Z)-1-cyclopropyl-2-(ethoxymethylene)-3-[2-methyl-6-(1H-1,2,4,-triazol-1-yl)pyridin-3-yl]propane-1,3-dione,
 (2Z)-2-(ethoxymethylene)-4,4-dimethyl-1-[2-methyl-6-(1H-1,2,4,-triazol-1-yl)pyridin-3-yl]pentan-1,3-dione,
 (2Z)-1-cyclopropyl-2-(ethoxymethylene)-3-(2-[(methylthio)methyl]-6-(1H-1,2,4,-triazol-1-yl)pyridin-3-yl)propan-1,3-dione,
 (2Z)-1-cyclopropyl-2-(ethoxymethylene)-3-[6-(1H-1,2,4,-triazol-1-yl)-2-(trifluoromethyl)pyridin-3-yl]propan-1,3-dione.

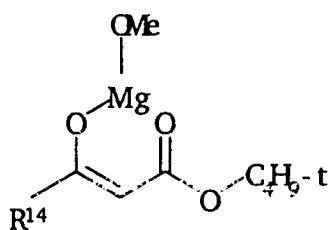
The compounds of formula (IX) as the raw material in the manufacturing method (c) are novel ones, and can be obtained, for example, by reacting the compounds represented by the following formula with acid.



Formula (XXVIII)

In the formula, R^1 and R^{14} have the same meanings as the aforementioned.

The compounds of formula (XXVIII) can be obtained by reacting the compounds of the formula (XXI) with the compounds represented by the following formula.



Formula (XXIX)

In the formula, R¹⁴ has the same meanings as the aforementioned.

The compounds of formula (XXIX) are publicly known compounds described in WO99/03856.

The acid reacted with the compounds of formula (XXVIII) is, for example, hydrochloric acid, sulfuric acid, or trifluoroacetic acid.

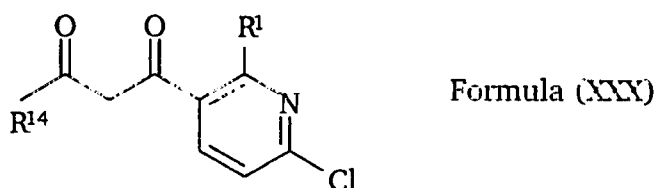
Typical examples of the compounds of formula (IX) as the raw material in the manufacturing method (c) include the following.

1-Cyclopropyl-3-[6-(1H-1,2,4-triazol-1-yl)-2-(trifluoromethyl)pyridin-3-yl]propane-1,3-dione,
 1-cyclopropyl-3-[2-(methoxymethyl)-6-(1H-1,2,4-triazol-1-yl)pyridin-3-yl]propan-1,3-dione,
 4,4-dimethyl-1-[2-methyl-6-(1H-1,2,4-triazol-1-yl)pyridin-3-yl]pentan-1,3-dione,
 1-cyclopropyl-3-[2-[(methylthio)methyl]-6-(1H-1,2,4-triazol-1-yl)pyridin-3-yl]propan-1,3-dione.

The compounds of formula (X) as the raw material in the manufacturing method (c) are imidoacyl chlorides well known in organic chemistry, and a typical example thereof is ethyl 2-chloro-2-(hydroxyimino)acetate.

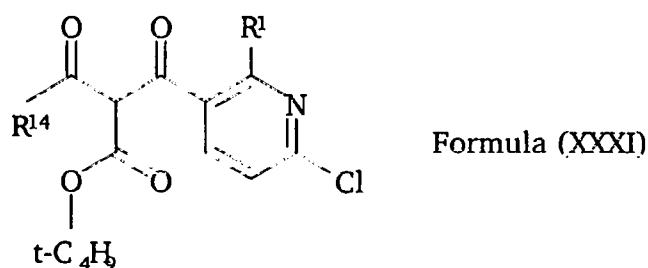
The compounds of formula (XI) as the raw material in the

manufacturing method (d) are novel ones, and can be obtained, for example, by reacting the compounds represented by the following formula with the compounds of formula (X).



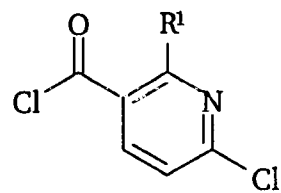
In the formula, R¹ and R¹⁴ have the same meanings as the aforementioned.

The compounds of formula (XXX) are novel ones, and can be obtained, for example, by reacting the compounds represented by the following formula with acid.



In the formula, R¹ and R¹⁴ have the same meanings as the aforementioned.

The compounds of formula (XXXI) are novel ones, and can be obtained, for example, by reacting the compounds represented by the following formula with the compounds represented by formula (XXIX).



Formula (XXXII)

In the formula, R^1 has the same meanings as the aforementioned.

The compounds of formula (XXXII) can be obtained easily by hydrolyzing the compounds of the formula (XXVI), and subsequently reacting the obtained compounds with thionyl chloride.

Among compounds of formula (XXXII), the compound in which R^1 is methyl is publicly known one described in Japanese Patent Laid-Open No. 3-38586, and the compound in which R^1 is methoxy is publicly known one described in Japanese Patent Laid-Open No. 52-3968.

As the acid to be reacted with the compounds of formula (XXXI), compounds the same as those explained in the manufacturing method (c) can be used.

Typical examples of the compounds of formula (XI) as the raw material in the manufacturing method (d) include the following.

Ethyl

4-[[6-chloro-2-(trifluoromethyl)pyridin-3-yl]carbonyl-5-cyclopropylisoxazole-3-carboxylic acid ester, ethyl 5-tert-butyl-4-[(6-chloro-2-methylpyridin-3-yl)carbonyl]isoxazole-3-carboxylic acid ester.

The compounds of formula (XII) as the raw material in the manufacturing method (e) are novel ones, and can be obtained,

for example, by reacting the compounds represented by formula (IX) with carbon disulfide and methyl iodide in the presence of potassium fluoride carried by alumina.

Typical examples of the compounds of formula (XII) include the following.

2-[Bis(methylthio)methylene]-1-cyclopropyl-3-[6-(1H-1,2,4-triazol-1-yl)-2-(trifluoromethyl)pyridin-3-yl]propan-1,3-dione,

2-[bis(methylthio)methylene]-1-[2-(methoxymethyl)-6-(1H-1,2,4-triazol-1-yl)pyridin-3-yl]-4,4-dimethylpentan-1,3-dione,

2-[bis(methylthio)methylene]-1-cyclopropyl-3-[2-(methoxymethyl)-6-(1H-1,2,4-triazol-3-yl)pyridin-3-yl]propan-1,3-dione,

2-[bis(methylthio)methylene]-1-cyclopropyl-3-[2-[(methylthio)methyl]-6-(1H-1,2,4-triazol-3-yl)pyridin-3-yl]propan-1,3-dione.

The compounds of formula (XIII) as the raw material in the manufacturing method (f) include the compounds of formula (XXI) and are novel ones, and their representative ones are compounds corresponding to the compounds of formula (XXI).

Typical examples of the compounds of formula (XIII) include the following.

2-(Methoxymethyl)-6-(1H-1,2,4-triazol-1-yl)nicotinic acid chloride,

6-(1H-1,2,4-triazol-1-yl)-2-(trifluoromethyl)nicotinic acid chloride,

2-[(methylthio)methyl]-6-(1H-1,2,4-triazol-1-yl)nicotinic

acid chloride,
6-(1H-1,2,4-triazol-1-yl)-2-[(2,2,2-trifluoroethoxy)methyl]
nicotinic acid chloride,
2-[(2-methoxyethoxy)methyl]-6-(1H-1,2,4-triazol-1-yl)
nicotinic acid chloride.

Similarly, the compounds of formula (XIV) as the raw material in the manufacturing method (f) are publicly known ones, and examples thereof include the following compounds.

3-Oxobutanenitrile, 3-oxopentanenitrile,
3-cyclopropyl-3-oxopropanenitrile,
4,4-dimethyl-3-oxopentanenitrile.

The compounds of formula (XV) as the raw material in the manufacturing method (g) corresponds to the compounds in which Q is Q² and F¹⁵ is hydrogen in the formula (I) of the present invention.

The compounds of formula (XV) can be obtained by the manufacturing method (b).

Typical examples of the compounds of formula (XV) include the following.

(5-Cyclopropylisooxazol-4-yl)[2-(methoxymethyl)-6-(1H-1,2,4-triazol-1-yl)pyridin-3-yl]methanone,
(5-cyclopropylisooxazol-4-yl){2-[(methylthio)methyl]-6-(1H-1,2,4-triazol-1-yl)pyridin-3-yl}methanone,
(5-cyclopropylisooxazol-4-yl)[6-(1H-1,2,4-triazol-1-yl)-2-(trifluoromethyl)pyridin-3-yl]methanone,
(5-tert-butylisooxazol-4-yl)[2-methyl-6-(1H-1,2,4-triazol-1-yl)pyridin-3-yl]methanone.

The compounds of respective formulae (XVI), (XVII), and (XIX) as the raw materials in the manufacturing methods of (h), (i), and (j) are also included in the formula (I) of the present invention, and can be obtained by the manufacturing method (a).

Typical examples of the compounds of formula (XVI) include the following.

2-([6-(1H-1,2,4-triazol-1-yl)-2-(trifluoromethyl)pyridin-3-yl]carbonyl)cyclohexan-1,3-dione,
2-([2-(methoxymethyl)-6-(1H-1,2,4-triazol-1-yl)pyridin-3-yl]carbonyl)cyclohexan-1,3-dione,
2-([2-[(methylthio)methyl]-6-(1H-1,2,4-triazol-1-yl)pyridin-3-yl]carbonyl)cyclohexan-1,3-dione,
4,4-dimethyl-2-([2-methyl-6-(1H-1,2,4-triazol-1-yl)pyridin-3-yl]carbonyl)cyclohexan-1,3-dione,
3-([2-methyl-6-(1H-1,2,4-triazol-1-yl)pyridin-3-yl]carbonyl)bicyclo[3.2.1]octan-2,4-dione.

Typical examples of the compounds of formula (XVII) include the following.

3-chloro-2-([6-(1H-1,2,4-triazol-1-yl)-2-(trifluoromethyl)pyridin-3-yl]carbonyl)-2-cyclohexen-1-one,
3-chloro-2-([2-(methoxymethyl)-6-(1H-1,2,4-triazol-1-yl)pyridin-3-yl]carbonyl)-2-cyclohexen-1-one,
3-chloro-2-([2-[(methylthio)methyl]-6-(1H-1,2,4-triazol-1-yl)pyridine-3-yl]carbonyl)-2-cyclohexen-1-one,
4-chloro-3-([2-methyl-6-(1H-1,2,4-triazol-1-yl)pyridin-3-yl]carbonyl)bicyclo[3.2.1]-3-octen-2-one.

Typical examples of the compounds of formula (XIX)

51

include the following.

(1-Ethyl-hydroxy-1H-pyrazol-4-yl) [2-methyl-6-(1H-1,2,4-triazol-1-yl)pyridin-3-yl]methanone,
(5-hydroxy-1,3-dimethyl-1H-pyrazol-4-yl) [2-methyl-6-(1H-1,2,4-triazol-1-yl)pyridin-3-yl]methanone,
(3-cyclopropane-5-hydroxy-1-methyl-1H-pyrazol-4-yl) [2-methyl-6-(1H-1,2,4-triazol-1-yl)pyridin-3-yl]methanone,
(5-hydroxy-1-methyl-1H-pyrazol-4-yl) [(methoxymethyl)-6-(1H-1,2,4-triazol-1-yl)pyridin-3-yl]methanone.

The halogenating agent in the manufacturing method (h), the compounds of formula (XVIII) as the raw material in the manufacturing method (i), and the compounds of formula (XX) as the raw material in the manufacturing method (j) are well known.

As the halogenating agent, the following ones can be used.

Phosphorus oxychloride, phosphorus oxybromide, phosphorus trichloride, phosphorus tribromide, oxalyl dichloride, oxalyl dibromide, thionyl chloride, and thionyl bromide.

Examples of the compounds of formula (XVIII) include the following.

Methanethiol, thiophenol, benzylthiol, imidazole, pyrazole, 1,2,4-triazole, and tetrazole.

Examples of the compounds of formula (XX) include the following.

Iodomethane, allyl bromide, propargyl bromide, benzyl bromide, methanesulfonyl chloride, ethanesulfonyl chloride, propanesulfonyl chloride, benzenesulfonyl chloride, p-toluenesulfonyl chloride, and phenacyl chloride.

The reaction of the manufacturing method (a) can be carried out in a suitable diluent, and examples of the diluent include aliphatic, cycloaliphatic, and aromatic hydrocarbons (that are chlorinated in some cases), for example, toluene, dichloromethane, chloroform, and 1,2-dichloroethane; ethers, for example, ethyl ether, dimethoxyethane (DME), and tetrahydrofuran (THF); ketones, for example, methyl isobutyl ketone (MIBK); nitriles, for example, acetonitrile; esters, for example, ethyl acetate; acid amides, for example, dimethylformamide (DMF).

The manufacturing method (a) can be carried out in the presence of a cyanogen compound and a base, and examples of the cyanide compound include sodium cyanide, potassium cyanide, acetone cyanohydrin, and hydrogen cyanide. Examples of the base include inorganic bases such as hydroxides and carbonates of alkaline metals and alkaline earth metals, for example, sodium carbonate, potassium carbonate, lithium hydroxide, sodium hydroxide, potassium hydroxide, and calcium hydroxide; and organic bases such as tertiary amines, dialkylaminoanilines, and pyridines, for example, triethylamine, pyridine, 4-dimethylaminopyridine (DMAP), 1,4-diazabicyclo[2,2,2]octane (DABCO), and 1,8-diazabicyclo[5.4.0]undec-7-ene (DBU).

The manufacturing method (a) can be carried out by adding a phase transfer catalyst, and examples of the phase transfer catalysts include crown ethers, for example, dibenzo-18-crown-6, 18-crown-6, and 15-crown-5.

The manufacturing method (a) can be carried out in a substantially wide temperature range. The temperature is generally from about -10 to about 80°C, and preferably from about 5 to about 40°C. Moreover, it is desirable that the reaction is carried out under normal pressure, but the operation can also be carried out under pressure or under reduced pressure in some cases.

In the manufacturing method (a), a target compound of formula (I) can be obtained, for example, by reacting 1 to 4 mol of triethylamine with 1 mol of a compound of formula (II) in a diluent, for example, acetonitrile, in the presence of 0.01 to 0.5 mol of acetone cyanohydrin.

When rearrangement reaction of the compounds of formula (IV) are carried out in the manufacturing method (a), the rearrangement of the compound of formula (IV) can be conducted in the presence of a base.

Such a reaction can be carried out in an appropriate diluent, and examples of the diluent include ethers, for example, dioxane, and tetrahydrofuran (THF); and alcohols, for example, tert-amylalcohol, and tert-butylalcohol.

Moreover, examples of the base include inorganic bases such as carbonates of alkaline metals, for example, sodium carbonate, and potassium carbonate; and organic bases, such as tertiary amines, for example, triethylamine, pyridine, and 4-dimethylaminopyridine (DMAP).

The reaction can be carried out in a substantially wide temperature range, and the temperature is generally from about

54

5 to about 200°C, and preferably from about 25 to about 130°C. Moreover, it is desirable that the reaction is carried out under normal pressure, but the operation can be carried out under pressure or under reduced pressure in some cases.

In the reaction, a target compound of formula (I) can be obtained, for example, by reacting 0.5 to 2 mol of potassium carbonate with 1 mol of the compound of formula (IV) in a diluent, for example, dioxane.

The reaction of the manufacturing method (b) can be carried out in an appropriate diluent, and examples of the diluent include aliphatic, cycloaliphatic, and aromatic hydrocarbons (that may be chlorinated in some cases), for example, toluene, dichloromethane, chloroform, and 1,2-dichloroethane; ethers, for example, tetrahydrofuran (THF); nitriles, for example, acetonitrile; and alcohols, for example, methanol, ethanol, and isopropanol.

The manufacturing method (b) can be carried out in a substantially wide temperature range. The temperature is generally from about -10 to about 100°C, and preferably from about 0 to about 50°C. Moreover, it is desirable that the reaction is carried out under normal pressure, but the operation can be carried out under pressure or under reduced pressure in some cases.

In the manufacturing method (b), a target compound of the formula (I) can be obtained, for example, by reacting 1 to 1.5 mol of hydroxylamine hydrochloride with 1 mol of the compound of formula (V) in a diluent, for example ethanol, in the presence

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of 1 to 1.5 mol of sodium acetate.

The manufacturing method (b) can be successively carried out without isolating the compounds of formulae (V), (VI), (VII) and (VIII), and a target compound of formula (I) can be obtained.

The reaction of the manufacturing method (c) can be carried out in an appropriate diluent, and examples of the diluent include aliphatic, cycloaliphatic, and aromatic hydrocarbons (that may be chlorinated in some cases), for example, toluene, dichloromethane, chloroform, and 1,2-dichloroethane; ethers, for example, tetrahydrofuran (THF); nitriles, for example, acetonitrile; and alcohols, for example, methanol, ethanol, and isopropanol.

The manufacturing method (c) can be carried out in the presence of a base, and examples of the bases include inorganic bases such as acetates, carbonates, and bicarbonates of alkaline metals and alkaline earth metals, for example, sodium acetate, sodium hydrogen carbonate, potassium hydrogen carbonate, sodium carbonate, and potassium carbonate; and organic bases such as tertiary amines, dialkylaminoanilines, and pyridines, for example, triethylamine, pyridine, and 4-dimethylaminopyridine (DMAP).

The manufacturing method (c) can be carried out in a substantially wide temperature range. The temperature is generally from about -10 to about 100°C, and preferably from about 0 to about 50°C. Moreover, it is desirable that the reaction is carried out under normal pressure, but the operation can be carried out under pressure or under reduced pressure in

some cases.

In the manufacturing method (c), a target compound of the formula (I) can be obtained, for example, by reacting 1 to 1.5 mol of the compound of formula (X) with 1 mol of the compound of formula (IX) in a diluent, for example, toluene.

The reaction of the manufacturing method (d) can be carried out in an appropriate diluent, and examples of the diluent include aliphatic, cycloaliphatic, and aromatic hydrocarbons (that may be chlorinated in some cases), for example, pentane, hexane, cyclohexane, petroleum ether, ligroin, benzene, toluene, xylene, dichloromethane, chloroform, carbon tetrachloride, 1,2-dichloroethane, chlorobenzene, and dichlorobenzene; ethers, for example, ethyl ether, methyl ethyl ether, isopropyl ether, butyl ether, dioxane, dimethoxyethane (DME), tetrahydrofuran (THF), and diethylene glycol dimethyl ether (DGM); ketones, for example, acetone, methyl ethyl ketone (MEK), methyl isopropyl ketone, and methyl isobutyl ketone (MIBK); nitriles, for example, acetonitrile, propionitrile, and acrylonitrile; esters, for example, ethyl acetate, and amyl acetate; acid amides, for example, dimethylformamide (DMF), dimethylacetamide (DMA), N-methylpyrrolidone, 1,3-dimethyl-2-imidazolidinone, and hexamethylphosphoric triamide (HMPA); sulfones and sulfoxides, for example, dimethyl sulfoxide (DMSO), and sulfolane; and bases, for example, pyridine.

The manufacturing method (d) can be carried out in the presence of an acid binding agent, and examples of such an acid

57

binding agent include inorganic bases, such as hydrides, hydroxides, carbonates and bicarbonates of alkaline metals and alkaline earth metals, for example, sodium hydride, lithium hydride, sodium hydrogen carbonate, potassium hydrogen carbonate, sodium carbonate, potassium carbonate, lithium hydroxide, sodium hydroxide, potassium hydroxide, and calcium hydroxide; inorganic alkaline metal amides, for example, lithium amide, sodium amide, and potassium amide; organic bases such as alcoholate, tertiary amines, dialkylaminoanilines and pyridines, for example, triethylamine, 1,1,4,4-tetramethylethylenediamine (TMEDA), N,N-dimethylaniline, N,N-diethylaniline, pyridine, 4-dimethylaminopyridine (DMAP), 1,4 diazabicyclo[2,2,2]octane (DABCO), and 1,8-diazabicyclo[5,4,0] undec-7-ene (DBU); and organic lithium compounds, for example, methyl lithium, n-butyl lithium, sec-butyl lithium, tert-butyl lithium, phenyl lithium, dimethyl copper lithium, lithium diisopropylamide, lithium cyclohexylisopropylamide, lithium dicyclohexylamide, n-butyl lithium/DABCO, n-butyl lithium/DBU, and n-butyl lithium/TMEDA.

The manufacturing method (d) can be carried out in a substantially wide temperature range. It is generally carried out between about 25 and about 180°C, preferably between about 50 and about 130°C. Moreover, it is desirable that the reaction is carried out under normal pressure, but the operation can also be carried out under pressure or under reduced pressure.

In the manufacturing method (d), a target compound can be obtained, for example, by reacting 1 mol to 5 mol of 1H-1,2,4-triazole with 1 mol of the compound of formula (XI) in a diluent, for example, dimethylformamide in the presence of a base, for example, potassium carbonate.

The reaction of the manufacturing method (e) can be carried out under conditions similar to those of the manufacturing method (b).

The manufacturing method (f) can be carried out in an appropriate diluent, and examples of the diluent include aliphatic, cycloaliphatic, and aromatic hydrocarbons (that may be chlorinated in some cases), for example, pentane, hexane, cyclohexane, petroleum ether, ligroin, benzene, toluene, xylene, dichloromethane, chloroform, carbon tetrachloride, 1,2-dichloroethane, chlorobenzene, and dichlorobenzene; ethers, for example, ethyl ether, methyl ethyl ether, isopropyl ether, butyl ether, dioxane, dimethoxyethane (DME), tetrahydrofuran (THF), and diethylene glycol dimethyl ether (DGM); acid amides, for example, dimethylformamide (DMF), dimethylacetamide (DMA), N-methylpyrrolidone, 1,3-dimethyl-2-imidazolidinone, and hexamethylphosphoric triamide (HMFA); sulfones and sulfoxides, for example, dimethylsulfoxide (DMSO), and sulfolane; and bases, for example, pyridine.

The manufacturing method (f) can be carried out in the presence of an acid binding agent, and examples of the acid binding agent include inorganic bases such as hydrides,

hydroxides, carbonates, and bicarbonates of alkaline metals and alkaline earth metals, for example, sodium hydride, lithium hydride, sodium hydrogen carbonate, potassium hydrogen carbonate, sodium carbonate, potassium carbonate, lithium hydroxide, sodium hydroxide, potassium hydroxide, and calcium hydroxide; inorganic alkaline metal amides, for example, lithium amide, sodium amide, and potassium amide; organic bases such as alcoholate, tertiary amines, dialkylaminocanilins, and pyridines, for example, triethylamine, 1,1,4,4-tetramethylethylenediamine (TMEDA), N,N-dimethylaniline, N,N-diethylaniline, pyridine, 4-dimethylaminopyridine (DMAP), 1,4-diazabicyclo[2,2,2]octane (DABCO) and 1,8-diazabicyclo[5,4,0]undec-7-ene (DBU); and organic lithium compounds, for example, methyl lithium, n-butyl lithium, sec-butyl lithium, tert-butyl lithium, phenyl lithium, dimethyl copper lithium, lithium diisopropyl amide, lithium cyclohexylisopropylamide, lithium dicyclohexylamide, n-butyl lithium/DABCO, n-butyl lithium/DBU, and n-butyl lithium/TMEDA.

The manufacturing method (f) can be carried out in a substantially wide temperature range. It is generally carried out between about -70 and about 200°C, and preferably between about -50 and about 100°C. Moreover, it is desirable that the reaction is carried out under normal pressure, but the operation can be carried out under pressure or under reduced pressure.

In manufacturing method (f), a target compound can be

obtained, for example, by reacting 1 mol to 2 mol of the compound of formula (XIV) with 1 mol of the compound of formula (XIII) in a diluent, for example THF in the presence of 1.0 mol to 3 mol of sodium hydride.

The reaction of the manufacturing method (g) can be carried out in an appropriate diluent, and examples of the diluent include water; aliphatic, cycloaliphatic, and aromatic hydrocarbons (that may be chlorinated in some cases), for example, pentane, hexane, cyclohexane, petroleum ether, ligroin, benzene, toluene, xylene, dichloromethane, chloroform, carbon tetrachloride, 1,2-dichloroethane, chlorobenzene, and dichlorobenzene; ethers, for example, ethyl ether, methyl ethyl ether, isopropyl ether, butyl ether, dioxane, dimethoxyethane (DME), tetrahydrofuran (THF), and diethylene glycol dimethyl ether (DGM); alcohols, for example, methanol, ethanol, isopropanol, butanol, and ethylene glycol; esters, for example, ethyl acetate, and amyl acetate; acid amides, for example, dimethylformamide (DMF), dimethylacetamide (DMA), N-methylpyrrolidone, 1,3-dimethyl-2-imidazolidinone, and hexamethylphosphoric triamide (HMPA); sulfones and sulfoxides, for example, dimethyl sulfoxide (DMSO), and sulfolane; and bases, for example, pyridine.

The manufacturing method (g) can be carried out in a substantially wide temperature range. It is generally carried out between about -70 and about 200°C, and preferably between about -30 and about 100°C. Moreover, it is desirable that the

61

reaction is carried out under normal pressure, but the operation can also be carried out under pressure or under reduced pressure.

In the manufacturing method (g), a target compound can be obtained, for example, by reacting 1 mol of the compound of formula (XV) in a diluent, for example, dichloromethane in the presence of 1 mol to 3 mol of triethylamine.

The reaction of the manufacturing method (h) can be carried out in an appropriate diluent, and examples of the diluent include aliphatic, cycloaliphatic, and aromatic hydrocarbons (that may be chlorinated in some cases), for example, pentane, hexane, cyclohexane, petroleum ether, ligroin, benzene, toluene, xylene, dichloromethane, chloroform, carbon tetrachloride, 1,2-dichloroethane, and chlorobenzene; ethers, for example, ethyl ether, methyl ethyl ether, isopropyl ether, butyl ether, dioxane, dimethoxyethane (DME), tetrahydrofuran (THF), and diethylene glycol dimethyl ether (DGM); ketones, for example, acetone, methyl ethyl ketone (MEK), methyl isopropyl ketone, and methyl isobutyl ketone (MIBK); nitriles, for example acetonitrile, and propionitrile; esters, for example, ethyl acetate, and amyl acetate; and acid amides, for example, dimethylformamide (DMF), dimethyl acetamide (DMA), N-methylpyrrolidone, 1,3-dimethyl-2-imidazolidinone, and hexamethylphosphoric triamide (HMPA).

The reaction of the manufacturing method (h) can be carried out in a substantially wide temperature range. The

temperature is generally from about -20 to about 100°C, and preferably about 0 to about 50°C. Moreover, it is desirable that the reaction is carried out under normal pressure, but the operation can also be carried out under pressure or under reduced pressure in some cases.

In the manufacturing method (h), a target compound of formula (I) can be obtained, for example, by reacting 1 to 5 mol of oxalyl dichloride with 1 mol of the compound of formula (XVI) in a diluent, for example, dichloromethane.

The reaction of the manufacturing method (i) can be carried out in an appropriate diluent, and examples of the diluent include aliphatic, cycloaliphatic, and aromatic hydrocarbons (that may be chlorinated in some cases), for example, pentane, hexane, cyclohexane, petroleum ether, ligroin, benzene, toluene, xylene, dichloromethane, chloroform, carbon tetrachloride, 1,2-dichloroethane, chlorobenzene, and dichlorobenzene; ethers, for example, ethyl ether, methyl ethyl ether, isopropyl ether, butyl ether, dioxane, dimethoxyethane (DME), tetrahydrofuran (THF), and diethylene glycol dimethyl ether (DGM); ketones, for example, acetone, methyl ethyl ketone (MEK), methyl isopropyl ketone, and methyl isobutyl ketone (MIBK); nitriles, for example, acetonitrile, propionitrile, and acrylonitrile; esters, for example, ethyl acetate, and amyl acetate; acid amides, for example, dimethylformamide (DMF), dimethylacetamide (DMA), and N-methylpyrrolidone; sulfones and sulfoxides, for example, dimethylsulfoxide (DMSO), and sulfolane; and bases, for example,

63

pyridine.

The manufacturing method (i) can be carried out in the presence of an acid binding agent, and examples of the acid binding agent include inorganic bases such as hydrides and carbonates of alkaline metals, for example, sodium hydride, lithium hydride, sodium carbonate, and potassium carbonate; and organic bases such as tertiary amines, dialkylaminoanilines and pyridines, for example, triethylamine, 1,1,4,4-tetramethylethylenediamine (TMEDA), pyridine, 4-dimethylaminopyridine (DMAE), 1,4-diazabicyclo[2,2,2]octane (DABCO), and 1,3-diazabicyclo[5,4,0]undec-7-ene (DBU).

The reaction of the manufacturing method (i) can be carried out in a substantially wide temperature range. The temperature is generally from about -20 to about 140°C, and preferably from about 0 to about 100°C. Moreover, it is desirable that the reaction is carried out under normal pressure, but the operation can also be carried out under pressure or under reduced pressure in some cases.

In the manufacturing method (i), a target compound of formula (I) can be obtained, for example, by reacting 1 to 5 mol of the compound of formula (XVIII) with 1 mol of the compound of formula (XVII) in a diluent, for example, tetrahydrofuran in the presence of 1 to 5 mol of triethylamine.

The reaction of the manufacturing method (j) can be carried out under conditions similar to those of the manufacturing method (h).

The active compound of formula (I) of the present

64

invention shows excellent herbicide activity for various weeds as shown in biological test examples described later, and can be used as a herbicide. In the present specification, the weeds mean, in a broad sense, all plants growing in locations where they are undesired. The compound of the present invention acts as a selective herbicide depending on the application concentration. The active compound can be used, for example, between the following weeds and cultivated plants.

The genus of dicotyledonous weeds: *Sinapis, Capsella, Leipidium, Galium, Stellaria, Chenopodium, Kochia, Urtica, Senecio, Amaranthus, Portulaca, Xanthium, Ipomoea, Polygonum, Ambrosia, Cirsium, Sonchus, Solanum, Eriopappa, Lamium, Veronica, Datura, Viola, Galeopsis, Papaver, Centaurea, Galinsoga, Potala, Lindernia, Sesbania, Trifolium, Abutilon, Lamium, Matricaria, Artemisia, Sesbania, Pharbitis, Amaranthus* and the like.

The genus of dicotyledonous cultivated plants: *Gossypium, Glycine, Beta, Daucus, Phaseolus, Pisum, Solanum, Linum, Ipomoea, Vicia, Nicotiana, Lycopersicon, Arachis, Brassica, Lactuca, Cucumis, Cucurbita* and the like.

The genus of monocotyledonous weeds: *Echinochloa, Setaria, Panicum, Digitaria, Phleum, Poa, Festuca, Eleusine, Lolium, Bromus, Avena, Cyperus, Sorghum, Agropyron, Monochoria, Fimbristylis, Sagittaria, Eleocharis, Scirpus, Paspalum, Ischaemum, Agrostis, Alopecurus, Cynodon, Commelina, Brachiaria, Leptochloa, Echinochloa* and the like.

The genus of monocotyledonous cultivated plants: *Oryza,*

65

Zea, Triticum, Hordeum, Avena, Secale, Sorghum, Panicum, Saccharum, Ananas, Asparagus, Allium and the like.

However, use of the active compound of formula (I) of the present invention is not limited only for weeds of these kinds of grasses, and can be applied similarly to weeds of other kinds of grasses.

Use of the compound of the present invention is not limited to the above plants and similarly applicable to other plants. Moreover, the active compounds of the present invention can non-selectively control weeds according to the application concentration, and can be used at, for example, an industrial site such as a factory, a railroad track, a road, a forested site, a non-forested site or the like. Furthermore, the active compounds of the present invention can be used to control weeds in perennial plant cultivation, and can be applied to, for example, planting, ornamental planting, orchard, grape vineyard, citrus orchard, nut orchard, banana plantation, coffee plantation, tea plantation, rubber plant plantation, guinea oil palm plantation, cocoa plantation, small orchard, hop plantation or the like, and, in annual plant cultivation, can also be applied to selectively control weeds.

The active compounds of the present invention, for actual use, can be prepared in customary formulations. Examples of the formulations include solution, wettable powder, emulsion, suspension, dust, water-dispersible granule, tablet, granule, suspended emulsifiable concentrate, and microcapsules in a polymer substance.

65

These formulations can be manufactured by known methods per se. For example, they can be prepared by mixing the active compounds with extenders, namely, liquid or solid diluents or carriers, and, optionally, with surfactants, namely emulsifiers and/or dispersants and/or foam-forming agents.

Examples of the liquid diluents or carriers include aromatic hydrocarbons (for example, xylene, toluene, and alkyl naphthalene), chlorinated aromatic or chlorinated aliphatic hydrocarbons (for example, chlorobenzenes, ethylene chlorides, and methylene chloride), aliphatic hydrocarbons [for example, cyclohexane, and paraffins (for example, mineral oil fraction)], alcohols (for example, butanol, and glycol) and ethers and esters thereof, ketones (for example, acetone, methyl ethyl ketone, methyl isobutyl ketone, and cyclohexanone), strongly polar solvents (for example, dimethylformamide, and dimethylsulfoxide), and water. In the case where water is used as an extender, for example, an organic solvent can be used as an auxiliary solvent.

Examples of the solid diluent or carrier include crushed natural mineral (for example, kaolin, clay, talc, chalk, quartz, attapulgite, montmorillonite, and diatomaceous earth), and crushed synthetic mineral (for example, high-dispersed silicic acid, alumina, and silicate). Examples of the solid carrier for use in granule include crushed and sorted rock (for example, calcite, marble, pumice, meerschaum, and dolomite), synthesized grain of inorganic and organic powder, fine granular body of organic material (for example, sawdust, shell

of coco, corncob, and stem of cigarette).

Examples of the emulsifier and/or the foam-forming agent include nonionic and anionic emulsifiers [for example, polyoxyethylene fatty acid ester, polyoxyethylene fatty acid alcohol ether (for example, alkylaryl polyglycol ether, alkylsulfonate, alkylsulfate, and arylsulfonate)], and albumin hydrolysate.

As the decomposing agent, for example, lignin sulfite waste fluid and methyl cellulose are included.

A fixing agent can also be used in formulations (powder material, granule, and emulsion), and examples of the fixing agent include carboxymethylcellulose, and natural and synthetic polymer (for example, gum arabic, polyvinyl alcohol, and polyvinyl acetate).

A coloring agent can also be used and examples of the coloring agent include inorganic pigments (for example, iron oxide, titanium oxide, and Prussian blue), organic dyes such as alizarin dyes, azo dyes, and metal phthalocyanine dyes, and trace elements such as salts of metals including iron, manganese, boron, copper, cobalt, molybdenum, and zinc.

The formulations can generally contain the active compound(s) of formula (I) within a range of 0.1 to 95 wt%, and preferably contains the compound(s) within a range of 0.5 to 90 wt%.

The active compound of formula (I) of the present invention can be used for controlling weeds as such or in their formulation foams. Moreover, the active compound of formula

58

(I) of the present invention can also be used in combination with a known herbicide. A mixed herbicide composition with a known herbicide may be previously prepared as a final formulation form, or can be prepared by tank-mixing on occasion of application.

For example, the following herbicides shown in common names can be exemplified as specific examples of herbicides that can be used in combination with the active compounds of formula (I) of the present invention.

Sulfonylurea herbicides: for example, chlorsulfuron, sulfometuron methyl, chlorimuron ethyl, triasulfuron, amidosulfuron, oxasulfuron, tribenuron ethyl, prosulfuron, ethametsulfuron methyl, triflurosulfuron methyl, thifensulfuron methyl, flazasulfuron, rimsulfuron, nicosulfuron, flupyraulfuron, bensulfuron methyl, pyraclosulfuron ethyl, foramsulfuron, sulfosulfuron, cinosulfuron, azimsulfuron, metsulfuron-methyl, halosulfuron methyl, ethoxysulfuron, cyclosulfamuron, and iodosulfuron;

carbamate herbicides: for example, phenmedipham, chloropropham, asulam, benthicarb, molinate, esprocarb, pyributicarb, dimepiperate, and swep;

chloroacetanilide herbicides: for example, propachlor, metachlor, alachlor, acetoachlor, metolachlor, butachlor, pretilachlor, and thenylachlor;

diphenylether herbicides: for example, acifluorfen, oxifluorfen, lactofen, fomesafen, acetonifen, chlormethoxyfen, bifentox, and CNP;

triazine herbicides: for example, simazine, atrazine, propazine, cyanazine, ametryn, simetryn, dimethametryn, and prometryn;

phenoxy acid or benzoic acid herbicides: for example, 2,3,6-TBA, dicamba, quinclorac, quinmerac, clopyralid, picloram, triclopyr, fluroxypyr, fenoxaprop, diclofop methyl, fluacifop buthyl, haloxyfop methyl, quizalofop ethyl, cyhalofop butyl, 2,4-FA, MCP, MCPB, and phenothiol;

acid amide or urea herbicides: for example, isoxaben, diflufenican, diuron, linuron, fluometuron, difenoxuron, methyldymron, isoproturon, isouron, tebuthiuron, methabenzthiazuron, propanil, mefenacet, chlomeprop, naproanilide, bromobutide, dymron, cumyluron, etobenzamide, and oxaziclomefone;

organic phosphorus herbicides: for example, glyphosate, bialaphos, glufosinate, L-glufosinate, amiprofos methyl, anilofos, bensulide, piperophos, and butamifos;

dinitroaniline herbicides: for example, trifluralin, and prodiamine;

phenol herbicides: for example, bromoxynil, isoxynil, and dinoseb;

cyclohexanedione herbicides: for example, alloxymid, sethoxydim, cloproxydim, clethodim, cycloxydim, and tralkoxydim;

imidazolinone herbicides: for example, imazamethabenz, imazapyr, imazamethapyr, imazethapyr, imazamox, and imazaquin;

70

bipyridium herbicides: for example, paraquat, and
diquat;

carbamoyltetracolinone herbicides: for example,
fentrazamide;

nitrile herbicides: cichlobenil; and

other herbicides: for example, bentazone, tridiphane,
indanofan, amitrol, carfentrazone ethyl, sulfentrazone,
fenchlorazol ethyl, isoxaflutole, clomazone, maleic acid
hydrazide, pyridate, chloridazon, norflurazon, pyriithiobac,
bromacil, terbacil, metribuzin, oxaciclomefone, cinmethylin,
flumiclorac pentyl, flumioxazin, fluthiacet methyl,
atafenidin, benfuresate, oxadiazon, oxadiargyl, pentoxazone,
cafenstrole, pyriminobac, bispyribac sodium, pyribenzoxim,
pyriftalid, pyraflufen ethyl, benzobicyclon, dithiopyr,
dalapon, and chlorthiamid.

The above active compounds are known herbicides described
in "Pesticide Manual", published by British Crop Protect
Council in 2000.

Moreover, when the active compounds of formula (I) of the
present invention are blended with a phytotoxicity-reducing
agent, phytotoxicity is reduced by this blending, and wider
spectrum of weed controlling is provided, and thereby wider
application as selective herbicide can be provided.

Examples of the phytotoxicity-reducing agent include the
following compounds represented by general names or development
codes.

AD-67, BAS-145138, benoxacor, cloquintocet-mexyl,

71

cyometrinil, 2,4-D, DFA-24, dichlormid, dymron, fenchlorim, fencloracole ethyl, fluracole, fluxofenim, furilacole, isoxadifen-ethyl, mefenpyr-diethyl, MG-191, naphthalic anhydride, oxabetrinil, PFG-1292, and P-29148.

The above phytotoxicity-reducing agent is also described in "Pesticide Manual" published by British Crop Protection Council in 2000.

Furthermore, the above phytotoxicity-reducing agent can be blended with a mixed herbicide composition containing the compound of formula (I) of the present invention and the above herbicide. By this blending, phytotoxicity is reduced and a wider spectrum of weed controlling is provided, and application as a selective herbicide can be made wider.

Surprisingly, a synergy effect can be demonstrated in several blending herbicide composition composed of the compounds of the present invention and known herbicides and/or phytotoxicity-reducing agents.

In the case that the active compounds of formula (I) of the present invention are used, these can be used directly as they are, or used in formulations such as prepared liquid for spraying, emulsion, tablet, suspension, powder, or granule, or application forms prepared by diluting. The active compounds of formula (I) of the present invention can be applied, for example, by the method of liquid agent scattering (watering), spraying, atomizing, or spreading granules.

The active compounds of formula (I) of the present invention can be used at every stage before germination or after

germination of plant. Moreover, they can be taken into the soil prior to seeding.

The application amount of the active compounds of the present invention can be changed in a substantial range, and basically varies, depending on nature of desired effect. When the active compound is used as a herbicide, the application amount of the active compound per 1 hectare can be, for example, is about 0.005 to about 4 kg, and is preferably about 0.01 to about 2 kg.

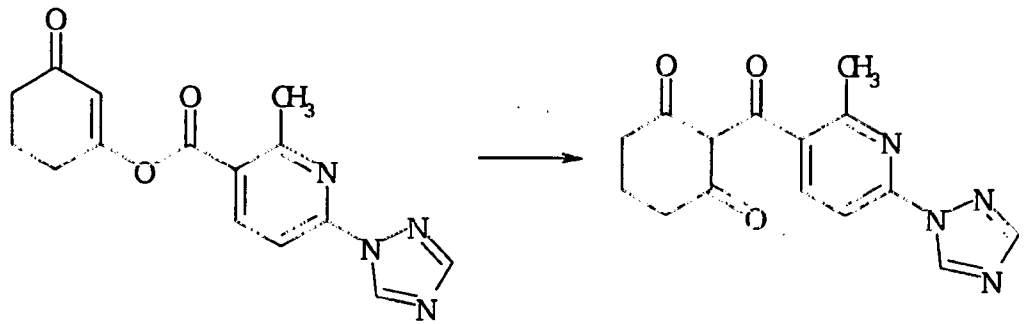
Next, manufacturing and use of the compounds of the present invention are shown more concretely by the following examples, but the present invention should not be limited to only them.

Examples

<Compound example>

Synthesis example 1

Synthesis of
2-([2-methyl-6-(1H-1,2,4-triazol-1-yl)pyridin-3-yl]carbonyl
)cyclohexan-1,3-dione



To acetonitrile (5 ml) solution of

73

3-oxo-1-cyclohexen-1-yl

2-methyl-6-(1H-1,2,4-triazol-1-yl)nicotinate (0.13 g, 0.44 mmol) and triethylamine (0.09 g, 0.87 mmol), a catalytic amount of acetone cyanohydrine was added. The obtained solution was stirred at room temperature around the clock. Volatile materials were evaporated under reduced pressure from the obtained reaction solution, and the obtained residue was made acidic with citric acid aqueous solution, and was extracted with ethyl acetate. After washing the obtained organic layer with water, the organic layer was dried with magnesium sulfate and concentrated to obtain the desired product (0.1 g, yield 77%).

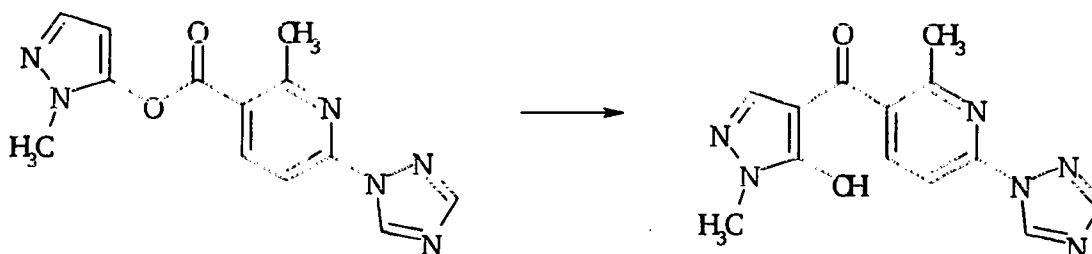
^1H NMR (CDCl_3 , 300 MHz)

δ 2.02-2.16 (2H, m), 2.49 (3H, s), 2.45-2.59 (2H, m), 2.70-2.91 (2H, m), 7.59 (1H, d), 7.74 (1H, d), 8.09 (1H, s), 9.21 (1H, s)

Synthesis example 2

Synthesis of

(5-hydroxy-1-methyl-1H-pyrazol-4-yl)[2-methyl-6-(1H-1,2,4-triazol-1-yl)pyridin-3-yl]methanone



To acetonitrile (5 ml) solution of

1-methyl-1H-pyrazole-5-yl

2-methyl-6-(1H-1,2,4-triazol-1-yl)nicotinate (0.19 g, 0.65 mmol) and triethylamine (0.13 g, 1.29 mmol), a catalytic amount

of acetone cyanohydrin was added. The obtained solution was stirred at room temperature around the clock. Volatile materials were evaporated under reduced pressure from the obtained reaction solution, and the obtained residue was made acidic with citric acid aqueous solution, and was extracted with ethyl acetate. After washing the obtained organic layer with water, the organic layer was dried with magnesium sulfate and concentrated to obtain the desired product (0.18 g, yield 93%).

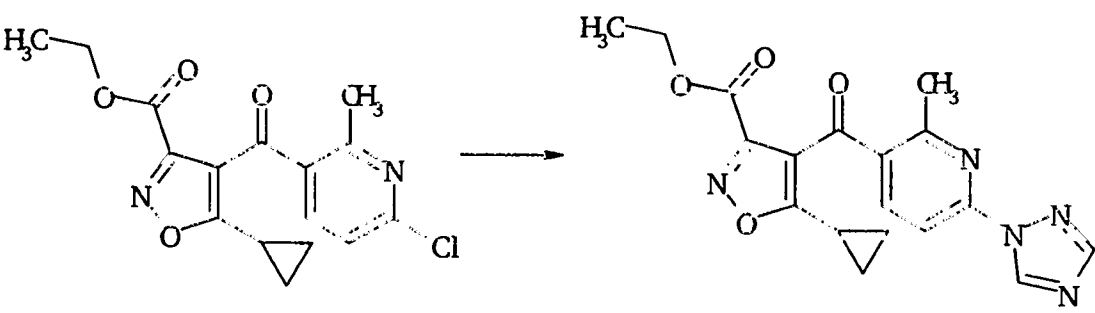
¹H NMR (CDCl₃, 300 MHz)

δ 2.71 (3H, s), 3.73 (3H, s), 7.43 (1H, s), 7.84 (1H, d), 8.00 (1H, d), 8.13 (1H, s), 9.25 (1H, s)

Synthesis example 3

Synthesis of ethyl

5-cyclopropyl-4-([2-methyl-6-(1H-1,2,4-triazol-1-yl)pyridin-3-yl]carbonyl)isoxazole-3-carboxylic acid ester



4-[(6-Chloro-2-methylpyridin-3-yl)

carbonyl]-5-cyclopropylisoxazole-3-carboxylic acid ester

(0.2 g, 0.6 mmol), triazole (0.08 g, 1.19 mmol) and potassium carbonate (0.17 g, 1.19 mmol) were stirred in DMF (5ml) at 100°C for four hours. To the obtained reaction solution, water and ethyl acetate were added. The organic layer was separated.

75

Furthermore, water layer was extracted with ethyl acetate. After washing all the obtained organic layer with water, the organic layer was dried with magnesium sulfate and concentrated. The obtained residue was separated and purified by column chromatography to obtain the desired product (0.15g, yield 68%).

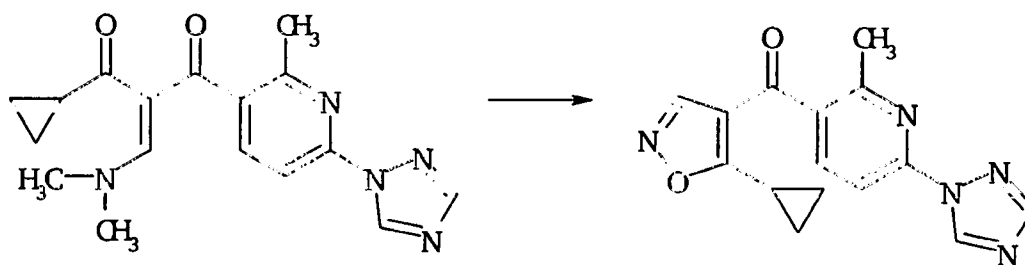
^1H NMR (CDCl_3 , 300 MHz)

δ 1.16-1.38 (7H, m), 2.30-2.39 (1H, m), 2.77 (3H, s), 4.10-4.17 (2H, q), 7.75 (1H, d), 7.85 (1H, d), 8.11 (1H, s), 9.24 (1H, s)

Synthesis example 4

Synthesis of

(5-cyclopropylisooxazol-4-yl)[2-methyl-6-(1H-1,2,4-triazol-1-yl)pyridin-3-yl]methanone



To ethanol (5 ml) solution of

1-cyclopropyl-2-[(dimethylamino)methylene]-3-[2-methyl-6-(1H-1,2,4-triazol-1-yl)pyridin-3-yl]propan-1,3-dione (0.29 g, 0.89 mmol), hydroxylamine hydrochloride (0.07 g, 0.98 mmol) was added. The obtained solution was stirred at room temperature around the clock. To obtained reaction solution, water and ethyl acetate were added. The organic layer was separated.

7b

Furthermore, the water layer was extracted with ethyl acetate. All the obtained organic layer was washed with water, dried with magnesium sulfate and concentrated. The obtained residue was separated and purified by column chromatography to obtain the desired product (0.19g, yield 72%).

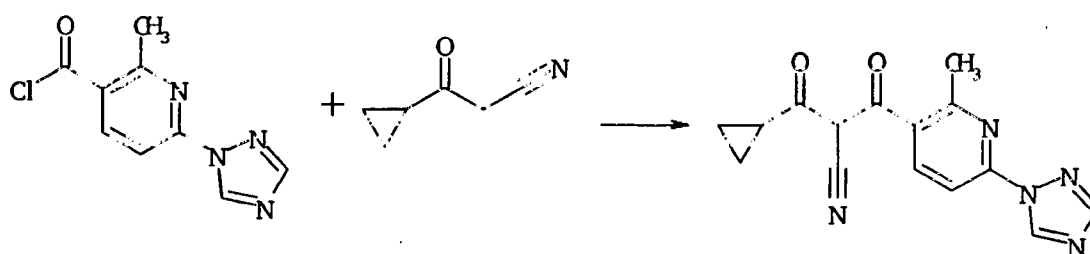
^1H NMR (CDCl_3 , 300 MHz)

δ 1.21-1.40 (4H, m), 2.60-2.73 (1H, m), 2.66 (3H, s), 7.82 (1H, d), 7.90 (1H, d), 8.11 (1H, s), 8.22 (1H, s), 9.22 (1H, s)

Synthesis example 5

Synthesis of

3-cyclopropyl-2-([2-methyl-6-(1H-1,2,4-triazol-1-yl)-pyridin-3-yl]carbonyl)-3-oxopropanenitrile



A THF (2 ml) suspension of sodium hydride (0.06 g, 60% oil suspension, 18.78 mmol) was cooled in an ice bath, and a THF (2 ml) solution of 3-cyclopropyl-3-oxopropanenitrile was dripped thereto. To the obtained reaction solution, a THF (3 ml) solution of 2-methyl-6-(1H-1,2,4-triazol-1-yl) nicotinic acid chloride (0.16 g, 0.73 mmol) was dripped. The resultant was stirred at room temperature for 3 hours. The obtained reaction solution was made acidic with a citric acid aqueous solution, and the product was extracted with ethyl acetate. The obtained organic layer was washed with water, dried with

77

magnesium sulfate and concentrated to obtain the desired product (0.14 g, yield 64%).

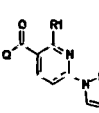
¹H NMR (CDCl₃, 300 MHz)

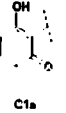
δ 1.26-1.49 (4H, m), 2.38-2.46 (1H, m), 2.70 (3H, s), 7.25 (1H, d), 8.05 (1H, d), 8.12 (1H, s), 9.23 (1H, s)

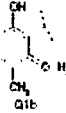
Compounds obtained by operating on the basis of the manufacturing method of the compounds of the present invention explained in the synthesis example 1 to 5 are shown in the following table 1 to table 175 together with the compounds synthesized by the synthesis example 1 to 5.

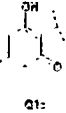
Moreover, the NMR data of physical property values of some compounds are shown in table 176.

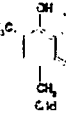
Table 1

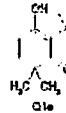


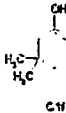


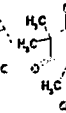


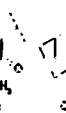


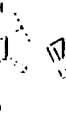






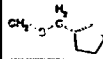
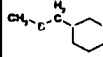
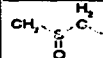
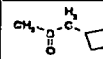
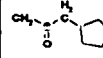
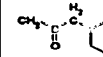
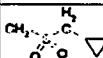
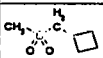
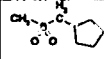
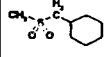






compound number	Q	R1	physical property (melting point-ND)
1-1	Q1a	CH ₃	NMR
1-2	Q1a	CH ₂ CH ₃	
1-3	Q1a	(CH ₂) ₂ CH ₃	
1-4	Q1a		
1-5	Q1a		
1-6	Q1a		
1-7	Q1a		
1-8	Q1a		
1-9	Q1a		
1-10	Q1a		
1-11	Q1a		
1-12	Q1a	CF ₃	138-145°C
1-13	Q1a	CH ₂ CF ₃	
1-14	Q1a	CF ₂ CF ₃	
1-15	Q1a	CH ₂ CH=CH ₂	
1-16	Q1a	CH ₂ C≡CH	
1-17	Q1a	C ₆ H ₅	
1-18	Q1a	CH ₂ C ₆ H ₄	
1-19	Q1a	CH ₂ OCH ₃	NMR
1-20	Q1a	CH ₂ OCH ₂ CH ₃	
1-21	Q1a	CH ₂ O(CH ₂) ₂ CH ₃	
1-22	Q1a	(CH ₂) ₂ OCH ₃	
1-23	Q1a	(CH ₂) ₃ OCH ₃	
1-24	Q1a		
1-25	Q1a		
1-26	Q1a		
1-27	Q1a		
1-28	Q1a	CH ₂ OCH ₂ CF ₃	NMR
1-29	Q1a	CH ₂ OCF ₂ CHF ₂	
1-30	Q1a	CH ₂ OCH ₂ OCF ₂ CF ₃	
1-31	Q1a	CH ₂ OCH ₂ CH=CH ₂	
1-32	Q1a	CH ₂ OCH ₂ CH=CCl ₂	
1-33	Q1a	CH ₂ OCH ₂ CF=CF ₂	
1-34	Q1a	CH ₂ OC ₂ H ₅ = OH	
1-35	Q1a	CH ₂ OCH ₂ C≡CCH ₃	
1-36	Q1a	CH ₂ SCH ₃	1.5756(24)
1-37	Q1a	CH ₂ SCH ₂ CH ₃	
1-38	Q1a	CH ₂ S(CH ₂) ₂ CH ₃	
1-39	Q1a		
1-40	Q1a		

Table 2

compound number	Q	R1	physical property (melting point-ND)
1-41	Q1a		
1-42	Q1a		
1-43	Q1a	CH ₂ SOCH ₂ CF ₃	
1-44	Q1a	CH ₂ SOCH=CH ₂	
1-45	Q1a	CH ₂ SOCH ₂ C≡CH	
1-46	Q1a	CH ₂ SOCH ₃	
1-47	Q1a	CH ₂ SOCH ₂ CH ₃	
1-48	Q1a	CH ₂ SO(CH ₂) ₂ CH ₃	
1-49	Q1a		
1-50	Q1a		
1-51	Q1a		
1-52	Q1a		
1-53	Q1a	CH ₂ SOCH ₂ CF ₃	
1-54	Q1a	CH ₂ SOCH ₂ CH=CH ₂	
1-55	Q1a	CH ₂ SOCH ₂ C≡CH	
1-56	Q1a	CH ₂ SO ₂ CH ₃	173-174°C
1-57	Q1a	CH ₂ SO ₂ CH ₂ CH ₃	
1-58	Q1a	CH ₂ SO ₂ (CH ₂) ₂ CH ₃	
1-59	Q1a		
1-60	Q1a		
1-61	Q1a		
1-62	Q1a		
1-63	Q1a	CH ₂ SO ₂ CH ₂ CF ₃	
1-64	Q1a	CH ₂ SO ₂ CH ₂ CH=CH ₂	
1-65	Q1a	CH ₂ SO ₂ CH ₂ C≡CH	
1-66	Q1a	CH ₂ O(CH ₂) ₂ OCH ₃	NMR
1-67	Q1a	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	
1-68	Q1a	CH ₂ O(CH ₂) ₂ OCH ₂ —]	
1-69	Q1a	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
1-70	Q1a	CH ₂ O(CH ₂) ₂ OCH ₂ CH=CH ₂	
1-71	Q1a	CH ₂ O(CH ₂) ₂ OCH ₂ C≡CH	
1-72	Q1a	CH ₂ O(CH ₂) ₂ SOCH ₃	
1-73	Q1a	CH ₂ O(CH ₂) ₂ SOCH ₂ —]	
1-74	Q1a	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
1-75	Q1a	CH ₂ O(CH ₂) ₂ SOCH ₂ CH=CH ₂	
1-76	Q1a	CH ₂ O(CH ₂) ₂ SOCH ₂ C≡CH	
1-77	Q1a	CH ₂ O(CH ₂) ₂ SOCH ₃	
1-78	Q1a	CH ₂ O(CH ₂) ₂ SOCH ₂ —]	
1-79	Q1a	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
1-80	Q1a	CH ₂ O(CH ₂) ₂ SOCH ₂ CH=CH ₂	

80

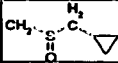
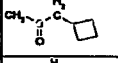
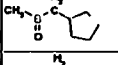
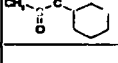
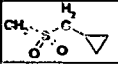
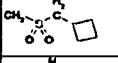
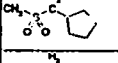
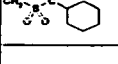
Table 3

compound number	Q	R1	physical property (melting point-ND)
1-81	Q1a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{C} \equiv \text{CH}$	
1-82	Q1a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_3$	
1-83	Q1a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2$ — 	
1-84	Q1a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{CF}_3$	
1-85	Q1a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{CH}=\text{CH}_2$	
1-86	Q1a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{C} \equiv \text{CH}$	
1-87	Q1a		
1-88	Q1a		
1-89	Q1a		
1-90	Q1a		
1-91	Q1a		
1-92	Q1a		
1-93	Q1a		
1-94	Q1a		
1-95	Q1a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NHSO}_2\text{CH}_3$	
1-96	Q1a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{N}(\text{CH}_3)(\text{SO}_2\text{CH}_3)$	
1-97	Q1a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NH}(\text{SO}_2\text{CH}_2$ — )	
1-98	Q1a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NHSO}_2\text{CF}_3$	
1-99	Q1a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NHSO}_2\text{CHF}_2$	
1-100	Q1a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NHSO}_2\text{CH}_2\text{CF}_3$	
1-101	Q1a	SCH_3	
1-102	Q1a	SO_2CH_3	
1-103	Q1a	SO_2CH_3	
1-104	Q1a	SCH_3	
1-105	Q1a	SCH_2CH_3	
1-106	Q1a	$\text{S}(\text{CH}_2)_2\text{CH}_3$	
1-107	Q1a	SCH_2CF_3	
1-108	Q1a	SCF_2CF_3	
1-109	Q1a	$\text{S}(\text{CH}_2)_2\text{SCH}_3$	
1-110	Q1a	NHCH_3	
1-111	Q1a	NHCH_2CH_3	
1-112	Q1a	$\text{N}(\text{CH}_3)_2$	
1-113	Q1a	$\text{N}(\text{CH}_2\text{CH}_3)_2$	
1-114	Q1a	$\text{N}(\text{CH}_3)(\text{CH}_2\text{CH}_3)$	
1-115	Q1b	CH_3	NMR
1-116	Q1b	CH_2CH_3	
1-117	Q1b	$(\text{CH}_2)_2\text{CH}_3$	
1-118	Q1b		
1-119	Q1b		
1-120	Q1b		

Table 4

compound number	Q	R1	physical property (melting point-ND)
1-121	Q1b		
1-122	Q1b		
1-123	Q1b		
1-124	Q1b		
1-125	Q1b		
1-126	Q1b	CF ₃	1.5396(25)
1-127	Q1b	CH ₂ CF ₃	
1-128	Q1b	CF ₂ CF ₃	
1-129	Q1b	CH ₂ CH=CH ₂	
1-130	Q1b	CH ₂ C≡CH	
1-131	Q1b	C ₆ H ₅	
1-132	Q1b	CH ₂ C ₆ H ₄	
1-133	Q1b	CH ₂ OCH ₃	1.5685(25)
1-134	Q1b	CH ₂ OCH ₂ CH ₃	
1-135	Q1b	CH ₂ O(CH ₂) ₂ CH ₃	
1-136	Q1b	(CH ₂) ₂ OCH ₃	
1-137	Q1b	(CH ₂) ₃ OCH ₃	
1-138	Q1b		
1-139	Q1b		
1-140	Q1b		
1-141	Q1b		
1-142	Q1b	CH ₂ OCH ₂ CF ₃	NMR
1-143	Q1b	CH ₂ OCF ₂ CHF ₂	
1-144	Q1b	CH ₂ OCH ₂ OCF ₂ CF ₃	
1-145	Q1b	CH ₂ OCH ₂ CH=CH ₂	
1-146	Q1b	CH ₂ OCH ₂ CH=CCl ₂	
1-147	Q1b	CH ₂ OCH ₂ CF=CF ₂	
1-148	Q1b	CH ₂ OC ₂ C≡CH	
1-149	Q1b	CH ₂ OCH ₂ C≡CCH ₃	
1-150	Q1b	CH ₂ SCH ₃	
1-151	Q1b	CH ₂ SCH ₂ CH ₃	
1-152	Q1b	CH ₂ S(CH ₂) ₂ CH ₃	
1-153	Q1b		
1-154	Q1b		
1-155	Q1b		
1-156	Q1b		
1-157	Q1b	CH ₂ SCH ₂ CF ₃	
1-158	Q1b	CH ₂ SCH ₂ CN=CH ₂	
1-159	Q1b	CH ₂ SCH ₂ C≡CH	
1-160	Q1b	CH ₂ SOCH ₃	

Table 5

compound number	Q	R1	physical property (melting point-ND)
1-161	Q1b	$\text{CH}_2\text{SOCH}_2\text{CH}_3$	
1-162	Q1b	$\text{CH}_2\text{SO}(\text{CH}_2)_2\text{CH}_3$	
1-163	Q1b		
1-164	Q1b		
1-165	Q1b		
1-166	Q1b		
1-167	Q1b	$\text{CH}_2\text{SOCH}_2\text{CF}_3$	
1-168	Q1b	$\text{CH}_2\text{SOCH}_2\text{CH}=\text{CH}_2$	
1-169	Q1b	$\text{CH}_2\text{SOCH}_2\text{C}\equiv\text{CH}$	
1-170	Q1b	$\text{CH}_2\text{SO}_2\text{CH}_3$	
1-171	Q1b	$\text{CH}_2\text{SO}_2\text{CH}_2\text{CH}_3$	
1-172	Q1b	$\text{CH}_2\text{SO}_2(\text{CH}_2)_2\text{CH}_3$	
1-173	Q1b		
1-174	Q1b		
1-175	Q1b		
1-176	Q1b		
1-177	Q1b	$\text{CH}_2\text{SO}_2\text{CH}_2\text{CF}_3$	
1-178	Q1b	$\text{CH}_2\text{SO}_2\text{CH}_2\text{CH}=\text{CH}_2$	
1-179	Q1b	$\text{CH}_2\text{SO}_2\text{CH}_2\text{C}=\text{CH}$	
1-180	Q1b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_3$	

compound number	Q	R1	physical property (melting point-ND)
1-181	Q1b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2\text{CH}_3$	
1-182	Q1b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2$ 	
1-183	Q1b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2\text{CF}_3$	
1-184	Q1b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2\text{CH}=\text{CH}_2$	
1-185	Q1b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2\text{C}=\text{CH}$	
1-186	Q1b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_3$	
1-187	Q1b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2$ 	
1-188	Q1b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2\text{CF}_3$	
1-189	Q1b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2\text{CH}=\text{CH}_2$	
1-190	Q1b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2\text{C}=\text{CH}$	
1-191	Q1b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_3$	
1-192	Q1b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2$ 	
1-193	Q1b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2\text{CF}_3$	
1-194	Q1b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2\text{CH}=\text{CH}_2$	
1-195	Q1b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2\text{C}=\text{CH}$	
1-196	Q1b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_3$	
1-197	Q1b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2$ 	
1-198	Q1b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{CF}_3$	
1-199	Q1b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{CH}=\text{CH}_2$	
1-200	Q1b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{C}=\text{CH}$	

83

Table 6

compound number	Q	R1	physical property (melting point-ND)	compound number	Q	R1	physical property (melting point-ND)
1-201	Q1b			1-221	Q1b	OCH ₂ CF ₃	
1-202	Q1b			1-222	Q1b	OCF ₂ CF ₃	
1-203	Q1b			1-223	Q1b	O(CH ₂) ₂ OCH ₃	
1-204	Q1b			1-224	Q1b	NHCH ₃	
1-205	Q1b			1-225	Q1b	NHCH ₂ CH ₃	
1-206	Q1b			1-226	Q1b	N(CH ₃) ₂	
1-207	Q1b			1-227	Q1b	N(CH ₂ CH ₃) ₂	
1-208	Q1b			1-228	Q1b	N(CH ₃)(CH ₂ CH ₃)	
1-209	Q1b	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₃		1-229	Q1c	CH ₃	
1-210	Q1b	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)		1-230	Q1c	CH ₂ CH ₃	
1-211	Q1b	CH ₂ O(CH ₂) ₂ NH(SO ₂ CH ₂ )		1-231	Q1c	(CH ₂) ₂ CH ₃	
1-212	Q1b	CH ₂ O(CH ₂) ₂ NHSO ₂ CF ₃		1-232	Q1c		
1-213	Q1b	CH ₂ O(CH ₂) ₂ NHSO ₂ CHF ₂		1-233	Q1c		
1-214	Q1b	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₂ CF ₃		1-234	Q1c		
1-215	Q1b	SOCH ₃		1-235	Q1c		
1-216	Q1b	SOCH ₃		1-236	Q1c		
1-217	Q1b	SO ₂ CH ₃		1-237	Q1c		
1-218	Q1b	OCH ₃		1-238	Q1c		
1-219	Q1b	OCH ₂ CH ₃		1-239	Q1c		
1-220	Q1b	O(CH ₂) ₂ CH ₃		1-240	Q1c	CF ₃	

84

Table 7

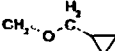
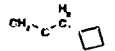
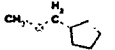
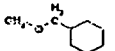
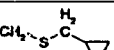
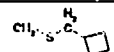
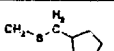
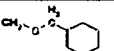
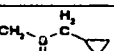
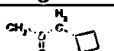
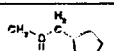
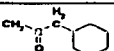
compound number	Q	R1	physical property (melting point-ND)
1-241	Q1c	CH ₂ CF ₃	
1-242	Q1c	CF ₂ CF ₃	
1-243	Q1c	CH ₂ CH=CH ₂	
1-244	Q1c	CH ₂ C≡CH	
1-245	Q1c	C ₆ H ₅	
1-246	Q1c	CH ₂ C ₆ H ₅	
1-247	Q1c	CH ₂ OCH ₃	
1-248	Q1c	CH ₂ OCH ₂ CH ₃	
1-249	Q1c	CH ₂ O(CH ₂) ₂ CH ₃	
1-250	Q1c	(CH ₂) ₂ OCH ₃	
1-251	Q1c	(CH ₂) ₃ OCH ₃	
1-252	Q1c		
1-253	Q1c		
1-254	Q1c		
1-255	Q1c		
1-256	Q1c	CH ₂ NCH ₂ CF ₃	
1-257	Q1c	CH ₂ OCF ₂ CHF ₂	
1-258	Q1c	CH ₂ OCH ₂ CF ₂ CF ₃	
1-259	Q1c	CH ₂ OCH ₂ CH=CH ₂	
1-260	Q1c	CH ₂ OCH ₂ CH=OCH ₂	
1-261	Q1c	CH ₂ OCH ₂ CF=CF ₂	
1-262	Q1c	CH ₂ OC ₂ C≡CH	
1-263	Q1c	CH ₂ OCH ₂ C≡CCH ₃	
1-264	Q1c	CH ₂ SCH ₃	
1-265	Q1c	CH ₂ SCH ₂ CH ₃	
1-266	Q1c	CH ₂ S(CH ₂) ₂ CH ₃	
1-267	Q1c		
1-268	Q1c		
1-269	Q1c		
1-270	Q1c		
1-271	Q1c	CH ₂ SCH ₂ CF ₃	
1-272	Q1c	CH ₂ SCH ₂ CH=CH ₂	
1-273	Q1c	CH ₂ SCH ₂ C≡CH	
1-274	Q1c	CH ₂ SOCH ₃	
1-275	Q1c	CH ₂ SOCH ₂ CH ₃	
1-276	Q1c	CH ₂ SO(CH ₂) ₂ CH ₃	
1-277	Q1c		
1-278	Q1c		
1-279	Q1c		
1-280	Q1c		

Table 8

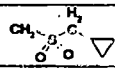
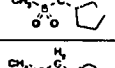
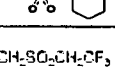
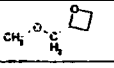
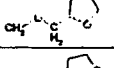
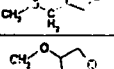
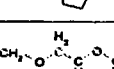
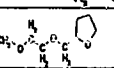
compound number	Q	R1	physical property (melting point-ND)
1-281	Q1c	$\text{CH}_2\text{SOCH}_2\text{CF}_3$	
1-282	Q1c	$\text{CH}_2\text{SOCH}_2\text{CH}=\text{CH}_2$	
1-283	Q1c	$\text{CH}_2\text{SOCH}_2\text{C}\equiv\text{CH}$	
1-284	Q1c	$\text{CH}_2\text{SO}_2\text{CH}_3$	
1-285	Q1c	$\text{CH}_2\text{SO}_2\text{CH}_2\text{CH}_3$	
1-286	Q1c	$\text{CH}_2\text{SO}_2(\text{CH}_2)_2\text{CH}_3$	
1-287	Q1c		
1-288	Q1c		
1-289	Q1c		
1-290	Q1c		
1-291	Q1c	$\text{CH}_2\text{SO}_2\text{CH}_2\text{CF}_3$	
1-292	Q1c	$\text{CH}_2\text{SO}_2\text{CH}_2\text{CH}=\text{CH}_2$	
1-293	Q1c	$\text{CH}_2\text{SO}_2\text{CH}_2\text{C}\equiv\text{CH}$	
1-294	Q1c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_3$	
1-295	Q1c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2\text{CH}_3$	
1-296	Q1c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2$ 	
1-297	Q1c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2\text{CF}_3$	
1-298	Q1c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2\text{CH}=\text{CH}_2$	
1-299	Q1c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2\text{C}\equiv\text{CH}$	
1-300	Q1c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_3$	
1-301	Q1c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2$ 	
1-302	Q1c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2\text{CF}_3$	
1-303	Q1c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2\text{CH}=\text{CH}_2$	
1-304	Q1c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2\text{C}\equiv\text{CH}$	
1-305	Q1c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_3$	
1-306	Q1c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2$ 	
1-307	Q1c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2\text{CF}_3$	
1-308	Q1c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2\text{CH}=\text{CH}_2$	
1-309	Q1c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2\text{C}\equiv\text{CH}$	
1-310	Q1c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_3$	
1-311	Q1c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2$ 	
1-312	Q1c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{CF}_3$	
1-313	Q1c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{CH}=\text{CH}_2$	
1-314	Q1c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{C}\equiv\text{CH}$	
1-315	Q1c		
1-316	Q1c		
1-317	Q1c		
1-318	Q1c		
1-319	Q1c		
1-320	Q1c		

Table 9

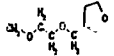
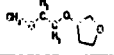
compound number	Q	R1	physical property (melting point-ND)	compound number	Q	R1	physical property (melting point-ND)
1-321	Q1c			1-341	Q1c	N(CH ₂ CH ₃) ₂	
1-322	Q1c			1-342	Q1c	N(CH ₃)(CH ₂ CH ₃)	
1-323	Q1c	CH ₂ C(CH ₃) ₂ NHSO ₂ CH ₃		1-343	Q1d	CH ₃	
1-324	Q1c	CH ₂ C(CH ₃) ₂ N(CH ₃)(SO ₂ CH ₃)		1-344	Q1d	CH ₂ CH ₃	
1-325	Q1c	CH ₂ C(CH ₃) ₂ NH(SO ₂ CH ₂ —)		1-345	Q1d	(CH ₃) ₂ CH ₃	
1-326	Q1c	CH ₂ C(CH ₃) ₂ NHSO ₂ CF ₃		1-346	Q1d		
1-327	Q1c	CH ₂ C(CH ₃) ₂ NHSO ₂ CHF ₂		1-347	Q1d		
1-328	Q1c	CH ₂ C(CH ₃) ₂ NHSO ₂ CH ₂ CF ₃		1-348	Q1d		
1-329	Q1c	SOCH ₃		1-349	Q1d		
1-330	Q1c	SOCH ₃		1-350	Q1d		
1-331	Q1c	SO ₂ CH ₃		1-351	Q1d		
1-332	Q1c	OCH ₃		1-352	Q1d		
1-333	Q1c	OCH ₂ CH ₃		1-353	Q1d		
1-334	Q1c	O(CH ₂) ₂ CH ₃		1-354	Q1d	CF ₃	
1-335	Q1c	OCH ₂ CF ₃		1-355	Q1d	CH ₂ CF ₃	
1-336	Q1c	OCF ₂ CF ₃		1-356	Q1d	CF ₂ CF ₃	
1-337	Q1c	O(CH ₂) ₂ OCH ₃		1-357	Q1d	CH ₂ CH=CH ₂	
1-338	Q1c	NHCH ₃		1-358	Q1d	CH ₂ C≡CH	
1-339	Q1c	NHCH ₂ CH ₃		1-359	Q1d	C ₆ H ₆	
1-340	Q1c	N(CH ₃) ₂		1-360	Q1d	CH ₂ C ₆ H ₅	

Table 10

compound number	Q	R1	physical property (melting point-ND)
1-361	Q1d	CH_2OCH_3	
1-362	Q1d	$\text{CH}_2\text{OCH}_2\text{CH}_3$	
1-363	Q1d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{CH}_3$	
1-364	Q1d	$(\text{CH}_2)_2\text{OCH}_3$	
1-365	Q1d	$(\text{CH}_2)_3\text{OCH}_3$	
1-366	Q1d	$\text{CH}_2-\text{O}-\text{C}(\text{H})-\text{Cyclopropyl}$	
1-367	Q1d	$\text{CH}_2-\text{O}-\text{C}(\text{H})-\text{Cyclobutyl}$	
1-368	Q1d	$\text{CH}_2-\text{O}-\text{C}(\text{H})-\text{Cyclopentyl}$	
1-369	Q1d	$\text{CH}_2-\text{O}-\text{C}(\text{H})-\text{Cyclohexyl}$	
1-370	Q1d	$\text{CH}_2\text{OCH}_2\text{CF}_3$	
1-371	Q1d	$\text{CH}_2\text{OCF}_2\text{CHF}_2$	
1-372	Q1d	$\text{CH}_2\text{OCH}_2\text{OCF}_2\text{CF}_3$	
1-373	Q1d	$\text{CH}_2\text{OCH}_2\text{CH}=\text{CH}_2$	
1-374	Q1d	$\text{CH}_2\text{OCH}_2\text{CH}=\text{CCl}_2$	
1-375	Q1d	$\text{CH}_2\text{OCH}_2\text{CF}=\text{CF}_2$	
1-376	Q1d	$\text{CH}_2\text{OC}_2\text{O}=\text{CH}$	
1-377	Q1d	$\text{CH}_2\text{OCH}_2\text{O}=\text{CCH}_3$	
1-378	Q1d	CH_2SCH_3	
1-379	Q1d	$\text{CH}_2\text{SCH}_2\text{CH}_3$	
1-380	Q1d	$\text{CH}_2\text{S}(\text{CH}_2)_2\text{CH}_3$	

compound number	Q	R1	physical property (melting point-ND)
1-361	Q1d	$\text{CH}_2-\text{S}-\text{C}(\text{H})-\text{Cyclopropyl}$	
1-362	Q1d	$\text{CH}_2-\text{S}-\text{C}(\text{H})-\text{Cyclobutyl}$	
1-363	Q1d	$\text{CH}_2-\text{S}-\text{C}(\text{H})-\text{Cyclopentyl}$	
1-364	Q1d	$\text{CH}_2-\text{S}-\text{C}(\text{H})-\text{Cyclohexyl}$	
1-365	Q1d	$\text{CH}_2\text{SCH}_2\text{CF}_3$	
1-366	Q1d	$\text{CH}_2\text{SCH}_2\text{CH}=\text{CH}_2$	
1-367	Q1d	$\text{CH}_2\text{SCH}_2\text{C}\equiv\text{CH}$	
1-368	Q1d	CH_2SOCH_3	
1-369	Q1d	$\text{CH}_2\text{SOCH}_2\text{CH}_3$	
1-370	Q1d	$\text{CH}_2\text{SO}(\text{CH}_2)_2\text{CH}_3$	
1-371	Q1d	$\text{CH}_2-\text{S}-\text{C}(\text{H})-\text{Cyclopropyl}$	
1-372	Q1d	$\text{CH}_2-\text{S}-\text{C}(\text{H})-\text{Cyclobutyl}$	
1-373	Q1d	$\text{CH}_2-\text{S}-\text{C}(\text{H})-\text{Cyclopentyl}$	
1-374	Q1d	$\text{CH}_2-\text{S}-\text{C}(\text{H})-\text{Cyclohexyl}$	
1-375	Q1d	$\text{CH}_2\text{SOCH}_2\text{CF}_3$	
1-376	Q1d	$\text{CH}_2\text{SOCH}_2\text{CH}=\text{CH}_2$	
1-377	Q1d	$\text{CH}_2\text{SOCH}_2\text{C}=\text{CH}$	
1-378	Q1d	$\text{CH}_2\text{SO}_2\text{CH}_3$	
1-379	Q1d	$\text{CH}_2\text{SO}_2\text{CH}_2\text{CH}_3$	
1-380	Q1d	$\text{CH}_2\text{SO}_2(\text{CH}_2)_2\text{CH}_3$	

Table 11

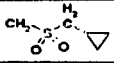
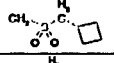
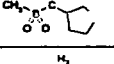
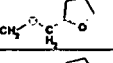
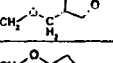
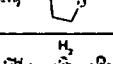
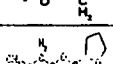
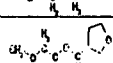
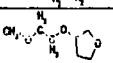
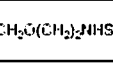
compound number	Q	R1	physical property (melting point-ND)
1-401	Q1d		
1-402	Q1d		
1-403	Q1d		
1-404	Q1d		
1-405	Q1d	$\text{CH}_2\text{SO}_2\text{CH}_2\text{CF}_3$	
1-406	Q1d	$\text{CH}_2\text{SO}_2\text{CH}_2\text{CH}=\text{CH}_2$	
1-407	Q1d	$\text{CH}_2\text{SO}_2\text{CH}_2\text{C}\equiv\text{CH}$	
1-408	Q1d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_3$	
1-409	Q1d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2\text{CH}_3$	
1-410	Q1d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2$ —]	
1-411	Q1d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2\text{CF}_3$	
1-412	Q1d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2\text{CH}=\text{CH}_2$	
1-413	Q1d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2\text{C}\equiv\text{CH}$	
1-414	Q1d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_3$	
1-415	Q1d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2$ —]	
1-416	Q1d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2\text{CF}_3$	
1-417	Q1d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2\text{CH}=\text{CH}_2$	
1-418	Q1d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2\text{C}\equiv\text{CH}$	
1-419	Q1d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_3$	
1-420	Q1d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2$ —]	
1-421	Q1d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2\text{CF}_3$	
1-422	Q1d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2\text{CH}=\text{CH}_2$	
1-423	Q1d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2\text{C}\equiv\text{CH}$	
1-424	Q1d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_3$	
1-425	Q1d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2$ —]	
1-426	Q1d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{CF}_3$	
1-427	Q1d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{CH}=\text{CH}_2$	
1-428	Q1d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{C}\equiv\text{CH}$	
1-429	Q1d		
1-430	Q1d		
1-431	Q1d		
1-432	Q1d		
1-433	Q1d		
1-434	Q1d		
1-435	Q1d		
1-436	Q1d		
1-437	Q1d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NHSO}_2\text{CH}_3$	
1-438	Q1d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{N}(\text{CH}_3)(\text{SO}_2\text{CH}_3)$	
1-439	Q1d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NH}(\text{SO}_2\text{CH}_2$ —])	
1-440	Q1d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NHSO}_2\text{CF}_3$	

Table 12

compound number	Q	R1	physical property (melting point-ND)
1-441	Q1d	<chem>CH2O(CH2)2NH5O2CHF2</chem>	
1-442	Q1d	<chem>CH2O(CH2)2NH5O2CH2CF3</chem>	
1-443	Q1d	<chem>SOCH3</chem>	
1-444	Q1d	<chem>SOCH3</chem>	
1-445	Q1d	<chem>SO2CH3</chem>	
1-446	Q1d	<chem>OCH3</chem>	
1-447	Q1d	<chem>OCH2CH3</chem>	
1-448	Q1d	<chem>O(CH2)2CH3</chem>	
1-449	Q1d	<chem>OCH2CF3</chem>	
1-450	Q1d	<chem>OCF2CF3</chem>	
1-451	Q1d	<chem>O(CH2)2OCH3</chem>	
1-452	Q1d	<chem>NHCH3</chem>	
1-453	Q1d	<chem>NHCH2CH3</chem>	
1-454	Q1d	<chem>N(CH3)2</chem>	
1-455	Q1d	<chem>N(CH2CH3)2</chem>	
1-456	Q1d	<chem>N(CH3)(CH2CH3)</chem>	
1-457	Q1e	<chem>CH3</chem>	NMR
1-458	Q1e	<chem>CH2CH3</chem>	
1-459	Q1e	<chem>(CH2)2CH3</chem>	
1-460	Q1e		

compound number	Q	R1	physical property (melting point-ND)
1-461	Q1e		
1-462	Q1e		
1-463	Q1e		
1-464	Q1e		
1-465	Q1e		
1-466	Q1e		
1-467	Q1e		
1-468	Q1e	<chem>CF3</chem>	
1-469	Q1e	<chem>CH2CF3</chem>	
1-470	Q1e	<chem>CF2CF3</chem>	
1-471	Q1e	<chem>CH2CH=CH2</chem>	
1-472	Q1e	<chem>CHCO=CH</chem>	
1-473	Q1e	<chem>C6H5</chem>	
1-474	Q1e	<chem>CH2C6H5</chem>	
1-475	Q1e	<chem>CH2OCH3</chem>	
1-476	Q1e	<chem>CH2OCH2CH3</chem>	
1-477	Q1e	<chem>CH2O(CH2)2CH3</chem>	
1-478	Q1e	<chem>(CH2)2OCH3</chem>	
1-479	Q1e	<chem>(CH2)3OCH3</chem>	
1-480	Q1e		

Table 13

compound number	Q	R1	physical property (melting point-ND)
1-481	Q1e		
1-482	Q1e		
1-483	Q1e		
1-484	Q1e	$\text{CH}_2\text{OCH}_2\text{CF}_3$	
1-485	Q1e		
1-486	Q1e	$\text{CH}_2\text{OCH}_2\text{CF}_2\text{CF}_3$	
1-487	Q1e	$\text{CH}_2\text{OCH}_2\text{CH}=\text{CH}_2$	
1-488	Q1e	$\text{CH}_2\text{OCH}_2\text{CH}=\text{CHCl}$	
1-489	Q1e	$\text{CH}_2\text{OCH}_2\text{CF}=\text{CF}_2$	
1-490	Q1e	$\text{CH}_2\text{OCH}_2\text{C}=\text{CH}$	
1-491	Q1e	$\text{CH}_2\text{OCH}_2\text{C}=\text{OCH}_3$	
1-492	Q1e	CH_2SCH_3	
1-493	Q1e	$\text{CH}_2\text{SCH}_2\text{CH}_3$	
1-494	Q1e	$\text{CH}_2\text{S}(\text{CH}_2)_2\text{CH}_3$	
1-495	Q1e		
1-496	Q1e		
1-497	Q1e		
1-498	Q1e		
1-499	Q1e	$\text{CH}_2\text{SCH}_2\text{CF}_3$	
1-500	Q1e	$\text{CH}_2\text{SCH}_2\text{CH}=\text{CH}_2$	

compound number	Q	R1	physical property (melting point-ND)
1-501	Q1e	$\text{CH}_2\text{SCH}_2\text{C}\equiv\text{CH}$	
1-502	Q1e	CH_2SOCH_3	
1-503	Q1e	$\text{CH}_2\text{SOCH}_2\text{CH}_3$	
1-504	Q1e	$\text{CH}_2\text{SO}(\text{CH}_2)_2\text{CH}_3$	
1-505	Q1e		
1-506	Q1e		
1-507	Q1e		
1-508	Q1e		
1-509	Q1e	$\text{CH}_2\text{SOCH}_2\text{CF}_3$	
1-510	Q1e	$\text{CH}_2\text{SOCH}_2\text{CH}=\text{CH}_2$	
1-511	Q1e	$\text{CH}_2\text{SOCH}_2\text{C}=\text{CH}$	
1-512	Q1e	$\text{CH}_2\text{SO}_2\text{CH}_3$	
1-513	Q1e	$\text{CH}_2\text{SO}_2\text{CH}_2\text{CH}_3$	
1-514	Q1e	$\text{CH}_2\text{SO}_2(\text{CH}_2)_2\text{CH}_3$	
1-515	Q1e		
1-516	Q1e		
1-517	Q1e		
1-518	Q1e		
1-519	Q1e	$\text{CH}_2\text{SO}_2\text{CH}_2\text{CF}_3$	
1-520	Q1e	$\text{CH}_2\text{SO}_2\text{CH}_2\text{CH}=\text{CH}_2$	

Table 14

compound number	Q	R1	physical property (melting point-ND)
1-521	Q1c	<chem>CH2SO2CH2C#CH</chem>	
1-522	Q1c	<chem>CH2O(CH2)2SCH3</chem>	
1-523	Q1c	<chem>CH2O(CH2)2SCH2CH3</chem>	
1-524	Q1c	<chem>CH2O(CH2)2SCH2</chem> —1	
1-525	Q1c	<chem>CH2O(CH2)2SCH2CF3</chem>	
1-526	Q1c	<chem>CH2O(CH2)2SCH2CH=CH2</chem>	
1-527	Q1c	<chem>CH2O(CH2)2SCH2C#CH</chem>	
1-528	Q1c	<chem>CH2O(CH2)2SCH3</chem>	
1-529	Q1c	<chem>CH2O(CH2)2SCH2</chem> —1	
1-530	Q1c	<chem>CH2O(CH2)2SCH2CF3</chem>	
1-531	Q1c	<chem>CH2O(CH2)2SCH2CH=CH2</chem>	
1-532	Q1c	<chem>CH2O(CH2)2SCH2C#CH</chem>	
1-533	Q1c	<chem>CH2O(CH2)2SOCH3</chem>	
1-534	Q1c	<chem>CH2O(CH2)2SOCH2</chem> —1	
1-535	Q1c	<chem>CH2O(CH2)2SOCH2CF3</chem>	
1-536	Q1c	<chem>CH2O(CH2)2SOCH2CH=CH2</chem>	
1-537	Q1c	<chem>CH2O(CH2)2SOCH2C#CH</chem>	
1-538	Q1c	<chem>CH2O(CH2)2SO2CH3</chem>	
1-539	Q1c	<chem>CH2O(CH2)2SO2CH2</chem> —1	
1-540	Q1c	<chem>CH2O(CH2)2SO2CH2CF3</chem>	
1-541	Q1c	<chem>CH2O(CH2)2SO2CH2CH=CH2</chem>	
1-542	Q1c	<chem>CH2O(CH2)2SO2CH2C#CH</chem>	
1-543	Q1c		
1-544	Q1c		
1-545	Q1c		
1-546	Q1c		
1-547	Q1c		
1-548	Q1c		
1-549	Q1c		
1-550	Q1c		
1-551	Q1c	<chem>CH2O(CH2)2NHSO2CH3</chem>	
1-552	Q1c	<chem>CH2O(CH2)2N(CH3)(SO2CH3)</chem>	
1-553	Q1c	<chem>CH2O(CH2)2NH(SO2CH2</chem> —1)	
1-554	Q1c	<chem>CH2O(CH2)2NHSO2CF3</chem>	
1-555	Q1c	<chem>CH2O(CH2)2NH3O2CHF2</chem>	
1-556	Q1c	<chem>CH2O(CH2)2NHSO2CH2CF3</chem>	
1-557	Q1c	<chem>SOCH3</chem>	
1-558	Q1c	<chem>SOCH3</chem>	
1-559	Q1c	<chem>SO2CH3</chem>	
1-560	Q1c	<chem>OCH3</chem>	

Table 15

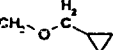
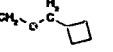
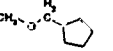
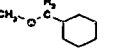
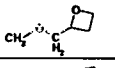
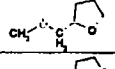
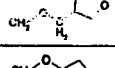
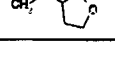
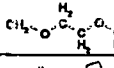
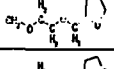
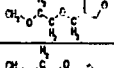
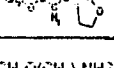
compound number	Q	R1	physical property (melting point-ND)
1-561	Q1c	OCH ₂ CH ₃	
1-562	Q1c	O(CH ₂) ₂ CH ₃	
1-563	Q1c	OCH ₂ CF ₃	
1-564	Q1c	OCF ₂ CF ₃	
1-565	Q1c	O(CH ₂) ₂ OCH ₃	
1-566	Q1c	NHCH ₃	
1-567	Q1c	NHCH ₂ CH ₃	
1-568	Q1c	N(CH ₃) ₂	
1-569	Q1c	N(CH ₂ CH ₃) ₂	
1-570	Q1c	N(CH ₃)(CH ₂ CH ₃)	
1-571	Q1f	CH ₃	
1-572	Q1f	CH ₂ CH ₃	
1-573	Q1f	(CH ₂) ₂ CH ₃	
1-574	Q1f		
1-575	Q1f		
1-576	Q1f		
1-577	Q1f		
1-578	Q1f		
1-579	Q1f		
1-580	Q1f		
1-581	Q1f		
1-582	Q1f	CF ₃	
1-583	Q1f	CH ₂ CF ₃	
1-584	Q1f	CF ₂ CF ₃	
1-585	Q1f	CH ₂ CH=CH ₂	
1-586	Q1f	CH ₃ C≡CH	
1-587	Q1f	C ₆ H ₅	
1-588	Q1f	CH ₂ C ₆ H ₅	
1-589	Q1f	CH ₂ OCH ₃	
1-590	Q1f	CH ₂ OCH ₂ CH ₃	
1-591	Q1f	CH ₂ O(CH ₂) ₂ CH ₃	
1-592	Q1f	(CH ₂) ₂ OCH ₃	
1-593	Q1f	(CH ₂) ₃ OCH ₃	
1-594	Q1f		
1-595	Q1f		
1-596	Q1f		
1-597	Q1f		
1-598	Q1f	CH ₂ OCH ₂ CF ₃	
1-599	Q1f	CH ₂ OCF ₂ CHF ₂	
1-600	Q1f	CH ₂ OCH ₂ CF ₂ CF ₃	

Table 16

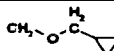
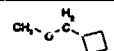
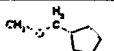
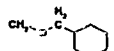
compound number	Q	R1	physical property (melting point-ND)
1-601	Q1f	CH ₂ OCH ₂ CH=CH ₂	
1-602	Q1f	CH ₂ OCH ₂ CH=CCl ₂	
1-603	Q1f	CH ₂ OCH ₂ CF=CF ₂	
1-604	Q1f	CH ₂ OC ₂ H ₅ = CH	
1-605	Q1f	CH ₂ OCH ₂ C = OCH ₃	
1-606	Q1f	CH ₂ SOCH ₃	
1-607	Q1f	CH ₂ SOCH ₂ CH ₃	
1-608	Q1f	CH ₂ S(CH ₂) ₂ CH ₃	
1-609	Q1f		
1-610	Q1f		
1-611	Q1f		
1-612	Q1f		
1-613	Q1f	CH ₂ SOCH ₂ CF ₃	
1-614	Q1f	CH ₂ SOCH ₂ CH=CH ₂	
1-615	Q1f	CH ₂ SOCH ₂ C = CH	
1-616	Q1f	CH ₂ SOCH ₃	
1-617	Q1f	CH ₂ SOCH ₂ CH ₃	
1-618	Q1f	CH ₂ SO(CH ₂) ₂ CH ₃	
1-619	Q1f		
1-620	Q1f		
1-621	Q1f		
1-622	Q1f		
1-623	Q1f	CH ₂ SOCH ₂ CF ₃	
1-624	Q1f	CH ₂ SOCH ₂ CH=CH ₂	
1-625	Q1f	CH ₂ SOCH ₂ C = CH	
1-626	Q1f	CH ₂ SO ₂ CH ₃	
1-627	Q1f	CH ₂ SO ₂ CH ₂ CH ₃	
1-628	Q1f	CH ₂ SO ₂ (CH ₂) ₂ CH ₃	
1-629	Q1f		
1-630	Q1f		
1-631	Q1f		
1-632	Q1f		
1-633	Q1f	CH ₂ SO ₂ CH ₂ CF ₃	
1-634	Q1f	CH ₂ SO ₂ CH ₂ CH=CH ₂	
1-635	Q1f	CH ₂ SO ₂ CH ₂ C = CH	
1-636	Q1f	CH ₂ O(CH ₂) ₂ OCH ₃	
1-637	Q1f	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	
1-638	Q1f	CH ₂ O(CH ₂) ₂ OCH ₂ — <	
1-639	Q1f	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
1-640	Q1f	CH ₂ O(CH ₂) ₂ C CH ₂ CH=CH ₂	

Table 17

compound number	Q	R1	physical property (melting point-ND)
1-641	Q1f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2\text{C}=\text{CH}$	
1-642	Q1f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_3$	
1-643	Q1f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2-\text{[]}$	
1-644	Q1f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2\text{CF}_3$	
1-645	Q1f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2\text{CH}=\text{CH}_2$	
1-646	Q1f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2\text{C}=\text{CH}$	
1-647	Q1f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_3$	
1-648	Q1f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2-\text{[]}$	
1-649	Q1f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2\text{CF}_3$	
1-650	Q1f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2\text{CH}=\text{CH}_2$	
1-651	Q1f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2\text{C}=\text{CH}$	
1-652	Q1f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_3$	
1-653	Q1f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2-\text{[]}$	
1-654	Q1f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{CF}_3$	
1-655	Q1f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{CH}=\text{CH}_2$	
1-656	Q1f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{C}=\text{CH}$	
1-657	Q1f		
1-658	Q1f		
1-659	Q1f		
1-660	Q1f		
1-661	Q1f		
1-662	Q1f		
1-663	Q1f		
1-664	Q1f		
1-665	Q1f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NHSO}_2\text{CH}_3$	
1-666	Q1f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{N}(\text{CH}_3)(\text{SO}_2\text{CH}_3)$	
1-667	Q1f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NH}(\text{SO}_2\text{CH}_2-\text{[]})$	
1-668	Q1f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NHSO}_2\text{CF}_3$	
1-669	Q1f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NHSCF}_2\text{CHF}_2$	
1-670	Q1f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NHSCF}_2\text{CH}_2\text{CF}_3$	
1-671	Q1f	SCH_3	
1-672	Q1f	SOCH_3	
1-673	Q1f	SO_2CH_3	
1-674	Q1f	OCH_3	
1-675	Q1f	OCH_2CH_3	
1-676	Q1f	$\text{C}(\text{CH}_3)_2\text{CH}_3$	
1-677	Q1f	OCH_2CF_3	
1-678	Q1f	OCF_2CF_3	
1-679	Q1f	$\text{C}(\text{CH}_3)_2\text{OCH}_3$	
1-680	Q1f	NHCH_3	

95

Table 18

compound number	Q	R1	physical property (melting point-ND)
1-681	Q1f	NHCH ₂ CH ₃	
1-682	Q1f	N(CH ₃) ₂	
1-683	Q1f	N(CH ₂ CH ₃) ₂	
1-684	Q1f	N(CH ₃)(CH ₂ CH ₃)	
1-686	Q1g	CH ₃	NMR
1-686	Q1g	CH ₂ CH ₃	
1-687	Q1g	(CH ₃) ₂ CH	
1-688	Q1g		
1-688	Q1g		
1-689	Q1g		
1-691	Q1g		
1-692	Q1g		
1-693	Q1g		
1-694	Q1g		
1-695	Q1g		
1-696	Q1g	CF ₃	
1-697	Q1g	CH ₂ CF ₃	
1-698	Q1g	CF ₂ CF ₃	
1-699	Q1g	CH ₂ CH=CH ₂	
1-700	Q1g	CH ₂ C≡CH	
1-701	Q1g	C ₆ H ₅	
1-702	Q1g	CH ₂ C ₆ H ₅	
1-703	Q1g	CH ₂ OCH ₃	113-120°C
1-704	Q1g	CH ₂ OCH ₂ CH ₃	
1-705	Q1g	CH ₂ O(CH ₂) ₂ CH ₃	
1-706	Q1g	(CH ₃) ₂ POCH ₃	
1-707	Q1g	(CH ₃) ₃ CCH ₃	
1-708	Q1g		
1-709	Q1g		
1-710	Q1g		
1-711	Q1g		
1-712	Q1g	CH ₂ OCH ₂ CF ₃	NMR
1-713	Q1g	CH ₂ OCF ₂ CHF ₂	
1-714	Q1g	CH ₂ OCH ₂ OCF ₂ CF ₃	
1-715	Q1g	CH ₂ OCH ₂ CH=CH ₂	
1-716	Q1g	CH ₂ OCH ₂ CH=CCl ₂	
1-717	Q1g	CH ₂ OCH ₂ CF=CF ₂	
1-718	Q1g	CH ₂ OC ₂ C≡CH	
1-719	Q1g	CH ₂ OCH ₂ C≡CCH ₃	
1-720	Q1g	CH ₂ SCH ₃	

95

Table 19

compound number	Q	R1	physical property (melting point-ND)
1-721	Q1g	$\text{CH}_3\text{SCH}_2\text{CH}_3$	
1-722	Q1g	$\text{CH}_3\text{S}(\text{CH}_2)_2\text{CH}_3$	
1-723	Q1g	$\text{CH}_3-\text{S}-\text{C}(\text{H}_2)_2-\text{Cyclopropyl}$	
1-724	Q1g	$\text{CH}_3-\text{S}-\text{C}(\text{H}_2)_2-\text{Cyclobutyl}$	
1-725	Q1g	$\text{CH}_3-\text{S}-\text{C}(\text{H}_2)_2-\text{Cyclopentyl}$	
1-726	Q1g	$\text{CH}_3-\text{S}-\text{C}(\text{H}_2)_2-\text{Cyclohexyl}$	
1-727	Q1g	$\text{CH}_3\text{SCH}_2\text{CF}_3$	
1-728	Q1g	$\text{CH}_3\text{SCH}_2\text{CH}=\text{CH}_2$	
1-729	Q1g	$\text{CH}_3\text{SCH}_2\text{C} \equiv \text{CH}$	
1-730	Q1g	CH_3SOCH_3	
1-731	Q1g	$\text{CH}_3\text{SOCH}_2\text{CH}_3$	
1-732	Q1g	$\text{CH}_3\text{SO}(\text{CH}_2)_2\text{CH}_3$	
1-733	Q1g	$\text{CH}_3-\text{SO}-\text{C}(\text{H}_2)_2-\text{Cyclopropyl}$	
1-734	Q1g	$\text{CH}_3-\text{SO}-\text{C}(\text{H}_2)_2-\text{Cyclobutyl}$	
1-735	Q1g	$\text{CH}_3-\text{SO}-\text{C}(\text{H}_2)_2-\text{Cyclopentyl}$	
1-736	Q1g	$\text{CH}_3-\text{SO}-\text{C}(\text{H}_2)_2-\text{Cyclohexyl}$	
1-737	Q1g	$\text{CH}_3\text{SOCH}_2\text{CF}_3$	
1-738	Q1g	$\text{CH}_3\text{SOCH}_2\text{CH}=\text{CH}_2$	
1-739	Q1g	$\text{CH}_3\text{SOCH}_2\text{C} \equiv \text{CH}$	
1-740	Q1g	$\text{CH}_3\text{SO}_2\text{CH}_3$	
1-741	Q1g	$\text{CH}_3\text{SO}_2\text{CH}_2\text{CH}_3$	
1-742	Q1g	$\text{CH}_3\text{SO}_2(\text{CH}_2)_2\text{CH}_3$	
1-743	Q1g	$\text{CH}_3-\text{SO}_2-\text{C}(\text{H}_2)_2-\text{Cyclopropyl}$	
1-744	Q1g	$\text{CH}_3-\text{SO}_2-\text{C}(\text{H}_2)_2-\text{Cyclobutyl}$	
1-745	Q1g	$\text{CH}_3-\text{SO}_2-\text{C}(\text{H}_2)_2-\text{Cyclopentyl}$	
1-746	Q1g	$\text{CH}_3-\text{SO}_2-\text{C}(\text{H}_2)_2-\text{Cyclohexyl}$	
1-747	Q1g	$\text{CH}_3\text{SO}_2\text{CH}_2\text{CF}_3$	
1-748	Q1g	$\text{CH}_3\text{SO}_2\text{CH}_2\text{CH}=\text{CH}_2$	
1-749	Q1g	$\text{CH}_3\text{SO}_2\text{CH}_2\text{C} \equiv \text{CH}$	
1-750	Q1g	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_3$	
1-751	Q1g	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2\text{CH}_3$	
1-752	Q1g	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2-\text{J}$	
1-753	Q1g	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2\text{CF}_3$	
1-754	Q1g	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2\text{CH}=\text{CH}_2$	
1-755	Q1g	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2\text{C} \equiv \text{CH}$	
1-756	Q1g	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_3$	
1-757	Q1g	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2-\text{J}$	
1-758	Q1g	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2\text{CF}_3$	
1-759	Q1g	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2\text{CH}=\text{CH}_2$	
1-760	Q1g	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2\text{C} \equiv \text{CH}$	

98

Table 20

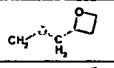
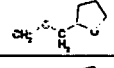
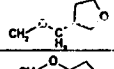
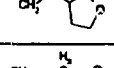
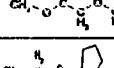
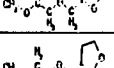
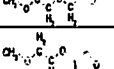
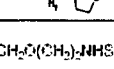
compound number	Q	R1	physical property (melting point-ND)
1-761	Q1j	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_3$	
1-762	Q1g	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2-\text{J}$	
1-763	Q1g	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2\text{CF}_3$	
1-764	Q1j	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2\text{CH}=\text{CH}_2$	
1-765	Q1g	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2\text{C}\equiv\text{CH}$	
1-766	Q1j	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_3$	
1-767	Q1g	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2-\text{J}$	
1-768	Q1g	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{CF}_3$	
1-769	Q1j	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{CH}=\text{CH}_2$	
1-770	Q1g	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{C}\equiv\text{CH}$	
1-771	Q1g		
1-772	Q1g		
1-773	Q1g		
1-774	Q1g		
1-775	Q1j		
1-776	Q1g		
1-777	Q1g		
1-778	Q1g		
1-779	Q1g	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NHSO}_2\text{CH}_3$	
1-780	Q1j	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{N}(\text{CH}_3)(\text{SO}_2\text{CH}_3)$	
1-781	Q1g	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NH}(\text{SO}_2\text{CH}_2-\text{J})$	
1-782	Q1g	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NH}\text{SO}_2\text{CF}_3$	
1-783	Q1g	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NH}\text{SO}_2\text{CHF}_2$	
1-784	Q1g	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NH}\text{SO}_2\text{CH}_2\text{CF}_3$	
1-785	Q1j	SOCH_3	
1-786	Q1j	SOCH_3	
1-787	Q1j	SO_2CH_3	
1-788	Q1g	SOCH_3	
1-789	Q1g	SOCH_3	
1-790	Q1j	SOCH_2CH_3	
1-791	Q1g	$\text{O}(\text{CH}_2)_2\text{CH}_3$	
1-792	Q1g	OCH_2CF_3	
1-793	Q1g	OCH_2CF_3	
1-794	Q1g	$\text{O}(\text{CH}_2)_2\text{OCH}_3$	
1-795	Q1g	NHCH_3	
1-796	Q1g	NHCH_2CH_3	
1-797	Q1g	$\text{N}(\text{CH}_3)_2$	
1-798	Q1g	$\text{N}(\text{CH}_2\text{CH}_3)_2$	
1-799	Q1g	$\text{N}(\text{CH}_3)(\text{CH}_2\text{CH}_3)$	
1-800	Q1h	CH_3	NMR
1-800	Q1h	CH_2CH_3	

Table 21

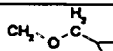
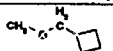
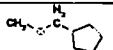
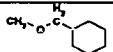
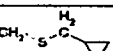
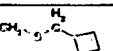
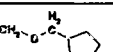
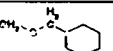
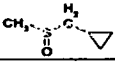
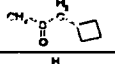
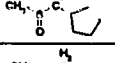
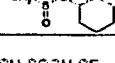
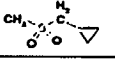
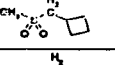
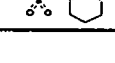
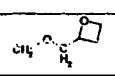
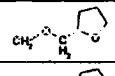
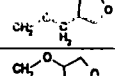
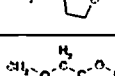
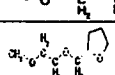
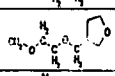
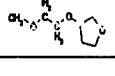
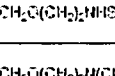
compound number	Q	R1	physical property (melting point-ND)
1-801	Q1h	$(CH_2)_2CH_3$	
1-802	Q1h		
1-803	Q1h		
1-804	Q1h		
1-805	Q1h		
1-806	Q1h		
1-807	Q1h		
1-808	Q1h		
1-809	Q1h		
1-810	Q1h	CF_3	1.8465(25)
1-811	Q1h	CH_2CF_3	
1-812	Q1h	CF_2CF_3	
1-813	Q1h	$CH_2CH=CH_2$	
1-814	Q1h	$CN2C=CH$	
1-815	Q1h	C_6H_5	
1-816	Q1h	$CH_2C_6H_5$	
1-817	Q1h	CH_2OCH_3	1.5773(25)
1-818	Q1h	$CH_2OCH_2CH_3$	
1-819	Q1h	$CH_2O(CH_2)_2CH_3$	
1-820	Q1h	$(CH_2)_2OCH_3$	
1-821	Q1h	$(CH_2)_3OCH_3$	
1-822	Q1h		
1-823	Q1h		
1-824	Q1h		
1-825	Q1h		
1-826	Q1h	$CH_2OCH_2CF_3$	NMR
1-827	Q1h	$CH_2OCF_2CHF_2$	
1-828	Q1h	$CH_2OCH_2CF_2CF_3$	
1-829	Q1h	$CH_2OCH_2CH=CH_2$	
1-830	Q1h	$CH_2OCH_2CH=OCH_2$	
1-831	Q1h	$CH_2OCH_2CF=CF_2$	
1-832	Q1h	$CH_2OC_2O=CH$	
1-833	Q1h	$CH_2C(CH_3)_2=OCH_3$	
1-834	Q1h	CH_3SCH_3	
1-835	Q1h	$CH_3SCH_2CH_3$	
1-836	Q1h	$CH_3S(CH_2)_2CH_3$	
1-837	Q1h		
1-838	Q1h		
1-839	Q1h		
1-840	Q1h		

Table 22

compound number	Q	R1	physical property (melting point-ND)
1-841	Q1h	CH ₂ SOCH ₂ CF ₃	
1-842	Q1h	CH ₂ SOCH ₂ CH=CH ₂	
1-843	Q1h	CH ₂ SOCH ₂ C≡CH	
1-844	Q1h	CH ₂ SOCH ₃	
1-845	Q1h	CH ₂ SOCH ₂ CH ₃	
1-846	Q1h	CH ₂ SO(CH ₂) ₂ CH ₃	
1-847	Q1h		
1-848	Q1h		
1-849	Q1h		
1-850	Q1h		
1-851	Q1h	CH ₂ SOCH ₂ CF ₃	
1-852	Q1h	CH ₂ SOCH ₂ CH=CH ₂	
1-853	Q1h	CH ₂ SOCH ₂ C≡CH	
1-854	Q1h	CH ₂ SO ₂ CH ₃	
1-855	Q1h	CH ₂ SO ₂ CH ₂ CH ₃	
1-856	Q1h	CH ₂ SO ₂ (CH ₂) ₂ CH ₃	
1-857	Q1h		
1-858	Q1h		
1-859	Q1h		
1-860	Q1h		
1-861	Q1h	CH ₂ SO ₂ CH ₂ CF ₃	
1-862	Q1h	CH ₂ SO ₂ CH ₂ CH=CH ₂	
1-863	Q1h	CH ₂ SO ₂ CH ₂ C≡CH	
1-864	Q1h	CH ₂ O(CH ₂) ₂ OCH ₃	
1-865	Q1h	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	
1-866	Q1h	CH ₂ O(CH ₂) ₂ OCH ₂ — 	
1-867	Q1h	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
1-868	Q1h	CH ₂ O(CH ₂) ₂ OCH ₂ CH=CH ₂	
1-869	Q1h	CH ₂ O(CH ₂) ₂ OCH ₂ C≡CH	
1-870	Q1h	CH ₂ O(CH ₂) ₂ SOCH ₃	
1-871	Q1h	CH ₂ O(CH ₂) ₂ SOCH ₂ — 	
1-872	Q1h	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
1-873	Q1h	CH ₂ O(CH ₂) ₂ SOCH ₂ CH=CH ₂	
1-874	Q1h	CH ₂ O(CH ₂) ₂ SOCH ₂ C≡CH	
1-875	Q1h	CH ₂ O(CH ₂) ₂ SOCH ₃	
1-876	Q1h	CH ₂ O(CH ₂) ₂ SOCH ₂ — 	
1-877	Q1h	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
1-878	Q1h	CH ₂ O(CH ₂) ₂ SOCH ₂ CH=CH ₂	
1-879	Q1h	CH ₂ O(CH ₂) ₂ SOCH ₂ C≡CH	
1-880	Q1h	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	

100

Table 23

compound number	Q	R1	physical property (melting point-ND)
1-881	Q1h	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2$ 	
1-882	Q1h	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{CF}_3$	
1-883	Q1h	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{CH}=\text{CH}_2$	
1-884	Q1h	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{C}\equiv\text{CH}$	
1-885	Q1h		
1-886	Q1h		
1-887	Q1h		
1-888	Q1h		
1-889	Q1h		
1-890	Q1h		
1-891	Q1h		
1-892	Q1h		
1-893	Q1h	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NH}\text{SO}_2\text{CH}_3$	
1-894	Q1h	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{N}(\text{CH}_3)(\text{SO}_2\text{CH}_3)$	
1-895	Q1h	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NH}(\text{SO}_2\text{CH}_2$ 	
1-896	Q1h	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NH}\text{SO}_2\text{CF}_3$	
1-897	Q1h	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NH}\text{SO}_2\text{CHF}_2$	
1-898	Q1h	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NH}\text{SO}_2\text{CH}_2\text{CF}_3$	
1-899	Q1h	SCH_3	
1-900	Q1h	SOCH_3	
1-901	Q1h	SO_2CH_3	
1-902	Q1h	OCH_3	
1-903	Q1h	OCH_2CH_3	
1-904	Q1h	$\text{O}(\text{CH}_2)_2\text{CH}_3$	
1-905	Q1h	OCH_2CF_3	
1-906	Q1h	OCF_2CF_3	
1-907	Q1h	$\text{O}(\text{CH}_2)_2\text{OCH}_3$	
1-908	Q1h	NHCH_3	
1-909	Q1h	NHCH_2CH_3	
1-910	Q1h	$\text{N}(\text{CH}_3)_2$	
1-911	Q1h	$\text{N}(\text{CH}_2\text{CH}_3)_2$	
1-912	Q1h	$\text{N}(\text{CH}_3)(\text{CH}_2\text{CH}_3)$	
1-913	Q1i	CH_3	NMR
1-914	Q1i	CH_2CH_3	
1-915	Q1i	$(\text{CH}_3)_2\text{CH}_2$	
1-916	Q1i		
1-917	Q1i		
1-918	Q1i		
1-919	Q1i		
1-920	Q1i		

101

Table 24

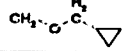
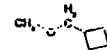
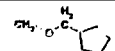
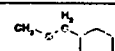
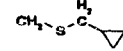
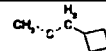
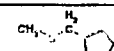
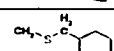
compound number	Q	R1	physical property (melting point-ND)
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1-922	Q11		
1-923	Q11		
1-924	Q11	CF ₃	
1-925	Q11	CH ₂ CF ₃	
1-926	Q11	CF ₂ CF ₃	
1-927	Q11	CH ₂ CH=CH ₂	
1-928	Q11	CH=CH	
1-929	Q11	C ₆ H ₅	
1-930	Q11	CH ₂ C ₆ H ₅	
1-931	Q11	CH ₂ OCH ₃	
1-932	Q11	CH ₂ OCH ₂ CH ₃	
1-933	Q11	CH ₂ O(CH ₂) ₂ CH ₃	
1-934	Q11	(CH ₂) ₂ OCH ₃	
1-935	Q11	(CH ₂) ₃ OCH ₃	
1-936	Q11		
1-937	Q11		
1-938	Q11		
1-939	Q11		
1-940	Q11	CH ₂ OCH ₂ CF ₃	
1-941	Q11	CH ₂ OCF ₂ CHF ₂	
1-942	Q11	CH ₂ OCCH ₂ OCF ₂ CF ₃	
1-943	Q11	CH ₂ OCCH ₂ CH=CH ₂	
1-944	Q11	CH ₂ OCCH ₂ CH=CCl ₂	
1-945	Q11	CH ₂ OCCH ₂ CF=CF ₂	
1-946	Q11	CH ₂ OC ₂ H ₅	
1-947	Q11	CH ₂ OCCH ₂ C=CCCH ₃	
1-948	Q11	CH ₂ SCCH ₃	
1-949	Q11	CH ₂ SCCH ₂ CH ₃	
1-950	Q11	CH ₂ S(CH ₂) ₂ CH ₃	
1-951	Q11		
1-952	Q11		
1-953	Q11		
1-954	Q11		
1-955	Q11	CH ₂ SCCH ₂ CF ₃	
1-956	Q11	CH ₂ SCCH ₂ CH=CH ₂	
1-957	Q11	CH ₂ SCCH ₂ C=CH	
1-958	Q11	CH ₂ SOCH ₃	
1-959	Q11	CH ₂ SOCH ₂ CH ₃	
1-960	Q11	CH ₂ SO(CH ₂) ₂ CH ₃	

Table 25

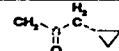
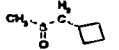
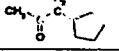
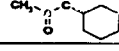
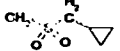
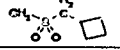
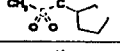
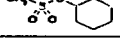
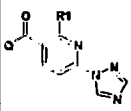
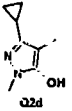
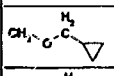
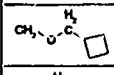
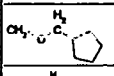
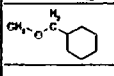
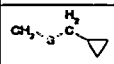
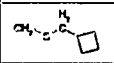
compound number	Q	R1	physical property (melting point-ND)
1-961	Q11		
1-962	Q11		
1-963	Q11		
1-964	Q11		
1-965	Q11	$\text{CH}_2\text{SOCH}_2\text{CF}_3$	
1-966	Q11	$\text{CH}_2\text{SOCH}_2\text{CH}=\text{CH}_2$	
1-967	Q11	$\text{CH}_2\text{SOCH}_2\text{C}\equiv\text{CH}$	
1-968	Q11	$\text{CH}_2\text{SO}_2\text{CH}_3$	
1-969	Q11	$\text{CH}_2\text{SO}_2\text{CH}_2\text{CH}_3$	
1-970	Q11	$\text{CH}_2\text{SO}_2(\text{CH}_2)_2\text{CH}_3$	
1-971	Q11		
1-972	Q11		
1-973	Q11		
1-974	Q11		
1-975	Q11	$\text{CH}_2\text{SO}_2\text{CH}_2\text{CF}_3$	
1-976	Q11	$\text{CH}_2\text{SO}_2\text{CH}_2\text{CH}=\text{CH}_2$	
1-977	Q11	$\text{CH}_2\text{SO}_2\text{CH}_2\text{C}\equiv\text{CH}$	
1-978	Q11	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_3$	
1-979	Q11	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2\text{CH}_3$	
1-980	Q11	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2-\text{J}$	
1-981	Q11	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2\text{CF}_3$	
1-982	Q11	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2\text{CH}=\text{CH}_2$	
1-983	Q11	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2\text{C}\equiv\text{CH}$	
1-984	Q11	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_3$	
1-985	Q11	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2-\text{J}$	
1-986	Q11	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2\text{CF}_3$	
1-987	Q11	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2\text{CH}=\text{CH}_2$	
1-988	Q11	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2\text{C}\equiv\text{CH}$	
1-989	Q11	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_3$	
1-990	Q11	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2-\text{J}$	
1-991	Q11	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2\text{CF}_3$	
1-992	Q11	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2\text{CH}=\text{CH}_2$	
1-993	Q11	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2\text{C}\equiv\text{CH}$	
1-994	Q11	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_3$	
1-995	Q11	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2-\text{J}$	
1-996	Q11	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{CF}_3$	
1-997	Q11	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{CH}=\text{CH}_2$	
1-998	Q11	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{C}\equiv\text{CH}$	
1-999	Q11		
1-1000	Q11		

Table 26

compound number	Q	R1	physical property (melting point-ND)
1-1001	Q1i		
1-1002	Q1i		
1-1003	Q1i		
1-1004	Q1i		
1-1005	Q1i		
1-1006	Q1i		
1-1007	Q1i	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NHSO}_2\text{CH}_3$	
1-1008	Q1i	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{N}(\text{CH}_3)(\text{SO}_2\text{CH}_3)$	
1-1009	Q1i	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NH}(\text{SO}_2\text{CH}_2 - \text{cyclopropyl})$	
1-1010	Q1i	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NHSO}_2\text{CF}_3$	
1-1011	Q1i	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NHSO}_2\text{CHF}_2$	
1-1012	Q1i	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NHSO}_2\text{CH}_2\text{CF}_3$	
1-1013	Q1i	SCH_3	
1-1014	Q1i	SOCH_3	
1-1015	Q1i	SO_2CH_3	
1-1016	Q1i	OCH_3	
1-1017	Q1i	OCH_2CH_3	
1-1018	Q1i	$\text{O}(\text{CH}_2)_2\text{CH}_3$	
1-1019	Q1i	OCH_2CF_3	
1-1020	Q1i	OCF_2CF_3	

compound number	Q	R1	physical property (melting point-ND)
1-1021	Q1i	$\text{O}(\text{CH}_2)_2\text{OCH}_3$	
1-1022	Q1i	NHCH_3	
1-1023	Q1i	NHCH_2CH_3	
1-1024	Q1i	$\text{N}(\text{CH}_3)_2$	
1-1025	Q1i	$\text{N}(\text{CH}_2\text{CH}_3)_2$	
1-1026	Q1i	$\text{N}(\text{CH}_3)(\text{CH}_2\text{CH}_3)$	

Table 27

  Q2a  Q2b  Q2c  Q2d  Q2e  Q2f							
compound number	Q	R1	physical property (melting point-ND)	compound number	Q	R1	physical property (melting point-ND)
2-1	Q2a	CH ₃	NMR	2-21	Q2a	CH ₂ O(CH ₂) ₂ CH ₃	
2-2	Q2a	CH ₂ CH ₃		2-22	Q2a	(CH ₂) ₂ OCH ₃	
2-3	Q2a	(CH ₂) ₂ CH ₃		2-23	Q2a	(CH ₂) ₃ OCH ₃	
2-4	Q2a			2-24	Q2a		
2-5	Q2a			2-25	Q2a		
2-6	Q2a			2-26	Q2a		
2-7	Q2a			2-27	Q2a		
2-8	Q2a			2-28	Q2a	CH ₂ OCH ₂ CF ₃	NMR
2-9	Q2a			2-29	Q2a	CH ₂ OCF ₃ CHF ₂	
2-10	Q2a			2-30	Q2a	CH ₂ OCH ₂ OCF ₃ CF ₃	
2-11	Q2a			2-31	Q2a	CH ₂ OCH ₂ CH=CH ₂	
2-12	Q2a	CF ₃	174-178°C	2-32	Q2a	CH ₂ OCH ₂ CH=CCl ₂	
2-13	Q2a	CH ₂ CF ₃		2-33	Q2a	CH ₂ OCH ₂ CF=CF ₂	
2-14	Q2a	CF ₂ CF ₃		2-34	Q2a	CH ₂ OC ₂ C≡CH	
2-15	Q2a	CH ₂ CH=CH ₂		2-35	Q2a	CH ₂ OCH ₂ COOCH ₃	
2-16	Q2a	CH ₂ C≡CH		2-36	Q2a	CH ₂ SCH ₃	
2-17	Q2a	C ₆ H ₅		2-37	Q2a	CH ₂ SCH ₂ CH ₃	
2-18	Q2a	CH ₂ C ₆ H ₅		2-38	Q2a	CH ₂ S(CH ₂) ₂ CH ₃	
2-19	Q2a	CH ₂ OCH ₃		2-39	Q2a		
2-20	Q2a	CH ₂ OCH ₂ CH ₃		2-40	Q2a		

105

Table 28

compound number	Q	R1	physical property (melting point-ND)
2-41	Q2a		
2-42	Q2a		
2-43	Q2a	CH2SO2CH2CF3	
2-44	Q2a	CH2SO2CH=CH2	
2-45	Q2a	CH2SO2C≡CH	
2-46	Q2a	CH2SOCH3	
2-47	Q2a	CH2SOCH2CH3	
2-48	Q2a	CH2SO(CH2)2CH3	
2-49	Q2a		
2-50	Q2a		
2-51	Q2a		
2-52	Q2a		
2-53	Q2a	CH2SOCH2CF3	
2-54	Q2a	CH2SOCH2CH=CH2	
2-55	Q2a	CH2SOCH2C≡CH	
2-56	Q2a	CH2SO2CH3	
2-57	Q2a	CH2SO2CH2CH3	
2-58	Q2a	CH2SO2(CH2)2CH3	
2-59	Q2a		
2-60	Q2a		

compound number	Q	R1	physical property (melting point-ND)
2-61	Q2a		
2-62	Q2a		
2-63	Q2a	CH2SO2CH2CF3	
2-64	Q2a	CH2SO2CH2CH=CH2	
2-65	Q2a	CH2SO2CH2C≡CH	
2-66	Q2a	CH2O(CH2)2SCH3	
2-67	Q2a	CH2O(CH2)2SCH2CH3	
2-68	Q2a	CH2O(CH2)2SCH2- 	
2-69	Q2a	CH2O(CH2)2SCH2CF3	
2-70	Q2a	CH2O(CH2)2SCH2CH=CH2	
2-71	Q2a	CH2O(CH2)2SCH2C≡CH	
2-72	Q2a	CH2O(CH2)2SCH3	
2-73	Q2a	CH2O(CH2)2SCH2- 	
2-74	Q2a	CH2O(CH2)2SCH2CF3	
2-75	Q2a	CH2O(CH2)2SCH2CH=CH2	
2-76	Q2a	CH2O(CH2)2SCH2C≡CH	
2-77	Q2a	CH2O(CH2)2SOCH3	
2-78	Q2a	CH2O(CH2)2SOCH2- 	
2-79	Q2a	CH2O(CH2)2SOCH2CF3	
2-80	Q2a	CH2O(CH2)2SOCH2CH=CH2	

106

Table 29

compound number	Q	R1	physical property (melting point-ND)
2-81	Q2a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{COOH}$	
2-82	Q2a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_3$	
2-83	Q2a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2-\text{[]}$	
2-84	Q2a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{CF}_3$	
2-85	Q2a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{CH}=\text{CH}_2$	
2-86	Q2a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{C}\equiv\text{CH}$	
2-87	Q2a		
2-88	Q2a		
2-89	Q2a		
2-90	Q2a		
2-91	Q2a		
2-92	Q2a		
2-93	Q2a		
2-94	Q2a		
2-95	Q2a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NH}\text{SO}_2\text{CH}_3$	
2-96	Q2a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{N}(\text{CH}_3)(\text{SO}_2\text{CH}_3)$	
2-97	Q2a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NH}(\text{SO}_2\text{CH}_2-\text{[]})$	
2-98	Q2a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NH}\text{SO}_2\text{CF}_3$	
2-99	Q2a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NH}\text{SO}_2\text{CHF}_3$	
2-100	Q2a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NH}\text{SO}_2\text{CH}_2\text{CF}_3$	
2-101	Q2a	SCH_3	
2-102	Q2a	SOCH_3	
2-103	Q2a	SO_2CH_3	
2-104	Q2a	SCH_3	
2-105	Q2a	OCH_2CH_3	
2-106	Q2a	$\text{O}(\text{CH}_2)_2\text{CH}_3$	
2-107	Q2a	OCH_2CF_3	
2-108	Q2a	OCF_2CF_3	
2-109	Q2a	$\text{O}(\text{CH}_2)_2\text{OCH}_3$	
2-110	Q2a	NHCH_3	
2-111	Q2a	NHCH_2CH_3	
2-112	Q2a	$\text{N}(\text{CH}_3)_2$	
2-113	Q2a	$\text{N}(\text{CH}_2\text{CH}_3)_2$	
2-114	Q2a	$\text{N}(\text{CH}_3)(\text{CH}_2\text{CH}_3)$	
2-115	Q2b	CH_3	
2-116	Q2b	CH_2CH_3	
2-117	Q2b	$(\text{CH}_2)_2\text{CH}_3$	
2-118	Q2b		
2-119	Q2b		
2-120	Q2b		

Table 30

compound number	Q	R1	physical property (melting point-ND)
2-121	Q2b		
2-122	Q2b		
2-123	Q2b		
2-124	Q2t		
2-125	Q2t		
2-126	Q2b	CF ₃	
2-127	Q2b	CH ₂ CF ₃	
2-128	Q2b	CF ₂ CF ₃	
2-129	Q2b	CH ₂ CH=CH ₂	
2-130	Q2b	CH ₂ C=CH	
2-131	Q2b	C ₆ H ₅	
2-132	Q2b	CH ₂ C ₆ H ₅	
2-133	Q2t	CH ₂ COCH ₃	
2-134	Q2t	CH ₂ COCH ₂ CH ₃	
2-135	Q2b	CH ₂ O(CH ₂) ₂ CH ₃	
2-136	Q2b	(CH ₂) ₂ OCH ₃	
2-137	Q2b	(CH ₂) ₃ OCH ₃	
2-138	Q2b		
2-139	Q2b		
2-140	Q2b		

compound number	Q	R1	physical property (melting point-ND)
2-141	Q2b		
2-142	Q2b	CH ₂ OCH ₂ CF ₃	
2-143	Q2b	CH ₂ OCF ₂ CHF ₂	
2-144	Q2b	CH ₂ OCH ₂ CF ₂ OCF ₃	
2-145	Q2b	CH ₂ OCH ₂ CH=CH ₂	
2-146	Q2b	CH ₂ OCH ₂ CH=CCl ₂	
2-147	Q2t	CH ₂ OCH ₂ CF=CF ₂	
2-148	Q2b	CH ₂ OC ₂ C=CH	
2-149	Q2b	CH ₂ OCH ₂ C=CCl ₃	
2-150	Q2b	CH ₂ SCH ₃	
2-151	Q2b	CH ₂ SCH ₂ CH ₃	
2-152	Q2b	CH ₂ S(CH ₂) ₂ CH ₃	
2-153	Q2b		
2-154	Q2b		
2-155	Q2b		
2-156	Q2b		
2-157	Q2b	CH ₂ SCH ₂ CF ₃	
2-158	Q2b	CH ₂ SCH ₂ CH=CH ₂	
2-159	Q2b	CH ₂ SCH ₂ C=CH	
2-160	Q2b	CH ₂ SCH ₃	

Table 31

compound number	Q	R1	physical property (melting point-ND)
2-161	Q2b	$\text{CH}_2\text{SOCH}_2\text{CH}_3$	
2-162	Q2b	$\text{CH}_2\text{SO}(\text{CH}_2)_2\text{CH}_3$	
2-163	Q2b		
2-164	Q2b		
2-165	Q2b		
2-166	Q2b		
2-167	Q2b	$\text{CH}_2\text{SOCH}_2\text{CF}_3$	
2-168	Q2b	$\text{CH}_2\text{SOCH}_2\text{CH}=\text{CH}_2$	
2-169	Q2b	$\text{CH}_2\text{SOCH}_2\text{C}\equiv\text{CH}$	
2-170	Q2b	$\text{CH}_2\text{SO}_2\text{CH}_3$	
2-171	Q2b	$\text{CH}_2\text{SO}_2\text{CH}_2\text{CH}_3$	
2-172	Q2b	$\text{CH}_2\text{SO}_2(\text{CH}_2)_2\text{CH}_3$	
2-173	Q2b		
2-174	Q2b		
2-175	Q2b		
2-176	Q2b		
2-177	Q2b	$\text{CH}_2\text{SO}_2\text{CH}_2\text{CF}_3$	
2-178	Q2b	$\text{CH}_2\text{SO}_2\text{CH}_2\text{CH}=\text{CH}_2$	
2-179	Q2b	$\text{CH}_2\text{SO}_2\text{CH}_2\text{C}\equiv\text{CH}$	
2-180	Q2b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{C}\equiv\text{CH}$	
2-181	Q2b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2\text{CH}_3$	
2-182	Q2b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2-\text{J}$	
2-183	Q2b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2\text{CF}_3$	
2-184	Q2b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2\text{CH}=\text{CH}_2$	
2-185	Q2b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2\text{C}\equiv\text{CH}$	
2-186	Q2b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_3$	
2-187	Q2b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2-\text{J}$	
2-188	Q2b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2\text{CF}_3$	
2-189	Q2b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2\text{CH}=\text{CH}_2$	
2-190	Q2b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2\text{C}\equiv\text{CH}$	
2-191	Q2b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_3$	
2-192	Q2b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2-\text{J}$	
2-193	Q2b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2\text{CF}_3$	
2-194	Q2b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2\text{CH}=\text{CH}_2$	
2-195	Q2b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2\text{C}\equiv\text{CH}$	
2-196	Q2b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_3$	
2-197	Q2b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2-\text{J}$	
2-198	Q2b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{CF}_3$	
2-199	Q2b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{CH}=\text{CH}_2$	
2-200	Q2b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{C}\equiv\text{CH}$	

101

Table 32

compound number	Q	R1	physical property (melting point-ND)	compound number	Q	R1	physical property (melting point-ND)
2-201	Q2b			2-221	Q2b	OCH_2CF_3	
2-202	Q2b			2-222	Q2b	OCF_2CF_3	
2-203	Q2b			2-223	Q2b	$\text{O}(\text{CH}_2)_2\text{OCH}_3$	
2-204	Q2b			2-224	Q2b	NHCH_3	
2-205	Q2b			2-225	Q2b	NHCH_2CH_3	
2-206	Q2b			2-226	Q2b	$\text{N}(\text{CH}_3)_2$	
2-207	Q2b			2-227	Q2b	$\text{N}(\text{CH}_2\text{CH}_3)_2$	
2-208	Q2b			2-228	Q2b	$\text{N}(\text{CH}_3)(\text{CH}_2\text{CH}_3)$	
2-209	Q2b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NHSO}_2\text{CH}_3$		2-229	Q2b	CH_3	NMR
2-210	Q2b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{N}(\text{CH}_3)(\text{SO}_2\text{CH}_3)$		2-230	Q2b	CH_2CH_3	
2-211	Q2b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NH}(\text{SO}_2\text{CH}_2-\text{cyclohexyl})$		2-231	Q2b	$(\text{CH}_2)_2\text{CH}_3$	
2-212	Q2b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NHSO}_2\text{CF}_3$		2-232	Q2b		
2-213	Q2b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NHSO}_2\text{CHF}_2$		2-233	Q2b		
2-214	Q2b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NHSO}_2\text{CH}_2\text{CF}_3$		2-234	Q2b		
2-215	Q2b	SCH_3		2-235	Q2b		
2-216	Q2b	SOCH_3		2-236	Q2b		
2-217	Q2b	SO_2CH_3		2-237	Q2b		
2-218	Q2b	OCH_3		2-238	Q2b		
2-219	Q2b	OCH_2CH_3		2-239	Q2b		
2-220	Q2b	$\text{O}(\text{CH}_2)_2\text{CH}_3$		2-240	Q2b	CF_3	

100

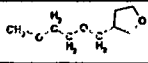
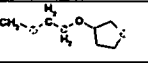
Table 33

compound number	Q	R1	physical property (melting point-ND)
2-241	Q2c	<chem>CH2CF3</chem>	
2-242	Q2c	<chem>CF2CF3</chem>	
2-243	Q2c	<chem>CH2CH=CH2</chem>	
2-244	Q2c	<chem>CH2O=CH</chem>	
2-245	Q2c	<chem>C6H5</chem>	
2-246	Q2c	<chem>CH2C6H5</chem>	
2-247	Q2c	<chem>CH2OCH3</chem>	
2-248	Q2c	<chem>CH2OCH2CH3</chem>	
2-249	Q2c	<chem>CH2O(CH2)2CH3</chem>	
2-250	Q2c	<chem>(CH2)2OCH3</chem>	
2-251	Q2c	<chem>(CH2)3OCH3</chem>	
2-252	Q2c	<chem>CH3-O-C(=O)-C1CC1</chem>	
2-253	Q2c	<chem>CH3-O-C(=O)-C1CCC1</chem>	
2-254	Q2c	<chem>CH3-O-C(=O)-C1CCCC1</chem>	
2-255	Q2c	<chem>CH3-O-C(=O)-C1CCCCC1</chem>	
2-256	Q2c	<chem>CH2OCH2CF3</chem>	
2-257	Q2c	<chem>CH2OCF2CHF2</chem>	
2-258	Q2c	<chem>CH2OCH2OCF2CF3</chem>	
2-259	Q2c	<chem>CH2OCH2CH=CH2</chem>	
2-260	Q2c	<chem>CH2OCH2CH=CCl2</chem>	
2-261	Q2c	<chem>CH2OCH2CF=CF2</chem>	
2-262	Q2c	<chem>CH2OC2C=CH</chem>	
2-263	Q2c	<chem>CH2OCH2C=OCH3</chem>	
2-264	Q2c	<chem>CH2SCH3</chem>	
2-265	Q2c	<chem>CH2SCH2CH3</chem>	
2-266	Q2c	<chem>CH2S(CH2)2CH3</chem>	
2-267	Q2c	<chem>CH3-S-C(=O)-C1CC1</chem>	
2-268	Q2c	<chem>CH3-S-C(=O)-C1CCC1</chem>	
2-269	Q2c	<chem>CH3-S-C(=O)-C1CCCC1</chem>	
2-270	Q2c	<chem>CH3-S-C(=O)-C1CCCCC1</chem>	
2-271	Q2c	<chem>CH2SCH2CF3</chem>	
2-272	Q2c	<chem>CH2SCH2CH=CH2</chem>	
2-273	Q2c	<chem>CH2SCH2C=OCH</chem>	
2-274	Q2c	<chem>CH2SOCH3</chem>	
2-275	Q2c	<chem>CH2SOCH2CH3</chem>	
2-276	Q2c	<chem>CH2SO(CH2)2CH3</chem>	
2-277	Q2c	<chem>CH3-SO2-C(=O)-C1CC1</chem>	
2-278	Q2c	<chem>CH3-SO2-C(=O)-C1CCC1</chem>	
2-279	Q2c	<chem>CH3-SO2-C(=O)-C1CCCC1</chem>	
2-280	Q2c	<chem>CH3-SO2-C(=O)-C1CCCCC1</chem>	

Table 34

compound number	Q	R1	physical property (melting point-ND)
2-261	Q2c	CH ₂ SOCH ₂ CF ₃	
2-262	Q2c	CH ₂ SOCH ₂ CH=CH ₂	
2-263	Q2c	CH ₂ SOCH ₂ C≡CH	
2-264	Q2c	CH ₂ SO ₂ CH ₃	
2-265	Q2c	CH ₂ SO ₂ CH ₂ CH ₃	
2-266	Q2c	CH ₂ SO ₂ (CH ₂) ₂ CH ₃	
2-267	Q2c		
2-268	Q2c		
2-269	Q2c		
2-270	Q2c		
2-291	Q2c	CH ₂ SO ₂ CH ₂ CF ₃	
2-292	Q2c	CH ₂ SO ₂ CH ₂ CH=CH ₂	
2-293	Q2c	CH ₂ SO ₂ CH ₂ C≡CH	
2-294	Q2c	CH ₂ O(CH ₂) ₂ OCH ₃	
2-295	Q2c	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	
2-296	Q2c	CH ₂ O(CH ₂) ₂ OCH ₂ — 	
2-297	Q2c	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
2-299	Q2c	CH ₂ O(CH ₂) ₂ OCH ₂ CH=CH ₂	
2-299	Q2c	CH ₂ O(CH ₂) ₂ OCH ₂ C≡CH	
2-300	Q2c	CH ₂ O(CH ₂) ₂ SOCH ₃	
2-301	Q2c	CH ₂ O(CH ₂) ₂ SOCH ₂ — 	
2-302	Q2c	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
2-303	Q2c	CH ₂ O(CH ₂) ₂ SOCH ₂ CH=CH ₂	
2-304	Q2c	CH ₂ O(CH ₂) ₂ SOCH ₂ C≡CH	
2-305	Q2c	CH ₂ O(CH ₂) ₂ SOCH ₃	
2-306	Q2c	CH ₂ O(CH ₂) ₂ SOCH ₂ — 	
2-307	Q2c	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
2-308	Q2c	CH ₂ O(CH ₂) ₂ SOCH ₂ CH=CH ₂	
2-309	Q2c	CH ₂ O(CH ₂) ₂ SOCH ₂ C≡CH	
2-310	Q2c	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
2-311	Q2c	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ — 	
2-312	Q2c	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
2-313	Q2c	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CH=CH ₂	
2-314	Q2c	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ C≡CH	
2-315	Q2c		
2-316	Q2c		
2-317	Q2c		
2-318	Q2c		
2-319	Q2c		
2-320	Q2c		

Table 35

compound number	Q	R1	physical property (melting point-ND)
2-321	Q2c		
2-322	Q2c		
2-323	Q2c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NH}\text{SO}_2\text{CH}_3$	
2-324	Q2c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{N}(\text{CH}_3)(\text{SO}_2\text{CH}_3)$	
2-325	Q2c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NH}(\text{SO}_2\text{CH}_2-\triangle)$	
2-326	Q2c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NH}\text{SO}_2\text{CF}_3$	
2-327	Q2c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NH}\text{SO}_2\text{CHF}_2$	
2-328	Q2c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NH}\text{SO}_2\text{CH}_2\text{CF}_3$	
2-329	Q2c	SCH_3	
2-330	Q2c	SOCH_3	
2-331	Q2c	SO_2CH_3	
2-332	Q2c	OCH_3	
2-333	Q2c	OCH_2CH_3	
2-334	Q2c	$\text{O}(\text{CH}_2)_2\text{CH}_3$	
2-335	Q2c	OCH_2CF_3	
2-336	Q2c	OCF_2CF_3	
2-337	Q2c	$\text{O}(\text{CH}_2)_2\text{OCH}_3$	
2-338	Q2c	NHCH_3	
2-339	Q2c	NHCH_2CH_3	
2-340	Q2c	$\text{N}(\text{CH}_3)_2$	

compound number	Q	R1	physical property (melting point-ND)
2-341	Q2c	$\text{N}(\text{CH}_2\text{CH}_3)_2$	
2-342	Q2c	$\text{N}(\text{CH}_3)(\text{CH}_2\text{CH}_3)$	
2-343	Q2d	CH_3	
2-344	Q2d	CH_2CH_3	
2-345	Q2d	$(\text{CH}_2)_2\text{CH}_3$	
2-346	Q2d		
2-347	Q2d		
2-348	Q2d		
2-349	Q2d		
2-350	Q2d		
2-351	Q2d		
2-352	Q2d		
2-353	Q2d		
2-354	Q2d	CF_3	
2-355	Q2d	CH_2CF_3	
2-356	Q2d	CF_2CF_3	
2-357	Q2d	$\text{CH}_2\text{CH}=\text{CH}_2$	
2-358	Q2d	$\text{CH}_2\text{C}\equiv\text{CH}$	
2-359	Q2d	C_6H_5	
2-360	Q2d	$\text{CH}_2\text{C}_6\text{H}_5$	

Table 36

compound number	Q	R1	physical property (melting point-ND)
2-361	Q2d	CH_2OCH_3	
2-362	Q2d	$\text{CH}_2\text{OCH}_2\text{CH}_3$	
2-363	Q2d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{CH}_3$	
2-364	Q2d	$(\text{CH}_2)_2\text{OCH}_3$	
2-365	Q2d	$(\text{CH}_2)_3\text{OCH}_3$	
2-366	Q2d		
2-367	Q2d		
2-368	Q2d		
2-369	Q2d		
2-370	Q2d	$\text{CH}_2\text{OCH}_2\text{CF}_3$	
2-371	Q2d	$\text{CH}_2\text{OCF}_2\text{CHF}_2$	
2-372	Q2d	$\text{CH}_2\text{OCH}_2\text{OCF}_2\text{CF}_3$	
2-373	Q2d	$\text{CH}_2\text{OCH}_2\text{CH}=\text{CH}_2$	
2-374	Q2d	$\text{CH}_2\text{OCH}_2\text{CH}=\text{CCl}_2$	
2-375	Q2d	$\text{CH}_2\text{OCH}_2\text{CF}=\text{CF}_2$	
2-376	Q2d	$\text{CH}_2\text{OC}_2\text{S}=\text{CH}$	
2-377	Q2d	$\text{CH}_2\text{OCH}_2\text{C}=\text{OCH}_3$	
2-378	Q2d	CH_2SCH_3	
2-379	Q2d	$\text{CH}_2\text{SCH}_2\text{CH}_3$	
2-380	Q2d	$\text{CH}_2\text{S}(\text{CH}_2)_2\text{CH}_3$	

compound number	Q	R1	physical property (melting point-ND)
2-381	Q2d		
2-382	Q2d		
2-383	Q2d		
2-384	Q2d		
2-385	Q2d	$\text{CH}_2\text{SCH}_2\text{CF}_3$	
2-386	Q2d	$\text{CH}_2\text{SCH}_2\text{CH}=\text{CH}_2$	
2-387	Q2d	$\text{CH}_2\text{SCH}_2\text{C}=\text{CH}$	
2-388	Q2d	CH_2SOCH_3	
2-389	Q2d	$\text{CH}_2\text{SOCH}_2\text{CH}_3$	
2-390	Q2d	$\text{CH}_2\text{SO}(\text{CH}_2)_2\text{CH}_3$	
2-391	Q2d		
2-392	Q2d		
2-393	Q2d		
2-394	Q2d		
2-395	Q2d	$\text{CH}_2\text{SOCH}_2\text{CF}_3$	
2-396	Q2d	$\text{CH}_2\text{SOCH}_2\text{CH}=\text{CH}_2$	
2-397	Q2d	$\text{CH}_2\text{SOCH}_2\text{C}=\text{CH}$	
2-398	Q2d	$\text{CH}_2\text{SO}_2\text{CH}_3$	
2-399	Q2d	$\text{CH}_2\text{SO}_2\text{CH}_2\text{CH}_3$	
2-400	Q2d	$\text{CH}_2\text{SO}_2(\text{CH}_2)_2\text{CH}_3$	

Table 37

compound number	Q	R1	physical property (melting point-ND)
2-401	Q2d		
2-402	Q2d		
2-403	Q2d		
2-404	Q2d		
2-405	Q2d	CH2SO2CH2CF3	
2-406	Q2d	CH2SO2CH2CH=CH2	
2-407	Q2d	CH2SO2CH2C≡CH	
2-408	Q2d	CH2O(CH2)2OCH3	
2-409	Q2d	CH2O(CH2)2OCH2CH3	
2-410	Q2d	CH2O(CH2)2C(CH3)2	
2-411	Q2d	CH2O(CH2)2OCH2CF3	
2-412	Q2d	CH2O(CH2)2OCH2CH=CH2	
2-413	Q2d	CH2O(CH2)2OCH2C≡CH	
2-414	Q2d	CH2O(CH2)2SCH3	
2-415	Q2d	CH2O(CH2)2SCH2 — 1	
2-416	Q2d	CH2O(CH2)2SCH2CF3	
2-417	Q2d	CH2O(CH2)2SCH2CH=CH2	
2-418	Q2d	CH2O(CH2)2SCH2C≡CH	
2-419	Q2d	CH2O(CH2)2SOCH3	
2-420	Q2d	CH2C(CH3)2SOCH2CF3	
2-421	Q2d	CH2O(CH2)2SOCH2CF3	
2-422	Q2d	CH2O(CH2)2SOCH2CH=CH2	
2-423	Q2d	CH2O(CH2)2SOCH2C≡CH	
2-424	Q2d	CH2O(CH2)2SO2CH3	
2-425	Q2d	CH2O(CH2)2SO2CH2 — 1	
2-426	Q2d	CH2O(CH2)2SO2CH2CF3	
2-427	Q2d	CH2O(CH2)2SO2CH2CH=CH2	
2-428	Q2d	CH2O(CH2)2SO2CH2C≡CH	
2-429	Q2d		
2-430	Q2d		
2-431	Q2d		
2-432	Q2d		
2-433	Q2d		
2-434	Q2d		
2-435	Q2d		
2-436	Q2d		
2-437	Q2d	CH2O(CH2)2NHSO2CH3	
2-438	Q2d	CH2O(CH2)2N(CH3)(SO2CH2)	
2-439	Q2d	CH2O(CH2)2NH(SO2CH2 — 1)	
2-440	Q2d	CH2C(CH3)2NHHSO2CF3	

115

Table 38

compound number	Q	R1	physical property (melting point-ND)
2-441	Q2d	<chem>CH2C(CH2)2NHSO2CHF2</chem>	
2-442	Q2d	<chem>CH2C(CH2)2NHSO2CH2CF3</chem>	
2-443	Q2d	<chem>SOCH3</chem>	
2-444	Q2d	<chem>SOCH3</chem>	
2-445	Q2d	<chem>SO2CH3</chem>	
2-446	Q2d	<chem>OCH3</chem>	
2-447	Q2d	<chem>OCH2CH3</chem>	
2-448	Q2d	<chem>C(CH2)2CH3</chem>	
2-449	Q2d	<chem>OCH2CF3</chem>	
2-450	Q2d	<chem>OCF2CF3</chem>	
2-451	Q2d	<chem>C(CH2)2OCH3</chem>	
2-452	Q2d	<chem>NHCH3</chem>	
2-453	Q2d	<chem>NHCH2CH3</chem>	
2-454	Q2d	<chem>N(CH2)2</chem>	
2-455	Q2d	<chem>N(CH2CH3)2</chem>	
2-456	Q2d	<chem>N(CH3)(CH2CH3)</chem>	
2-457	Q2e	<chem>CH3</chem>	
2-458	Q2e	<chem>CH2CH3</chem>	
2-459	Q2e	<chem>(CH2)2CH3</chem>	
2-460	Q2e		
2-461	Q2e		
2-462	Q2e		
2-463	Q2e		
2-464	Q2e		
2-465	Q2e		
2-466	Q2e		
2-467	Q2e		
2-468	Q2e	<chem>CF3</chem>	
2-469	Q2e	<chem>CH2CF3</chem>	
2-470	Q2e	<chem>CF2CF3</chem>	
2-471	Q2e	<chem>CH2CH=CH2</chem>	
2-472	Q2e	<chem>CH2C#CH</chem>	
2-473	Q2e	<chem>C3H5</chem>	
2-474	Q2e	<chem>CH2C6H5</chem>	
2-475	Q2e	<chem>CH2OCH3</chem>	
2-476	Q2e	<chem>CH2OCH2CH3</chem>	
2-477	Q2e	<chem>CH2O(CH2)2CH3</chem>	
2-478	Q2e	<chem>(CH2)2OCH3</chem>	
2-479	Q2e	<chem>(CH2)3OCH3</chem>	
2-480	Q2e		

Table 39

compound number	Q	R1	physical property (melting point-ND)
2-461	Q2c		
2-462	Q2c		
2-463	Q2c		
2-464	Q2c	$\text{CH}_2\text{OCH}_2\text{CF}_3$	
2-465	Q2c		
2-466	Q2c	$\text{CH}_2\text{OCH}_2\text{CF}_2\text{CF}_3$	
2-467	Q2c	$\text{CH}_2\text{OCH}_2\text{CH}=\text{CH}_2$	
2-468	Q2c	$\text{CH}_2\text{OCH}_2\text{CH}=\text{CH}_2$	
2-469	Q2c	$\text{CH}_2\text{OCH}_2\text{CF}=\text{CF}_2$	
2-490	Q2c	$\text{CH}_2\text{OCH}_2\text{C}=\text{CH}$	
2-491	Q2c	$\text{CH}_2\text{OCH}_2\text{C}=\text{CCH}_3$	
2-492	Q2c	CH_2SCH_3	
2-493	Q2c	$\text{CH}_2\text{SCH}_2\text{CH}_3$	
2-494	Q2c	$\text{CH}_2\text{S}(\text{CH}_2)_2\text{CH}_3$	
2-495	Q2c		
2-496	Q2c		
2-497	Q2c		
2-498	Q2c		
2-499	Q2c	$\text{CH}_2\text{SCH}_2\text{CF}_3$	
2-500	Q2c	$\text{CH}_2\text{SCH}_2\text{CH}=\text{CH}_2$	

compound number	Q	R1	physical property (melting point-ND)
2-501	Q2c	$\text{CH}_2\text{SCH}_2\text{C}=\text{CH}$	
2-502	Q2c	$\text{CH}_2\text{SCH}_2\text{CH}_3$	
2-503	Q2c	$\text{CH}_2\text{SCH}_2\text{CH}_2\text{CH}_3$	
2-504	Q2c	$\text{CH}_2\text{SO}(\text{CH}_2)_2\text{CH}_3$	
2-505	Q2c		
2-506	Q2c		
2-507	Q2c		
2-508	Q2c		
2-509	Q2c	$\text{CH}_2\text{SCH}_2\text{CF}_3$	
2-510	Q2c	$\text{CH}_2\text{SCH}_2\text{CH}=\text{CH}_2$	
2-511	Q2c	$\text{CH}_2\text{SCH}_2\text{C}=\text{CH}$	
2-512	Q2c	$\text{CH}_2\text{SO}_2\text{CH}_3$	
2-513	Q2c	$\text{CH}_2\text{SO}_2\text{CH}_2\text{CH}_3$	
2-514	Q2c	$\text{CH}_2\text{SO}_2(\text{CH}_2)_2\text{CH}_3$	
2-515	Q2c		
2-516	Q2c		
2-517	Q2c		
2-518	Q2c		
2-519	Q2c	$\text{CH}_2\text{SO}_2\text{CH}_2\text{CF}_3$	
2-520	Q2c	$\text{CH}_2\text{SO}_2\text{CH}_2\text{CH}=\text{CH}_2$	

Table 40

compound number	Q	R1	physical property (melting point-ND)
2-521	Q2a	CH ₂ SO ₂ CH ₂ COCH	
2-522	Q2a	CH ₂ O(CH ₂) ₂ OCH ₃	
2-523	Q1a	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	
2-524	Q2a	CH ₂ O(CH ₂) ₂ OCH ₂ — 	
2-525	Q2a	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
2-526	Q1a	CH ₂ O(CH ₂) ₂ OCH ₂ CH=CH ₂	
2-527	Q2a	CH ₂ O(CH ₂) ₂ OCH ₂ COCH	
2-528	Q1a	CH ₂ O(CH ₂) ₂ SCH ₃	
2-529	Q2a	CH ₂ O(CH ₂) ₂ SCH ₂ — 	
2-530	Q2a	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃	
2-531	Q2a	CH ₂ O(CH ₂) ₂ SCH ₂ CH=CH ₂	
2-532	Q2a	CH ₂ O(CH ₂) ₂ SCH ₂ COCH	
2-533	Q2a	CH ₂ O(CH ₂) ₂ SOCH ₃	
2-534	Q2a	CH ₂ O(CH ₂) ₂ SOCH ₂ — 	
2-535	Q2a	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
2-536	Q2a	CH ₂ O(CH ₂) ₂ SOCH ₂ CH=CH ₂	
2-537	Q2a	CH ₂ O(CH ₂) ₂ SOCH ₂ COCH	
2-538	Q2a	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
2-539	Q2a	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ — 	
2-540	Q2a	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
2-541	Q2a	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CH=CH ₂	
2-542	Q2a	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ COCH	
2-543	Q2a		
2-544	Q1a		
2-545	Q2a		
2-546	Q2a		
2-547	Q2a		
2-548	Q2a		
2-549	Q2a		
2-550	Q2a		
2-551	Q2a	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₃	
2-552	Q2a	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	
2-553	Q2a	CH ₂ O(CH ₂) ₂ NH(SO ₂ CH ₂ — 	
2-554	Q2a	CH ₂ O(CH ₂) ₂ NHSO ₂ CF ₃	
2-555	Q2a	CH ₂ O(CH ₂) ₂ NHSO ₂ CHF ₃	
2-556	Q2a	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₂ CF ₃	
2-557	Q2a	SOCH ₃	
2-558	Q1a	SOCH ₃	
2-559	Q2a	SO ₂ CH ₃	
2-560	Q2a	OCH ₃	

Table 41

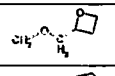
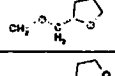
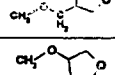
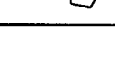
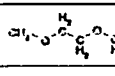
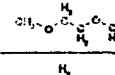
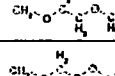
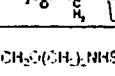
compound number	Q	R1	physical property (melting point-ND)
2-561	Q2o	OCH ₂ CH ₃	
2-562	Q2o	O(CH ₂) ₂ CH ₃	
2-563	Q2o	OCH ₂ CF ₃	
2-564	Q2o	OCF ₂ CF ₃	
2-565	Q2o	O(CH ₂) ₂ OCH ₃	
2-566	Q2o	NHCH ₃	
2-567	Q2o	NHCH ₂ CH ₃	
2-568	Q2o	N(CH ₃) ₂	
2-569	Q2o	N(CH ₂ CH ₃) ₂	
2-570	Q2o	N(CH ₃)(CH ₂ CH ₃)	
2-571	Q2f	CH ₃	
2-572	Q2f	CH ₂ CH ₃	
2-573	Q2f	(CH ₂) ₂ CH ₃	
2-574	Q2f		
2-575	Q2f		
2-576	Q2f		
2-577	Q2f		
2-578	Q2f		
2-579	Q2f		
2-580	Q2f		
2-581	Q2f		
2-582	Q2f	CF ₃	
2-583	Q2f	CH ₂ CF ₃	
2-584	Q2f	CF ₂ CF ₃	
2-585	Q2f	CH ₂ CH=CH ₂	
2-586	Q2f	CH ₂ C≡CH	
2-587	Q2f	C ₆ H ₅	
2-588	Q2f	CH ₂ C ₆ H ₅	
2-589	Q2f	CH ₂ OCH ₃	
2-590	Q2f	CH ₂ OCH ₂ CH ₃	
2-591	Q2f	CH ₂ O(CH ₂) ₂ CH ₃	
2-592	Q2f	(CH ₂) ₂ OCH ₃	
2-593	Q2f	(CH ₂) ₃ OCH ₃	
2-594	Q2f		
2-595	Q2f		
2-596	Q2f		
2-597	Q2f		
2-598	Q2f	CH ₂ OCH ₂ CF ₃	
2-599	Q2f	CH ₂ OCF ₂ CHF ₂	
2-600	Q2f	CH ₂ OCH ₂ OCF ₂ CF ₃	

Table 42

compound number	Q	R1	physical property (melting point-ND)
2-601	Q2f	CH ₂ OCH ₂ CH=CH ₂	
2-602	Q2f	CH ₂ OCH ₂ CH=CCl ₂	
2-603	Q2f	CH ₂ OCH ₂ CF=CF ₂	
2-604	Q2f	CH ₂ OC ₂ C=CH	
2-605	Q2f	CH ₂ OCH ₂ C=OCH ₃	
2-606	Q2f	CH ₂ SOCH ₃	
2-607	Q2f	CH ₂ SOCH ₂ CH ₃	
2-608	Q2f	CH ₂ SO(CH ₂) ₂ CH ₃	
2-609	Q2f		
2-610	Q2f		
2-611	Q2f		
2-612	Q2f		
2-613	Q2f	CH ₂ SOCH ₂ CF ₃	
2-614	Q2f	CH ₂ SOCH ₂ CH=CH ₂	
2-615	Q2f	CH ₂ SOCH ₂ C=CH	
2-616	Q2f	CH ₂ SOCH ₃	
2-617	Q2f	CH ₂ SOCH ₂ CH ₃	
2-618	Q2f	CH ₂ SO(CH ₂) ₂ CH ₃	
2-619	Q2f		
2-620	Q2f		

compound number	Q	R1	physical property (melting point-ND)
2-621	Q2f		
2-622	Q2f		
2-623	Q2f	CH ₂ SOCH ₂ CF ₃	
2-624	Q2f	CH ₂ SOCH ₂ CH=CH ₂	
2-625	Q2f	CH ₂ SOCH ₂ C=CH	
2-626	Q2f	CH ₂ SO ₂ CH ₃	
2-627	Q2f	CH ₂ SO ₂ CH ₂ CH ₃	
2-628	Q2f	CH ₂ SO ₂ (CH ₂) ₂ CH ₃	
2-629	Q2f		
2-630	Q2f		
2-631	Q2f		
2-632	Q2f		
2-633	Q2f	CH ₂ SO ₂ CH ₂ CF ₃	
2-634	Q2f	CH ₂ SO ₂ CH ₂ CH=CH ₂	
2-635	Q2f	CH ₂ SO ₂ CH ₂ C=CH	
2-636	Q2f	CH ₂ O(CH ₂) ₂ OCH ₃	
2-637	Q2f	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	
2-638	Q2f	CH ₂ O(CH ₂) ₂ ONH ₂ —]	
2-639	Q2f	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
2-640	Q2f	CH ₂ O(CH ₂) ₂ OCH ₂ CH=CH ₂	

Table 43

compound number	Q	R1	physical property (melting point-ND)
2-641	Q2f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2\text{CeOH}$	
2-642	Q2f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_3$	
2-643	Q2f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2-\text{[]}$	
2-644	Q2f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2\text{CF}_3$	
2-645	Q2f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2\text{CH=CH}_2$	
2-646	Q2f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2\text{CeOH}$	
2-647	Q2f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_3$	
2-648	Q2f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2-\text{[]}$	
2-649	Q2f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2\text{CF}_3$	
2-650	Q2f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2\text{CH=CH}_2$	
2-651	Q2f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2\text{C}\equiv\text{CH}$	
2-652	Q2f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_3$	
2-653	Q2f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2-\text{[]}$	
2-654	Q2f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{CF}_3$	
2-655	Q2f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{CH=CH}_2$	
2-656	Q2f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{C}\equiv\text{CH}$	
2-657	Q2f		
2-658	Q2f		
2-659	Q2f		
2-660	Q2f		
2-661	Q2f		
2-662	Q2f		
2-663	Q2f		
2-664	Q2f		
2-665	Q2f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NHSO}_2\text{CH}_3$	
2-666	Q2f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{N}(\text{CH}_3)(\text{SO}_2\text{CH}_3)$	
2-667	Q2f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NH}(\text{SO}_2\text{CH}_2-\text{[]})$	
2-668	Q2f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NHSO}_2\text{CF}_3$	
2-669	Q2f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NHSO}_2\text{CHF}_2$	
2-670	Q2f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NHSO}_2\text{CH}_2\text{CF}_3$	
2-671	Q2f	SCH_3	
2-672	Q2f	SO_2CH_3	
2-673	Q2f	SO_2CH_3	
2-674	Q2f	OCH_3	
2-675	Q2f	OCH_2CH_3	
2-676	Q2f	$\text{O}(\text{CH}_2)_2\text{CH}_3$	
2-677	Q2f	OCH_2CF_3	
2-678	Q2f	OCF_2CF_3	
2-679	Q2f	$\text{O}(\text{CH}_2)_2\text{OCH}_3$	
2-680	Q2f	NHCH_3	

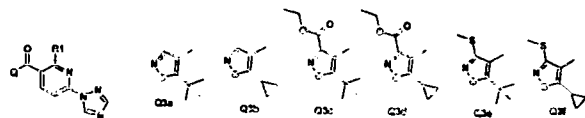
(2)

Table 44

compound number	Q	R1	physical property (melting point-ND)
2-681	Q21	NHCH ₂ CH ₃	
2-682	Q21	N(CH ₃) ₂	
2-683	Q21	N(CH ₂ CH ₃) ₂	
2-684	Q21	N(CH ₃)(CH ₂ CH ₃)	

122

Table 45



compound number	Q	R1	physical property (melting point-ND)
3-1	Q3a	CH ₃	
3-2	Q3a	CH ₂ CH ₃	
3-3	Q3a	(CH ₂) ₂ CH ₃	
3-4	Q3a		
3-5	Q3a		
3-6	Q3a		
3-7	Q3a		
3-8	Q3a		
3-9	Q3a		
3-10	Q3a		
3-11	Q3a		
3-12	Q3a	CF ₃	
3-13	Q3a	CH ₂ CF ₃	
3-14	Q3a	CF ₂ CF ₃	
3-15	Q3a	CH ₂ CH=CH ₂	
3-16	Q3a	CH ₂ C≡CH	
3-17	Q3a	C ₆ H ₅	
3-18	Q3a	CH ₂ C ₆ H ₄	
3-19	Q3a	CH ₂ OCH ₃	
3-20	Q3a	CH ₂ OCH ₂ CH ₃	

compound number	Q	R1	physical property (melting point-ND)
3-21	Q3a	CH ₂ O(CH ₂) ₂ CH ₃	
3-22	Q3a	(CH ₂) ₂ OCH ₃	
3-23	Q3a	(CH ₂) ₃ OCH ₃	
3-24	Q3a		
3-25	Q3a		
3-26	Q3a		
3-27	Q3a		
3-28	Q3a	CH ₂ OCH ₂ CF ₃	
3-29	Q3a	CH ₂ OCF ₂ CHF ₂	
3-30	Q3a	CH ₂ OCH ₂ OCF ₂ CF ₃	
3-31	Q3a	CH ₂ OCH ₂ CH=CH ₂	
3-32	Q3a	CH ₂ OCH ₂ CH=CCl ₂	
3-33	Q3a	CH ₂ OCH ₂ CF=CF ₂	
3-34	Q3a	CH ₂ OC ₂ C=CH	
3-35	Q3a	CH ₂ OCCH ₂ C=CCl ₃	
3-36	Q3a	CH ₂ SCH ₃	
3-37	Q3a	CH ₂ SCH ₂ CH ₃	
3-38	Q3a	CH ₂ S(CH ₂) ₂ CH ₃	
3-39	Q3a		
3-40	Q3a		

Table 46

compound number	Q	R1	physical property (melting point-ND)
3-41	Q3a		
3-42	Q3a		
3-43	Q3a	CH2SOCH2CF3	
3-44	Q3a	CH2SOCH2CH=CH2	
3-45	Q3a	CH2SOCH2C≡CH	
3-46	Q3a	CH2SOCH3	
3-47	Q3a	CH2SOCH2CH3	
3-48	Q3a	CH2SO(CH2)2CH3	
3-49	Q3a		
3-50	Q3a		
3-51	Q3a		
3-52	Q3a		
3-53	Q3a	CH2SOCH2CF3	
3-54	Q3a	CH2SOCH2CH=CH2	
3-55	Q3a	CH2SOCH2C≡CH	
3-56	Q3a	CH2SOCH3	
3-57	Q3a	CH2SOCH2CH2	
3-58	Q3a	CH2SO2(CH2)2CH3	
3-59	Q3a		
3-60	Q3a		

compound number	Q	R1	physical property (melting point-ND)
3-61	Q3a		
3-62	Q3a		
3-63	Q3a	CH2SO2CH2CF3	
3-64	Q3a	CH2SO2CH2CH=CH2	
3-65	Q3a	CH2SO2CH2C≡CH	
3-66	Q3a	CH2O(CH2)2OCH3	
3-67	Q3a	CH2O(CH2)2OCH2CH3	
3-68	Q3a	CH2O(CH2)2OCH2	
3-69	Q3a	CH2O(CH2)2OCH2CF3	
3-70	Q3a	CH2O(CH2)2OCH2CH=CH2	
3-71	Q3a	CH2O(CH2)2OCH2C≡CH	
3-72	Q3a	CH2O(CH2)2SCH3	
3-73	Q3a	CH2O(CH2)2SCH2	
3-74	Q3a	CH2O(CH2)2SCH2CF3	
3-75	Q3a	CH2O(CH2)2SCH2CH=CH2	
3-76	Q3a	CH2O(CH2)2SCH2C≡CH	
3-77	Q3a	CH2O(CH2)2SOCH3	
3-78	Q3a	CH2O(CH2)2SOCH2	
3-79	Q3a	CH2O(CH2)2SOCH2CF3	
3-80	Q3a	CH2O(CH2)2SOCH2CH=CH2	

Table 47

compound number	Q	R1	physical property (melting point-ND)
3-81	Q3a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{C}\equiv\text{CH}$	
3-82	Q3a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_3$	
3-83	Q3a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2$ 	
3-84	Q3a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{CF}_3$	
3-85	Q3a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{CH}=\text{CH}_2$	
3-86	Q3a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{C}\equiv\text{CH}$	
3-87	Q3a		
3-88	Q3a		
3-89	Q3a		
3-90	Q3a		
3-91	Q3a		
3-92	Q3a		
3-93	Q3a		
3-94	Q3a		
3-95	Q3a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NH}_2\text{SO}_2\text{CH}_3$	
3-96	Q3a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{N}(\text{CH}_3)(\text{SO}_2\text{CH}_3)$	
3-97	Q3a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NH}(\text{SO}_2\text{CH}_2 - \text{J})$	
3-98	Q3a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NHSO}_2\text{CF}_3$	
3-99	Q3a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NHSO}_2\text{CHF}_2$	
3-100	Q3a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NHSO}_2\text{CH}_2\text{CF}_3$	

compound number	Q	R1	physical property (melting point-ND)
3-101	Q3a	SOCH_3	
3-102	Q3a	SOCH_3	
3-103	Q3a	SO_2CH_3	
3-104	Q3a	OCH_3	
3-105	Q3a	OCH_2CH_3	
3-106	Q3a	$\text{O}(\text{CH}_2)_2\text{CH}_3$	
3-107	Q3a	OCH_2CF_3	
3-108	Q3a	OCF_2CF_3	
3-109	Q3a	$\text{O}(\text{CH}_2)_2\text{OCH}_3$	
3-110	Q3a	NHCH_3	
3-111	Q3a	NHCH_2CH_3	
3-112	Q3a	$\text{N}(\text{CH}_3)_2$	
3-113	Q3a	$\text{N}(\text{CH}_2\text{CH}_3)_2$	
3-114	Q3a	$\text{N}(\text{CH}_3)(\text{CH}_2\text{CH}_3)$	
3-115	Q3b	CH_3	NMR
3-116	Q3b	CH_2CH_3	
3-117	Q3b	$(\text{CH}_2)_2\text{CH}_3$	
3-118	Q3b		
3-119	Q3b		
3-120	Q3b		

125

Table 48

compound number	Q	R1	physical property (melting point-ND)
3-121	Q3b		
3-122	Q3b		
3-123	Q3b		
3-124	Q3b		
3-125	Q3b		
3-126	Q3b	CF ₃	
3-127	Q3b	CH ₂ CF ₃	
3-128	Q3b	CF ₂ CF ₃	
3-129	Q3b	CH ₂ CH=CH ₂	
3-130	Q3b	CH ₂ C≡CH	
3-131	Q3b	C ₆ H ₅	
3-132	Q3b	CH ₂ C ₆ H ₅	
3-133	Q3b	CH ₂ OCH ₃	
3-134	Q3b	CH ₂ OCH ₂ CH ₃	
3-135	Q3b	CH ₂ O(CH ₂) ₂ CH ₃	
3-136	Q3b	(CH ₂) ₂ OCH ₃	
3-137	Q3b	(CH ₂) ₃ OCH ₃	
3-138	Q3b		
3-139	Q3b		
3-140	Q3b		

compound number	Q	R1	physical property (melting point-ND)
3-141	Q3b		
3-142	Q3b	CH ₂ OCH ₂ CF ₃	
3-143	Q3b	CH ₂ OCF ₂ CHF ₂	
3-144	Q3b	CH ₂ OCH ₂ CF ₂ CF ₃	
3-145	Q3b	CH ₂ OCH ₂ CH=CH ₂	
3-146	Q3b	CH ₂ OCH ₂ CH=CCl ₂	
3-147	Q3b	CH ₂ OCH ₂ CF=CF ₂	
3-148	Q3b	CH ₂ OC ₂ H ₄ OH	
3-149	Q3b	CH ₂ OCH ₂ C≡CCH ₃	
3-150	Q3b	CH ₂ SCH ₃	
3-151	Q3b	CH ₂ SCH ₂ CH ₃	
3-152	Q3b	CH ₂ S(CH ₂) ₂ CH ₃	
3-153	Q3b		
3-154	Q3b		
3-155	Q3b		
3-156	Q3b		
3-157	Q3b	CH ₂ SCH ₂ CF ₃	
3-158	Q3b	CH ₂ SCH ₂ CH=CH ₂	
3-159	Q3b	CH ₂ SCH ₂ C≡CH	
3-160	Q3b	CH ₂ SOCH ₃	

(126

Table 49

compound number	Q	R1	physical property (melting point-ND)
3-161	Q3b	CH ₂ SOCH ₂ CH ₃	
3-162	Q3b	CH ₂ SO(CH ₂) ₂ CH ₃	
3-163	Q3b		
3-164	Q3b		
3-165	Q3b		
3-166	Q3b		
3-167	Q3b	CH ₂ SOCH ₂ CF ₃	
3-168	Q3b	CH ₂ SOCH ₂ CH=CH ₂	
3-169	Q3b	CH ₂ SOCH ₂ C≡CH	
3-170	Q3b	CH ₂ SO ₂ CH ₃	
3-171	Q3b	CH ₂ SO ₂ CH ₂ CH ₃	
3-172	Q3b	CH ₂ SO ₂ (CH ₂) ₂ CH ₃	
3-173	Q3b		
3-174	Q3b		
3-175	Q3b		
3-176	Q3b		
3-177	Q3b	CH ₂ SO ₂ CH ₂ CF ₃	
3-178	Q3b	CH ₂ SO ₂ CH ₂ CH=CH ₂	
3-179	Q3b	CH ₂ SO ₂ CH ₂ C≡CH	
3-180	Q3b	CH ₂ O(CH ₂) ₂ OCH ₃	

compound number	Q	R1	physical property (melting point-ND)
3-181	Q3b	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	
3-182	Q3b	CH ₂ O(CH ₂) ₂ OCH ₂ — 	
3-183	Q2b	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
3-184	Q3b	CH ₂ O(CH ₂) ₂ OCH ₂ CH=CH ₂	
3-185	Q3b	CH ₂ O(CH ₂) ₂ OCH ₂ C≡CH	
3-186	Q2b	CH ₂ O(CH ₂) ₂ SOCH ₃	
3-187	Q3b	CH ₂ O(CH ₂) ₂ SOCH ₂ — 	
3-188	Q2b	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
3-189	Q3b	CH ₂ O(CH ₂) ₂ SOCH ₂ CH=CH ₂	
3-190	Q3b	CH ₂ O(CH ₂) ₂ SOCH ₂ C≡CH	
3-191	Q3b	CH ₂ O(CH ₂) ₂ SOCH ₃	
3-192	Q3b	CH ₂ O(CH ₂) ₂ SOCH ₂ — 	
3-193	Q3b	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
3-194	Q3b	CH ₂ O(CH ₂) ₂ SOCH ₂ CH=CH ₂	
3-195	Q3b	CH ₂ O(CH ₂) ₂ SOCH ₂ C≡CH	
3-196	Q2b	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
3-197	Q3b	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ — 	
3-198	Q3b	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
3-199	Q3b	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CH=CH ₂	
3-200	Q3b	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ C≡CH	

(27

Table 50

compound number	Q	R1	physical property (melting point-ND)	compound number	Q	R1	physical property (melting point-ND)
3-201	Q2b			3-221	Q3b	OCH2CF3	
3-202	Q3b			3-222	Q3b	OCF2CF3	
3-203	Q2b			3-223	Q3b	O(CH2)2OCH3	
3-204	Q2b			3-224	Q3b	NHCH3	
3-205	Q2b			3-225	Q2b	NHCH2CH3	
3-206	Q3b			3-226	Q3b	N(CH3)2	
3-207	Q3b			3-227	Q3b	N(CH2CH3)2	
3-208	Q3b			3-228	Q3b	N(CH3)(CH2CH3)	
3-209	Q3b	CH2O(CH2)2NHSO2CH3		3-229	Q2c	CH3	
3-210	Q3b	CH2O(CH2)2N(CH2XSO2CH2)		3-230	Q2c	CH2CH3	
3-211	Q3b	CH2O(CH2)2N(SO2CH2 -Δ)		3-231	Q2c	(CH2)2CH3	
3-212	Q3b	CH2O(CH2)2NHSO2CF3		3-232	Q2c		
3-213	Q3b	CH2O(CH2)2NHSO2CHF2		3-233	Q2c		
3-214	Q3b	CH2O(CH2)2NHSO2CH2CF3		3-234	Q2c		
3-215	Q2b	SOCH3		3-235	Q2c		
3-216	Q3b	SOCH3		3-236	Q2c		
3-217	Q3b	SO2CH3		3-237	Q2c		
3-218	Q3b	OCH3		3-238	Q2c		
3-219	Q2b	OCH2CH3		3-239	Q2c		
3-220	Q2b	O(CH2)2CH3		3-240	Q3c	CF3	

Table 51

compound number	Q	R1	physical property (melting point-ND)
3-241	Q3c	CH_2CF_3	
3-242	Q3c	CF_2CF_3	
3-243	Q3c	$\text{CH}_2\text{CH=CH}_2$	
3-244	Q3c	$\text{CH}_2\text{C}\equiv\text{CH}$	
3-245	Q3c	C_6H_5	
3-246	Q3c	$\text{CH}_2\text{C}_6\text{H}_5$	
3-247	Q3c	CH_2OCH_3	
3-248	Q3c	$\text{CH}_2\text{OCH}_2\text{CH}_3$	
3-249	Q3c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{CH}_3$	
3-250	Q3c	$(\text{CH}_2)_2\text{SCH}_3$	
3-251	Q3c	$(\text{CH}_2)_3\text{SCH}_3$	
3-252	Q3c	$\text{CH}_2\text{-O-C(CH}_3)_2\text{-Cyclopropyl}$	
3-253	Q3c	$\text{CH}_2\text{-O-C(CH}_3)_2\text{-Cyclobutyl}$	
3-254	Q3c	$\text{CH}_2\text{-O-C(CH}_3)_2\text{-Cyclopentyl}$	
3-255	Q3c	$\text{CH}_2\text{-O-C(CH}_3)_2\text{-Cyclohexyl}$	
3-256	Q3c	$\text{CH}_2\text{OCH}_2\text{CF}_3$	
3-257	Q3c	$\text{CH}_2\text{OCF}_2\text{CHF}_2$	
3-258	Q3c	$\text{CH}_2\text{OCH}_2\text{CF}_2\text{CF}_2$	
3-259	Q3c	$\text{CH}_2\text{OCH}_2\text{CH=CH}_2$	
3-260	Q3c	$\text{CH}_2\text{OCH}_2\text{CH=OCH}_2$	
3-261	Q3c	$\text{CH}_2\text{SCH}_2\text{CF=CF}_2$	
3-262	Q3c	$\text{CH}_2\text{SCH}_2\text{C}\equiv\text{CH}$	
3-263	Q3c	$\text{CH}_2\text{SCH}_2\text{SCH}_2\text{CH}_3$	
3-264	Q3c	CH_2SCH_3	
3-265	Q3c	$\text{CH}_2\text{SCH}_2\text{CH}_3$	
3-266	Q3c	$\text{CH}_2\text{S}(\text{CH}_2)_2\text{CH}_3$	
3-267	Q3c	$\text{CH}_2\text{-S-C(CH}_3)_2\text{-Cyclopropyl}$	
3-268	Q3c	$\text{CH}_2\text{-S-C(CH}_3)_2\text{-Cyclobutyl}$	
3-269	Q3c	$\text{CH}_2\text{-S-C(CH}_3)_2\text{-Cyclopentyl}$	
3-270	Q3c	$\text{CH}_2\text{-S-C(CH}_3)_2\text{-Cyclohexyl}$	
3-271	Q3c	$\text{CH}_2\text{SCH}_2\text{CF}_3$	
3-272	Q3c	$\text{CH}_2\text{SCH}_2\text{CH=CH}_2$	
3-273	Q3c	$\text{CH}_2\text{SCH}_2\text{C}\equiv\text{CH}$	
3-274	Q3c	CH_2SCH_3	
3-275	Q3c	$\text{CH}_2\text{SCH}_2\text{CH}_3$	
3-276	Q3c	$\text{CH}_2\text{S}(\text{CH}_2)_2\text{CH}_3$	
3-277	Q3c	$\text{CH}_2\text{-S-C(CH}_3)_2\text{-Cyclopropyl}$	
3-278	Q3c	$\text{CH}_2\text{-S-C(CH}_3)_2\text{-Cyclobutyl}$	
3-279	Q3c	$\text{CH}_2\text{-S-C(CH}_3)_2\text{-Cyclopentyl}$	
3-280	Q3c	$\text{CH}_2\text{-S-C(CH}_3)_2\text{-Cyclohexyl}$	

Table 52

compound number	Q	R1	physical property (melting point-ND)
3-281	Q3c	CH ₂ SOCH ₂ CF ₃	
3-282	Q3c	CH ₂ SOCH ₂ CH=CH ₂	
3-283	Q3c	CH ₂ SOCH ₂ C≡CH	
3-284	Q3c	CH ₂ SO ₂ CH ₃	
3-285	Q3c	CH ₂ SO ₂ CH ₂ CH ₃	
3-286	Q3c	CH ₂ SO ₂ (CH ₂) ₂ CH ₃	
3-287	Q3c		
3-288	Q3c		
3-289	Q3c		
3-290	Q3c		
3-291	Q3c	CH ₂ SO ₂ CH ₂ CF ₃	
3-292	Q3c	CH ₂ SO ₂ CH ₂ CH=CH ₂	
3-293	Q3c	CH ₂ SO ₂ CH ₂ C≡CH	
3-294	Q3c	CH ₂ O(CH ₂) ₂ OCH ₃	
3-295	Q3c	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	
3-296	Q3c	CH ₂ O(CH ₂) ₂ OCH ₂ — □	
3-297	Q3c	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
3-298	Q3c	CH ₂ O(CH ₂) ₂ OCH ₂ CH=CH ₂	
3-299	Q3c	CH ₂ O(CH ₂) ₂ OCH ₂ C≡CH	
3-300	Q3c	CH ₂ O(CH ₂) ₂ OCH ₃	

compound number	Q	R1	physical property (melting point-ND)
3-301	Q3c	CH ₂ O(CH ₂) ₂ OCH ₂ — □	
3-302	Q3c	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
3-303	Q3c	CH ₂ O(CH ₂) ₂ OCH ₂ CH=CH ₂	
3-304	Q3c	CH ₂ O(CH ₂) ₂ OCH ₂ C≡CH	
3-305	Q3c	CH ₂ O(CH ₂) ₂ OCH ₃	
3-306	Q3c	CH ₂ O(CH ₂) ₂ OCH ₂ — □	
3-307	Q3c	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
3-308	Q3c	CH ₂ O(CH ₂) ₂ OCH ₂ CH=CH ₂	
3-309	Q3c	CH ₂ O(CH ₂) ₂ OCH ₂ C≡CH	
3-310	Q3c	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
3-311	Q3c	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ — □	
3-312	Q3c	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
3-313	Q3c	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CH=CH ₂	
3-314	Q3c	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ C≡CH	
3-315	Q3c		
3-316	Q3c		
3-317	Q3c		
3-318	Q3c		
3-319	Q3c		
3-320	Q3c		

130

Table 53

compound number	Q	R1	physical property (melting point-ND)
3-321	Q3c		
3-322	Q3c		
3-323	Q3c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NHSC}_2\text{H}_5$	
3-324	Q3c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{N}(\text{CH}_3)(\text{SO}_2\text{CH}_3)$	
3-325	Q3c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NH}(\text{SO}_2\text{CH}_2-\triangle)$	
3-326	Q3c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NHSC}_2\text{H}_4\text{CF}_3$	
3-327	Q3c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NHSC}_2\text{H}_4\text{CHF}_2$	
3-328	Q3c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NHSC}_2\text{H}_4\text{CH}_2\text{CF}_3$	
3-329	Q3c	SCH_3	
3-330	Q3c	SOCH_3	
3-331	Q3c	SO_2CH_3	
3-332	Q3c	OCH_3	
3-333	Q3c	OCH_2CH_3	
3-334	Q3c	$\text{O}(\text{CH}_2)_2\text{CH}_3$	
3-335	Q3c	OCH_2CF_3	
3-336	Q3c	OCF_2CF_3	
3-337	Q3c	$\text{O}(\text{CH}_2)_2\text{OCH}_3$	
3-338	Q3c	NHCH_3	
3-339	Q3c	NHCH_2CH_3	
3-340	Q3c	$\text{N}(\text{CH}_3)_2$	
3-341	Q3c	$\text{H}(\text{CH}_2\text{CH}_3)_2$	
3-342	Q3c	$\text{H}(\text{CH}_3)(\text{CH}_2\text{CH}_3)$	
3-343	Q3d	CH_3	NMR
3-344	Q3d	CH_2CH_3	
3-345	Q3d	$(\text{CH}_2)_2\text{CH}_3$	
3-346	Q3d		
3-347	Q3d		
3-348	Q3d		
3-349	Q3d		
3-350	Q3d		
3-351	Q3d		
3-352	Q3d		
3-353	Q3d		
3-354	Q3d	CF_3	
3-355	Q3d	CH_2CF_3	
3-356	Q3d	CF_2CF_3	
3-357	Q3d	$\text{CH}_2\text{CH}=\text{CH}_2$	
3-358	Q3d	$\text{CH}_2\text{C}\equiv\text{CH}$	
3-359	Q3d	C_6H_5	
3-360	Q3d	$\text{CH}_2\text{C}_6\text{H}_5$	

Table 54

compound number	Q	R1	physical property (melting point-ND)
3-361	Q3d	CH ₂ OCH ₃	
3-362	Q3d	CH ₂ SOCH ₂ CH ₃	
3-363	Q3d	CH ₂ SO(CH ₂) ₂ CH ₃	
3-364	Q3d	(CH ₂) ₂ SOCH ₃	
3-365	Q3d	(CH ₂) ₃ SOCH ₃	
3-366	Q3d		
3-367	Q3d		
3-368	Q3d		
3-369	Q3d		
3-370	Q3d	CH ₂ OCH ₂ CF ₃	
3-371	Q3d	CH ₂ OCF ₂ CHF ₂	
3-372	Q3d	CH ₂ OCH ₂ CF ₂ CF ₃	
3-373	Q3d	CH ₂ OCH ₂ CH=CH ₂	
3-374	Q3d	CH ₂ OCH ₂ CH=OCH ₂	
3-375	Q3d	CH ₂ OCH ₂ CF=CF ₂	
3-376	Q3d	CH ₂ OC ₂ C=CH	
3-377	Q3d	CH ₂ OCH ₂ C=OCH ₃	
3-378	Q3d	CH ₂ SOCH ₃	
3-379	Q3d	CH ₂ SOCH ₂ CH ₃	
3-380	Q3d	CH ₂ S(CH ₂) ₂ CH ₃	

compound number	Q	R1	physical property (melting point-ND)
3-381	Q3d		
3-382	Q3d		
3-383	Q3d		
3-384	Q3d		
3-385	Q3d	CH ₂ SOCH ₂ CF ₃	
3-386	Q3d	CH ₂ SOCH ₂ CH=CH ₂	
3-387	Q3d	CH ₂ SOCH ₂ C=CH	
3-388	Q3d	CH ₂ SOCH ₃	
3-389	Q3d	CH ₂ SOCH ₂ CH ₃	
3-390	Q3d	CH ₂ SO(CH ₂) ₂ CH ₃	
3-391	Q3d		
3-392	Q3d		
3-393	Q3d		
3-394	Q3d		
3-395	Q3d	CH ₂ SOCH ₂ CF ₃	
3-396	Q3d	CH ₂ SOCH ₂ CH=CH ₂	
3-397	Q3d	CH ₂ SOCH ₂ C=CH	
3-398	Q3d	CH ₂ SO ₂ CH ₃	
3-399	Q3d	CH ₂ SO ₂ CH ₂ CH ₃	
3-400	Q3d	CH ₂ SO ₂ (CH ₂) ₂ CH ₃	

Table 55

compound number	Q	R1	physical property (melting point-ND)
3-401	Q3d		
3-402	Q3d		
3-403	Q3d		
3-404	Q3d		
3-405	Q3d	$\text{CH}_2\text{SO}_2\text{CH}_2\text{CF}_3$	
3-406	Q3d	$\text{CH}_2\text{SO}_2\text{CH}_2\text{CH}=\text{CH}_2$	
3-407	Q3d	$\text{CH}_2\text{SO}_2\text{CH}_2\text{C}\equiv\text{CH}$	
3-408	Q3d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_3$	
3-409	Q3d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2\text{CH}_3$	
3-410	Q3d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2-\text{[cyclopropyl]}$	
3-411	Q3d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2\text{CF}_3$	
3-412	Q3d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2\text{CH}=\text{CH}_2$	
3-413	Q3d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2\text{C}\equiv\text{CH}$	
3-414	Q3d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_3$	
3-415	Q3d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2-\text{[cyclopropyl]}$	
3-416	Q3d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2\text{CF}_3$	
3-417	Q3d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2\text{CH}=\text{CH}_2$	
3-418	Q3d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2\text{C}\equiv\text{CH}$	
3-419	Q3d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_3$	
3-420	Q3d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2-\text{[cyclopropyl]}$	

compound number	Q	R1	physical property (melting point-ND)
3-421	Q3d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2\text{CF}_3$	
3-422	Q3d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2\text{CH}=\text{CH}_2$	
3-423	Q3d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2\text{C}\equiv\text{CH}$	
3-424	Q3d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_3$	
3-425	Q3d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2-\text{[cyclopropyl]}$	
3-426	Q3d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{CF}_3$	
3-427	Q3d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{CH}=\text{CH}_2$	
3-428	Q3d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{C}\equiv\text{CH}$	
3-429	Q3d		
3-430	Q3d		
3-431	Q3d		
3-432	Q3d		
3-433	Q3d		
3-434	Q3d		
3-435	Q3d		
3-436	Q3d		
3-437	Q3d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NHSO}_2\text{CH}_3$	
3-438	Q3d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{N}(\text{CH}_3)(\text{SO}_2\text{CH}_3)$	
3-439	Q3d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NH}(\text{SO}_2\text{CH}_2-\text{[cyclopropyl]})$	
3-440	Q3d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NH}_2\text{SO}_2\text{CF}_3$	

Table 56

compound number	Q	R1	physical property (melting point-ND)
3-411	Q3d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NHSO}_2\text{CHF}_2$	
3-412	Q3d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NHSO}_2\text{CH}_2\text{CF}_3$	
3-413	Q3d	SCH_3	
3-414	Q3d	SOCH_3	
3-415	Q3d	SO_2CH_3	
3-416	Q3d	OCH_3	
3-417	Q3d	OCH_2CH_3	
3-419	Q3d	$\text{O}(\text{CH}_2)_2\text{CH}_3$	
3-410	Q3d	OCH_2CF_3	
3-450	Q3d	OCF_2CF_3	
3-451	Q3d	$\text{O}(\text{CH}_2)_2\text{OCH}_3$	
3-452	Q3d	NHCH_3	
3-453	Q3d	NHCH_2CH_3	
3-454	Q3d	$\text{N}(\text{CH}_3)_2$	
3-455	Q3d	$\text{N}(\text{CH}_2\text{CH}_3)_2$	
3-456	Q3d	$\text{N}(\text{CH}_3)(\text{CH}_2\text{CH}_3)$	
3-457	Q3e	CH_3	
3-458	Q3e	CH_2CH_3	
3-459	Q3e	$(\text{CH}_3)_2\text{CH}_2$	
3-460	Q3e		

compound number	Q	R1	physical property (melting point-ND)
3-461	Q3e		
3-462	Q3e		
3-463	Q3e		
3-464	Q3e		
3-465	Q3e		
3-466	Q3e		
3-467	Q3e		
3-468	Q3e	CF_3	
3-469	Q3e	CH_2CF_3	
3-470	Q3e	CF_2CF_3	
3-471	Q3e	$\text{CH}_2\text{CH}=\text{CH}_2$	
3-472	Q3e	$\text{CH}_2\text{C}=\text{CH}$	
3-473	Q3e	C_6H_6	
3-474	Q3e	$\text{CH}_2\text{C}_6\text{H}_5$	
3-475	Q3e	CH_2OCH_3	
3-476	Q3e	$\text{CH}_2\text{OCH}_2\text{CH}_3$	
3-477	Q3e	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{CH}_3$	
3-478	Q3e	$(\text{CH}_2)_3\text{OCH}_3$	
3-479	Q3e	$(\text{CH}_2)_3\text{OCH}_2\text{CH}_3$	
3-480	Q3e		

Table 57

compound number	Q	R1	physical property (melting point-ND)
3-481	Q3e		
3-482	Q3e		
3-483	Q3e		
3-484	Q3e	CH2OCH2CF3	
3-485	Q3e		
3-486	Q3e	CH2OCH2CF2CF3	
3-487	Q3e	CH2OCH2CH=CH2	
3-488	Q3e	CH2OCH2CH=OCH2	
3-489	Q3e	CH2OCH2CF=CF2	
3-490	Q3e	CH2OCH2C=CH	
3-491	Q3e	CH2OCH2C=OCH3	
3-492	Q3e	CH2SCH3	
3-493	Q3e	CH2SCH2CH3	
3-494	Q3e	CH2S(CH2)2CH3	
3-495	Q3e		
3-496	Q3e		
3-497	Q3e		
3-498	Q3e		
3-499	Q3e	CH2SCH2CF3	
3-500	Q3e	CH2SCH2CH=CH2	
3-501	Q3e	CH2SCH2C=CH	
3-502	Q3e	CH2SOCH3	
3-503	Q3e	CH2SOCH2CH3	
3-504	Q3e	CH2SO(CH2)2CH3	
3-505	Q3e		
3-506	Q3e		
3-507	Q3e		
3-508	Q3e		
3-509	Q3e	CH2SOCH2CF3	
3-510	Q3e	CH2SOCH2CH=CH2	
3-511	Q3e	CH2SOCH2C=CH	
3-512	Q3e	CH2SO2CH3	
3-513	Q3e	CH2SO2CH2CH3	
3-514	Q3e	CH2SO2(CH2)2CH3	
3-515	Q3e		
3-516	Q3e		
3-517	Q3e		
3-518	Q3e		
3-519	Q3e	CH2SO2CH2CF3	
3-520	Q3e	CH2SO2CH2CH=CH2	

BS

Table 58

compound number	Q	R1	physical property (melting point-ND)
3-521	Q3c	$\text{CH}_2\text{SO}_2\text{CH}_2\text{C}\equiv\text{CH}$	
3-522	Q3c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_3$	
3-523	Q3c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2\text{CH}_3$	
3-524	Q3c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2-\text{[cyclopropane]}$	
3-525	Q3c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2\text{CF}_3$	
3-526	Q3c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2\text{CH}=\text{CH}_2$	
3-527	Q3c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2\text{C}\equiv\text{CH}$	
3-528	Q3c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_3$	
3-529	Q3c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2-\text{[cyclopropane]}$	
3-530	Q3c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2\text{CF}_3$	
3-531	Q3c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2\text{CH}=\text{CH}_2$	
3-532	Q3c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2\text{C}\equiv\text{CH}$	
3-533	Q3c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_3$	
3-534	Q3c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2-\text{[cyclopropane]}$	
3-535	Q3c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2\text{CF}_3$	
3-536	Q3c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2\text{CH}=\text{CH}_2$	
3-537	Q3c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2\text{C}\equiv\text{CH}$	
3-538	Q3c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_3$	
3-539	Q3c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2-\text{[cyclopropane]}$	
3-540	Q3c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{CF}_3$	
3-541	Q3c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{CH}=\text{CH}_2$	
3-542	Q3c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{C}\equiv\text{CH}$	
3-543	Q3c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2-\text{[cyclopropane]}$	
3-544	Q3c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2-\text{[cyclobutane]}$	
3-545	Q3c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2-\text{[cyclopentane]}$	
3-546	Q3c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2-\text{[cyclohexane]}$	
3-547	Q3c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2-\text{[cycloheptane]}$	
3-548	Q3c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2-\text{[cyclooctane]}$	
3-549	Q3c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2-\text{[cyclononane]}$	
3-550	Q3c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2-\text{[decalin]}$	
3-551	Q3c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NHSO}_2\text{CH}_3$	
3-552	Q3c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{N}(\text{CH}_3)(\text{SO}_2\text{CH}_3)$	
3-553	Q3c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NH}(\text{SO}_2\text{CH}_2-\text{[cyclopropane]})$	
3-554	Q3c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NHSO}_2\text{CF}_3$	
3-555	Q3c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NHSO}_2\text{CHF}_2$	
3-556	Q3c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NHSO}_2\text{CH}_2\text{CF}_3$	
3-557	Q3c	SOCH_3	
3-558	Q3c	SOCH_3	
3-559	Q3c	SO_2CH_3	
3-560	Q3c	OCH_3	

Table 59

compound number	Q	R1	physical property (melting point-ND)
3-561	Q3e	OCH ₂ CH ₃	
3-562	Q3e	O(CH ₂) ₂ CH ₃	
3-563	Q3e	OCH ₂ CF ₃	
3-564	Q2e	OCF ₂ CF ₃	
3-565	Q3e	O(CH ₂) ₂ OCH ₃	
3-566	Q3e	NHCH ₃	
3-567	Q3e	NHCH ₂ CH ₃	
3-568	Q3e	N(CH ₃) ₂	
3-569	Q2e	N(CH ₂ CH ₃) ₂	
3-570	Q3e	N(CH ₃)(CH ₂ CH ₃)	
3-571	Q3f	CH ₃	
3-572	Q3f	CH ₂ CH ₃	
3-573	Q3f	(CH ₂) ₂ CH ₃	
3-574	Q3f		
3-575	Q3f		
3-576	Q3f		
3-577	Q3f		
3-578	Q3f		
3-579	Q3f		
3-580	Q3f		
3-581	Q3f		
3-582	Q3f	CF ₃	
3-583	Q3f	CH ₂ CF ₃	
3-584	Q3f	CF ₂ CF ₃	
3-585	Q3f	CH ₂ CH=CH ₂	
3-586	Q3f	CH ₂ C≡CH	
3-587	Q3f	C ₆ H ₅	
3-588	Q3f	CH ₂ C ₆ H ₅	
3-589	Q3f	CH ₂ OCH ₃	
3-590	Q3f	CH ₂ OCH ₂ CH ₃	
3-591	Q3f	CH ₂ O(CH ₂) ₂ CH ₃	
3-592	Q3f	(CH ₂) ₂ OCH ₃	
3-593	Q3f	(CH ₂) ₃ OCH ₃	
3-594	Q3f		
3-595	Q3f		
3-596	Q3f		
3-597	Q3f		
3-598	Q3f	CH ₂ OCH ₂ CF ₃	
3-599	Q3f	CH ₂ OCF ₂ CHF ₂	
3-600	Q3f	CH ₂ OCH ₂ OCF ₂ CF ₃	

Table 60

compound number	Q	R1	physical property (melting point-ND)
3-601	Q3f	CH ₂ SOCH ₂ CH=CH ₂	
3-602	Q3f	CH ₂ SOCH ₂ CH=CCl ₂	
3-603	Q3f	CH ₂ SOCH ₂ CF=CF ₂	
3-604	Q3f	CH ₂ SOCH ₂ C≡CH	
3-605	Q3f	CH ₂ SOCH ₂ C≡CCH ₃	
3-606	Q3f	CH ₂ SOCH ₃	
3-607	Q3f	CH ₂ SOCH ₂ CH ₃	
3-608	Q3f	CH ₂ SO(CH ₂) ₂ CH ₃	
3-609	Q3f		
3-610	Q3f		
3-611	Q3f		
3-612	Q3f		
3-613	Q3f	CH ₂ SOCH ₂ CF ₃	
3-614	Q3f	CH ₂ SOCH ₂ CH=CH ₂	
3-615	Q3f	CH ₂ SOCH ₂ C≡CH	
3-616	Q3f	CH ₂ SOCH ₃	
3-617	Q3f	CH ₂ SOCH ₂ CH ₃	
3-618	Q3f	CH ₂ SO(CH ₂) ₂ CH ₃	
3-619	Q3f		
3-620	Q3f		
3-621	Q3f		
3-622	Q3f		
3-623	Q3f	CH ₂ SOCH ₂ CF ₃	
3-624	Q3f	CH ₂ SOCH ₂ CH=CH ₂	
3-625	Q3f	CH ₂ SOCH ₂ C≡CH	
3-626	Q3f	CH ₂ SOCH ₃	
3-627	Q3f	CH ₂ SOCH ₂ CH ₃	
3-628	Q3f	CH ₂ SO(CH ₂) ₂ CH ₃	
3-629	Q3f		
3-630	Q3f		
3-631	Q3f		
3-632	Q3f		
3-633	Q3f	CH ₂ SOCH ₂ CF ₃	
3-634	Q3f	CH ₂ SOCH ₂ CH=CH ₂	
3-635	Q3f	CH ₂ SOCH ₂ C≡CH	
3-636	Q3f	CH ₂ SO(CH ₂) ₂ CH ₃	
3-637	Q3f	CH ₂ SO(CH ₂) ₂ CH ₂ CH ₃	
3-638	Q3f	CH ₂ SO(CH ₂) ₂ CH ₂ CH ₂ CH ₃	
3-639	Q3f	CH ₂ SO(CH ₂) ₂ CH ₂ CF ₃	
3-640	Q3f	CH ₂ SO(CH ₂) ₂ CH ₂ CH=CH ₂	

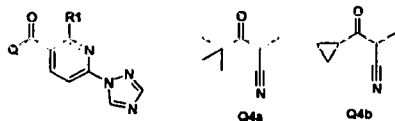
Table 61

compound number	Q	R1	physical property (melting point-ND)
3-641	Q3f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2\text{C}\equiv\text{CH}$	
3-642	Q3f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_3$	
3-643	Q3f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2-\text{[]}$	
3-644	Q3f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2\text{CF}_3$	
3-645	Q3f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2\text{CH}=\text{CH}_2$	
3-646	Q3f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2\text{C}=\text{CH}$	
3-647	Q3f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_3$	
3-648	Q3f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2-\text{[]}$	
3-649	Q3f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2\text{CF}_3$	
3-650	Q3f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2\text{CH}=\text{CH}_2$	
3-651	Q3f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2\text{C}\equiv\text{CH}$	
3-652	Q3f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_3$	
3-653	Q3f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2-\text{[]}$	
3-654	Q3f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{CF}_3$	
3-655	Q3f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{CH}=\text{CH}_2$	
3-656	Q3f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{C}\equiv\text{CH}$	
3-657	Q3f		
3-658	Q3f		
3-659	Q3f		
3-660	Q3f		
3-661	Q3f		
3-662	Q3f		
3-663	Q3f		
3-664	Q3f		
3-665	Q3f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NHSO}_2\text{CH}_3$	
3-666	Q3f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{N}(\text{CH}_3)(\text{SO}_2\text{CH}_3)$	
3-667	Q3f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NH}(\text{SO}_2\text{CH}_2-\text{[]})$	
3-668	Q3f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NHSO}_2\text{CF}_3$	
3-669	Q3f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NHSO}_2\text{CHF}_2$	
3-670	Q3f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NHSO}_2\text{CH}_2\text{CF}_3$	
3-671	Q3f	SOCH_3	
3-672	Q3f	SOCH_3	
3-673	Q3f	SO_2CH_3	
3-674	Q3f	OCH_3	
3-675	Q3f	OCH_2CH_3	
3-676	Q3f	$\text{C}(\text{CH}_3)_2\text{CH}_3$	
3-677	Q3f	OCH_2CF_3	
3-678	Q3f	OCF_2CF_3	
3-679	Q3f	$\text{O}(\text{CH}_2)_2\text{OCH}_3$	
3-680	Q3f	NHCH_3	

Table 62

compound number	Q	R1	physical property (melting point-ND)
3-681	Q3f	NHCH ₂ CH ₃	
3-682	Q3f	N(CH ₃) ₂	
3-683	Q3f	N(CH ₂ CH ₃) ₂	
3-684	Q3f	N(CH ₃)(CH ₂ CH ₃)	

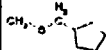
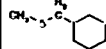
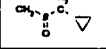
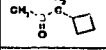
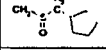
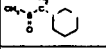
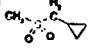
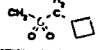
Table 63



compound number	Q	R1	physical property (melting point-ND)
4-1	Q4a	CH ₃	
4-2	Q4a	CH ₂ CH ₃	
4-3	Q4a	(CH ₂) ₂ CH ₃	
4-4	Q4a		
4-5	Q4a		
4-6	Q4a		
4-7	Q4a		
4-8	Q4a		
4-9	Q4a		
4-10	Q4a		
4-11	Q4a		
4-12	Q4a	CF ₃	
4-13	Q4a	CH ₂ CF ₃	
4-14	Q4a	CF ₂ CF ₃	
4-15	Q4a	CH ₂ CH=CH ₂	
4-16	Q4a	CH ₂ C≡CH	
4-17	Q4a	C ₆ H ₅	
4-18	Q4a	CH ₂ C ₆ H ₅	
4-19	Q4a	CH ₂ OCH ₃	
4-20	Q4a	CH ₂ OCH ₂ CH ₃	

compound number	Q	R1	physical property (melting point-ND)
4-21	Q4a	CH ₂ O(CH ₂) ₂ CH ₃	
4-22	Q4a	(CH ₂) ₃ OCH ₃	
4-23	Q4a	(CH ₂) ₃ OCH ₃	
4-24	Q4a		
4-25	Q4a		
4-26	Q4a		
4-27	Q4a		
4-28	Q4a	CH ₂ OCH ₂ CF ₃	
4-29	Q4a	CH ₂ OCF ₂ CHF ₂	
4-30	Q4a	CH ₂ OCH ₂ CF ₂ CF ₃	
4-31	Q4a	CH ₂ OCH ₂ CH=CH ₂	
4-32	Q4a	CH ₂ OCH ₂ CH=CCl ₂	
4-33	Q4a	CH ₂ OCH ₂ CF=CF ₂	
4-34	Q4a	CH ₂ OC ₂ C≡CH	
4-35	Q4a	CH ₂ OCH ₂ C≡CCH ₃	
4-36	Q4a	CH ₂ SCH ₃	
4-37	Q4a	CH ₂ SCH ₂ CH ₃	
4-38	Q4a	CH ₂ S(CH ₂) ₂ CH ₃	
4-39	Q4a		
4-40	Q4a		

Table 64

compound number	Q	R1	physical property (melting point-ND)
4-41	Q45		
4-42	Q46		
4-43	Q43	CH ₂ SOCH ₂ CF ₃	
4-44	Q43	CH ₂ SOCH ₂ CH=CH ₂	
4-45	Q43	CH ₂ SOCH ₂ C≡CH	
4-46	Q43	CH ₂ SOCH ₃	
4-47	Q43	CH ₂ SOCH ₂ CH ₃	
4-48	Q46	CH ₂ SO(CH ₂) ₂ CH ₃	
4-49	Q43		
4-50	Q43		
4-51	Q43		
4-52	Q46		
4-53	Q43	CH ₂ SOCH ₂ CF ₃	
4-54	Q43	CH ₂ SOCH ₂ CH=CH ₂	
4-55	Q43	CH ₂ SOCH ₂ C≡CH	
4-56	Q43	CH ₂ SO ₂ CH ₃	
4-57	Q43	CH ₂ SO ₂ CH ₂ CH ₃	
4-58	Q43	CH ₂ SO ₂ (CH ₂) ₂ CH ₃	
4-59	Q43		
4-60	Q43		

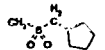
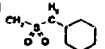
compound number	Q	R1	physical property (melting point-ND)
4-61	Q45		
4-62	Q46		
4-63	Q43	CH ₂ SO ₂ CH ₂ CF ₃	
4-64	Q43	CH ₂ SO ₂ CH ₂ CH=CH ₂	
4-65	Q43	CH ₂ SO ₂ CH ₂ C≡CH	
4-66	Q43	CH ₂ O(CH ₂) ₂ OCH ₃	
4-67	Q43	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	
4-68	Q43	CH ₂ O(CH ₂) ₂ OCH ₂ — 	
4-69	Q43	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
4-70	Q43	CH ₂ O(CH ₂) ₂ OCH ₂ CH=CH ₂	
4-71	Q43	CH ₂ O(CH ₂) ₂ OCH ₂ C≡CH	
4-72	Q43	CH ₂ O(CH ₂) ₂ SOCH ₃	
4-73	Q43	CH ₂ O(CH ₂) ₂ SOCH ₂ — 	
4-74	Q43	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
4-75	Q43	CH ₂ O(CH ₂) ₂ SOCH ₂ CH=CH ₂	
4-76	Q43	CH ₂ O(CH ₂) ₂ SOCH ₂ C≡CH	
4-77	Q43	CH ₂ O(CH ₂) ₂ SOCH ₃	
4-78	Q43	CH ₂ O(CH ₂) ₂ SOCH ₂ — 	
4-79	Q43	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
4-80	Q43	CH ₂ O(CH ₂) ₂ SOCH ₂ CH=CH ₂	

Table 65

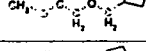
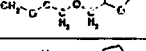
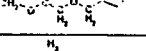
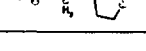
compound number	Q	R1	physical property (melting point-ND)
4-81	Q-9a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2\text{C}\equiv\text{CH}$	
4-82	Q-9a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_3$	
4-83	Q-9a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2$ 	
4-84	Q-9a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{CF}_3$	
4-85	Q-9a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{CH}=\text{CH}_2$	
4-86	Q-9a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{C}\equiv\text{CH}$	
4-87	Q-9a		
4-88	Q-9a		
4-89	Q-9a		
4-90	Q-9a		
4-91	Q-9a		
4-92	Q-9a		
4-93	Q-9a		
4-94	Q-9a		
4-95	Q-9a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NHSC}_2\text{H}_5$	
4-96	Q-9a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{N}(\text{CH}_3)(\text{SO}_2\text{CH}_3)$	
4-97	Q-9a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NH}(\text{SO}_2\text{CH}_2$ )	
4-98	Q-9a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NHSO}_2\text{CF}_3$	
4-99	Q-9a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NHSO}_2\text{CHF}_3$	
4-100	Q-9a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NHSO}_2\text{CH}_2\text{CF}_3$	
4-101	Q-9a	SCH_3	
4-102	Q-9a	SOCH_3	
4-103	Q-9a	SO_2CH_3	
4-104	Q-9a	OCH_3	
4-105	Q-9a	OCH_2CH_3	
4-106	Q-9a	$\text{O}(\text{CH}_2)_2\text{CH}_3$	
4-107	Q-9a	OCH_2CF_3	
4-108	Q-9a	OCF_2CF_3	
4-109	Q-9a	$\text{O}(\text{CH}_2)_2\text{OCH}_3$	
4-110	Q-9a	NHCH_3	
4-111	Q-9a	NHCH_2CH_3	
4-112	Q-9a	$\text{N}(\text{CH}_3)_2$	
4-113	Q-9a	$\text{N}(\text{CH}_2\text{CH}_3)_2$	
4-114	Q-9a	$\text{N}(\text{CH}_3)(\text{CH}_2\text{CH}_3)$	
4-115	Q-9b	CH_3	NMR
4-116	Q-9b	CH_2CH_3	
4-117	Q-9b	$(\text{CH}_2)_2\text{CH}_3$	
4-118	Q-9b		
4-119	Q-9b		
4-120	Q-9b		

Table 66

compound number	Q	R1	physical property (melting point-ND)
4-121	Q-4b		
4-122	Q-4b		
4-123	Q-4b		
4-124	Q-4b		
4-125	Q-4b		
4-126	Q-4b	CF ₃	122-132°C
4-127	Q-4b	CH ₂ CF ₃	
4-128	Q-4b	CF ₂ CF ₃	
4-129	Q-4b	CH ₂ CH=CH ₂	
4-130	Q-4b	CHC≡CH	
4-131	Q-4b	C ₆ H ₅	
4-132	Q-4b	CH ₂ C ₆ H ₅	
4-133	Q-4b	CH ₂ OCH ₃	1.5723(25)
4-134	Q-4b	CH ₂ OCH ₂ CH ₃	
4-135	Q-4b	CH ₂ O(CH ₂) ₂ CH ₃	
4-136	Q-4b	(CH ₂) ₂ OCH ₃	
4-137	Q-4b	(CH ₂) ₃ OCH ₃	
4-138	Q-4b		
4-139	Q-4b		
4-140	Q-4b		
4-141	Q-4b		
4-142	Q-4b	CH ₂ OCH ₂ CF ₃	NMR
4-143	Q-4b	CH ₂ OCH ₂ CHF ₂	
4-144	Q-4b	CH ₂ OCH ₂ CF ₂ CF ₃	
4-145	Q-4b	CH ₂ OCH ₂ CH=CH ₂	
4-146	Q-4b	CH ₂ OCH ₂ CH=CCl ₂	
4-147	Q-4b	CH ₂ OCH ₂ CF=CF ₂	
4-148	Q-4b	CH ₂ OC ₂ C≡CH	
4-149	Q-4b	CH ₂ OCH ₂ C≡CCH ₃	
4-150	Q-4b	CH ₂ SCN ₃	
4-151	Q-4b	CH ₂ SCH ₂ CH ₃	
4-152	Q-4b	CH ₂ S(CH ₂) ₂ CH ₃	
4-153	Q-4b		
4-154	Q-4b		
4-155	Q-4b		
4-156	Q-4b		
4-157	Q-4b	CH ₂ SCH ₂ CF ₃	
4-158	Q-4b	CH ₂ SCH ₂ CH=CH ₂	
4-159	Q-4b	CH ₂ SCH ₂ C≡CH	
4-160	Q-4b	CH ₂ SOCH ₃	

Table 67

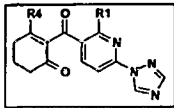
compound number	Q	R1	physical property (melting point-ND)
4-161	Q-4b	CH ₂ SOCH ₂ CH ₃	
4-162	Q-4b	CH ₂ SO(CH ₂) ₂ CH ₃	
4-163	Q-4b		
4-164	Q-4b		
4-165	Q-4b		
4-166	Q-4b		
4-167	Q-4b	CH ₂ SOCH ₂ CF ₃	
4-168	Q-4b	CH ₂ SOCH ₂ CH=CH ₂	
4-169	Q-4b	CH ₂ SOCH ₂ C≡CH	
4-170	Q-4b	CH ₂ SO ₂ CH ₃	
4-171	Q-4b	CH ₂ SO ₂ CH ₂ CH ₃	
4-172	Q-4b	CH ₂ SO ₂ (CH ₂) ₂ CH ₃	
4-173	Q-4b		
4-174	Q-4b		
4-175	Q-4b		
4-176	Q-4b		
4-177	Q-4b	CH ₂ SO ₂ CH ₂ CF ₃	
4-178	Q-4b	CH ₂ SO ₂ CH ₂ CH=CH ₂	
4-179	Q-4b	CH ₂ SO ₂ CH ₂ C≡CH	
4-180	Q-4b	CH ₂ O(CH ₂) ₂ OCH ₃	
4-181	Q-4b	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	
4-182	Q-4b	CH ₂ O(CH ₂) ₂ OCH ₂ -◁	
4-183	Q-4b	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
4-184	Q-4b	CH ₂ O(CH ₂) ₂ OCH ₂ CH=CH ₂	
4-185	Q-4b	CH ₂ O(CH ₂) ₂ OCH ₂ C≡CH	
4-186	Q-4b	CH ₂ O(CH ₂) ₂ SOCH ₃	
4-187	Q-4b	CH ₂ O(CH ₂) ₂ SOCH ₂ -◁	
4-188	Q-4b	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
4-189	Q-4b	CH ₂ O(CH ₂) ₂ SOCH ₂ CH=CH ₂	
4-190	Q-4b	CH ₂ O(CH ₂) ₂ SOCH ₂ C≡CH	
4-191	Q-4b	CH ₂ O(CH ₂) ₂ SOCH ₃	
4-192	Q-4b	CH ₂ O(CH ₂) ₂ SOCH ₂ -◁	
4-193	Q-4b	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
4-194	Q-4b	CH ₂ O(CH ₂) ₂ SOCH ₂ CH=CH ₂	
4-195	Q-4b	CH ₂ O(CH ₂) ₂ SOCH ₂ C≡CH	
4-196	Q-4b	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
4-197	Q-4b	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ -◁	
4-198	Q-4b	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
4-199	Q-4b	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CH=CH ₂	
4-200	Q-4b	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ C≡CH	

Table 68

compound number	Q	R1	physical property (melting point-ND)	compound number	Q	R1	physical property (melting point-ND)
4-201	Q-3b			4-221	Q-4b	OCH2CF3	
4-202	Q-4b			4-222	Q-4b	OCF2CF3	
4-203	Q-4b			4-223	Q-4b	O(CH2)2OCH3	
4-204	Q-4b			4-224	Q-4b	NHCH3	
4-205	Q-4b			4-225	Q-4b	NHCH2CH3	
4-206	Q-4b			4-226	Q-4b	N(CH3)2	
4-207	Q-4b			4-227	Q-4b	N(CH2CH3)2	
4-208	Q-4b			4-228	Q-4b	N(CH3)(CH2CH3)	
4-209	Q-4t	CH2C(CH2)2NHSO2CH3					
4-210	Q-4b	CH2C(CH2)2N(CH3)(SO2CH3)					
4-211	Q-4b	CH2C(CH2)2NH(SO2CH2- )					
4-212	Q-4t	CH2C(CH2)2NHSO2CF3					
4-213	Q-4b	CH2C(CH2)2NHSO2CHF2					
4-214	Q-4b	CH2C(CH2)2NHSO2CH2CF3					
4-215	Q-4b	SOCH3					
4-216	Q-4b	SOCH3					
4-217	Q-4b	SO2CH3					
4-218	Q-4b	OCH3					
4-219	Q-4b	OCH2CH3					
4-220	Q-4b	O(CH2)2CH3					

176

Table 69



compound number	R4	R1	physical property (melting point-ND)
5-1	Cl	CH ₃	
5-2	Cl	CF ₃	
5-3	Cl	CH ₂ SOCH ₃	
5-4	Cl	CH ₂ SOCH ₂ CH ₃	
5-5	Cl		
5-6	Cl	CH ₂ OCH ₂ CF ₃	
5-7	Cl	CH ₂ SOCH ₃	
5-8	Cl	CH ₂ SOCH ₂ CH ₃	
5-9	Cl		
5-10	Cl	CH ₂ SOCH ₂ CF ₃	
5-11	Cl	CH ₂ SOCH ₃	
5-12	Cl	CH ₂ SOCH ₂ CH ₃	
5-13	Cl		
5-14	Cl	CH ₂ SOCH ₂ CF ₃	
5-15	Cl	CH ₂ SO ₂ CH ₃	
5-16	Cl	CH ₂ SO ₂ CH ₂ CH ₃	
5-17	Cl		
5-18	Cl	CH ₂ SO ₂ CH ₂ CF ₃	
5-19	Cl	CH ₂ C(CH ₃) ₂ SOCH ₃	
5-20	Cl	CH ₂ C(CH ₃) ₂ SOCH ₂ CH ₃	

compound number	R4	R1	physical property (melting point-ND)
5-21	Cl	CH ₂ C(CH ₃) ₂ SOCH ₂ CF ₃	
5-22	Cl	CH ₂ C(CH ₃) ₂ SOCH ₃	
5-23	Cl	CH ₂ C(CH ₃) ₂ SOCH ₂ CF ₃	
5-24	Cl	CH ₂ C(CH ₃) ₂ SOCH ₂ CH ₃	
5-25	Cl	CH ₂ C(CH ₃) ₂ SOCH ₂ CF ₃	
5-26	Cl	CH ₂ C(CH ₃) ₂ SOCH ₂ CH ₃	
5-27	Cl	CH ₂ C(CH ₃) ₂ SOCH ₂ CF ₃	
5-28	Cl		
5-29	Cl		
5-30	Cl	CH ₂ C(CH ₃) ₂ NHSC ₂ H ₅	
5-31	Cl	CH ₂ C(CH ₃) ₂ N(CH ₃)SO ₂ CH ₃	
5-32	SOCH ₃	CH ₃	
5-33	SOCH ₃	CF ₃	
5-34	SOCH ₃	CH ₂ OCH ₃	
5-35	SOCH ₃	CH ₂ OCH ₂ CH ₃	
5-36	SOCH ₃		
5-37	SOCH ₃	CH ₂ OCH ₂ CF ₃	
5-38	SOCH ₃	CH ₂ SOCH ₃	
5-39	SOCH ₃	CH ₂ SOCH ₂ CH ₃	
5-40	SOCH ₃		

1476

Table 70

compound number	R4	R1	physical property (melting point-ND)	compound number	R4	R1	physical property (melting point-ND)
5-41	SCH ₃	CH ₂ SOCH ₂ CF ₃		5-61	SCH ₃	CH ₂ O(CH ₂) ₂ NHCO ₂ CH ₃	
5-42	SCH ₃	CH ₂ SO ⁺ CH ₃		5-62	SCH ₃	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	
5-43	SCH ₃	CH ₂ SOCH ₂ CH ₃		5-63	SOCH ₂ CH ₃	CH ₃	
5-44	SCH ₃			5-64	SOCH ₂ CH ₃	CF ₃	
5-45	SCH ₃	CH ₂ SOCH ₂ CF ₃		5-65	SOCH ₂ CH ₃	CH ₂ CH ₂ CH ₃	
5-46	SCH ₃	CH ₂ SO ₂ CH ₃		5-66	SOCH ₂ CH ₃	CH ₂ SOCH ₂ CH ₃	
5-47	SCH ₃	CH ₂ SO ₂ CH ₂ CH ₃		5-67	SOCH ₂ CH ₃		
5-48	SCH ₃			5-68	SOCH ₂ CH ₃	CH ₂ SOCH ₂ CF ₃	
5-49	SCH ₃	CH ₂ SO ₂ CH ₂ CF ₃		5-69	SOCH ₂ CH ₃	CH ₂ SOCH ₃	
5-50	SCH ₃	CH ₂ S(CH ₂) ₂ CH ₃		5-70	SOCH ₂ CH ₃	CH ₂ SOCH ₂ CH ₃	
5-51	SCH ₃	CH ₂ S(CH ₂) ₂ CH ₂ CH ₃		5-71	SOCH ₂ CH ₃		
5-52	SCH ₃	CH ₂ S(CH ₂) ₂ CH ₂ CF ₃		5-72	SOCH ₂ CH ₃	CH ₂ SOCH ₂ CF ₃	
5-53	SCH ₃	CH ₂ S(CH ₂) ₂ SOCH ₃		5-73	SOCH ₂ CH ₃	CH ₂ SOCH ₃	
5-54	SOCH ₃	CH ₂ S(CH ₂) ₂ SOCH ₂ CF ₃		5-74	SOCH ₂ CH ₃	CH ₂ SOCH ₂ CH ₃	
5-55	SOCH ₃	CH ₂ S(CH ₂) ₂ SOCH ₃		5-75	SOCH ₂ CH ₃		
5-56	SOCH ₃	CH ₂ S(CH ₂) ₂ SOCH ₂ CF ₃		5-76	SOCH ₂ CH ₃	CH ₂ SOCH ₂ CF ₃	
5-57	SOCH ₃	CH ₂ S(CH ₂) ₂ SO ₂ CH ₃		5-77	SOCH ₂ CH ₃	CH ₂ SO ₂ CH ₃	
5-58	SOCH ₃	CH ₂ S(CH ₂) ₂ SO ₂ CH ₂ CF ₃		5-78	SOCH ₂ CH ₃	CH ₂ SO ₂ CH ₂ CH ₃	
5-59	SOCH ₃			5-79	SOCH ₂ CH ₃		
5-60	SOCH ₃			5-80	SOCH ₂ CH ₃	CH ₂ SO ₂ CH ₂ CF ₃	

Table 71

compound number	R4	R1	physical property (melting point-ND)
5-81	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ OCH ₃	
5-82	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	
5-83	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
5-84	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₃	
5-85	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
5-86	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₃	
5-87	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
5-88	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
5-89	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
5-90	SCH ₂ CH ₃		
5-91	SCH ₂ CH ₃		
5-92	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ HSO ₂ CH ₃	
5-93	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ H(CH ₃)(SO ₂ CH ₃)	
5-94	S(CH ₂) ₂ CH ₃	CH ₃	
5-95	S(CH ₂) ₂ CH ₃	CF ₃	
5-96	S(CH ₂) ₂ CH ₃	CH ₂ CH ₃	
5-97	S(CH ₂) ₂ CH ₃	CH ₂ CH ₂ CH ₃	
5-98	S(CH ₂) ₂ CH ₃		
5-99	S(CH ₂) ₂ CH ₃	CH ₂ OCH ₂ CF ₃	
5-100	S(CH ₂) ₂ CH ₃	CH ₂ SOCH ₃	
5-101	S(CH ₂) ₂ CH ₃	CH ₂ SOCH ₂ CH ₃	
5-102	S(CH ₂) ₂ CH ₃		
5-103	S(CH ₂) ₂ CH ₃	CH ₂ SOCH ₂ CF ₃	
5-104	S(CH ₂) ₂ CH ₃	CH ₂ SOCH ₃	
5-105	S(CH ₂) ₂ CH ₃	CH ₂ SOCH ₂ CH ₃	
5-106	S(CH ₂) ₂ CH ₃		
5-107	S(CH ₂) ₂ CH ₃	CH ₂ SOCH ₂ CF ₃	
5-108	S(CH ₂) ₂ CH ₃	CH ₂ SO ₂ CH ₃	
5-109	S(CH ₂) ₂ CH ₃	CH ₂ SO ₂ CH ₂ CH ₃	
5-110	S(CH ₂) ₂ CH ₃		
5-111	S(CH ₂) ₂ CH ₃	CH ₂ SO ₂ CH ₂ CF ₃	
5-112	S(CH ₂) ₂ CH ₃	CH ₂ C(CH ₃) ₂ COCH ₃	
5-113	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	
5-114	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
5-115	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₃	
5-116	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
5-117	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₃	
5-118	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
5-119	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
5-120	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	

Table 72

compound number	R4	R1	physical property (melting point-ND)	compound number	R4	R1	physical property (melting point-ND)
5-121	S(CH ₂) ₂ CH ₃			5-141	SC ₆ H ₅		
5-122	S(CH ₂) ₂ CH ₃			5-142	SC ₆ H ₅	CH ₂ SO ₂ CH ₂ CF ₃	
5-123	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₃ NHSC ₂ H ₅		5-143	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ OCH ₃	
5-124	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₃ N(CH ₃)(SO ₂ CH ₃)		5-144	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	
5-125	SC ₆ H ₅	CH ₃		5-145	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
5-126	SC ₆ H ₅	CF ₃		5-146	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ SOCH ₃	
5-127	SC ₆ H ₅	CH ₂ OCH ₃		5-147	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
5-128	SC ₆ H ₅	CH ₂ OCH ₂ CH ₃		5-148	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ SOCH ₃	
5-129	SC ₆ H ₅			5-149	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
5-130	SC ₆ H ₅	CH ₂ SOCH ₂ CF ₃		5-150	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
5-131	SC ₆ H ₅	CH ₂ SOCH ₃		5-151	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
5-132	SC ₆ H ₅	CH ₂ SOCH ₂ CH ₃		5-152	SC ₆ H ₅		
5-133	SC ₆ H ₅			5-153	SC ₆ H ₅		
5-134	SC ₆ H ₅	CH ₂ SOCH ₂ CF ₃		5-154	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ NHSC ₂ H ₅	
5-135	SC ₆ H ₅	CH ₂ SOCH ₃		5-155	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	
5-136	SC ₆ H ₅	CH ₂ SOCH ₂ CH ₃		5-156	SCH ₂ C ₆ H ₅	CH ₃	
5-137	SC ₆ H ₅			5-157	SCH ₂ C ₆ H ₅	CF ₃	
5-138	SC ₆ H ₅	CH ₂ SOCH ₂ CF ₃		5-158	SCH ₂ C ₆ H ₅	CH ₂ OCH ₃	
5-139	SC ₆ H ₅	CH ₂ SOCH ₂ CH ₃		5-159	SCH ₂ C ₆ H ₅	CH ₂ OCH ₂ CH ₃	
5-140	SC ₆ H ₅	CH ₂ SO ₂ CH ₂ CH ₃		5-160	SCH ₂ C ₆ H ₅		

Table 73

compound number	R4	R1	physical property (melting point-ND)
5-161	$\text{SCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{SOCH}_2\text{CF}_3$	
5-162	$\text{SCH}_2\text{C}_6\text{H}_5$	CH_2SCH_3	
5-163	$\text{SCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{SCH}_2\text{CH}_3$	
5-164	$\text{SCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{-C(=O)-CH}_2\text{-Cyclopropyl}$	
5-165	$\text{SCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{SCH}_2\text{CF}_3$	
5-166	$\text{SCH}_2\text{C}_6\text{H}_5$	CH_2SOCH_3	
5-167	$\text{SCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{SOCH}_2\text{CH}_3$	
5-168	$\text{SCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{-C(=O)-CH}_2\text{-Cyclopropyl}$	
5-169	$\text{SCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{SOCH}_2\text{CF}_3$	
5-170	$\text{SCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{SO}_2\text{CH}_3$	
5-171	$\text{SCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{SO}_2\text{CH}_2\text{CH}_3$	
5-172	$\text{SCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{-C(=O)-CH}_2\text{-Cyclopropyl}$	
5-173	$\text{SCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{SO}_2\text{CH}_2\text{CF}_3$	
5-174	$\text{SCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_3$	
5-175	$\text{SCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2\text{CH}_3$	
5-176	$\text{SCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2\text{CF}_3$	
5-177	$\text{SCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_3$	
5-178	$\text{SCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2\text{CF}_3$	
5-179	$\text{SCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_3$	
5-180	$\text{SCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2\text{CF}_3$	
5-181	$\text{SCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_3$	
5-182	$\text{SCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{CF}_3$	
5-183	$\text{SCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{-C(=O)-CH}_2\text{-Cyclopropyl}$	
5-184	$\text{SCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{-C(=O)-CH}_2\text{-Cyclopropyl}$	
5-185	$\text{SCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NHCO}_2\text{CH}_3$	
5-186	$\text{SCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{N}(\text{CH}_3)(\text{SO}_2\text{CH}_3)$	
5-187	1H-pyrazole-1-yl	CH_3	
5-188	1H-pyrazole-1-yl	CF_3	
5-189	1H-pyrazole-1-yl	$\text{CH}_2\text{C-CH}_3$	
5-190	1H-pyrazole-1-yl	$\text{CH}_2\text{COCH}_2\text{CH}_3$	
5-191	1H-pyrazole-1-yl	$\text{CH}_2\text{-C(=O)-CH}_2\text{-Cyclopropyl}$	
5-192	1H-pyrazole-1-yl	$\text{CH}_2\text{OCH}_2\text{CF}_3$	
5-193	1H-pyrazole-1-yl	CH_2SCH_3	
5-194	1H-pyrazole-1-yl	$\text{CH}_2\text{SCH}_2\text{CH}_3$	
5-195	1H-pyrazole-1-yl	$\text{CH}_2\text{-C(=O)-CH}_2\text{-Cyclopropyl}$	
5-196	1H-pyrazole-1-yl	$\text{CH}_2\text{SCH}_2\text{CF}_3$	
5-197	1H-pyrazole-1-yl	CH_2SOCH_3	
5-198	1H-pyrazole-1-yl	$\text{CH}_2\text{SOCH}_2\text{CH}_3$	
5-199	1H-pyrazole-1-yl	$\text{CH}_2\text{-C(=O)-CH}_2\text{-Cyclopropyl}$	
5-200	1H-pyrazole-1-yl	$\text{CH}_2\text{SOCH}_2\text{CF}_3$	

Table 74

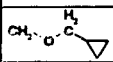
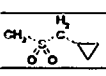
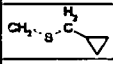
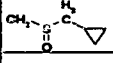
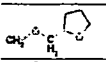
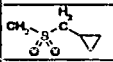
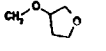
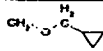
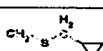
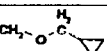
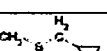
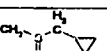
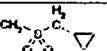
compound number	R4	R1	physical property (melting point-ND)	compound number	R4	R1	physical property (melting point-ND)
5-201	1H-pyrazole-1-yl	CH ₂ SO ₂ CH ₃		5-221	1H-imidazole-1-yl	CH ₂ C(CH ₃)CH ₃	
5-202	1H-pyrazole-1-yl	CH ₂ SO ₂ CH ₂ CH ₃		5-222	1H-imidazole-1-yl		
5-203	1H-pyrazole-1-yl			5-223	1H-imidazole-1-yl	CH ₂ C(CH ₃)CH ₂ CF ₃	
5-204	1H-pyrazole-1-yl	CH ₂ SO ₂ CH ₂ CF ₃		5-224	1H-imidazole-1-yl	CH ₂ SOCH ₃	
5-205	1H-pyrazole-1-yl	CH ₂ C(CH ₃) ₂ COCH ₃		5-225	1H-imidazole-1-yl	CH ₂ SOCH ₂ CH ₃	
5-206	1H-pyrazole-1-yl	CH ₂ C(CH ₃) ₂ COCH ₂ CH ₃		5-226	1H-imidazole-1-yl		
5-207	1H-pyrazole-1-yl	CH ₂ C(CH ₃) ₂ COCH ₂ CF ₃		5-227	1H-imidazole-1-yl	CH ₂ SOCH ₂ CF ₃	
5-208	1H-pyrazole-1-yl	CH ₂ C(CH ₃) ₂ SOCH ₃		5-228	1H-imidazole-1-yl	CH ₂ SOCH ₃	
5-209	1H-pyrazole-1-yl	CH ₂ C(CH ₃) ₂ SOCH ₂ CF ₃		5-229	1H-imidazole-1-yl	CH ₂ SOCH ₂ CH ₃	
5-210	1H-pyrazole-1-yl	CH ₂ C(CH ₃) ₂ SOCH ₃		5-230	1H-imidazole-1-yl		
5-211	1H-pyrazole-1-yl	CH ₂ C(CH ₃) ₂ SOCH ₂ CF ₃		5-231	1H-imidazole-1-yl	CH ₂ SOCH ₂ CF ₃	
5-212	1H-pyrazole-1-yl	CH ₂ C(CH ₃) ₂ SO ₂ CH ₃		5-232	1H-imidazole-1-yl	CH ₂ SO ₂ CH ₃	
5-213	1H-pyrazole-1-yl	CH ₂ C(CH ₃) ₂ SO ₂ CH ₂ CF ₃		5-233	1H-imidazole-1-yl	CH ₂ SO ₂ CH ₂ CH ₃	
5-214	1H-pyrazole-1-yl			5-234	1H-imidazole-1-yl		
5-215	1H-pyrazole-1-yl			5-235	1H-imidazole-1-yl	CH ₂ SO ₂ CH ₂ CF ₃	
5-216	1H-pyrazole-1-yl	CH ₂ C(CH ₃) ₂ NHSCF ₃ CH ₃		5-236	1H-imidazole-1-yl	CH ₂ C(CH ₃) ₂ COCH ₃	
5-217	1H-pyrazole-1-yl	CH ₂ C(CH ₃) ₂ N(CH ₃)(SO ₂ CH ₃)		5-237	1H-imidazole-1-yl	CH ₂ C(CH ₃) ₂ COCH ₂ CH ₃	
5-218	1H-imidazole-1-yl	CH ₃		5-238	1H-imidazole-1-yl	CH ₂ C(CH ₃) ₂ COCH ₂ CF ₃	
5-219	1H-imidazole-1-yl	CF ₃		5-239	1H-imidazole-1-yl	CH ₂ C(CH ₃) ₂ SOCH ₃	
5-220	1H-imidazole-1-yl	CH ₂ COCH ₃		5-240	1H-imidazole-1-yl	CH ₂ C(CH ₃) ₂ SOCH ₂ CF ₃	

Table 75

compound number	R4	R1	physical property (melting point-ND)
5-241	1H-imidazole-1-yl	CH ₂ O(CH ₂) ₂ SOCH ₃	
5-242	1H-imidazole-1-yl	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
5-243	1H-imidazole-1-yl	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
5-244	1H-imidazole-1-yl	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CH ₃	
5-245	1H-imidazole-1-yl		
5-246	1H-imidazole-1-yl		
5-247	1H-imidazole-1-yl	CH ₂ O(CH ₂) ₂ NHSC ₂ H ₅	
5-248	1H-imidazole-1-yl	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	
5-249	1H-imidazole-1-yl	CH ₃	
5-250	1H-imidazole-1-yl	CF ₃	
5-251	1H-imidazole-1-yl	CH ₂ OCH ₃	
5-252	1H-imidazole-1-yl	CH ₂ OCH ₂ CH ₃	
5-253	1H-imidazole-1-yl		
5-254	1H-imidazole-1-yl	CH ₂ OCH ₂ CF ₃	
5-255	1H-imidazole-1-yl	CH ₂ SOCH ₃	
5-256	1H-imidazole-1-yl	CH ₂ SOCH ₂ CH ₃	
5-257	1H-imidazole-1-yl		
5-258	1H-imidazole-1-yl	CH ₂ SOCH ₂ CF ₃	
5-259	1H-imidazole-1-yl	CH ₂ SOCH ₃	
5-260	1H-imidazole-1-yl	CH ₂ SOCH ₂ CH ₃	
5-261	1H-imidazole-1-yl		
5-262	1H-imidazole-1-yl	CH ₂ SOCH ₂ CF ₃	
5-263	1H-imidazole-1-yl	CH ₂ SO ₂ CH ₃	
5-264	1H-imidazole-1-yl	CH ₂ SO ₂ CH ₂ CH ₃	
5-265	1H-imidazole-1-yl		
5-266	1H-imidazole-1-yl	CH ₂ SO ₂ CH ₂ CF ₃	
5-267	1H-imidazole-1-yl	CH ₂ O(CH ₂) ₂ CCH ₃	
5-268	1H-imidazole-1-yl	CH ₂ O(CH ₂) ₂ CCH ₂ CH ₃	
5-269	1H-imidazole-1-yl	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
5-270	1H-imidazole-1-yl	CH ₂ O(CH ₂) ₂ SOCH ₃	
5-271	1H-imidazole-1-yl	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
5-272	1H-imidazole-1-yl	CH ₂ O(CH ₂) ₂ SOCH ₃	
5-273	1H-imidazole-1-yl	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
5-274	1H-imidazole-1-yl	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
5-275	1H-imidazole-1-yl	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
5-276	1H-imidazole-1-yl		
5-277	1H-imidazole-1-yl		
5-278	1H-imidazole-1-yl	CH ₂ O(CH ₂) ₂ NHSC ₂ H ₅	
5-279	1H-imidazole-1-yl	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	
5-280	1H-imidazole-1-yl	CH ₃	

compound number	R4	R1	physical property (melting point-ND)
5-281	1H-tetrazole-1-yl	CF ₃	
5-282	1H-tetrazole-1-yl	CH ₂ OCH ₃	
5-283	1H-tetrazole-1-yl	CH ₂ CH ₂ CH ₃	
5-284	1H-tetrazole-1-yl		
5-285	1H-tetrazole-1-yl	CH ₂ CH ₂ CF ₃	
5-286	1H-tetrazole-1-yl	CH ₂ SCH ₃	
5-287	1H-tetrazole-1-yl	CH ₂ SCH ₂ CH ₃	
5-288	1H-tetrazole-1-yl		
5-289	1H-tetrazole-1-yl	CH ₂ SCH ₂ CF ₃	
5-290	1H-tetrazole-1-yl	CH ₂ SOCH ₃	
5-291	1H-tetrazole-1-yl	CH ₂ SOCH ₂ CH ₃	
5-292	1H-tetrazole-1-yl		
5-293	1H-tetrazole-1-yl	CH ₂ SOCH ₂ CF ₃	
5-294	1H-tetrazole-1-yl	CH ₂ SO ₂ CH ₃	
5-295	1H-tetrazole-1-yl	CH ₂ SO ₂ CH ₂ CH ₃	
5-296	1H-tetrazole-1-yl		
5-297	1H-tetrazole-1-yl	CH ₂ SO ₂ CH ₂ CF ₃	
5-298	1H-tetrazole-1-yl	CH ₂ C(CH ₃) ₂ CH ₃	
5-299	1H-tetrazole-1-yl	CH ₂ C(CH ₃) ₂ CH ₂ CH ₃	
5-300	1H-tetrazole-1-yl	CH ₂ C(CH ₃) ₂ OCH ₂ CF ₃	

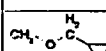
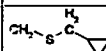
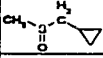
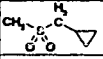
compound number	R4	R1	physical property (melting point-ND)
5-301	1H-tetrazole-1-yl	CH ₂ C(CH ₃) ₂ SCH ₃	
5-302	1H-tetrazole-1-yl	CH ₂ C(CH ₃) ₂ SOCH ₂ CF ₃	
5-303	1H-tetrazole-1-yl	CH ₂ C(CH ₃) ₂ SOCH ₃	
5-304	1H-tetrazole-1-yl	CH ₂ C(CH ₃) ₂ SCH ₂ CF ₃	
5-305	1H-tetrazole-1-yl	CH ₂ C(CH ₃) ₂ SO ₂ CH ₃	
5-306	1H-tetrazole-1-yl	CH ₂ C(CH ₃) ₂ SO ₂ CH ₂ CF ₃	
5-307	1H-tetrazole-1-yl		
5-308	1H-tetrazole-1-yl		
5-309	1H-tetrazole-1-yl	CH ₂ C(CH ₃) ₂ NHSC ₂ H ₅	
5-310	1H-tetrazole-1-yl	CH ₂ C(CH ₃) ₂ N(CH ₃)(SO ₂ CH ₃)	
5-311	1H-tetrazole-2-yl	CH ₃	
5-312	1H-tetrazole-2-yl	CF ₃	
5-313	1H-tetrazole-2-yl	CH ₂ OCH ₃	
5-314	1H-tetrazole-2-yl	CH ₂ OCH ₂ CH ₃	
5-315	1H-tetrazole-2-yl		
5-316	1H-tetrazole-2-yl	CH ₂ OCH ₂ CF ₃	
5-317	1H-tetrazole-2-yl	CH ₂ SCH ₃	
5-318	1H-tetrazole-2-yl	CH ₂ SCH ₂ CH ₃	
5-319	1H-tetrazole-2-yl		
5-320	1H-tetrazole-2-yl	CH ₂ SCH ₂ CF ₃	

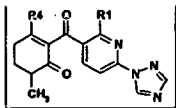
Table 77

compound number	R4	R1	physical property (melting point-ND)
5-321	1H-tetrazole-2-yl	CH ₂ SOCH ₃	
5-322	1H-tetrazole-2-yl	CH ₂ SOCH ₂ CH ₃	
5-323	1H-tetrazole-2-yl		
5-324	1H-tetrazole-2-yl	CH ₂ SOCH ₂ CF ₃	
5-325	1H-tetrazole-2-yl	CH ₂ SO ₂ CH ₃	
5-326	1H-tetrazole-2-yl	CH ₂ SO ₂ CH ₂ CH ₃	
5-327	1H-tetrazole-2-yl		
5-328	1H-tetrazole-2-yl	CH ₂ SO ₂ CH ₂ CF ₃	
5-329	1H-tetrazole-2-yl	CH ₂ O(CH ₂) ₂ CH ₃	
5-330	1H-tetrazole-2-yl	CH ₂ O(CH ₂) ₂ CH ₂ CH ₃	
5-331	1H-tetrazole-2-yl	CH ₂ O(CH ₂) ₂ CH ₂ CF ₃	
5-332	1H-tetrazole-2-yl	CH ₂ O(CH ₂) ₂ SOCH ₃	
5-333	1H-tetrazole-2-yl	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
5-334	1H-tetrazole-2-yl	CH ₂ O(CH ₂) ₂ SOCH ₃	
5-335	1H-tetrazole-2-yl	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
5-336	1H-tetrazole-2-yl	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
5-337	1H-tetrazole-2-yl	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
5-338	1H-tetrazole-2-yl		
5-339	1H-tetrazole-2-yl		
5-340	1H-tetrazole-2-yl	CH ₂ C(CH ₃) ₂ NHSO ₂ CH ₃	

compound number	R4	R1	physical property (melting point-ND)
5-341	1H-tetrazole-2-yl	CH ₂ C(CH ₃) ₂ N(CH ₃)(SO ₂ CH ₃)	

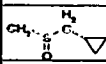
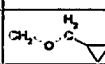
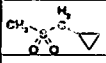
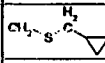
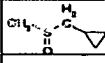
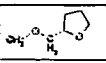
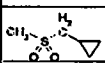
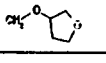
155

Table 78



compound number	R4	R1	physical property (melting point-ND)	compound number	R4	R1	physical property (melting point-ND)
6-1	Cl	CH ₃		6-21	Cl	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
6-2	Cl	CF ₃		6-22	Cl	CH ₂ O(CH ₂) ₂ SCH ₃	
6-3	Cl	CH ₂ SCH ₃		6-23	Cl	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
6-4	Cl	CH ₂ SOCH ₂ CH ₃		6-24	Cl	CH ₂ O(CH ₂) ₂ SOCH ₃	
6-5	Cl			6-25	Cl	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
6-6	Cl	CH ₂ SOCH ₂ CF ₃		6-26	Cl	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
6-7	Cl	CH ₂ SOCH ₃		6-27	Cl	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
6-8	Cl	CH ₂ SOCH ₂ CH ₃		6-28	Cl		
6-9	Cl			6-29	Cl		
6-10	Cl	CH ₂ SOCH ₂ CF ₃		6-30	Cl	CH ₂ O(CH ₂) ₂ NHCO ₂ CH ₃	
6-11	Cl	CH ₂ SOCH ₃		6-31	Cl	CH ₂ O(CH ₂) ₂ N(CH ₃)SO ₂ CH ₃	
6-12	Cl	CH ₂ SOCH ₂ CH ₃		6-32	SOCH ₃	CH ₃	
6-13	Cl			6-33	SOCH ₃	CF ₃	
6-14	Cl	CH ₂ SOCH ₂ CF ₃		6-34	SOCH ₃	CH ₂ OCH ₃	
6-15	Cl	CH ₂ SO ₂ CH ₃		6-35	SOCH ₃	CH ₂ OCH ₂ CH ₃	
6-16	Cl	CH ₂ SO ₂ CH ₂ CH ₃		6-36	SOCH ₃		
6-17	Cl			6-37	SOCH ₃	CH ₂ SOCH ₂ CF ₃	
6-18	Cl	CH ₂ SO ₂ CH ₂ CF ₃		6-38	SOCH ₃	CH ₂ SOCH ₃	
6-19	Cl	CH ₂ O(CH ₂) ₂ OCH ₃		6-39	SOCH ₃	CH ₂ SOCH ₂ CH ₃	
6-20	Cl	CH ₂ O(CH ₂) ₂ CH ₂ CH ₃		6-40	SOCH ₃		

Table 79

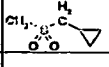
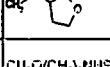
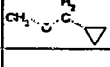
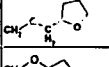
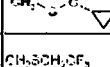
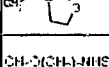
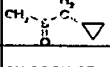
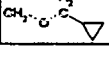
compound number	R4	R1	physical property (melting point-ND)	compound number	R4	R1	physical property (melting point-ND)
C-41	SOCH ₃	CH ₂ SOCH ₂ CF ₃		C-61	SOCH ₃	CH ₂ O(CH ₂) ₃ NH ₂ SO ₂ CH ₃	
C-42	SOCH ₃	CH ₂ SOCH ₃		C-62	SOCH ₃	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	
C-43	SOCH ₃	CH ₂ SOCH ₂ CH ₃		C-63	SOCH ₂ CH ₃	CH ₃	
C-44	SOCH ₃			C-64	SOCH ₂ CH ₃	CF ₃	
C-45	SOCH ₃	CH ₂ SOCH ₂ CF ₃		C-65	SOCH ₂ CH ₃	CH ₂ CF ₃	
C-46	SOCH ₃	CH ₂ SO ₂ CH ₃		C-66	SOCH ₂ CH ₃	CH ₂ CF ₂ CH ₃	
C-47	SOCH ₃	CH ₂ SO ₂ CH ₂ CH ₃		C-67	SOCH ₂ CH ₃		
C-48	SOCH ₃			C-68	SOCH ₂ CH ₃	CH ₂ SOCH ₂ CF ₃	
C-49	SOCH ₃	CH ₂ SO ₂ CH ₂ CF ₃		C-69	SOCH ₂ CH ₃	CH ₂ SOCH ₃	
C-50	SOCH ₃	CH ₂ O(CH ₂) ₂ CF ₃		C-70	SOCH ₂ CH ₃	CH ₂ SOCH ₂ CH ₃	
C-51	SOCH ₃	CH ₂ O(CH ₂) ₂ SOCH ₂ CH ₃		C-71	SOCH ₂ CH ₃		
C-52	SOCH ₃	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃		C-72	SOCH ₂ CH ₃	CH ₂ SOCH ₂ CF ₃	
C-53	SOCH ₃	CH ₂ O(CH ₂) ₂ SOCH ₃		C-73	SOCH ₂ CH ₃	CH ₂ SOCH ₃	
C-54	SOCH ₃	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃		C-74	SOCH ₂ CH ₃	CH ₂ SOCH ₂ CH ₃	
C-55	SOCH ₃	CH ₂ O(CH ₂) ₂ SOCH ₃		C-75	SOCH ₂ CH ₃		
C-56	SOCH ₃	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃		C-76	SOCH ₂ CH ₃	CH ₂ SOCH ₂ CF ₃	
C-57	SOCH ₃	CH ₂ O(CH ₂) ₂ SOCH ₂ CH ₃		C-77	SOCH ₂ CH ₃	CH ₂ SO ₂ CH ₃	
C-58	SOCH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃		C-78	SOCH ₂ CH ₃	CH ₂ SO ₂ CH ₂ CH ₃	
C-59	SOCH ₃			C-79	SOCH ₂ CH ₃		
C-60	SOCH ₃			C-80	SOCH ₂ CH ₃	CH ₂ SO ₂ CH ₂ CF ₃	

157

Table 80

compound number	R4	R1	physical property (melting point-ND)
C-81	SCH ₂ CH ₃	CH ₂ C(CH ₃) ₂ COCH ₃	
C-82	SCCH ₂ CH ₃	CH ₂ C(CH ₃) ₂ COCH ₂ CH ₃	
C-83	SCCH ₂ CH ₃	CH ₂ C(CH ₃) ₂ COCH ₂ CF ₃	
C-84	SCCH ₂ CH ₃	CH ₂ C(CH ₃) ₂ SOCH ₃	
C-85	SCCH ₂ CH ₃	CH ₂ C(CH ₃) ₂ SOCH ₂ CF ₃	
C-86	SCCH ₂ CH ₃	CH ₂ C(CH ₃) ₂ SOCH ₂ CH ₃	
C-87	SCCH ₂ CH ₃	CH ₂ C(CH ₃) ₂ SOCH ₂ CF ₃	
C-88	SCCH ₂ CH ₃	CH ₂ C(CH ₃) ₂ SOCH ₂ CH ₃	
C-89	SCCH ₂ CH ₃	CH ₂ C(CH ₃) ₂ SO ₂ CH ₂ CF ₃	
C-90	SCCH ₂ CH ₃		
C-91	SCCH ₂ CH ₃		
C-92	SCCH ₂ CH ₃	CH ₂ C(CH ₃) ₂ NH ₂ SO ₂ CH ₃	
C-93	SCCH ₂ CH ₃	CH ₂ C(CH ₃) ₂ N(CH ₃)SO ₂ CH ₃	
C-94	S(CH ₂) ₂ CH ₃	CH ₃	
C-95	S(CH ₂) ₂ CH ₃	CF ₃	
C-96	S(CH ₂) ₂ CH ₃	CH ₂ COCH ₃	
C-97	S(CH ₂) ₂ CH ₃	CH ₂ COCH ₂ CH ₃	
C-98	S(CH ₂) ₂ CH ₃		
C-99	S(CH ₂) ₂ CH ₃	CH ₂ COCH ₂ CF ₃	
C-100	S(CH ₂) ₂ CH ₃	CH ₂ SOCH ₃	
C-101	S(CH ₂) ₂ CH ₃	CH ₂ SOCH ₂ CH ₃	
C-102	S(CH ₂) ₂ CH ₃		
C-103	S(CH ₂) ₂ CH ₃	CH ₂ SOCH ₂ CF ₃	
C-104	S(CH ₂) ₂ CH ₃	CH ₂ SOCH ₃	
C-105	S(CH ₂) ₂ CH ₃	CH ₂ SOCH ₂ CH ₃	
C-106	S(CH ₂) ₂ CH ₃		
C-107	S(CH ₂) ₂ CH ₃	CH ₂ SOCH ₂ CF ₃	
C-108	S(CH ₂) ₂ CH ₃	CH ₂ SO ₂ CH ₃	
C-109	S(CH ₂) ₂ CH ₃	CH ₂ SO ₂ CH ₂ CH ₃	
C-110	S(CH ₂) ₂ CH ₃		
C-111	S(CH ₂) ₂ CH ₃	CH ₂ SO ₂ CH ₂ CF ₃	
C-112	S(CH ₂) ₂ CH ₃	CH ₂ CO(CH ₂) ₂ COCH ₃	
C-113	S(CH ₂) ₂ CH ₃	CH ₂ CO(CH ₂) ₂ COCH ₂ CH ₃	
C-114	S(CH ₂) ₂ CH ₃	CH ₂ CO(CH ₂) ₂ COCH ₂ CF ₃	
C-115	S(CH ₂) ₂ CH ₃	CH ₂ CO(CH ₂) ₂ SOCH ₃	
C-116	S(CH ₂) ₂ CH ₃	CH ₂ CO(CH ₂) ₂ SOCH ₂ CF ₃	
C-117	S(CH ₂) ₂ CH ₃	CH ₂ CO(CH ₂) ₂ SOCH ₂ CH ₃	
C-118	S(CH ₂) ₂ CH ₃	CH ₂ CO(CH ₂) ₂ SOCH ₂ CF ₃	
C-119	S(CH ₂) ₂ CH ₃	CH ₂ CO(CH ₂) ₂ SO ₂ CH ₃	
C-120	S(CH ₂) ₂ CH ₃	CH ₂ CO(CH ₂) ₂ SO ₂ CH ₂ CF ₃	

Table 81

compound number	R4	R1	physical property (melting point-ND)	compound number	R4	R1	physical property (melting point-ND)
C-121	S(CH ₂) ₇ CH ₃			C-141	SC ₆ H ₅		
C-122	S(CH ₂) ₇ CH ₃			C-142	SC ₆ H ₅	CH ₂ SO ₂ CH ₂ CF ₃	
C-123	S(CH ₂) ₇ CH ₃	CH ₂ SO(CH ₂) ₂ NHSC ₂ H ₅		C-143	SC ₆ H ₅	CH ₂ SO(CH ₂) ₂ COCH ₃	
C-124	S(CH ₂) ₇ CH ₃	CH ₂ SO(CH ₂) ₂ N(CH ₃)(SC ₂ H ₅)		C-144	SC ₆ H ₅	CH ₂ SO(CH ₂) ₂ COCH ₂ CH ₃	
C-125	SC ₆ H ₅	CH ₃		C-145	SC ₆ H ₅	CH ₂ SO(CH ₂) ₂ COCH ₂ CF ₃	
C-126	SC ₆ H ₅	CF ₃		C-146	SC ₆ H ₅	CH ₂ SO(CH ₂) ₂ SOCH ₃	
C-127	SC ₆ H ₅	CH ₂ COCH ₃		C-147	SC ₆ H ₅	CH ₂ SO(CH ₂) ₂ SOCH ₂ CF ₃	
C-128	SC ₆ H ₅	CH ₂ COCH ₂ CH ₃		C-148	SC ₆ H ₅	CH ₂ SO(CH ₂) ₂ SOCH ₃	
C-129	SC ₆ H ₅			C-149	SC ₆ H ₅	CH ₂ SO(CH ₂) ₂ SOCH ₂ CF ₃	
C-130	SC ₆ H ₅	CH ₂ COCH ₂ CF ₃		C-150	SC ₆ H ₅	CH ₂ SO(CH ₂) ₂ SO ₂ CH ₃	
C-131	SC ₆ H ₅	CH ₂ SOCH ₃		C-151	SC ₆ H ₅	CH ₂ SO(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
C-132	SC ₆ H ₅	CH ₂ SOCH ₂ CH ₃		C-152	SC ₆ H ₅		
C-133	SC ₆ H ₅			C-153	SC ₆ H ₅		
C-134	SC ₆ H ₅	CH ₂ SOCH ₂ CF ₃		C-154	SC ₆ H ₅	CH ₂ SO(CH ₂) ₂ NHSC ₂ H ₅	
C-135	SC ₆ H ₅	CH ₂ SOCH ₃		C-155	SC ₆ H ₅	CH ₂ SO(CH ₂) ₂ N(CH ₃)(SC ₂ H ₅)	
C-136	SC ₆ H ₅	CH ₂ SOCH ₂ CH ₃		C-156	SOCH ₂ C ₆ H ₅	CH ₃	
C-137	SC ₆ H ₅			C-157	SOCH ₂ C ₆ H ₅	CF ₃	
C-138	SC ₆ H ₅	CH ₂ SOCH ₂ CF ₃		C-158	SOCH ₂ C ₆ H ₅	CH ₂ COCH ₃	
C-139	SC ₆ H ₅	CH ₂ SO ₂ CH ₃		C-159	SOCH ₂ C ₆ H ₅	CH ₂ COCH ₂ CH ₃	
C-140	SC ₆ H ₅	CH ₂ SO ₂ CH ₂ CH ₃		C-160	SOCH ₂ C ₆ H ₅		

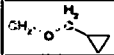
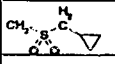
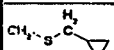
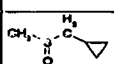
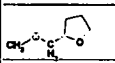
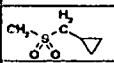
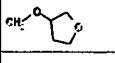
CS9

Table 82

compound number	R4	R1	physical property (melting point-ND)
6-161	$\text{SCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{SCH}_2\text{CF}_3$	
6-162	$\text{SCH}_2\text{C}_6\text{H}_5$	CH_2SCH_3	
6-163	$\text{SCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{SCH}_2\text{CH}_3$	
6-164	$\text{SCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2-\text{S}-\text{C}(=\text{O})-\text{CH}_2-\text{Cyclopropyl}$	
6-165	$\text{SCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{SCH}_2\text{CF}_3$	
6-166	$\text{SCH}_2\text{C}_6\text{H}_5$	CH_2SOCH_3	
6-167	$\text{SCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{SOCH}_2\text{CH}_3$	
6-168	$\text{SCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2-\text{S}-\text{C}(=\text{O})-\text{CH}_2-\text{Cyclopropyl}$	
6-169	$\text{SCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{SOCH}_2\text{CF}_3$	
6-170	$\text{SCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{SO}_2\text{CH}_3$	
6-171	$\text{SCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{SO}_2\text{CH}_2\text{CH}_3$	
6-172	$\text{SCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2-\text{S}-\text{C}(=\text{O})-\text{CH}_2-\text{Cyclopropyl}$	
6-173	$\text{SCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{SO}_2\text{CH}_2\text{CF}_3$	
6-174	$\text{SCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{CH}_3$	
6-175	$\text{SCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2\text{CH}_3$	
6-176	$\text{SCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2\text{CF}_3$	
6-177	$\text{SCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_3$	
6-178	$\text{SCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2\text{CF}_3$	
6-179	$\text{SCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_3$	
6-180	$\text{SCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{N}(\text{CH}_3)(\text{SO}_2\text{CH}_3)$	
6-181	1H-pyrazole-1-yl	CH_3	
6-182	1H-pyrazole-1-yl	CF_3	
6-183	1H-pyrazole-1-yl	CH_2CH_3	
6-184	1H-pyrazole-1-yl	$\text{CH}_2\text{SCH}_2\text{CH}_3$	
6-185	1H-pyrazole-1-yl	$\text{CH}_2-\text{S}-\text{C}(=\text{O})-\text{CH}_2-\text{Cyclopropyl}$	
6-186	1H-pyrazole-1-yl	$\text{CH}_2\text{SCH}_2\text{CF}_3$	
6-187	1H-pyrazole-1-yl	CH_2SCH_3	
6-188	1H-pyrazole-1-yl	$\text{CH}_2\text{SCH}_2\text{CH}_3$	
6-189	1H-pyrazole-1-yl	$\text{CH}_2\text{SCH}_2\text{CF}_3$	
6-190	1H-pyrazole-1-yl	$\text{CH}_2\text{SCH}_2\text{CH}_3$	
6-191	1H-pyrazole-1-yl	$\text{CH}_2-\text{S}-\text{C}(=\text{O})-\text{CH}_2-\text{Cyclopropyl}$	
6-192	1H-pyrazole-1-yl	$\text{CH}_2\text{SCH}_2\text{CF}_3$	
6-193	1H-pyrazole-1-yl	CH_2SCH_3	
6-194	1H-pyrazole-1-yl	$\text{CH}_2\text{SCH}_2\text{CH}_3$	
6-195	1H-pyrazole-1-yl	$\text{CH}_2-\text{S}-\text{C}(=\text{O})-\text{CH}_2-\text{Cyclopropyl}$	
6-196	1H-pyrazole-1-yl	$\text{CH}_2\text{SCH}_2\text{CF}_3$	
6-197	1H-pyrazole-1-yl	CH_2SOCH_3	
6-198	1H-pyrazole-1-yl	$\text{CH}_2\text{SOCH}_2\text{CH}_3$	
6-199	1H-pyrazole-1-yl	$\text{CH}_2-\text{S}-\text{C}(=\text{O})-\text{CH}_2-\text{Cyclopropyl}$	
6-200	1H-pyrazole-1-yl	$\text{CH}_2\text{SOCH}_2\text{CF}_3$	

180

Table 83

compound number	R4	R1	physical property (melting point-ND)	compound number	R4	R1	physical property (melting point-ND)
C-201	1H-pyrazole-1-yl	CH ₂ SO ₂ CH ₃		C-221	1H-imidazole-1-yl	CH ₂ OCH ₂ CH ₃	
C-202	1H-pyrazole-1-yl	CH ₂ SO ₂ CH ₂ CH ₃		C-222	1H-imidazole-1-yl		
C-203	1H-pyrazole-1-yl			C-223	1H-imidazole-1-yl	CH ₂ OCH ₂ CF ₃	
C-204	1H-pyrazole-1-yl	CH ₂ SO ₂ CH ₂ CF ₃		C-224	1H-imidazole-1-yl	CH ₂ SOCH ₃	
C-205	1H-pyrazole-1-yl	CH ₂ O(CH ₂) ₂ OCH ₃		C-225	1H-imidazole-1-yl	CH ₂ SOCH ₂ CH ₃	
C-206	1H-pyrazole-1-yl	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃		C-226	1H-imidazole-1-yl		
C-207	1H-pyrazole-1-yl	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃		C-227	1H-imidazole-1-yl	CH ₂ SOCH ₂ CF ₃	
C-208	1H-pyrazole-1-yl	CH ₂ O(CH ₂) ₂ SOCH ₃		C-228	1H-imidazole-1-yl	CH ₂ SOCH ₃	
C-209	1H-pyrazole-1-yl	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃		C-229	1H-imidazole-1-yl	CH ₂ SOCH ₂ CH ₃	
C-210	1H-pyrazole-1-yl	CH ₂ O(CH ₂) ₂ SOCH ₃		C-230	1H-imidazole-1-yl		
C-211	1H-pyrazole-1-yl	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃		C-231	1H-imidazole-1-yl	CH ₂ SOCH ₂ CF ₃	
C-212	1H-pyrazole-1-yl	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃		C-232	1H-imidazole-1-yl	CH ₂ SO ₂ CH ₃	
C-213	1H-pyrazole-1-yl	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃		C-233	1H-imidazole-1-yl	CH ₂ SO ₂ CH ₂ CH ₃	
C-214	1H-pyrazole-1-yl			C-234	1H-imidazole-1-yl		
C-215	1H-pyrazole-1-yl			C-235	1H-imidazole-1-yl	CH ₂ SO ₂ CH ₂ CF ₃	
C-216	1H-pyrazole-1-yl	CH ₂ O(CH ₂) ₂ NHCO ₂ CH ₃		C-236	1H-imidazole-1-yl	CH ₂ O(CH ₂) ₂ OCH ₃	
C-217	1H-pyrazole-1-yl	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)		C-237	1H-imidazole-1-yl	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	
C-218	1H-imidazole-1-yl	CH ₃		C-238	1H-imidazole-1-yl	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
C-219	1H-imidazole-1-yl	CF ₃		C-239	1H-imidazole-1-yl	CH ₂ O(CH ₂) ₂ SOCH ₃	
C-220	1H-imidazole-1-yl	CH ₂ COCH ₃		C-240	1H-imidazole-1-yl	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	

161

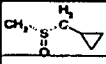
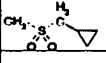
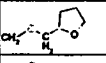
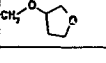
Table 84

compound number	R4	R1	physical property (melting point-ND)	compound number	R4	R1	physical property (melting point-ND)
6-241	1H-imidazole-1-yl	CH ₂ C(CH ₃) ₂ SO ₂ CH ₃		6-261	1H-triazole-1-yl		
6-242	1H-imidazole-1-yl	CH ₂ C(CH ₃) ₂ SO ₂ CH ₂ CF ₃		6-262	1H-triazole-1-yl	CH ₂ SO ₂ CH ₂ CF ₃	
6-243	1H-imidazole-1-yl	CH ₂ C(CH ₃) ₂ SO ₂ CH ₃		6-263	1H-triazole-1-yl	CH ₂ SO ₂ CH ₃	
6-244	1H-imidazole-1-yl	CH ₂ C(CH ₃) ₂ SO ₂ CH ₂ CF ₃		6-264	1H-triazole-1-yl	CH ₂ SO ₂ CH ₂ CH ₃	
6-245	1H-imidazole-1-yl			6-265	1H-triazole-1-yl		
6-246	1H-imidazole-1-yl			6-266	1H-triazole-1-yl	CH ₂ SO ₂ CH ₂ CF ₃	
6-247	1H-imidazole-1-yl	CH ₂ O(CH ₂) ₂ NHCO ₂ CH ₃		6-267	1H-triazole-1-yl	CH ₂ C(CH ₃) ₂ C=CH ₃	
6-248	1H-imidazole-1-yl	CH ₂ C(CH ₃) ₂ N(CH ₃)(SO ₂ CH ₃)		6-268	1H-triazole-1-yl	CH ₂ C(CH ₃) ₂ C=CH ₂ CH ₃	
6-249	1H-triazole-1-yl	CH ₃		6-269	1H-triazole-1-yl	CH ₂ O(CH ₂) ₂ C=CH ₂ CF ₃	
6-250	1H-triazole-1-yl	CF ₃		6-270	1H-triazole-1-yl	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
6-251	1H-triazole-1-yl	CH ₂ CH ₃		6-271	1H-triazole-1-yl	CH ₂ C(CH ₃) ₂ SO ₂ CH ₂ CF ₃	
6-252	1H-triazole-1-yl	CH ₂ CCH ₂ CH ₃		6-272	1H-triazole-1-yl	CH ₂ C(CH ₃) ₂ SO ₂ CH ₃	
6-253	1H-triazole-1-yl			6-273	1H-triazole-1-yl	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
6-254	1H-triazole-1-yl	CH ₂ CCH ₂ CF ₃		6-274	1H-triazole-1-yl	CH ₂ C(CH ₃) ₂ SO ₂ CH ₃	
6-255	1H-triazole-1-yl	CH ₂ SO ₂ CH ₃		6-275	1H-triazole-1-yl	CH ₂ C(CH ₃) ₂ SO ₂ CH ₂ CF ₃	
6-256	1H-triazole-1-yl	CH ₂ SO ₂ CH ₂ CH ₃		6-276	1H-triazole-1-yl		
6-257	1H-triazole-1-yl			6-277	1H-triazole-1-yl		
6-258	1H-triazole-1-yl	CH ₂ SO ₂ CH ₂ CF ₃		6-278	1H-triazole-1-yl	CH ₂ O(CH ₂) ₂ NHCO ₂ CH ₃	
6-259	1H-triazole-1-yl	CH ₂ SO ₂ CH ₃		6-279	1H-triazole-1-yl	CH ₂ C(CH ₃) ₂ N(CH ₃)(SO ₂ CH ₃)	
6-260	1H-triazole-1-yl	CH ₂ SO ₂ CH ₂ CH ₃		6-280	1H-tetrazole-1-yl	CH ₃	

Table 85

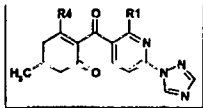
compound number	R4	R1	physical property (melting point-ND)
6-281	1H-tetrazole-1-yl	CF ₃	
6-282	1H-tetrazole-1-yl	CH ₃ CCH ₃	
6-283	1H-tetrazole-1-yl	CH ₃ CCH ₂ CH ₃	
6-284	1H-tetrazole-1-yl		
6-285	1H-tetrazole-1-yl	CH ₃ OCH ₂ CF ₃	
6-286	1H-tetrazole-1-yl	CH ₃ SCH ₃	
6-287	1H-tetrazole-1-yl	CH ₃ SCH ₂ CH ₃	
6-288	1H-tetrazole-1-yl		
6-289	1H-tetrazole-1-yl	CH ₃ SCH ₂ CF ₃	
6-290	1H-tetrazole-1-yl	CH ₃ SOCH ₃	
6-291	1H-tetrazole-1-yl	CH ₃ SOCH ₂ CH ₃	
6-292	1H-tetrazole-1-yl		
6-293	1H-tetrazole-1-yl	CH ₃ SCCH ₂ CF ₃	
6-294	1H-tetrazole-1-yl	CH ₃ SO ₂ CH ₃	
6-295	1H-tetrazole-1-yl	CH ₃ SO ₂ CH ₂ CH ₃	
6-296	1H-tetrazole-1-yl		
6-297	1H-tetrazole-1-yl	CH ₃ SO ₂ CH ₂ CF ₃	
6-298	1H-tetrazole-1-yl	CH ₃ O(CH ₂) ₂ CCH ₃	
6-299	1H-tetrazole-1-yl	CH ₃ C(CH ₂) ₂ CCH ₂ CH ₃	
6-300	1H-tetrazole-1-yl	CH ₃ C(CH ₂) ₂ OCH ₂ CF ₃	
6-301	1H-tetrazole-1-yl	CH ₃ O(CH ₂) ₂ SCCH ₃	
6-302	1H-tetrazole-1-yl	CH ₃ O(CH ₂) ₂ SCCH ₂ CF ₃	
6-303	1H-tetrazole-1-yl	CH ₃ O(CH ₂) ₂ SCCH ₃	
6-304	1H-tetrazole-1-yl	CH ₃ O(CH ₂) ₂ SCCH ₂ CF ₃	
6-305	1H-tetrazole-1-yl	CH ₃ O(CH ₂) ₂ SO ₂ CH ₃	
6-306	1H-tetrazole-1-yl	CH ₃ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
6-307	1H-tetrazole-1-yl		
6-308	1H-tetrazole-1-yl		
6-309	1H-tetrazole-1-yl	CH ₃ O(CH ₂) ₂ NHSC ₂ H ₅	
6-310	1H-tetrazole-1-yl	CH ₃ O(CH ₂) ₂ N(CH ₃)(SC ₂ H ₅)	
6-311	1H-tetrazole-2-yl	CH ₃	
6-312	1H-tetrazole-2-yl	CF ₃	
6-313	1H-tetrazole-2-yl	CH ₃ CCH ₃	
6-314	1H-tetrazole-2-yl	CH ₃ CCH ₂ CH ₃	
6-315	1H-tetrazole-2-yl		
6-316	1H-tetrazole-2-yl	CH ₃ OCH ₂ CF ₃	
6-317	1H-tetrazole-2-yl	CH ₃ SCH ₃	
6-318	1H-tetrazole-2-yl	CH ₃ SCH ₂ CH ₃	
6-319	1H-tetrazole-2-yl		
6-320	1H-tetrazole-2-yl	CH ₃ SCH ₂ CF ₃	

Table 86

compound number	R4	R1	physical property (melting point-ND)
C-321	1H-tetrazole-2-yl	CH ₂ SOCH ₃	
C-322	1H-tetrazole-2-yl	CH ₂ SOCH ₂ CH ₃	
C-323	1H-tetrazole-2-yl		
C-324	1H-tetrazole-2-yl	CH ₂ SOCH ₂ CF ₃	
C-325	1H-tetrazole-2-yl	CH ₂ SO ₂ CH ₃	
C-326	1H-tetrazole-2-yl	CH ₂ SO ₂ CH ₂ CH ₃	
C-327	1H-tetrazole-2-yl		
C-328	1H-tetrazole-2-yl	CH ₂ SO ₂ CH ₂ CF ₃	
C-329	1H-tetrazole-2-yl	CH ₂ C(CH ₃) ₂ SOCH ₃	
C-330	1H-tetrazole-2-yl	CH ₂ C(CH ₃) ₂ SOCH ₂ CH ₃	
C-331	1H-tetrazole-2-yl	CH ₂ C(CH ₃) ₂ SOCH ₂ CF ₃	
C-332	1H-tetrazole-2-yl	CH ₂ C(CH ₃) ₂ SOCH ₃	
C-333	1H-tetrazole-2-yl	CH ₂ C(CH ₃) ₂ SOCH ₂ CF ₃	
C-334	1H-tetrazole-2-yl	CH ₂ C(CH ₃) ₂ SOCH ₃	
C-335	1H-tetrazole-2-yl	CH ₂ C(CH ₃) ₂ SOCH ₂ CF ₃	
C-336	1H-tetrazole-2-yl	CH ₂ C(CH ₃) ₂ SO ₂ CH ₃	
C-337	1H-tetrazole-2-yl	CH ₂ C(CH ₃) ₂ SO ₂ CH ₂ CF ₃	
C-338	1H-tetrazole-2-yl		
C-339	1H-tetrazole-2-yl		
C-340	1H-tetrazole-2-yl	CH ₂ C(CH ₃) ₂ NHSO ₂ CH ₃	

compound number	R4	R1	physical property (melting point-ND)
C-341	1H-tetrazole-2-yl	CH ₂ C(CH ₃) ₂ N(CH ₃)SO ₂ CH ₃	

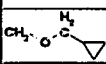
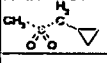
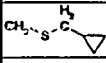
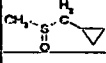
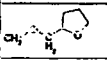
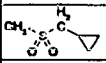
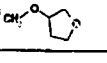
Table 87



compound number	R4	R1	physical property (melting point-ND)
7-1	Cl	CH ₃	
7-2	Cl	CF ₃	
7-3	Cl	CH ₂ OCH ₃	
7-4	Cl	CH ₂ CH ₂ CH ₃	
7-5	Cl		
7-6	Cl	CH ₂ CH ₂ CF ₃	
7-7	Cl	CH ₂ SCH ₃	
7-8	Cl	CH ₂ SCH ₂ CH ₃	
7-9	Cl		
7-10	Cl	CH ₂ SOCH ₂ CF ₃	
7-11	Cl	CH ₂ SOCH ₃	
7-12	Cl	CH ₂ SOCH ₂ CH ₃	
7-13	Cl		
7-14	Cl	CH ₂ SOCH ₂ CF ₃	
7-15	Cl	CH ₂ SO ₂ CH ₃	
7-16	Cl	CH ₂ SO ₂ CH ₂ CH ₃	
7-17	Cl		
7-18	Cl	CH ₂ SO ₂ CH ₂ CF ₃	
7-19	Cl	CH ₂ CH ₂ (CH ₂) ₂ SOCH ₃	
7-20	Cl	CH ₂ O(CH ₂) ₂ CH ₂ CH ₃	

compound number	R4	R1	physical property (melting point-ND)
7-21	Cl	CH ₂ O(CH ₂) ₂ CH ₂ CF ₃	
7-22	Cl	CH ₂ O(CH ₂) ₂ SOCH ₃	
7-23	Cl	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
7-24	Cl	CH ₂ O(CH ₂) ₂ SOCH ₂ CH ₃	
7-25	Cl	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
7-26	Cl	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
7-27	Cl	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
7-28	Cl		
7-29	Cl		
7-30	Cl	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₃	
7-31	Cl	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	
7-32	SOCH ₃	CH ₃	
7-33	SOCH ₃	CF ₃	
7-34	SOCH ₃	CH ₂ CH ₃	
7-35	SOCH ₃	CH ₂ CH ₂ CH ₃	
7-36	SOCH ₃		
7-37	SOCH ₃	CH ₂ CH ₂ CF ₃	
7-38	SOCH ₃	CH ₂ SOCH ₃	
7-39	SOCH ₃	CH ₂ SOCH ₂ CH ₃	
7-40	SOCH ₃		

Table 88

compound number	R4	R1	physical property (melting point-ND)	compound number	R4	R1	physical property (melting point-ND)
7-41	SOCH ₃	CH ₂ SOCH ₂ CF ₃		7-61	SOCH ₃	CH ₂ C(CH ₃) ₂ NHSCF ₂ CH ₃	
7-42	SOCH ₃	CH ₂ SOCH ₃		7-62	SOCH ₃	CH ₂ C(CH ₃) ₂ N(CH ₃)(SO ₂ CH ₃)	
7-43	SOCH ₃	CH ₂ SOCH ₂ CH ₃		7-63	SOCH ₂ CH ₃	CH ₃	
7-44	SOCH ₃			7-64	SOCH ₂ CH ₃	CF ₃	
7-45	SOCH ₃	CH ₂ SOCH ₂ CF ₃		7-65	SOCH ₂ CH ₃	CH ₂ SOCH ₃	
7-46	SOCH ₃	CH ₂ SO ₂ CH ₃		7-66	SOCH ₂ CH ₃	CH ₂ C(CH ₃) ₂ CH ₃	
7-47	SOCH ₃	CH ₂ SO ₂ CH ₂ CH ₃		7-67	SOCH ₂ CH ₃		
7-48	SOCH ₃			7-68	SOCH ₂ CH ₃	CH ₂ SOCH ₂ CF ₃	
7-49	SOCH ₃	CH ₂ SO ₂ CH ₂ CF ₃		7-69	SOCH ₂ CH ₃	CH ₂ SOCH ₃	
7-50	SOCH ₃	CH ₂ C(CH ₃) ₂ SOCH ₃		7-70	SOCH ₂ CH ₃	CH ₂ SOCH ₂ CH ₃	
7-51	SOCH ₃	CH ₂ C(CH ₃) ₂ SOCH ₂ CH ₃		7-71	SOCH ₂ CH ₃		
7-52	SOCH ₃	CH ₂ C(CH ₃) ₂ SOCH ₂ CF ₃		7-72	SOCH ₂ CH ₃	CH ₂ SOCH ₂ CF ₃	
7-53	SOCH ₃	CH ₂ C(CH ₃) ₂ SOCH ₃		7-73	SOCH ₂ CH ₃	CH ₂ SOCH ₃	
7-54	SOCH ₃	CH ₂ C(CH ₃) ₂ SOCH ₂ CF ₃		7-74	SOCH ₂ CH ₃	CH ₂ SOCH ₂ CH ₃	
7-55	SOCH ₃	CH ₂ C(CH ₃) ₂ SOCH ₃		7-75	SOCH ₂ CH ₃		
7-56	SOCH ₃	CH ₂ C(CH ₃) ₂ SOCH ₂ CF ₃		7-76	SOCH ₂ CH ₃	CH ₂ SOCH ₂ CF ₃	
7-57	SOCH ₃	CH ₂ C(CH ₃) ₂ SO ₂ CH ₃		7-77	SOCH ₂ CH ₃	CH ₂ SO ₂ CH ₃	
7-58	SOCH ₃	CH ₂ C(CH ₃) ₂ SO ₂ CH ₂ CF ₃		7-78	SOCH ₂ CH ₃	CH ₂ SO ₂ CH ₂ CH ₃	
7-59	SOCH ₃			7-79	SOCH ₂ CH ₃		
7-60	SOCH ₃			7-80	SOCH ₂ CH ₃	CH ₂ SO ₂ CH ₂ CF ₃	

168

Table 89

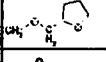
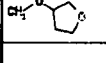
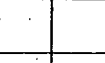
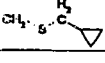
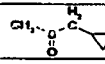
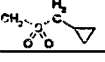
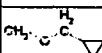
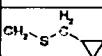
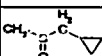
compound number	R4	R1	physical property (melting point-ND)
7-81	SCH ₂ CH ₃	CH ₂ C(CH ₃) ₂ CH ₃	
7-82	SCH ₂ CH ₃	CH ₂ C(CH ₃) ₂ COCH ₂ CH ₃	
7-83	SCH ₂ CH ₃	CH ₂ C(CH ₃) ₂ COCH ₂ CF ₃	
7-84	SCH ₂ CH ₃	CH ₂ C(CH ₃) ₂ SOCH ₃	
7-85	SCH ₂ CH ₃	CH ₂ C(CH ₃) ₂ SOCH ₂ CF ₃	
7-86	SCH ₂ CH ₃	CH ₂ C(CH ₃) ₂ SOCH ₂ CH ₃	
7-87	SCH ₂ CH ₃	CH ₂ C(CH ₃) ₂ SOCH ₂ CF ₃	
7-88	SCH ₂ CH ₃	CH ₂ C(CH ₃) ₂ SO ₂ CH ₃	
7-89	SCH ₂ CH ₃	CH ₂ C(CH ₃) ₂ SO ₂ CH ₂ CF ₃	
7-90	SCH ₂ CH ₃		
7-91	SCH ₂ CH ₃		
7-92	SCH ₂ CH ₃	CH ₂ C(CH ₃) ₂ NHCO ₂ CH ₃	
7-93	SCH ₂ CH ₃	CH ₂ C(CH ₃) ₂ N(CH ₃)(SO ₂ CH ₃)	
7-94	S(CH ₂) ₂ CH ₃	CH ₃	
7-95	S(CH ₂) ₂ CH ₃	CF ₃	
7-96	S(CH ₂) ₂ CH ₃	CH ₃ OCH ₃	
7-97	S(CH ₂) ₂ CH ₃	CH ₃ OCH ₂ CH ₃	
7-98	S(CH ₂) ₂ CH ₃		
7-99	S(CH ₂) ₂ CH ₃	CH ₂ SOCH ₂ CF ₃	
7-100	S(CH ₂) ₂ CH ₃	CH ₂ SOCH ₃	
7-101	S(CH ₂) ₂ CH ₃	CH ₂ SOCH ₂ CH ₃	
7-102	S(CH ₂) ₂ CH ₃		
7-103	S(CH ₂) ₂ CH ₃	CH ₂ SOCH ₂ CF ₃	
7-104	S(CH ₂) ₂ CH ₃	CH ₂ SOCH ₃	
7-105	S(CH ₂) ₂ CH ₃	CH ₂ SOCH ₂ CH ₃	
7-106	S(CH ₂) ₂ CH ₃		
7-107	S(CH ₂) ₂ CH ₃	CH ₂ SOCH ₂ CF ₃	
7-108	S(CH ₂) ₂ CH ₃	CH ₂ SO ₂ CH ₃	
7-109	S(CH ₂) ₂ CH ₃	CH ₂ SO ₂ CH ₂ CH ₃	
7-110	S(CH ₂) ₂ CH ₃		
7-111	S(CH ₂) ₂ CH ₃	CH ₂ SO ₂ CH ₂ CF ₃	
7-112	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₃	
7-113	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₂ CH ₃	
7-114	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
7-115	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₃	
7-116	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
7-117	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₃	
7-118	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
7-119	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
7-120	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	

Table 90

compound number	R4	R1	physical property (melting point-ND)
7-121	S(CH ₂) ₂ CH ₃		
7-122	S(CH ₂) ₂ CH ₃		
7-123	S(CH ₂) ₂ CH ₃	CH ₂ SO(CH ₂) ₂ NHSC ₂ H ₅	
7-124	S(CH ₂) ₂ CH ₃	CH ₂ SO(CH ₂) ₂ N(CH ₃)(SC ₂ H ₅)	
7-125	SC ₆ H ₅	CH ₃	
7-126	SC ₆ H ₅	CF ₃	
7-127	SC ₆ H ₅	CH ₂ OCH ₃	
7-128	SC ₆ H ₅	CH ₂ OCH ₂ CH ₃	
7-129	SC ₆ H ₅		
7-130	SC ₆ H ₅	CH ₂ OCH ₂ CF ₃	
7-131	SC ₆ H ₅	CH ₂ SCN ₃	
7-132	SC ₆ H ₅	CH ₂ SOCH ₂ CH ₃	
7-133	SC ₆ H ₅		
7-134	SC ₆ H ₅	CH ₂ SOCH ₂ CF ₃	
7-135	SC ₆ H ₅	CH ₂ SOCH ₃	
7-136	SC ₆ H ₅	CH ₂ SOCH ₂ CH ₃	
7-137	SC ₆ H ₅		
7-138	SC ₆ H ₅	CH ₂ SOCH ₂ CF ₃	
7-139	SC ₆ H ₅	CH ₂ SO ₂ CH ₃	
7-140	SC ₆ H ₅	CH ₂ SO ₂ CH ₂ CH ₃	

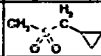
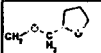
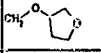
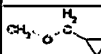
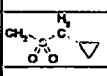
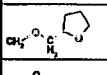
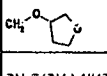
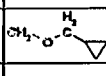
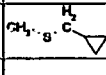
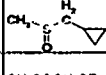
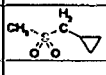
compound number	R4	R1	physical property (melting point-ND)
7-141	SC ₆ H ₅		
7-142	SC ₆ H ₅	CH ₂ SO ₂ CH ₂ CF ₃	
7-143	SC ₆ H ₅	CH ₂ SO(CH ₂) ₂ SOCH ₃	
7-144	SC ₆ H ₅	CH ₂ SO(CH ₂) ₂ SOCH ₂ CH ₃	
7-145	SC ₆ H ₅	CH ₂ SO(CH ₂) ₂ SOCH ₂ CF ₃	
7-146	SC ₆ H ₅	CH ₂ SO(CH ₂) ₂ SCH ₃	
7-147	SC ₆ H ₅	CH ₂ SO(CH ₂) ₂ SCH ₂ CF ₃	
7-148	SC ₆ H ₅	CH ₂ SO(CH ₂) ₂ SOCH ₃	
7-149	SC ₆ H ₅	CH ₂ SO(CH ₂) ₂ SOCH ₂ CF ₃	
7-150	SC ₆ H ₅	CH ₂ SO(CH ₂) ₂ SO ₂ CH ₃	
7-151	SC ₆ H ₅	CH ₂ SO(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
7-152	SC ₆ H ₅		
7-153	SC ₆ H ₅		
7-154	SC ₆ H ₅	CH ₂ SO(CH ₂) ₂ NHSC ₂ H ₅	
7-155	SC ₆ H ₅	CH ₂ SO(CH ₂) ₂ N(CH ₃)(SC ₂ H ₅)	
7-156	SOCH ₂ C ₆ H ₅	CH ₃	
7-157	SOCH ₂ C ₆ H ₅	CF ₃	
7-158	SOCH ₂ C ₆ H ₅	CH ₂ SOCH ₃	
7-159	SOCH ₂ C ₆ H ₅	CH ₂ SOCH ₂ CH ₃	
7-160	SOCH ₂ C ₆ H ₅		

Table 91

compound number	R4	R1	physical property (melting point-ND)
7-161	$\text{SCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{SCH}_2\text{CF}_3$	
7-162	$\text{SCH}_2\text{C}_6\text{H}_5$	CH_2SCH_3	
7-163	$\text{SCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{SCH}_2\text{CH}_3$	
7-164	$\text{SCH}_2\text{C}_6\text{H}_5$		
7-165	$\text{SCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{SCH}_2\text{CF}_3$	
7-166	$\text{SCH}_2\text{C}_6\text{H}_5$	CH_2SCH_3	
7-167	$\text{SCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{SCH}_2\text{CH}_3$	
7-168	$\text{SCH}_2\text{C}_6\text{H}_5$		
7-169	$\text{SCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{SCH}_2\text{CF}_3$	
7-170	$\text{SCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{SO}_2\text{CH}_3$	
7-171	$\text{SCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{SO}_2\text{CH}_2\text{CH}_3$	
7-172	$\text{SCH}_2\text{C}_6\text{H}_5$		
7-173	$\text{SCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{SO}_2\text{CH}_2\text{CF}_3$	
7-174	$\text{SCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{CH}_3$	
7-175	$\text{SCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2\text{CH}_3$	
7-176	$\text{SCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2\text{CF}_3$	
7-177	$\text{SCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_3$	
7-178	$\text{SCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2\text{CF}_3$	
7-179	$\text{SCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_3$	
7-180	$\text{SCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2\text{CF}_3$	
7-181	$\text{SCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_3$	
7-182	$\text{SCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{CF}_3$	
7-183	$\text{SCH}_2\text{C}_6\text{H}_5$		
7-184	$\text{SCH}_2\text{C}_6\text{H}_5$		
7-185	$\text{SCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NHSEtCH}_3$	
7-186	$\text{SCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{N}(\text{CH}_3)\text{SO}_2\text{CH}_3$	
7-187	1H-pyrazole-1-yl	CH_3	
7-188	1H-pyrazole-1-yl	CF_3	
7-189	1H-pyrazole-1-yl	CH_2OCH_3	
7-190	1H-pyrazole-1-yl	$\text{CH}_2\text{SCH}_2\text{CH}_3$	
7-191	1H-pyrazole-1-yl		
7-192	1H-pyrazole-1-yl	$\text{CH}_2\text{SCH}_2\text{CF}_3$	
7-193	1H-pyrazole-1-yl	CH_2SCH_3	
7-194	1H-pyrazole-1-yl	$\text{CH}_2\text{SCH}_2\text{CH}_3$	
7-195	1H-pyrazole-1-yl		
7-196	1H-pyrazole-1-yl	$\text{CH}_2\text{SCH}_2\text{CF}_3$	
7-197	1H-pyrazole-1-yl	$\text{CH}_2\text{SCH}_2\text{CH}_3$	
7-198	1H-pyrazole-1-yl	$\text{CH}_2\text{SCH}_2\text{CH}_3$	
7-199	1H-pyrazole-1-yl		
7-200	1H-pyrazole-1-yl	$\text{CH}_2\text{SCH}_2\text{CH}_2\text{CF}_3$	

Table 92

compound number	R4	R1	physical property (melting point-ND)
7-201	1H-pyrazole-1-yl	CH ₂ SO ₂ CH ₃	
7-202	1H-pyrazole-1-yl	CH ₂ SO ₂ CH ₂ CH ₃	
7-203	1H-pyrazole-1-yl		
7-204	1H-pyrazole-1-yl	CH ₂ SO ₂ CH ₂ CF ₃	
7-205	1H-pyrazole-1-yl	CH ₂ C(CH ₃) ₂ CH ₃	
7-206	1H-pyrazole-1-yl	CH ₂ C(CH ₃) ₂ CH ₂ CH ₃	
7-207	1H-pyrazole-1-yl	CH ₂ C(CH ₃) ₂ CH ₂ CF ₃	
7-208	1H-pyrazole-1-yl	CH ₂ C(CH ₃) ₂ CH ₃	
7-209	1H-pyrazole-1-yl	CH ₂ C(CH ₃) ₂ SO ₂ CH ₂ CF ₃	
7-210	1H-pyrazole-1-yl	CH ₂ C(CH ₃) ₂ SO ₂ CH ₃	
7-211	1H-pyrazole-1-yl	CH ₂ C(CH ₃) ₂ SO ₂ CH ₂ CF ₃	
7-212	1H-pyrazole-1-yl	CH ₂ C(CH ₃) ₂ SO ₂ CH ₃	
7-213	1H-pyrazole-1-yl	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
7-214	1H-pyrazole-1-yl		
7-215	1H-pyrazole-1-yl		
7-216	1H-pyrazole-1-yl	CH ₂ O(CH ₂) ₂ NH ₂ SO ₂ CH ₃	
7-217	1H-pyrazole-1-yl	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₂ CH ₃)	
7-218	1H-imidazole-1-yl	CH ₃	
7-219	1H-imidazole-1-yl	CF ₃	
7-220	1H-imidazole-1-yl	CH ₂ CCH ₃	
7-221	1H-imidazole-1-yl	CH ₂ CCH ₂ CH ₃	
7-222	1H-imidazole-1-yl		
7-223	1H-imidazole-1-yl	CH ₂ CCH ₂ CF ₃	
7-224	1H-imidazole-1-yl	CH ₂ SO ₂ CH ₃	
7-225	1H-imidazole-1-yl	CH ₂ SO ₂ CH ₂ CH ₃	
7-226	1H-imidazole-1-yl		
7-227	1H-imidazole-1-yl	CH ₂ SO ₂ CF ₃	
7-228	1H-imidazole-1-yl	CH ₂ SO ₂ CH ₃	
7-229	1H-imidazole-1-yl	CH ₂ SO ₂ CH ₂ CH ₃	
7-230	1H-imidazole-1-yl		
7-231	1H-imidazole-1-yl	CH ₂ SO ₂ CH ₂ CF ₃	
7-232	1H-imidazole-1-yl	CH ₂ SO ₂ CH ₃	
7-233	1H-imidazole-1-yl	CH ₂ SO ₂ CH ₂ CH ₃	
7-234	1H-imidazole-1-yl		
7-235	1H-imidazole-1-yl	CH ₂ SO ₂ CH ₂ CF ₃	
7-236	1H-imidazole-1-yl	CH ₂ C(CH ₃) ₂ SO ₂ CH ₃	
7-237	1H-imidazole-1-yl	CH ₂ C(CH ₃) ₂ SO ₂ CH ₂ CH ₃	
7-238	1H-imidazole-1-yl	CH ₂ C(CH ₃) ₂ SO ₂ CH ₂ CF ₃	
7-239	1H-imidazole-1-yl	CH ₂ C(CH ₃) ₂ SO ₂ CH ₃	
7-240	1H-imidazole-1-yl	CH ₂ C(CH ₃) ₂ SO ₂ CH ₂ CF ₃	

72

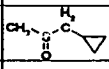
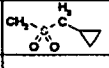
Table 93

compound number	R4	R1	physical property (melting point-ND)
7-241	1H-triazole-1-yl	$\text{CH}_2\text{C}(\text{CH}_3)_2\text{SOCH}_3$	
7-242	1H-triazole-1-yl	$\text{CH}_2\text{C}(\text{CH}_3)_2\text{SOCH}_2\text{CF}_3$	
7-243	1H-triazole-1-yl	$\text{CH}_2\text{C}(\text{CH}_3)_2\text{SO}_2\text{CH}_3$	
7-244	1H-triazole-1-yl	$\text{CH}_2\text{C}(\text{CH}_3)_2\text{SO}_2\text{CH}_2\text{CF}_3$	
7-245	1H-triazole-1-yl		
7-246	1H-triazole-1-yl		
7-247	1H-triazole-1-yl	$\text{CH}_2\text{C}(\text{CH}_3)_2\text{NHSC}_2\text{H}_5$	
7-248	1H-triazole-1-yl	$\text{CH}_2\text{C}(\text{CH}_3)_2\text{N}(\text{CH}_3)(\text{SO}_2\text{CH}_3)$	
7-249	1H-triazole-1-yl	CH_3	
7-250	1H-triazole-1-yl	CF_3	
7-251	1H-triazole-1-yl	CH_2OCH_3	
7-252	1H-triazole-1-yl	$\text{CH}_2\text{OCH}_2\text{CH}_3$	
7-253	1H-triazole-1-yl		
7-254	1H-triazole-1-yl	$\text{CH}_2\text{C}(\text{CH}_3)_2\text{CF}_3$	
7-255	1H-triazole-1-yl	CH_2SCH_3	
7-256	1H-triazole-1-yl	$\text{CH}_2\text{SCH}_2\text{CH}_3$	
7-257	1H-triazole-1-yl		
7-258	1H-triazole-1-yl	$\text{CH}_2\text{SCH}_2\text{CF}_3$	
7-259	1H-triazole-1-yl	$\text{CH}_2\text{SC}_2\text{H}_5$	
7-260	1H-triazole-1-yl	$\text{CH}_2\text{SCCH}_2\text{CH}_3$	
7-261	1H-triazole-1-yl		
7-262	1H-triazole-1-yl	$\text{CH}_2\text{SCCH}_2\text{CF}_3$	
7-263	1H-triazole-1-yl	$\text{CH}_2\text{SC}_2\text{H}_5$	
7-264	1H-triazole-1-yl	$\text{CH}_2\text{SC}_2\text{CH}_2\text{CH}_3$	
7-265	1H-triazole-1-yl		
7-266	1H-triazole-1-yl	$\text{CH}_2\text{SC}_2\text{CH}_2\text{CF}_3$	
7-267	1H-triazole-1-yl	$\text{CH}_2\text{C}(\text{CH}_3)_2\text{C}(\text{CH}_3)_2$	
7-268	1H-triazole-1-yl	$\text{CH}_2\text{C}(\text{CH}_3)_2\text{CCH}_2\text{CH}_3$	
7-269	1H-triazole-1-yl	$\text{CH}_2\text{C}(\text{CH}_3)_2\text{CCH}_2\text{CF}_3$	
7-270	1H-triazole-1-yl	$\text{CH}_2\text{C}(\text{CH}_3)_2\text{SCH}_3$	
7-271	1H-triazole-1-yl	$\text{CH}_2\text{C}(\text{CH}_3)_2\text{SCH}_2\text{CF}_3$	
7-272	1H-triazole-1-yl	$\text{CH}_2\text{C}(\text{CH}_3)_2\text{SOCH}_3$	
7-273	1H-triazole-1-yl	$\text{CH}_2\text{C}(\text{CH}_3)_2\text{SOCH}_2\text{CF}_3$	
7-274	1H-triazole-1-yl	$\text{CH}_2\text{C}(\text{CH}_3)_2\text{SO}_2\text{CH}_3$	
7-275	1H-triazole-1-yl	$\text{CH}_2\text{C}(\text{CH}_3)_2\text{SO}_2\text{CH}_2\text{CF}_3$	
7-276	1H-triazole-1-yl		
7-277	1H-triazole-1-yl		
7-278	1H-triazole-1-yl	$\text{CH}_2\text{C}(\text{CH}_3)_2\text{NHSC}_2\text{H}_5$	
7-279	1H-triazole-1-yl	$\text{CH}_2\text{C}(\text{CH}_3)_2\text{N}(\text{CH}_3)(\text{SO}_2\text{CH}_3)$	
7-280	1H-triazole-1-yl	CH_3	

Table 94

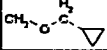
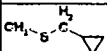
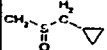
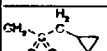
compound number	R4	R1	physical property (melting point-ND)	compound number	R4	R1	physical property (melting point-ND)
7-281	1H-tetrazole-1-yl	CF ₃		7-301	1H-tetrazole-1-yl	CH ₂ O(CH ₂) ₂ SOCH ₃	
7-282	1H-tetrazole-1-yl	CH ₂ SOCH ₃		7-302	1H-tetrazole-1-yl	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
7-283	1H-tetrazole-1-yl	CH ₂ SOCH ₂ CH ₃		7-303	1H-tetrazole-1-yl	CH ₂ O(CH ₂) ₂ SOCH ₃	
7-284	1H-tetrazole-1-yl			7-304	1H-tetrazole-1-yl	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
7-285	1H-tetrazole-1-yl	CH ₂ SOCH ₂ CF ₃		7-305	1H-tetrazole-1-yl	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
7-286	1H-tetrazole-1-yl	CH ₂ SOCH ₃		7-306	1H-tetrazole-1-yl	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
7-287	1H-tetrazole-1-yl	CH ₂ SOCH ₂ CH ₃		7-307	1H-tetrazole-1-yl		
7-288	1H-tetrazole-1-yl			7-308	1H-tetrazole-1-yl		
7-289	1H-tetrazole-1-yl	CH ₂ SOCH ₂ CF ₃		7-309	1H-tetrazole-1-yl	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₃	
7-290	1H-tetrazole-1-yl	CH ₂ SO ₂ CH ₃		7-310	1H-tetrazole-1-yl	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	
7-291	1H-tetrazole-1-yl	CH ₂ SOCH ₂ CH ₃		7-311	1H-tetrazole-2-yl	CH ₃	
7-292	1H-tetrazole-1-yl			7-312	1H-tetrazole-2-yl	CF ₃	
7-293	1H-tetrazole-1-yl	CH ₂ SOCH ₂ CF ₃		7-313	1H-tetrazole-2-yl	CH ₂ SOCH ₃	
7-294	1H-tetrazole-1-yl	CH ₂ SO ₂ CH ₃		7-314	1H-tetrazole-2-yl	CH ₂ SOCH ₂ CH ₃	
7-295	1H-tetrazole-1-yl	CH ₂ SO ₂ CH ₂ CH ₃		7-315	1H-tetrazole-2-yl		
7-296	1H-tetrazole-1-yl			7-316	1H-tetrazole-2-yl	CH ₂ SOCH ₂ CF ₃	
7-297	1H-tetrazole-1-yl	CH ₂ SO ₂ CH ₂ CF ₃		7-317	1H-tetrazole-2-yl	CH ₂ SOCH ₃	
7-298	1H-tetrazole-1-yl	CH ₂ O(CH ₂) ₂ SOCH ₃		7-318	1H-tetrazole-2-yl	CH ₂ SOCH ₂ CH ₃	
7-299	1H-tetrazole-1-yl	CH ₂ O(CH ₂) ₂ SOCH ₂ CH ₃		7-319	1H-tetrazole-2-yl		
7-300	1H-tetrazole-1-yl	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃		7-320	1H-tetrazole-2-yl	CH ₂ SOCH ₂ CF ₃	

Table 95

compound number	R4	R1	physical property (melting point-ND)
7-321	1H-tetrazole-2-yl	CH ₂ SOCH ₃	
7-322	1H-tetrazole-2-yl	CH ₂ SOCH ₂ CH ₃	
7-323	1H-tetrazole-2-yl		
7-324	1H-tetrazole-2-yl	CH ₂ SOCH ₂ CF ₃	
7-325	1H-tetrazole-2-yl	CH ₂ SO ₂ CH ₃	
7-326	1H-tetrazole-2-yl	CH ₂ SO ₂ CH ₂ CH ₃	
7-327	1H-tetrazole-2-yl		
7-328	1H-tetrazole-2-yl	CH ₂ SO ₂ CH ₂ CF ₃	
7-329	1H-tetrazole-2-yl	CH ₂ O(CH ₂) ₂ OCH ₃	
7-330	1H-tetrazole-2-yl	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	
7-331	1H-tetrazole-2-yl	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
7-332	1H-tetrazole-2-yl	CH ₂ O(CH ₂) ₂ SOCH ₃	
7-333	1H-tetrazole-2-yl	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
7-334	1H-tetrazole-2-yl	CH ₂ O(CH ₂) ₂ SOCH ₃	
7-335	1H-tetrazole-2-yl	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
7-336	1H-tetrazole-2-yl	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
7-337	1H-tetrazole-2-yl	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
7-338	1H-tetrazole-2-yl		
7-339	1H-tetrazole-2-yl		
7-340	1H-tetrazole-2-yl	CH ₂ O(CH ₂) ₂ NHSSO ₂ CH ₃	

compound number	R4	R1	physical property (melting point-ND)
7-341	1H-tetrazole-2-yl	CH ₂ C(CH ₃) ₂ N(CH ₃)(SO ₂ CH ₃)	

Table 96

compound number	R4	R1	physical property (melting point-ND)
8-1	Cl	CH ₃	
8-2	Cl	CF ₃	
8-3	Cl	CH ₂ CH ₃	
8-4	Cl	CH ₂ CH ₂ CH ₃	
8-5	Cl		
8-6	Cl	CH ₂ OCH ₂ CF ₃	
8-7	Cl	CH ₂ SCH ₃	
8-8	Cl	CH ₂ SCH ₂ CH ₃	
8-9	Cl		
8-10	Cl	CH ₂ SOCH ₂ CF ₃	
8-11	Cl	CH ₂ SOCH ₃	
8-12	Cl	CH ₂ SOCH ₂ CH ₃	
8-13	Cl		
8-14	Cl	CH ₂ SOCH ₂ CF ₃	
8-15	Cl	CH ₂ SO ₂ CH ₃	
8-16	Cl	CH ₂ SO ₂ CH ₂ CH ₃	
8-17	Cl		
8-18	Cl	CH ₂ SO ₂ CH ₂ CF ₃	
8-19	Cl	CH ₂ O(CH ₂) ₂ C(CH ₃) ₃	
8-20	Cl	CH ₂ O(CH ₂) ₂ SOCH ₂ CH ₃	
8-21	Cl	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
8-22	Cl	CH ₂ O(CH ₂) ₂ SOCH ₃	
8-23	Cl	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
8-24	Cl	CH ₂ O(CH ₂) ₂ SOCH ₃	
8-25	Cl	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
8-26	Cl	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
8-27	Cl	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
8-28	Cl		
8-29	Cl		
8-30	Cl	CH ₂ O(CH ₂) ₂ NHSCO ₂ CH ₃	
8-31	Cl	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	
8-32	SCH ₃	CH ₃	
8-33	SCH ₃	CF ₃	
8-34	SCH ₃	CH ₂ CH ₃	
8-35	SCH ₃	CH ₂ OCH ₂ CH ₃	
8-36	SCH ₃		
8-37	SCH ₃	CH ₂ OCH ₂ CF ₃	
8-38	SCH ₃	CH ₂ SOCH ₃	
8-39	SCH ₃	CH ₂ SOCH ₂ CH ₃	
8-40	SCH ₃		

124

Table 97

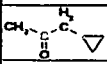
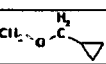
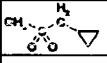
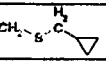
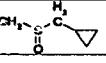
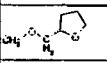
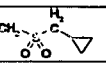
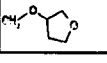
compound number	R4	R1	physical property (melting point-ND)	compound number	R4	R1	physical property (melting point-ND)
6-41	SOCH ₃	CH ₂ SOCH ₂ CF ₃		6-61	SOCH ₃	CH ₂ S(CH ₂) ₂ HSO ₂ CH ₃	
6-42	SOCH ₃	CH ₂ SO-CH ₃		6-62	SOCH ₃	CH ₂ C(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	
6-43	SOCH ₃	CH ₂ SO-CH ₂ CH ₃		6-63	SOCH ₂ CH ₃	CH ₃	
6-44	SOCH ₃			6-64	SOCH ₂ CH ₃	CF ₃	
6-45	SOCH ₃	CH ₂ SO-CH ₂ CF ₃		6-65	SOCH ₂ CH ₃	CH ₂ SOCH ₃	
6-46	SOCH ₃	CH ₂ SO ₂ CH ₃		6-66	SOCH ₂ CH ₃	CH ₂ O-CH ₂ CH ₃	
6-47	SOCH ₃	CH ₂ SO ₂ CH ₂ CH ₃		6-67	SOCH ₂ CH ₃		
6-48	SOCH ₃			6-68	SOCH ₂ CH ₃	CH ₂ SOCH ₂ CF ₃	
6-49	SOCH ₃	CH ₂ SO ₂ CH ₂ CF ₃		6-69	SOCH ₂ CH ₃	CH ₂ SOCH ₃	
6-50	SOCH ₃	CH ₂ O(CH ₂) ₂ -CH ₃		6-70	SOCH ₂ CH ₃	CH ₂ SOCH ₂ CH ₃	
6-51	SOCH ₃	CH ₂ S(CH ₂) ₂ -CH ₂ CH ₃		6-71	SOCH ₂ CH ₃		
6-52	SOCH ₃	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃		6-72	SOCH ₂ CH ₃	CH ₂ SOCH ₂ CF ₃	
6-53	SOCH ₃	CH ₂ O(CH ₂) ₂ SOCH ₃		6-73	SOCH ₂ CH ₃	CH ₂ SOCH ₃	
6-54	SOCH ₃	CH ₂ C(CH ₂) ₂ SOCH ₂ CF ₃		6-74	SOCH ₂ CH ₃	CH ₂ SO-CH ₂ CH ₃	
6-55	SOCH ₃	CH ₂ O(CH ₂) ₂ SOCH ₃		6-75	SOCH ₂ CH ₃		
6-56	SOCH ₃	CH ₂ S(CH ₂) ₂ SOCH ₂ CF ₃		6-76	SOCH ₂ CH ₃	CH ₂ SOCH ₂ CF ₃	
6-57	SOCH ₃	CH ₂ S(CH ₂) ₂ SO ₂ CH ₃		6-77	SOCH ₂ CH ₃	CH ₂ SO ₂ CH ₃	
6-58	SOCH ₃	CH ₂ S(CH ₂) ₂ SO ₂ CH ₂ CF ₃		6-78	SOCH ₂ CH ₃	CH ₂ SO ₂ CH ₂ CH ₃	
6-59	SOCH ₃			6-79	SOCH ₂ CH ₃		
6-60	SOCH ₃			6-80	SOCH ₂ CH ₃	CH ₂ SO ₂ CH ₂ CF ₃	

Table 98

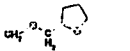
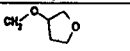
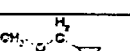
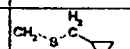
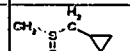
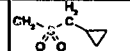
compound number	R4	R1	physical property (melting point-ND)
6-81	SCH ₂ CH ₃	CH ₂ C(CH ₃) ₂ SCH ₃	
6-82	SCH ₂ CH ₃	CH ₂ C(CH ₃) ₂ CCH ₂ CH ₃	
6-83	SCH ₂ CH ₃	CH ₂ C(CH ₃) ₂ CCH ₂ CF ₃	
6-84	SCH ₂ CH ₃	CH ₂ C(CH ₃) ₂ SCH ₃	
6-85	SCH ₂ CH ₃	CH ₂ C(CH ₃) ₂ SCCH ₂ CF ₃	
6-86	SCH ₂ CH ₃	CH ₂ C(CH ₃) ₂ SCCH ₃	
6-87	SCH ₂ CH ₃	CH ₂ C(CH ₃) ₂ SCCH ₂ CF ₃	
6-88	SCH ₂ CH ₃	CH ₂ C(CH ₃) ₂ SC ₂ CH ₃	
6-89	SCH ₂ CH ₃	CH ₂ C(CH ₃) ₂ SO ₂ CH ₂ CF ₃	
6-90	SCH ₂ CH ₃		
6-91	SCH ₂ CH ₃		
6-92	SCH ₂ CH ₃	CH ₂ C(CH ₃) ₂ NHSO ₂ CH ₃	
6-93	SCH ₂ CH ₃	CH ₂ C(CH ₃) ₂ N(CH ₃)(SO ₂ CH ₃)	
6-94	S(CH ₂) ₂ CH ₃	CH ₃	
6-95	S(CH ₂) ₂ CH ₃	CF ₃	
6-96	S(CH ₂) ₂ CH ₃	CH ₂ SCCH ₃	
6-97	S(CH ₂) ₂ CH ₃	CH ₂ SCCH ₂ CH ₃	
6-98	S(CH ₂) ₂ CH ₃		
6-99	S(CH ₂) ₂ CH ₃	CH ₂ SCCH ₂ CF ₃	
6-100	S(CH ₂) ₂ CH ₃	CH ₂ SCCH ₃	
6-101	S(CH ₂) ₂ CH ₃	CH ₂ SCCH ₂ CH ₃	
6-102	S(CH ₂) ₂ CH ₃		
6-103	S(CH ₂) ₂ CH ₃	CH ₂ SCCH ₂ CF ₃	
6-104	S(CH ₂) ₂ CH ₃	CH ₂ SCCH ₃	
6-105	S(CH ₂) ₂ CH ₃	CH ₂ SCCH ₂ CH ₃	
6-106	S(CH ₂) ₂ CH ₃		
6-107	S(CH ₂) ₂ CH ₃	CH ₂ SCCH ₂ CF ₃	
6-108	S(CH ₂) ₂ CH ₃	CH ₂ SC ₂ CH ₃	
6-109	S(CH ₂) ₂ CH ₃	CH ₂ SC ₂ CH ₂ CH ₃	
6-110	S(CH ₂) ₂ CH ₃		
6-111	S(CH ₂) ₂ CH ₃	CH ₂ SC ₂ CH ₂ CF ₃	
6-112	S(CH ₂) ₂ CH ₃	CH ₂ C(CH ₃) ₂ SCCH ₃	
6-113	S(CH ₂) ₂ CH ₃	CH ₂ C(CH ₃) ₂ SCCH ₂ CH ₃	
6-114	S(CH ₂) ₂ CH ₃	CH ₂ C(CH ₃) ₂ CCH ₂ CF ₃	
6-115	S(CH ₂) ₂ CH ₃	CH ₂ C(CH ₃) ₂ SCCH ₃	
6-116	S(CH ₂) ₂ CH ₃	CH ₂ C(CH ₃) ₂ SCCH ₂ CF ₃	
6-117	S(CH ₂) ₂ CH ₃	CH ₂ C(CH ₃) ₂ CCH ₃	
6-118	S(CH ₂) ₂ CH ₃	CH ₂ C(CH ₃) ₂ SCCH ₂ CF ₃	
6-119	S(CH ₂) ₂ CH ₃	CH ₂ C(CH ₃) ₂ SC ₂ CH ₃	
6-120	S(CH ₂) ₂ CH ₃	CH ₂ C(CH ₃) ₂ SO ₂ CH ₂ CF ₃	

Table 99

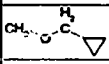
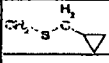
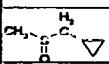
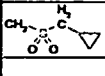
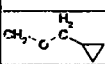
compound number	R4	R1	physical property (melting point-ND)
8-121	S(CH ₂) ₂ CH ₃		
8-122	S(CH ₂) ₂ CH ₃		
8-123	S(CH ₂) ₂ CH ₃	CH ₂ SC(CH ₂) ₂ NHSC ₂ H ₅	
8-124	S(CH ₂) ₂ CH ₃	CH ₂ SC(CH ₂) ₂ N(CH ₃)(SC ₂ H ₅)	
8-125	SC ₆ H ₅	CH ₃	
8-126	SC ₆ H ₅	CF ₃	
8-127	SC ₆ H ₅	CH ₂ CH ₃	
8-128	SC ₆ H ₅	CH ₂ CH ₂ CH ₃	
8-129	SC ₆ H ₅		
8-130	SC ₆ H ₅	CH ₂ CH ₂ CF ₃	
8-131	SC ₆ H ₅	CH ₂ SC ₂ H ₅	
8-132	SC ₆ H ₅	CH ₂ SC ₂ H ₄	
8-133	SC ₆ H ₅		
8-134	SC ₆ H ₅	CH ₂ SC ₂ H ₄ CF ₃	
8-135	SC ₆ H ₅	CH ₂ SC ₂ H ₅	
8-136	SC ₆ H ₅	CH ₂ SCCH ₂ CH ₃	
8-137	SC ₆ H ₅		
8-138	SC ₆ H ₅	CH ₂ SCCH ₂ CF ₃	
8-139	SC ₆ H ₅	CH ₂ SC ₂ H ₄ CH ₃	
8-140	SC ₆ H ₅	CH ₂ SC ₂ H ₄ CH ₂ CH ₃	
8-141	SC ₆ H ₅		
8-142	SC ₆ H ₅	CH ₂ SC ₂ H ₄ CF ₃	
8-143	SC ₆ H ₅	CH ₂ SC(CH ₂) ₂ SC ₂ H ₅	
8-144	SC ₆ H ₅	CH ₂ SC(CH ₂) ₂ SC ₂ H ₄ CH ₃	
8-145	SC ₆ H ₅	CH ₂ SC(CH ₂) ₂ SC ₂ H ₄ CF ₃	
8-146	SC ₆ H ₅	CH ₂ SC(CH ₂) ₂ SC ₂ H ₅	
8-147	SC ₆ H ₅	CH ₂ SC(CH ₂) ₂ SC ₂ H ₄ CF ₃	
8-148	SC ₆ H ₅	CH ₂ SC(CH ₂) ₂ SC ₂ H ₅	
8-149	SC ₆ H ₅	CH ₂ SC(CH ₂) ₂ SC ₂ H ₄ CF ₃	
8-150	SC ₆ H ₅	CH ₂ SC(CH ₂) ₂ SC ₂ H ₄ CH ₃	
8-151	SC ₆ H ₅	CH ₂ SC(CH ₂) ₂ SC ₂ H ₄ CF ₃	
8-152	SC ₆ H ₅		
8-153	SC ₆ H ₅		
8-154	SC ₆ H ₅	CH ₂ SC(CH ₂) ₂ NHSC ₂ H ₅	
8-155	SC ₆ H ₅	CH ₂ SC(CH ₂) ₂ N(CH ₃)(SC ₂ H ₅)	
8-156	SC ₆ H ₅	CH ₃	
8-157	SC ₆ H ₅	CF ₃	
8-158	SC ₆ H ₅	CH ₂ CH ₃	
8-159	SC ₆ H ₅	CH ₂ CH ₂ CH ₃	
8-160	SC ₆ H ₅		

Table 100

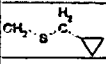
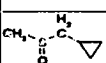
compound number	R4	R1	physical property (melting point-ND)
8-101	SOCH ₂ C ₆ H ₅	CH ₂ SOCH ₂ CF ₃	
8-102	SOCH ₂ C ₆ H ₅	CH ₂ SOCH ₃	
8-103	SOCH ₂ C ₆ H ₅	CH ₂ SOCH ₂ CH ₃	
8-104	SOCH ₂ C ₆ H ₅		
8-105	SOCH ₂ C ₆ H ₅	CH ₂ SOCH ₂ CF ₃	
8-106	SOCH ₂ C ₆ H ₅	CH ₂ SOCH ₃	
8-107	SOCH ₂ C ₆ H ₅	CH ₂ SOCH ₂ CH ₃	
8-108	SOCH ₂ C ₆ H ₅		
8-109	SOCH ₂ C ₆ H ₅	CH ₂ SOCH ₂ CF ₃	
8-110	SOCH ₂ C ₆ H ₅	CH ₂ SO ₂ CH ₃	
8-111	SOCH ₂ C ₆ H ₅	CH ₂ SO ₂ CH ₂ CH ₃	
8-112	SOCH ₂ C ₆ H ₅		
8-113	SOCH ₂ C ₆ H ₅	CH ₂ SO ₂ CH ₂ CF ₃	
8-114	SOCH ₂ C ₆ H ₅	CH ₂ SO(CH ₂) ₂ SOCH ₃	
8-115	SOCH ₂ C ₆ H ₅	CH ₂ SO(CH ₂) ₂ SOCH ₂ CH ₃	
8-116	SOCH ₂ C ₆ H ₅	CH ₂ SO(CH ₂) ₂ SOCH ₂ CF ₃	
8-117	SOCH ₂ C ₆ H ₅	CH ₂ SO(CH ₂) ₂ SOCH ₃	
8-118	SOCH ₂ C ₆ H ₅	CH ₂ SO(CH ₂) ₂ SOCH ₂ CF ₃	
8-119	SOCH ₂ C ₆ H ₅	CH ₂ SO(CH ₂) ₂ SOCH ₃	
8-120	SOCH ₂ C ₆ H ₅	CH ₂ SO(CH ₂) ₂ SOCH ₂ CF ₃	
8-121	SOCH ₂ C ₆ H ₅		
8-122	SOCH ₂ C ₆ H ₅		
8-123	SOCH ₂ C ₆ H ₅		
8-124	SOCH ₂ C ₆ H ₅		
8-125	SOCH ₂ C ₆ H ₅		
8-126	SOCH ₂ C ₆ H ₅		
8-127	SOCH ₂ C ₆ H ₅		
8-128	SOCH ₂ C ₆ H ₅		
8-129	SOCH ₂ C ₆ H ₅		
8-130	SOCH ₂ C ₆ H ₅		
8-131	SOCH ₂ C ₆ H ₅		
8-132	SOCH ₂ C ₆ H ₅		
8-133	SOCH ₂ C ₆ H ₅		
8-134	SOCH ₂ C ₆ H ₅		
8-135	SOCH ₂ C ₆ H ₅		
8-136	SOCH ₂ C ₆ H ₅		
8-137	SOCH ₂ C ₆ H ₅		
8-138	SOCH ₂ C ₆ H ₅		
8-139	SOCH ₂ C ₆ H ₅		
8-140	SOCH ₂ C ₆ H ₅		
8-141	SOCH ₂ C ₆ H ₅		
8-142	SOCH ₂ C ₆ H ₅		
8-143	SOCH ₂ C ₆ H ₅		
8-144	SOCH ₂ C ₆ H ₅		
8-145	SOCH ₂ C ₆ H ₅		
8-146	SOCH ₂ C ₆ H ₅		
8-147	SOCH ₂ C ₆ H ₅		
8-148	SOCH ₂ C ₆ H ₅		
8-149	SOCH ₂ C ₆ H ₅		
8-150	SOCH ₂ C ₆ H ₅		
8-151	SOCH ₂ C ₆ H ₅		
8-152	SOCH ₂ C ₆ H ₅		
8-153	SOCH ₂ C ₆ H ₅		
8-154	SOCH ₂ C ₆ H ₅		
8-155	SOCH ₂ C ₆ H ₅		
8-156	SOCH ₂ C ₆ H ₅		
8-157	SOCH ₂ C ₆ H ₅		
8-158	SOCH ₂ C ₆ H ₅		
8-159	SOCH ₂ C ₆ H ₅		
8-160	SOCH ₂ C ₆ H ₅		
8-161	SOCH ₂ C ₆ H ₅	CH ₂ SO(CH ₂) ₂ SO ₂ CH ₃	
8-162	SOCH ₂ C ₆ H ₅	CH ₂ SO(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
8-163	SOCH ₂ C ₆ H ₅		
8-164	SOCH ₂ C ₆ H ₅		
8-165	SOCH ₂ C ₆ H ₅	CH ₂ SO(CH ₂) ₂ NHSSO ₂ CH ₃	
8-166	SOCH ₂ C ₆ H ₅	CH ₂ SO(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	
8-167	1H-pyrazole-1-yl	CH ₃	
8-168	1H-pyrazole-1-yl	CF ₃	
8-169	1H-pyrazole-1-yl	CH ₂ SOCH ₃	
8-170	1H-pyrazole-1-yl	CH ₂ SOCH ₂ CH ₃	
8-171	1H-pyrazole-1-yl		
8-172	1H-pyrazole-1-yl		
8-173	1H-pyrazole-1-yl	CH ₂ SOCH ₂ CF ₃	
8-174	1H-pyrazole-1-yl	CH ₂ SOCH ₂ CH ₃	
8-175	1H-pyrazole-1-yl		
8-176	1H-pyrazole-1-yl	CH ₂ SOCH ₂ CF ₃	
8-177	1H-pyrazole-1-yl	CH ₂ SOCH ₃	
8-178	1H-pyrazole-1-yl	CH ₂ SOCH ₂ CH ₃	
8-179	1H-pyrazole-1-yl		
8-180	1H-pyrazole-1-yl	CH ₂ SOCH ₂ CF ₃	

Table 101

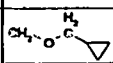
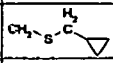
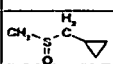
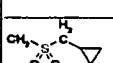
compound number	R4	R1	physical property (melting point-ND)
8-201	1H-pyrazole-1-yl	CH ₂ SO ₂ CH ₃	
8-202	1H-pyrazole-1-yl	CH ₂ SO ₂ CH ₂ CH ₃	
8-203	1H-pyrazole-1-yl		
8-204	1H-pyrazole-1-yl	CH ₂ SO ₂ CH ₂ CF ₃	
8-205	1H-pyrazole-1-yl	CH ₂ C(CH ₃) ₂ C(CH ₃) ₂	
8-206	1H-pyrazole-1-yl	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	
8-207	1H-pyrazole-1-yl	CH ₂ C(CH ₃) ₂ C(CH ₃) ₂ CH ₂ CF ₃	
8-208	1H-pyrazole-1-yl	CH ₂ O(CH ₂) ₂ SOCH ₃	
8-209	1H-pyrazole-1-yl	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
8-210	1H-pyrazole-1-yl	CH ₂ O(CH ₂) ₂ SOCH ₃	
8-211	1H-pyrazole-1-yl	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
8-212	1H-pyrazole-1-yl	CH ₂ C(CH ₃) ₂ SO ₂ CH ₃	
8-213	1H-pyrazole-1-yl	CH ₂ C(CH ₃) ₂ SO ₂ CH ₂ CF ₃	
8-214	1H-pyrazole-1-yl		
8-215	1H-pyrazole-1-yl		
8-216	1H-pyrazole-1-yl	CH ₂ C(CH ₃) ₂ NHSO ₂ CH ₃	
8-217	1H-pyrazole-1-yl	CH ₂ C(CH ₃) ₂ N(CH ₃)SO ₂ CH ₃	
8-218	1H-imidazole-1-yl	CF ₃	
8-219	1H-imidazole-1-yl	CF ₃	
8-220	1H-imidazole-1-yl	CH ₂ OCH ₃	
8-221	1H-imidazole-1-yl	CH ₂ SOCH ₂ CH ₃	
8-222	1H-imidazole-1-yl		
8-223	1H-imidazole-1-yl	CH ₂ SOCH ₂ CF ₃	
8-224	1H-imidazole-1-yl	CH ₂ SOCH ₃	
8-225	1H-imidazole-1-yl	CH ₂ SOCH ₂ CH ₃	
8-226	1H-imidazole-1-yl		
8-227	1H-imidazole-1-yl	CH ₂ SOCH ₂ CF ₃	
8-228	1H-imidazole-1-yl	CH ₂ SOCH ₃	
8-229	1H-imidazole-1-yl	CH ₂ SOCH ₂ CH ₃	
8-230	1H-imidazole-1-yl		
8-231	1H-imidazole-1-yl	CH ₂ SOCH ₂ CF ₃	
8-232	1H-imidazole-1-yl	CH ₂ SO ₂ CH ₃	
8-233	1H-imidazole-1-yl	CH ₂ SO ₂ CH ₂ CH ₃	
8-234	1H-imidazole-1-yl		
8-235	1H-imidazole-1-yl	CH ₂ SO ₂ CH ₂ CF ₃	
8-236	1H-imidazole-1-yl	CH ₂ O(CH ₂) ₂ OCH ₃	
8-237	1H-imidazole-1-yl	CH ₂ C(CH ₃) ₂ C(CH ₃) ₂ CH ₂ CH ₃	
8-238	1H-imidazole-1-yl	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
8-239	1H-imidazole-1-yl	CH ₂ O(CH ₂) ₂ SOCH ₃	
8-240	1H-imidazole-1-yl	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	

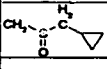
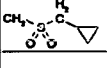
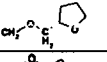
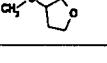
Table 102

compound number	R4	R1	physical property (melting point-ND)
8-241	1H-imidazole-1-yl	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
8-242	1H-imidazole-1-yl	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
8-243	1H-imidazole-1-yl	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
8-244	1H-imidazole-1-yl	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
8-245	1H-imidazole-1-yl		
8-246	1H-imidazole-1-yl		
8-247	1H-imidazole-1-yl	CH ₂ O(CH ₂) ₂ NHCO ₂ CH ₃	
8-248	1H-imidazole-1-yl	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	
8-249	1H-imidazole-1-yl	CH ₃	
8-250	1H-imidazole-1-yl	CF ₃	
8-251	1H-imidazole-1-yl	CH ₂ OCH ₃	
8-252	1H-imidazole-1-yl	CH ₂ OCH ₂ CH ₃	
8-253	1H-imidazole-1-yl		
8-254	1H-imidazole-1-yl	CH ₂ OCH ₂ CF ₃	
8-255	1H-imidazole-1-yl	CH ₂ SOCH ₃	
8-256	1H-imidazole-1-yl	CH ₂ SOCH ₂ CH ₃	
8-257	1H-imidazole-1-yl		
8-258	1H-imidazole-1-yl	CH ₂ SOCH ₂ CF ₃	
8-259	1H-imidazole-1-yl	CH ₂ SOCH ₃	
8-260	1H-imidazole-1-yl	CH ₂ SOCH ₂ CH ₃	
8-261	1H-imidazole-1-yl		
8-262	1H-imidazole-1-yl	CH ₂ SOCH ₂ CF ₃	
8-263	1H-imidazole-1-yl	CH ₂ SO ₂ CH ₃	
8-264	1H-imidazole-1-yl	CH ₂ SO ₂ CH ₂ CH ₃	
8-265	1H-imidazole-1-yl		
8-266	1H-imidazole-1-yl	CH ₂ SO ₂ CH ₂ CF ₃	
8-267	1H-imidazole-1-yl	CH ₂ O(CH ₂) ₂ OCH ₃	
8-268	1H-imidazole-1-yl	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	
8-269	1H-imidazole-1-yl	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
8-270	1H-imidazole-1-yl	CH ₂ O(CH ₂) ₂ SCH ₃	
8-271	1H-imidazole-1-yl	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃	
8-272	1H-imidazole-1-yl	CH ₂ O(CH ₂) ₂ SOCH ₃	
8-273	1H-imidazole-1-yl	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
8-274	1H-imidazole-1-yl	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
8-275	1H-imidazole-1-yl	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
8-276	1H-imidazole-1-yl		
8-277	1H-imidazole-1-yl		
8-278	1H-imidazole-1-yl	CH ₂ O(CH ₂) ₂ NHCO ₂ CH ₃	
8-279	1H-imidazole-1-yl	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	
8-280	1H-imidazole-1-yl	CH ₃	

Table 103

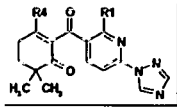
compound number	R4	R1	physical property (melting point-ND)	compound number	R4	R1	physical property (melting point-ND)
8-281	1H-tetrazole-1-yl	CF ₃		8-301	1H-tetrazole-1-yl	CH ₂ O(CH ₂) ₂ SCH ₃	
8-282	1H-tetrazole-1-yl	CH ₂ SCH ₃		8-302	1H-tetrazole-1-yl	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃	
8-283	1H-tetrazole-1-yl	CH ₂ OCH ₂ CH ₃		8-303	1H-tetrazole-1-yl	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
8-284	1H-tetrazole-1-yl			8-304	1H-tetrazole-1-yl	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
8-285	1H-tetrazole-1-yl	CH ₂ SOCH ₂ CF ₃		8-305	1H-tetrazole-1-yl	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
8-286	1H-tetrazole-1-yl	CH ₂ SCH ₃		8-306	1H-tetrazole-1-yl	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
8-287	1H-tetrazole-1-yl	CH ₂ SOCH ₂ CH ₃		8-307	1H-tetrazole-1-yl		
8-288	1H-tetrazole-1-yl			8-308	1H-tetrazole-1-yl		
8-289	1H-tetrazole-1-yl	CH ₂ SOCH ₂ CF ₃		8-309	1H-tetrazole-1-yl	CH ₂ O(CH ₂) ₂ NHSC ₂ H ₅	
8-290	1H-tetrazole-1-yl	CH ₂ SOCH ₃		8-310	1H-tetrazole-1-yl	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	
8-291	1H-tetrazole-1-yl	CH ₂ SOCH ₂ CH ₃		8-311	1H-tetrazole-2-yl	CH ₃	
8-292	1H-tetrazole-1-yl			8-312	1H-tetrazole-2-yl	CF ₃	
8-293	1H-tetrazole-1-yl	CH ₂ SOCH ₂ CF ₃		8-313	1H-tetrazole-2-yl	CH ₂ CH ₃	
8-294	1H-tetrazole-1-yl	CH ₂ SO ₂ CH ₃		8-314	1H-tetrazole-2-yl	CH ₂ OCH ₂ CH ₃	
8-295	1H-tetrazole-1-yl	CH ₂ SO ₂ CH ₂ CH ₃		8-315	1H-tetrazole-2-yl		
8-296	1H-tetrazole-1-yl			8-316	1H-tetrazole-2-yl	CH ₂ OCH ₂ CF ₃	
8-297	1H-tetrazole-1-yl	CH ₂ SO ₂ CH ₂ CF ₃		8-317	1H-tetrazole-2-yl	CH ₂ SOCH ₃	
8-298	1H-tetrazole-1-yl	CH ₂ O(CH ₂) ₂ OCH ₃		8-318	1H-tetrazole-2-yl	CH ₂ SOCH ₂ CH ₃	
8-299	1H-tetrazole-1-yl	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃		8-319	1H-tetrazole-2-yl		
8-300	1H-tetrazole-1-yl	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃		8-320	1H-tetrazole-2-yl	CH ₂ SOCH ₂ CF ₃	

Table 104

compound number	R4	R1	physical property (melting point-ND)
8-321	1H-tetrazole-2-yl	CH ₂ SOCH ₃	
8-322	1H-tetrazole-2-yl	CH ₂ SOCH ₂ CH ₃	
8-323	1H-tetrazole-2-yl		
8-324	1H-tetrazole-2-yl	CH ₂ SOCH ₂ CF ₃	
8-325	1H-tetrazole-2-yl	CH ₂ SO ₂ CH ₃	
8-326	1H-tetrazole-2-yl	CH ₂ SO ₂ CH ₂ CH ₃	
8-327	1H-tetrazole-2-yl		
8-328	1H-tetrazole-2-yl	CH ₂ SO ₂ CH ₂ CF ₃	
8-329	1H-tetrazole-2-yl	CH ₂ O(CH ₂) ₂ COCH ₃	
8-330	1H-tetrazole-2-yl	CH ₂ O(CH ₂) ₂ COCH ₂ CH ₃	
8-331	1H-tetrazole-2-yl	CH ₂ O(CH ₂) ₂ COCH ₂ CF ₃	
8-332	1H-tetrazole-2-yl	CH ₂ O(CH ₂) ₂ SOCH ₃	
8-333	1H-tetrazole-2-yl	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
8-334	1H-tetrazole-2-yl	CH ₂ O(CH ₂) ₂ SOCH ₂ CH ₃	
8-335	1H-tetrazole-2-yl	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
8-336	1H-tetrazole-2-yl	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
8-337	1H-tetrazole-2-yl	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
8-338	1H-tetrazole-2-yl		
8-339	1H-tetrazole-2-yl		
8-340	1H-tetrazole-2-yl	CH ₂ O(CH ₂) ₂ NHCO ₂ CH ₃	

compound number	R4	R1	physical property (melting point-ND)
8-341	1H-tetrazole-2-yl	CH ₂ C(CH ₃) ₂ H(CH ₂) ₂ SO ₂ CH ₃	

Table 105



compound number	R4	R1	physical property (melting point-ND)
0-1	Cl	CH ₃	
0-2	Cl	CF ₃	
0-3	Cl	CH ₂ CH ₃	
0-4	Cl	CH ₂ CH ₂ CH ₃	
0-5	Cl		
0-6	Cl	CH ₂ CH ₂ CF ₃	
0-7	Cl	CH ₂ SCH ₃	
0-8	Cl	CH ₂ SCH ₂ CH ₃	
0-9	Cl		
0-10	Cl	CH ₂ SCN ₂ CF ₃	
0-11	Cl	CH ₂ SCCH ₃	
0-12	Cl	CH ₂ SCCH ₂ CH ₃	
0-13	Cl		
0-14	Cl	CH ₂ SCCH ₂ CF ₃	
0-15	Cl	CH ₂ SO ₂ CH ₃	
0-16	Cl	CH ₂ SO ₂ CH ₂ CH ₃	
0-17	Cl		
0-18	Cl	CH ₂ SO ₂ CH ₂ CF ₃	
0-19	Cl	CH ₂ S(CH ₂) ₂ SCH ₃	
0-20	Cl	CH ₂ S(CH ₂) ₂ CH ₂ CH ₃	

compound number	R4	R1	physical property (melting point-ND)
0-21	Cl	CH ₂ S(CH ₂) ₂ CH ₂ CF ₃	
0-22	Cl	CH ₂ S(CH ₂) ₂ SCH ₃	
0-23	Cl	CH ₂ S(CH ₂) ₂ SCH ₂ CF ₃	
0-24	Cl	CH ₂ S(CH ₂) ₂ SOCH ₃	
0-25	Cl	CH ₂ S(CH ₂) ₂ SOCH ₂ CF ₃	
0-26	Cl	CH ₂ S(CH ₂) ₂ SO ₂ CH ₃	
0-27	Cl	CH ₂ S(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
0-28	Cl		
0-29	Cl		
0-30	Cl	CH ₂ S(CH ₂) ₂ NHSC ₂ H ₅	
0-31	Cl	CH ₂ S(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	
0-32	SOCH ₃	CH ₃	
0-33	SOCH ₃	CF ₃	
0-34	SOCH ₃	CH ₂ CH ₃	
0-35	SOCH ₃	CH ₂ CH ₂ CH ₃	
0-36	SOCH ₃		
0-37	SOCH ₃	CH ₂ CH ₂ CF ₃	
0-38	SOCH ₃	CH ₂ SCH ₃	
0-39	SOCH ₃	CH ₂ SCH ₂ CH ₃	
0-40	SOCH ₃		

Table 106

compound number	R4	R1	physical property (melting point-ND)
9-41	SCF ₃	CH ₂ SCF ₃ CF ₃	
9-42	SCF ₃	CH ₂ SCF ₃	
9-43	SCF ₃	CH ₂ SCF ₃ CH ₂ CH ₃	
9-44	SCF ₃		
9-45	SCF ₃	CH ₂ SCF ₃ CH ₂ CF ₃	
9-46	SCF ₃	CH ₂ SCF ₃ CH ₃	
9-47	SCF ₃	CH ₂ SCF ₃ CH ₂ CH ₃	
9-48	SCF ₃		
9-49	SCF ₃	CH ₂ SCF ₃ CH ₂ CF ₃	
9-50	SCF ₃	CH ₂ SCF ₃ (CH ₂) ₂ SCF ₃	
9-51	SCF ₃	CH ₂ SCF ₃ (CH ₂) ₂ CH ₂ CH ₃	
9-52	SCF ₃	CH ₂ SCF ₃ (CH ₂) ₂ CH ₂ CF ₃	
9-53	SCF ₃	CH ₂ SCF ₃ (CH ₂) ₂ SCF ₃	
9-54	SCF ₃	CH ₂ SCF ₃ (CH ₂) ₂ SCF ₃ CF ₃	
9-55	SCF ₃	CH ₂ SCF ₃ (CH ₂) ₂ SCF ₃	
9-56	SCF ₃	CH ₂ SCF ₃ (CH ₂) ₂ SCF ₃ CF ₃	
9-57	SCF ₃	CH ₂ SCF ₃ (CH ₂) ₂ SCF ₃ CH ₃	
9-58	SCF ₃	CH ₂ SCF ₃ (CH ₂) ₂ SCF ₃ CH ₂ CF ₃	
9-59	SCF ₃		
9-60	SCF ₃		
9-61	SCF ₃	CH ₂ SCF ₃ (CH ₂) ₂ SCF ₃ CH ₃	
9-62	SCF ₃	CH ₂ SCF ₃ (CH ₂) ₂ SCF ₃ (SCF ₃ CH ₂)	
9-63	SCF ₃ CH ₃	CH ₃	
9-64	SCF ₃ CH ₃	CF ₃	
9-65	SCF ₃ CH ₃	CH ₂ CH ₃	
9-66	SCF ₃ CH ₃	CH ₂ CH ₂ CH ₃	
9-67	SCF ₃ CH ₃		
9-68	SCF ₃ CH ₃	CH ₂ CH ₂ CF ₃	
9-69	SCF ₃ CH ₃	CH ₂ SCF ₃	
9-70	SCF ₃ CH ₃	CH ₂ SCF ₃ CH ₃	
9-71	SCF ₃ CH ₃		
9-72	SCF ₃ CH ₃	CH ₂ SCF ₃ CF ₃	
9-73	SCF ₃ CH ₃	CH ₂ SCF ₃	
9-74	SCF ₃ CH ₃	CH ₂ SCF ₃ CH ₂ CH ₃	
9-75	SCF ₃ CH ₃		
9-76	SCF ₃ CH ₃	CH ₂ SCF ₃ CH ₂ CF ₃	
9-77	SCF ₃ CH ₃	CH ₂ SCF ₃ CH ₃	
9-78	SCF ₃ CH ₃	CH ₂ SCF ₃ CH ₂ CH ₃	
9-79	SCF ₃ CH ₃		
9-80	SCF ₃ CH ₃	CH ₂ SCF ₃ CH ₂ CF ₃	

Table 107

compound number	R4	R1	physical property (melting point-ND)
9-81	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ COCH ₃	
9-82	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ C(CH ₃)CH ₃	
9-83	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ COCH ₂ CF ₃	
9-84	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₃	
9-85	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
9-86	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₃	
9-87	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
9-88	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
9-89	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
9-90	SCH ₂ CH ₃		
9-91	SCH ₂ CH ₃		
9-92	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ NHCO ₂ CH ₃	
9-93	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	
9-94	S(CH ₂) ₂ CH ₃	CH ₃	
9-95	S(CH ₂) ₂ CH ₃	CF ₃	
9-96	S(CH ₂) ₂ CH ₃	CH ₂ OCH ₃	
9-97	S(CH ₂) ₂ CH ₃	CH ₂ COCH ₂ CH ₃	
9-98	S(CH ₂) ₂ CH ₃		
9-99	S(CH ₂) ₂ CH ₃	CH ₂ OCH ₂ CF ₃	
9-100	S(CH ₂) ₂ CH ₃	CH ₂ SOCH ₃	
9-101	S(CH ₂) ₂ CH ₃	CH ₂ SOCH ₂ CH ₃	
9-102	S(CH ₂) ₂ CH ₃		
9-103	S(CH ₂) ₂ CH ₃	CH ₂ SOCH ₂ CF ₃	
9-104	S(CH ₂) ₂ CH ₃	CH ₂ SOCH ₃	
9-105	S(CH ₂) ₂ CH ₃	CH ₂ SOCH ₂ CH ₃	
9-106	S(CH ₂) ₂ CH ₃		
9-107	S(CH ₂) ₂ CH ₃	CH ₂ SOCH ₂ CF ₃	
9-108	S(CH ₂) ₂ CH ₃	CH ₂ SO ₂ CH ₃	
9-109	S(CH ₂) ₂ CH ₃	CH ₂ SO ₂ CH ₂ CH ₃	
9-110	S(CH ₂) ₂ CH ₃		
9-111	S(CH ₂) ₂ CH ₃	CH ₂ SO ₂ CH ₂ CF ₃	
9-112	S(CH ₂) ₂ CH ₃	CH ₂ SO(CH ₂) ₂ COCH ₃	
9-113	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ COCH ₂ CH ₃	
9-114	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ COCH ₂ CF ₃	
9-115	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₃	
9-116	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
9-117	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₃	
9-118	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
9-119	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
9-120	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	

Table 108

compound number	R4	R1	physical property (melting point-ND)
9-121	S(CH ₂) ₂ CH ₃		
9-122	S(CH ₂) ₂ CH ₃		
9-123	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ NHSC ₂ H ₅	
9-124	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ N(CH ₃)(SC ₂ H ₅)	
9-125	SC ₂ H ₅	CH ₃	
9-126	SC ₂ H ₅	CF ₃	
9-127	SC ₂ H ₅	CH ₂ OCH ₃	
9-128	SC ₂ H ₅	CH ₂ OCH ₂ CH ₃	
9-129	SC ₂ H ₅		
9-130	SC ₂ H ₅	CH ₂ OCH ₂ CF ₃	
9-131	SC ₂ H ₅	CH ₂ SONH ₂	
9-132	SC ₂ H ₅	CH ₂ SCCH ₂ CH ₃	
9-133	SC ₂ H ₅		
9-134	SC ₂ H ₅	CH ₂ SCCH ₂ CF ₃	
9-135	SC ₂ H ₅	CH ₂ SCCH ₃	
9-136	SC ₂ H ₅	CH ₂ SCCH ₂ CH ₃	
9-137	SC ₂ H ₅		
9-138	SC ₂ H ₅	CH ₂ SCCH ₂ CF ₃	
9-139	SC ₂ H ₅	CH ₂ SC ₂ CH ₃	
9-140	SC ₂ H ₅	CH ₂ SC ₂ CH ₂ CH ₃	
9-141	SC ₂ H ₅		
9-142	SC ₂ H ₅	CH ₂ SC ₂ CH ₂ CF ₃	
9-143	SC ₂ H ₅	CH ₂ O(CH ₂) ₂ CH ₃	
9-144	SC ₂ H ₅	CH ₂ O(CH ₂) ₂ CH ₂ CH ₃	
9-145	SC ₂ H ₅	CH ₂ O(CH ₂) ₂ CH ₂ CF ₃	
9-146	SC ₂ H ₅	CH ₂ O(CH ₂) ₂ SC ₂ H ₅	
9-147	SC ₂ H ₅	CH ₂ O(CH ₂) ₂ SC ₂ CH ₂ CF ₃	
9-148	SC ₂ H ₅	CH ₂ O(CH ₂) ₂ SC ₂ CH ₃	
9-149	SC ₂ H ₅	CH ₂ O(CH ₂) ₂ SC ₂ CH ₂ CF ₃	
9-150	SC ₂ H ₅	CH ₂ O(CH ₂) ₂ SC ₂ CH ₂ CH ₃	
9-151	SC ₂ H ₅	CH ₂ O(CH ₂) ₂ SC ₂ CH ₂ CF ₃	
9-152	SC ₂ H ₅		
9-153	SC ₂ H ₅		
9-154	SC ₂ H ₅	CH ₂ O(CH ₂) ₂ NHSC ₂ H ₅	
9-155	SC ₂ H ₅	CH ₂ O(CH ₂) ₂ N(CH ₃)(SC ₂ CH ₃)	
9-156	SC ₂ H ₅	CH ₃	
9-157	SC ₂ H ₅	CF ₃	
9-158	SC ₂ H ₅	CH ₂ OCH ₃	
9-159	SC ₂ H ₅	CH ₂ OCH ₂ CH ₃	
9-160	SC ₂ H ₅		

185

Table 109

compound number	R4	R1	physical property (melting point-ND)	compound number	R4	R1	physical property (melting point-ND)
9-161	SC ₂ H ₅	CH ₂ SOCH ₂ CF ₃		9-161	SC ₂ H ₅	CH ₂ C(CH ₃) ₂ SO ₂ CH ₃	
9-162	SC ₂ H ₅	CH ₂ SOCH ₃		9-162	SC ₂ H ₅	CH ₂ C(CH ₃) ₂ SC ₂ H ₂ CF ₃	
9-163	SC ₂ H ₅	CH ₂ SOCH ₂ CH ₃		9-163	SC ₂ H ₅		
9-164	SC ₂ H ₅			9-164	SC ₂ H ₅		
9-165	SC ₂ H ₅	CH ₂ SOCH ₂ CF ₃		9-165	SC ₂ H ₅	CH ₂ C(CH ₃) ₂ NHSC ₂ H ₅	
9-166	SC ₂ H ₅	CH ₂ SOCH ₃		9-166	SC ₂ H ₅	CH ₂ C(CH ₃) ₂ N(CH ₃)(SC ₂ H ₅)	
9-167	SC ₂ H ₅	CH ₂ SOCH ₂ CH ₃		9-167	1H-pyrazole-1-yl	CH ₃	
9-168	SC ₂ H ₅			9-168	1H-pyrazole-1-yl	CF ₃	
9-169	SC ₂ H ₅	CH ₂ SOCH ₂ CF ₃		9-169	1H-pyrazole-1-yl	CH ₂ SOCH ₃	
9-170	SC ₂ H ₅	CH ₂ SO ₂ CH ₃		9-170	1H-pyrazole-1-yl	CH ₂ SOCH ₂ CH ₃	
9-171	SC ₂ H ₅	CH ₂ SO ₂ CH ₂ CH ₃		9-171	1H-pyrazole-1-yl		
9-172	SC ₂ H ₅			9-172	1H-pyrazole-1-yl	CH ₂ C(CH ₃) ₂ CF ₃	
9-173	SC ₂ H ₅	CH ₂ SO ₂ CH ₂ CF ₃		9-173	1H-pyrazole-1-yl	CH ₂ SOCH ₃	
9-174	SC ₂ H ₅	CH ₂ C(CH ₃) ₂ SOCH ₃		9-174	1H-pyrazole-1-yl	CH ₂ SOCH ₂ CH ₃	
9-175	SC ₂ H ₅	CH ₂ C(CH ₃) ₂ SOCH ₂ CH ₃		9-175	1H-pyrazole-1-yl		
9-176	SC ₂ H ₅	CH ₂ C(CH ₃) ₂ SOCH ₂ CF ₃		9-176	1H-pyrazole-1-yl	CH ₂ SOCH ₂ CF ₃	
9-177	SC ₂ H ₅	CH ₂ C(CH ₃) ₂ SOCH ₃		9-177	1H-pyrazole-1-yl	CH ₂ SOCH ₃	
9-178	SC ₂ H ₅	CH ₂ C(CH ₃) ₂ SOCH ₂ CF ₃		9-178	1H-pyrazole-1-yl	CH ₂ SOCH ₂ CH ₃	
9-179	SC ₂ H ₅	CH ₂ C(CH ₃) ₂ SOCH ₃		9-179	1H-pyrazole-1-yl		
9-180	SC ₂ H ₅	CH ₂ C(CH ₃) ₂ SOCH ₂ CF ₃		9-180	1H-pyrazole-1-yl	CH ₂ SOCH ₂ CF ₃	

178

Table 110

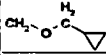
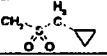
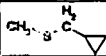
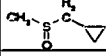
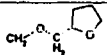
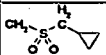
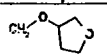
compound number	R4	R1	physical property (melting point-ND)	compound number	R4	R1	physical property (melting point-ND)
9-201	1H-pyrazole-1-yl	CH ₂ SO ₂ CH ₃		9-221	1H-imidazole-1-yl	CH ₂ CH ₂ CH ₃	
9-202	1H-pyrazole-1-yl	CH ₂ SO ₂ CH ₂ CH ₃		9-222	1H-imidazole-1-yl		
9-203	1H-pyrazole-1-yl			9-223	1H-imidazole-1-yl	CH ₂ OCH ₂ CF ₃	
9-204	1H-pyrazole-1-yl	CH ₂ SO ₂ CH ₂ CF ₃		9-224	1H-imidazole-1-yl	CH ₂ SOCH ₃	
9-205	1H-pyrazole-1-yl	CH ₂ O(CH ₂) ₂ CH ₃		9-225	1H-imidazole-1-yl	CH ₂ SOCH ₂ CH ₃	
9-206	1H-pyrazole-1-yl	CH ₂ C(CH ₃) ₂ CH ₂ CH ₃		9-226	1H-imidazole-1-yl		
9-207	1H-pyrazole-1-yl	CH ₂ C(CH ₃) ₂ CH ₂ CF ₃		9-227	1H-imidazole-1-yl	CH ₂ SOCH ₂ CF ₃	
9-208	1H-pyrazole-1-yl	CH ₂ O(CH ₂) ₂ SOCH ₃		9-228	1H-imidazole-1-yl	CH ₂ SOCH ₃	
9-209	1H-pyrazole-1-yl	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃		9-229	1H-imidazole-1-yl	CH ₂ SOCH ₂ CH ₃	
9-210	1H-pyrazole-1-yl	CH ₂ O(CH ₂) ₂ SOCH ₃		9-230	1H-imidazole-1-yl		
9-211	1H-pyrazole-1-yl	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃		9-231	1H-imidazole-1-yl	CH ₂ SOCH ₂ CF ₃	
9-212	1H-pyrazole-1-yl	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃		9-232	1H-imidazole-1-yl	CH ₂ SO ₂ CH ₃	
9-213	1H-pyrazole-1-yl	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃		9-233	1H-imidazole-1-yl	CH ₂ SO ₂ CH ₂ CH ₃	
9-214	1H-pyrazole-1-yl			9-234	1H-imidazole-1-yl		
9-215	1H-pyrazole-1-yl			9-235	1H-imidazole-1-yl	CH ₂ SOCH ₂ CF ₃	
9-216	1H-pyrazole-1-yl	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₃		9-236	1H-imidazole-1-yl	CH ₂ O(CH ₂) ₂ CH ₃	
9-217	1H-pyrazole-1-yl	CH ₂ O(CH ₂) ₂ N(CH ₂ SO ₂ CH ₃)		9-237	1H-imidazole-1-yl	CH ₂ C(CH ₃) ₂ CH ₂ CH ₃	
9-218	1H-imidazole-1-yl	CH ₃		9-238	1H-imidazole-1-yl	CH ₂ O(CH ₂) ₂ CH ₂ CF ₃	
9-219	1H-imidazole-1-yl	CF ₃		9-239	1H-imidazole-1-yl	CH ₂ O(CH ₂) ₂ SOCH ₃	
9-220	1H-imidazole-1-yl	CH ₂ CCH ₃		9-240	1H-imidazole-1-yl	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	

Table 111

compound number	R4	R1	physical property (melting point-ND)
9-241	1H-imidazole-1-yl	CH ₂ O(CH ₂) ₂ SOCH ₃	
9-242	1H-imidazole-1-yl	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
9-243	1H-imidazole-1-yl	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
9-244	1H-imidazole-1-yl	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
9-245	1H-imidazole-1-yl		
9-246	1H-imidazole-1-yl		
9-247	1H-imidazole-1-yl	CH ₂ O(CH ₂) ₂ NHSC ₂ H ₅	
9-248	1H-imidazole-1-yl	CH ₂ O(CH ₂) ₂ N(CH ₃)(SC ₂ H ₅)	
9-249	1H-imidazole-1-yl	CH ₃	
9-250	1H-imidazole-1-yl	CF ₃	
9-251	1H-imidazole-1-yl	CH ₂ SOCH ₃	
9-252	1H-imidazole-1-yl	CH ₂ SOCH ₂ CH ₃	
9-253	1H-imidazole-1-yl		
9-254	1H-imidazole-1-yl	CH ₂ SOCH ₂ CF ₃	
9-255	1H-imidazole-1-yl	CH ₂ SOCH ₃	
9-256	1H-imidazole-1-yl	CH ₂ SOCH ₂ CH ₃	
9-257	1H-imidazole-1-yl		
9-258	1H-imidazole-1-yl	CH ₂ SOCH ₂ CF ₃	
9-259	1H-imidazole-1-yl	CH ₂ SOCH ₃	
9-260	1H-imidazole-1-yl	CH ₂ SOCH ₂ CH ₃	
9-261	1H-imidazole-1-yl		
9-262	1H-imidazole-1-yl	CH ₂ SOCH ₂ CF ₃	
9-263	1H-imidazole-1-yl	CH ₂ SO ₂ CH ₃	
9-264	1H-imidazole-1-yl	CH ₂ SO ₂ CH ₂ CH ₃	
9-265	1H-imidazole-1-yl		
9-266	1H-imidazole-1-yl	CH ₂ SO ₂ CH ₂ CF ₃	
9-267	1H-imidazole-1-yl	CH ₂ O(CH ₂) ₂ SOCH ₃	
9-268	1H-imidazole-1-yl	CH ₂ O(CH ₂) ₂ SOCH ₂ CH ₃	
9-269	1H-imidazole-1-yl	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
9-270	1H-imidazole-1-yl	CH ₂ O(CH ₂) ₂ SOCH ₃	
9-271	1H-imidazole-1-yl	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
9-272	1H-imidazole-1-yl	CH ₂ O(CH ₂) ₂ SOCH ₃	
9-273	1H-imidazole-1-yl	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
9-274	1H-imidazole-1-yl	CH ₂ O(CH ₂) ₂ SOCH ₂ CH ₃	
9-275	1H-imidazole-1-yl	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
9-276	1H-imidazole-1-yl		
9-277	1H-imidazole-1-yl		
9-278	1H-imidazole-1-yl	CH ₂ O(CH ₂) ₂ NHSC ₂ H ₅	
9-279	1H-imidazole-1-yl	CH ₂ O(CH ₂) ₂ N(CH ₃)(SC ₂ H ₅)	
9-280	1H-tetrazole-1-yl	CH ₃	

Table 112

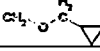
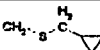
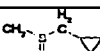
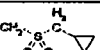
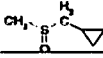
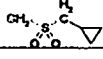
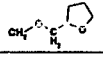
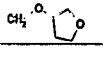
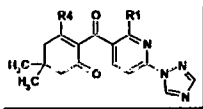
compound number	R4	R1	physical property (melting point-ND)
9-281	1H-tetrazole-1-yl	CF ₃	
9-282	1H-tetrazole-1-yl	CH ₂ COH ₂	
9-283	1H-tetrazole-1-yl	CH ₂ COCH ₂ CH ₃	
9-284	1H-tetrazole-1-yl		
9-285	1H-tetrazole-1-yl	CH ₂ COCH ₂ CF ₃	
9-286	1H-tetrazole-1-yl	CH ₂ SOCH ₃	
9-287	1H-tetrazole-1-yl	CH ₂ SOCH ₂ CH ₃	
9-288	1H-tetrazole-1-yl		
9-289	1H-tetrazole-1-yl	CH ₂ SOCH ₂ CF ₃	
9-290	1H-tetrazole-1-yl	CH ₂ SOCH ₃	
9-291	1H-tetrazole-1-yl	CH ₂ SOCH ₂ CH ₃	
9-292	1H-tetrazole-1-yl		
9-293	1H-tetrazole-1-yl	CH ₂ SOCH ₂ CF ₃	
9-294	1H-tetrazole-1-yl	CH ₂ SOCH ₂ CH ₃	
9-295	1H-tetrazole-1-yl	CH ₂ SO ₂ CH ₂ CH ₃	
9-296	1H-tetrazole-1-yl		
9-297	1H-tetrazole-1-yl	CH ₂ SO ₂ CH ₂ CF ₃	
9-298	1H-tetrazole-1-yl	CH ₂ O(CH ₂) ₂ COCH ₃	
9-299	1H-tetrazole-1-yl	CH ₂ O(CH ₂) ₂ COCH ₂ CH ₃	
9-300	1H-tetrazole-1-yl	CH ₂ O(CH ₂) ₂ COCH ₂ CF ₃	
9-301	1H-tetrazole-1-yl	CH ₂ O(CH ₂) ₂ SOCH ₃	
9-302	1H-tetrazole-1-yl	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
9-303	1H-tetrazole-1-yl	CH ₂ O(CH ₂) ₂ SOCH ₂ CH ₃	
9-304	1H-tetrazole-1-yl	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
9-305	1H-tetrazole-1-yl	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
9-306	1H-tetrazole-1-yl	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
9-307	1H-tetrazole-1-yl		
9-308	1H-tetrazole-1-yl		
9-309	1H-tetrazole-1-yl	CH ₂ O(CH ₂) ₂ NHCO ₂ CH ₃	
9-310	1H-tetrazole-1-yl	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	
9-311	1H-tetrazole-2-yl	CH ₃	
9-312	1H-tetrazole-2-yl	CF ₃	
9-313	1H-tetrazole-2-yl	CH ₂ COCH ₃	
9-314	1H-tetrazole-2-yl	CH ₂ COCH ₂ CH ₃	
9-315	1H-tetrazole-2-yl		
9-316	1H-tetrazole-2-yl	CH ₂ COH ₂ CF ₃	
9-317	1H-tetrazole-2-yl	CH ₂ COCH ₃	
9-318	1H-tetrazole-2-yl	CH ₂ SOCH ₂ CH ₃	
9-319	1H-tetrazole-2-yl		
9-320	1H-tetrazole-2-yl	CH ₂ SOCH ₂ CF ₃	

Table 113

compound number	R4	R1	physical property (melting point-ND)
9-321	1H-tetrazole-2-yl	CH ₂ SOCH ₃	
9-322	1H-tetrazole-2-yl	CH ₂ SOCH ₂ CH ₃	
9-323	1H-tetrazole-2-yl		
9-324	1H-tetrazole-2-yl	CH ₂ SOCH ₂ CF ₃	
9-325	1H-tetrazole-2-yl	CH ₂ SO ₂ CH ₃	
9-326	1H-tetrazole-2-yl	CH ₂ SO ₂ CH ₂ CH ₃	
9-327	1H-tetrazole-2-yl		
9-328	1H-tetrazole-2-yl	CH ₂ SO ₂ CH ₂ CF ₃	
9-329	1H-tetrazole-2-yl	CH ₂ O(CH ₂) ₂ CH ₃	
9-330	1H-tetrazole-2-yl	CH ₂ O(CH ₂) ₂ CH ₂ CH ₃	
9-331	1H-tetrazole-2-yl	CH ₂ O(CH ₂) ₂ CH ₂ CF ₃	
9-332	1H-tetrazole-2-yl	CH ₂ O(CH ₂) ₂ SOCH ₃	
9-333	1H-tetrazole-2-yl	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
9-334	1H-tetrazole-2-yl	CH ₂ O(CH ₂) ₂ SOCH ₃	
9-335	1H-tetrazole-2-yl	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
9-336	1H-tetrazole-2-yl	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
9-337	1H-tetrazole-2-yl	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
9-338	1H-tetrazole-2-yl		
9-339	1H-tetrazole-2-yl		
9-340	1H-tetrazole-2-yl	CH ₂ O(CH ₂) ₃ NHCC ₂ H ₅	

compound number	R4	R1	physical property (melting point-ND)
9-341	1H-tetrazole-2-yl	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	

Table 114



compound number	R4	R1	physical property (melting point-ND)
10-1	Cl	CH ₃	
10-2	Cl	CF ₃	
10-3	Cl	CH ₂ CH ₃	
10-4	Cl	CH ₂ CH ₂ CH ₃	
10-5	Cl		
10-6	Cl	CH ₂ CH ₂ CF ₃	
10-7	Cl	CH ₂ SOCH ₃	
10-8	Cl	CH ₂ SOCH ₂ CH ₃	
10-9	Cl		
10-10	Cl	CH ₂ SOCH ₂ CF ₃	
10-11	Cl	CH ₂ SOCH ₃	
10-12	Cl	CH ₂ SOCH ₂ CH ₃	
10-13	Cl		
10-14	Cl	CH ₂ SOCH ₂ CF ₃	
10-15	Cl	CH ₂ SO ₂ CH ₃	
10-16	Cl	CH ₂ SO ₂ CH ₂ CH ₃	
10-17	Cl		
10-18	Cl	CH ₂ SO ₂ CH ₂ CF ₃	
10-19	Cl	CH ₂ C(CH ₃) ₂ COCH ₃	
10-20	Cl	CH ₂ C(CH ₃) ₂ COCH ₂ CH ₃	

compound number	R4	R1	physical property (melting point-ND)
10-21	Cl	CH ₂ C(CH ₃) ₂ COCH ₂ CF ₃	
10-22	Cl	CH ₂ C(CH ₃) ₂ SOCH ₃	
10-23	Cl	CH ₂ C(CH ₃) ₂ SOCH ₂ CF ₃	
10-24	Cl	CH ₂ C(CH ₃) ₂ SOCH ₂ CH ₃	
10-25	Cl	CH ₂ C(CH ₃) ₂ SOCH ₂ CF ₃	
10-26	Cl	CH ₂ C(CH ₃) ₂ SO ₂ CH ₃	
10-27	Cl	CH ₂ C(CH ₃) ₂ SO ₂ CH ₂ CF ₃	
10-28	Cl		
10-29	Cl		
10-30	Cl	CH ₂ C(CH ₃) ₂ NHCO ₂ CH ₃	
10-31	Cl	CH ₂ C(CH ₃) ₂ N(CH ₃)(SO ₂ CH ₃)	
10-32	SOCH ₃	CH ₃	
10-33	SOCH ₃	CF ₃	
10-34	SOCH ₃	CH ₂ CH ₃	
10-35	SOCH ₃	CH ₂ COCH ₂ CH ₃	
10-36	SOCH ₃		
10-37	SOCH ₃	CH ₂ CCH ₂ CF ₃	
10-38	SOCH ₃	CH ₂ SOCH ₃	
10-39	SOCH ₃	CH ₂ SOCH ₂ CH ₃	
10-40	SOCH ₃		

Table 115

compound number	R4	R1	physical property (melting point-ND)
10-41	SCF ₃	CH ₂ SCF ₂ CF ₃	
10-42	SCF ₃	CH ₂ SCF ₂ CH ₃	
10-43	SCF ₃	CH ₂ SCF ₂ CH ₂ CH ₃	
10-44	SCF ₃		
10-45	SCF ₃	CH ₂ SCF ₂ CH ₂ CF ₃	
10-46	SCF ₃	CH ₂ SCF ₂ CH ₃	
10-47	SCF ₃	CH ₂ SCF ₂ CH ₂ CH ₃	
10-48	SCF ₃		
10-49	SCF ₃	CH ₂ SCF ₂ CH ₂ CF ₃	
10-50	SCF ₃	CH ₂ SCF ₂ (CH ₂) ₂ CH ₃	
10-51	SCF ₃	CH ₂ SCF ₂ (CH ₂) ₂ SCF ₂ CH ₃	
10-52	SCF ₃	CH ₂ SCF ₂ (CH ₂) ₂ SCF ₂ CF ₃	
10-53	SCF ₃	CH ₂ SCF ₂ (CH ₂) ₂ SCF ₃	
10-54	SCF ₃	CH ₂ SCF ₂ (CH ₂) ₂ SCF ₂ CF ₃	
10-55	SCF ₃	CH ₂ SCF ₂ (CH ₂) ₂ SCF ₃	
10-56	SCF ₃	CH ₂ SCF ₂ (CH ₂) ₂ SCF ₂ CF ₃	
10-57	SCF ₃	CH ₂ SCF ₂ (CH ₂) ₂ SCF ₂ CH ₃	
10-58	SCF ₃	CH ₂ SCF ₂ (CH ₂) ₂ SCF ₂ CH ₂ CF ₃	
10-59	SCF ₃		
10-60	SCF ₃		
10-61	SCF ₃	CH ₂ SCF ₂ (CH ₂) ₂ HSO ₂ CH ₃	
10-62	SCF ₃	CH ₂ SCF ₂ (CH ₂) ₂ N(CH ₃)SCF ₂ CH ₃	
10-63	SCF ₂ CH ₃	CH ₃	
10-64	SCF ₂ CH ₃	CF ₃	
10-65	SCF ₂ CH ₃	CH ₂ CF ₂ CH ₃	
10-66	SCF ₂ CH ₃	CH ₂ CF ₂ CH ₂ CH ₃	
10-67	SCF ₂ CH ₃		
10-68	SCF ₂ CH ₃	CH ₂ SCF ₂ CF ₃	
10-69	SCF ₂ CH ₃	CH ₂ SCF ₃	
10-70	SCF ₂ CH ₃	CH ₂ SCF ₂ CH ₃	
10-71	SCF ₂ CH ₃		
10-72	SCF ₂ CH ₃	CH ₂ SCF ₂ CF ₃	
10-73	SCF ₂ CH ₃	CH ₂ SCF ₃	
10-74	SCF ₂ CH ₃	CH ₂ SCF ₂ CH ₂ CH ₃	
10-75	SCF ₂ CH ₃		
10-76	SCF ₂ CH ₃	CH ₂ SCF ₂ CF ₃	
10-77	SCF ₂ CH ₃	CH ₂ SCF ₂ CH ₃	
10-78	SCF ₂ CH ₃	CH ₂ SCF ₂ CH ₂ CH ₃	
10-79	SCF ₂ CH ₃		
10-80	SCF ₂ CH ₃	CH ₂ SCF ₂ CH ₂ CF ₃	

Table 116

compound number	R4	R1	physical property (melting point-ND)
10-51	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ SCH ₃	
10-52	SCH ₂ CH ₃	CH ₂ S(CH ₂) ₂ CH ₂ CH ₃	
10-53	SCH ₂ CH ₃	CH ₂ S(CH ₂) ₂ CCH ₂ CF ₃	
10-54	SCH ₂ CH ₃	CH ₂ C(CH ₃) ₂ SCH ₃	
10-55	SCH ₂ CH ₃	CH ₂ S(CH ₂) ₂ SOCH ₂ CF ₃	
10-56	SCH ₂ CH ₃	CH ₂ S(CH ₂) ₂ SOCH ₃	
10-57	SCH ₂ CH ₃	CH ₂ C(CH ₃) ₂ SOCH ₂ CF ₃	
10-58	SCH ₂ CH ₃	CH ₂ C(CH ₃) ₂ SO ₂ CH ₃	
10-59	SCH ₂ CH ₃	CH ₂ C(CH ₃) ₂ SO ₂ CH ₂ CF ₃	
10-60	SCH ₂ CH ₃		
10-61	SCH ₂ CH ₃		
10-62	SCH ₂ CH ₃	CH ₂ S(CH ₂) ₂ NHCH ₂ CH ₃	
10-63	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	
10-64	S(CH ₂) ₂ CH ₃	CH ₃	
10-65	S(CH ₂) ₂ CH ₃	CF ₃	
10-66	S(CH ₂) ₂ CH ₃	CH ₂ SOCH ₃	
10-67	S(CH ₂) ₂ CH ₃	CH ₂ SOCH ₂ CH ₃	
10-68	S(CH ₂) ₂ CH ₃		
10-69	S(CH ₂) ₂ CH ₃	CH ₂ SOCH ₂ CF ₃	
10-100	S(CH ₂) ₂ CH ₃	CH ₂ SOCH ₃	
10-101	S(CH ₂) ₂ CH ₃	CH ₂ SOCH ₂ CH ₃	
10-102	S(CH ₂) ₂ CH ₃		
10-103	S(CH ₂) ₂ CH ₃	CH ₂ SOCH ₂ CF ₃	
10-104	S(CH ₂) ₂ CH ₃	CH ₂ SOCH ₃	
10-105	S(CH ₂) ₂ CH ₃	CH ₂ SOCH ₂ CH ₃	
10-106	S(CH ₂) ₂ CH ₃		
10-107	S(CH ₂) ₂ CH ₃	CH ₂ SOCH ₂ CF ₃	
10-108	S(CH ₂) ₂ CH ₃	CH ₂ SO ₂ CH ₃	
10-109	S(CH ₂) ₂ CH ₃	CH ₂ SO ₂ CH ₂ CH ₃	
10-110	S(CH ₂) ₂ CH ₃		
10-111	S(CH ₂) ₂ CH ₃	CH ₂ SO ₂ CH ₂ CF ₃	
10-112	S(CH ₂) ₂ CH ₃	CH ₂ SO(CH ₂) ₂ SOCH ₃	
10-113	S(CH ₂) ₂ CH ₃	CH ₂ SO(CH ₂) ₂ SOCH ₂ CH ₃	
10-114	S(CH ₂) ₂ CH ₃	CH ₂ SO(CH ₂) ₂ SOCH ₂ CF ₃	
10-115	S(CH ₂) ₂ CH ₃	CH ₂ SO(CH ₂) ₂ SOCH ₃	
10-116	S(CH ₂) ₂ CH ₃	CH ₂ SO(CH ₂) ₂ SOCH ₂ CF ₃	
10-117	S(CH ₂) ₂ CH ₃	CH ₂ SO(CH ₂) ₂ SOCH ₃	
10-118	S(CH ₂) ₂ CH ₃	CH ₂ SO(CH ₂) ₂ SOCH ₂ CF ₃	
10-119	S(CH ₂) ₂ CH ₃	CH ₂ SO(CH ₂) ₂ SO ₂ CH ₃	
10-120	S(CH ₂) ₂ CH ₃	CH ₂ SO(CH ₂) ₂ SO ₂ CH ₂ CF ₃	

Table 117

compound number	R4	R1	physical property (melting point-ND)	compound number	R4	R1	physical property (melting point-ND)
10-121	S(CH ₂) ₂ CH ₃			10-141	SC ₆ H ₅		
10-122	S(CH ₂) ₂ CH ₃			10-142	SC ₆ H ₅	CH ₂ SC ₂ H ₄ CF ₃	
10-123	S(CH ₂) ₂ CH ₃	CH ₂ SC(CH ₃) ₂ NHSC ₂ H ₅		10-143	SC ₆ H ₅	CH ₂ SC(CH ₃) ₂ SC ₂ H ₅	
10-124	S(CH ₂) ₂ CH ₃	CH ₂ SC(CH ₃) ₂ N(CH ₃)(SC ₂ H ₅)		10-144	SC ₆ H ₅	CH ₂ SC(CH ₃) ₂ SC ₂ H ₄ CH ₃	
10-125	SC ₆ H ₅	CH ₃		10-145	SC ₆ H ₅	CH ₂ SC(CH ₃) ₂ SC ₂ H ₄ CF ₃	
10-126	SC ₆ H ₅	CF ₃		10-146	SC ₆ H ₅	CH ₂ SC(CH ₃) ₂ SC ₂ H ₅	
10-127	SC ₆ H ₅	CH ₂ SC ₂ H ₅		10-147	SC ₆ H ₅	CH ₂ SC(CH ₃) ₂ SC ₂ H ₄ CF ₃	
10-128	SC ₆ H ₅	CH ₂ SC ₂ H ₄ CH ₃		10-148	SC ₆ H ₅	CH ₂ SC(CH ₃) ₂ SC ₂ CH ₃	
10-129	SC ₆ H ₅			10-149	SC ₆ H ₅	CH ₂ SC(CH ₃) ₂ SC ₂ H ₄ CF ₃	
10-130	SC ₆ H ₅	CH ₂ SC ₂ H ₄ CF ₃		10-150	SC ₆ H ₅	CH ₂ SC(CH ₃) ₂ SC ₂ CH ₃	
10-131	SC ₆ H ₅	CH ₂ SC ₂ H ₅		10-151	SC ₆ H ₅	CH ₂ SC(CH ₃) ₂ SC ₂ H ₄ CF ₃	
10-132	SC ₆ H ₅	CH ₂ SC ₂ H ₄ CH ₃		10-152	SC ₆ H ₅		
10-133	SC ₆ H ₅			10-153	SC ₆ H ₅		
10-134	SC ₆ H ₅	CH ₂ SC ₂ H ₄ CF ₃		10-154	SC ₆ H ₅	CH ₂ SC(CH ₃) ₂ NHSC ₂ H ₅	
10-135	SC ₆ H ₅	CH ₂ SC ₂ CH ₃		10-155	SC ₆ H ₅	CH ₂ SC(CH ₃) ₂ N(CH ₃)(SC ₂ H ₅)	
10-136	SC ₆ H ₅	CH ₂ SC ₂ H ₄ CH ₃		10-156	SC ₂ H ₄ C ₆ H ₅	CH ₃	
10-137	SC ₆ H ₅			10-157	SC ₂ H ₄ C ₆ H ₅	CF ₃	
10-138	SC ₆ H ₅	CH ₂ SC ₂ H ₄ CF ₃		10-158	SC ₂ H ₄ C ₆ H ₅	CH ₂ SC ₂ CH ₃	
10-139	SC ₆ H ₅	CH ₂ SC ₂ CH ₃		10-159	SC ₂ H ₄ C ₆ H ₅	CH ₂ SC ₂ H ₄ CH ₃	
10-140	SC ₆ H ₅	CH ₂ SC ₂ CH ₂ CH ₃		10-160	SC ₂ H ₄ C ₆ H ₅		

Table 118

compound number	R4	R1	physical property (melting point-ND)
10-161	SCH ₂ C ₆ H ₅	CH ₂ SOCH ₂ CF ₃	
10-162	SCH ₂ C ₆ H ₅	CH ₂ SOCH ₃	
10-163	SCH ₂ C ₆ H ₅	CH ₂ SOCH ₂ CH ₃	
10-164	SCH ₂ C ₆ H ₅		
10-165	SCH ₂ C ₆ H ₅	CH ₂ SOCH ₂ CF ₃	
10-166	SCH ₂ C ₆ H ₅	CH ₂ SOCH ₃	
10-167	SCH ₂ C ₆ H ₅	CH ₂ SOCH ₂ CH ₃	
10-168	SCH ₂ C ₆ H ₅		
10-169	SCH ₂ C ₆ H ₅	CH ₂ SOCH ₂ CF ₃	
10-170	SCH ₂ C ₆ H ₅	CH ₂ SO ₂ CH ₃	
10-171	SCH ₂ C ₆ H ₅	CH ₂ SO ₂ CH ₂ CH ₃	
10-172	SCH ₂ C ₆ H ₅		
10-173	SCH ₂ C ₆ H ₅	CH ₂ SO ₂ CH ₂ CF ₃	
10-174	SCH ₂ C ₆ H ₅	CH ₂ SO(CH ₂) ₂ CH ₃	
10-175	SCH ₂ C ₆ H ₅	CH ₂ SO(CH ₂) ₂ SOCH ₂ CH ₃	
10-176	SCH ₂ C ₆ H ₅	CH ₂ SO(CH ₂) ₂ SOCH ₂ CF ₃	
10-177	SCH ₂ C ₆ H ₅	CH ₂ SO(CH ₂) ₂ SOCH ₃	
10-178	SCH ₂ C ₆ H ₅	CH ₂ SO(CH ₂) ₂ SOCH ₂ CF ₃	
10-179	SCH ₂ C ₆ H ₅	CH ₂ SO(CH ₂) ₂ SOCH ₃	
10-180	SCH ₂ C ₆ H ₅	CH ₂ SO(CH ₂) ₂ SOCH ₂ CF ₃	
10-181	SCH ₂ C ₆ H ₅	CH ₂ SO(CH ₂) ₂ SO ₂ CH ₃	
10-182	SCH ₂ C ₆ H ₅	CH ₂ SO(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
10-183	SCH ₂ C ₆ H ₅		
10-184	SCH ₂ C ₆ H ₅		
10-185	SCH ₂ C ₆ H ₅	CH ₂ SO(CH ₂) ₂ NHSC ₂ H ₅	
10-186	SCH ₂ C ₆ H ₅	CH ₂ SO(CH ₂) ₂ N(CH ₃)(SC ₂ H ₅)	
10-187	1H-pyrazole-1-yl	CH ₃	
10-188	1H-pyrazole-1-yl	CF ₃	
10-189	1H-pyrazole-1-yl	CH ₂ SOCH ₃	
10-190	1H-pyrazole-1-yl	CH ₂ SOCH ₂ CH ₃	
10-191	1H-pyrazole-1-yl		
10-192	1H-pyrazole-1-yl	CH ₂ SOCH ₂ CF ₃	
10-193	1H-pyrazole-1-yl	CH ₂ SOCH ₃	
10-194	1H-pyrazole-1-yl	CH ₂ SOCH ₂ CH ₃	
10-195	1H-pyrazole-1-yl		
10-196	1H-pyrazole-1-yl	CH ₂ SOCH ₂ CF ₃	
10-197	1H-pyrazole-1-yl	CH ₂ SOCH ₃	
10-198	1H-pyrazole-1-yl	CH ₂ SOCH ₂ CH ₃	
10-199	1H-pyrazole-1-yl		
10-200	1H-pyrazole-1-yl	CH ₂ SOCH ₂ CF ₃	

Table 119

compound number	R4	R1	physical property (melting point-ND)
10-201	1H-pyrazole-1-yl	CH ₂ SO ₂ CH ₃	
10-202	1H-pyrazole-1-yl	CH ₂ SO ₂ CH ₂ CH ₃	
10-203	1H-pyrazole-1-yl		
10-204	1H-pyrazole-1-yl	CH ₂ SO ₂ CH ₂ CF ₃	
10-205	1H-pyrazole-1-yl	CH ₂ C(CH ₃) ₂ CH ₂ CH ₃	
10-206	1H-pyrazole-1-yl	CH ₂ C(CH ₃) ₂ CH ₂ CH ₂ CH ₃	
10-207	1H-pyrazole-1-yl	CH ₂ C(CH ₃) ₂ C(CH ₂ CF ₃) ₂	
10-208	1H-pyrazole-1-yl	CH ₂ C(CH ₃) ₂ SOCH ₃	
10-209	1H-pyrazole-1-yl	CH ₂ C(CH ₃) ₂ SOCH ₂ CF ₃	
10-210	1H-pyrazole-1-yl	CH ₂ C(CH ₃) ₂ SOCH ₂ CH ₃	
10-211	1H-pyrazole-1-yl	CH ₂ C(CH ₃) ₂ SOCH ₂ CH ₂ CF ₃	
10-212	1H-pyrazole-1-yl	CH ₂ C(CH ₃) ₂ SO ₂ CH ₃	
10-213	1H-pyrazole-1-yl	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
10-214	1H-pyrazole-1-yl		
10-215	1H-pyrazole-1-yl		
10-216	1H-pyrazole-1-yl	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₃	
10-217	1H-pyrazole-1-yl	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	
10-218	1H-imidazole-1-yl	CH ₃	
10-219	1H-imidazole-1-yl	CF ₃	
10-220	1H-imidazole-1-yl	CH ₂ CCH ₃	
10-221	1H-imidazole-1-yl	CH ₂ SOCH ₂ CH ₃	
10-222	1H-imidazole-1-yl		
10-223	1H-imidazole-1-yl	CH ₂ CCH ₂ CF ₃	
10-224	1H-imidazole-1-yl	CH ₂ SOCH ₃	
10-225	1H-imidazole-1-yl	CH ₂ SOCH ₂ CH ₃	
10-226	1H-imidazole-1-yl		
10-227	1H-imidazole-1-yl	CH ₂ SOCH ₂ CF ₃	
10-228	1H-imidazole-1-yl	CH ₂ SOCH ₃	
10-229	1H-imidazole-1-yl	CH ₂ SOCH ₂ CH ₃	
10-230	1H-imidazole-1-yl		
10-231	1H-imidazole-1-yl	CH ₂ SOCH ₂ CF ₃	
10-232	1H-imidazole-1-yl	CH ₂ SO ₂ CH ₃	
10-233	1H-imidazole-1-yl	CH ₂ SO ₂ CH ₂ CH ₃	
10-234	1H-imidazole-1-yl		
10-235	1H-imidazole-1-yl	CH ₂ SO ₂ CH ₂ CF ₃	
10-236	1H-imidazole-1-yl	CH ₂ O(CH ₂) ₂ OCH ₃	
10-237	1H-imidazole-1-yl	CH ₂ C(CH ₃) ₂ SOCH ₂ CH ₃	
10-238	1H-imidazole-1-yl	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
10-239	1H-imidazole-1-yl	CH ₂ O(CH ₂) ₂ SOCH ₃	
10-240	1H-imidazole-1-yl	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	

Table 120

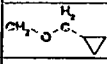
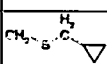
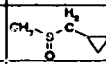
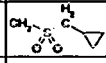
compound number	R4	R1	physical property (melting point-ND)
10-241	1H-imidazole-1-yl	CH ₂ O(CH ₂) ₂ SOCH ₃	
10-242	1H-imidazole-1-yl	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
10-243	1H-imidazole-1-yl	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
10-244	1H-imidazole-1-yl	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
10-245	1H-imidazole-1-yl		
10-246	1H-imidazole-1-yl		
10-247	1H-imidazole-1-yl	CH ₂ O(CH ₂) ₂ NHCO ₂ CH ₃	
10-248	1H-imidazole-1-yl	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	
10-249	1H-imidazole-1-yl	CH ₃	
10-250	1H-imidazole-1-yl	CF ₃	
10-251	1H-imidazole-1-yl	CH ₂ CH ₃	
10-252	1H-imidazole-1-yl	CH ₂ OCH ₂ CH ₃	
10-253	1H-imidazole-1-yl		
10-254	1H-imidazole-1-yl	CH ₂ OCH ₂ CF ₃	
10-255	1H-imidazole-1-yl	CH ₂ SOCH ₃	
10-256	1H-imidazole-1-yl	CH ₂ SOCH ₂ CH ₃	
10-257	1H-imidazole-1-yl		
10-258	1H-imidazole-1-yl	CH ₂ SOCH ₂ CF ₃	
10-259	1H-imidazole-1-yl	CH ₂ SOCH ₃	
10-260	1H-imidazole-1-yl	CH ₂ SOCH ₂ CH ₃	
10-261	1H-imidazole-1-yl		
10-262	1H-imidazole-1-yl	CH ₂ SOCH ₂ CF ₃	
10-263	1H-imidazole-1-yl	CH ₂ SO ₂ CH ₃	
10-264	1H-imidazole-1-yl	CH ₂ SO ₂ CH ₂ CH ₃	
10-265	1H-imidazole-1-yl		
10-266	1H-imidazole-1-yl	CH ₂ SO ₂ CH ₂ CF ₃	
10-267	1H-imidazole-1-yl	CH ₂ O(CH ₂) ₂ COCH ₃	
10-268	1H-imidazole-1-yl	CH ₂ O(CH ₂) ₂ COCH ₂ CH ₃	
10-269	1H-imidazole-1-yl	CH ₂ O(CH ₂) ₂ COCH ₂ CF ₃	
10-270	1H-imidazole-1-yl	CH ₂ O(CH ₂) ₂ SOCH ₃	
10-271	1H-imidazole-1-yl	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
10-272	1H-imidazole-1-yl	CH ₂ O(CH ₂) ₂ SOCH ₃	
10-273	1H-imidazole-1-yl	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
10-274	1H-imidazole-1-yl	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
10-275	1H-imidazole-1-yl	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
10-276	1H-imidazole-1-yl		
10-277	1H-imidazole-1-yl		
10-278	1H-imidazole-1-yl	CH ₂ O(CH ₂) ₂ NHCO ₂ CH ₃	
10-279	1H-imidazole-1-yl	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	
10-280	1H-imidazole-1-yl	CH ₃	

Table 121

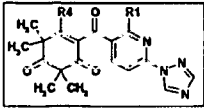
compound number	R4	R1	physical property (melting point-ND)
10-281	1H-tetrazole-1-yl	CF ₃	
10-282	1H-tetrazole-1-yl	CH ₂ SCl ₃	
10-283	1H-tetrazole-1-yl	CH ₂ OCH ₂ CH ₃	
10-284	1H-tetrazole-1-yl		
10-285	1H-tetrazole-1-yl	CH ₂ SCCH ₂ CF ₃	
10-286	1H-tetrazole-1-yl	CH ₂ SCCH ₃	
10-287	1H-tetrazole-1-yl	CH ₂ SCCH ₂ CH ₃	
10-288	1H-tetrazole-1-yl		
10-289	1H-tetrazole-1-yl	CH ₂ SCCH ₂ CF ₃	
10-290	1H-tetrazole-1-yl	CH ₂ SCCH ₃	
10-291	1H-tetrazole-1-yl	CH ₂ SCCH ₂ CH ₃	
10-292	1H-tetrazole-1-yl		
10-293	1H-tetrazole-1-yl	CH ₂ SCCH ₂ CF ₃	
10-294	1H-tetrazole-1-yl	CH ₂ SCCH ₂ CH ₃	
10-295	1H-tetrazole-1-yl	CH ₂ SO ₂ CH ₂ CH ₃	
10-296	1H-tetrazole-1-yl		
10-297	1H-tetrazole-1-yl	CH ₂ SO ₂ CH ₂ CF ₃	
10-298	1H-tetrazole-1-yl	CH ₂ O(CH ₂) ₂ OCH ₃	
10-299	1H-tetrazole-1-yl	CH ₂ O(CH ₂) ₂ CCH ₂ CH ₃	
10-300	1H-tetrazole-1-yl	CH ₂ O(CH ₂) ₂ CCH ₂ CF ₃	
10-301	1H-tetrazole-1-yl	CH ₂ O(CH ₂) ₂ SCCH ₃	
10-302	1H-tetrazole-1-yl	CH ₂ O(CH ₂) ₂ SCCH ₂ CF ₃	
10-303	1H-tetrazole-1-yl	CH ₂ O(CH ₂) ₂ SCCH ₃	
10-304	1H-tetrazole-1-yl	CH ₂ O(CH ₂) ₂ SCCH ₂ CF ₃	
10-305	1H-tetrazole-1-yl	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
10-306	1H-tetrazole-1-yl	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
10-307	1H-tetrazole-1-yl		
10-308	1H-tetrazole-1-yl		
10-309	1H-tetrazole-1-yl	CH ₂ O(CH ₂) ₂ NHCC ₂ H ₅	
10-310	1H-tetrazole-1-yl	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	
10-311	1H-tetrazole-2-yl	CH ₃	
10-312	1H-tetrazole-2-yl	CF ₃	
10-313	1H-tetrazole-2-yl	CH ₂ OCH ₃	
10-314	1H-tetrazole-2-yl	CH ₂ OCH ₂ CH ₃	
10-315	1H-tetrazole-2-yl		
10-316	1H-tetrazole-2-yl	CH ₂ OCH ₂ CF ₃	
10-317	1H-tetrazole-2-yl	CH ₂ SCCH ₃	
10-318	1H-tetrazole-2-yl	CH ₂ SCCH ₂ CH ₃	
10-319	1H-tetrazole-2-yl		
10-320	1H-tetrazole-2-yl	CH ₂ SCCH ₂ CF ₃	

Table 122

compound number	R4	R1	physical property (melting point-ND)
10-321	1H-tetrazole-2-yl	CH ₂ SOCH ₃	
10-322	1H-tetrazole-2-yl	CH ₂ SOCH ₂ CH ₃	
10-323	1H-tetrazole-2-yl		
10-324	1H-tetrazole-2-yl	CH ₂ SOCH ₂ CF ₃	
10-325	1H-tetrazole-2-yl	CH ₂ SO ₂ CH ₃	
10-326	1H-tetrazole-2-yl	CH ₂ SO ₂ CH ₂ CH ₃	
10-327	1H-tetrazole-2-yl		
10-328	1H-tetrazole-2-yl	CH ₂ SO ₂ CH ₂ CF ₃	
10-329	1H-tetrazole-2-yl	CH ₂ O(CH ₂) ₂ C(CH ₃) ₃	
10-330	1H-tetrazole-2-yl	CH ₂ O(CH ₂) ₂ SOCH ₂ CH ₃	
10-331	1H-tetrazole-2-yl	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
10-332	1H-tetrazole-2-yl	CH ₂ O(CH ₂) ₂ SOCH ₃	
10-333	1H-tetrazole-2-yl	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
10-334	1H-tetrazole-2-yl	CH ₂ O(CH ₂) ₂ SOCH ₃	
10-335	1H-tetrazole-2-yl	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
10-336	1H-tetrazole-2-yl	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
10-337	1H-tetrazole-2-yl	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
10-338	1H-tetrazole-2-yl		
10-339	1H-tetrazole-2-yl		
10-340	1H-tetrazole-2-yl	CH ₂ O(CH ₂) ₂ NHCO ₂ CH ₃	

compound number	R4	R1	physical property (melting point-ND)
10-341	1H-tetrazole-2-yl	CH ₂ O(CH ₂) ₂ N(CH ₃)SO ₂ CH ₃	

Table 123



compound number	R4	R1	physical property (melting point-ND)
11-1	Cl	CH ₃	
11-2	Cl	CF ₃	
11-3	Cl	CH ₂ OCH ₃	
11-4	Cl	CH ₂ OCH ₂ CH ₃	
11-5	Cl		
11-6	Cl	CH ₂ OCH ₂ CF ₃	
11-7	Cl	CH ₂ SCH ₃	
11-8	Cl	CH ₂ SCH ₂ CH ₃	
11-9	Cl		
11-10	Cl	CH ₂ SCH ₂ CF ₃	
11-11	Cl	CH ₂ SOCH ₃	
11-12	Cl	CH ₂ SOCH ₂ CH ₃	
11-13	Cl		
11-14	Cl	CH ₂ SOCH ₂ CF ₃	
11-15	Cl	CH ₂ SO ₂ CH ₃	
11-16	Cl	CH ₂ SO ₂ CH ₂ CH ₃	
11-17	Cl		
11-18	Cl	CH ₂ SO ₂ CH ₂ CF ₃	
11-19	Cl	CH ₂ S(CH ₂) ₂ CH ₃	
11-20	Cl	CH ₂ S(CH ₂) ₂ OCH ₂ CH ₃	

compound number	R4	R1	physical property (melting point-ND)
11-21	Cl	CH ₂ C(CH ₃) ₂ OCH ₂ CF ₃	
11-22	Cl	CH ₂ C(CH ₃) ₂ SCH ₃	
11-23	Cl	CH ₂ C(CH ₃) ₂ SOCH ₂ CF ₃	
11-24	Cl	CH ₂ C(CH ₃) ₂ SOCH ₃	
11-25	Cl	CH ₂ C(CH ₃) ₂ S(CH ₂) ₂ CF ₃	
11-26	Cl	CH ₂ C(CH ₃) ₂ SO ₂ CH ₃	
11-27	Cl	CH ₂ C(CH ₃) ₂ SO ₂ CH ₂ CF ₃	
11-28	Cl		
11-29	Cl		
11-30	Cl	CH ₂ C(CH ₃) ₂ NHSC ₂ H ₅	
11-31	Cl	CH ₂ C(CH ₃) ₂ N(CH ₃)SO ₂ CH ₃	
11-32	SCH ₃	CH ₃	
11-33	SCH ₃	CF ₃	
11-34	SCH ₃	CH ₂ OCH ₃	
11-35	SCH ₃	CH ₂ OCH ₂ CH ₃	
11-36	SCH ₃		
11-37	SCH ₃	CH ₂ OCH ₂ CF ₃	
11-38	SCH ₃	CH ₂ SCH ₃	
11-39	SCH ₃	CH ₂ SCH ₂ CH ₃	
11-40	SCH ₃		

201

Table 124

compound number	R4	R1	physical property (melting point-ND)	compound number	R4	R1	physical property (melting point-ND)
11-41	SCH ₃	CH ₂ SOCH ₂ CF ₃		11-61	SCH ₃	CH ₂ O(CH ₂) ₂ NHSC ₂ H ₅	
11-42	SCH ₃	CH ₂ SOCH ₃		11-62	SCH ₃	CH ₂ C(CH ₃) ₂ N(CH ₃)SO ₂ CH ₃	
11-43	SCH ₃	CH ₂ SOCH ₂ CH ₃		11-63	SOCH ₂ CH ₃	CH ₃	
11-44	SCH ₃			11-64	SOCH ₂ CH ₃	CF ₃	
11-45	SCH ₃	CH ₂ SOCH ₂ CF ₃		11-65	SOCH ₂ CH ₃	CH ₂ SOCH ₃	
11-46	SCH ₃	CH ₂ SO ₂ CH ₃		11-66	SOCH ₂ CH ₃	CH ₂ SOCH ₂ CH ₃	
11-47	SCH ₃	CH ₂ SO ₂ CH ₂ CH ₃		11-67	SOCH ₂ CH ₃		
11-48	SCH ₃			11-68	SOCH ₂ CH ₃	CH ₂ SOCH ₂ CF ₃	
11-49	SCH ₃	CH ₂ SO ₂ CH ₂ CF ₃		11-69	SOCH ₂ CH ₃	CH ₂ SOCH ₃	
11-50	SCH ₃	CH ₂ O(CH ₂) ₂ C ₂ H ₅		11-70	SOCH ₂ CH ₃	CH ₂ SOCH ₂ CH ₃	
11-51	SCH ₃	CH ₂ O(CH ₂) ₂ SOCH ₂ CH ₃		11-71	SOCH ₂ CH ₃		
11-52	SCH ₃	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃		11-72	SOCH ₂ CH ₃	CH ₂ SOCH ₂ CF ₃	
11-53	SCH ₃	CH ₂ O(CH ₂) ₂ SOCH ₃		11-73	SOCH ₂ CH ₃	CH ₂ SOCH ₃	
11-54	SCH ₃	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃		11-74	SOCH ₂ CH ₃	CH ₂ SOCH ₂ CH ₃	
11-55	SCH ₃	CH ₂ O(CH ₂) ₂ SOCH ₃		11-75	SOCH ₂ CH ₃		
11-56	SCH ₃	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃		11-76	SOCH ₂ CH ₃	CH ₂ SOCH ₂ CF ₃	
11-57	SCH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃		11-77	SOCH ₂ CH ₃	CH ₂ SO ₂ CH ₃	
11-58	SCH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃		11-78	SOCH ₂ CH ₃	CH ₂ SO ₂ CH ₂ CH ₃	
11-59	SCH ₃			11-79	SOCH ₂ CH ₃		
11-60	SCH ₃			11-80	SOCH ₂ CH ₃	CH ₂ SO ₂ CH ₂ CF ₃	

compound number	R4	R1	physical property (melting point-ND)
11-81	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ CH ₃	
11-82	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ CH ₂ CH ₃	
11-83	SCF ₂ CH ₃	CH ₂ S(CH ₂) ₂ SCF ₂ CH ₃	
11-84	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ SCH ₃	
11-85	SCH ₂ CH ₃	CH ₂ S(CH ₂) ₂ SCF ₂ CH ₃	
11-86	SCH ₂ CH ₃	CH ₂ S(CH ₂) ₂ SCCH ₃	
11-87	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ SCCH ₂ CF ₃	
11-88	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
11-89	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
11-90	SCH ₂ CH ₃		
11-91	SCH ₂ CH ₃		
11-92	SCCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ NHSCF ₂ CH ₃	
11-93	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ N(CH ₂ (SCF ₂ CH ₃))	
11-94	S(CH ₂) ₂ CH ₃	CH ₃	
11-95	S(CH ₂) ₂ CH ₃	CF ₃	
11-96	S(CH ₂) ₂ CH ₃	CH ₂ OCH ₃	
11-97	S(CH ₂) ₂ CH ₃	CH ₂ C-CH ₂ CH ₃	
11-98	S(CH ₂) ₂ CH ₃		
11-99	S(CH ₂) ₂ CH ₃	CH ₂ C-CH ₂ CF ₃	
11-100	S(CH ₂) ₂ CH ₃	CH ₂ SCH ₃	

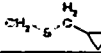
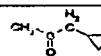
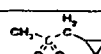
compound number	R4	R1	physical property (melting point-ND)
11-101	S(CH ₂) ₂ CH ₃	CH ₂ SCCH ₂ CH ₃	
11-102	S(CH ₂) ₂ CH ₃		
11-103	S(CH ₂) ₂ CH ₃	CH ₂ SCCH ₂ CF ₃	
11-104	S(CH ₂) ₂ CH ₃	CH ₂ SCCH ₃	
11-105	S(CH ₂) ₂ CH ₃	CH ₂ SCCH ₂ CH ₃	
11-106	S(CH ₂) ₂ CH ₃		
11-107	S(CH ₂) ₂ CH ₃	CH ₂ SCCH ₂ CF ₃	
11-108	S(CH ₂) ₂ CH ₃	CH ₂ SCF ₂ CH ₃	
11-109	S(CH ₂) ₂ CH ₃	CH ₂ SO ₂ CH ₂ CH ₃	
11-110	S(CH ₂) ₂ CH ₃		
11-111	S(CH ₂) ₂ CH ₃	CH ₂ SO ₂ CH ₂ CF ₃	
11-112	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ CH ₃	
11-113	S(CH ₂) ₂ CH ₃	CH ₂ C(CH ₂) ₂ CH ₂ CH ₃	
11-114	S(CH ₂) ₂ CH ₃	CH ₂ C-(CH ₂) ₂ CH ₂ CF ₃	
11-115	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SCH ₃	
11-116	S(CH ₂) ₂ CH ₃	CH ₂ C-(CH ₂) ₂ SCF ₂ CH ₃	
11-117	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SCCH ₃	
11-118	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SCCH ₂ CF ₃	
11-119	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
11-120	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SCF ₂ CH ₂ CF ₃	

Table 126

compound number	R4	R1	physical property (melting point-ND)	compound number	R4	R1	physical property (melting point-ND)
11-121	S(CH ₂) ₂ CH ₃			11-141	SC ₆ H ₅		
11-122	S(CH ₂) ₂ CH ₃			11-142	SC ₆ H ₅	CH ₂ SC ₂ CH ₂ CF ₃	
11-123	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ NHSC ₂ CH ₃		11-143	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ OCH ₃	
11-124	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ N(CH ₃)(SC ₂ CH ₃)		11-144	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	
11-125	SC ₆ H ₅	CH ₃		11-145	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
11-126	SC ₆ H ₅	CF ₃		11-146	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ SCH ₃	
11-127	SC ₆ H ₅	CH ₂ CH ₃		11-147	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ SCCH ₂ CF ₃	
11-128	SC ₆ H ₅	CH ₂ OCH ₂ CH ₃		11-148	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ SCCH ₃	
11-129	SC ₆ H ₅			11-149	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ SCCH ₂ CF ₃	
11-130	SC ₆ H ₅	CH ₂ CH ₂ CF ₃		11-150	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ SO ₂ -H ₃	
11-131	SC ₆ H ₅	CH ₂ SCCH ₃		11-151	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
11-132	SC ₆ H ₅	CH ₂ SCCH ₂ CH ₃		11-152	SC ₆ H ₅		
11-133	SC ₆ H ₅			11-153	SC ₆ H ₅		
11-134	SC ₆ H ₅	CH ₂ SCCH ₂ CF ₃		11-154	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ NHSC ₂ CH ₃	
11-135	SC ₆ H ₅	CH ₂ SCCH ₃		11-155	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ N(CH ₃)(SC ₂ CH ₃)	
11-136	SC ₆ H ₅	CH ₂ SCCH ₂ CH ₃		11-156	SCCH ₂ C ₆ H ₅	CH ₃	
11-137	SC ₆ H ₅			11-157	SCCH ₂ C ₆ H ₅	CF ₃	
11-138	SC ₆ H ₅	CH ₂ SOCH ₂ CF ₃		11-158	SCCH ₂ C ₆ H ₅	CH ₂ OCH ₃	
11-139	SC ₆ H ₅	CH ₂ SO ₂ CH ₃		11-159	SCCH ₂ C ₆ H ₅	CH ₂ OCH ₂ CH ₃	
11-140	SC ₆ H ₅	CH ₂ SO ₂ CH ₂ CH ₃		11-160	SCCH ₂ C ₆ H ₅		

Table 127

compound number	R4	R1	physical property (melting point-ND)
11-161	$\text{SCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{SCH}_2\text{CF}_3$	
11-162	$\text{SCH}_2\text{C}_6\text{H}_5$	CH_2SCH_3	
11-163	$\text{SCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{SCH}_2\text{CH}_3$	
11-164	$\text{SCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{SCH}_2\text{C}(\text{H}_3)(\text{Cyclopropyl})$	
11-165	$\text{SCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{SCH}_2\text{CF}_3$	
11-166	$\text{SCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{SCH}_2\text{CH}_3$	
11-167	$\text{SCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{SCH}_2\text{CH}_2\text{CH}_3$	
11-168	$\text{SCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{SCH}_2\text{C}(\text{H}_3)(\text{Cyclopropyl})$	
11-169	$\text{SCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{SCH}_2\text{CH}_2\text{CF}_3$	
11-170	$\text{SCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{SCH}_2\text{CH}_3$	
11-171	$\text{SCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{SCH}_2\text{CH}_2\text{CH}_3$	
11-172	$\text{SCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{SCH}_2\text{C}(\text{H}_3)(\text{Cyclopropyl})$	
11-173	$\text{SCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{SCH}_2\text{CH}_2\text{CF}_3$	
11-174	$\text{SCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{SCH}_2(\text{CH}_2)_2\text{CH}_3$	
11-175	$\text{SCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{SCH}_2(\text{CH}_2)_2\text{CH}_2\text{CH}_3$	
11-176	$\text{SCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{SCH}_2(\text{CH}_2)_2\text{SCH}_2\text{CF}_3$	
11-177	$\text{SCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{SCH}_2(\text{CH}_2)_2\text{SCH}_3$	
11-178	$\text{SCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{SCH}_2(\text{CH}_2)_2\text{SCH}_2\text{CF}_3$	
11-179	$\text{SCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{SCH}_2(\text{CH}_2)_2\text{SCH}_3$	
11-180	$\text{SCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{SCH}_2(\text{CH}_2)_2\text{SCH}_2\text{CF}_3$	
11-181	$\text{SCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{SCH}_2(\text{CH}_2)_2\text{SCH}_2\text{CH}_3$	
11-182	$\text{SCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{SCH}_2(\text{CH}_2)_2\text{SCH}_2\text{CF}_3$	
11-183	$\text{SCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{SCH}_2\text{C}(\text{H}_3)(\text{Cyclopropyl})$	
11-184	$\text{SCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{SCH}_2\text{C}(\text{H}_3)(\text{Cyclopropyl})$	
11-185	$\text{SCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{SCH}_2(\text{CH}_2)_2\text{NHSC}_2\text{H}_5$	
11-186	$\text{SCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{SCH}_2(\text{CH}_2)_2\text{N}(\text{CH}_3)(\text{SO}_2\text{CH}_3)$	
11-187	1H-pyrazole-1-yl	CH_3	
11-188	1H-pyrazole-1-yl	CF_3	
11-189	1H-pyrazole-1-yl	CH_3CCH_3	
11-190	1H-pyrazole-1-yl	$\text{CH}_2\text{CCH}_2\text{CH}_3$	
11-191	1H-pyrazole-1-yl	$\text{CH}_2\text{SCH}_2\text{C}(\text{H}_3)(\text{Cyclopropyl})$	
11-192	1H-pyrazole-1-yl	$\text{CH}_2\text{SCH}_2\text{CF}_3$	
11-193	1H-pyrazole-1-yl	CH_2SCH_3	
11-194	1H-pyrazole-1-yl	$\text{CH}_2\text{SCH}_2\text{CH}_3$	
11-195	1H-pyrazole-1-yl	$\text{CH}_2\text{SCH}_2\text{C}(\text{H}_3)(\text{Cyclopropyl})$	
11-196	1H-pyrazole-1-yl	$\text{CH}_2\text{SCH}_2\text{CF}_3$	
11-197	1H-pyrazole-1-yl	$\text{CH}_2\text{SCH}_2\text{CH}_3$	
11-198	1H-pyrazole-1-yl	$\text{CH}_2\text{SCH}_2\text{CH}_2\text{CH}_3$	
11-199	1H-pyrazole-1-yl	$\text{CH}_2\text{SCH}_2\text{C}(\text{H}_3)(\text{Cyclopropyl})$	
11-200	1H-pyrazole-1-yl	$\text{CH}_2\text{SCH}_2\text{CH}_2\text{CF}_3$	

205

Table 128

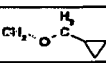
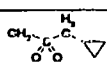
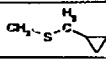
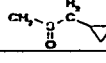
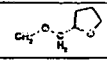
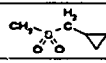
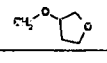
compound number	R4	R1	physical property (melting point-ND)	compound number	R4	R1	physical property (melting point-ND)
11-201	1H-pyrazole-1-yl	CH ₂ SO ₂ CH ₃		11-221	1H-imidazole-1-yl	CH ₂ COCH ₂ CH ₃	
11-202	1H-pyrazole-1-yl	CH ₂ SO ₂ CH ₂ CH ₃		11-222	1H-imidazole-1-yl		
11-203	1H-pyrazole-1-yl			11-223	1H-imidazole-1-yl	CH ₂ COCH ₂ CF ₃	
11-204	1H-pyrazole-1-yl	CH ₂ SO ₂ CH ₂ CF ₃		11-224	1H-imidazole-1-yl	CH ₂ SOCH ₃	
11-205	1H-pyrazole-1-yl	CH ₂ O(CH ₂) ₂ C=CH ₂		11-225	1H-imidazole-1-yl	CH ₂ SOCH ₂ CH ₃	
11-206	1H-pyrazole-1-yl	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃		11-226	1H-imidazole-1-yl		
11-207	1H-pyrazole-1-yl	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃		11-227	1H-imidazole-1-yl	CH ₂ SOCH ₂ CF ₃	
11-208	1H-pyrazole-1-yl	CH ₂ O(CH ₂) ₂ SCH ₃		11-228	1H-imidazole-1-yl	CH ₂ SOCH ₃	
11-209	1H-pyrazole-1-yl	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃		11-229	1H-imidazole-1-yl	CH ₂ SOCH ₂ CH ₂ CH ₃	
11-210	1H-pyrazole-1-yl	CH ₂ O(CH ₂) ₂ SOCH ₃		11-230	1H-imidazole-1-yl		
11-211	1H-pyrazole-1-yl	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃		11-231	1H-imidazole-1-yl	CH ₂ SOCH ₂ CF ₃	
11-212	1H-pyrazole-1-yl	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃		11-232	1H-imidazole-1-yl	CH ₂ SO ₂ CH ₃	
11-213	1H-pyrazole-1-yl	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃		11-233	1H-imidazole-1-yl	CH ₂ SO ₂ CH ₂ CH ₃	
11-214	1H-pyrazole-1-yl			11-234	1H-imidazole-1-yl		
11-215	1H-pyrazole-1-yl			11-235	1H-imidazole-1-yl	CH ₂ SO ₂ CH ₂ CF ₃	
11-216	1H-pyrazole-1-yl	CH ₂ O(CH ₂) ₂ HSO ₂ CH ₃		11-236	1H-imidazole-1-yl	CH ₂ O(CH ₂) ₂ OCH ₃	
11-217	1H-pyrazole-1-yl	CH ₂ O(CH ₂) ₂ H(CH ₂) ₂ (SO ₂ CH ₃)		11-237	1H-imidazole-1-yl	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	
11-218	1H-imidazole-1-yl	CH ₃		11-238	1H-imidazole-1-yl	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
11-219	1H-imidazole-1-yl	CF ₃		11-239	1H-imidazole-1-yl	CH ₂ O(CH ₂) ₂ SCH ₃	
11-220	1H-imidazole-1-yl	CH ₂ OCH ₃		11-240	1H-imidazole-1-yl	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃	

Table 129

compound number	R4	R1	physical property (melting point-ND)
11-241	1H-imidazole-1-yl	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_3$	
11-242	1H-imidazole-1-yl	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2\text{CF}_3$	
11-243	1H-imidazole-1-yl	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_3$	
11-244	1H-imidazole-1-yl	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{CF}_3$	
11-245	1H-imidazole-1-yl		
11-246	1H-imidazole-1-yl		
11-247	1H-imidazole-1-yl	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NHSO}_2\text{CH}_3$	
11-248	1H-imidazole-1-yl	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{N}(\text{CH}_3)(\text{SO}_2\text{CH}_2\text{CH}_3)$	
11-249	1H-triazole-1-yl	CH_3	
11-250	1H-triazole-1-yl	CF_3	
11-251	1H-triazole-1-yl	CH_2OCH_3	
11-252	1H-triazole-1-yl	$\text{CH}_2\text{OCH}_2\text{CH}_3$	
11-253	1H-triazole-1-yl		
11-254	1H-triazole-1-yl	$\text{CH}_2\text{OCH}_2\text{CF}_3$	
11-255	1H-triazole-1-yl	CH_2SCH_3	
11-256	1H-triazole-1-yl	$\text{CH}_2\text{SCH}_2\text{CH}_3$	
11-257	1H-triazole-1-yl		
11-258	1H-triazole-1-yl	$\text{CH}_2\text{SCH}_2\text{CF}_3$	
11-259	1H-triazole-1-yl	CH_2SOCH_3	
11-260	1H-triazole-1-yl	$\text{CH}_2\text{SOCH}_2\text{CH}_3$	
11-261	1H-triazole-1-yl		
11-262	1H-triazole-1-yl	$\text{CH}_2\text{SOCH}_2\text{CF}_3$	
11-263	1H-triazole-1-yl	$\text{CH}_2\text{SO}_2\text{CH}_3$	
11-264	1H-triazole-1-yl	$\text{CH}_2\text{SO}_2\text{CH}_2\text{CH}_3$	
11-265	1H-triazole-1-yl		
11-266	1H-triazole-1-yl	$\text{CH}_2\text{SO}_2\text{CH}_2\text{CF}_3$	
11-267	1H-triazole-1-yl	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_3$	
11-268	1H-triazole-1-yl	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2\text{CH}_3$	
11-269	1H-triazole-1-yl	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2\text{CF}_3$	
11-270	1H-triazole-1-yl	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_3$	
11-271	1H-triazole-1-yl	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2\text{CF}_3$	
11-272	1H-triazole-1-yl	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_3$	
11-273	1H-triazole-1-yl	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2\text{CF}_3$	
11-274	1H-triazole-1-yl	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{CH}_3$	
11-275	1H-triazole-1-yl	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{CF}_3$	
11-276	1H-triazole-1-yl		
11-277	1H-triazole-1-yl		
11-278	1H-triazole-1-yl	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NHSO}_2\text{CH}_3$	
11-279	1H-triazole-1-yl	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{N}(\text{CH}_3)(\text{SO}_2\text{CH}_2\text{CH}_3)$	
11-280	1H-triazole-1-yl	CH_3	

207

Table 130

compound number	R4	R1	physical property (melting point-ND)	compound number	R4	R1	physical property (melting point-ND)
11-281	1H-tetrazole-1-yl	CF ₃		11-301	1H-tetrazole-1-yl	CH ₂ O(CH ₂) ₂ SCF ₃	
11-282	1H-tetrazole-1-yl	CH ₂ SCH ₃		11-302	1H-tetrazole-1-yl	CH ₂ O(CH ₂) ₂ SCF ₃	
11-283	1H-tetrazole-1-yl	CH ₂ OCH ₂ CH ₃		11-303	1H-tetrazole-1-yl	CH ₂ O(CH ₂) ₂ SCF ₃	
11-284	1H-tetrazole-1-yl			11-304	1H-tetrazole-1-yl	CH ₂ O(CH ₂) ₂ SCF ₃	
11-285	1H-tetrazole-1-yl	CH ₂ OCH ₂ CF ₃		11-205	1H-tetrazole-1-yl	CH ₂ O(CH ₂) ₂ SCF ₃	
11-286	1H-tetrazole-1-yl	CH ₂ SCH ₃		11-306	1H-tetrazole-1-yl	CH ₂ O(CH ₂) ₂ SCF ₃	
11-287	1H-tetrazole-1-yl	CH ₂ SCH ₂ CH ₃		11-307	1H-tetrazole-1-yl		
11-288	1H-tetrazole-1-yl			11-308	1H-tetrazole-1-yl		
11-289	1H-tetrazole-1-yl	CH ₂ SOCH ₂ CF ₃		11-309	1H-tetrazole-1-yl	CH ₂ O(CH ₂) ₂ NHSCF ₃	
11-290	1H-tetrazole-1-yl	CH ₂ SOCH ₃		11-310	1H-tetrazole-1-yl	CH ₂ O(CH ₂) ₂ N(CH ₂) ₂ SCF ₃	
11-291	1H-tetrazole-1-yl	CH ₂ SOCH ₂ CH ₃		11-311	1H-tetrazole-2-yl	CH ₃	
11-292	1H-tetrazole-1-yl			11-312	1H-tetrazole-2-yl	CF ₃	
11-293	1H-tetrazole-1-yl	CH ₂ SOCH ₂ CF ₃		11-313	1H-tetrazole-2-yl	CH ₂ OCH ₃	
11-294	1H-tetrazole-1-yl	CH ₂ SO ₂ CH ₃		11-314	1H-tetrazole-2-yl	CH ₂ OCH ₂ CH ₃	
11-295	1H-tetrazole-1-yl	CH ₂ SO ₂ CH ₂ CH ₃		11-315	1H-tetrazole-2-yl		
11-296	1H-tetrazole-1-yl			11-316	1H-tetrazole-2-yl	CH ₂ OCH ₂ CF ₃	
11-297	1H-tetrazole-1-yl	CH ₂ SO ₂ CH ₂ CF ₃		11-317	1H-tetrazole-2-yl	CH ₂ SOCH ₃	
11-298	1H-tetrazole-1-yl	CH ₂ O(CH ₂) ₂ OCH ₃		11-318	1H-tetrazole-2-yl	CH ₂ SOCH ₂ CH ₃	
11-299	1H-tetrazole-1-yl	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃		11-319	1H-tetrazole-2-yl		
11-300	1H-tetrazole-1-yl	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃		11-320	1H-tetrazole-2-yl	CH ₂ SOCH ₂ CF ₃	

Table 146

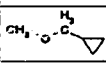
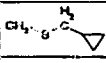
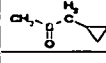
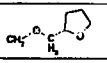
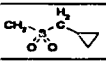
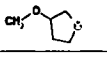
compound number	R4	R1	physical property (melting point-ND)	compound number	R4	R1	physical property (melting point-ND)
13-201	1H-pyrazole-1-yl	CH ₂ SO ₂ CH ₃		13-221	1H-imidazole-1-yl	CH ₂ SOCH ₂ CH ₃	
13-202	1H-pyrazole-1-yl	CH ₂ SO ₂ CH ₂ CH ₃		13-222	1H-imidazole-1-yl		
13-203	1H-pyrazole-1-yl			13-223	1H-imidazole-1-yl	CH ₂ SOCH ₂ CF ₃	
13-204	1H-pyrazole-1-yl	CH ₂ SO ₂ CH ₂ CF ₃		13-224	1H-imidazole-1-yl	CH ₂ SOCH ₃	
13-205	1H-pyrazole-1-yl	CH ₂ SO(CH ₂) ₂ CH ₂ CH ₃		13-225	1H-imidazole-1-yl	CH ₂ SOCH ₂ CH ₃	
13-206	1H-pyrazole-1-yl	CH ₂ SO(CH ₂) ₂ SOCH ₂ CH ₃		13-226	1H-imidazole-1-yl		
13-207	1H-pyrazole-1-yl	CH ₂ SO(CH ₂) ₂ SOCH ₂ CF ₃		13-227	1H-imidazole-1-yl	CH ₂ SOCH ₂ CF ₃	
13-208	1H-pyrazole-1-yl	CH ₂ SO(CH ₂) ₂ SOCH ₃		13-228	1H-imidazole-1-yl	CH ₂ SOCH ₃	
13-209	1H-pyrazole-1-yl	CH ₂ SO(CH ₂) ₂ SOCH ₂ CF ₃		13-229	1H-imidazole-1-yl	CH ₂ SOCH ₂ CH ₃	
13-210	1H-pyrazole-1-yl	CH ₂ SO(CH ₂) ₂ SOCH ₃		13-230	1H-imidazole-1-yl		
13-211	1H-pyrazole-1-yl	CH ₂ SO(CH ₂) ₂ SOCH ₂ CF ₃		13-231	1H-imidazole-1-yl	CH ₂ SOCH ₂ CF ₃	
13-212	1H-pyrazole-1-yl	CH ₂ SO(CH ₂) ₂ SO ₂ CH ₃		13-232	1H-imidazole-1-yl	CH ₂ SO ₂ CH ₃	
13-213	1H-pyrazole-1-yl	CH ₂ SO(CH ₂) ₂ SO ₂ CH ₂ CF ₃		13-233	1H-imidazole-1-yl	CH ₂ SO ₂ CH ₂ CH ₃	
13-214	1H-pyrazole-1-yl			13-234	1H-imidazole-1-yl		
13-215	1H-pyrazole-1-yl			13-235	1H-imidazole-1-yl	CH ₂ SO ₂ CH ₂ CF ₃	
13-216	1H-pyrazole-1-yl	CH ₂ SO(CH ₂) ₂ HSO ₂ CH ₃		13-236	1H-imidazole-1-yl	CH ₂ SO(CH ₂) ₂ SOCH ₃	
13-217	1H-pyrazole-1-yl	CH ₂ SO(CH ₂) ₂ H(CH ₂) ₂ (SO ₂ CH ₃)		13-237	1H-imidazole-1-yl	CH ₂ SO(CH ₂) ₂ SOCH ₂ CH ₃	
13-218	1H-imidazole-1-yl	CH ₃		13-238	1H-imidazole-1-yl	CH ₂ SO(CH ₂) ₂ SOCH ₂ CF ₃	
13-219	1H-imidazole-1-yl	CF ₃		13-239	1H-imidazole-1-yl	CH ₂ SO(CH ₂) ₂ SOCH ₃	
13-220	1H-imidazole-1-yl	CH ₂ SOCH ₃		13-240	1H-imidazole-1-yl	CH ₂ SO(CH ₂) ₂ SOCH ₂ CF ₃	

Table 147

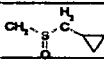
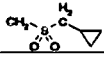
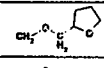
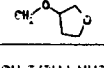
compound number	R4	R1	physical property (melting point-ND)
13-241	1H-imidazole-1-yl	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{S}(\text{CH}_3)$	
13-242	1H-imidazole-1-yl	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SC}(\text{CH}_2\text{CF}_3)$	
13-243	1H-imidazole-1-yl	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_3$	
13-244	1H-imidazole-1-yl	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{CF}_3$	
13-245	1H-imidazole-1-yl		
13-246	1H-imidazole-1-yl		
13-247	1H-imidazole-1-yl	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NHS}(\text{CH}_2\text{CH}_3)$	
13-248	1H-imidazole-1-yl	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{N}(\text{CH}_3)(\text{SO}_2\text{CH}_3)$	
13-249	1H-triazole-1-yl	CH_3	
13-250	1H-triazole-1-yl	CF_3	
13-251	1H-triazole-1-yl	CH_2OCH_3	
13-252	1H-triazole-1-yl	$\text{CH}_2\text{OCH}_2\text{CH}_3$	
13-253	1H-triazole-1-yl		
13-254	1H-triazole-1-yl	$\text{CH}_2\text{OCH}_2\text{CF}_3$	
13-255	1H-triazole-1-yl	CH_2SCH_3	
13-256	1H-triazole-1-yl	$\text{CH}_2\text{SCH}_2\text{CH}_3$	
13-257	1H-triazole-1-yl		
13-258	1H-triazole-1-yl	$\text{CH}_2\text{SCH}_2\text{CF}_3$	
13-259	1H-triazole-1-yl	CH_2SOCH_3	
13-260	1H-triazole-1-yl	$\text{CH}_2\text{SOCH}_2\text{CH}_3$	
13-261	1H-triazole-1-yl		
13-262	1H-triazole-1-yl	$\text{CH}_2\text{SC}(\text{CH}_2\text{CF}_3)$	
13-263	1H-triazole-1-yl	$\text{CH}_2\text{SO}_2\text{CH}_3$	
13-264	1H-triazole-1-yl	$\text{CH}_2\text{SO}_2\text{CH}_2\text{CH}_3$	
13-265	1H-triazole-1-yl		
13-266	1H-triazole-1-yl	$\text{CH}_2\text{SO}_2\text{CH}_2\text{CF}_3$	
13-267	1H-triazole-1-yl	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_3$	
13-268	1H-triazole-1-yl	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2\text{CH}_3$	
13-269	1H-triazole-1-yl	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2\text{CF}_3$	
13-270	1H-triazole-1-yl	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_3$	
13-271	1H-triazole-1-yl	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2\text{CF}_3$	
13-272	1H-triazole-1-yl	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_3$	
13-273	1H-triazole-1-yl	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2\text{CF}_3$	
13-274	1H-triazole-1-yl	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_3$	
13-275	1H-triazole-1-yl	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{CF}_3$	
13-276	1H-triazole-1-yl		
13-277	1H-triazole-1-yl		
13-278	1H-triazole-1-yl	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NHS}(\text{CH}_2\text{CH}_3)$	
13-279	1H-triazole-1-yl	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{N}(\text{CH}_3)(\text{SO}_2\text{CH}_3)$	
13-280	1H-tetrazole-1-yl	CH_3	

20

Table 148

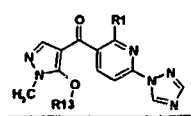
compound number	R4	R1	physical property (melting point-ND)	compound number	R4	R1	physical property (melting point-ND)
13-261	1H-tetrazole-1-yl	CF ₃		13-301	1H-tetrazole-1-yl	CH ₂ C(CH ₃) ₂ SCF ₃	
13-262	1H-tetrazole-1-yl	CH ₂ OCH ₃		13-302	1H-tetrazole-1-yl	CH ₂ C(CH ₃) ₂ SC(CH ₃) ₂ CF ₃	
13-263	1H-tetrazole-1-yl	CH ₂ CH ₂ CH ₃		13-303	1H-tetrazole-1-yl	CH ₂ C(CH ₃) ₂ SCCH ₃	
13-264	1H-tetrazole-1-yl			13-304	1H-tetrazole-1-yl	CH ₂ C(CH ₃) ₂ SCCH ₂ CF ₃	
13-265	1H-tetrazole-1-yl	CH ₂ CH ₂ CF ₃		13-305	1H-tetrazole-1-yl	CH ₂ C(CH ₃) ₂ SC ₂ CH ₃	
13-266	1H-tetrazole-1-yl	CH ₂ SCH ₃		13-306	1H-tetrazole-1-yl	CH ₂ C(CH ₃) ₂ SC ₂ CH ₂ CF ₃	
13-267	1H-tetrazole-1-yl	CH ₂ SCH ₂ CH ₃		13-307	1H-tetrazole-1-yl		
13-268	1H-tetrazole-1-yl			13-308	1H-tetrazole-1-yl		
13-269	1H-tetrazole-1-yl	CH ₂ SC ₂ CH ₂ CF ₃		13-309	1H-tetrazole-1-yl	CH ₂ O(CH ₂) ₂ NHSC ₂ CH ₃	
13-270	1H-tetrazole-1-yl	CH ₂ SC ₂ CH ₃		13-310	1H-tetrazole-1-yl	CH ₂ C(CH ₃) ₂ N(CH ₃)(SC ₂ CH ₃)	
13-271	1H-tetrazole-1-yl	CH ₂ SCCH ₂ CH ₃		13-311	1H-tetrazole-2-yl	CH ₃	
13-282	1H-tetrazole-1-yl			13-312	1H-tetrazole-2-yl	CF ₃	
13-283	1H-tetrazole-1-yl	CH ₂ SCCH ₂ CF ₃		13-313	1H-tetrazole-2-yl	CH ₂ SCCH ₃	
13-284	1H-tetrazole-1-yl	CH ₂ SC ₂ CH ₃		13-314	1H-tetrazole-2-yl	CH ₂ SCCH ₂ CH ₃	
13-295	1H-tetrazole-1-yl	CH ₂ SC ₂ CH ₂ CH ₃		13-315	1H-tetrazole-2-yl		
13-296	1H-tetrazole-1-yl			13-316	1H-tetrazole-2-yl	CH ₂ CH ₂ CF ₃	
13-297	1H-tetrazole-1-yl	CH ₂ SC ₂ CH ₂ CF ₃		13-317	1H-tetrazole-2-yl	CH ₂ SCCH ₃	
13-298	1H-tetrazole-1-yl	CH ₂ C(CH ₃) ₂ CCH ₃		13-318	1H-tetrazole-2-yl	CH ₂ SCCH ₂ CH ₃	
13-299	1H-tetrazole-1-yl	CH ₂ C(CH ₃) ₂ SCCH ₂ CH ₃		13-319	1H-tetrazole-2-yl		
13-300	1H-tetrazole-1-yl	CH ₂ C(CH ₃) ₂ CCH ₂ CF ₃		13-320	1H-tetrazole-2-yl	CH ₂ SCCH ₂ CF ₃	

Table 149

compound number	R4	R1	physical property (melting point-ND)
13-321	1H-tetrazole-2-yl	CH ₂ SOCH ₃	
13-322	1H-tetrazole-2-yl	CH ₂ SOCH ₂ CH ₃	
13-323	1H-tetrazole-2-yl		
13-324	1H-tetrazole-2-yl	CH ₂ SOCH ₂ CF ₃	
13-325	1H-tetrazole-2-yl	CH ₂ SO ₂ CH ₃	
13-326	1H-tetrazole-2-yl	CH ₂ SO ₂ CH ₂ CH ₃	
13-327	1H-tetrazole-2-yl		
13-328	1H-tetrazole-2-yl	CH ₂ SO ₂ CH ₂ CF ₃	
13-329	1H-tetrazole-2-yl	CH ₂ C(CH ₃) ₂ OCH ₃	
13-330	1H-tetrazole-2-yl	CH ₂ C(CH ₃) ₂ OCH ₂ CH ₃	
13-331	1H-tetrazole-2-yl	CH ₂ C(CH ₃) ₂ OCH ₂ CF ₃	
13-332	1H-tetrazole-2-yl	CH ₂ O(CH ₂) ₂ SOCH ₃	
13-333	1H-tetrazole-2-yl	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
13-334	1H-tetrazole-2-yl	CH ₂ C(CH ₃) ₂ SOCH ₃	
13-335	1H-tetrazole-2-yl	CH ₂ C(CH ₃) ₂ SOCH ₂ CF ₃	
13-336	1H-tetrazole-2-yl	CH ₂ C(CH ₃) ₂ SO ₂ CH ₃	
13-337	1H-tetrazole-2-yl	CH ₂ C(CH ₃) ₂ SO ₂ CH ₂ CF ₃	
13-338	1H-tetrazole-2-yl		
13-339	1H-tetrazole-2-yl		
13-340	1H-tetrazole-2-yl	CH ₂ C(CH ₃) ₂ NHSO ₂ CH ₃	

compound number	R4	R1	physical property (melting point-ND)
13-241	1H-tetrazole-2-yl	CH ₂ C(CH ₃) ₂ N(CH ₃)SO ₂ CH ₃	

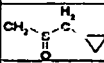
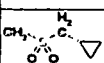
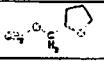
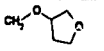
Table 150



compound number	R13	R1	physical property (melting point-ND)
14-1	CH ₃	CH ₃	
14-2	CH ₃	CF ₃	
14-3	CH ₃	CH ₂ CH ₃	
14-4	CH ₃	CH ₂ SCH ₂ CH ₃	
14-5	CH ₃		
14-6	CH ₃	CH ₂ CH ₂ CH ₂ CF ₃	
14-7	CH ₃	CH ₂ SCH ₃	
14-8	CH ₃	CH ₂ SCH ₂ CH ₃	
14-9	CH ₃		
14-10	CH ₃	CH ₂ SCH ₂ CF ₃	
14-11	CH ₃	CH ₂ SCF ₃	
14-12	CH ₃	CH ₂ SCCH ₂ CH ₃	
14-13	CH ₃		
14-14	CH ₃	CH ₂ SCCH ₂ CF ₃	
14-15	CH ₃	CH ₂ SC ₂ CH ₃	
14-16	CH ₃	CH ₂ SC ₂ CH ₂ CH ₃	
14-17	CH ₃		
14-18	CH ₃	CH ₂ SC ₂ CH ₂ CF ₃	
14-19	CH ₃	CH ₂ O(CH ₂) ₂ CH ₃	
14-20	CH ₃	CH ₂ O(CH ₂) ₂ CH ₂ CH ₃	

compound number	R13	R1	physical property (melting point-ND)
14-21	CH ₃	CH ₂ O(CH ₂) ₂ CH ₂ CF ₃	
14-22	CH ₃	CH ₂ O(CH ₂) ₂ SCH ₃	
14-23	CH ₃	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃	
14-24	CH ₃	CH ₂ O(CH ₂) ₂ SCCH ₃	
14-25	CH ₃	CH ₂ O(CH ₂) ₂ SCCH ₂ CF ₃	
14-26	CH ₃	CH ₂ O(CH ₂) ₂ SC ₂ CH ₃	
14-27	CH ₃	CH ₂ O(CH ₂) ₂ SC ₂ CH ₂ CF ₃	
14-28	CH ₃		
14-29	CH ₃		
14-30	CH ₃	CH ₂ O(CH ₂) ₂ NHCO ₂ CH ₃	
14-31	CH ₃	CH ₂ O(CH ₂) ₂ N(CH ₃)(SC ₂ CH ₃)	
14-32	CH ₂ CH ₃	CH ₃	
14-33	CH ₂ CH ₃	CF ₃	
14-34	CH ₂ CH ₃	CH ₂ CH ₃	
14-35	CH ₂ CH ₃	CH ₂ SCH ₂ CH ₃	
14-36	CH ₂ CH ₃		
14-37	CH ₂ CH ₃	CH ₂ CH ₂ CH ₂ CF ₃	
14-38	CH ₂ CH ₃	CH ₂ SCH ₃	
14-39	CH ₂ CH ₃	CH ₂ SCH ₂ CH ₃	
14-40	CH ₂ CH ₃		

Table 151

compound number	R13	R1	physical property (melting point-ND)
14-41	CH ₃ CH ₃	CH ₂ SOCH ₂ CF ₃	
14-42	CH ₃ CH ₃	CH ₂ SOCH ₃	
14-43	CH ₃ CH ₃	CH ₂ SOCH ₂ CH ₃	
14-44	CH ₃ CH ₃		
14-45	CH ₃ CH ₃	CH ₂ SOCH ₂ CH ₂ CF ₃	
14-46	CH ₃ CH ₃	CH ₂ SO ₂ CH ₃	
14-47	CH ₃ CH ₃	CH ₂ SO ₂ CH ₂ CH ₃	
14-48	CH ₃ CH ₃		
14-49	CH ₃ CH ₃	CH ₂ SO ₂ CH ₂ CF ₃	
14-50	CH ₃ CH ₃	CH ₂ SO(CH ₂) ₂ CH ₃	
14-51	CH ₃ CH ₃	CH ₂ O(CH ₂) ₂ CH ₂ CH ₃	
14-52	CH ₃ CH ₃	CH ₂ O(CH ₂) ₂ CH ₂ CF ₃	
14-53	CH ₃ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₃	
14-54	CH ₃ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
14-55	CH ₃ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₃	
14-56	CH ₃ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
14-57	CH ₃ CH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
14-58	CH ₃ CH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
14-59	CH ₃ CH ₃		
14-60	CH ₃ CH ₃		

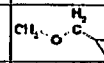
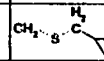
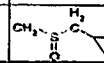
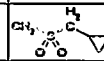
compound number	R13	R1	physical property (melting point-ND)
14-61	CH ₃ CH ₃	CH ₂ C(CH ₃) ₂ NHSC ₂ H ₅	
14-62	CH ₃ CH ₃	CH ₂ C(CH ₃) ₂ N(CH ₃)(SC ₂ H ₅)	
14-63	(CH ₃) ₂ CH ₃	CH ₃	
14-64	(CH ₃) ₂ CH ₃	CF ₃	
14-65	(CH ₃) ₂ CH ₃	CH ₂ OCH ₃	
14-66	(CH ₃) ₂ CH ₃	CH ₂ CCH ₂ CH ₃	
14-67	(CH ₃) ₂ CH ₃		
14-68	(CH ₃) ₂ CH ₃	CH ₂ OCH ₂ CF ₃	
14-69	(CH ₃) ₂ CH ₃	CH ₂ SOCH ₃	
14-70	(CH ₃) ₂ CH ₃	CH ₂ SOCH ₂ CH ₃	
14-71	(CH ₃) ₂ CH ₃		
14-72	(CH ₃) ₂ CH ₃	CH ₂ SOCH ₂ CF ₃	
14-73	(CH ₃) ₂ CH ₃	CH ₂ SOCH ₃	
14-74	(CH ₃) ₂ CH ₃	CH ₂ SOCH ₂ CH ₃	
14-75	(CH ₃) ₂ CH ₃		
14-76	(CH ₃) ₂ CH ₃	CH ₂ SOCH ₂ CF ₃	
14-77	(CH ₃) ₂ CH ₃	CH ₂ SO ₂ CH ₃	
14-78	(CH ₃) ₂ CH ₃	CH ₂ SO ₂ CH ₂ CH ₃	
14-79	(CH ₃) ₂ CH ₃		
14-80	(CH ₃) ₂ CH ₃	CH ₂ SO ₂ CH ₂ CF ₃	

Table 152

compound number	R13	R1	physical property (melting point-ND)
14-81	(CH ₃) ₂ CH ₃	CH ₂ O(CH ₂) ₂ OCH ₃	
14-82	(CH ₃) ₂ CH ₃	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	
14-83	(CH ₃) ₂ CH ₃	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
14-84	(CH ₃) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SCH ₃	
14-85	(CH ₃) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃	
14-86	(CH ₃) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₃	
14-87	(CH ₃) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
14-88	(CH ₃) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
14-89	(CH ₃) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
14-90	(CH ₃) ₂ CH ₃		
14-91	(CH ₃) ₂ CH ₃		
14-92	(CH ₃) ₂ CH ₃	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₃	
14-93	(CH ₃) ₂ CH ₃	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	
14-94	CH ₂ CH=CH ₂	CH ₃	
14-95	CH ₂ CH=CH ₂	CF ₃	
14-96	CH ₂ CH=CH ₂	CH ₂ OCH ₃	
14-97	CH ₂ CH=CH ₂	CH ₂ OCH ₂ CH ₃	
14-98	CH ₂ CH=CH ₂		
14-99	CH ₂ CH=CH ₂	CH ₂ OCH ₂ CF ₃	
14-100	CH ₂ CH=CH ₂	CH ₂ SCH ₃	
14-101	CH ₂ CH=CH ₂	CH ₂ SCH ₂ CH ₃	
14-102	CH ₂ CH=CH ₂		
14-103	CH ₂ CH=CH ₂	CH ₂ SCH ₂ CF ₃	
14-104	CH ₂ CH=CH ₂	CH ₂ SOCH ₃	
14-105	CH ₂ CH=CH ₂	CH ₂ SOCH ₂ CH ₃	
14-106	CH ₂ CH=CH ₂		
14-107	CH ₂ CH=CH ₂	CH ₂ SOCH ₂ CF ₃	
14-108	CH ₂ CH=CH ₂	CH ₂ SO ₂ CH ₃	
14-109	CH ₂ CH=CH ₂	CH ₂ SO ₂ CH ₂ CH ₃	
14-110	CH ₂ CH=CH ₂		
14-111	CH ₂ CH=CH ₂	CH ₂ SO ₂ CH ₂ CF ₃	
14-112	CH ₂ CH=CH ₂	CH ₂ O(CH ₂) ₂ OCH ₃	
14-113	CH ₂ CH=CH ₂	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	
14-114	CH ₂ CH=CH ₂	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
14-115	CH ₂ CH=CH ₂	CH ₂ O(CH ₂) ₂ SCH ₃	
14-116	CH ₂ CH=CH ₂	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃	
14-117	CH ₂ CH=CH ₂	CH ₂ O(CH ₂) ₂ SOCH ₃	
14-118	CH ₂ CH=CH ₂	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
14-119	CH ₂ CH=CH ₂	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
14-120	CH ₂ CH=CH ₂	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	

Table 153

compound number	R13	R1	physical property (melting point-ND)
14-121	CH ₂ CH=CH ₂		
14-122	CH ₂ CH=CH ₂		
14-123	CH ₂ CH=CH ₂	CH ₂ O(CH ₂) ₂ NHSC ₂ H ₅	
14-124	CH ₂ CH=CH ₂	CH ₂ O(CH ₂) ₂ N(CH ₃)(SC ₂ H ₅)	
14-125	CH ₂ CH=CH ₂	CH ₃	
14-126	CH ₂ CH=CH ₂	CF ₃	
14-127	CH ₂ CH=CH ₂	CH ₂ CH ₃	
14-128	CH ₂ CH=CH ₂	CH ₂ CH ₂ CH ₃	
14-129	CH ₂ CH=CH ₂		
14-130	CH ₂ CH=CH ₂	CH ₂ CH ₂ CH ₂ CF ₃	
14-131	CH ₂ CH=CH ₂	CH ₂ CH ₃	
14-132	CH ₂ CH=CH ₂	CH ₂ SOCH ₂ CH ₃	
14-133	CH ₂ CH=CH ₂		
14-134	CH ₂ CH=CH ₂	CH ₂ SOCH ₂ CF ₃	
14-135	CH ₂ CH=CH ₂	CH ₂ SOCH ₃	
14-136	CH ₂ CH=CH ₂	CH ₂ SOCH ₂ CH ₃	
14-137	CH ₂ CH=CH ₂		
14-138	CH ₂ CH=CH ₂	CH ₂ SOCH ₂ CF ₃	
14-139	CH ₂ CH=CH ₂	CH ₂ SO ₂ CH ₃	
14-140	CH ₂ CH=CH ₂	CH ₂ SO ₂ CH ₂ CH ₃	
14-141	CH ₂ CH=CH ₂		
14-142	CH ₂ CH=CH ₂	CH ₂ SO ₂ CH ₂ CF ₃	
14-143	CH ₂ CH=CH ₂	CH ₂ O(CH ₂) ₂ CH ₃	
14-144	CH ₂ CH=CH ₂	CH ₂ O(CH ₂) ₂ SOCH ₂ CH ₃	
14-145	CH ₂ CH=CH ₂	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
14-146	CH ₂ CH=CH ₂	CH ₂ O(CH ₂) ₂ SOCH ₃	
14-147	CH ₂ CH=CH ₂	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
14-148	CH ₂ CH=CH ₂	CH ₂ O(CH ₂) ₂ SOCH ₃	
14-149	CH ₂ CH=CH ₂	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
14-150	CH ₂ CH=CH ₂	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
14-151	CH ₂ CH=CH ₂	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
14-152	CH ₂ CH=CH ₂		
14-153	CH ₂ CH=CH ₂		
14-154	CH ₂ CH=CH ₂	CH ₂ O(CH ₂) ₂ NHSC ₂ H ₅	
14-155	CH ₂ CH=CH ₂	CH ₂ O(CH ₂) ₂ N(CH ₃)(SC ₂ H ₅)	
14-156	CH ₂ C ₆ H ₅	CH ₃	
14-157	CH ₂ C ₆ H ₅	CF ₃	
14-158	CH ₂ C ₆ H ₅	CH ₂ CH ₃	
14-159	CH ₂ C ₆ H ₅	CH ₂ CH ₂ CH ₃	
14-160	CH ₂ C ₆ H ₅		

Table 154

compound number	R13	R1	physical property (melting point-ND)	compound number	R13	R1	physical property (melting point-ND)
14-161	CH ₂ C ₆ H ₅	CH ₂ SOCH ₂ CF ₃		14-181	CH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
14-162	CH ₂ C ₆ H ₅	CH ₂ SOCH ₃		14-182	CH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
14-163	CH ₂ C ₆ H ₅	CH ₂ SOCH ₂ CH ₃		14-183	CH ₂ C ₆ H ₅		
14-164	CH ₂ C ₆ H ₅			14-184	CH ₂ C ₆ H ₅		
14-165	CH ₂ C ₆ H ₅	CH ₂ SOCH ₂ CF ₃		14-185	CH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ NHSC ₂ H ₅	
14-166	CH ₂ C ₆ H ₅	CH ₂ SOCH ₃		14-186	CH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	
14-167	CH ₂ C ₆ H ₅	CH ₂ SOCH ₂ CH ₃		14-187	SO ₂ CH ₃	CH ₃	
14-168	CH ₂ C ₆ H ₅			14-188	SO ₂ CH ₃	CF ₃	
14-169	CH ₂ C ₆ H ₅	CH ₂ SOCH ₂ CF ₃		14-189	SO ₂ CH ₃	CH ₂ CH ₃	
14-170	CH ₂ C ₆ H ₅	CH ₂ SO ₂ CH ₃		14-190	SO ₂ CH ₃	CH ₂ OCH ₂ CH ₃	
14-171	CH ₂ C ₆ H ₅	CH ₂ SO ₂ CH ₂ CH ₃		14-191	SO ₂ CH ₃		
14-172	CH ₂ C ₆ H ₅			14-192	SO ₂ CH ₃	CH ₂ SOCH ₂ CF ₃	
14-173	CH ₂ C ₆ H ₅	CH ₂ SO ₂ CH ₂ CF ₃		14-193	SO ₂ CH ₃	CH ₂ SOCH ₃	
14-174	CH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ OCH ₃		14-194	SO ₂ CH ₃	CH ₂ SOCH ₂ CH ₃	
14-175	CH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃		14-195	SO ₂ CH ₃		
14-176	CH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃		14-196	SO ₂ CH ₃	CH ₂ SOCH ₂ CF ₃	
14-177	CH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ SOCH ₃		14-197	SO ₂ CH ₃	CH ₂ SOCH ₃	
14-178	CH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃		14-198	SO ₂ CH ₃	CH ₂ SOCH ₂ CH ₃	
14-179	CH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ SOCH ₃		14-199	SO ₂ CH ₃		
14-180	CH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃		14-200	SO ₂ CH ₃	CH ₂ SOCH ₂ CF ₃	

Table 155

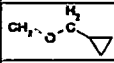
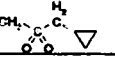
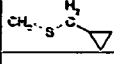
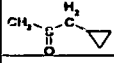
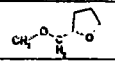
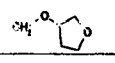
compound number	R13	R1	physical property (melting point-ND)	compound number	R13	R1	physical property (melting point-ND)
14-201	SO ₂ CH ₃	CH ₂ SO ₂ CH ₃		14-221	SO ₂ CH ₂ CH ₃	CH ₂ SOCH ₂ CH ₃	
14-202	SO ₂ CH ₃	CH ₂ SO ₂ CH ₂ CH ₃		14-222	SO ₂ CH ₂ CH ₃		
14-203	SO ₂ CH ₃			14-223	SO ₂ CH ₂ CH ₃	CH ₂ SOCH ₂ CF ₃	
14-204	SO ₂ CH ₃	CH ₂ SO ₂ CH ₂ CF ₃		14-224	SO ₂ CH ₂ CH ₃	CH ₂ SOCH ₃	
14-205	SO ₂ CH ₃	CH ₂ O(CH ₂) ₂ OCH ₃		14-225	SO ₂ CH ₂ CH ₃	CH ₂ SOCH ₂ CH ₃	
14-206	SO ₂ CH ₃	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃		14-226	SO ₂ CH ₂ CH ₃		
14-207	SO ₂ CH ₃	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃		14-227	SO ₂ CH ₂ CH ₃	CH ₂ SOCH ₂ CF ₃	
14-208	SO ₂ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₃		14-228	SO ₂ CH ₂ CH ₃	CH ₂ SOCH ₃	
14-209	SO ₂ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃		14-229	SO ₂ CH ₂ CH ₃	CH ₂ SOCH ₂ CH ₃	
14-210	SO ₂ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₃		14-230	SO ₂ CH ₂ CH ₃		
14-211	SO ₂ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃		14-231	SO ₂ CH ₂ CH ₃	CH ₂ SOCH ₂ CF ₃	
14-212	SO ₂ CH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃		14-232	SO ₂ CH ₂ CH ₃	CH ₂ SO ₂ CH ₃	
14-213	SO ₂ CH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃		14-233	SO ₂ CH ₂ CH ₃	CH ₂ SO ₂ CH ₂ CH ₃	
14-214	SO ₂ CH ₃			14-234	SO ₂ CH ₂ CH ₃		
14-215	SO ₂ CH ₃			14-235	SO ₂ CH ₂ CH ₃	CH ₂ SO ₂ CH ₂ CF ₃	
14-216	SO ₂ CH ₃	CH ₂ O(CH ₂) ₂ NH ₂ SO ₂ CH ₃		14-236	SO ₂ CH ₂ CH ₃	CH ₂ O(CH ₂) ₂ OCH ₃	
14-217	SO ₂ CH ₃	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)		14-237	SO ₂ CH ₂ CH ₃	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	
14-218	SO ₂ CH ₂ CH ₃	CH ₃		14-238	SO ₂ CH ₂ CH ₃	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
14-219	SO ₂ CH ₂ CH ₃	CF ₃		14-239	SO ₂ CH ₂ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₃	
14-220	SO ₂ CH ₂ CH ₃	CH ₂ OCH ₃		14-240	SO ₂ CH ₂ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	

Table 156

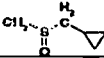
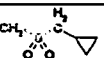
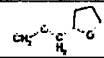
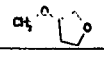
compound number	R13	R1	physical property (melting point-ND)	compound number	R13	R1	physical property (melting point-44D)
14-261	SO ₂ CH ₂ CH ₃	CH ₂ C(CH ₃) ₂ SOCH ₃		14-261	SO ₂ (CH ₂) ₂ CH ₃		
14-262	SO ₂ CH ₂ CH ₃	CH ₂ C(CH ₃) ₂ SOCH ₂ CF ₃		14-262	SO ₂ (CH ₂) ₂ CH ₃	CH ₂ SOCH ₂ CF ₃	
14-263	SO ₂ CH ₂ CH ₃	CH ₂ C(CH ₃) ₂ SO ₂ CH ₃		14-263	SO ₂ (CH ₂) ₂ CH ₃	CH ₂ SO ₂ CH ₃	
14-264	SO ₂ CH ₂ CH ₃	CH ₂ C(CH ₃) ₂ SO ₂ CH ₂ CF ₃		14-264	SO ₂ (CH ₂) ₂ CH ₃	CH ₂ SO ₂ CH ₂ CH ₃	
14-265	SO ₂ CH ₂ CH ₃			14-265	SO ₂ (CH ₂) ₂ CH ₃		
14-266	SO ₂ CH ₂ CH ₃			14-266	SO ₂ (CH ₂) ₂ CH ₃	CH ₂ SO ₂ CH ₂ CF ₃	
14-267	SO ₂ CH ₂ CH ₃	CH ₂ C(CH ₃) ₂ NHSC ₂ H ₅		14-267	SO ₂ (CH ₂) ₂ CH ₃	CH ₂ C(CH ₃) ₂ SOCH ₃	
14-268	SO ₂ CH ₂ CH ₃	CH ₂ C(CH ₃) ₂ N(CH ₃)(SC ₂ H ₅)		14-268	SO ₂ (CH ₂) ₂ CH ₃	CH ₂ C(CH ₃) ₂ C-CH ₂ CH ₃	
14-269	SO ₂ (CH ₂) ₂ CH ₃	CH ₃		14-269	SO ₂ (CH ₂) ₂ CH ₃	CH ₂ C(CH ₃) ₂ C-CH ₂ CF ₃	
14-269	SO ₂ (CH ₂) ₂ CH ₃	CF ₃		14-270	SO ₂ (CH ₂) ₂ CH ₃	CH ₂ C(CH ₂) ₂ SOCH ₃	
14-269	SO ₂ (CH ₂) ₂ CH ₃	CH ₂ SOCH ₃		14-271	SO ₂ (CH ₂) ₂ CH ₃	CH ₂ C(CH ₃) ₂ SOCH ₂ CF ₃	
14-269	SO ₂ (CH ₂) ₂ CH ₃	CH ₂ C-CH ₂ CH ₃		14-272	SO ₂ (CH ₂) ₂ CH ₃	CH ₂ C(CH ₃) ₂ SOCH ₃	
14-269	SO ₂ (CH ₂) ₂ CH ₃			14-273	SO ₂ (CH ₂) ₂ CH ₃	CH ₂ C(CH ₃) ₂ SOCH ₂ CF ₃	
14-269	SO ₂ (CH ₂) ₂ CH ₃	CH ₂ C-CH ₂ CF ₃		14-274	SO ₂ (CH ₂) ₂ CH ₃	CH ₂ C(CH ₃) ₂ SO ₂ CH ₃	
14-269	SO ₂ (CH ₂) ₂ CH ₃	CH ₂ SOCH ₃		14-275	SO ₂ (CH ₂) ₂ CH ₃	CH ₂ C(CH ₃) ₂ SO ₂ CH ₂ CF ₃	
14-269	SO ₂ (CH ₂) ₂ CH ₃	CH ₂ SOCH ₂ CH ₃		14-276	SO ₂ (CH ₂) ₂ CH ₃		
14-269	SO ₂ (CH ₂) ₂ CH ₃			14-277	SO ₂ (CH ₂) ₂ CH ₃		
14-269	SO ₂ (CH ₂) ₂ CH ₃	CH ₂ SOCH ₂ CF ₃		14-278	SO ₂ (CH ₂) ₂ CH ₃	CH ₂ C(CH ₃) ₂ NHSC ₂ H ₅	
14-269	SO ₂ (CH ₂) ₂ CH ₃	CH ₂ SOCH ₃		14-279	SO ₂ (CH ₂) ₂ CH ₃	CH ₂ C(CH ₃) ₂ N(CH ₃)(SC ₂ H ₅)	
14-269	SO ₂ (CH ₂) ₂ CH ₃	CH ₂ SOCH ₂ CH ₃		14-280	SO ₂ C ₆ H ₅	CH ₃	

Table 157

compound number	R13	R1	physical property (melting point-ND)	compound number	R13	R1	physical property (melting point-ND)
14-281	SO ₂ C ₆ H ₄	CF ₃		14-301	SO ₂ C ₆ H ₄	CH ₂ C(CH ₃) ₂ SCN ₃	
14-282	SO ₂ C ₆ H ₄	CH ₂ GCH ₂		14-302	SO ₂ C ₆ H ₄	CH ₂ C(CH ₃) ₂ SCN ₂ CF ₃	
14-283	SO ₂ C ₆ H ₄	CH ₂ GCH ₂ CH ₃		14-303	SO ₂ C ₆ H ₄	CH ₂ C(CH ₃) ₂ SCN ₂ CH ₃	
14-284	SO ₂ C ₆ H ₄			14-304	SO ₂ C ₆ H ₄	CH ₂ C(CH ₃) ₂ SCN ₂ CH ₂ CF ₃	
14-285	SO ₂ C ₆ H ₄	CH ₂ CCH ₂ CF ₃		14-305	SO ₂ C ₆ H ₄	CH ₂ C(CH ₃) ₂ SCN ₂ CH ₃	
14-286	SO ₂ C ₆ H ₄	CH ₂ SCN ₃		14-306	SO ₂ C ₆ H ₄	CH ₂ C(CH ₃) ₂ SCN ₂ CH ₂ CF ₃	
14-287	SO ₂ C ₆ H ₄	CH ₂ SCN ₂ CH ₃		14-307	SO ₂ C ₆ H ₄		
14-288	SO ₂ C ₆ H ₄			14-308	SO ₂ C ₆ H ₄		
14-289	SO ₂ C ₆ H ₄	CH ₂ SCN ₂ CF ₃		14-309	SO ₂ C ₆ H ₄	CH ₂ C(CH ₃) ₂ NHSCN ₂ CH ₃	
14-290	SO ₂ C ₆ H ₄	CH ₂ SCN ₂ CH ₃		14-310	SO ₂ C ₆ H ₄	CH ₂ C(CH ₃) ₂ N(CH ₃)(SCN ₂ CH ₃)	
14-291	SO ₂ C ₆ H ₄	CH ₂ SCN ₂ CH ₂ CH ₃		14-311	SO ₂ (4-CH ₃)C ₆ H ₄	CH ₃	
14-292	SO ₂ C ₆ H ₄			14-312	SO ₂ (4-CH ₃)C ₆ H ₄	CF ₃	
14-293	SO ₂ C ₆ H ₄	CH ₂ SCN ₂ CH ₂ CF ₃		14-313	SO ₂ (4-CH ₃)C ₆ H ₄	CH ₂ C-CH ₃	
14-294	SO ₂ C ₆ H ₄	CH ₂ SCN ₂ CH ₃		14-314	SO ₂ (4-CH ₃)C ₆ H ₄	CH ₂ GCH ₂ CH ₃	
14-295	SO ₂ C ₆ H ₄	CH ₂ SCN ₂ CH ₂ CH ₃		14-315	SO ₂ (4-CH ₃)C ₆ H ₄		
14-296	SO ₂ C ₆ H ₄			14-316	SO ₂ (4-CH ₃)C ₆ H ₄	CH ₂ CCH ₂ CF ₃	
14-297	SO ₂ C ₆ H ₄	CH ₂ SCN ₂ CH ₂ CF ₃		14-317	SO ₂ (4-CH ₃)C ₆ H ₄	CH ₂ SCN ₃	
14-298	SO ₂ C ₆ H ₄	CH ₂ C(CH ₃) ₂ CN ₂ CH ₃		14-318	SO ₂ (4-CH ₃)C ₆ H ₄	CH ₂ SCN ₂ CH ₃	
14-299	SO ₂ C ₆ H ₄	CH ₂ C(CH ₃) ₂ CN ₂ CH ₂ CH ₃		14-319	SO ₂ (4-CH ₃)C ₆ H ₄		
14-300	SO ₂ C ₆ H ₄	CH ₂ C(CH ₃) ₂ CN ₂ CH ₂ CF ₃		14-320	SO ₂ (4-CH ₃)C ₆ H ₄	CH ₂ SCN ₂ CF ₃	

Table 158

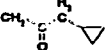
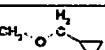
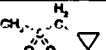
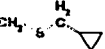
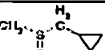
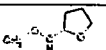
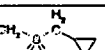
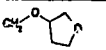
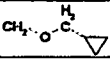
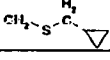
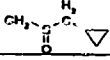
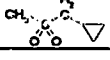
compound number	R13	R1	physical property (melting point-ND)	compound number	R13	R1	physical property (melting point-ND)
14-321	SO ₂ (4-CH ₃)C ₆ H ₄	CH ₂ SOCH ₃		14-341	SO ₂ (4-CH ₃)C ₆ H ₄	CH ₂ C(CH ₃) ₂ N(CH ₃)(SO ₂ CH ₃)	
14-322	SO ₂ (4-CH ₃)C ₆ H ₄	CH ₂ SOCH ₂ CH ₃		14-342	COCH ₃	CH ₃	
14-323	SO ₂ (4-CH ₃)C ₆ H ₄			14-343	COCH ₃	CF ₃	
14-324	SO ₂ (4-CH ₃)C ₆ H ₄	CH ₂ SOCH ₂ CF ₃		14-344	COCH ₃	CH ₂ COCH ₃	
14-325	SO ₂ (4-CH ₃)C ₆ H ₄	CH ₂ SO ₂ CH ₃		14-345	COCH ₃	CH ₂ COCH ₂ CH ₃	
14-326	SO ₂ (4-CH ₃)C ₆ H ₄	CH ₂ SO ₂ CH ₂ CH ₃		14-346	COCH ₃		
14-327	SO ₂ (4-CH ₃)C ₆ H ₄			14-347	COCH ₃	CH ₂ COCH ₂ CF ₃	
14-328	SO ₂ (4-CH ₃)C ₆ H ₄	CH ₂ SO ₂ CH ₂ CF ₃		14-348	COCH ₃	CH ₂ SOCH ₃	
14-329	SO ₂ (4-CH ₃)C ₆ H ₄	CH ₂ O(CH ₂) ₂ SOCH ₃		14-349	COCH ₃	CH ₂ SOCH ₂ CH ₃	
14-330	SO ₂ (4-CH ₃)C ₆ H ₄	CH ₂ O(CH ₂) ₂ COCH ₂ CH ₃		14-350	COCH ₃		
14-331	SO ₂ (4-CH ₃)C ₆ H ₄	CH ₂ O(CH ₂) ₂ COCH ₂ CF ₃		14-351	COCH ₃	CH ₂ SOCH ₂ CF ₃	
14-332	SO ₂ (4-CH ₃)C ₆ H ₄	CH ₂ O(CH ₂) ₂ SCH ₃		14-352	COCH ₃	CH ₂ SOCH ₃	
14-333	SO ₂ (4-CH ₃)C ₆ H ₄	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃		14-353	COCH ₃	CH ₂ SOCH ₂ CH ₃	
14-334	SO ₂ (4-CH ₃)C ₆ H ₄	CH ₂ O(CH ₂) ₂ SOCH ₃		14-354	COCH ₃		
14-335	SO ₂ (4-CH ₃)C ₆ H ₄	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃		14-355	COCH ₃	CH ₂ SOCH ₂ CF ₃	
14-336	SO ₂ (4-CH ₃)C ₆ H ₄	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃		14-356	COCH ₃	CH ₂ SO ₂ CH ₃	
14-337	SO ₂ (4-CH ₃)C ₆ H ₄	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃		14-357	COCH ₃	CH ₂ SO ₂ CH ₂ CH ₃	
14-338	SO ₂ (4-CH ₃)C ₆ H ₄			14-358	COCH ₃		
14-339	SO ₂ (4-CH ₃)C ₆ H ₄			14-359	COCH ₃	CH ₂ SO ₂ CH ₂ CF ₃	
14-340	SO ₂ (4-CH ₃)C ₆ H ₄	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₃		14-360	COCH ₃	CH ₂ O(CH ₂) ₂ SOCH ₃	

Table 159

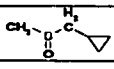
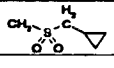
compound number	R13	R1	physical property (melting point-ND)	compound number	R13	R1	physical property (melting point-ND)
14-361	COCH ₃	CH ₂ O(CH ₂) ₂ COCH ₂ CH ₃		14-381	COO ₂ H ₂		
14-362	COCH ₃	CH ₂ O(CH ₂) ₂ COCH ₂ CF ₃		14-382	COO ₂ H ₂	CH ₂ SOCH ₂ CF ₃	
14-363	COCH ₃	CH ₂ O(CH ₂) ₂ SOCH ₃		14-383	COO ₂ H ₂	CH ₂ SOCH ₃	
14-364	COCH ₃	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃		14-384	COO ₂ H ₂	CH ₂ SOCH ₂ CH ₃	
14-365	COCH ₃	CH ₂ O(CH ₂) ₂ SOCH ₃		14-385	COO ₂ H ₂		
14-366	COCH ₃	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃		14-386	COO ₂ H ₂	CH ₂ SOCH ₂ CF ₃	
14-367	COCH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃		14-387	COO ₂ H ₂	CH ₂ SO ₂ CH ₃	
14-368	COCH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃		14-388	COO ₂ H ₂	CH ₂ SO ₂ CH ₂ CH ₃	
14-369	COCH ₃			14-389	COO ₂ H ₂		
14-370	COCH ₃			14-390	COO ₂ H ₂	CH ₂ SO ₂ CH ₂ CF ₃	
14-371	COCH ₃	CH ₂ O(CH ₂) ₂ HNCO ₂ CH ₃		14-391	COO ₂ H ₂	CH ₂ O(CH ₂) ₂ COCH ₃	
14-372	COCH ₃	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)		14-392	COO ₂ H ₂	CH ₂ O(CH ₂) ₂ COCH ₂ CH ₃	
14-373	COO ₂ H ₂	CH ₃		14-393	COO ₂ H ₂	CH ₂ O(CH ₂) ₂ COCH ₂ CF ₃	
14-374	COO ₂ H ₂	CF ₃		14-394	COO ₂ H ₂	CH ₂ O(CH ₂) ₂ SOCH ₃	
14-375	COO ₂ H ₂	CH ₂ OCH ₃		14-395	COO ₂ H ₂	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
14-376	COO ₂ H ₂	CH ₂ OCH ₂ CH ₃		14-396	COO ₂ H ₂	CH ₂ O(CH ₂) ₂ SOCH ₃	
14-377	COO ₂ H ₂			14-397	COO ₂ H ₂	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
14-378	COO ₂ H ₂	CH ₂ OCH ₂ CF ₃		14-398	COO ₂ H ₂	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
14-379	COO ₂ H ₂	CH ₂ SOCH ₃		14-399	COO ₂ H ₂	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
14-380	COO ₂ H ₂	CH ₂ SOCH ₂ CH ₃		14-400	COO ₂ H ₂		

Table 160

compound number	R13	R1	physical property (melting point/ND)	compound number	R13	R1	physical property (melting point/ND)
14-401	COCH ₂ C ₆ H ₅			14-421	COCH ₂ C ₆ H ₅	CH ₂ SCyCH ₂ CF ₃	
14-402	COCH ₂ C ₆ H ₅	CH ₂ C(CH ₃) ₂ NHSD ₂ CH ₃		14-422	COCH ₂ C ₆ H ₅	CH ₂ C(CH ₃) ₂ COCH ₃	
14-403	COCH ₂ C ₆ H ₅	CH ₂ C(CH ₃) ₂ N(CH ₃)(SD ₂ CH ₃)		14-423	COCH ₂ C ₆ H ₅	CH ₂ C(CH ₃) ₂ COCH ₂ CH ₃	
14-404	COCH ₂ C ₆ H ₅	CH ₃		14-424	COCH ₂ C ₆ H ₅	CH ₂ C(CH ₃) ₂ COCH ₂ CF ₃	
14-405	COCH ₂ C ₆ H ₅	CF ₃		14-425	COCH ₂ C ₆ H ₅	CH ₂ C(CH ₃) ₂ SCCH ₃	
14-406	COCH ₂ C ₆ H ₅	CH ₂ COCH ₃		14-426	COCH ₂ C ₆ H ₅	CH ₂ C(CH ₃) ₂ SCCH ₂ CF ₃	
14-407	COCH ₂ C ₆ H ₅	CH ₂ COCH ₂ CH ₃		14-427	COCH ₂ C ₆ H ₅	CH ₂ C(CH ₃) ₂ SCCH ₂ CH ₃	
14-408	COCH ₂ C ₆ H ₅			14-428	COCH ₂ C ₆ H ₅	CH ₂ C(CH ₃) ₂ SCCH ₂ CF ₃	
14-409	COCH ₂ C ₆ H ₅	CH ₂ COCH ₂ CF ₃		14-429	COCH ₂ C ₆ H ₅	CH ₂ C(CH ₃) ₂ SCCH ₂ CH ₃	
14-410	COCH ₂ C ₆ H ₅	CH ₂ SCCH ₃		14-430	COCH ₂ C ₆ H ₅	CH ₂ C(CH ₃) ₂ SCyCH ₂ CF ₃	
14-411	COCH ₂ C ₆ H ₅	CH ₂ SCCH ₂ CH ₃		14-431	COCH ₂ C ₆ H ₅		
14-412	COCH ₂ C ₆ H ₅			14-432	COCH ₂ C ₆ H ₅		
14-413	COCH ₂ C ₆ H ₅	CH ₂ SCCH ₂ CF ₃		14-433	COCH ₂ C ₆ H ₅	CH ₂ C(CH ₃) ₂ NHSD ₂ CH ₃	
14-414	COCH ₂ C ₆ H ₅	CH ₂ SCCH ₃		14-434	COCH ₂ C ₆ H ₅	CH ₂ C(CH ₃) ₂ N(CH ₃)(SD ₂ CH ₃)	
14-415	COCH ₂ C ₆ H ₅	CH ₂ SCCH ₂ CH ₃		4-435	CH ₂ COCH ₃	CH ₃	
14-416	COCH ₂ C ₆ H ₅			4-436	CH ₂ COCH ₃	CF ₃	
14-417	COCH ₂ C ₆ H ₅	CH ₂ SCCH ₂ CF ₃		4-437	CH ₂ COCH ₃	CH ₂ C(CH ₃) ₂	
14-418	COCH ₂ C ₆ H ₅	CH ₂ SCCH ₂ CH ₃		4-438	CH ₂ COCH ₃	CH ₂ C(CH ₃) ₂ CH ₂ CH ₃	
14-419	COCH ₂ C ₆ H ₅	CH ₂ SCCH ₂ CH ₂ CH ₃		4-439	CH ₂ COCH ₃		
14-420	COCH ₂ C ₆ H ₅			4-440	CH ₂ COCH ₃	CH ₂ COCH ₂ CF ₃	

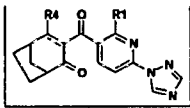
223

Table 131

compound number	R4	R1	physical property (melting point-ND)
11-321	1H-tetrazole-2-yl	CH ₂ SCCH ₃	
11-322	1H-tetrazole-2-yl	CH ₂ SCCH ₂ CH ₃	
11-323	1H-tetrazole-2-yl		
11-324	1H-tetrazole-3-yl	CH ₂ SCCH ₂ CF ₃	
11-325	1H-tetrazole-2-yl	CH ₂ SO ₂ CH ₃	
11-326	1H-tetrazole-3-yl	CH ₂ SO ₂ CH ₂ CH ₃	
11-327	1H-tetrazole-2-yl		
11-328	1H-tetrazole-2-yl	CH ₂ SO ₂ CH ₂ CF ₃	
11-329	1H-tetrazole-2-yl	CH ₂ O(CH ₂) ₂ OCH ₃	
11-330	1H-tetrazole-2-yl	CH ₂ O(CH ₂) ₂ CH ₂ CH ₃	
11-331	1H-tetrazole-2-yl	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
11-332	1H-tetrazole-2-yl	CH ₂ O(CH ₂) ₂ SOCH ₃	
11-333	1H-tetrazole-3-yl	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
11-334	1H-tetrazole-2-yl	CH ₂ C(CH ₃) ₂ SCCH ₃	
11-335	1H-tetrazole-3-yl	CH ₂ C(CH ₃) ₂ SOCH ₂ CF ₃	
11-336	1H-tetrazole-2-yl	CH ₂ O(CH ₂) ₂ SC ₂ H ₅	
11-337	1H-tetrazole-2-yl	CH ₂ C(CH ₃) ₂ SO ₂ CH ₂ CF ₃	
11-338	1H-tetrazole-2-yl		
11-339	1H-tetrazole-2-yl		
11-340	1H-tetrazole-2-yl	CH ₂ O(CH ₂) ₂ NHSC ₂ H ₅	

compound number	R4	R1	physical property (melting point-ND)
11-341	1H-tetrazole-2-yl	CH ₂ O(CH ₂) ₂ N(CH ₃)SC ₂ H ₅	

Table 132



compound number	R4	R1	physical property (melting point-ND)
12-1	Cl	CH ₃	
12-2	Cl	CF ₃	
12-3	Cl	CH ₂ CH ₃	
12-4	Cl	CH ₂ CH ₂ CH ₃	
12-5	Cl		
12-6	Cl	CH ₂ CH ₂ CF ₃	
12-7	Cl	CH ₂ SCH ₃	
12-8	Cl	CH ₂ SCH ₂ CH ₃	
12-9	Cl		
12-10	Cl	CH ₂ SOCH ₂ CF ₃	
12-11	Cl	CH ₂ SOCH ₃	
12-12	Cl	CH ₂ SOCH ₂ CH ₃	
12-13	Cl		
12-14	Cl	CH ₂ SOCH ₂ CF ₃	
12-15	Cl	CH ₂ SO ₂ CH ₃	
12-16	Cl	CH ₂ SO ₂ CH ₂ CH ₃	
12-17	Cl		
12-18	Cl	CH ₂ SO ₂ CH ₂ CF ₃	
12-19	Cl	CH ₂ C(CH ₃) ₂ OCH ₃	
12-20	Cl	CH ₂ C(CH ₃) ₂ OCH ₂ CH ₃	

compound number	R4	R1	physical property (melting point-ND)
12-21	Cl	CH ₂ C(CH ₃) ₂ OCH ₂ CF ₃	
12-22	Cl	CH ₂ C(CH ₃) ₂ SOCH ₃	
12-23	Cl	CH ₂ C(CH ₃) ₂ SOCH ₂ CF ₃	
12-24	Cl	CH ₂ C(CH ₃) ₂ SOCH ₃	
12-25	Cl	CH ₂ C(CH ₃) ₂ SOCH ₂ CF ₃	
12-26	Cl	CH ₂ C(CH ₃) ₂ SO ₂ CH ₃	
12-27	Cl	CH ₂ C(CH ₃) ₂ SO ₂ CH ₂ CF ₃	
12-28	Cl		
12-29	Cl		
12-30	Cl	CH ₂ C(CH ₃) ₂ NHSC ₂ H ₅	
12-31	Cl	CH ₂ C(CH ₃) ₂ N(CH ₃)(SC ₂ H ₅)	
12-32	SOCH ₃	CH ₃	
12-33	SOCH ₃	CF ₃	
12-34	SOCH ₃	CH ₂ CH ₃	
12-35	SOCH ₃	CH ₂ CH ₂ CH ₃	
12-36	SOCH ₃		
12-37	SOCH ₃	CH ₂ CH ₂ CF ₃	
12-38	SOCH ₃	CH ₂ SCH ₃	
12-39	SOCH ₃	CH ₂ SCH ₂ CH ₃	
12-40	SOCH ₃		

Table 133

compound number	R4	R1	physical property (melting point-ND)	compound number	R4	R1	physical property (melting point-ND)
12-41	SCF ₃	CH ₂ SCF ₂ CF ₃		12-61	SCF ₃	CH ₂ SC(CH ₂) ₂ NHSCF ₂ CH ₃	
12-42	SCF ₃	CH ₂ SCCH ₃		12-62	SCF ₃	CH ₂ SC(CH ₂) ₂ N(CH ₂) ₂ (SCF ₂ CH ₃)	
12-43	SCF ₃	CH ₂ SCCH ₂ CH ₃		12-63	SCF ₂ CH ₃	CH ₃	
12-44	SCF ₃			12-64	SCF ₂ CH ₃	CF ₃	
12-45	SCF ₃	CH ₂ SCCH ₂ CF ₃		12-65	SCF ₂ CH ₃	CH ₂ SCCH ₃	
12-46	SCF ₃	CH ₂ SCF ₂ CH ₃		12-66	SCF ₂ CH ₃	CH ₂ SCCH ₂ CH ₃	
12-47	SCF ₃	CH ₂ SCF ₂ CH ₂ CH ₃		12-67	SCF ₂ CH ₃		
12-48	SCF ₃			12-68	SCF ₂ CH ₃	CH ₂ SCCH ₂ CF ₃	
12-49	SCF ₃	CH ₂ SCF ₂ CH ₂ CF ₃		12-69	SCF ₂ CH ₃	CH ₂ SCCH ₃	
12-50	SCF ₃	CH ₂ SC(CH ₂) ₂ CH ₃		12-70	SCF ₂ CH ₃	CH ₂ SCCH ₂ CH ₃	
12-51	SCF ₃	CH ₂ SC(CH ₂) ₂ SCCH ₂ CH ₃		12-71	SCF ₂ CH ₃		
12-52	SCF ₃	CH ₂ SC(CH ₂) ₂ SCCH ₂ CF ₃		12-72	SCF ₂ CH ₃	CH ₂ SCCH ₂ CF ₃	
12-53	SCF ₃	CH ₂ SC(CH ₂) ₂ SCCH ₃		12-73	SCF ₂ CH ₃	CH ₂ SCCH ₂	
12-54	SCF ₃	CH ₂ SC(CH ₂) ₂ SCCH ₂ CF ₃		12-74	SCF ₂ CH ₃	CH ₂ SCCH ₂ CH ₃	
12-55	SCF ₃	CH ₂ SC(CH ₂) ₂ SCCH ₃		12-75	SCF ₂ CH ₃		
12-56	SCF ₃	CH ₂ SC(CH ₂) ₂ SCCH ₂ CF ₃		12-76	SCF ₂ CH ₃	CH ₂ SCCH ₂ CF ₃	
12-57	SCF ₃	CH ₂ SC(CH ₂) ₂ SCCH ₂ CH ₃		12-77	SCF ₂ CH ₃	CH ₂ SCF ₂ CH ₃	
12-58	SCF ₃	CH ₂ SC(CH ₂) ₂ SCF ₂ CH ₂ CF ₃		12-78	SCF ₂ CH ₃	CH ₂ SCF ₂ CH ₂ CH ₃	
12-59	SCF ₃			12-79	SCF ₂ CH ₃		
12-60	SCF ₃			12-80	SCF ₂ CH ₃	CH ₂ SCF ₂ CH ₂ CF ₃	

Table 134

compound number	R4	R1	physical property (melting point-ND)	compound number	R4	R1	physical property (melting point-ND)
12-81	SCH ₂ CH ₃	CH ₂ C(CH ₃) ₂ CH ₃		12-101	S(CH ₂) ₂ CH ₃	CH ₂ SCCH ₂ CH ₃	
12-82	SCCH ₂ CH ₃	CH ₂ C(CH ₃) ₂ C=CH ₂ CH ₃		12-102	S(CH ₂) ₂ CH ₃		
12-83	SCCH ₂ CH ₃	CH ₂ C(CH ₃) ₂ SCCH ₂ CF ₃		12-103	S(CH ₂) ₂ CH ₃	CH ₂ SCCH ₂ CF ₃	
12-84	SCCH ₂ CH ₃	CH ₂ C(CH ₃) ₂ SCCH ₃		12-104	S(CH ₂) ₂ CH ₃	CH ₂ SCCH ₃	
12-85	SCCH ₂ CH ₃	CH ₂ C(CH ₃) ₂ SCCH ₂ CF ₃		12-105	S(CH ₂) ₂ CH ₃	CH ₂ SCCH ₂ CH ₃	
12-86	SCCH ₂ CH ₃	CH ₂ C(CH ₃) ₂ SCCH ₃		12-106	S(CH ₂) ₂ CH ₃		
12-87	SCCH ₂ CH ₃	CH ₂ C(CH ₃) ₂ SCCH ₂ CF ₃		12-107	S(CH ₂) ₂ CH ₃	CH ₂ SCCH ₂ CF ₃	
12-88	SCCH ₂ CH ₃	CH ₂ C(CH ₃) ₂ SC ₂ CH ₃		12-108	S(CH ₂) ₂ CH ₃	CH ₂ SC ₂ CH ₃	
12-89	SCCH ₂ CH ₃	CH ₂ C(CH ₃) ₂ SC ₂ CH ₂ CF ₃		12-109	S(CH ₂) ₂ CH ₃	CH ₂ SC ₂ CH ₂ CH ₃	
12-90	SCCH ₂ CH ₃			12-110	S(CH ₂) ₂ CH ₃		
12-91	SCCH ₂ CH ₃			12-111	S(CH ₂) ₂ CH ₃	CH ₂ SC ₂ CH ₂ CF ₃	
12-92	SCCH ₂ CH ₃	CH ₂ C(CH ₃) ₂ NHSC ₂ CH ₃		12-112	S(CH ₂) ₂ CH ₃	CH ₂ C(CH ₃) ₂ CH ₃	
12-93	SCCH ₂ CH ₃	CH ₂ C(CH ₃) ₂ N(CH ₃)(SC ₂ CH ₃)		12-113	S(CH ₂) ₂ CH ₃	CH ₂ C(CH ₃) ₂ OCH ₂ CH ₃	
12-94	S(CH ₂) ₂ CH ₃	CH ₃		12-114	S(CH ₂) ₂ CH ₃	CH ₂ C(CH ₃) ₂ C=CH ₂ CF ₃	
12-95	S(CH ₂) ₂ CH ₃	CF ₃		12-115	S(CH ₂) ₂ CH ₃	CH ₂ C(CH ₃) ₂ SCCH ₃	
12-96	S(CH ₂) ₂ CH ₃	CH ₂ SCCH ₃		12-116	S(CH ₂) ₂ CH ₃	CH ₂ C(CH ₃) ₂ SCCH ₂ CF ₃	
12-97	S(CH ₂) ₂ CH ₃	CH ₂ SCCH ₂ CH ₃		12-117	S(CH ₂) ₂ CH ₃	CH ₂ C(CH ₃) ₂ SCCH ₃	
12-98	S(CH ₂) ₂ CH ₃			12-118	S(CH ₂) ₂ CH ₃	CH ₂ C(CH ₃) ₂ SCCH ₂ CF ₃	
12-99	S(CH ₂) ₂ CH ₃	CH ₂ C=CH ₂ CF ₃		12-119	S(CH ₂) ₂ CH ₃	CH ₂ C(CH ₃) ₂ SC ₂ CH ₃	
12-100	S(CH ₂) ₂ CH ₃	CH ₂ SCCH ₃		12-120	S(CH ₂) ₂ CH ₃	CH ₂ C(CH ₃) ₂ SC ₂ CH ₂ CF ₃	

Table 135

compound number	R4	R1	physical property (melting point-ND)	compound number	R4	R1	physical property (melting point-ND)
12-121	S(CH ₂) ₂ CH ₃			12-141	SC ₆ H ₅		
12-122	S(CH ₂) ₂ CH ₃			12-142	SC ₃ H ₇	CH ₂ SO ₂ CH ₂ CF ₃	
12-123	S(CH ₂) ₂ CH ₃	CH ₂ C(CH ₃) ₂ NHSC ₂ H ₅		12-143	SC ₂ H ₅	CH ₂ C(CH ₃) ₂ C=CH ₂	
12-124	S(CH ₂) ₂ CH ₃	CH ₂ C(CH ₃) ₂ N(CH ₃)(SC ₂ H ₅)		12-144	SC ₆ H ₅	CH ₂ C(CH ₃) ₂ SOCH ₂ CH ₃	
12-125	SC ₂ H ₅	CH ₃		12-145	SC ₆ H ₅	CH ₂ C(CH ₃) ₂ C=CH ₂ CF ₃	
12-126	SC ₆ H ₅	CF ₃		12-146	SC ₆ H ₅	CH ₂ C(CH ₃) ₂ SOCH ₃	
12-127	SC ₂ H ₅	CH ₂ SOCH ₃		12-147	SC ₆ H ₅	CH ₂ C(CH ₃) ₂ SOCH ₂ CF ₃	
12-128	SC ₂ H ₅	CH ₂ SOCH ₂ CH ₃		12-148	SC ₆ H ₅	CH ₂ C(CH ₃) ₂ SOCH ₃	
12-129	SC ₆ H ₅			12-149	SC ₂ H ₅	CH ₂ C(CH ₃) ₂ SOCH ₂ CF ₃	
12-130	SC ₆ H ₅	CH ₂ SOCH ₂ CF ₃		12-150	SC ₆ H ₅	CH ₂ C(CH ₃) ₂ SO ₂ CH ₃	
12-131	SC ₆ H ₅	CH ₂ SOCH ₃		12-151	SC ₆ H ₅	CH ₂ C(CH ₃) ₂ SO ₂ CH ₂ CF ₃	
12-132	SC ₆ H ₅	CH ₂ SOCH ₂ CH ₃		12-152	SC ₆ H ₅		
12-133	SC ₂ H ₅			12-153	SC ₆ H ₅		
12-134	SC ₂ H ₅	CH ₂ SOCH ₂ CF ₃		12-154	SC ₆ H ₅	CH ₂ C(CH ₃) ₂ NHSC ₂ H ₅	
12-135	SC ₆ H ₅	CH ₂ SOCH ₃		12-155	SC ₂ H ₅	CH ₂ C(CH ₃) ₂ N(CH ₃)(SC ₂ H ₅)	
12-136	SC ₆ H ₅	CH ₂ SOCH ₂ CH ₃		12-156	SOCH ₂ C ₆ H ₅	CH ₃	
12-137	SC ₆ H ₅			12-157	SOCH ₂ C ₆ H ₅	CF ₃	
12-138	SC ₂ H ₅	CH ₂ SOCH ₂ CF ₃		12-158	SOCH ₂ C ₆ H ₅	CH ₂ OCH ₃	
12-139	SC ₃ H ₇	CH ₂ SO ₂ CH ₃		12-159	SOCH ₂ C ₆ H ₅	CH ₂ C=CH ₂ CH ₃	
12-140	SC ₂ H ₅	CH ₂ SO ₂ CH ₂ CH ₃		12-160	SOCH ₂ C ₆ H ₅		

Table 136

compound number	R4	R1	physical property (melting point-ND)	compound number	R4	R1	physical property (melting point-ND)
12-161	SOCH ₂ C ₆ H ₅	CH ₂ SOCH ₂ CF ₃		12-181	SOCH ₂ C ₆ H ₅	CH ₂ SO(CH ₂) ₃ SO ₂ CH ₃	
12-162	SOCH ₂ C ₆ H ₅	CH ₂ SOCH ₃		12-182	SOCH ₂ C ₆ H ₅	CH ₂ SO(CH ₂) ₃ SO ₂ CH ₂ CF ₃	
12-163	SOCH ₂ C ₆ H ₅	CH ₂ SOCH ₂ CH ₃		12-183	SOCH ₂ C ₆ H ₅		
12-164	SOCH ₂ C ₆ H ₅			12-184	SOCH ₂ C ₆ H ₅		
12-165	SOCH ₂ C ₆ H ₅	CH ₂ SOCH ₂ CF ₃		12-185	SOCH ₂ C ₆ H ₅	CH ₂ SO(CH ₂) ₃ NHSC ₂ H ₅	
12-166	SOCH ₂ C ₆ H ₅	CH ₂ SOCH ₃		12-186	SOCH ₂ C ₆ H ₅	CH ₂ SO(CH ₂) ₃ N(CH ₃)(SO ₂ CH ₃)	
12-167	SOCH ₂ C ₆ H ₅	CH ₂ SOCH ₂ CH ₃		12-187	1H-pyrazole-1-yl	CH ₃	
12-168	SOCH ₂ C ₆ H ₅			12-188	1H-pyrazole-1-yl	CF ₃	
12-169	SOCH ₂ C ₆ H ₅	CH ₂ SOCH ₂ CF ₃		12-189	1H-pyrazole-1-yl	CH ₂ SOCH ₃	
12-170	SOCH ₂ C ₆ H ₅	CH ₂ SO ₂ CH ₃		12-190	1H-pyrazole-1-yl	CH ₂ SOCH ₂ CH ₃	
12-171	SOCH ₂ C ₆ H ₅	CH ₂ SO ₂ CH ₂ CH ₃		12-191	1H-pyrazole-1-yl		
12-172	SOCH ₂ C ₆ H ₅			12-192	1H-pyrazole-1-yl	CH ₂ SOCH ₂ CF ₃	
12-173	SOCH ₂ C ₆ H ₅	CH ₂ SO ₂ CH ₂ CF ₃		12-193	1H-pyrazole-1-yl	CH ₂ SOCH ₃	
12-174	SOCH ₂ C ₆ H ₅	CH ₂ SO(CH ₂) ₂ SOCH ₃		12-194	1H-pyrazole-1-yl	CH ₂ SOCH ₂ CH ₃	
12-175	SOCH ₂ C ₆ H ₅	CH ₂ SO(CH ₂) ₃ SOCH ₂ CH ₃		12-195	1H-pyrazole-1-yl		
12-176	SOCH ₂ C ₆ H ₅	CH ₂ SO(CH ₂) ₃ SOCH ₂ CF ₃		12-196	1H-pyrazole-1-yl	CH ₂ SOCH ₂ CF ₃	
12-177	SOCH ₂ C ₆ H ₅	CH ₂ SO(CH ₂) ₃ SOCH ₃		12-197	1H-pyrazole-1-yl	CH ₂ SOCH ₃	
12-178	SOCH ₂ C ₆ H ₅	CH ₂ SO(CH ₂) ₃ SOCH ₂ CF ₃		12-198	1H-pyrazole-1-yl	CH ₂ SOCH ₂ CH ₃	
12-179	SOCH ₂ C ₆ H ₅	CH ₂ SO(CH ₂) ₃ SOCH ₃		12-199	1H-pyrazole-1-yl		
12-180	SOCH ₂ C ₆ H ₅	CH ₂ SO(CH ₂) ₃ SOCH ₂ CF ₃		12-200	1H-pyrazole-1-yl	CH ₂ SOCH ₂ CF ₃	

Table 137

compound number	R4	R1	physical property (melting point-ND)
12-201	1H-pyrazole-1-yl	CH ₂ SC ₂ H ₅	
12-202	1H-pyrazole-1-yl	CH ₂ SC ₂ H ₄ CH ₃	
12-203	1H-pyrazole-1-yl		
12-204	1H-pyrazole-1-yl	CH ₂ SC ₂ H ₄ CF ₃	
12-205	1H-pyrazole-1-yl	CH ₂ C(CH ₃) ₂ CH ₃	
12-206	1H-pyrazole-1-yl	CH ₂ C(CH ₃) ₂ OCH ₂ CH ₃	
12-207	1H-pyrazole-1-yl	CH ₂ C(CH ₃) ₂ OCH ₂ CF ₃	
12-208	1H-pyrazole-1-yl	CH ₂ C(CH ₃) ₂ SCH ₃	
12-209	1H-pyrazole-1-yl	CH ₂ C(CH ₃) ₂ SOCH ₂ CF ₃	
12-210	1H-pyrazole-1-yl	CH ₂ C(CH ₃) ₂ SOCH ₃	
12-211	1H-pyrazole-1-yl	CH ₂ C(CH ₃) ₂ SOCH ₂ CF ₃	
12-212	1H-pyrazole-1-yl	CH ₂ C(CH ₃) ₂ SO ₂ CH ₃	
12-213	1H-pyrazole-1-yl	CH ₂ C(CH ₃) ₂ SO ₂ CH ₂ CF ₃	
12-214	1H-pyrazole-1-yl		
12-215	1H-pyrazole-1-yl		
12-216	1H-pyrazole-1-yl	CH ₂ C(CH ₃) ₂ NHSC ₂ H ₅	
12-217	1H-pyrazole-1-yl	CH ₂ C(CH ₃) ₂ N(CH ₃)(SC ₂ H ₅)	
12-218	1H-imidazole-1-yl	CH ₃	
12-219	1H-imidazole-1-yl	CF ₃	
12-220	1H-imidazole-1-yl	CH ₂ CH ₃	
12-221	1H-imidazole-1-yl	CH ₂ CCH ₂ CH ₃	
12-222	1H-imidazole-1-yl		
12-223	1H-imidazole-1-yl	CH ₂ CCH ₂ CF ₃	
12-224	1H-imidazole-1-yl	CH ₂ SCCH ₃	
12-225	1H-imidazole-1-yl	CH ₂ SCCH ₂ CH ₃	
12-226	1H-imidazole-1-yl		
12-227	1H-imidazole-1-yl	CH ₂ SCCH ₂ CF ₃	
12-228	1H-imidazole-1-yl	CH ₂ SCCH ₃	
12-229	1H-imidazole-1-yl	CH ₂ SCCH ₂ CH ₃	
12-230	1H-imidazole-1-yl		
12-231	1H-imidazole-1-yl	CH ₂ SCCH ₂ CF ₃	
12-232	1H-imidazole-1-yl	CH ₂ SO ₂ CH ₃	
12-233	1H-imidazole-1-yl	CH ₂ SO ₂ CH ₂ CH ₃	
12-234	1H-imidazole-1-yl		
12-235	1H-imidazole-1-yl	CH ₂ SC ₂ H ₄ CH ₂ CF ₃	
12-236	1H-imidazole-1-yl	CH ₂ C(CH ₃) ₂ OCH ₃	
12-237	1H-imidazole-1-yl	CH ₂ C(CH ₃) ₂ OCH ₂ CH ₃	
12-238	1H-imidazole-1-yl	CH ₂ C(CH ₃) ₂ OCH ₂ CF ₃	
12-239	1H-imidazole-1-yl	CH ₂ C(CH ₃) ₂ SOCH ₃	
12-240	1H-imidazole-1-yl	CH ₂ C(CH ₃) ₂ SOCH ₂ CF ₃	

Table 138

compound number	R4	R1	physical property (melting point-ND)
12-241	1H-imidazole-1-yl	CH ₂ C(CH ₃) ₂ SOCH ₃	
12-242	1H-imidazole-1-yl	CH ₂ C(CH ₃) ₂ SOCH ₂ CF ₃	
12-243	1H-imidazole-1-yl	CH ₂ C(CH ₃) ₂ SO ₂ CH ₃	
12-244	1H-imidazole-1-yl	CH ₂ C(CH ₃) ₂ SO ₂ CH ₂ CF ₃	
12-245	1H-imidazole-1-yl		
12-246	1H-imidazole-1-yl		
12-247	1H-imidazole-1-yl	CH ₂ C(CH ₃) ₂ NHCO ₂ CH ₃	
12-248	1H-imidazole-1-yl	CH ₂ C(CH ₃) ₂ N(CH ₃)(SO ₂ CH ₃)	
12-249	1H-imidazole-1-yl	CH ₃	
12-250	1H-imidazole-1-yl	CF ₃	
12-251	1H-imidazole-1-yl	CH ₂ OCH ₃	
12-252	1H-imidazole-1-yl	CH ₂ CH ₂ CH ₃	
12-253	1H-imidazole-1-yl		
12-254	1H-imidazole-1-yl	CH ₂ C(CH ₃) ₂ CF ₃	
12-255	1H-imidazole-1-yl	CH ₃ SOCH ₃	
12-256	1H-imidazole-1-yl	CH ₃ SOCH ₂ CH ₃	
12-257	1H-imidazole-1-yl		
12-258	1H-imidazole-1-yl	CH ₃ SOCH ₂ CF ₃	
12-259	1H-imidazole-1-yl	CH ₂ SOCH ₃	
12-260	1H-imidazole-1-yl	CH ₂ SOCH ₂ CH ₃	
12-261	1H-imidazole-1-yl		
12-262	1H-imidazole-1-yl	CH ₂ SOCH ₂ CF ₃	
12-263	1H-imidazole-1-yl	CH ₂ SO ₂ CH ₃	
12-264	1H-imidazole-1-yl	CH ₂ SO ₂ CH ₂ CH ₃	
12-265	1H-imidazole-1-yl		
12-266	1H-imidazole-1-yl	CH ₂ SO ₂ CH ₂ CF ₃	
12-267	1H-imidazole-1-yl	CH ₂ C(CH ₃) ₂ COCH ₃	
12-268	1H-imidazole-1-yl	CH ₂ C(CH ₃) ₂ COCH ₂ CH ₃	
12-269	1H-imidazole-1-yl	CH ₂ C(CH ₃) ₂ COCH ₂ CF ₃	
12-270	1H-imidazole-1-yl	CH ₂ C(CH ₃) ₂ SOCH ₃	
12-271	1H-imidazole-1-yl	CH ₂ C(CH ₃) ₂ SOCH ₂ CF ₃	
12-272	1H-imidazole-1-yl	CH ₂ C(CH ₃) ₂ SOCH ₃	
12-273	1H-imidazole-1-yl	CH ₂ C(CH ₃) ₂ SOCH ₂ CF ₃	
12-274	1H-imidazole-1-yl	CH ₂ C(CH ₃) ₂ SO ₂ CH ₃	
12-275	1H-imidazole-1-yl	CH ₂ C(CH ₃) ₂ SO ₂ CH ₂ CF ₃	
12-276	1H-imidazole-1-yl		
12-277	1H-imidazole-1-yl		
12-278	1H-imidazole-1-yl	CH ₂ C(CH ₃) ₂ NHCO ₂ CH ₃	
12-279	1H-imidazole-1-yl	CH ₂ C(CH ₃) ₂ N(CH ₃)(SO ₂ CH ₃)	
12-280	1H-imidazole-1-yl	CH ₃	

Table 139

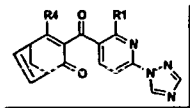
compound number	R4	R1	physical property (melting point-ND)	compound number	R4	R1	physical property (melting point-ND)
12-281	1H-tetrazole-1-yl	CF ₃		12-301	1H-tetrazole-1-yl	CH ₂ O(CH ₂) ₂ SOCH ₃	
12-282	1H-tetrazole-1-yl	CH ₂ COCH ₃		12-302	1H-tetrazole-1-yl	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
12-283	1H-tetrazole-1-yl	CH ₂ OCH ₂ CH ₃		12-303	1H-tetrazole-1-yl	CH ₂ O(CH ₂) ₂ SOCH ₂ CH ₃	
12-284	1H-tetrazole-1-yl			12-304	1H-tetrazole-1-yl	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
12-285	1H-tetrazole-1-yl	CH ₂ FCH ₂ CF ₃		12-305	1H-tetrazole-1-yl	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
12-286	1H-tetrazole-1-yl	CH ₂ SOCH ₃		12-306	1H-tetrazole-1-yl	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
12-287	1H-tetrazole-1-yl	CH ₂ SOCH ₂ CH ₃		12-307	1H-tetrazole-1-yl		
12-288	1H-tetrazole-1-yl			12-308	1H-tetrazole-1-yl		
12-289	1H-tetrazole-1-yl	CH ₂ SOCH ₂ CF ₃		12-309	1H-tetrazole-1-yl	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₃	
12-290	1H-tetrazole-1-yl	CH ₂ SOCH ₃		12-310	1H-tetrazole-1-yl	CH ₂ O(CH ₂) ₂ N(CH ₂) ₂ (CO ₂ CH ₃)	
12-291	1H-tetrazole-1-yl	CH ₂ SOCH ₂ CH ₃		12-311	1H-tetrazole-2-yl	CH ₃	
12-292	1H-tetrazole-1-yl			12-312	1H-tetrazole-2-yl	CF ₃	
12-293	1H-tetrazole-1-yl	CH ₂ SOCH ₂ CF ₃		12-313	1H-tetrazole-2-yl	CH ₂ OCH ₃	
12-294	1H-tetrazole-1-yl	CH ₂ SO ₂ CH ₃		12-314	1H-tetrazole-2-yl	CH ₂ OCH ₂ CH ₃	
12-295	1H-tetrazole-1-yl	CH ₂ SO ₂ CH ₂ CH ₃		12-315	1H-tetrazole-2-yl		
12-296	1H-tetrazole-1-yl			12-316	1H-tetrazole-2-yl	CH ₂ OCH ₂ CF ₃	
12-297	1H-tetrazole-1-yl	CH ₂ SO ₂ CH ₂ CF ₃		12-317	1H-tetrazole-2-yl	CH ₂ SOCH ₃	
12-298	1H-tetrazole-1-yl	CH ₂ O(CH ₂) ₂ OCH ₃		12-318	1H-tetrazole-2-yl	CH ₂ SOCH ₂ CH ₃	
12-299	1H-tetrazole-1-yl	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃		12-319	1H-tetrazole-2-yl		
12-300	1H-tetrazole-1-yl	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃		12-320	1H-tetrazole-2-yl	CH ₂ SOCH ₂ CF ₃	

Table 140

compound number	R4	R1	physical property (melting point-ND)
12-321	1H-tetrazole-2-yl	CH ₂ SOCH ₃	
12-322	1H-tetrazole-2-yl	CH ₂ SOCH ₂ CH ₃	
12-323	1H-tetrazole-2-yl		
12-324	1H-tetrazole-2-yl	CH ₂ SOCH ₂ CF ₃	
12-325	1H-tetrazole-2-yl	CH ₂ SO ₂ CH ₃	
12-326	1H-tetrazole-2-yl	CH ₂ SO ₂ CH ₂ CH ₃	
12-327	1H-tetrazole-2-yl		
12-328	1H-tetrazole-2-yl	CH ₂ SO ₂ CH ₂ CF ₃	
12-329	1H-tetrazole-2-yl	CH ₂ C(CH ₃) ₂ OCH ₃	
12-330	1H-tetrazole-2-yl	CH ₂ C(CH ₃) ₂ CCH ₂ CH ₃	
12-331	1H-tetrazole-2-yl	CH ₂ C(CH ₃) ₂ CCH ₂ CF ₃	
12-332	1H-tetrazole-2-yl	CH ₂ C(CH ₃) ₂ SCH ₃	
12-333	1H-tetrazole-2-yl	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃	
12-334	1H-tetrazole-2-yl	CH ₂ C(CH ₃) ₂ SCH ₃	
12-335	1H-tetrazole-2-yl	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
12-336	1H-tetrazole-2-yl	CH ₂ C(CH ₃) ₂ SO ₂ CH ₃	
12-337	1H-tetrazole-2-yl	CH ₂ C(CH ₃) ₂ SO ₂ CH ₂ CF ₃	
12-338	1H-tetrazole-2-yl		
12-339	1H-tetrazole-2-yl		
12-340	1H-tetrazole-2-yl	CH ₂ C(CH ₃) ₂ NHSO ₂ CH ₃	

compound number	R4	R1	physical property (melting point-ND)
12-341	1H-tetrazole-2-yl	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	

Table 141



compound number	R4	R1	physical property (melting point-ND)
12-1	Cl	CH ₃	
12-2	Cl	CF ₃	
12-3	Cl	CH ₂ OCH ₃	
12-4	Cl	CH ₂ CH ₂ CH ₃	
12-5	Cl		
12-6	Cl	CH ₂ CH ₂ CF ₃	
12-7	Cl	CH ₂ SC ₂ H ₅	
12-8	Cl	CH ₂ SC ₂ H ₄	
12-9	Cl		
12-10	Cl	CH ₂ SOCH ₂ CF ₃	
12-11	Cl	CH ₂ SOCH ₃	
12-12	Cl	CH ₂ SOCH ₂ CH ₃	
12-13	Cl		
12-14	Cl	CH ₂ SOCH ₂ CF ₃	
12-15	Cl	CH ₂ SO ₂ CH ₃	
12-16	Cl	CH ₂ SO ₂ CH ₂ CH ₃	
12-17	Cl		
12-18	Cl	CH ₂ SO ₂ CH ₂ CF ₃	
12-19	Cl	CH ₂ O(CH ₂) ₂ CH ₃	
12-20	Cl	CH ₂ O(CH ₂) ₂ CH ₂ CH ₃	

compound number	R4	R1	physical property (melting point-ND)
13-21	Cl	CH ₂ O(CH ₂) ₂ CH ₂ CF ₃	
13-22	Cl	CH ₂ O(CH ₂) ₂ SC ₂ H ₅	
13-23	Cl	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
13-24	Cl	CH ₂ O(CH ₂) ₂ SOCH ₃	
13-25	Cl	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
13-26	Cl	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
13-27	Cl	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
13-28	Cl		
13-29	Cl		
13-30	Cl	CH ₂ O(CH ₂) ₂ NHSC ₂ H ₅	
13-31	Cl	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	
13-32	SOCH ₃	CH ₃	
13-33	SOCH ₃	CF ₃	
13-34	SOCH ₃	CH ₂ OCH ₃	
13-35	SOCH ₃	CH ₂ OCH ₂ CH ₃	
13-36	SOCH ₃		
13-37	SOCH ₃	CH ₂ OCH ₂ CF ₃	
13-38	SOCH ₃	CH ₂ SC ₂ H ₅	
13-39	SOCH ₃	CH ₂ SC ₂ H ₄	
13-40	SOCH ₃		

Table 142

compound number	R4	R1	physical property (melting point-ND)	compound number	R4	R1	physical property (melting point-ND)
13-41	SCH ₃	CH ₂ SOCH ₂ CF ₃		13-61	SCH ₃	CH ₂ O(CH ₂) ₂ NHSCF ₂ CH ₃	
13-42	SCH ₃	CH ₂ SOCH ₃		13-62	SCH ₃	CH ₂ O(CH ₂) ₂ N(CH ₃)(SCF ₂ CH ₃)	
13-43	SCH ₃	CH ₂ SOCH ₂ CH ₃		13-63	SOCH ₂ CH ₃	CH ₃	
13-44	SCH ₃			13-64	SOCH ₂ CH ₃	CF ₃	
13-45	SCH ₃	CH ₂ SOCH ₂ CF ₃		13-65	SOCH ₂ CH ₃	CH ₂ SOCH ₃	
13-46	SCH ₃	CH ₂ SO ₂ CH ₃		13-66	SOCH ₂ CH ₃	CH ₂ SOCH ₂ CH ₃	
13-47	SOCH ₃	CH ₂ SO ₂ CH ₂ CH ₃		13-67	SOCH ₂ CH ₃		
13-48	SOCH ₃			13-68	SOCH ₂ CH ₃	CH ₂ SOCH ₂ CF ₃	
13-49	SOCH ₃	CH ₂ SO ₂ CH ₂ CF ₃		13-69	SOCH ₂ CH ₃	CH ₂ SOCH ₃	
13-50	SOCH ₃	CH ₂ O(CH ₂) ₂ SOCH ₃		13-70	SOCH ₂ CH ₃	CH ₂ SOCH ₂ CH ₃	
13-51	SOCH ₃	CH ₂ O(CH ₂) ₂ SOCH ₂ CH ₃		13-71	SOCH ₂ CH ₃		
13-52	SOCH ₃	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃		13-72	SOCH ₂ CH ₃	CH ₂ SOCH ₂ CF ₃	
13-53	SOCH ₃	CH ₂ O(CH ₂) ₂ SOCH ₃		13-73	SOCH ₂ CH ₃	CH ₂ SOCH ₃	
13-54	SOCH ₃	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃		13-74	SOCH ₂ CH ₃	CH ₂ SOCH ₂ CH ₃	
13-55	SOCH ₃	CH ₂ O(CH ₂) ₂ SOCH ₃		13-75	SOCH ₂ CH ₃		
13-56	SOCH ₃	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃		13-76	SOCH ₂ CH ₃	CH ₂ SOCH ₂ CF ₃	
13-57	SOCH ₃	CH ₂ O(CH ₂) ₂ SOCH ₂ CH ₃		13-77	SOCH ₂ CH ₃	CH ₂ SO ₂ CH ₃	
13-58	SOCH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃		13-78	SOCH ₂ CH ₃	CH ₂ SO ₂ CH ₂ CH ₃	
13-59	SOCH ₃			13-79	SOCH ₂ CH ₃		
13-60	SOCH ₃			13-80	SOCH ₂ CH ₃	CH ₂ SO ₂ CH ₂ CF ₃	

Table 143

compound number	R4	R1	physical property (melting point-ND)
13-51	SCH ₂ CH ₃	CH ₂ C(CH ₃) ₂ CH ₃	
13-52	SCH ₂ CH ₃	CH ₂ C(CH ₃) ₂ CH ₂ CH ₃	
13-53	SCH ₂ CH ₃	CH ₂ C(CH ₃) ₂ CH ₂ CF ₃	
13-54	SCH ₂ CH ₃	CH ₂ C(CH ₃) ₂ SCH ₃	
13-55	SCH ₂ CH ₃	CH ₂ C(CH ₃) ₂ SOCH ₂ CF ₃	
13-56	SCH ₂ CH ₃	CH ₂ C(CH ₃) ₂ SOCH ₃	
13-57	SCH ₂ CH ₃	CH ₂ C(CH ₃) ₂ SOCH ₂ CF ₃	
13-58	SCH ₂ CH ₃	CH ₂ C(CH ₃) ₂ SO ₂ CH ₃	
13-59	SCH ₂ CH ₃	CH ₂ C(CH ₃) ₂ SO ₂ CH ₂ CF ₃	
13-60	SCH ₂ CH ₃		
13-61	SCH ₂ CH ₃		
13-62	SCH ₂ CH ₃	CH ₂ C(CH ₃) ₂ NHCO ₂ CH ₃	
13-63	SCH ₂ CH ₃	CH ₂ C(CH ₃) ₂ N(CH ₃)(SO ₂ CH ₃)	
13-64	S(CH ₃) ₂ CH ₃	CH ₃	
13-65	S(CH ₃) ₂ CH ₃	CF ₃	
13-66	S(CH ₃) ₂ CH ₃	CH ₃ CH ₃	
13-67	S(CH ₃) ₂ CH ₃	CH ₃ OCH ₂ CH ₃	
13-68	S(CH ₃) ₂ CH ₃		
13-69	S(CH ₃) ₂ CH ₃	CH ₂ CCH ₂ CF ₃	
13-100	S(CH ₃) ₂ CH ₃	CH ₂ SOCH ₃	
13-101	S(CH ₃) ₂ CH ₃	CH ₂ SOCH ₂ CH ₃	
13-102	S(CH ₃) ₂ CH ₃		
13-103	S(CH ₃) ₂ CH ₃	CH ₂ SOCH ₂ CF ₃	
13-104	S(CH ₃) ₂ CH ₃	CH ₂ SOCH ₃	
13-105	S(CH ₃) ₂ CH ₃	CH ₂ SOCH ₂ CH ₃	
13-106	S(CH ₃) ₂ CH ₃		
13-107	S(CH ₃) ₂ CH ₃	CH ₂ SOCH ₂ CF ₃	
13-108	S(CH ₃) ₂ CH ₃	CH ₂ SO ₂ CH ₃	
13-109	S(CH ₃) ₂ CH ₃	CH ₂ SO ₂ CH ₂ CH ₃	
13-110	S(CH ₃) ₂ CH ₃		
13-111	S(CH ₃) ₂ CH ₃	CH ₂ SO ₂ CH ₂ CF ₃	
13-112	S(CH ₃) ₂ CH ₃	CH ₂ C(CH ₃) ₂ CH ₃	
13-113	S(CH ₃) ₂ CH ₃	CH ₂ C(CH ₃) ₂ SOCH ₂ CH ₃	
13-114	S(CH ₃) ₂ CH ₃	CH ₂ C(CH ₃) ₂ CH ₂ CF ₃	
13-115	S(CH ₃) ₂ CH ₃	CH ₂ C(CH ₃) ₂ SOCH ₃	
13-116	S(CH ₃) ₂ CH ₃	CH ₂ C(CH ₃) ₂ SOCH ₂ CF ₃	
13-117	S(CH ₃) ₂ CH ₃	CH ₂ C(CH ₃) ₂ SOCH ₃	
13-118	S(CH ₃) ₂ CH ₃	CH ₂ C(CH ₃) ₂ SOCH ₂ CF ₃	
13-119	S(CH ₃) ₂ CH ₃	CH ₂ C(CH ₃) ₂ SO ₂ CH ₃	
13-120	S(CH ₃) ₂ CH ₃	CH ₂ C(CH ₃) ₂ SO ₂ CH ₂ CF ₃	

236

Table 144

compound number	R4	R1	physical property (melting point-ND)	compound number	R4	R1	physical property (melting point-ND)
13-121	S(CH ₂) ₂ CH ₃			12-141	SC ₆ H ₅		
13-122	S(CH ₂) ₂ CH ₃			13-142	SC ₆ H ₅	CH ₂ SO ₂ CH ₂ CF ₃	
13-123	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ NHSC ₂ H ₅		13-143	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ OCH ₃	
13-124	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ N(CH ₃)(SC ₂ H ₅)		12-144	SC ₂ H ₅	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	
13-125	SC ₂ H ₅	CH ₃		13-145	SC ₂ H ₅	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
13-126	SC ₆ H ₅	CF ₃		13-146	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ SCH ₃	
13-127	SC ₆ H ₅	CH ₂ OCH ₃		13-147	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃	
13-128	SC ₆ H ₅	CH ₂ OCH ₂ CH ₃		13-148	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ SOCH ₃	
12-129	SC ₆ H ₅			13-149	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
13-130	SC ₂ H ₅	CH ₂ OCH ₂ CF ₃		12-150	SC ₂ H ₅	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
13-131	SC ₂ H ₅	CH ₂ SCH ₃		12-151	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
13-132	SC ₆ H ₅	CH ₂ SCH ₂ CH ₃		13-152	SC ₆ H ₅		
12-133	SC ₆ H ₅			13-153	SC ₆ H ₅		
13-134	SC ₂ H ₅	CH ₂ SCH ₂ CF ₃		13-154	SC ₂ H ₅	CH ₂ O(CH ₂) ₂ NHSC ₂ H ₅	
13-135	SC ₂ H ₅	CH ₂ SCH ₂ CH ₃		13-155	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ N(CH ₃)(SC ₂ H ₅)	
13-136	SC ₆ H ₅	CH ₂ SOCH ₂ CH ₃		13-156	SC ₂ H ₅	CH ₃	
13-137	SC ₆ H ₅			13-157	SC ₂ H ₅	CF ₃	
13-138	SC ₆ H ₅	CH ₂ SOCH ₂ CF ₃		12-158	SC ₂ H ₅	CH ₂ CH ₃	
12-139	SC ₆ H ₅	CH ₂ SO ₂ CH ₃		13-159	SC ₂ H ₅	CH ₂ CH ₂ CH ₃	
13-140	SC ₂ H ₅	CH ₂ SO ₂ CH ₂ CH ₃		12-160	SC ₂ H ₅		

Table 145

compound number	R4	R1	physical property (melting point-ND)
13-161	$\text{SCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{SCH}_2\text{CF}_3$	
13-162	$\text{SCH}_2\text{C}_6\text{H}_5$	CH_2SCH_3	
13-163	$\text{SCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{SCH}_2\text{CH}_3$	
13-164	$\text{SCH}_2\text{C}_6\text{H}_5$		
13-165	$\text{SCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{SCH}_2\text{CF}_3$	
13-166	$\text{SCH}_2\text{C}_6\text{H}_5$	CH_2SCH_3	
13-167	$\text{SCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{SCH}_2\text{CH}_3$	
13-168	$\text{SCH}_2\text{C}_6\text{H}_5$		
13-169	$\text{SCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{SCH}_2\text{CF}_3$	
13-170	$\text{SCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{SCH}_2\text{CH}_3$	
13-171	$\text{SCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{SCH}_2\text{CH}_2\text{CH}_3$	
13-172	$\text{SCH}_2\text{C}_6\text{H}_5$		
13-173	$\text{SCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{SO}_2\text{CH}_2\text{CF}_3$	
13-174	$\text{SCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{C}(\text{CH}_3)_2\text{CH}_3$	
13-175	$\text{SCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{C}(\text{CH}_3)_2\text{CH}_2\text{CH}_3$	
13-176	$\text{SCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{C}(\text{CH}_3)_2\text{SCH}_2\text{CF}_3$	
13-177	$\text{SCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{C}(\text{CH}_3)_2\text{SCH}_3$	
13-178	$\text{SCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{C}(\text{CH}_3)_2\text{SCH}_2\text{CF}_3$	
13-179	$\text{SCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{C}(\text{CH}_3)_2\text{SCH}_3$	
13-180	$\text{SCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{C}(\text{CH}_3)_2\text{SCH}_2\text{CF}_3$	
13-181	$\text{SCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{C}(\text{CH}_3)_2\text{SCH}_2\text{CH}_3$	
13-182	$\text{SCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{C}(\text{CH}_3)_2\text{SCH}_2\text{CH}_2\text{CF}_3$	
13-183	$\text{SCH}_2\text{C}_6\text{H}_5$		
13-184	$\text{SCH}_2\text{C}_6\text{H}_5$		
13-185	$\text{SCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{C}(\text{CH}_3)_2\text{NHHSO}_2\text{CH}_3$	
13-186	$\text{SCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{C}(\text{CH}_3)_2\text{N}(\text{CH}_3)(\text{SO}_2\text{CH}_3)$	
13-187	1H-pyrazole-1-yl	CH_3	
13-188	1H-pyrazole-1-yl	CF_3	
13-189	1H-pyrazole-1-yl	CH_2CCH_3	
13-190	1H-pyrazole-1-yl	$\text{CH}_2\text{SCH}_2\text{CH}_3$	
13-191	1H-pyrazole-1-yl		
13-192	1H-pyrazole-1-yl	$\text{CH}_2\text{SCH}_2\text{CF}_3$	
13-193	1H-pyrazole-1-yl	CH_2SCH_3	
13-194	1H-pyrazole-1-yl	$\text{CH}_2\text{SCH}_2\text{CH}_3$	
13-195	1H-pyrazole-1-yl		
13-196	1H-pyrazole-1-yl	$\text{CH}_2\text{SCH}_2\text{CF}_3$	
13-197	1H-pyrazole-1-yl	$\text{CH}_2\text{SCH}_2\text{CH}_3$	
13-198	1H-pyrazole-1-yl	$\text{CH}_2\text{SCH}_2\text{CH}_3$	
13-199	1H-pyrazole-1-yl		
13-200	1H-pyrazole-1-yl	$\text{CH}_2\text{SCH}_2\text{CH}_2\text{CF}_3$	

Table 161

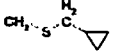
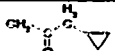
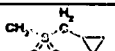
compound number	R13	R1	physical property (melting point-ND)
4-441	CH ₂ COCH ₃	CH ₂ SCH ₃	
4-442	CH ₂ COCH ₃	CH ₂ SCH ₂ CH ₃	
4-443	CH ₂ COCH ₃		
4-444	CH ₂ COCH ₃	CH ₂ SOCH ₂ CF ₃	
4-445	CH ₂ COCH ₃	CH ₂ SOCH ₃	
4-446	CH ₂ COCH ₃	CH ₂ SOCH ₂ CH ₃	
4-447	CH ₂ COCH ₃		
4-448	CH ₂ COCH ₃	CH ₂ SOCH ₂ CF ₃	
4-449	CH ₂ COCH ₃	CH ₂ SO ₂ CH ₃	
4-450	CH ₂ COCH ₃	CH ₂ SO ₂ CH ₂ CH ₃	
4-451	CH ₂ COCH ₃		
4-452	CH ₂ COCH ₃	CH ₂ SO ₂ CH ₂ CF ₃	
4-453	CH ₂ COCH ₃	CH ₂ C(CH ₃) ₂ COCH ₃	
4-454	CH ₂ COCH ₃	CH ₂ C(CH ₃) ₂ COCH ₂ CH ₃	
4-455	CH ₂ COCH ₃	CH ₂ C(CH ₃) ₂ COCH ₂ CF ₃	
4-456	CH ₂ COCH ₃	CH ₂ C(CH ₃) ₂ SOCH ₃	
4-457	CH ₂ COCH ₃	CH ₂ C(CH ₃) ₂ SOCH ₂ CF ₃	
4-458	CH ₂ COCH ₃	CH ₂ C(CH ₃) ₂ SOCH ₃	
4-459	CH ₂ COCH ₃	CH ₂ C(CH ₃) ₂ SOCH ₂ CF ₃	
4-460	CH ₂ COCH ₃	CH ₂ C(CH ₃) ₂ SO ₂ CH ₃	
4-461	CH ₂ COCH ₃	CH ₂ C(CH ₃) ₂ SO ₂ CH ₂ CF ₃	
4-462	CH ₂ COCH ₃	CH ₂ C(CH ₃) ₂ SO ₂ CH ₃	
4-463	CH ₂ COCH ₃		
4-464	CH ₂ COCH ₃	CH ₂ C(CH ₃) ₂ NHSC ₂ H ₅	
4-465	CH ₂ COCH ₃	CH ₂ C(CH ₃) ₂ N(CH ₃)SO ₂ CH ₃	
14-466	CH ₂ COCH ₂ H ₆	CH ₃	
14-467	CH ₂ COCH ₂ H ₆	CF ₃	
14-468	CH ₂ COCH ₂ H ₆	CH ₂ COCH ₃	
14-469	CH ₂ COCH ₂ H ₆	CH ₂ COCH ₂ CH ₃	
14-470	CH ₂ COCH ₂ H ₆		
14-471	CH ₂ COCH ₂ H ₆	CH ₂ COCH ₂ CF ₃	
14-472	CH ₂ COCH ₂ H ₆	CH ₂ SOCH ₃	
14-473	CH ₂ COCH ₂ H ₆	CH ₂ SOCH ₂ CH ₃	
14-474	CH ₂ COCH ₂ H ₆		
14-475	CH ₂ COCH ₂ H ₆	CH ₂ SOCH ₂ CF ₃	
14-476	CH ₂ COCH ₂ H ₆	CH ₂ SOCH ₃	
14-477	CH ₂ COCH ₂ H ₆	CH ₂ SOCH ₂ CH ₃	
14-478	CH ₂ COCH ₂ H ₆		
14-479	CH ₂ COCH ₂ H ₆	CH ₂ SOCH ₂ CF ₃	
14-480	CH ₂ COCH ₂ H ₆	CH ₂ SO ₂ CH ₃	

Table 162

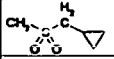
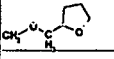
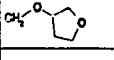
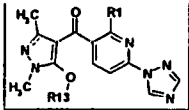
compound number	R13	R1	physical property (melting point-ND)
14-481	$\text{CH}_2\text{COO}_2\text{H}_2$	$\text{CH}_2\text{SO}_2\text{CH}_2\text{CH}_3$	
14-482	$\text{CH}_2\text{COO}_2\text{H}_2$		
14-483	$\text{CH}_2\text{COO}_2\text{H}_2$	$\text{CH}_2\text{SO}_2\text{CH}_2\text{CF}_3$	
14-484	$\text{CH}_2\text{COO}_2\text{H}_2$	$\text{CH}_2\text{S}(\text{CH}_2)_2\text{SCH}_3$	
14-485	$\text{CH}_2\text{COO}_2\text{H}_2$	$\text{CH}_2\text{S}(\text{CH}_2)_2\text{SCH}_2\text{CH}_3$	
14-486	$\text{CH}_2\text{COO}_2\text{H}_2$	$\text{CH}_2\text{S}(\text{CH}_2)_2\text{SCH}_2\text{CF}_3$	
14-487	$\text{CH}_2\text{COO}_2\text{H}_2$	$\text{CH}_2\text{S}(\text{CH}_2)_2\text{SCH}_3$	
14-488	$\text{CH}_2\text{COO}_2\text{H}_2$	$\text{CH}_2\text{S}(\text{CH}_2)_2\text{SCH}_2\text{CF}_3$	
14-489	$\text{CH}_2\text{COO}_2\text{H}_2$	$\text{CH}_2\text{S}(\text{CH}_2)_2\text{SCH}_2\text{CH}_3$	
14-490	$\text{CH}_2\text{COO}_2\text{H}_2$	$\text{CH}_2\text{S}(\text{CH}_2)_2\text{SCH}_2\text{CF}_3$	
14-491	$\text{CH}_2\text{COO}_2\text{H}_2$	$\text{CH}_2\text{S}(\text{CH}_2)_2\text{SO}_2\text{CH}_3$	
14-492	$\text{CH}_2\text{COO}_2\text{H}_2$	$\text{CH}_2\text{S}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{CF}_3$	
14-493	$\text{CH}_2\text{COO}_2\text{H}_2$		
14-494	$\text{CH}_2\text{COO}_2\text{H}_2$		
14-495	$\text{CH}_2\text{COO}_2\text{H}_2$	$\text{CH}_2\text{S}(\text{CH}_2)_2\text{NHSO}_2\text{CH}_3$	
14-496	$\text{CH}_2\text{COO}_2\text{H}_2$	$\text{CH}_2\text{S}(\text{CH}_2)_2\text{N}(\text{CH}_3)(\text{SO}_2\text{CH}_3)$	

Table 163



compound number	R13	R1	physical property (melting point-ND)	compound number	R13	R1	physical property (melting point-ND)
15-1	CH ₃	CH ₃		15-21	CH ₃	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
15-2	CH ₃	CF ₃		15-22	CH ₃	CH ₂ O(CH ₂) ₂ SCH ₃	
15-3	CH ₃	CH ₂ OCH ₃		15-23	CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₃	
15-4	CH ₃	CH ₂ OCH ₂ CH ₃		15-24	CH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
15-5	CH ₃			15-25	CH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
15-6	CH ₃	CH ₂ OCH ₂ CF ₃		15-26	CH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
15-7	CH ₃	CH ₂ SCH ₃		15-27	CH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
15-8	CH ₃	CH ₂ SOCH ₂ CH ₃		15-28	CH ₃		
15-9	CH ₃			15-29	CH ₃		
15-10	CH ₃	CH ₂ SOCH ₂ CF ₃		15-30	CH ₃	CH ₂ O(CH ₂) ₂ NHCO ₂ CH ₃	
15-11	CH ₃	CH ₂ SOCH ₃		15-31	CH ₃	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	
15-12	CH ₃	CH ₂ SOCH ₂ CH ₃		15-32	CH ₂ CH ₃	CH ₃	
15-13	CH ₃			15-33	CH ₂ CH ₃	CF ₃	
15-14	CH ₃	CH ₂ SOCH ₂ CF ₃		15-34	CH ₂ CH ₃	CH ₂ OCH ₃	
15-15	CH ₃	CH ₂ SO ₂ CH ₃		15-35	CH ₂ CH ₃	CH ₂ SOCH ₂ CH ₃	
15-16	CH ₃	CH ₂ SO ₂ CH ₂ CH ₃		15-36	CH ₂ CH ₃		
15-17	CH ₃			15-37	CH ₂ CH ₃	CH ₂ OCH ₂ CF ₃	
15-18	CH ₃	CH ₂ SO ₂ CH ₂ CF ₃		15-38	CH ₂ CH ₃	CH ₂ SOCH ₃	
15-19	CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₃		15-39	CH ₂ CH ₃	CH ₂ SOCH ₂ CH ₃	
15-20	CH ₃	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃		15-40	CH ₂ CH ₃		

Table 164

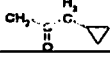
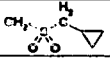
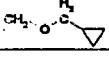
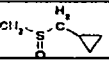
compound number	R13	R1	physical property (melting point-ND)
15-41	CH ₃ CH ₃	CH ₂ SOCH ₂ CF ₃	
15-42	CH ₃ CH ₃	CH ₂ SOCH ₃	
15-43	CH ₃ CH ₃	CH ₂ SOCH ₂ CH ₃	
15-44	CH ₃ CH ₃		
15-45	CH ₃ CH ₃	CH ₂ SOCH ₂ CF ₃	
15-46	CH ₃ CH ₃	CH ₂ SO ₂ CH ₃	
15-47	CH ₃ CH ₃	CH ₂ SO ₂ CH ₂ CH ₃	
15-48	CH ₃ CH ₃		
15-49	CH ₃ CH ₃	CH ₂ SO ₂ CH ₂ CF ₃	
15-50	CH ₃ CH ₃	CH ₂ O(CH ₂) ₂ OCH ₃	
15-51	CH ₃ CH ₃	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	
15-52	CH ₃ CH ₃	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
15-53	CH ₃ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₃	
15-54	CH ₃ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
15-55	CH ₃ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₃	
15-56	CH ₃ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
15-57	CH ₃ CH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
15-58	CH ₃ CH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
15-59	CH ₃ CH ₃		
15-60	CH ₃ CH ₃		
15-61	CH ₃ CH ₃	CH ₂ O(CH ₂) ₂ NHSC ₂ H ₅	
15-62	CH ₃ CH ₃	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	
15-63	(CH ₃) ₂ CH ₃	CH ₃	
15-64	(CH ₃) ₂ CH ₃	CF ₃	
15-65	(CH ₃) ₂ CH ₃	CH ₂ COCH ₃	
15-66	(CH ₃) ₂ CH ₃	CH ₂ COCH ₂ CH ₃	
15-67	(CH ₃) ₂ CH ₃		
15-68	(CH ₃) ₂ CH ₃	CH ₂ SOCH ₂ CF ₃	
15-69	(CH ₃) ₂ CH ₃	CH ₂ SOCH ₃	
15-70	(CH ₃) ₂ CH ₃	CH ₂ SOCH ₂ CH ₃	
15-71	(CH ₃) ₂ CH ₃		
15-72	(CH ₃) ₂ CH ₃	CH ₂ SOCH ₂ CF ₃	
15-73	(CH ₃) ₂ CH ₃	CH ₂ SOCH ₃	
15-74	(CH ₃) ₂ CH ₃	CH ₂ SOCH ₂ CH ₃	
15-75	(CH ₃) ₂ CH ₃		
15-76	(CH ₃) ₂ CH ₃	CH ₂ SOCH ₂ CF ₃	
15-77	(CH ₃) ₂ CH ₃	CH ₂ SO ₂ CH ₃	
15-78	(CH ₃) ₂ CH ₃	CH ₂ SO ₂ CH ₂ CH ₃	
15-79	(CH ₃) ₂ CH ₃		
15-80	(CH ₃) ₂ CH ₃	CH ₂ SO ₂ CH ₂ CF ₃	

Table 165

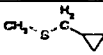
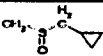
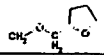
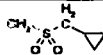
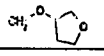
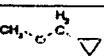
compound number	R13	R1	physical property (melting point-ND)	compound number	R13	R1	physical property (melting point-ND)
15-81	(CH ₃) ₂ CH ₃	CH ₂ O(CH ₂) ₂ OCH ₃		15-101	CH ₂ CH=CH ₂	CH ₂ SOCH ₂ CH ₃	
15-82	(CH ₃) ₂ CH ₃	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃		15-102	CH ₂ CH=CH ₂		
15-83	(CH ₃) ₂ CH ₃	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃		15-103	CH ₂ CH=CH ₂	CH ₂ SOCH ₂ CF ₃	
15-84	(CH ₃) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₃		15-104	CH ₂ CH=CH ₂	CH ₂ SOCH ₃	
15-85	(CH ₃) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃		15-105	CH ₂ CH=CH ₂	CH ₂ SOCH ₂ CH ₃	
15-86	(CH ₃) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₃		15-106	CH ₂ CH=CH ₂		
15-87	(CH ₃) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃		15-107	CH ₂ CH=CH ₂	CH ₂ SOCH ₂ CF ₃	
15-88	(CH ₃) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃		15-108	CH ₂ CH=CH ₂	CH ₂ SO ₂ CH ₃	
15-89	(CH ₃) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃		15-109	CH ₂ CH=CH ₂	CH ₂ SO ₂ CH ₂ CH ₃	
15-90	(CH ₃) ₂ CH ₃			15-110	CH ₂ CH=CH ₂		
15-91	(CH ₃) ₂ CH ₃			15-111	CH ₂ CH=CH ₂	CH ₂ SO ₂ CH ₂ CF ₃	
15-92	(CH ₃) ₂ CH ₃	CH ₂ O(CH ₂) ₂ HSO ₂ CH ₃		15-112	CH ₂ CH=CH ₂	CH ₂ O(CH ₂) ₂ OCH ₃	
15-93	(CH ₃) ₂ CH ₃	CH ₂ O(CH ₂) ₂ N(CH ₃)SO ₂ CH ₃		15-113	CH ₂ CH=CH ₂	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	
15-94	CH ₂ CH=CH ₂	CH ₃		15-114	CH ₂ CH=CH ₂	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
15-95	CH ₂ CH=CH ₂	CF ₃		15-115	CH ₂ CH=CH ₂	CH ₂ O(CH ₂) ₂ SOCH ₃	
15-96	CH ₂ CH=CH ₂	CH ₃ OCH ₃		15-116	CH ₂ CH=CH ₂	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
15-97	CH ₂ CH=CH ₂	CH ₂ OCH ₂ CH ₃		15-117	CH ₂ CH=CH ₂	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
15-98	CH ₂ CH=CH ₂			15-118	CH ₂ CH=CH ₂	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
15-99	CH ₂ CH=CH ₂	CH ₂ OCH ₂ CF ₃		15-119	CH ₂ CH=CH ₂	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CH ₃	
15-100	CH ₂ CH=CH ₂	CH ₂ SOCH ₃		15-120	CH ₂ CH=CH ₂	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	

Table 166

compound number	R13	R1	physical property (melting point-ND)
15-121	$\text{CH}_2\text{CH}=\text{CH}_2$		
15-122	$\text{CH}_2\text{CH}=\text{CH}_2$		
15-123	$\text{CH}_2\text{CH}=\text{CH}_2$	$\text{CH}_2\text{C}(\text{CH}_3)_2\text{NHSO}_2\text{CH}_3$	
15-124	$\text{CH}_2\text{CH}=\text{CH}_2$	$\text{CH}_2\text{C}(\text{CH}_3)_2\text{N}(\text{CH}_3)(\text{SO}_2\text{CH}_3)$	
15-125	$\text{CH}_2\text{CH}=\text{CH}_2$	CH_3	
15-126	$\text{CH}_2\text{CH}=\text{CH}_2$	CF_3	
15-127	$\text{CH}_2\text{CH}=\text{CH}_2$	CH_2SCH_3	
15-128	$\text{CH}_2\text{CH}=\text{CH}_2$	$\text{CH}_2\text{SCH}_2\text{CH}_3$	
15-129	$\text{CH}_2\text{CH}=\text{CH}_2$		
15-130	$\text{CH}_2\text{CH}=\text{CH}_2$	$\text{CH}_2\text{SCH}_2\text{CF}_3$	
15-131	$\text{CH}_2\text{CH}=\text{CH}_2$	CH_2SCH_3	
15-132	$\text{CH}_2\text{CH}=\text{CH}_2$	$\text{CH}_2\text{SCH}_2\text{CH}_3$	
15-133	$\text{CH}_2\text{CH}=\text{CH}_2$		
15-134	$\text{CH}_2\text{CH}=\text{CH}_2$	$\text{CH}_2\text{SCH}_2\text{CF}_3$	
15-135	$\text{CH}_2\text{CH}=\text{CH}_2$	CH_2SCCH_3	
15-136	$\text{CH}_2\text{CH}=\text{CH}_2$	$\text{CH}_2\text{SCH}_2\text{CH}_3$	
15-137	$\text{CH}_2\text{CH}=\text{CH}_2$		
15-138	$\text{CH}_2\text{CH}=\text{CH}_2$	$\text{CH}_2\text{SCH}_2\text{CF}_3$	
15-139	$\text{CH}_2\text{CH}=\text{CH}_2$	$\text{CH}_2\text{SO}_2\text{CH}_3$	
15-140	$\text{CH}_2\text{CH}=\text{CH}_2$	$\text{CH}_2\text{SO}_2\text{CH}_2\text{CH}_3$	
15-141	$\text{CH}_2\text{CH}=\text{CH}_2$		
15-142	$\text{CH}_2\text{CH}=\text{CH}_2$	$\text{CH}_2\text{SO}_2\text{CH}_2\text{CF}_3$	
15-143	$\text{CH}_2\text{CH}=\text{CH}_2$	$\text{CH}_2\text{C}(\text{CH}_3)_2\text{SCH}_3$	
15-144	$\text{CH}_2\text{CH}=\text{CH}_2$	$\text{CH}_2\text{C}(\text{CH}_3)_2\text{SCH}_2\text{CH}_3$	
15-145	$\text{CH}_2\text{CH}=\text{CH}_2$	$\text{CH}_2\text{C}(\text{CH}_3)_2\text{SCH}_2\text{CF}_3$	
15-146	$\text{CH}_2\text{CH}=\text{CH}_2$	$\text{CH}_2\text{C}(\text{CH}_3)_2\text{SCH}_3$	
15-147	$\text{CH}_2\text{CH}=\text{CH}_2$	$\text{CH}_2\text{C}(\text{CH}_3)_2\text{SCH}_2\text{CF}_3$	
15-148	$\text{CH}_2\text{CH}=\text{CH}_2$	$\text{CH}_2\text{C}(\text{CH}_3)_2\text{SCH}_2\text{CH}_3$	
15-149	$\text{CH}_2\text{CH}=\text{CH}_2$	$\text{CH}_2\text{C}(\text{CH}_3)_2\text{SCH}_2\text{CF}_3$	
15-150	$\text{CH}_2\text{CH}=\text{CH}_2$	$\text{CH}_2\text{C}(\text{CH}_3)_2\text{SC}_2\text{CH}_3$	
15-151	$\text{CH}_2\text{CH}=\text{CH}_2$	$\text{CH}_2\text{C}(\text{CH}_3)_2\text{SC}_2\text{CH}_2\text{CF}_3$	
15-152	$\text{CH}_2\text{CH}=\text{CH}_2$		
15-153	$\text{CH}_2\text{CH}=\text{CH}_2$		
15-154	$\text{CH}_2\text{CH}=\text{CH}_2$	$\text{CH}_2\text{C}(\text{CH}_3)_2\text{NHSC}_2\text{CH}_3$	
15-155	$\text{CH}_2\text{CH}=\text{CH}_2$	$\text{CH}_2\text{C}(\text{CH}_3)_2\text{N}(\text{CH}_3)(\text{SC}_2\text{CH}_3)$	
15-156	$\text{CH}_2\text{C}_6\text{H}_5$	CH_3	
15-157	$\text{CH}_2\text{C}_6\text{H}_5$	CF_3	
15-158	$\text{CH}_2\text{C}_6\text{H}_5$	CH_2SCH_3	
15-159	$\text{CH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{SCH}_2\text{CH}_3$	
15-160	$\text{CH}_2\text{C}_6\text{H}_5$		

Table 167

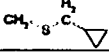
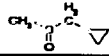
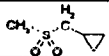
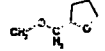
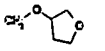
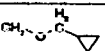
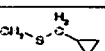
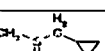
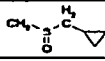
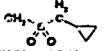
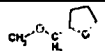
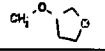
compound number	R13	R1	physical property (melting point-ND)
15-161	CH ₃ C ₂ H ₅	CH ₃ OCH ₂ CF ₃	
15-162	CH ₃ C ₂ H ₅	CH ₃ SCH ₃	
15-163	CH ₃ C ₂ H ₅	CH ₃ SOCH ₂ CH ₃	
15-164	CH ₃ C ₂ H ₅		
15-165	CH ₃ C ₂ H ₅	CH ₃ SOCH ₂ CF ₃	
15-166	CH ₃ C ₂ H ₅	CH ₃ SOCH ₃	
15-167	CH ₃ C ₂ H ₅	CH ₃ SOCH ₂ CH ₃	
15-168	CH ₃ C ₂ H ₅		
15-169	CH ₃ C ₂ H ₅	CH ₃ SOCH ₂ CF ₃	
15-170	CH ₃ C ₂ H ₅	CH ₃ SO ₂ CH ₃	
15-171	CH ₃ C ₂ H ₅	CH ₃ SO ₂ CH ₂ CH ₃	
15-172	CH ₃ C ₂ H ₅		
15-173	CH ₃ C ₂ H ₅	CH ₃ SO ₂ CH ₂ CF ₃	
15-174	CH ₃ C ₂ H ₅	CH ₃ O(CH ₂) ₂ OCH ₃	
15-175	CH ₃ C ₂ H ₅	CH ₃ O(CH ₂) ₂ OCH ₂ CH ₃	
15-176	CH ₃ C ₂ H ₅	CH ₃ O(CH ₂) ₂ OCH ₂ CF ₃	
15-177	CH ₃ C ₂ H ₅	CH ₃ O(CH ₂) ₂ SOCH ₃	
15-178	CH ₃ C ₂ H ₅	CH ₃ O(CH ₂) ₂ SOCH ₂ CF ₃	
15-179	CH ₃ C ₂ H ₅	CH ₃ O(CH ₂) ₂ SOCH ₃	
15-180	CH ₃ C ₂ H ₅	CH ₃ O(CH ₂) ₂ SOCH ₂ CF ₃	
15-181	CH ₃ C ₂ H ₅	CH ₃ O(CH ₂) ₂ SO ₂ CH ₃	
15-182	CH ₃ C ₂ H ₅	CH ₃ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
15-183	CH ₃ C ₂ H ₅		
15-184	CH ₃ C ₂ H ₅		
15-185	CH ₃ C ₂ H ₅	CH ₃ O(CH ₂) ₂ NHISO ₂ CH ₃	
15-186	CH ₃ C ₂ H ₅	CH ₃ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	
15-187	SO ₂ CH ₃	CH ₃	
15-188	SO ₂ CH ₃	CF ₃	
15-189	SO ₂ CH ₃	CH ₃ CH ₂ CH ₃	
15-190	SO ₂ CH ₃	CH ₃ SOCH ₂ CH ₃	
15-191	SO ₂ CH ₃		
15-192	SO ₂ CH ₃	CH ₃ OCH ₂ CF ₃	
15-193	SO ₂ CH ₃	CH ₃ SOCH ₃	
15-194	SO ₂ CH ₃	CH ₃ SOCH ₂ CH ₃	
15-195	SO ₂ CH ₃		
15-196	SO ₂ CH ₃	CH ₃ SOCH ₂ CF ₃	
15-197	SO ₂ CH ₃	CH ₃ SOCH ₃	
15-198	SO ₂ CH ₃	CH ₃ SOCH ₂ CH ₃	
15-199	SO ₂ CH ₃		
15-200	SO ₂ CH ₃	CH ₃ SOCH ₂ CF ₃	

Table 168

compound number	R13	R1	physical property (melting point-ND)	compound number	R13	R1	physical property (melting point-ND)
15-201	SO ₂ CH ₃	CH ₂ SO ₂ CH ₃		15-221	SO ₂ CH ₂ CH ₃	CH ₂ OCH ₂ CH ₃	
15-202	SO ₂ CH ₃	CH ₂ SO ₂ CH ₂ CH ₃		15-222	SO ₂ CH ₂ CH ₃		
15-203	SO ₂ CH ₃			15-223	SO ₂ CH ₂ CH ₃	CH ₂ OCH ₂ CF ₃	
15-204	SO ₂ CH ₃	CH ₂ SO ₂ CH ₂ CF ₃		15-224	SO ₂ CH ₂ CH ₃	CH ₂ SOCH ₃	
15-205	SO ₂ CH ₃	CH ₂ O(CH ₂) ₂ OCH ₃		15-225	SO ₂ CH ₂ CH ₃	CH ₂ SOCH ₂ CH ₃	
15-206	SO ₂ CH ₃	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃		15-226	SO ₂ CH ₂ CH ₃		
15-207	SO ₂ CH ₃	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃		15-227	SO ₂ CH ₂ CH ₃	CH ₂ SOCH ₂ CF ₃	
15-208	SO ₂ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₃		15-228	SO ₂ CH ₂ CH ₃	CH ₂ SOCH ₃	
15-209	SO ₂ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃		15-229	SO ₂ CH ₂ CH ₃	CH ₂ SOCH ₂ CH ₃	
15-210	SO ₂ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₃		15-230	SO ₂ CH ₂ CH ₃		
15-211	SO ₂ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃		15-231	SO ₂ CH ₂ CH ₃	CH ₂ SOCH ₂ CF ₃	
15-212	SO ₂ CH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃		15-232	SO ₂ CH ₂ CH ₃	CH ₂ SO ₂ CH ₃	
15-213	SO ₂ CH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃		15-233	SO ₂ CH ₂ CH ₃	CH ₂ SO ₂ CH ₂ CH ₃	
15-214	SO ₂ CH ₃			15-234	SO ₂ CH ₂ CH ₃		
15-215	SO ₂ CH ₃			15-235	SO ₂ CH ₂ CH ₃	CH ₂ SO ₂ CH ₂ CF ₃	
15-216	SO ₂ CH ₃	CH ₂ O(CH ₂) ₂ NH ₂ SO ₂ CH ₃		15-236	SO ₂ CH ₂ CH ₃	CH ₂ O(CH ₂) ₂ OCH ₃	
15-217	SO ₂ CH ₃	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)		15-237	SO ₂ CH ₂ CH ₃	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	
15-218	SO ₂ CH ₂ CH ₃	CH ₃		15-238	SO ₂ CH ₂ CH ₃	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
15-219	SO ₂ CH ₂ CH ₃	CF ₃		15-239	SO ₂ CH ₂ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₃	
15-220	SO ₂ CH ₂ CH ₃	CH ₂ OCH ₃		15-240	SO ₂ CH ₂ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	

Table 169

compound number	R13	R1	physical property (melting point-ND)	compound number	R13	R1	physical property (melting point-ND)
15-241	SO ₂ CH ₂ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₃		15-261	SO ₂ (CH ₂) ₂ CH ₃		
15-242	SO ₂ CH ₂ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃		15-262	SO ₂ (CH ₂) ₂ CH ₃	CH ₂ SOCH ₂ CF ₃	
15-243	SO ₂ CH ₂ CH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃		15-263	SO ₂ (CH ₂) ₂ CH ₃	CH ₂ SO ₂ CH ₃	
15-244	SO ₂ CH ₂ CH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃		15-264	SO ₂ (CH ₂) ₂ CH ₃	CH ₂ SO ₂ CH ₂ CH ₃	
15-245	SO ₂ CH ₂ CH ₃			15-265	SO ₂ (CH ₂) ₂ CH ₃		
15-246	SO ₂ CH ₂ CH ₃			15-266	SO ₂ (CH ₂) ₂ CH ₃	CH ₂ SO ₂ CH ₂ CF ₃	
15-247	SO ₂ CH ₂ CH ₃	CH ₂ O(CH ₂) ₂ NH ₂ SO ₂ CH ₃		15-267	SO ₂ (CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₃	
15-248	SO ₂ CH ₂ CH ₃	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)		15-268	SO ₂ (CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₂ CH ₃	
15-249	SO ₂ (CH ₂) ₂ CH ₃	CH ₃		15-269	SO ₂ (CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
15-250	SO ₂ (CH ₂) ₂ CH ₃	CF ₃		15-270	SO ₂ (CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₃	
15-251	SO ₂ (CH ₂) ₂ CH ₃	CH ₂ OCH ₃		15-271	SO ₂ (CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
15-252	SO ₂ (CH ₂) ₂ CH ₃	CH ₂ OCH ₂ CH ₃		15-272	SO ₂ (CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₃	
15-253	SO ₂ (CH ₂) ₂ CH ₃			15-273	SO ₂ (CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
15-254	SO ₂ (CH ₂) ₂ CH ₃	CH ₂ OCH ₂ CF ₃		15-274	SO ₂ (CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
15-255	SO ₂ (CH ₂) ₂ CH ₃	CH ₂ SOCH ₃		15-275	SO ₂ (CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
15-256	SO ₂ (CH ₂) ₂ CH ₃	CH ₂ SOCH ₂ CH ₃		15-276	SO ₂ (CH ₂) ₂ CH ₃		
15-257	SO ₂ (CH ₂) ₂ CH ₃			15-277	SO ₂ (CH ₂) ₂ CH ₃		
15-258	SO ₂ (CH ₂) ₂ CH ₃	CH ₂ SOCH ₂ CF ₃		15-278	SO ₂ (CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ NH ₂ SO ₂ CH ₃	
15-259	SO ₂ (CH ₂) ₂ CH ₃	CH ₂ SOCH ₃		15-279	SO ₂ (CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	
15-260	SO ₂ (CH ₂) ₂ CH ₃	CH ₂ SOCH ₂ CH ₃		15-280	SO ₂ C ₆ H ₅	CH ₃	

24A

Table 170

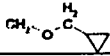
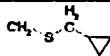
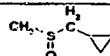
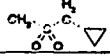
compound number	R13	R1	physical property (melting point-40D)	compound number	R13	R1	physical property (melting point-40D)
15-281	SO ₂ C ₆ H ₅	CF ₃		15-301	SO ₂ C ₆ H ₅	CH ₂ C(CH ₃) ₂ SOCH ₃	
15-282	SO ₂ C ₆ H ₅	CH ₂ COCH ₃		15-302	SO ₂ C ₆ H ₅	CH ₂ C(CH ₃) ₂ SOCH ₂ CF ₃	
15-283	SO ₂ C ₆ H ₅	CH ₂ COCH ₂ CH ₃		15-303	SO ₂ C ₆ H ₅	CH ₂ C(CH ₃) ₂ SOCH ₂ CH ₃	
15-284	SO ₂ C ₆ H ₅			15-304	SO ₂ C ₆ H ₅	CH ₂ C(CH ₃) ₂ SOCH ₂ CF ₃	
15-285	SO ₂ C ₆ H ₅	CH ₂ SOCH ₂ CF ₃		15-305	SO ₂ C ₆ H ₅	CH ₂ C(CH ₃) ₂ SO ₂ CH ₃	
15-286	SO ₂ C ₆ H ₅	CH ₂ SOCH ₃		15-306	SO ₂ C ₆ H ₅	CH ₂ C(CH ₃) ₂ SO ₂ CH ₂ CF ₃	
15-287	SO ₂ C ₆ H ₅	CH ₂ SOCH ₂ CH ₃		15-307	SO ₂ C ₆ H ₅		
15-288	SO ₂ C ₆ H ₅			15-308	SO ₂ C ₆ H ₅		
15-289	SO ₂ C ₆ H ₅	CH ₂ SOCH ₂ CF ₃		15-309	SO ₂ C ₆ H ₅	CH ₂ C(CH ₃) ₂ NH ₂ SO ₂ CH ₃	
15-290	SO ₂ C ₆ H ₅	CH ₂ SOCH ₃		15-310	SO ₂ C ₆ H ₅	CH ₂ C(CH ₃) ₂ N(CH ₃)(SO ₂ CH ₃)	
15-291	SO ₂ C ₆ H ₅	CH ₂ SOCH ₂ CH ₃		15-311	SO ₂ (4-CH ₃)C ₆ H ₄	CH ₃	
15-292	SO ₂ C ₆ H ₅			15-312	SO ₂ (4-CH ₃)C ₆ H ₄	CF ₃	
15-293	SO ₂ C ₆ H ₅	CH ₂ SOCH ₂ CF ₃		15-313	SO ₂ (4-CH ₃)C ₆ H ₄	CH ₂ SOCH ₃	
15-294	SO ₂ C ₆ H ₅	CH ₂ SOCH ₂ CH ₃		15-314	SO ₂ (4-CH ₃)C ₆ H ₄	CH ₂ COCH ₂ CH ₃	
15-295	SO ₂ C ₆ H ₅	CH ₂ SO ₂ CH ₂ CH ₃		15-315	SO ₂ (4-CH ₃)C ₆ H ₄		
15-296	SO ₂ C ₆ H ₅			15-316	SO ₂ (4-CH ₃)C ₆ H ₄	CH ₂ COCH ₂ CF ₃	
15-297	SO ₂ C ₆ H ₅	CH ₂ SO ₂ CH ₂ CF ₃		15-317	SO ₂ (4-CH ₃)C ₆ H ₄	CH ₂ SOCH ₃	
15-298	SO ₂ C ₆ H ₅	CH ₂ SO(CH ₂) ₂ CH ₃		15-318	SO ₂ (4-CH ₃)C ₆ H ₄	CH ₂ SOCH ₂ CH ₃	
15-299	SO ₂ C ₆ H ₅	CH ₂ C(CH ₃) ₂ SOCH ₂ CH ₃		15-319	SO ₂ (4-CH ₃)C ₆ H ₄		
15-300	SO ₂ C ₆ H ₅	CH ₂ C(CH ₃) ₂ SOCH ₂ CF ₃		15-320	SO ₂ (4-CH ₃)C ₆ H ₄	CH ₂ SOCH ₂ CF ₃	

Table 171

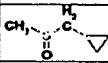
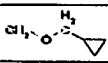
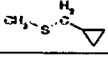
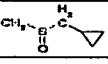
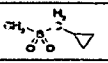
compound number	R13	R1	physical property (melting point-ND)	compound number	R13	R1	physical property (melting point-ND)
15-321	SO ₂ (4-CH ₃)C ₆ H ₄	CH ₂ SOCH ₃		15-341	SO ₂ (4-CH ₃)C ₆ H ₄	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	
15-322	SO ₂ (4-CH ₃)C ₆ H ₄	CH ₂ SOCH ₂ CH ₃		15-342	COCH ₃	CH ₃	
15-323	SO ₂ (4-CH ₃)C ₆ H ₄			15-343	COCH ₃	CF ₃	
15-324	SO ₂ (4-CH ₃)C ₆ H ₄	CH ₂ SOCH ₂ CF ₃		15-344	COCH ₃	CH ₂ SOCH ₃	
15-325	SO ₂ (4-CH ₃)C ₆ H ₄	CH ₂ SO ₂ CH ₃		15-345	COCH ₃	CH ₂ SOCH ₂ CH ₃	
15-326	SO ₂ (4-CH ₃)C ₆ H ₄	CH ₂ SO ₂ CH ₂ CH ₃		15-346	COCH ₃		
15-327	SO ₂ (4-CH ₃)C ₆ H ₄			15-347	COCH ₃	CH ₂ SOCH ₂ CF ₃	
15-328	SO ₂ (4-CH ₃)C ₆ H ₄	CH ₂ SO ₂ CH ₂ CF ₃		15-348	COCH ₃	CH ₂ SOCH ₃	
15-329	SO ₂ (4-CH ₃)C ₆ H ₄	CH ₂ O(CH ₂) ₂ SOCH ₃		15-349	COCH ₃	CH ₂ SOCH ₂ CH ₃	
15-330	SO ₂ (4-CH ₃)C ₆ H ₄	CH ₂ O(CH ₂) ₂ SOCH ₂ CH ₃		15-350	COCH ₃		
15-331	SO ₂ (4-CH ₃)C ₆ H ₄	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃		15-351	COCH ₃	CH ₂ SOCH ₂ CF ₃	
15-332	SO ₂ (4-CH ₃)C ₆ H ₄	CH ₂ O(CH ₂) ₂ SOCH ₃		15-352	COCH ₃	CH ₂ SOCH ₃	
15-333	SO ₂ (4-CH ₃)C ₆ H ₄	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃		15-353	COCH ₃	CH ₂ SOCH ₂ CH ₃	
15-334	SO ₂ (4-CH ₃)C ₆ H ₄	CH ₂ O(CH ₂) ₂ SOCH ₃		15-354	COCH ₃		
15-335	SO ₂ (4-CH ₃)C ₆ H ₄	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃		15-355	COCH ₃	CH ₂ SOCH ₂ CF ₃	
15-336	SO ₂ (4-CH ₃)C ₆ H ₄	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃		15-356	COCH ₃	CH ₂ SO ₂ CH ₃	
15-337	SO ₂ (4-CH ₃)C ₆ H ₄	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃		15-357	COCH ₃	CH ₂ SO ₂ CH ₂ CH ₃	
15-338	SO ₂ (4-CH ₃)C ₆ H ₄			15-358	COCH ₃		
15-339	SO ₂ (4-CH ₃)C ₆ H ₄			15-359	COCH ₃	CH ₂ SO ₂ CH ₂ CF ₃	
15-340	SO ₂ (4-CH ₃)C ₆ H ₄	CH ₂ O(CH ₂) ₂ NH ₂ SO ₂ CH ₃		15-360	COCH ₃	CH ₂ O(CH ₂) ₂ SOCH ₃	

Table 172

compound number	R13	R1	physical property (melting point-ND)	compound number	R13	R1	physical property (melting point-ND)
15-361	COCH ₃	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃		15-351	COO ₂ H ₂		
15-362	COCH ₃	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃		15-352	COO ₂ H ₂	CH ₂ SOCH ₂ CF ₃	
15-363	COCH ₃	CH ₂ O(CH ₂) ₂ SCH ₃		15-363	COO ₂ H ₂	CH ₂ SOCH ₃	
15-364	COCH ₃	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃		15-364	COO ₂ H ₂	CH ₂ SOCH ₂ CH ₃	
15-365	COCH ₃	CH ₂ O(CH ₂) ₂ SOCH ₃		15-395	COO ₂ H ₂		
15-366	COCH ₃	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃		15-386	COO ₂ H ₂	CH ₂ SOCH ₂ CF ₃	
15-367	COCH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃		15-337	COO ₂ H ₂	CH ₂ SO ₂ CH ₃	
15-368	COCH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃		15-388	COO ₂ H ₂	CH ₂ SO ₂ CH ₂ CH ₃	
15-369	COCH ₃			15-339	COO ₂ H ₂		
15-370	COCH ₃			15-390	COO ₂ H ₂	CH ₂ SO ₂ CH ₂ CF ₃	
15-371	COCH ₃	CH ₂ O(CH ₂) ₂ NHCO ₂ CH ₃		15-351	COO ₂ H ₂	CH ₂ O(CH ₂) ₂ OCH ₃	
15-372	COCH ₃	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)		15-392	COO ₂ H ₂	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	
15-373	COO ₂ H ₂	CH ₃		15-393	COO ₂ H ₂	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
15-374	COO ₂ H ₂	CF ₃		15-394	COO ₂ H ₂	CH ₂ O(CH ₂) ₂ SCH ₃	
15-375	COO ₂ H ₂	CH ₂ OCH ₃		15-395	COO ₂ H ₂	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
15-376	COO ₂ H ₂	CH ₂ OCH ₂ CH ₃		15-396	COO ₂ H ₂	CH ₂ O(CH ₂) ₂ SOCH ₃	
15-377	COO ₂ H ₂			15-397	COO ₂ H ₂	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
15-378	COO ₂ H ₂	CH ₂ OCH ₂ CF ₃		15-398	COO ₂ H ₂	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
15-379	COO ₂ H ₂	CH ₂ SOCH ₃		15-399	COO ₂ H ₂	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
15-386	COO ₂ H ₂	CH ₂ SOCH ₂ CH ₃		15-400	COO ₂ H ₂		

Table 173

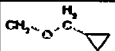
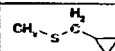
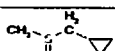
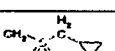
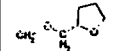
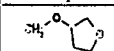
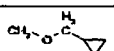
compound number	R13	R1	physical property (melting point-ND)
15-401	COOCH_3		
15-402	COOCH_3	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NHSC}_2\text{H}_5$	
15-403	COOCH_3	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{N}(\text{CH}_3)(\text{SC}_2\text{H}_5)$	
15-404	$\text{COOCH}_2\text{C}_6\text{H}_5$	CH_3	
15-405	$\text{COOCH}_2\text{C}_6\text{H}_5$	CF_3	
15-406	$\text{COOCH}_2\text{C}_6\text{H}_5$	CH_2COCH_3	
15-407	$\text{COOCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{SCH}_2\text{CH}_3$	
15-408	$\text{COOCH}_2\text{C}_6\text{H}_5$		
15-409	$\text{COOCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{COCH}_2\text{CF}_3$	
15-410	$\text{COOCH}_2\text{C}_6\text{H}_5$	CH_2SCH_3	
15-411	$\text{COOCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{SCH}_2\text{CH}_3$	
15-412	$\text{COOCH}_2\text{C}_6\text{H}_5$		
15-413	$\text{COOCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{SCH}_2\text{CF}_3$	
15-414	$\text{COOCH}_2\text{C}_6\text{H}_5$	CH_2COCH_3	
15-415	$\text{COOCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{SCH}_2\text{CH}_3$	
15-416	$\text{COOCH}_2\text{C}_6\text{H}_5$		
15-417	$\text{COOCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{SCH}_2\text{CF}_3$	
15-418	$\text{COOCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{SC}_2\text{H}_5$	
15-419	$\text{COOCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{SC}_2\text{H}_4\text{CH}_3$	
15-420	$\text{COOCH}_2\text{C}_6\text{H}_5$		
15-421	$\text{COOCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{SC}_2\text{H}_4\text{CF}_3$	
15-422	$\text{COOCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_3$	
15-423	$\text{COOCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{COCH}_2\text{CH}_3$	
15-424	$\text{COOCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{COCH}_2\text{CF}_3$	
15-425	$\text{COOCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_3$	
15-426	$\text{COOCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2\text{CF}_3$	
15-427	$\text{COOCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{COCH}_3$	
15-428	$\text{COOCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2\text{CF}_3$	
15-429	$\text{COOCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SC}_2\text{H}_5$	
15-430	$\text{COOCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SC}_2\text{H}_4\text{CF}_3$	
15-431	$\text{COOCH}_2\text{C}_6\text{H}_5$		
15-432	$\text{COOCH}_2\text{C}_6\text{H}_5$		
15-433	$\text{COOCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NHSC}_2\text{H}_5$	
15-434	$\text{COOCH}_2\text{C}_6\text{H}_5$	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{N}(\text{CH}_3)(\text{SC}_2\text{H}_5)$	
4-435	CH_2COCH_3	CH_3	
4-436	CH_2COCH_3	CF_3	
4-437	CH_2COCH_3	CH_2COCH_3	
4-438	CH_2COCH_3	$\text{CH}_2\text{SCH}_2\text{CH}_3$	
4-439	CH_2COCH_3		
4-440	CH_2COCH_3	$\text{CH}_2\text{COCH}_2\text{CF}_3$	

Table 174

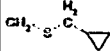
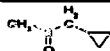
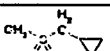
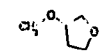
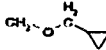
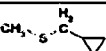
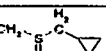
compound number	R13	R1	physical property (melting point-ND)
4-441	CH ₃ COCH ₃	CH ₃ SCH ₃	
4-442	CH ₃ COCH ₃	CH ₃ SCH ₂ CH ₃	
4-443	CH ₃ COCH ₃		
4-444	CH ₃ COCH ₃	CH ₃ SCH ₂ CF ₃	
4-445	CH ₃ COCH ₃	CH ₃ SCCH ₃	
4-446	CH ₃ COCH ₃	CH ₃ SCCH ₂ CH ₃	
4-447	CH ₃ COCH ₃		
4-448	CH ₃ COCH ₃	CH ₃ SCCH ₂ CF ₃	
4-449	CH ₃ COCH ₃	CH ₃ SO ₂ CH ₃	
4-450	CH ₃ COCH ₃	CH ₃ SO ₂ CH ₂ CH ₃	
4-451	CH ₃ COCH ₃		
4-452	CH ₃ COCH ₃	CH ₃ SO ₂ CH ₂ CF ₃	
4-453	CH ₃ COCH ₃	CH ₃ O(CH ₂) ₃ OCH ₃	
4-454	CH ₃ COCH ₃	CH ₃ O(CH ₂) ₂ CH ₂ CH ₃	
4-455	CH ₃ COCH ₃	CH ₃ O(CH ₂) ₂ CH ₂ CF ₃	
4-456	CH ₃ COCH ₃	CH ₃ O(CH ₂) ₂ SCH ₃	
4-457	CH ₃ COCH ₃	CH ₃ O(CH ₂) ₂ SCH ₂ CF ₃	
4-458	CH ₃ COCH ₃	CH ₃ O(CH ₂) ₂ SOCH ₃	
4-459	CH ₃ COCH ₃	CH ₃ O(CH ₂) ₂ SOCH ₂ CF ₃	
4-460	CH ₃ COCH ₃	CH ₃ O(CH ₂) ₃ SO ₂ CH ₃	
4-461	CH ₃ COCH ₃	CH ₃ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
4-462	CH ₃ COCH ₃		
4-463	CH ₃ COCH ₃		
4-464	CH ₃ COCH ₃	CH ₃ O(CH ₂) ₃ NHSO ₂ CH ₃	
4-465	CH ₃ COCH ₃	CH ₃ O(CH ₂) ₃ N(CH ₃)(SO ₂ CH ₃)	
15-466	CH ₃ COCH ₃	CH ₃	
15-467	CH ₃ COCH ₃	CF ₃	
15-468	CH ₃ COCH ₃	CH ₃ CH ₃	
15-469	CH ₃ COCH ₃	CH ₃ CH ₂ CH ₃	
15-470	CH ₃ COCH ₃		
15-471	CH ₃ COCH ₃	CH ₃ CH ₂ CF ₃	
15-472	CH ₃ COCH ₃	CH ₃ SCH ₃	
15-473	CH ₃ COCH ₃	CH ₃ SCH ₂ CH ₃	
15-474	CH ₃ COCH ₃		
15-475	CH ₃ COCH ₃	CH ₃ SCH ₂ CF ₃	
15-476	CH ₃ COCH ₃	CH ₃ SCCH ₃	
15-477	CH ₃ COCH ₃	CH ₃ SCCH ₂ CH ₃	
15-478	CH ₃ COCH ₃		
15-479	CH ₃ COCH ₃	CH ₃ SCCH ₂ CF ₃	
15-480	CH ₃ COCH ₃	CH ₃ SO ₂ CH ₃	

Table 175

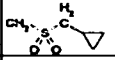
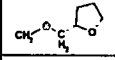
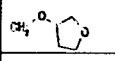
compound number	R13	R1	physical property (melting point-ND)
15-481	CH ₂ COOCH ₃	CH ₂ SO ₂ CH ₂ CH ₃	
15-482	CH ₂ COOCH ₃		
15-483	CH ₂ COOCH ₃	CH ₂ SO ₂ CH ₂ CF ₃	
15-484	CH ₂ COOCH ₃	CH ₂ O(CH ₂) ₂ SOCH ₃	
15-485	CH ₂ COOCH ₃	CH ₂ O(CH ₂) ₂ SOCH ₂ CH ₃	
15-486	CH ₂ COOCH ₃	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
15-487	CH ₂ COOCH ₃	CH ₂ O(CH ₂) ₂ SOCH ₃	
15-488	CH ₂ COOCH ₃	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
15-489	CH ₂ COOCH ₃	CH ₂ O(CH ₂) ₂ SOCH ₃	
15-490	CH ₂ COOCH ₃	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
15-491	CH ₂ COOCH ₃	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
15-492	CH ₂ COOCH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
15-493	CH ₂ COOCH ₃		
15-494	CH ₂ COOCH ₃		
15-495	CH ₂ COOCH ₃	CH ₂ O(CH ₂) ₂ NHCO ₂ CH ₃	
15-496	CH ₂ COOCH ₃	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	

Table 176

	¹ H NMR (CDCl ₃ , 300MHz)
1-1	δ 2.02-2.16(2H,m), 2.49(3H,s), 2.45-2.59(2H,m), 2.70-2.91(2H,m), 7.59(1H,d), 7.74(1H,d), 8.09(1H,s), 9.21(1H,s)
1-19	δ 2.01-2.11(2H,m), 2.45(2H,t), 2.80(2H,t), 3.27(3H,s), 4.63(2H,s), 7.65(1H,d), 7.85(1H,d), 8.11(1H,s), 9.21(1H,s)
1-28	δ 1.77-1.94(2H,m), 2.01-2.36(2H,m), 2.62-2.75(2H,m), 3.87(2H,q), 4.64(2H,s), 7.54(1H,d), 7.61(1H,d), 7.99(1H,s), 9.09(1H,s)
1-66	δ 2.02-2.10(2H,m), 2.44(2H,t), 2.79(2H,t), 3.34(3H,s), 3.42-3.45(2H,m), 3.52-3.55(2H,m), 4.73(2H,s), 7.65(1H,d), 7.79(1H,d), 8.11(1H,s), 9.21(1H,s)
1-115	δ 1.13(3H,d), 1.72-1.96(1H,m), 2.10-2.16(1H,m), 2.39-2.60(2H,m), 2.46(3H,s), 2.79-2.92(2H,m), 7.60(1H,d), 7.75(1H,d), 8.10(1H,s), 9.21(1H,s)
1-142	δ 1.14(3H,d), 1.73-2.68(5H,m), 2.60(2H,q), 4.84(2H,s), 7.67(1H,d), 7.88(1H,d), 8.12(1H,s), 9.19(1H,s)
1-457	δ 1.12(3H,s), 1.19(1H,s), 1.76-1.89(2H,m), 2.36-2.87(2H,m), 2.44(3H,s), 7.54(1H,d), 7.71(1H,d), 8.07(1H,s), 9.19(1H,s)
1-685	δ 1.26(6H,s), 1.36(6H,s), 2.55(3H,s), 7.60(1H,d), 7.78(1H,d), 8.10(1H,s), 9.22(1H,s)
1-712	δ 1.34(12H,s), 3.84(2H,q), 4.91(2H,s), 7.69(1H,d), 7.91(1H,d), 8.14(1H,s), 9.221(1H,s)
1-799	δ 1.72-2.25(6H,m), 2.47(3H,s), 2.99-3.13(2H,m), 7.61(1H,d), 7.73(1H,d), 8.09(1H,s), 9.21(1H,s)
1-826	δ 1.71-2.07(6H,m), 2.90-3.19(2H,m), 4.84(2H,q), 4.84(2H,s), 7.39(1H,d), 7.88(1H,d), 8.11(1H,s), 9.17(1H,s)
1-913	δ 2.40-2.65(2H,m), 2.44(3H,s), 3.33-3.55(2H,m), 6.21-6.23(1H,m), 6.36-6.93(2H,m), 6.44-6.47(1H,m), 7.61(1H,d), 7.75(1H,d), 8.10(1H,s), 9.21(1H,s)
2-1	δ 2.71(3H,s), 3.73(2H,s), 7.42(1H,s), 7.34(1H,d), 8.00(1H,d), 8.13(1H,s), 9.25(1H,s)
2-28	δ 3.73(3H,s), 3.93(2H,q), 5.01(1H,s), 7.45(1H,s), 7.59(1H,d), 8.10(1H,d), 8.15(1H,s), 9.24(1H,s)
2-229	δ 1.81(3H,s), 2.59(3H,s), 3.66(3H,s), 7.76(1H,d), 7.84(1H,d), 8.14(1H,s), 9.26(1H,s)
3-115	δ 1.21-1.40(4H,m), 2.60-2.73(1H,m), 2.66(3H,s), 7.82(1H,d), 7.90(1H,d), 8.11(1H,s), 8.22(1H,s), 9.22(1H,s)
3-343	δ 1.16-1.38(7H,m), 2.30-2.39(1H,m), 2.77(3H,s), 4.10-4.17(2H,q), 7.75(1H,d), 7.85(1H,d), 8.11(1H,s), 9.24(1H,s)
4-115	δ 1.26-1.49(4H,m), 2.38-2.46(1H,m), 2.70(3H,s), 7.85(1H,d), 8.05(1H,d), 8.12(1H,s), 9.23(1H,s)
4-142	δ 1.29-1.36(2H,m), 1.43-1.49(2H,m), 2.23-2.41(1H,m), 3.91(2H,q), 5.00(2H,s), 7.99(1H,d), 8.12(1H,d), 8.14(1H,s), 9.19(1H,s)

<Biological Test Example>

Test example 1 Herbicide effect test against field weed

(soil spray treatment before germination)

Preparing preparation of active compound

Carrier: DMF 5 parts by weight

Emulsifier: benzyloxy polyglycol ether 1 part by weight

A preparation of active compound is obtained as an emulsion by mixing 1 part by weight of active compound with the above amounts of carrier and emulsifier. A prescribed amount of preparation is diluted with water.

In a greenhouse, seeds of field weeds [livid amaranth (*Amaranthus*), green bristle grass (*Setaria*)] were sown on the surface layer of 16cm² pots filled with field soil (sandy loam), and covered with soil. Here, one kind of grass was sown for one pot. Immediately after sowing, the prescribed diluted solutions which were prepared according to the above preparation method of the preparation of respective active compounds were sprayed to soil. After 2 weeks from the treatment, the herbicide effect of each of the compounds was examined. In the evaluation of herbicide effect, complete death was evaluated as 100%, and the case of no herbicide effect was evaluated as 0%. When the herbicide effect is 80% or more, such active compounds are evaluated to have practical utility as a herbicide. Results are shown in Table 177.

Table 177

Soil spray treatment before germination

Compound number	Dosage (g ai/ha)	Green bristle grass	Livid amaranth
1-1	500	100	100
2-1	500	100	100
2-229	500	100	100
3-343	500	95	100
4-115	500	100	100

255

Test example 2 Herbicide effect test against field weed
(foliage spray treatment after germination)

In a greenhouse, to 16 cm² pots filled with field soil (sandy loam), seedling plants (2nd-3rd leaf stage) of a field weed (Green bristle grass) were transplanted. After 1 day, the prescribed diluted solutions of preparations of respective active compounds, which were prepared according to the above Test example 1, were sprayed from the upside of the plant body. After 2 weeks from the treatment, the herbicide effect of each of the compounds was examined. Evaluation of herbicidal effect was carried out similarly to Test example 1. Results are shown in Table 178.

Table 178
Foliage spray treatment after germination

Compound number	Dosage (g ai/ha)	Green bristle grass
1-36	500	100
1-66	500	90
1-115	500	100
1-457	500	100
3-115	500	100

Test example 3 Selective herbicide effect test to field crop
(soil spray treatment before germination)

In a greenhouse, seeds of field crops [wheat (*Triticum*), corn (*Zea*), soy bean (*Glycine*)] and weeds [barnyardgrass (*Echinochloa*), southern crabgrass (*Digitaria*), livid amaranth (*Amaranthus*), fat hen (*Chenopodium*)] were sown on the surface

256

layer of 16cm² pots filled with field soil (sandy loam), and covered with soil. After 1 day, the prescribed diluted solutions of preparations of respective active compounds, which were prepared according to Test example 1, were sprayed to the soil. After 2 weeks from the treatment, phytotoxicity to crops and herbicide effect of respective compounds were examined. In the evaluation of herbicide effect and phytotoxicity, complete death was evaluated as 100%, and the case of no herbicide effect or no phytotoxicity was evaluated as 0%. When the herbicide effect is 80% or more, such active compounds are evaluated to have practical utility as a herbicide. When phytotoxicity is 20% or less, such active compounds are evaluated to have excellent safety as a herbicide. Results are shown in Table 179.

Table 179

Compound number	Dosage (g/ha)	Wheat	Corn	Soy bean	Barnyardgrass	Southern crabgrass	Livid amaranth	Fat hen
1-1	320	10	0	20	100	100	80	100
1-28	320	0	5	10	100	100	90	100
1-115	320	0	0	10	100	100	90	100
1-685	80	40	30	10	100	100	90	90
1-799	320	0	5	30	90	100	100	90
1-913	320	0	0	0	100	100	100	90
3-115	320	5	10	20	100	100	90	100
3-343	320	0	0	0	90	100	100	100
4-115	320	20	30	0	100	100	100	100

Test example 4 Selective herbicide effect test to field crop (foliage spray treatment after germination)

In a greenhouse, respective seeds of weeds (barnyardgrass,

257

southern crabgrass, fat hen, and livid amaranth) and crops (wheat, corn, and soy bean) were sown on the surface layer of pots filled with field soil, and covered with soil. After one day and 10 days (average 2nd leaf stage for weeds) from the sowing and covering the seeds with soil, the prescribed diluted solutions of preparations of respective active compounds, which were prepared according to Test example 1, were uniformly sprayed onto the soil surfaces of respective test pots and the foliage parts of the plant bodies.

After 14 days from the spraying, the degree of herbicide effect was examined. Evaluation of herbicide effect and phytotoxicity were carried out similarly to Test example 3.

Results are shown in Table 180.

Table 180

Compound number	Dosage (g/ha)	Wheat	Corn	Soy bean	Barnyardgrass	Southern crabgrass	Livid amaranth	Fat hen
1-36	320	0	10	50	100	100	80	90
1-56	320	0	50	50	100	100	80	90
1-66	320	10	50	50	100	100	100	100
1-157	320	20	50	40	100	100	100	100
2-1	80	0	5	50	100	95	100	90
2-229	320	10	50	60	100	100	100	90

<Formulation example>

Formulation example 1 (granule)

Water (25 parts) is added to a mixture of compound No. 1-1 (10 parts) of the present invention, bentonite (montmorillonite) (30 parts), talc (56 parts), and lignin sulfonate (2 parts), and the mixture is kneaded well, made into

granules of 10-40 mesh with an extrusion granulator, and dried at 40-50°C to prepare granules.

Formulation example 2 (granule)

Clay mineral grains (95 parts) having particle size distribution of 0.2-2 mm are put into a rotary mixer, and compound No. 1-1 (5 parts) of the present invention is sprayed together with a liquid diluent under revolution, and the grains are uniformly humidified and then dried at 40-50°C to prepare granules.

Formulation example 3 (emulsion)

Compound No. 1-1 (30 parts) of the present invention, xylene (55 parts), polyoxyethylene alkyl phenyl ether (8 parts), and calcium alkylbenzene sulfonate (7 parts) are mixed and stirred to prepare an emulsion.

Formulation example 4 (wetttable powder)

Compound No. 1-1 (15 parts) of the present invention, a mixture of white carbon (water-containing amorphous silica fine powders) and powder clay (1:5) (80 parts), sodium alkylbenzene sulfonate (2 parts), and sodium alkylnaphthalene sulfonate-formalin polymer (3 parts) are powder-blended to prepare a wetttable powder.

Formulation example 5 (water-dispersible granule)

Compound No. 1-1 (20 parts) of the present invention, sodium lignin sulfonate (30 parts), bentonite (15 parts), and calcinated diatomaceous earth powder (35 parts) are sufficiently blended, and water is added thereto, and the mixture is extruded and dried through a screen of 0.3 mm to

259

WO 2009/018925

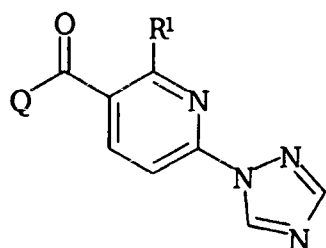
PCT/EP2008/006063

prepare water-dispersible granules.

260

CLAIMS

1. Triazolylpyridine ketone derivative represented by the formula (I)



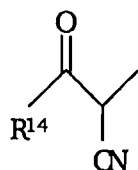
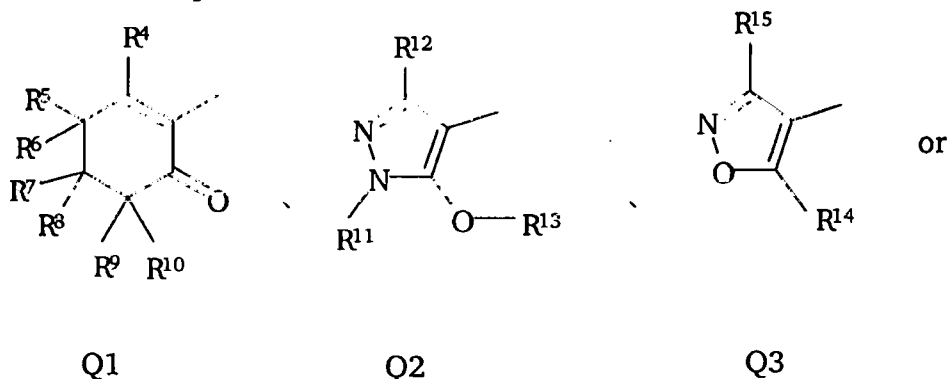
Formula (I)

wherein R¹ represents alkyl, cycloalkyl, cycloalkyl-alkyl, haloalkyl, alkenyl, alkynyl, aryl, aralkyl, alkoxyalkyl, cycloalkyl-alkoxyalkyl, haloalkoxyalkyl, alkenyloxyalkyl, alkynyloxyalkyl, alkylthioalkyl, alkylsulfinylalkyl, alkylsulfonylalkyl, cycloalkyl-alkylthioalkyl, cycloalkyl-alkylsulfinylalkyl, cycloalkyl-alkylsulfonylalkyl, haloalkylthioalkyl, haloalkylsulfinylalkyl, haloalkylsulfonylalkyl, alkenylthioalkyl, alkenylsulfinylalkyl, alkenylsulfonylalkyl, alkynylthioalkyl, alkynylsulfinylalkyl, alkynylsulfonylalkyl, alkoxyalkoxyalkyl, cycloalkyl-alkoxyalkoxyalkyl, haloalkoxyalkoxyalkyl, alkenyloxyalkoxyalkyl, alkynyloxyalkoxyalkyl, alkylthioalkoxyalkyl, alkylsulfinylalkoxyalkyl, alkylsulfonylalkoxyalkyl, cycloalkyl-alkylthioalkoxyalkyl, cycloalkyl-alkylsulfinylalkoxyalkyl, cycloalkyl-alkylsulfonylalkoxyalkyl, haloalkylthioalkoxyalkyl, haloalkylsulfinylalkoxyalkyl, haloalkylsulfonylalkoxyalkyl, alkenylthioalkoxyalkyl,

alkenylsulfinylalkoxyalkyl, alkenylsulfonylalkoxyalkyl, alkynylthioalkoxyalkyl, alkynylsulfinylalkoxyalkyl, alkynylsulfonylalkoxyalkyl, cyclic ether-O-alkyl, cyclic ether-alkoxyalkyl, alkylsulfonylaminoalkoxyalkyl, cycloalkyl-alkylsulfonylaminoalkoxyalkyl, haloalkylsulfonylaminoalkoxyalkyl, alkylthio, alkylsulfinyl, alkylsulfonyl, alkoxy, haloalkoxy, alkoxyalkoxy, or NF^2F^3 ,

F^2 and F^3 respectively represent hydrogen or alkyl,

Q represents



Q4

Wherein F^4 represents hydroxy, halogen, alkylthio, substituted phenylthio, substituted benzylthio, substituted-1-pyrazolyl, substituted-1-imidazolyl, 1,2,4-triazol-1-yl, 1H-tetrazol-1-yl or 2H-tetrazol-2-yl,

F^5 , F^6 , F^7 , F^8 , F^9 , and F^{10} respectively represent hydrogen or alkyl,

F^5 and F^{10} together represent ethylene or $-\text{CH}=\text{CH}-$,

R⁷ and R⁸ together represent carbonyl,

R¹¹ represents alkyl,

R¹² represents hydrogen, alkyl, or cycloalkyl,

R¹³ represents hydrogen, alkyl, alkenyl, alkynyl, aralkyl, alkylsulfonyl, substituted phenylsulfonyl, acyl, or acylalkyl,

R¹⁴ represents alkyl or cycloalkyl, and

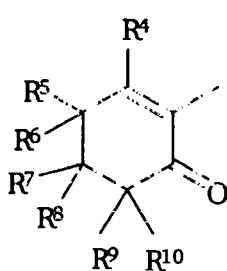
R¹⁵ represents hydrogen, alkoxycarbonyl, or alkylthio.

2. The compound according to claim 1, wherein R¹ represents C₁₋₆ alkyl, C₃₋₆ cycloalkyl, C₃₋₆ cycloalkyl-C₁₋₂ alkyl, C₁₋₆ haloalkyl, C₂₋₆ alkenyl, C₂₋₆ alkynyl, C₆₋₁₂ aryl, C₆₋₁₂ aryl-C₂₋₆ alkyl, C₁₋₆ alkoxy-C₁₋₄ alkyl, C₃₋₆ cycloalkyl-C₁₋₄ alkoxy-C₁₋₄ alkyl, C₁₋₆ haloalkoxy-C₁₋₄ alkyl, C₂₋₆ alkenyloxy-C₁₋₄ alkyl, C₂₋₆ alkynyloxy-C₁₋₄ alkyl, C₁₋₆ alkylthio-C₁₋₄ alkyl, C₁₋₆ alkylsulfinyl-C₁₋₄ alkyl, C₁₋₆ alkylsulfonyl-C₁₋₄ alkyl, C₃₋₆ cycloalkyl-C₁₋₄ alkylthio-C₁₋₄ alkyl, C₃₋₆ cycloalkyl-C₁₋₄ alkylsulfinyl-C₁₋₄ alkyl, C₃₋₆ cycloalkyl-C₁₋₄ alkylsulfonyl-C₁₋₄ alkyl, C₁₋₆ haloalkylthio-C₁₋₄ alkyl, C₁₋₆ haloalkylsulfinyl-C₁₋₄ alkyl, C₁₋₆ haloalkylsulfonyl-C₁₋₄ alkyl, C₂₋₆ alkenylthio-C₁₋₄ alkyl, C₂₋₆ alkenylsulfinyl-C₁₋₄ alkyl, C₂₋₆ alkenylsulfonyl-C₁₋₄ alkyl, C₂₋₆ alkynylthio-C₁₋₄ alkyl, C₂₋₆ alkynylsulfinyl-C₁₋₄ alkyl, C₂₋₆ alkynylsulfonyl-C₁₋₄ alkyl, C₁₋₆ alkoxy-C₁₋₄ alkoxy-C₁₋₄ alkyl, C₃₋₆ cycloalkyl-C₁₋₄ alkoxy-C₁₋₄ alkoxy-C₁₋₄ alkyl, C₁₋₆ haloalkoxy-C₁₋₄ alkoxy-C₁₋₄ alkyl, C₂₋₆ alkenyloxy-C₁₋₄ alkoxy-C₁₋₄ alkyl, C₂₋₆ alkynyloxy-C₁₋₄ alkoxy-C₁₋₄ alkyl, C₁₋₆ alkylthio-C₁₋₄ alkoxy-C₁₋₄ alkyl, C₁₋₆ alkylsulfinyl-C₁₋₄ alkoxy-C₁₋₄ alkyl, C₁₋₆

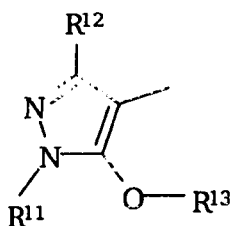
alkylsulfonyl-C₁₋₄ alkoxy-C₁₋₄ alkyl, C₃₋₈ cycloalkyl-C₁₋₄
 alkylthio-C₁₋₄ alkoxy-C₁₋₄ alkyl, C₃₋₈ cycloalkyl-C₁₋₄
 alkylsulfinyl-C₁₋₄ alkoxy-C₁₋₄ alkyl, C₃₋₈ cycloalkyl-C₁₋₄
 alkylsulfonyl-C₁₋₄ alkoxy-C₁₋₄ alkyl, C₁₋₆ haloalkylthio-C₁₋₄
 alkoxy-C₁₋₄ alkyl, C₁₋₆ haloalkylsulfinyl-C₁₋₄ alkoxy-C₁₋₄ alkyl,
 C₁₋₆ haloalkylsulfonyl-C₁₋₄ alkoxy-C₁₋₄ alkyl, C₂₋₆
 alkenylthio-C₁₋₄ alkoxy-C₁₋₄ alkyl, C₂₋₆ alkenylsulfinyl-C₁₋₄
 alkoxy-C₁₋₄ alkyl, C₂₋₆ alkenylsulfonyl-C₁₋₄ alkoxy-C₁₋₄ alkyl, C₂₋₆
 alkynylthio-C₁₋₄ alkoxy-C₁₋₄ alkyl, C₂₋₆ alkynylsulfinyl-C₁₋₄
 alkoxy-C₁₋₄ alkyl, C₂₋₆ alkynylsulfonyl-C₁₋₄ alkoxy-C₁₋₄ alkyl, C₂₋₅
 cyclic ether-O-C₁₋₄ alkyl, C₂₋₅ cyclic ether-C₁₋₄ alkoxy-C₁₋₄ alkyl,
 C₁₋₆ alkylsulfonylamino-C₁₋₄ alkoxy-C₁₋₄ alkyl, C₃₋₈
 cycloalkyl-C₁₋₄ alkylsulfonylamino-C₁₋₄ alkoxy-C₁₋₄ alkyl, C₁₋₆
 haloalkylsulfonylamino-C₁₋₄ alkoxy-C₁₋₄ alkyl, C₁₋₄
 alkylthio, C₁₋₆ alkylsulfinyl, C₁₋₆ alkylsulfonyl, C₁₋₆ alkoxy,
 C₁₋₆ haloalkoxy, C₁₋₆ alkoxy-C₁₋₄ alkoxy, or NR²R³,

R² and R³ respectively represent hydrogen or C₁₋₆ alkyl,

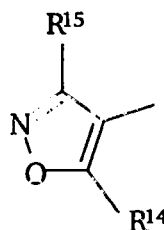
Q represents



Q1

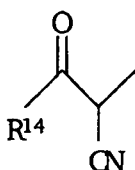


Q2



Q3

or



Q4

Wherein R^4 represents hydroxy, halogen, C_{1-6} alkylthio, substituted phenylthio, substituted benzylthio, substituted-1-pyrazolyl, substituted-1-imidazolyl, 1,2,4-triazol-1-yl, 1H-tetrazol-1-yl, or 2H-tetrazol-2-yl,

R^5 , R^6 , R^7 , R^8 , R^9 , and R^{10} respectively represent hydrogen or C_{1-6} alkyl,

R^5 and R^{10} together represent ethylene or $-CH=CH-$,

R^7 and R^8 together represent carbonyl,

R^{11} represents C_{1-6} alkyl,

R^{12} represents hydrogen, C_{1-6} alkyl, or C_{3-6} cycloalkyl,

R^{13} represents hydrogen, C_{1-6} alkyl, C_{2-6} alkenyl, C_{2-6} alkynyl, C_{6-10} aryl- C_{1-3} alkyl, C_{1-6} alkylsulfonyl, substituted phenylsulfonyl, C_{1-6} alkylcarbonyl, benzoyl, heteroarylcarbonyl, C_{1-6} alkylcarbonyl- C_{1-4} alkyl, benzoyl- C_{1-4} alkyl, or heteroarylcarbonyl- C_{1-4} alkyl,

R^{14} represents C_{1-6} alkyl or C_{3-6} cycloalkyl, and

265

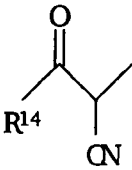
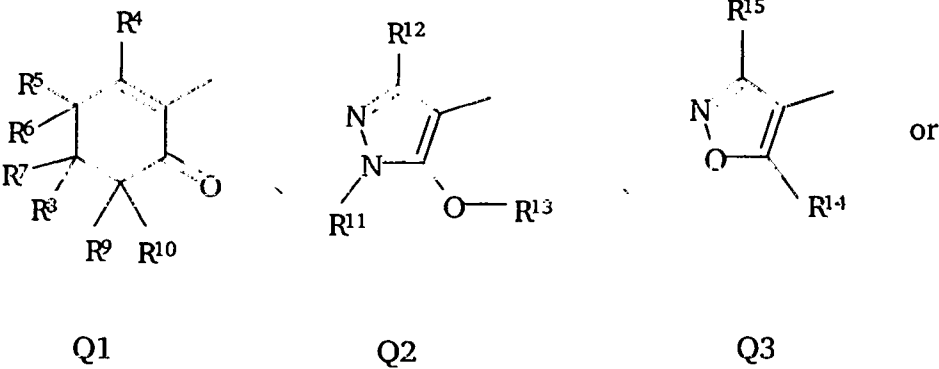
R¹⁵ represents hydrogen, C₁₋₆ alkoxy-carbonyl, or C₁₋₆ alkylthio.

3. The compound according to claim 1 or 2, wherein R¹ represents C₁₋₄ alkyl, C₃₋₇ cycloalkyl, C₃₋₇ cycloalkyl-C₁₋₂ alkyl, C₁₋₄ haloalkyl, C₂₋₄ alkenyl, C₂₋₄ alkynyl, C₆₋₉ aryl, C₆₋₉ aryl-C₁₋₂ alkyl, C₁₋₄ alkoxy-C₁₋₄ alkyl, C₃₋₇ cycloalkyl-C₁₋₄ alkoxy-C₁₋₄ alkyl, C₁₋₄ haloalkoxy-C₁₋₄ alkyl, C₁₋₄ alkenyloxy-C₁₋₄ alkyl, C₂₋₄ alkynyloxy-C₁₋₄ alkyl, C₁₋₄ alkylthio-C₁₋₄ alkyl, C₁₋₄ alkylsulfinyl-C₁₋₄ alkyl, C₁₋₄ alkylsulfonyl-C₁₋₄ alkyl, C₃₋₇ cycloalkyl-C₁₋₄ alkylthio-C₁₋₄ alkyl, C₃₋₇ cycloalkyl-C₁₋₄ alkylsulfinyl-C₁₋₄ alkyl, C₃₋₇ cycloalkyl-C₁₋₄ alkylsulfonyl-C₁₋₄ alkyl, C₁₋₄ haloalkylthio-C₁₋₄ alkyl, C₁₋₄ haloalkylsulfinyl-C₁₋₄ alkyl, C₁₋₄ haloalkylsulfonyl-C₁₋₄ alkyl, C₂₋₄ alkenylthio-C₁₋₄ alkyl, C₂₋₄ alkenylsulfinyl-C₁₋₄ alkyl, C₂₋₄ alkenylsulfonyl-C₁₋₄ alkyl, C₂₋₄ alkynylthio-C₁₋₄ alkyl, C₂₋₄ alkynylsulfinyl-C₁₋₄ alkyl, C₂₋₄ alkynylsulfonyl-C₁₋₄ alkyl, C₁₋₄ alkoxy-C₁₋₄ alkoxy-C₁₋₄ alkyl, C₃₋₇ cycloalkyl-C₁₋₄ alkoxy-C₁₋₄ alkoxy-C₁₋₄ alkyl, C₁₋₄ haloalkoxy-C₁₋₄ alkoxy-C₁₋₄ alkyl, C₂₋₄ alkenyloxy-C₁₋₄ alkoxy-C₁₋₄ alkyl, C₂₋₄ alkynyloxy-C₁₋₄ alkoxy-C₁₋₄ alkyl, C₁₋₄ alkylthio-C₁₋₄ alkoxy-C₁₋₄ alkyl, C₁₋₄ alkylsulfinyl-C₁₋₄ alkoxy-C₁₋₄ alkyl, C₁₋₄ alkylsulfonyl-C₁₋₄ alkoxy-C₁₋₄ alkyl, C₃₋₇ cycloalkyl-C₁₋₄ alkylthio-C₁₋₄ alkoxy-C₁₋₄ alkyl, C₃₋₇ cycloalkyl-C₁₋₄ alkylsulfinyl-C₁₋₄ alkoxy-C₁₋₄ alkyl, C₃₋₇ cycloalkyl-C₁₋₄ alkylsulfonyl-C₁₋₄ alkoxy-C₁₋₄ alkyl, C₁₋₄ haloalkylthio-C₁₋₄ alkoxy-C₁₋₄ alkyl, C₁₋₄ haloalkylsulfinyl-C₁₋₄ alkoxy-C₁₋₄ alkyl, C₁₋₄ haloalkylsulfonyl-C₁₋₄ alkoxy-C₁₋₄ alkyl, C₂₋₄

alkenylthio-C₁₋₄ alkoxy-C₁₋₄ alkyl, C₂₋₄ alkenylsulfinyl-C₁₋₄ alkoxy-C₁₋₄ alkyl, C₂₋₄ alkenylsulfonyl-C₁₋₄ alkoxy-C₁₋₄ alkyl, C₂₋₄ alkynylthio-C₁₋₄ alkoxy-C₁₋₄ alkyl, C₂₋₄ alkynylsulfinyl-C₁₋₄ alkoxy-C₁₋₄ alkyl, C₂₋₄ alkynylsulfonyl-C₁₋₄ alkoxy-C₁₋₄ alkyl, C₂₋₄ cyclic ether-O-C₁₋₄ alkyl, C₂₋₄ cyclic ether-C₁₋₄ alkoxy-C₁₋₄ alkyl, C₁₋₄ alkylsulfonylamino-C₁₋₄ alkoxy-C₁₋₄ alkyl, C₃₋₇ cycloalkyl-C₁₋₄ alkylsulfonylamino-C₁₋₄ alkoxy-C₁₋₄ alkyl, C₁₋₄ haloalkylsulfonylamino-C₁₋₄ alkoxy-C₁₋₄ alkyl, C₁₋₄ alkylthio, C₁₋₄ alkylsulfinyl, C₁₋₄ alkylsulfonyl, C₁₋₄ alkoxy, C₁₋₄ haloalkoxy, C₁₋₄ alkoxy-C₁₋₄ alkoxy or HF²P³,

P² and P³ respectively represent hydrogen or C₁₋₄ alkyl,

Q represents



Q4

wherein P⁴ represents hydroxy, halogen, C₁₋₄ alkylthio, substituted phenylthio, substituted benzylthio, substituted-1-pyrazolyl, substituted-1-imidazolyl, 1,2,4-triazol-1-yl, 1H-tetrazol-1-yl, or 2H-tetrazol-2-yl,

R^5 , R^6 , R^7 , R^8 , R^9 , and R^{10} respectively represent hydrogen or C_{1-4} alkyl,

R^5 and R^{10} together represent ethylene or $-CH=CH-$,

R^7 and R^8 together represent carbonyl,

R^{11} represents C_{1-4} alkyl,

R^{12} represents hydrogen, C_{1-4} alkyl, or C_{3-7} cycloalkyl,

R^{13} is hydrogen, C_{1-4} alkyl, C_{2-4} alkenyl, C_{2-4} alkynyl, C_{6-8} aryl- C_{1-2} alkyl, C_{1-4} alkylsulfonyl, substituted phenylsulfonyl, C_{1-4} alkylcarbonyl, benzoyl, heteroarylcarbonyl, C_{1-4} alkyl-carbonyl- C_{1-4} alkyl, benzoyl- C_{1-4} alkyl, or heteroaryl-carbonyl- C_{1-4} alkyl,

R^{14} represents C_{1-4} alkyl or C_{3-7} cycloalkyl, and

R^{15} represents hydrogen, C_{1-4} alkoxy-carbonyl or C_{1-4} alkylthio.

4. A herbicide containing as an effective component the compound according to any one of claims 1 to 3.

288

MEMORIA DESCRIPTIVA

TRIAZOLILPIRIDINA CETONAS HERBICIDAS

Campo técnico

Este invento se refiere a unas nuevas triazolilpiridina cetonas, al uso de las mismas como herbicidas, a unos métodos para la preparación de las mismas, y a nuevos compuestos intermedios de los mismos.

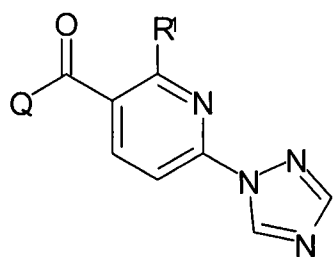
Técnica de antecedentes

Ya es conocido que algunas clases de aril cetonas muestran una acción como herbicidas (véanse por ejemplo los documentos de solicitudes de patentes internacionales WO 97/46530-A, WO 99/03845-A, WO 00/15615-A, y de la solicitud de patente japonesa puesta a disposición del público (JP-A) N° 2005-60299).

Descripción del invento

Sin embargo, los compuestos descritos en las anteriores publicaciones no son suficientemente satisfactorios en cuanto al efecto y/o a la seguridad como herbicidas.

Los autores del presente invento hicieron unos concienzudos estudios con el fin de crear unos nuevos compuestos que tengan unos más altos efectos y una más alta seguridad como herbicidas. Como resultado de esto, se han encontrado unas nuevas triazolilpiridina cetonas de la siguiente fórmula (I), que tienen una excelente actividad herbicida y muestran una seguridad para plantas cultivadas, y que se representan por la siguiente fórmula (I).



Formula (I)

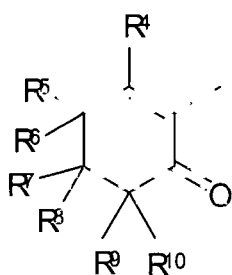
En la formula, R^1 representa alquilo, cicloalquilo, cicloalquil-alquilo, haloalquilo, alquenilo, alquinilo, arilo, aralquilo, alcoxialquilo, cicloalquil-alc oxialquilo, haloalc oxialquilo, alqueniloxialquilo, alquiniloxialquilo, alquiltioalquilo, alquilsulfinilalquilo, alquilsulfonilalquilo, cicloalquil-alquiltioalquilo, cicloalquil-alquilsulfinilalquilo, cicloalquil-alquilsulfonilalquilo, haloalquiltioalquilo, haloalquilsulfinilalquilo, haloalquilsulfonilalquilo, alqueniltioalquilo, alquenilsulfinilalquilo, alquenilsulfonilalquilo, alquiniltioalquilo, alquinilsulfinilalquilo, alquinilsulfonilalquilo, alcoxialcoxialquilo, cicloalquil-alc oxialcoxialquilo, haloalc oxialcoxialquilo, alqueniloxialcoxialquilo, alquiniloxialcoxialquilo, alquiltioalc oxialquilo, alquilsulfinilalc oxialquilo, alquilsulfonilalc oxialquilo, cicloalquil-alquiltioalc oxialquilo, cicloalquil-alquilsulfinilalc oxialquilo, cicloalquil-alquilsulfonilalc oxialquilo, haloalquiltioalc oxialquilo, haloalquilsulfinilalc oxialquilo, haloalquilsulfonilalc oxialquilo, alqueniltioalc oxialquilo, alquenilsulfinilalc oxialquilo, alquenilsulfonilalc oxialquilo, alquiniltioalc oxialquilo,

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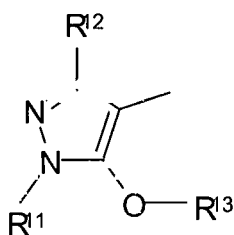
alquinilsulfinilalcoxialquilo,
 alquinilsulfonilalcoxialquilo,
 éter cíclico - O - alquilo, éter cíclico - alcoxialquilo,
 alquilsulfonilaminoalcoxialquilo,
 cicloalquil-alquilsulfonilaminoalcoxialquilo,
 haloalquilsulfonilaminoalcoxialquilo, alquiltio,
 alquilsulfinilo, alquilsulfonilo, alcoxi, haloalcoxi,
 alcoxialcoxi, o NR^2R^3 ,

R^2 y R^3 representan respectivamente hidrógeno o alquilo,

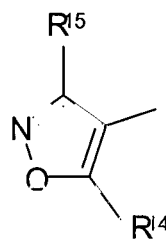
Q representa



Q1

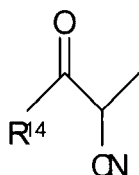


Q2



or

Q3



Q4

R^4 representa hidroxilo, halógeno, alquiltio, feniltio sustituido, benciltio sustituido, 1-pirazolilo sustituido, 1-imidazolilo sustituido, 1,2,4-triazolil-1-ilo, 1H-tetrazol-1-ilo o 2H-tetrazol-2-ilo,
 R^5 , R^6 , R^7 , R^8 , R^9 y R^{10} representan respectivamente hidrógeno o alquilo,
 R^5 y R^{10} en común representan etileno o $-CH=CH-$,
 R^7 y R^8 en común representan carbonilo,

R^{11} representa alquilo,

R^{12} representa hidrógeno, alquilo o cicloalquilo,

R^{13} representa hidrógeno, alquilo, alquenilo, alquinilo, aralquilo, alquilsulfonilo, fenilsulfonilo sustituido, acilo o acilalquilo,

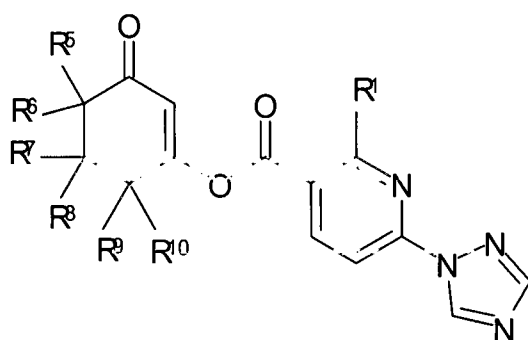
R^{14} representa alquilo o cicloalquilo, y

R^{15} representa hidrógeno, alcóxicarbonilo o alquiltio.

Los compuestos de la anterior fórmula (I) del presente invento se pueden sintetizar, por ejemplo, por medio de uno cualquiera de los siguientes métodos de preparación (a), (b), (c), (d), (e), (f), (g), (h), (i) o (j).

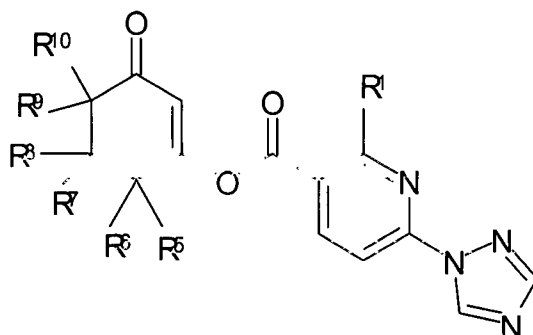
Método de preparación (a)

En el caso de que se preparen unos compuestos en los que Q representa Q1 y R^4 representa hidroxilo, o Q representa Q2 y R^{13} representa hidrógeno: un método de transponer los compuestos representados por las siguientes fórmulas en la presencia de una base y de un compuesto de cianógeno



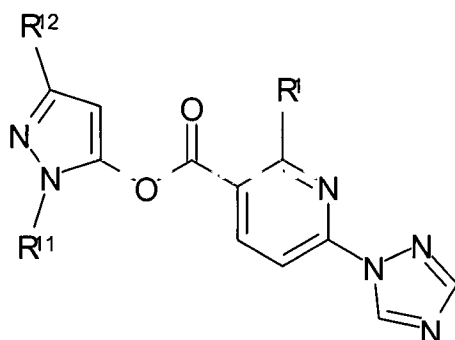
Formula (II)

or



Formula (III)

or

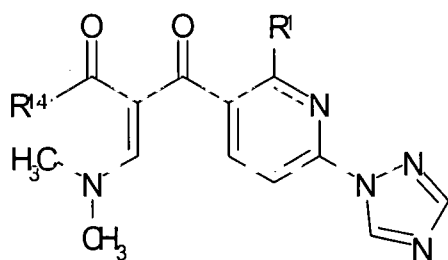


Formula (IV)

En las respectivas fórmulas, R¹, R⁵, R⁶, R⁷, R⁸, R⁹, R¹⁰, R¹¹ y R¹² tienen los mismos significados que los antes mencionados.

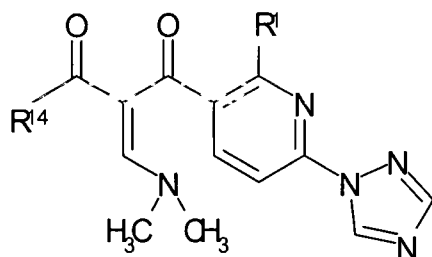
Método de preparación (b)

En el caso de que se preparen unos compuestos en los que Q representa Q3 y R¹⁵ representa hidrógeno: un método para hacer reaccionar los compuestos representados por las siguientes fórmulas con el hidrocloreuro de hidroxilamina



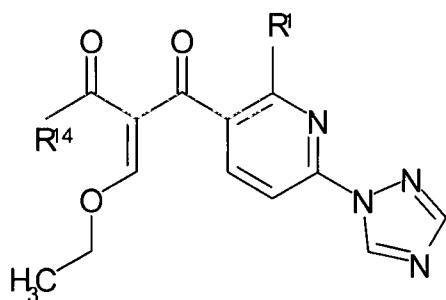
Formula (V)

or



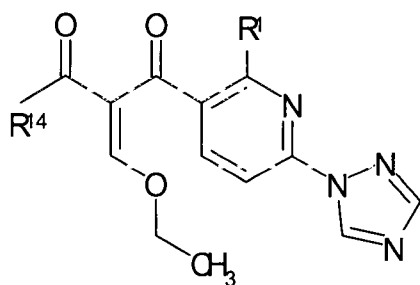
Formula (VI)

or



Formula (VII)

or



Formula (VIII)

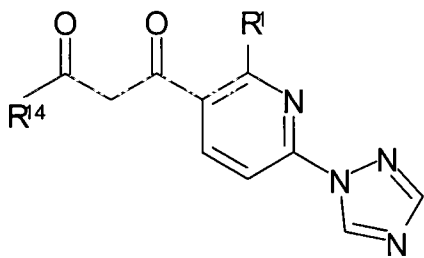
En las respectivas fórmulas, R^1 y R^{14} tienen los mismos significados que los antes mencionados.

Método de preparación (c)

En el caso de que se preparen unos compuestos en los que Q representa Q3 y R^{15} representa alcoxicarbonilo: un método para hacer reaccionar los compuestos representados

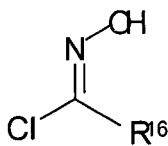
274

por la siguiente fórmula (IX) con el cloruro de imidoílo representado por la siguiente fórmula (X)



Formula (IX)

En la fórmula, R¹ y R¹⁴ tienen los mismos significados que los antes mencionados.

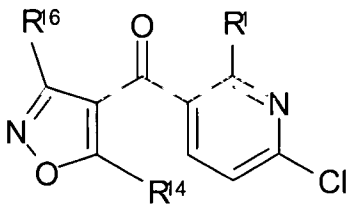


Formula (X)

En la fórmula, R¹⁶ representa alcoxycarbonilo.

Método de preparación (d)

En el caso de que se preparen unos compuestos en los que Q representa Q3 y R¹⁵ representa alcoxycarbonilo: un método para hacer reaccionar los compuestos representados por la siguiente fórmula con 1H-1,2,4-triazoles en la presencia de una base



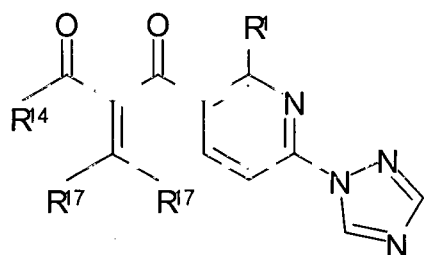
Formula (XI)

En la fórmula, R¹, R¹⁴ y R¹⁶ tienen los mismos significados que los antes mencionados.

Método de preparación (e)

En el caso de que se preparen unos compuestos en los que Q representa Q3 y R¹⁵ representa alquiltio: un método

para hacer reaccionar los compuestos representados por la siguiente fórmula con el hidrocloreuro de hidroxilamina

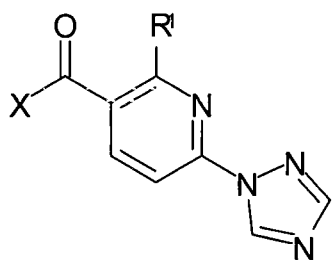


Formula (XII)

En la fórmula, R^1 y R^{14} tienen los mismos significados que los antes mencionados y R^{17} representa alquiltio.

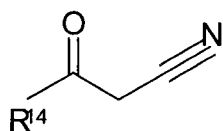
Método de preparación (f)

En el caso de que se preparen unos compuestos en los que Q representa Q4: un método para hacer reaccionar los compuestos representados por la siguiente fórmula (XIII) con los compuestos representados por la siguiente fórmula (XIV) en la presencia de una base



Formula (XIII)

En la fórmula, R^1 tiene los mismos significados que los antes mencionados y X representa halógeno.

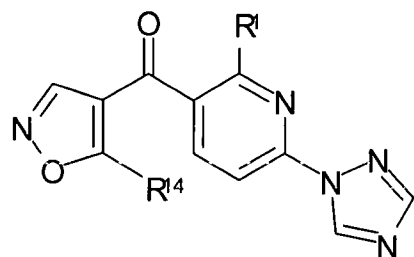


Formula (XIV)

En la fórmula, R^{14} tiene los mismos significados que los antes mencionados.

Método de preparación (g)

En el caso de que se preparen unos compuestos en los que Q representa Q4: un método para causar la reacción de apertura de anillo de los compuestos representados por la siguiente fórmula en la presencia de una base

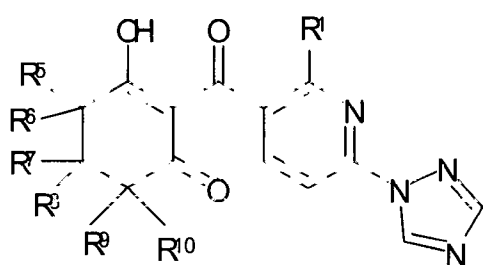


Formula (XV)

En la fórmula, R^1 y R^{14} tienen los mismos significados que los antes mencionados.

Método de preparación (h)

En el caso de que se preparen unos compuestos en los que Q representa Q1 y R^4 representa halógeno: un método para hacer reaccionar los compuestos representados por la siguiente fórmula con un agente halogenante



Formula (XVI)

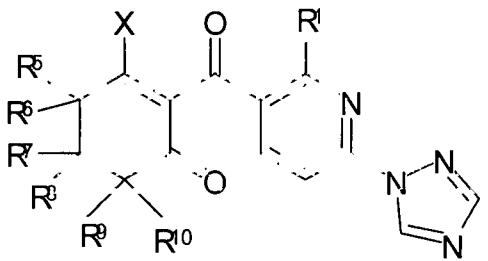
En la fórmula, R^1 , R^5 , R^6 , R^7 , R^8 , R^9 y R^{10} tienen los mismos significados que los antes mencionados.

Método de preparación (i)

En el caso de que se preparen unos compuestos en los que Q representa Q1 y R^4 representa alquiltio, feniltio sustituido, benciltio sustituido, pirazol-1-ilo sustituido, imidazol-1-ilo sustituido, 1,2,4-triazol-1-ilo, 1H-tetrazol-

277

1-ilo o 2H-tetrazol-2-ilo: un método para hacer reaccionar los compuestos representados por la siguiente fórmula (XVII) con los compuestos representados por la siguiente fórmula (XVIII)



Formula (XVII)

En la fórmula, R^1 , R^5 , R^6 , R^7 , R^8 , R^9 , R^{10} y X tienen los mismos significados que los antes mencionados.

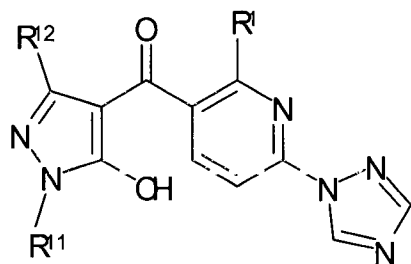
$R^{18} - H$

Formula (XVIII)

En la fórmula, R^{18} representa alquiltio, feniltio sustituido, benciltio sustituido, pirazol-1-ilo sustituido, imidazol-1-ilo sustituido, 1,2,4-triazol-1-ilo, 1H-tetrazol-1-ilo o 2H-tetrazol-2-ilo.

Método de preparación (j)

En el caso de que se preparen unos compuestos en los que Q representa Q2 y R^{13} representa alquilo, alquenilo, alquinilo, aralquilo, alquilsulfonilo, fenilsulfonilo sustituido, acilo o acilalquilo: un método para hacer reaccionar los compuestos representados por la siguiente fórmula (XIX) con los compuestos representados por la siguiente fórmula (XX)



Formula (XIX)

En la fórmula, R^1 , R^{11} y R^{12} tienen los mismos significados que los antes mencionados.

$R^{19} - X$

Formula (XX)

En la fórmula, X tiene los mismos significados que los antes mencionados, y R^{19} representa alquilo, alquenilo, alquinilo, aralquilo, alquilsulfonilo, fenilsulfonilo sustituido, acilo o acilalquilo.

Las triazolilpiridina cetonas de la fórmula (I) proporcionadas por el presente invento muestran una acción herbicida más fuerte que cualquiera de los compuestos descritos en los anteriores compuestos de la técnica anterior y tienen unos efectos extremadamente superiores como herbicidas selectivos que no causan sustancialmente ninguna fitotoxicidad para plantas cultivadas, especialmente efectivos para la generalidad de malezas de hoja ancha tales como convolvulaceas, sanguinaria, dulcamara, chenopodio, amaranto o similares, y efectivos para malezas gramíneas de estación caliente tales como amaranto lívido, cola de zorro, digitaria, hierba de Bermuda o similares, y muestran unos efectos extremadamente excelentes como herbicidas para plantas cultivadas en campos secos tales como trigo, maíz o similares.

En la presente memoria descriptiva, el epígrafe de "alquilo" muestra, por ejemplo, grupos alquilo de C_{1-12} de cadena normal o de cadena ramificada, tales como metilo, etilo, n- o iso-propilo, n-, iso-, sec- o terc.-butilo, n-pentilo, n-hexilo, n-heptilo, n-octilo, n-nonilo, n-decilo, n-undecilo, n-dodecilo o similares, y es preferiblemente un alquilo de C_{1-6} .

Además, para las respectivas partes de alquilo en los respectivos grupos que tienen alquilos como una parte de la configuración, se pueden citar como ejemplo unos grupos similares a los expuestos en el anterior epígrafe de "alquilo".

El epígrafe de "acilamino", por ejemplo, muestra alquilcarbonilamino, ciclopropilcarbonilamino y benzoilamino, y en este contexto, igual que para una parte alquilo, se pueden citar como ejemplo unos grupos alquilo que tienen los mismos significados que los que se exponen en el anterior epígrafe de "alquilo".

El epígrafe de "halógeno" y las respectivas partes halógeno en respectivos grupos sustituidos con halógeno muestra flúor, cloro, bromo y yodo, y preferiblemente muestra flúor, cloro y bromo.

El epígrafe de "cicloalquilo" y la parte cicloalquilo en un grupo que tiene cicloalquilo como una parte de la configuración muestra grupos cicloalquilo de C_{3-8} tales como ciclopropilo, ciclobutilo, ciclopentilo, ciclohexilo, cicloheptilo, ciclooctilo o similares, y preferiblemente muestra cicloalquilo de C_{3-7} .

El epígrafe de "alquenilo" y la parte alquenilo en un grupo que tiene alquenilo como una parte de la configuración muestra grupos alquenilo de C₂₋₅ tales como vinilo, alilo, 1-propenilo, 1-(o 2- o 3-)butenilo, 1-pentenilo o similares, y preferiblemente muestra grupos alquenilo de C₂₋₄.

El epígrafe de "alquinilo" y la parte alquinilo en un grupo que tiene alquinilo como una parte de la configuración muestra grupos alquinilo de C₂₋₅ tales como etinilo, propargilo, 1-propinilo, butan-3-inilo, pentan-4-inilo o similares, y preferiblemente muestra grupos alquinilo de C₂₋₄.

El epígrafe de "arilo" y la parte arilo de "aralquilo" muestra grupos arilo de C₆₋₁₂ tales como fenilo, tolilo, xililo, naftilo, bifenililo o similares, y preferiblemente muestra grupos arilo de C₆₋₈. Ejemplos preferidos de "aralquilo" incluyen bencilo, α -metilbencilo y fenetilo.

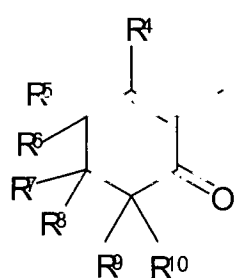
En los compuestos de la fórmula (I) del presente invento, se prefieren los siguientes compuestos, en los que R¹ representa alquilo de C₁₋₆, cicloalquilo de C₃₋₈, cicloalquil de C₃₋₈ - alquilo de C₁₋₂, haloalquilo de C₁₋₆, alquenilo de C₂₋₆, alquinilo de C₂₋₆, arilo de C₆₋₁₂, aril de C₆₋₁₂ - alquilo de C₁₋₂, alcoxi de C₁₋₆ - alquilo de C₁₋₄, cicloalquil de C₃₋₈ - alcoxi de C₁₋₄ - alquilo de C₁₋₄, haloalcoxi de C₁₋₆ - alquilo de C₁₋₄, alqueniloxi de C₂₋₆ - alquilo de C₁₋₄, alquiniloxi de C₂₋₆ - alquilo de C₁₋₄, alquiltio de C₁₋₆ - alquilo de C₁₋₄, alquilsulfinil de C₁₋₆ - alquilo de C₁₋₄, alquilsulfonil de C₁₋₆ - alquilo de C₁₋₄, cicloalquil de C₃₋₈ - alquiltio de C₁₋₄ - alquilo de C₁₋₄, cicloalquil de C₃₋₈ - alquilsulfinil de C₁₋₄ - alquilo de C₁₋₄,

cicloalquil de C₃₋₈ - alquilsulfonil de C₁₋₄ - alquilo de C₁₋₄,
 haloalquiltio de C₁₋₆ - alquilo de C₁₋₄, haloalquilsulfinil de
 C₁₋₆ - alquilo de C₁₋₄, haloalquilsulfonil de C₁₋₆ - alquilo de
 C₁₋₄, alqueniltio de C₂₋₆ - alquilo de C₁₋₄, alquenilsulfenil
 de C₂₋₆ - alquilo de C₁₋₄, alquenilsulfonil de C₂₋₆ - alquilo de
 C₁₋₄, alquiniltio de C₂₋₆ - alquilo de C₁₋₄, alquinilsulfinil
 de C₂₋₆ - alquilo de C₁₋₄, alquinilsulfonil de C₂₋₆ - alquilo de
 C₁₋₄, alcoxi de C₁₋₆ - alcoxi de C₁₋₄ - alquilo de C₁₋₄,
 cicloalquil de C₃₋₈ - alcoxi de C₁₋₄ - alcoxi de C₁₋₄ - alquilo
 de C₁₋₄, haloalcoxi de C₁₋₆ - alcoxi de C₁₋₄ - alquilo de C₁₋₄,
 alqueniloxi de C₂₋₆ - alcoxi de C₁₋₄ - alquilo de C₁₋₄,
 alquiniloxi de C₂₋₆ - alcoxi de C₁₋₄ - alquilo de C₁₋₄,
 alquiltio de C₁₋₆ - alcoxi de C₁₋₄ - alquilo de C₁₋₄,
 alquilsulfinil de C₁₋₆ - alcoxi de C₁₋₄ - alquilo de C₁₋₄,
 alquilsulfonil de C₁₋₆ - alcoxi de C₁₋₄ - alquilo de C₁₋₄,
 cicloalquil de C₃₋₈ - alquiltio de C₁₋₄ - alcoxi de C₁₋₄ -
 alquilo de C₁₋₄, cicloalquil de C₃₋₈ - alquilsulfinil de C₁₋₄ -
 alcoxi de C₁₋₄ - alquilo de C₁₋₄, cicloalquil de C₃₋₈ -
 alquilsulfonil de C₁₋₄ - alcoxi de C₁₋₄ - alquilo de C₁₋₄,
 haloalquiltio de C₁₋₆ - alcoxi de C₁₋₄ - alquilo de C₁₋₄,
 haloalquilsulfinil de C₁₋₆ - alcoxi de C₁₋₄ - alquilo de C₁₋₄,
 haloalquilsulfonil de C₁₋₆ - alcoxi de C₁₋₄ - alquilo de C₁₋₄,
 alqueniltio de C₂₋₆ - alcoxi de C₁₋₄ - alquilo de C₁₋₄,
 alquenilsulfinil de C₂₋₆ - alcoxi de C₁₋₄ - alquilo de C₁₋₄,
 alquenilsulfonil de C₂₋₆ - alcoxi de C₁₋₄ - alquilo de C₁₋₄,
 alquiniltio de C₂₋₆ - alcoxi de C₁₋₄ - alquilo de C₁₋₄,
 alquinilsulfinil de C₂₋₆ - alcoxi de C₁₋₄ - alquilo de C₁₋₄,
 alquinilsulfonil de C₂₋₆ - alcoxi de C₁₋₄ - alquilo de C₁₋₄,
 éter cíclico de C₂₋₅ - O - alquilo de C₁₋₄, éter cíclico de C₂₋₅

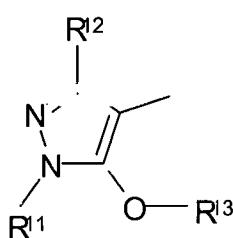
- alcoxi de C₁₋₄ - alquilo de C₁₋₄, alquilsulfonilamino de C₁₋₆
 - alcoxi de C₁₋₄ - alquilo de C₁₋₄, cicloalquil de C₃₋₈ -
 alquilsulfonilamino de C₁₋₄ - alcoxi de C₁₋₄ - alquilo de C₁₋₄,
 haloalquilsulfonilamino de C₁₋₆ - alcoxi de C₁₋₄ - alquilo de
 C₁₋₄, alquiltio de C₁₋₄, alquilsulfinilo de C₁₋₆,
 alquilsulfonilo de C₁₋₆, alcoxi de C₁₋₆, haloalcoxi de C₁₋₆,
 alcoxi de C₁₋₆ - alcoxi de C₁₋₄, o NR²R³,

R² y R³ representan respectivamente hidrógeno o alquilo de
 C₁₋₆,

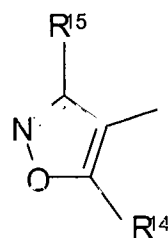
Q representa



Q1

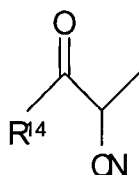


Q2



Q3

or



Q4

R⁴ representa hidroxilo, halógeno, alquiltio de C₁₋₆, feniltio
 sustituido, benciltio sustituido, 1-pirazolilo sustituido,
 1-imidazolilo sustituido, 1,2,4-triazol-1-ilo, 1H-tetrazol-
 1-ilo o 2H-tetrazol-2-ilo,

R⁵, R⁶, R⁷, R⁸, R⁹ y R¹⁰ representan respectivamente hidrógeno
 o alquilo de C₁₋₆,

R⁵ y R¹⁰ en común representan etileno o -CH=CH-,

R⁷ y R⁸ en común representan carbonilo,

R¹¹ representa alquilo de C₁₋₆,

R¹² representa hidrógeno, alquilo de C₁₋₆ o cicloalquilo de C₃₋₈,

R¹³ representa hidrógeno, alquilo de C₁₋₆, alqueno de C₂₋₆, alquino de C₂₋₆, aril de C₆₋₁₀ - alquilo de C₁₋₂, alquilsulfonilo de C₁₋₆, fenilsulfonilo sustituido, alquil de C₁₋₆ - carbonilo, benzoílo, heteroarilcarbonilo, alquil de C₁₋₆ - carbonil - alquilo de C₁₋₄, benzoíl - alquilo de C₁₋₄, o heteroarilcarbonil - alquilo de C₁₋₄,

R¹⁴ representa alquilo de C₁₋₆ o cicloalquilo de C₃₋₈, y

R¹⁵ representa hidrógeno, alcoxi de C₁₋₆ - carbonilo o alquiltio de C₁₋₆.

Entre los compuestos de la fórmula (I), son especialmente preferidos los siguientes compuestos, en los que

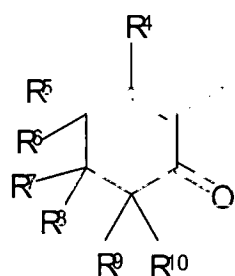
R¹ representa alquilo de C₁₋₄, cicloalquilo de C₃₋₇, cicloalquil de C₃₋₇ - alquilo de C₁₋₂, haloalquilo de C₁₋₄, alqueno de C₂₋₄, alquino de C₂₋₄, arilo de C₆₋₈, aril de C₆₋₈ - alquilo de C₁₋₂, alcoxi de C₁₋₄ - alquilo de C₁₋₄, cicloalquil de C₃₋₇ - alcoxi de C₁₋₄ - alquilo de C₁₋₄, haloalcoxi de C₁₋₄ - alquilo de C₁₋₄, alquenoiloxi de C₂₋₄ - alquilo de C₁₋₄, alquinoiloxi de C₂₋₄ - alquilo de C₁₋₄, alquiltio de C₁₋₄ - alquilo de C₁₋₄, alquilsulfinil de C₁₋₄ - alquilo de C₁₋₄, alquilsulfonil de C₁₋₄ - alquilo de C₁₋₄, cicloalquil de C₃₋₇ - alquiltio de C₁₋₄ - alquilo de C₁₋₄, cicloalquil de C₃₋₇ - alquilsulfinil de C₁₋₄ - alquilo de C₁₋₄, cicloalquil de C₃₋₇ - alquilsulfonil de C₁₋₄ - alquilo de C₁₋₄, haloalquiltio de C₁₋₄ - alquilo de C₁₋₄, haloalquilsulfinil de C₁₋₄ - alquilo de C₁₋₄, haloalquilsulfonil de C₁₋₄ - alquilo de

C₁₋₄, alqueniltio de C₂₋₄ - alquilo de C₁₋₄, alquenilsulfenil de C₂₋₄ - alquilo de C₁₋₄, alquenilsulfonil de C₂₋₄ - alquilo de C₁₋₄, alquiniltio de C₂₋₄ - alquilo de C₁₋₄, alquinilsulfinil de C₂₋₄ - alquilo de C₁₋₄, alquinilsulfonil de C₂₋₄ - alquilo de C₁₋₄, alcoxi de C₁₋₄ - alcoxi de C₁₋₄ - alquilo de C₁₋₄, cicloalquil de C₃₋₇ - alcoxi de C₁₋₄ - alcoxi de C₁₋₄ - alquilo de C₁₋₄, haloalcoxi de C₁₋₄ - alcoxi de C₁₋₄ - alquilo de C₁₋₄, alqueniloxi de C₂₋₄ - alcoxi de C₁₋₄ - alquilo de C₁₋₄, alquiniloxi de C₂₋₄ - alcoxi de C₁₋₄ - alquilo de C₁₋₄, alquiltio de C₁₋₄ - alcoxi de C₁₋₄ - alquilo de C₁₋₄, alquilsulfinil de C₁₋₄ - alcoxi de C₁₋₄ - alquilo de C₁₋₄, alquilsulfonil de C₁₋₄ - alcoxi de C₁₋₄ - alquilo de C₁₋₄, cicloalquil de C₃₋₇ - alquiltio de C₁₋₄ - alcoxi de C₁₋₄ - alquilo de C₁₋₄, cicloalquil de C₃₋₇ - alquilsulfinil de C₁₋₄ - alcoxi de C₁₋₄ - alquilo de C₁₋₄, cicloalquil de C₃₋₇ - alquilsulfonil de C₁₋₄ - alcoxi de C₁₋₄ - alquilo de C₁₋₄, haloalquiltio de C₁₋₄ - alcoxi de C₁₋₄ - alquilo de C₁₋₄, haloalquilsulfinil de C₁₋₄ - alcoxi de C₁₋₄ - alquilo de C₁₋₄, haloalquilsulfonil de C₁₋₄ - alcoxi de C₁₋₄ - alquilo de C₁₋₄, alqueniltio de C₂₋₄ - alcoxi de C₁₋₄ - alquilo de C₁₋₄, alquenilsulfinil de C₂₋₄ - alcoxi de C₁₋₄ - alquilo de C₁₋₄, alquenilsulfonil de C₂₋₄ - alcoxi de C₁₋₄ - alquilo de C₁₋₄, alquiniltio de C₂₋₄ - alcoxi de C₁₋₄ - alquilo de C₁₋₄, alquinilsulfinil de C₂₋₄ - alcoxi de C₁₋₄ - alquilo de C₁₋₄, alquinilsulfonil de C₂₋₄ - alcoxi de C₁₋₄ - alquilo de C₁₋₄, éter cíclico de C₂₋₄ - O - alquilo de C₁₋₄, éter cíclico de C₂₋₄ - alcoxi de C₁₋₄ - alquilo de C₁₋₄, alquilsulfonilamino de C₁₋₄ - alcoxi de C₁₋₄ - alquilo de C₁₋₄, cicloalquil de C₃₋₇ - alquilsulfonilamino de C₁₋₄ - alcoxi de C₁₋₄ - alquilo de C₁₋₄,

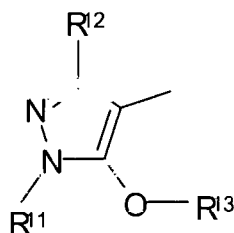
haloalquilsulfonilamino de C₁₋₄ - alcoxi de C₁₋₄ - alquilo de C₁₋₄, alquiltio de C₁₋₄, alquilsulfinilo de C₁₋₄, alquilsulfonilo de C₁₋₄, alcoxi de C₁₋₄, haloalcoxi de C₁₋₄, alcoxi de C₁₋₄ - alcoxi de C₁₋₄, o NR²R³,

R² y R³ representan respectivamente hidrógeno o alquilo de C₁₋₄,

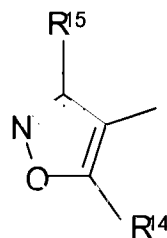
Q representa



Q1

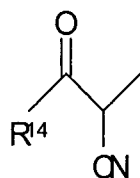


Q2



or

Q3



Q4

R⁴ representa hidroxilo, halógeno, alquiltio de C₁₋₄, feniltio sustituido, benciltio sustituido, 1-pirazolilo sustituido, 1-imidazolilo sustituido, 1,2,4-triazol-1-ilo, 1H-tetrazol-1-ilo o 2H-tetrazol-2-ilo,

R⁵, R⁶, R⁷, R⁸, R⁹ y R¹⁰ representan respectivamente hidrógeno o alquilo de C₁₋₄,

R⁵ y R¹⁰ en común representan etileno o -CH=CH-,

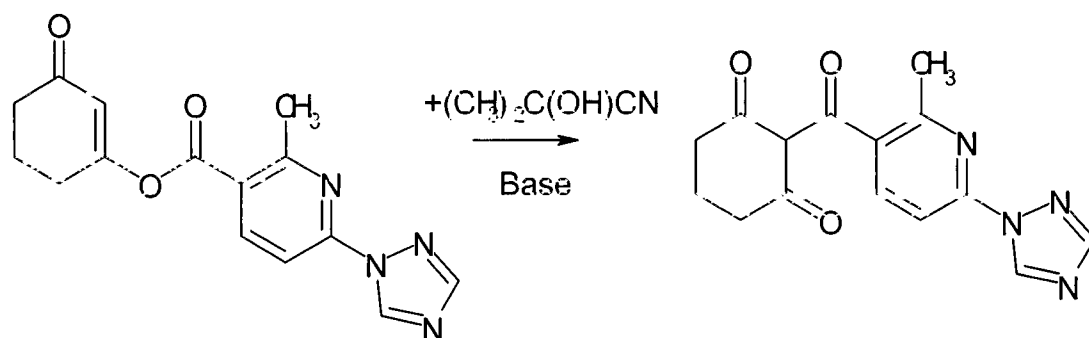
R⁷ y R⁸ en común representan carbonilo,

R¹¹ representa alquilo de C₁₋₄,

R¹² representa hidrógeno, alquilo de C₁₋₄, o cicloalquilo de C₃₋₇,

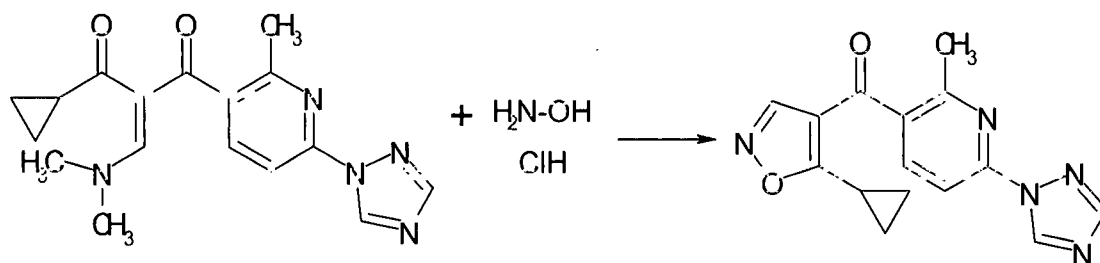
R^{13} representa hidrógeno, alquilo de C_{1-4} , alquenilo de C_{2-4} , alquinilo de C_{2-4} , aril de C_{6-8} - alquilo de C_{1-2} , alquilsulfonilo de C_{1-4} , fenilsulfonilo sustituido, alquilcarbonilo de C_{1-4} , benzoílo, heteroarilcarbonilo, alquil de C_{1-4} - carbonil - alquilo de C_{1-4} , benzoíl - alquilo de C_{1-4} , o heteroarilcarbonil - alquilo de C_{1-4} , R^{14} representa alquilo de C_{1-4} o cicloalquilo de C_{3-7} , y R^{15} representa hidrógeno, alcoxi de C_{1-4} - carbonilo o alquiltio de C_{1-4} .

El caso en el que se usa, por ejemplo, el 2-metil-6-(1H-1,2,4-triazol-1-il)nicotinato de 3-oxo-1-ciclohexen-1-ilo como un material de partida, y se usa la cianhidrina de acetona como compuesto de cianógeno en el método de preparación (a) puede ser representado por la siguiente fórmula de reacción.

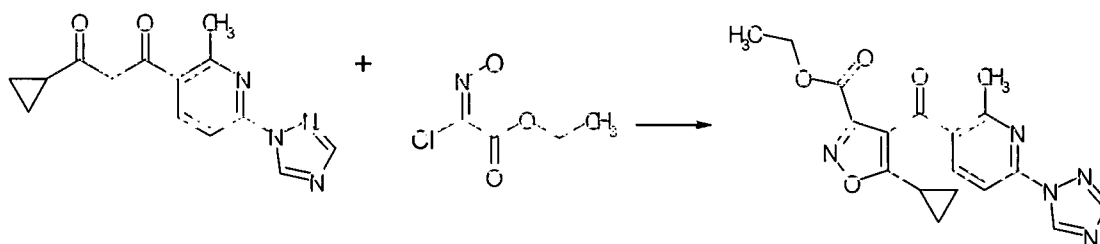


El caso en el que se usan, por ejemplo, la 1-ciclopropil-2-[(dimetilamino)metilen]-3-[2-metil-6-(1H-triazol-1-il)piridin-3-il]propano-1,3-diona y el hidrocloreuro de hidroxilamina como materiales de partida en el método de preparación (b) puede ser representado por la siguiente fórmula de reacción.

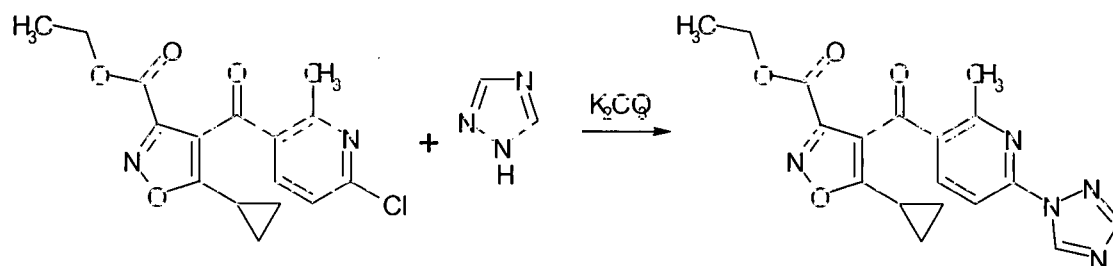
287



El caso en el que se usan, por ejemplo, la 1-ciclopropil-3-[2-metil-6-(1H-1,2,4-triazol-1-il)piridin-3-il]propano-1,3-diona y el clorooxiimidoacetato de etilo como materiales de partida en el método de preparación (c) puede ser representado por la siguiente fórmula de reacción.

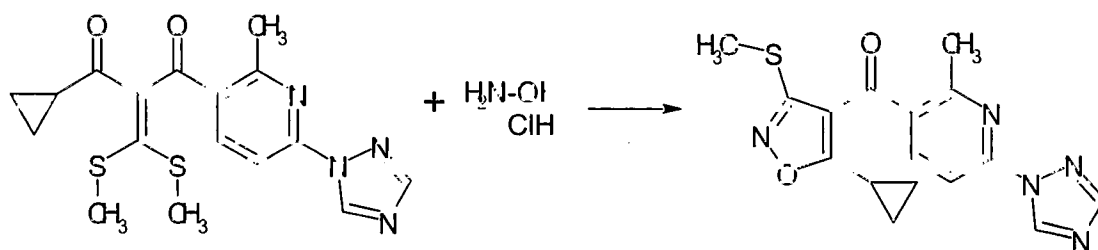


El caso en el que se usan, por ejemplo, el éster etílico de ácido 4-[(6-cloro-2-metilpiridin-3-il)carbonil]-5-ciclopropilisoxazol-3-carboxílico y el triazol como materiales de partida y se usa, por ejemplo, carbonato de potasio como una base en el método de preparación (d) puede ser representado por la siguiente fórmula de reacción.

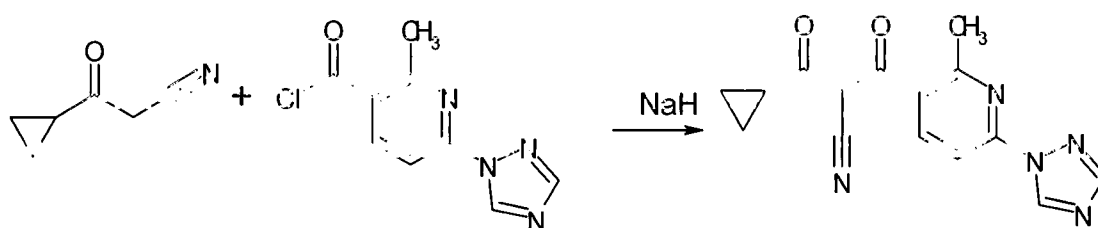


El caso en el que se usan, por ejemplo, la

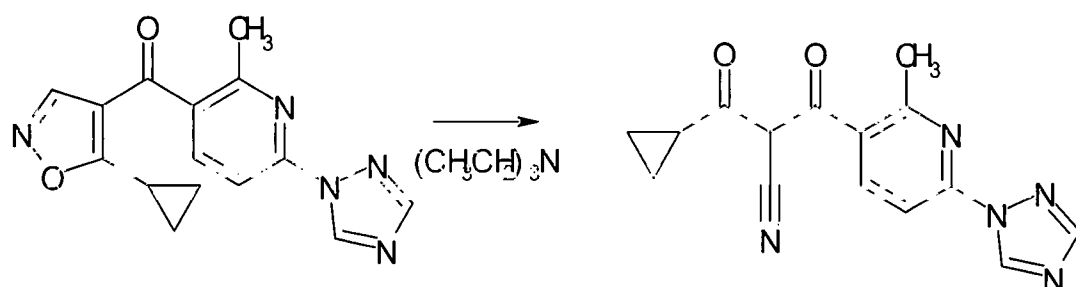
2-[bis(metiltio)metilen]-1-ciclopropil-3-[2-metil-6-(1H-1,2,4-triazol-1-il)piridin-3-il]-1-propano-1,3-diona y el hidrocloreto de hidroxilamina como materiales de partida en el método de preparación (e) puede ser representado por la siguiente fórmula de reacción.



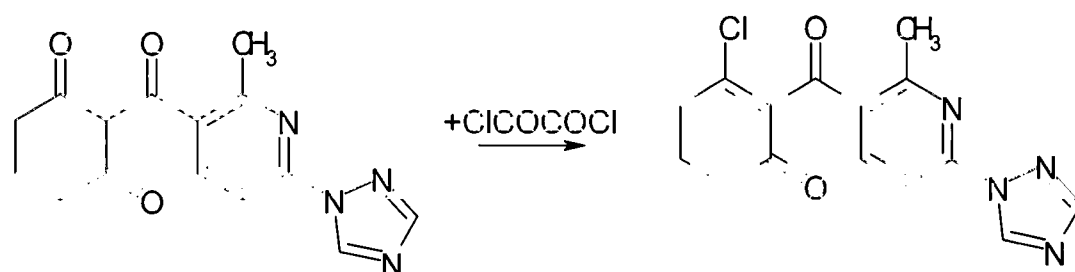
El caso en el que se usa, por ejemplo, el cloruro de ácido 2-metil-6-(1H-1,2,4-triazol-1-il)nicotínico como material de partida y se usa, por ejemplo, hidruro de sodio como una base en el método de preparación (f) puede ser representado por la siguiente fórmula de reacción.



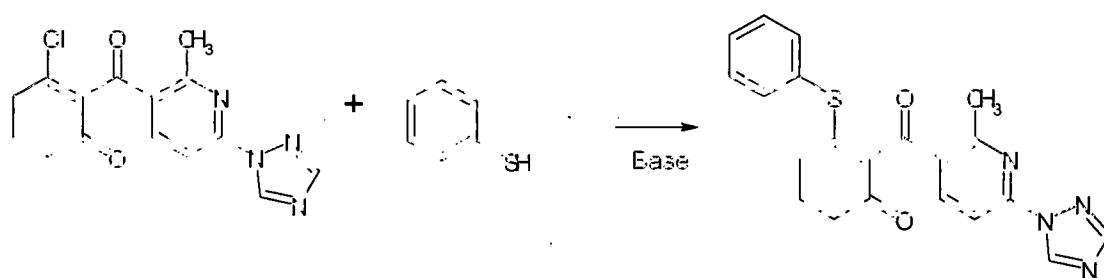
El caso en el que se usa, por ejemplo, la (5-ciclopropilisoxazol-4-il)[2-metil-6-(1H-1,2,4-triazol-1-il)piridin-3-il]metanona como un material de partida, y se usa, por ejemplo, la trietilamina como una base en el método de preparación (g) puede ser representado por la siguiente fórmula de reacción.



El caso en el que se usa, por ejemplo, la 2-[[2-metil-6-(1H-1,2,4-triazol-1-il)piridin-3-il]]ciclohexano-1,3-diona como un material de partida y se usa, por ejemplo, el dicloruro de oxalilo como agente clorante en el método de preparación (h) puede ser representado por la siguiente fórmula de reacción.

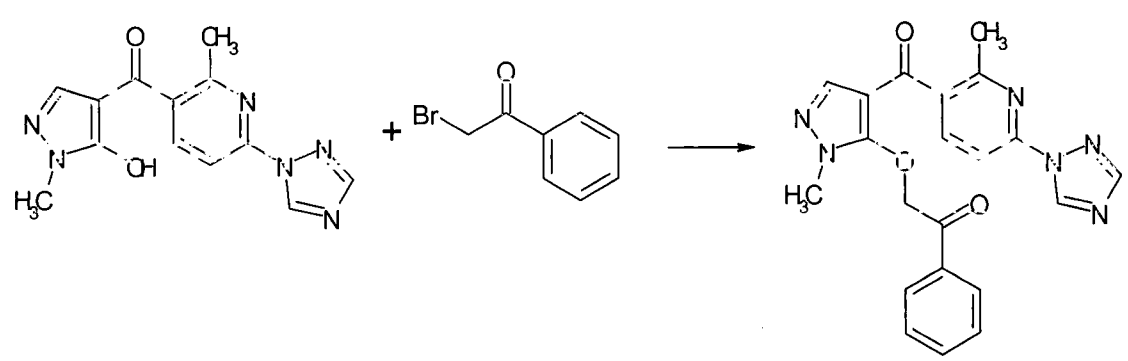


El caso en el que se usan, por ejemplo, la 3-cloro-2-[[2-metil-6-(1H-1,2,4-triazol-1-il)piridin-3-il]carbonil]]-2-ciclohexen-1-ona y el tiofenol como materiales de partida en el método de preparación (i) puede ser representado por la siguiente fórmula de reacción.

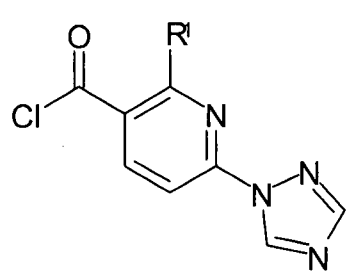


El caso en el que se usan, por ejemplo, la (5-hidroxi-1-metil-1H-pirazol-4-il)[2-metil-6-(1H-1,2,4-triazol-1-il)-

piridin-3-il]metanona y el bromuro de fenacilo como materiales de partida, y se usa, por ejemplo, carbonato de potasio como una base en el método de preparación (j) puede ser representado por la siguiente fórmula de reacción.

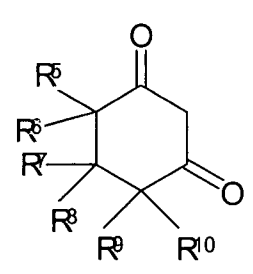


Los compuestos de las fórmulas (II), (III) y (IV) que sirven como los materiales de partida en el método de preparación (a) son unos nuevos compuestos, y se pueden obtener haciendo reaccionar los compuestos representados por la siguiente fórmula (XXI) con los compuestos representados por la siguiente fórmula (XXII) o (XXIII).



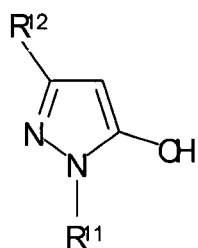
Formula (XXI)

En la fórmula, R^1 tiene los mismos significados que los antes mencionados.



Formula (XXII)

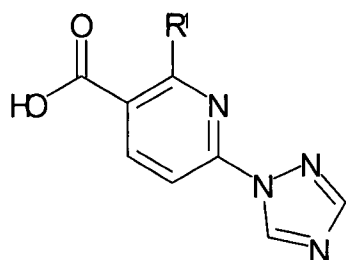
En la fórmula, R^5 , R^6 , R^7 , R^8 , R^9 y R^{10} tienen los mismos significados que los antes mencionados.



Formula (XXIII)

En la fórmula, R^{11} y R^{12} tienen los mismos significados que los antes mencionados.

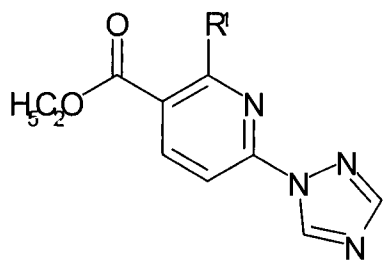
Los compuestos de la fórmula (XXI) son unos nuevos compuestos, y se pueden obtener haciendo reaccionar los compuestos representados por la siguiente fórmula con el cloruro de tionilo.



Formula (XXIV)

En la fórmula, R^1 tiene los mismos significados que los antes mencionados.

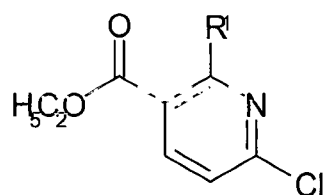
Los compuestos de la fórmula (XXIV) son unos nuevos compuestos, y se pueden obtener hidrolizando los compuestos representados por la siguiente fórmula.



Formula (XXV)

En la fórmula, R^1 tiene los mismos significados que los antes mencionados.

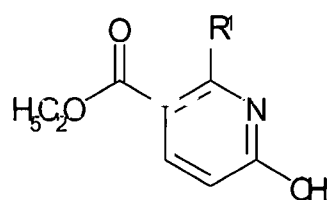
Los compuestos de la fórmula (XXV) se obtienen haciendo reaccionar los compuestos representados por la siguiente fórmula con el 1H-1,2,4-triazol.



Formula (XXVI)

En la fórmula, R^1 tiene los mismos significados que los antes mencionados.

Los compuestos de la fórmula (XXVI) se obtienen, por ejemplo, haciendo reaccionar los compuestos representados por la siguiente fórmula con el oxiclорuro de fósforo. (Refiérase a J. Org. Chem., 1954, vol. 19, N° 2, páginas 183-193).



Formula (XXVII)

En la fórmula, R^1 tiene los mismos significados que los antes mencionados.

Entre los compuestos de la fórmula (XXVII), por ejemplo, el compuesto 6-oxo que es el tautómero de un compuesto de la fórmula (XXVII) en la que R^1 es metilo es un compuesto públicamente conocido que se describe en J. Org. Chem., 1954, vol. 19, N° 2, páginas 183-193.

Además, el tautómero de un compuesto de la fórmula (XXVII) en la que R^1 es trifluorometilo es un compuesto públicamente conocido que se describe en el documento WO2004/029027 o uno similar.

Entre los compuestos de la fórmula (XXIV), por ejemplo, un compuesto de la fórmula (XXIV) en la que R^1 es metoximetilo, trifluoroetoximetilo o 2-(metoxi)etoximetilo se puede obtener haciendo reaccionar el compuesto de la fórmula (XXV) en la que R^1 es bromometilo con un correspondiente alcóxido de metal, y de manera subsiguiente hidrolizando el resultante producto sin aislar este producto.

Además, el compuesto de la fórmula (XXIV) en la que R^1 es 2-(metoxi)etoximetilo se puede sintetizar sometiendo continuamente al 2-(bromometil)-6-cloronicotinato de etilo correspondiente a la fórmula (XXVI) en la que R^1 es bromometilo, a una reacción de tres etapas de alcoxialquilación, triazolilación e hidrólisis sin aislar los productos intermedios.

Entre los compuestos de la fórmula (XXV), por ejemplo, el compuesto de la fórmula (XXV) en la que R^1 es metiltiommetilo se puede obtener haciendo reaccionar el compuesto de la fórmula (XXV) en la que R^1 es bromometilo con un correspondiente tioalcóxido de metal. Además, oxidando este compuesto con metiltiommetilo, se puede obtener también el compuesto de la fórmula (XXV) en la que R^1 es metilsulfonilmetilo.

Los compuestos de las fórmulas (XXII) y (XXIII) son unos compuestos públicamente conocidos.

Típicos ejemplos de los compuestos de la fórmula (XXII) incluyen los siguientes.

Ciclohexano-1,3-diona, 4-metilciclohexano-1,3-diona,
4,4-dimetilciclohexano-1,3-diona,
2,2,4,4-tetrametilciclohexano-1,3,5-triona,
biciclo[3.2.1]octano-2,4-diona,
biciclo[3.2.1]-6-octeno-2,4-diona.

Además, típicos ejemplos de los compuestos de la fórmula (XXIII) incluyen los siguientes.

1-Metil-1H-pirazol-5-ol, 1-etil-1H-pirazol-5-ol,
1,3-dimetil-1H-pirazol-5-ol,
3-ciclopropil-1-metil-1H-pirazol-5-ol.

Típicos ejemplos de los compuestos de las fórmulas (II), (III) y (IV) usados como los materiales de partida en el método de preparación (a) incluyen los siguientes.

2-(Metoximetil)-6-(1H-1,2,4-triazol-1-il)nicotinato de
3-oxo-1-ciclohexen-1-ilo,
2-[(metiltio)metil]-6-(1H-1,2,4-triazol-1-il)nicotinato
de 3-oxo-1-ciclohexen-1-ilo,
2-metil-6-(1H-1,2,4-triazol-1-il)nicotinato de
4,4-dimetil-3-oxo-1-ciclohexen-1-ilo,
2-metil-6-(1H-1,2,4-triazol-1-il)-nicotinato de
4-oxabiciclo[3.2.1]-2-octen-2-ilo,
2-metil-6-(1H-1,2,4-triazol-1-il)nicotinato de
1-etil-1H-pirazol-5-ilo,
2-(metoximetil)-6-(1H-1,2,4-triazol-1-il)nicotinato de
1,3-dimetil-1H-pirazol-5-ilo,
2-metil-6-(1H-1,2,4-triazol-1-il)nicotinato de
3-ciclopropil-1-metil-1H-pirazol-5-ilo,

2-[(metiltio)metil]-6-(1H-1,2,4-triazol-1-il)nicotinato
de 1-metil-1H-pirazol-5-ilo.

Los compuestos de las fórmulas (V) y (VI) usados como los materiales de partida en el método de preparación (b) son unos nuevos compuestos, y, por ejemplo, se pueden obtener como una mezcla de las fórmulas (V) y (VI) haciendo reaccionar los compuestos de la fórmula (IX) con el dimetilacetal de dimetilformamida.

Además, los compuestos de las fórmulas (VII) y (VIII) son también unos nuevos compuestos, y se pueden obtener como una mezcla de las fórmulas (VII) y (VIII) haciendo reaccionar los compuestos de la fórmula (IX) con el ortoformiato de etilo.

Los compuestos de la fórmula (V) y los compuestos de la fórmula (VI), así como los compuestos de la fórmula (VII) y los compuestos de la fórmula (VIII) son unos isómeros geométricos.

Típicos ejemplos de compuestos de las fórmulas (V), (VI), (VII), y (VIII) usados como los materiales de partida en el método de preparación (b) incluyen los siguientes.

(2E)-1-ciclopropil-2-[(dimetilamino)metilen]-3-[2-metil-6-(1H-1,2,4-triazol-1-il)piridin-3-il]propano-1,3-diona,

(2E)-1-ciclopropil-2-[(dimetilamino)metilen]-3-[2-metil-6-(1H-1,2,4-triazol-1-il)piridin-3-il]propano-1,3-diona,

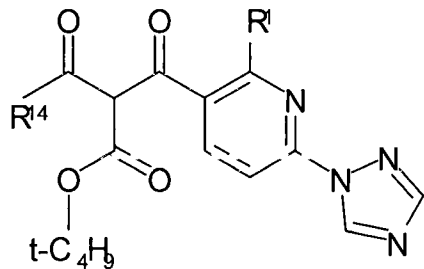
(2E)-1-ciclopropil-2-[(dimetilamino)metilen]-3-[2-(metoximetil)-6-(1H-1,2,4-triazol-1-il)piridin-3-il]-propano-1,3-diona,

(2E)-2-[(dimetilamino)metilen]-4,4-dimetil-1-[2-metil-

6-(1H-1,2,4-triazol-1-il)piridin-3-il]pentano-1,3-diona,
(2E)-1-ciclopropil-2-[(dimetilamino)metilen]-3-{2-[(metil-
tio)-metil]-6-(1H-1,2,4-triazol-1-il)piridin-3-il}propano-
1,3-diona,
(2E)-1-ciclopropil-2-[(dimetilamino)metileno]-
3-[6-(1H-1,2,4-triazol-1-il)-2-(trifluorometil)piridin-
3-il]propano-1,3-diona,
(2Z)-1-ciclopropil-2-[(dimetilamino)metilen]-3-[2-(metoxi-
metil)-6-(1H-1,2,4-triazol-1-il)piridin-3-il]propano-
1,3-diona,
(2Z)-1-ciclopropil-2-[(dimetilamino)metilen]-3-[2-metil-
6-(1H-1,2,4-triazol-1-il)piridin-3-il]propano-1,3-diona,
(2Z)-2-[(dimetilamino)metilen]-4,4-dimetil-1-[2-metil-
6-(1H-1,2,4-triazol-1-il)piridin-3-il]pentano-1,3-diona,
(2Z)-1-ciclopropil-2-[(dimetilamino)metilen]-3-{2-[(metil-
tio)metil]-6-(1H-1,2,4-triazol-1-il)piridin-3-il}propano-
1,3-diona],
(2Z)-1-ciclopropil-2-[(dimetilamino)metilen]-
3-[6-(1H-1,2,4-triazol-1-il)-2-(trifluorometil)piridin-
3-il]propano-1,3-diona,
(2E)-1-ciclopropil-2-(etoximetilen)-3-[2-(metoximetil)-
6-(1H-1,2,4-triazol-1-il)piridin-3-il]propano-1,3-diona,
(2E)-1-ciclopropil-2-(etoximetilen)-3-[2-metil-
6-(1H-1,2,4-triazol-1-il)piridin-3-il]propano-1,3-diona,
(2E)-2-(etoximetilen)-4,4-dimetil-1-[2-metil-
6-(1H-1,2,4-triazol-1-il)piridin-3-il]pentano-1,3-diona,
(2E)-1-ciclopropil-2-(etoximetilen)-3-{2-[(metiltio)metil]-
6-(1H-1,2,4-triazol-1-il)piridin-3-il}propano-1,3-diona,
(2E)-1-ciclopropil-2-(etoximetilen)-3-[6-(1H-1,2,4-triazol-

1-il)-2-(trifluorometil)piridin-3-il]propano-1,3-diona,
 (2Z)-1-ciclopropil-2-(etoximetilen)-3-[2-(metoximetil)-
 6-(1H-1,2,4-triazol-1-il)piridin-3-il]propano-1,3-diona,
 (2Z)-1-ciclopropil-2-(etoximetilen)-3-[2-metil-
 6-(1H-1,2,4-triazol-1-il)piridin-3-il]propano-1,3-diona,
 (2Z)-2-(etoximetilen)-4,4-dimetil-1-[2-metil-
 6-(1H-1,2,4-triazol-1-il)piridin-3-il]pentano-1,3-diona,
 (2Z)-1-ciclopropil-2-(etoximetilen)-3-[2-[(metiltio)metil]-
 6-(1H-1,2,4-triazol-1-il)piridin-3-il]propano-1,3-diona,
 (2Z)-1-ciclopropil-2-(etoximetilen)-
 3-[6-(1H-1,2,4-triazol-1-il)-2-(trifluorometil)piridin-
 3-il]propano-1,3-diona.

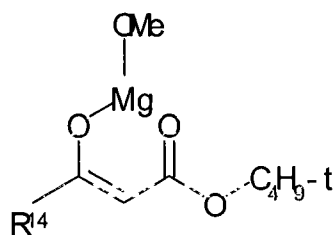
Los compuestos de la fórmula (IX) usados como el material de partida en el método de preparación (c) son unos nuevos compuestos, y se pueden obtener, por ejemplo, haciendo reaccionar los compuestos representados por la siguiente fórmula con un ácido.



Formula (XXVIII)

En la fórmula, R^1 y R^{14} tienen los mismos significados que los antes mencionados.

Los compuestos de la fórmula (XXVIII) se pueden obtener haciendo reaccionar los compuestos de la fórmula (XXI) con los compuestos representados por la siguiente fórmula.



Formula (XXIX)

En la fórmula, R^{14} tiene los mismos significados que los antes mencionados.

Los compuestos de la fórmula (XXIX) son unos compuestos públicamente conocidos que se describen en el documento WO99/03856.

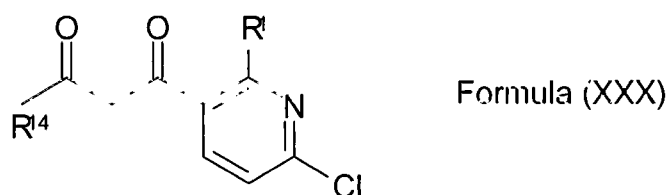
El ácido que se hace reaccionar con los compuestos de la fórmula (XXVIII) es, por ejemplo, ácido clorhídrico, ácido sulfúrico o ácido trifluoroacético.

Típicos ejemplos de los compuestos de la fórmula (IX) usados como el material de partida en el método de preparación (c) incluyen los siguientes.

1-Ciclopropil-3-[6-(1H-1,2,4-triazol-1-il)-2-(trifluorometil)piridin-3-il]propano-1,3-diona,
 1-ciclopropil-3-[2-(metoximetil)-6-(1H-1,2,4-triazol-1-il)-piridin-3-il]propano-1,3-diona,
 4,4-dimetil-1-[2-metil-6-(1H-1,2,4-triazol-1-il)piridin-3-il]pentano-1,3-diona,
 1-ciclopropil-3-{2-[(metiltio)metil]-6-(1H-1,2,4-triazol-1-il)piridin-3-il}propano-1,3-diona.

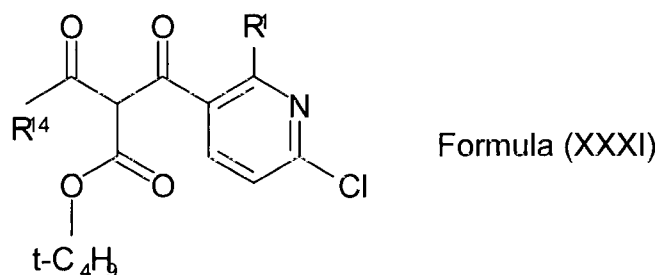
Los compuestos de la fórmula (X) usados como el material de partida en el método de preparación (c) son cloruros de imidoílo bien conocidos en la química orgánica, y un típico ejemplo de los mismos es el 2-cloro-2-(hidroxiimino)-acetato de etilo.

Los compuestos de la fórmula (XI) usados como el material de partida en el método de preparación (d) son unos nuevos compuestos, y se pueden obtener, por ejemplo, haciendo reaccionar los compuestos representados por la siguiente fórmula con los compuestos de la fórmula (X).



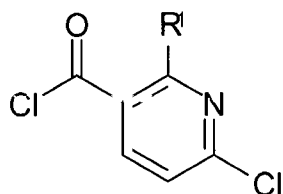
En la fórmula, R¹ y R¹⁴ tienen los mismos significados que los antes mencionados.

Los compuestos de la fórmula (XXX) son unos nuevos compuestos, y se pueden obtener, por ejemplo, haciendo reaccionar los compuestos representados por la siguiente fórmula con un ácido.



En la fórmula, R¹ y R¹⁴ tienen los mismos significados que los antes mencionados.

Los compuestos de la fórmula (XXXI) son unos nuevos compuestos, y se pueden obtener, por ejemplo, haciendo reaccionar los compuestos representados por la siguiente fórmula con los compuestos representados por la fórmula (XXIX).



Formula (XXXII)

En la fórmula, R^1 tiene los mismos significados que los antes mencionados.

Los compuestos de la fórmula (XXXII) se pueden obtener con facilidad hidrolizando los compuestos de la fórmula (XXVI), y haciendo reaccionar de manera subsiguiente los compuestos obtenidos con el cloruro de tionilo.

Entre los compuestos de la fórmula (XXXII), el compuesto en el que R^1 es metilo es un compuesto públicamente conocido que se describe en la patente japonesa puesta a disposición del público N° 3-38586, y el compuesto en el que R^1 es metoxi es un compuesto públicamente conocido que se describe en la patente japonesa puesta a disposición del público N° 52-3968.

Como el ácido que se ha de hacer reaccionar con los compuestos de la fórmula (XXXI), se pueden usar los mismos compuestos que se han expuesto en el método de preparación (c).

Típicos ejemplos de los compuestos de la fórmula (XI) usados como el material de partida en el método de preparación (d) incluyen los siguientes.

Éster etílico de ácido 4-[[6-cloro-2-(trifluoro-metil)-piridin-3-il]carbonil-5-ciclopropilisoxazol-3-carboxílico, éster etílico de ácido 5-terc.-butil-4-[(6-cloro-2-metilpiridin-3-il)carbonil]isoxazol-3-carboxílico.

Los compuestos de la fórmula (XII) usados como el material de partida en el método de preparación (e) son unos nuevos compuestos, y se pueden obtener, por ejemplo, haciendo reaccionar los compuestos representados por la fórmula (IX) con el disulfuro de carbono y el yoduro de metilo en la presencia de fluoruro de potasio soportado por alúmina.

Típicos ejemplos de los compuestos de la fórmula (XII) incluyen los siguientes.

2-[bis(metiltio)metilen]-1-ciclopropil-

3-[6-(1H-1,2,4-triazol-1-il)-2-(trifluorometil)piridin-3-il]propano-1,3-diona,

2-[bis(metiltio)metilen]-1-[2-(metoximetil)-6-(1H-1,2,4-triazol-1-il)piridin-3-il]-4,4-dimetilpentano-1,3-diona,

2-[bis(metiltio)metilen]-1-ciclopropil-3-[2-(metoximetil)-6-(1H-1,2,4-triazol-3-il)piridin-3-il]propano-1,3-diona,

2-[bis(metiltio)metilen]-1-ciclopropil-3-{2-[(metiltio)-metil]-6-(1H-1,2,4-triazol-3-il)piridin-3-il}propano-1,3-diona.

Los compuestos de la fórmula (XIII) usados como el material de partida en el método de preparación (f) incluyen los compuestos de la fórmula (XXI) y son unos nuevos compuestos, y sus representantes son unos compuestos correspondientes a los compuestos de la fórmula (XXI).

Típicos ejemplos de los compuestos de la fórmula (XIII) incluyen los siguientes.

Cloruro de ácido 2-(metoximetil)-6-(1H-1,2,4-triazol-1-il)-nicotínico,

cloruro de ácido 6-(1H-1,2,4-triazol-1-il)-2-(trifluorometil)-nicotínico,

cloruro de ácido 2-[(metiltio)metil]-6-(1H-1,2,4-triazol-1-il)nicotínico,

cloruro de ácido 6-(1H-1,2,4-triazol-1-il)-2-[(2,2,2-trifluoroetoxi)metil]nicotínico,

cloruro de ácido 2-[(2-metoxietoxi)metil]-6-(1H-1,2,4-triazol-1-il)nicotínico.

De manera similar, los compuestos de la fórmula (XIV) usados como el material de partida en el método de preparación (f) son unos compuestos públicamente conocidos, y ejemplos de los mismos incluyen los siguientes compuestos.

3-oxobutanonitrilo, 3-oxopentanonitrilo,

3-ciclopropil-3-oxopropanonitrilo,

4,4-dimetil-3-oxopentanonitrilo.

Los compuestos de la fórmula (XV) usados como el material de partida en el método de preparación (g) corresponden a los compuestos en los que Q es Q³ y R¹⁵ es hidrógeno en la fórmula (I) del presente invento.

Los compuestos de la fórmula (XV) se pueden obtener por el método de preparación (b).

Típicos ejemplos de los compuestos de la fórmula (XV) incluyen los siguientes.

(5-Ciclopropilisoxazol-4-il)[2-(metoximetil)-

6-(1H-1,2,4-triazol-1-il)piridin-3-il]metanona,

(5-ciclopropilisoxazol-4-il){2-[(metiltio)metil]-

6-(1H-1,2,4-triazol-1-il)piridin-3-il}metanona,

(5-ciclopropilisoxazol-4-il)[6-(1H-1,2,4-triazol-1-il)-

2-(trifluorometil)piridin-3-il]metanona,

(5-terc.-butylisoxazol-4-il) [2-metil-6-(1H-1,2,4-triazol-1-il)piridin-3-il]metanona.

Los compuestos de las respectivas fórmulas (XVI), (XVII) y (XIX) usados como los materiales de partida en los métodos de preparación de (h), (i) y (j) están también incluidos en la fórmula (I) del presente invento, y se pueden obtener por el método de preparación (a).

Típicos ejemplos de los compuestos de la fórmula (XVI) incluyen los siguientes.

2-([6-(1H-1,2,4-triazol-1-il)-2-(trifluorometil)piridin-3-il]carbonil)ciclohexano-1,3-diona,
2-([2-(metoximetil)-6-(1H-1,2,4-triazol-1-il)piridin-3-il]-carbonil)ciclohexano-1,3-diona,
2-([2-[(metiltio)metil]-6-(1H-1,2,4-triazol-1-il)piridin-3-il]carbonil)ciclohexano-1,3-diona,
4,4-dimetil-2-([2-metil-6-(1H-1,2,4-triazol-1-il)piridin-3-il]carbonil)ciclohexano-1,3-diona,
3-([2-metil-6-(1H-1,2,4-triazol-1-il)piridin-3-il]carbonil)biciclo[3.2.1]octano-2,4-diona.

Típicos ejemplos de los compuestos de la fórmula (XVII) incluyen los siguientes.

3-cloro-2-([6-(1H-1,2,4-triazol-1-il)-2-(trifluorometil)-piridin-3-il]carbonil)-2-ciclohexen-1-ona,
3-cloro-2-([2-(metoximetil)-6-(1H-1,2,4-triazol-1-il)piridin-3-il]carbonil)-2-ciclohexen-1-ona,
3-cloro-2-([2-[(metiltio)metil]-6-(1H-1,2,4-triazol-1-il)piridina-3-il]carbonil)-2-ciclohexen-1-ona,
4-cloro-3-([2-metil-6-(1H-1,2,4-triazol-1-il)piridin-3-il]carbonil)biciclo[3.2.1]-3-octen-2-ona.

Típicos ejemplos de los compuestos de la fórmula (XIX) incluyen los siguientes.

(1-Etil-hidroxi-1H-pirazol-4-il) [2-metil-6-(1H-1,2,4-triazol-1-il)piridin-3-il]metanona,
(5-hidroxi-1,3-dimetil-1H-pirazol-4-il) [2-metil-6-(1H-1,2,4-triazol-1-il)piridin-3-il]metanona,
(3-ciclopropano-5-hidroxi-1-metil-1H-pirazol-4-il) [2-metil-6-(1H-1,2,4-triazol-1-il)piridin-3-il]metanona,
(5-hidroxi-1-metil-1H-pirazol-4-il) [(metoximetil)-6-(1H-1,2,4-triazol-1-il)piridin-3-il]metanona.

El agente halogenante en el método de preparación (h), los compuestos de la fórmula (XVIII) usados como el material de partida en el método de preparación (i), y los compuestos de la fórmula (XX) usados como el material de partida en el método de preparación (j) son bien conocidos.

Como el agente halogenante, se pueden usar los siguientes compuestos.

Oxicloruro de fósforo, oxibromuro de fósforo, tricloruro de fósforo, tribromuro de fósforo, dicloruro de oxalilo, dibromuro de oxalilo, cloruro de tionilo y bromuro de tionilo.

Ejemplos de los compuestos de la fórmula (XVIII) incluyen los siguientes.

Metanotiol, tiofenol, benciltiol, imidazol, pirazol, 1,2,4-triazol y tetrazol.

Ejemplos de los compuestos de la fórmula (XX) incluyen los siguientes.

Yodometano, bromuro de alilo, bromuro de propargilo, bromuro de bencilo, cloruro de metanosulfonilo,

cloruro de etanosulfonilo, cloruro de propanosulfonilo, cloruro de bencenosulfonilo, cloruro de p-toluenosulfonilo, y cloruro de fenacilo.

La reacción del método de preparación (a) se puede llevar a cabo en el seno de un diluyente apropiado, y ejemplos del diluyente incluyen hidrocarburos alifáticos, cicloalifáticos y aromáticos (que están clorados en algunos casos), por ejemplo, tolueno, diclorometano, cloroformo, y 1,2-dicloroetano; éteres, por ejemplo, dietil éter, dimetoxietano (DME) y tetrahidrofurano (THF); cetonas, por ejemplo, metil isobutil cetona (MIBK); nitrilos, por ejemplo, acetonitrilo; ésteres, por ejemplo, acetato de etilo; amidas de ácidos, por ejemplo, dimetilformamida (DMF).

El método de preparación (a) se puede llevar a cabo en la presencia de un compuesto de cianógeno y de una base, y ejemplos del compuesto de cianuro incluyen cianuro de sodio, cianuro de potasio, cianhidrina de acetona y cianuro de hidrógeno. Ejemplos de la base incluyen bases inorgánicas tales como hidróxidos y carbonatos de metales alcalinos y metales alcalino térreos, por ejemplo, carbonato de sodio, carbonato de potasio, hidróxido de litio, hidróxido de sodio, hidróxido de potasio e hidróxido de calcio; y bases orgánicas tales como aminas orgánicas, dialquilaminoanilinas y piridinas, por ejemplo, trietilamina, piridina, 4-dimetilaminopiridina (DMAP), 1,4-diazabicyclo[2,2,2]octano (DABCO), y 1,8-diazabicyclo-[5.4.0]undec-7-eno (DBU).

El método de preparación (a) se puede llevar a cabo añadiendo un catalizador de transferencia de fases, y

ejemplos de los catalizadores de transferencia de fases incluyen éteres corona, por ejemplo, dibenzo-18-corona-6, 18-corona-6 y 15-corona-5.

El método de preparación (a) se puede llevar a cabo en un intervalo de temperaturas sustancialmente amplio. La temperatura es por lo general de desde aproximadamente -10 hasta aproximadamente 80°C, y de manera preferible de desde aproximadamente 5 hasta aproximadamente 40°C. Además, es deseable que la reacción se lleve a cabo bajo una presión normal, pero la operación se puede llevar a cabo también bajo presión o bajo una presión reducida en algunos casos.

En el método de preparación (a), un compuesto diana buscado de la fórmula (I) se puede obtener, por ejemplo, haciendo reaccionar de 1 a 4 moles de trietilamina con 1 mol de un compuesto de la fórmula (II) en el seno de un diluyente, por ejemplo, acetonitrilo, en la presencia de 0,01 a 0,5 moles de la cianhidrina de acetona.

Cuando se lleva a cabo una reacción de transposición de los compuestos de la fórmula (IV) en el método de preparación (a), la transposición del compuesto de la fórmula (IV) se puede realizar en la presencia de una base.

Dicha reacción se puede llevar a cabo en el seno de un apropiado diluyente, y ejemplos del diluyente incluyen éteres, por ejemplo, dioxano, y tetrahidrofurano (THF); y alcoholes, por ejemplo, alcohol terc.-amílico, y alcohol terc.-butílico.

Además, ejemplos de la base incluyen bases inorgánicas tales como carbonatos de metales alcalinos, por ejemplo, carbonato de sodio, y carbonato de potasio; y bases

orgánicas, tales como aminas orgánicas, por ejemplo, trietilamina, piridina y 4-dimetilaminopiridina (DMAP).

La reacción se puede llevar a cabo en un intervalo sustancialmente amplio de temperaturas, y la temperatura es por lo general de desde aproximadamente 5 hasta aproximadamente 200°C, y de manera preferible de desde aproximadamente 25 hasta aproximadamente 130°C. Además, es deseable que la reacción se lleve a cabo bajo una presión normal, pero la operación se puede llevar a cabo bajo presión o bajo una presión reducida en algunos casos.

En la reacción, un compuesto diana buscado de la fórmula (I) se puede obtener, por ejemplo, haciendo reaccionar de 0,5 a 2 moles de carbonato de potasio con 1 mol del compuesto de la fórmula (IV) en el seno de un diluyente, por ejemplo, dioxano.

La reacción del método de preparación (b) se puede llevar a cabo en el seno de un apropiado diluyente, y ejemplos del diluyente incluyen hidrocarburos alifáticos, cicloalifáticos y aromáticos (que pueden ser clorados en algunos casos), por ejemplo, tolueno, diclorometano, cloroformo y 1,2-dicloroetano; éteres, por ejemplo, tetrahidrofurano (THF); nitrilos, por ejemplo, acetonitrilo; y alcoholes, por ejemplo, metanol, etanol e isopropanol.

El método de preparación (b) se puede llevar a cabo en un intervalo de temperaturas sustancialmente amplio. La temperatura es por lo general de desde aproximadamente -10 hasta aproximadamente 100°C, y de manera preferible de desde aproximadamente 0 hasta aproximadamente 50°C. Además, es deseable que la reacción se lleve a cabo bajo una presión

normal, pero la operación se puede llevar a cabo bajo presión o bajo una presión reducida en algunos casos.

En el método de preparación (b), un compuesto diana buscado de la fórmula (I) se puede obtener, por ejemplo, haciendo reaccionar de 1 a 1,5 moles del hidrocloreuro de hidroxilamina con 1 mol del compuesto de la fórmula (V) en el seno de un diluyente, por ejemplo etanol, en la presencia de 1 a 1,5 mol de acetato de sodio.

El método de preparación (b) se puede llevar a cabo de manera sucesiva sin aislar los compuestos de las fórmulas (V), (VI), (VII) y (VIII), y se puede obtener un compuesto diana buscado de la fórmula (I).

La reacción del método de preparación (c) se puede llevar a cabo en el seno de un apropiado diluyente, y ejemplos del diluyente incluyen hidrocarburos alifáticos, cicloalifáticos y aromáticos (que pueden ser clorados en algunos casos), por ejemplo, tolueno, diclorometano, cloroformo, y 1,2-dicloroetano; éteres, por ejemplo, tetrahidrofurano (THF); nitrilos, por ejemplo, acetonitrilo; y alcoholes, por ejemplo, metanol, etanol e isopropanol.

El método de preparación (c) se puede llevar a cabo en la presencia de una base, y ejemplos de las bases incluyen bases inorgánicas tales como acetatos, carbonatos, y bicarbonatos de metales alcalinos y metales alcalino térreos, por ejemplo, acetato de sodio, hidrógeno carbonato de sodio, hidrógeno carbonato de potasio, carbonato de sodio, y carbonato de potasio; y bases orgánicas tales como aminas orgánicas, dialquilaminoanilinas y piridinas, por

ejemplo, trietilamina, piridina y 4-dimetilaminopiridina (DMAP).

El método de preparación (c) se puede llevar a cabo en un intervalo de temperaturas sustancialmente amplio. La temperatura es por lo general de desde aproximadamente -10 hasta aproximadamente 100°C, y de manera preferible de desde aproximadamente 0 hasta aproximadamente 50°C. Además, es deseable que la reacción se lleve a cabo bajo una presión normal, pero la operación se puede llevar a cabo bajo presión o bajo una presión reducida en algunos casos.

En el método de preparación (c), un compuesto diana buscado de la fórmula (I) se puede obtener, por ejemplo, haciendo reaccionar de 1 a 1,5 moles del compuesto de la fórmula (X) con 1 mol del compuesto de la fórmula (IX) en el seno de un diluyente, por ejemplo, tolueno.

La reacción del método de preparación (d) se puede llevar a cabo en el seno de un apropiado diluyente, y ejemplos del diluyente incluyen hidrocarburos alifáticos, cicloalifáticos y aromáticos (que pueden ser clorados en algunos casos), por ejemplo, pentano, hexano, ciclohexano, éter de petróleo, ligroína, benceno, tolueno, xileno, diclorometano, cloroformo, tetracloruro de carbono, 1,2-dicloroetano, clorobenceno y diclorobenceno; éteres, por ejemplo, dietil éter, metil etil éter, diisopropil éter, dibutil éter, dioxano, dimetoxietano (DME), tetrahidrofurano (THF) y dietilen glicol dimetil éter (DGM); cetonas, por ejemplo, acetona, metil etil cetona (MEK), metil isopropil cetona y metil isobutil cetona (MIBK); nitrilos, por ejemplo, acetonitrilo, propionitrilo, y acrilonitrilo;

ésteres, por ejemplo, acetato de etilo, y acetato de amilo; amidas de ácidos, por ejemplo, dimetilformamida (DMF), dimetilacetamida (DMA), N-metilpirrolidona, 1,3-dimetil-2-imidazolidinona y hexametiltriamida de ácido fosfórico (HMPA); sulfonas y sulfóxidos, por ejemplo, dimetil sulfóxido (DMSO), y sulfolano; y bases, por ejemplo, piridina.

El método de preparación (d) se puede llevar a cabo en la presencia de un agente fijador de ácidos, y ejemplos de dicho agente fijador de ácidos incluyen bases inorgánicas, tales como hidruros, hidróxidos, carbonatos y bicarbonatos de metales alcalinos y metales alcalino térreos, por ejemplo, hidruro de sodio, hidruro de litio, hidrógeno carbonato de sodio, hidrógeno carbonato de potasio, carbonato de sodio, carbonato de potasio, hidróxido de litio, hidróxido de sodio, hidróxido de potasio e hidróxido de calcio; amiduros inorgánicos de metales alcalinos, por ejemplo, amiduro de litio, amiduro de sodio y amiduro de potasio; bases orgánicas tales como alcoholatos, aminas orgánicas, dialquilaminoanilinas y piridinas, por ejemplo, trietilamina, 1,1,4,4-tetrametiletilendiamina (TMEDA), N,N-dimetilanilina, N,N-diethylanilina, piridina, 4-dimetilaminopiridina (DMAP), 1,4 diazabicyclo[2,2,2]octano (DABCO) y 1,8-diazabicyclo[5,4,0]undec-7-eno (DBU); y compuestos orgánicos de litio, por ejemplo, metil litio, n-butil litio, sec-butil litio, terc.-butil litio, fenil litio, dimetil cobre litio, diisopropilamiduro de litio, ciclohexilisopropilamiduro de litio, dicyclohexilamiduro de litio, n-butil litio/DABCO, n-butil litio/DBU y

n-butil litio/TMEDA.

El método de preparación (d) se puede llevar a cabo en un intervalo de temperaturas sustancialmente amplio. Se lleva a cabo por lo general entre aproximadamente 25 y aproximadamente 130°C, de manera preferible entre aproximadamente 50 y aproximadamente 130°C. Además, es deseable que la reacción se lleve a cabo bajo una presión normal, pero la operación se puede llevar a cabo también bajo presión o bajo una presión reducida.

En el método de preparación (d), un compuesto diana buscado se puede obtener, por ejemplo, haciendo reaccionar de 1 mol a 5 moles de 1H-1,2,4-triazol con 1 mol del compuesto de la fórmula (XI) en el seno de un diluyente, por ejemplo, dimetilformamida en la presencia de una base, por ejemplo, carbonato de potasio.

La reacción del método de preparación (e) se puede llevar a cabo en unas condiciones similares a las del método de preparación (b).

El método de preparación (f) se puede llevar a cabo en el seno de un apropiado diluyente, y ejemplos del diluyente incluyen hidrocarburos alifáticos, cicloalifáticos y aromáticos (que pueden ser clorados en algunos casos), por ejemplo, pentano, hexano, ciclohexano, éter de petróleo, ligroína, benceno, tolueno, xileno, diclorometano, cloroformo, tetracloruro de carbono, 1,2-dicloroetano, clorobenceno y diclorobenceno; éteres, por ejemplo, dietil éter, metil etil éter, diisopropil éter, dibutil éter, dioxano, dimetoxietano (DME), tetrahidrofurano (THF)

y dietilen glicol dimetil éter (DGM); amidas de ácidos, por ejemplo, dimetilformamida (DMF), dimetilacetamida (DMA), N-metilpirrolidona, 1,3-dimetil-2-imidazolidinona y hexametiltriamida de ácido fosfórico (HMPA); sulfonas y sulfóxidos, por ejemplo, dimetilsulfóxido (DMSO) y sulfolano; y bases, por ejemplo, piridina.

El método de preparación (f) se puede llevar a cabo en la presencia de un agente fijador de ácidos, y ejemplos del agente fijador de ácidos incluyen bases inorgánicas tales como hidruros, hidróxidos, carbonatos y bicarbonatos de metales alcalinos y metales alcalino térreos, por ejemplo, hidruro de sodio, hidruro de litio, hidrógeno carbonato de sodio, hidrógeno carbonato de potasio, carbonato de sodio, carbonato de potasio, hidróxido de litio, hidróxido de sodio, hidróxido de potasio e hidróxido de calcio; amiduros inorgánicos de metales alcalinos, por ejemplo, amiduro de litio, amiduro de sodio y amiduro de potasio; bases orgánicas tales como alcoholatos, aminas orgánicas, dialquilaminoanilinas, y piridinas, por ejemplo, trietilamina, 1,1,4,4-tetrametiletilendiamina (TMEDA), N,N-dimetilanilina, N,N-dietilanilina, piridina, 4-dimetilaminopiridina (DMAP), 1,4-diazabicyclo[2,2,2]octano (DABCO) y 1,8-diazabicyclo[5,4,0]undec-7-eno (DBU); y compuestos orgánicos de litio, por ejemplo, metil litio, n-butil litio, sec-butil litio, terc.-butil litio, fenil litio, dimetil cobre litio, diisopropil amiduro de litio, ciclohexilisopropilamiduro de litio, diciticlohexilamiduro de litio, n-butil litio/DABCO, n-butil litio/DBU y n-butil litio/TMEDA.

El método de preparación (f) se puede llevar a cabo en un intervalo de temperaturas sustancialmente amplio. Se lleva a cabo por lo general entre aproximadamente -70 y aproximadamente 200°C , y de manera preferible entre aproximadamente -50 y aproximadamente 100°C . Además, es deseable que la reacción se lleve a cabo bajo una presión normal, pero la operación se puede llevar a cabo bajo presión o bajo una presión reducida.

En el método de preparación (f), un compuesto diana buscado se puede obtener, por ejemplo, haciendo reaccionar de 1 mol a 2 moles del compuesto de la fórmula (XIV) con 1 mol del compuesto de la fórmula (XIII) en el seno de un diluyente, por ejemplo THF en la presencia de 1,0 mol a 3 moles de hidruro de sodio.

La reacción del método de preparación (g) se puede llevar a cabo en el seno de un apropiado diluyente, y ejemplos del diluyente incluyen agua; hidrocarburos alifáticos, cicloalifáticos y aromáticos (que pueden ser clorados en algunos casos), por ejemplo, pentano, hexano, ciclohexano, éter de petróleo, ligroína, benceno, tolueno, xileno, diclorometano, cloroformo, tetracloruro de carbono, 1,2-dicloroetano, clorobenceno y diclorobenceno; éteres, por ejemplo, dietil éter, metil etil éter, diisopropil éter, dibutil éter, dioxano, dimetoxietano (DME), tetrahidrofurano (THF), y dietilen glicol dimetil éter (DGM); alcoholes, por ejemplo, metanol, etanol, isopropanol, butanol y etilen glicol; ésteres, por ejemplo, acetato de etilo, y acetato de amilo; amidas de ácidos, por ejemplo, dimetilformamida (DMF), dimetilacetamida (DMA), N-metilpirrolidona,

1,3-dimetil-2-imidazolidinona y hexametiltriamida de ácido fosfórico (HMPA); sulfonas y sulfóxidos, por ejemplo, dimetil sulfóxido (DMSO), y sulfolano; y bases, por ejemplo, piridina.

El método de preparación (g) se puede llevar a cabo en un intervalo de temperaturas sustancialmente amplio. Se lleva a cabo por lo general entre aproximadamente -70 y aproximadamente 200°C, y de manera preferible entre aproximadamente -30 y aproximadamente 100°C. Además, es deseable que la reacción se lleve a cabo bajo una presión normal, pero la operación se puede llevar a cabo también bajo presión o bajo una presión reducida.

En el método de preparación (g), un compuesto diana buscado se puede obtener, por ejemplo, haciendo reaccionar 1 mol del compuesto de la fórmula (XV) en el seno de un diluyente, por ejemplo, diclorometano en la presencia de desde 1 mol hasta 3 moles de trietilamina.

La reacción del método de preparación (h) se puede llevar a cabo en el seno de un apropiado diluyente, y ejemplos del diluyente incluyen hidrocarburos alifáticos, cicloalifáticos y aromáticos (que pueden ser clorados en algunos casos), por ejemplo, pentano, hexano, ciclohexano, éter de petróleo, ligroína, benceno, tolueno, xileno, diclorometano, cloroformo, tetracloruro de carbono, 1,2-dicloroetano y clorobenceno; éteres, por ejemplo, dietil éter, metil etil éter, diisopropil éter, dibutil éter, dioxano, dimetoxietano (DME), tetrahidrofurano (THF) y dietilen glicol dimetil éter (DGM); cetonas, por ejemplo, acetona, metil etil cetona (MEK), metil isopropil cetona, y

metil isobutil cetona (MIBK); nitrilos, por ejemplo acetonitrilo y propionitrilo; ésteres, por ejemplo, acetato de etilo y acetato de amilo; y amidas de ácidos, por ejemplo, dimetilformamida (DMF), dimetil acetamida (DMA), N-metilpirrolidona, 1,3-dimetil-2-imidazolidinona y hexametiltriamida de ácido fosfórico (HMPA).

La reacción del método de preparación (h) se puede llevar a cabo en un intervalo de temperaturas sustancialmente amplio. La temperatura es por lo general de desde aproximadamente -20 hasta aproximadamente 100°C, y de manera preferible de desde aproximadamente 0 hasta aproximadamente 50°C. Además, es deseable que la reacción se lleve a cabo bajo una presión normal, pero la operación se puede llevar a cabo también bajo presión o bajo una presión reducida en algunos casos.

En el método de preparación (h), un compuesto diana buscado de la fórmula (I) se puede obtener, por ejemplo, haciendo reaccionar de 1 a 5 moles de dicloruro de oxalilo con 1 mol del compuesto de la fórmula (XVI) en el seno de un diluyente, por ejemplo, diclorometano.

La reacción del método de preparación (i) se puede llevar a cabo en el seno de un apropiado diluyente, y ejemplos del diluyente incluyen hidrocarburos alifáticos, cicloalifáticos y aromáticos (que pueden ser clorados en algunos casos), por ejemplo, pentano, hexano, ciclohexano, éter de petróleo, ligroína, benceno, tolueno, xileno, diclorometano, cloroformo, tetracloruro de carbono, 1,2-dicloroetano, clorobenceno y diclorobenceno; éteres, por ejemplo, dietil éter, metil etil éter, diisopropil éter,

dibutil éter, dioxano, dimetoxietano (DME), tetrahidrofurano (THF), y dietilen glicol dimetil éter (DGM); cetonas, por ejemplo, acetona, metil etil cetona (MEK), metil isopropil cetona y metil isobutil cetona (MIBK); nitrilos, por ejemplo, acetonitrilo, propionitrilo y acrilonitrilo; ésteres, por ejemplo, acetato de etilo y acetato de amilo; amidas de ácidos, por ejemplo, dimetilformamida (DMF), dimetilacetamida (DMA) y N-metilpirrolidona; sulfonas y sulfóxidos, por ejemplo, dimetilsulfóxido (DMSO), y sulfolano; y bases, por ejemplo, piridina.

El método de preparación (i) se puede llevar a cabo en la presencia de un agente fijador de ácidos, y ejemplos del agente fijador de ácidos incluyen bases inorgánicas tales como hidruros y carbonatos de metales alcalinos, por ejemplo, hidruro de sodio, hidruro de litio, carbonato de sodio y carbonato de potasio; y bases orgánicas tales como aminas orgánicas, dialquilaminoanilinas y piridinas, por ejemplo, trietilamina, 1,1,4,4-tetrametiletilendiamina (TMEDA), piridina, 4-dimetilaminopiridina (DMAP), 1,4-diazabicyclo[2,2,2]octano (DABCO) y 1,8-diazabicyclo-[5,4,0]undec-7-eno (DBU).

La reacción del método de preparación (i) se puede llevar a cabo en un intervalo de temperaturas sustancialmente amplio. La temperatura es por lo general de desde aproximadamente -20 hasta aproximadamente 140°C, y de manera preferible de desde aproximadamente 0 hasta aproximadamente 100°C. Además, es deseable que la reacción se lleve a cabo bajo una presión normal, pero la operación

se puede llevar a cabo también bajo presión o bajo una presión reducida en algunos casos.

En el método de preparación (i), un compuesto diana buscado de la fórmula (I) se puede obtener, por ejemplo, haciendo reaccionar de 1 a 5 moles del compuesto de la fórmula (XVIII) con 1 mol del compuesto de la fórmula (XVII) en el seno de un diluyente, por ejemplo, tetrahidrofurano en la presencia de 1 a 5 moles de trietilamina.

La reacción del método de preparación (j) se puede llevar a cabo en unas condiciones similares a las del método de preparación (h).

El compuesto activo de la fórmula (I) del presente invento muestra una excelente actividad herbicida para diversas malezas, como se muestra en ejemplos biológicos de ensayo que se describen más adelante, y se puede usar como un herbicida. En la presente memoria descriptiva, las malezas significan, en un sentido amplio, todas las plantas que crecen en sitios donde ellas son indeseadas. El compuesto del presente invento actúa como un herbicida selectivo, dependiendo de la concentración de aplicación. El compuesto activo se puede usar, por ejemplo, entre las siguientes malezas y plantas cultivadas.

El género de malezas dicotiledóneas: *Sinapis, Capsella, Leipidium, Galium, Stellaria, Chenopodium, Kochia, Urtica, Senecio, Amaranthus, Portulaca, Xanthium, Ipomoea, Polygonum, Ambrosia, Cirsium, Sonchus, Solanum, Rorippa, Lamium, Veronica, Datura, Viola, Galeopsis, Papaver, Centaurea, Galinsoga, Rotala, Lindernia, Sesbania,*

Trifolium, Abutilon, Lamium, Matricaria, Artemisia, Sesbania, Pharbitis, Amaranthus y similares.

El género de plantas cultivadas dicotiledóneas:
Gossypium, Glycine, Beta, Daucus, Phaseolus, Pisum, Solanum, Linum, Ipomoea, Vicia, Nicotiana, Lycopersicon, Arachis, Brassica, Lactuca, Cucumis, Cucurbita y similares.

El género de malezas monocotiledóneas: *Echinochloa, Setaria, Panicum, Digitaria, Phleum, Poa, Festuca, Eleusine, Lolium, Bromus, Avena, Cyperus, Sorghum, Agropyron, Monochoria, Fimbristylis, Sagittaria, Eleocharis, Scirpus, Paspalum, Ischaemum, Agrostis, Alopecurus, Cynodon, Commelina, Brachiaria, Leptochloa, Echinochloa* y similares.

El género de plantas cultivadas monocotiledóneas:
Oryza, Zea, Triticum, Hordeum, Avena, Secale, Sorghum, Panicum, Saccharum, Ananas, Asparagus, Allium y similares.

Sin embargo, el uso del compuesto activo de la fórmula (I) del presente invento no está limitado solamente a malezas de esta clase de plantas herbáceas, y se puede aplicar de manera similar a malezas de otras clases de plantas herbáceas.

El uso del compuesto del presente invento no está limitado a las anteriores plantas y de manera similar es aplicable a otras plantas. Además, los compuestos activos del presente invento pueden reprimir de una manera no selectiva a malezas según sea la concentración de aplicación, y se pueden usar, por ejemplo, en un sitio industrial tal como una factoría, una vía de ferrocarril, una carretera, un sitio forestado, un sitio no forestado, u otros similares. Además, los compuestos activos del presente

invento se pueden usar para reprimir malezas en cultivos de plantas perennes, y se pueden aplicar, por ejemplo, a plantaciones, plantaciones ornamentales, huertas, viñedos, huertas de frutos cítricos, huertas de nogales, plantaciones de banana, plantaciones de café, plantaciones de té, plantaciones de plantas de caucho, plantaciones de palma oleaginosa de Nueva Guinea, plantaciones de cacao, pequeñas huertas, plantaciones de lúpulo o similares, y, en cultivos de plantas anuales, se pueden usar también para reprimir selectivamente a malezas.

Los compuestos activos del presente invento, para el uso real, se pueden preparar en forma de formulaciones habituales. Ejemplos de las formulaciones incluyen soluciones, polvos humectables, emulsiones, suspensiones, polvos para espolvorear, granulados dispersables en agua, tabletas, granulados, concentrados emulsionables suspendidos, y microcápsulas en una sustancia polimérica.

Estas formulaciones se pueden preparar por métodos conocidos de por sí. Por ejemplo, se pueden preparar mezclando los compuestos activos con agentes extendedores, concretamente, diluyentes o vehículos líquidos o sólidos, y, opcionalmente, con agentes tensioactivos, concretamente emulsionantes y/o dispersantes y/o agentes formadores de espuma.

Ejemplos de los diluyentes o vehículos líquidos incluyen hidrocarburos aromáticos (por ejemplo, xileno, tolueno y alquil naftalenos), hidrocarburos clorados aromáticos o clorados alifáticos (por ejemplo, clorobencenos, cloruros de etileno, y cloruro de metileno),

hidrocarburos alifáticos [por ejemplo, ciclohexano, y parafinas (por ejemplo, fracciones de aceites minerales)], alcoholes (por ejemplo, butanol y glicoles) y sus éteres y ésteres, cetonas (por ejemplo, acetona, metil etil cetona, metil isobutil cetona y ciclohexanona), disolventes fuertemente polares (por ejemplo, dimetilformamida, y dimetil-sulfóxido) y agua. En el caso de que se use agua como agente extendedor, por ejemplo, se puede usar un disolvente como disolvente auxiliar.

Ejemplos de los diluyentes o vehículos sólidos incluyen minerales naturales triturados (por ejemplo, caolín, arcillas, talco, greda, cuarzo, attapulgita, montmorillonita y tierra de diatomeas), y minerales sintéticos triturados (por ejemplo, un ácido silícico altamente disperso, una alúmina y un silicato). Ejemplos de los vehículos sólidos destinados a usarse en granulados incluyen rocas trituradas y clasificadas (por ejemplo, calcita, mármol, piedra pómez, espuma de mar y dolomita), granos sintetizados de polvos inorgánicos y orgánicos, cuerpos granulares finos de materiales orgánicos (por ejemplo, aserrín, cáscaras de coco, mazorcas de maíz y tallos de cigarrillos).

Ejemplos del agente emulsionante y/o del agente formador de espuma incluyen emulsionantes no iónicos y aniónicos [por ejemplo, polioxi-etilen ésteres de ácidos grasos, polioxi-etilen éteres de alcoholes grasos (por ejemplo, alquilaril poliglicol éteres, alquilsulfonatos, alquilsulfatos y arilsulfonatos)] y materiales hidrolizados de proteínas.

Como agentes de descomposición se incluyen, por ejemplo, líquidos residuales del procedimiento al sulfito para la obtención de lignina y metil celulosas.

Se pueden usar también agentes aglutinantes en formulaciones (materiales pulverulentos, granulados y emulsiones), y ejemplos de los agentes aglutinantes incluyen carboximetilcelulosas, y polímeros naturales y sintéticos (por ejemplo, goma arábiga, un poli(alcohol vinílico) y un poli(acetato de vinilo).

Se pueden usar también agentes colorantes y ejemplos de los agentes colorantes incluyen pigmentos inorgánicos (por ejemplo, óxidos de hierro, dióxido de titanio y azul de Prusia), colorantes orgánicos tales como colorantes de alizarina, colorantes azoicos, y colorantes de metales y ftalocianina, y oligoelementos tales como sales de metales inclusive hierro, manganeso, boro, cobre, cobalto, molibdeno y zinc.

Las formulaciones pueden contener por lo general el (los) compuesto(s) activo(s) de la fórmula (I) dentro de un intervalo de 0,1 a 95 % en peso, y de manera preferible contiene(n) el (los) compuesto(s) dentro de un intervalo de 0,5 a 90 % en peso.

El compuesto activo de la fórmula (I) del presente invento se puede usar para reprimir malezas tal como está o en sus espumas de formulaciones. Además, el compuesto activo de la fórmula (I) del presente invento se puede usar también en combinación con un herbicida conocido. Una composición herbicida mixta con un herbicida conocido se puede preparar previamente en una forma de formulación final, o se puede

preparar mezclando en depósito en el momento de la aplicación.

Por ejemplo, se pueden citar los siguientes herbicidas, que se muestran con los nombres comunes se pueden ilustrar como ejemplos específicos de herbicidas que se pueden usar en combinación con los compuestos activos de la fórmula (I) del presente invento.

Herbicidas de sulfonilureas: por ejemplo, clorosulfurón, sulfometurón metilo, clorimurón etilo, triasulfurón, amidosulfurón, oxasulfurón, tribenurón etilo, prosulfurón, etametsulfurón metilo, triflusulfurón metilo, tifensulfurón metilo, flazasulfurón, rimsulfurón, nicosulfurón, flupirsulfurón, bensulfurón metilo, pirazosulfurón etilo, foramsulfurón, sulfosulfurón, cinosulfurón, azimsulfurón, metsulfurón-metilo, halosulfurón metilo, etoxisulfurón, ciclosulfamurón y yodosulfurón;

herbicidas de carbamatos: por ejemplo, fenmedifam, cloroprofam, asulam, bentiocarb, molinato, esprocarb, piributicarb, dimepiperato y swep;

herbicidas de cloroacetanilida: por ejemplo, propacloro, metazacloro, alacloro, acetoclolo, metolacloro, butacloro, pretilacloro y tenilcloro;

herbicidas de difeniléteres: por ejemplo, acifluorfenó, oxifluorfenó, lactofeno, fomesafenó, aclonifeno, clometoxinilo, bifenox y CNP;

herbicidas de triazinas: por ejemplo, simazina, atrazina, propazina, cianazina, ametrina, simetrina, dimetametrina y prometrina;

herbicidas de fenoxi ácidos o de ácido benzoico: por ejemplo, 2,3,6-TBA, dicamba, quinclorac, quinmerac, clopiralida, picloram, triclopir, fluroxipir, fenoxaprop, diclofop metilo, fluazifop butilo, haloxifop metilo, quizalofop etilo, cihalofof butilo, 2,4-PA, MCP, MCPB y fenotiol;

herbicidas de amidas de ácidos o de urea: por ejemplo, isoxaben, diflufenican, diurón, linurón, fluometurón, difenoxurón, metildimron, isoproturón, isourón, tebutiurón, metabenzotiazurón, propanilo, mefenacet, clomeprop, naproanilida, bromobutida, dimron, cumilurón, etobenzanida, y oxaziclomefona;

herbicidas de compuestos orgánicos de fósforo: por ejemplo, glifosato, bialafos, glufosinato, L-glufosinato, amiprofos metilo, anilofos, bensulida, piperofos y butamifos;

herbicidas de dinitroanilina: por ejemplo, trifluralina y prodiamina;

herbicidas de fenol: por ejemplo, bromoxinilo, ioxinilo y dinoseb;

herbicidas de ciclohexanodiona: por ejemplo, aloxidim, setoxidim, cloproxidim, cletodim, cicloxidim y tralkoxidim;

herbicidas de imidazolinona: por ejemplo, imazametabenz, imazapir, imazametapir, imazetapir, imazamox e imazaquin;

herbicidas de bipyridio: por ejemplo, paraquat y diquat;

herbicidas de carbamoíltetrazolinona: por ejemplo, fentrazamida;

herbicidas de nitrilos: ciclobenilo; y

otros herbicidas: por ejemplo, bentazona, tridifano, indanofan, amitrol, carfentrazona etilo, sulfentrazona, fenclorazol etilo, isoxaflutol, clomazona, hidrazida de ácido maleico, piridato, cloridazona, norflurazona, piritiobac, bromacilo, terbacilo, metribuzina, oxaziclomefona, cinmetilina, flumiclorac pentilo, flumioxazina, flutiacet metilo, azafenidina, benfuresato, oxadiazona, oxadiargilo, pentoxazona, cafenstrol, piriminobac, bispiribac sodio, piribenzoxima, piriftalida, piraflufeno etilo, benzobiciclon, ditiopir, dalapon y clorotiamida.

Los anteriores compuestos activos son unos herbicidas conocidos que se describen en el "Pesticide Manual" [Manual de los plaguicidas], publicado por el British Crop Protect Council en el año 2.000,

Además, cuando los compuestos activos de la fórmula (I) del presente invento se mezclan con un agente reductor de la fitotoxicidad, se reduce la fitotoxicidad por esta mezcladura, y se proporciona un espectro más amplio de represión de malezas, y de esta manera se puede proporcionar una aplicación más amplia como herbicidas selectivos.

Ejemplos de los agentes reductores de la fitotoxicidad incluyen los siguientes compuestos, representados por los nombres generales o los códigos de desarrollo.

AD-67, BAS-145138, benoxacor, cloquintocet-mexilo, ciometrinilo, 2,4-D, DKA-24, dicloromida, dimron, fenclorim, fenclorazol etilo, flurazol, fluxofenim, furilazol,

isoxadifeno-etilo, mefenpir-dietilo, MG-191, anhídrido de ácido naftálico, oxabetrinilo, PPG-1292 y R-29148.

Los anteriores agentes reductores de la fitotoxicidad se describen también en el "Pesticide Manual" publicado por el British Crop Protect Council en el año 2.000,

Además, los anteriores agentes reductores de la fitotoxicidad se pueden mezclar con una composición herbicida mixta que contiene el compuesto de la fórmula (I) del presente invento y los anteriores herbicidas. Por medio de esta mezcladura, se reduce la fitotoxicidad y se proporciona un espectro más amplio de represión de malezas, y la aplicación como un herbicida selectivo se puede hacer más amplia.

De modo sorprendente, se puede demostrar un efecto sinérgico en varias composiciones herbicidas mixtas que se componen de los compuestos del presente invento y de herbicidas y/o agentes reductores de la fitotoxicidad conocidos.

En el caso de que se usen los compuestos activos de la fórmula (I) del presente invento, éstos se pueden usar directamente tal como están, o se pueden usar en formulaciones tales como líquidos preparados para atomizar, emulsiones, tabletas, suspensiones, polvos o granulados, o unas formas de aplicación preparadas por dilución. Los compuestos activos de la fórmula (I) del presente invento se pueden aplicar, por ejemplo, por el método de diseminación (riego), pulverización, atomización de agentes líquidos, o esparcimiento de granulados.

Los compuestos activos de la fórmula (I) del presente invento se pueden usar en cualquier estadio antes de la germinación o después de la germinación de la planta. Además, se pueden introducir dentro de la tierra antes de la siembra.

La cantidad aplicada de los compuestos activos del presente invento se puede cambiar dentro de un intervalo sustancial, y varía fundamentalmente, dependiendo de la naturaleza del efecto deseado. Cuando el compuesto activo se usa como herbicida, la cantidad aplicada del compuesto activo por 1 hectárea puede ser, por ejemplo, de desde aproximadamente 0,005 hasta aproximadamente 4 kg, y es preferiblemente de desde aproximadamente 0,01 hasta aproximadamente 2 kg.

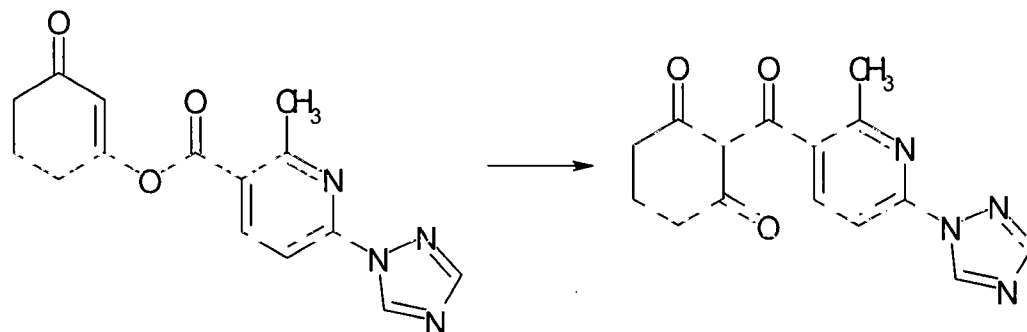
Seguidamente, la preparación y el uso de los compuestos del presente invento se muestran de una manera más concreta por medio de los siguientes ejemplos, pero el presente invento no deberá estar limitado solamente a éstos.

Ejemplos

<Ejemplos de compuestos>

Ejemplo de síntesis 1

Síntesis de 2-([2-metil-6-(1H-1,2,4-triazol-1-il)piridin-3-il]carbonil)ciclohexano-1,3-diona



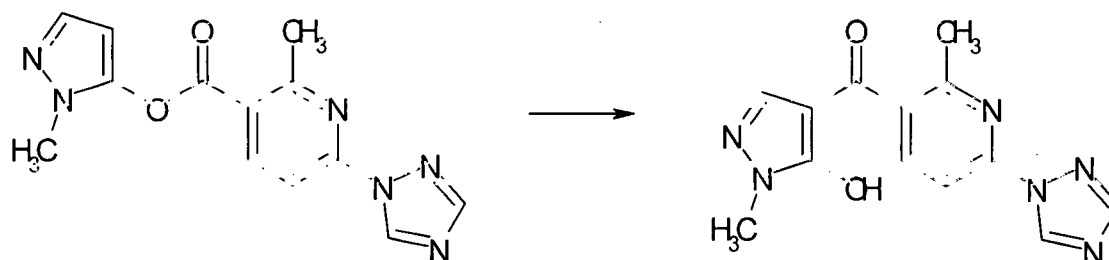
A una solución en acetonitrilo (5 ml) de 2-metil-6-(1H-1,2,4-triazol-1-il)nicotinato de 3-oxo-1-ciclohexen-1-ilo (0,13 g, 0,44 mmol) y de trietilamina (0,09 g, 0,87 mmol), se le añadió una cantidad catalítica de la cianhidrina de acetona. La solución obtenida se agitó a la temperatura ambiente durante veinticuatro horas. Los materiales volátiles se evaporaron bajo una presión reducida a partir de la solución de reacción que se había obtenido, y el residuo obtenido se hizo de carácter ácido con una solución acuosa de ácido cítrico, y se extrajo con acetato de etilo. Después de haber lavado la capa orgánica obtenida con agua, esta capa orgánica se secó con sulfato de magnesio y se concentró para obtener el deseado producto (0,1 g, rendimiento 77 %).

^1H RMN (CDCl_3 , 300 MHz)

δ 2,02-2,16 (2H, m), 2,49 (3H, s), 2,45-2,59 (2H, m), 2,70-2,91 (2H, m), 7,59 (1H, d), 7,74 (1H, d), 8,09 (1H, s), 9,21 (1H, s)

Ejemplo de síntesis 2

Síntesis de (5-hidroxi-1-metil-1H-pirazol-4-il)[2-metil-6-(1H-1,2,4-triazol-1-il)piridin-3-il]metanona



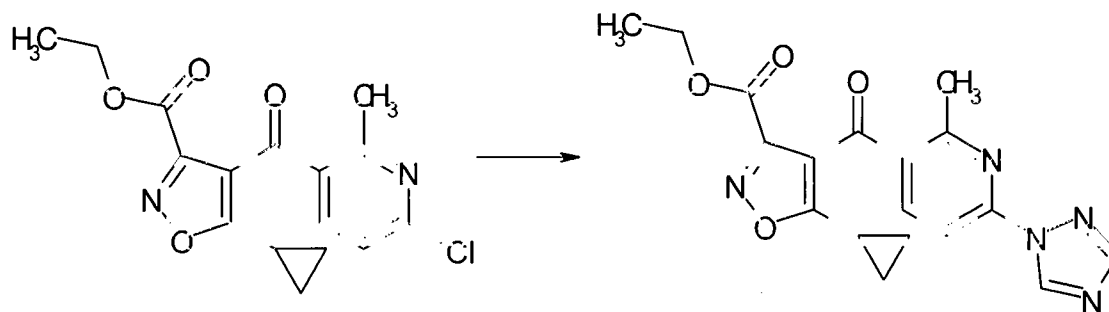
A una solución en acetonitrilo (5 ml) de 2-metil-6-(1H-1,2,4-triazol-1-il)nicotinato de 1-metil-1H-pirazol-5-ilo (0,19 g, 0,65 mmol) y de trietilamina (0,13 g, 1,29 mmol), se le añadió una cantidad catalítica de la cianhidrina de acetona. La solución obtenida se agitó a la temperatura ambiente durante veinticuatro horas. Los materiales volátiles se evaporaron bajo una presión reducida a partir de la solución de reacción que se había obtenido, y el residuo obtenido se hizo de carácter ácido con una solución acuosa de ácido cítrico, y se extrajo con acetato de etilo. Después de haber lavado la capa orgánica obtenida con agua, esta capa orgánica se secó con sulfato de magnesio y se concentró para obtener el deseado producto (0,18 g, rendimiento 93 %).

^1H RMN (CDCl_3 , 300 MHz)

δ 2,71 (3H, s), 3,73 (3H, s), 7,43 (1H, s), 7,84 (1H, d), 8,00 (1H, d), 8,13 (1H, s), 9,25 (1H, s)

Ejemplo de síntesis 3

Síntesis del éster etílico de ácido 5-ciclopropil-4-([2-metil-6-(1H-1,2,4-triazol-1-il)piridin-3-il]carbonil)-isoxazol-3-carboxílico



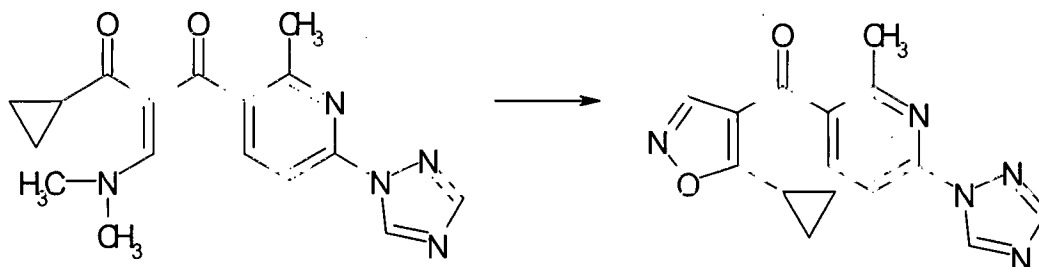
El éster etílico de ácido 4-[(6-cloro-2-metilpiridin-3-il)carbonil]-5-ciclopropilisoxazol-3-carboxílico (0,2 g, 0,6 mmol), el triazol (0,08 g, 1,19 mmol) y el carbonato de potasio (0,17 g, 1,19 mmol) se agitaron en el seno de DMF (5 ml) a 100°C durante cuatro horas. A la solución de reacción obtenida se le añadieron agua y acetato de etilo. La capa orgánica se separó. Además, la capa acuosa se extrajo con acetato de etilo. Después de haber lavado la totalidad de la capa orgánica obtenida con agua, esta capa orgánica se secó con sulfato de magnesio y se concentró. El residuo obtenido se separó y purificó por cromatografía en columna para obtener el deseado producto (0,15 g, rendimiento 68 %).

^1H RMN (CDCl_3 , 300 MHz)

δ 1,16-1,38 (7H, m), 2,30-2,39 (1H, m), 2,77 (3H, s), 4,10-4,17 (2H, q), 7,75 (1H, d), 7,85 (1H, d), 8,11 (1H, s), 9,24 (1H, s)

Ejemplo de síntesis 4

Síntesis de (5-ciclopropilisoxazol-4-il)[2-metil-6-(1H-1,2,4-triazol-1-il)piridin-3-il]metanona



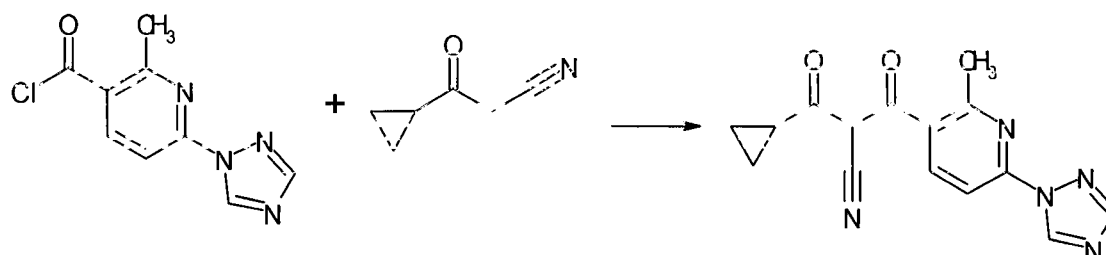
A una solución en etanol (5 ml) de la 1-ciclopropil-2-[(dimetilamino)metilen]-3-[2-metil-6-(1H-triazol-1-il)-piridin-3-il]propano-1,3-diona (0,29 g, 0,89 mmol), se le añadió hidrocloreuro de hidroxilamina (0,07 g, 0,98 mmol). La solución obtenida se agitó a la temperatura ambiente durante veinticuatro horas. A la solución de reacción que se había obtenido, se le añadieron agua y acetato de etilo. La capa orgánica se separó. Además, la capa acuosa se extrajo con acetato de etilo. La totalidad de la capa orgánica obtenida se lavó con agua, se secó con sulfato de magnesio y se concentró. El residuo obtenido se separó y se purificó por cromatografía en columna para obtener el deseado producto (0,19 g, rendimiento 72 %).

^1H RMN (CDCl_3 , 300 MHz)

δ 1,21-1,40 (4H, m), 2,60-2,73 (1H, m), 2,66 (3H, s), 7,82 (1H, d), 7,90 (1H, d), 8,11 (1H, s), 8,22 (1H, s), 9,22 (1H, s)

Ejemplo de síntesis 5

Síntesis de 3-ciclopropil-2-([2-metil-6-(1H-1,2,4-triazol-1-il)-piridin-3-il]carbonil)-3-oxopropanonitrilo



Una suspensión en THF (2 ml) de hidruro de sodio (0,06 g, suspensión oleosa al 60 %, 18,78 mmol) se enfrió en un baño de hielo, y se le añadió gota a gota una solución en THF (2 ml) de 3-ciclopropil-3-oxopropanonitrilo. A la solución de reacción que se había obtenido, se le añadió gota a gota una solución en THF (3 ml) del cloruro de ácido 2-metil-6-(1H-1,2,4-triazol-1-il)nicotínico (0,16 g, 0,73 mmol). El material resultante se agitó a la temperatura ambiente durante 3 horas. La solución de reacción que se había obtenido se hizo de carácter ácido con una solución acuosa de ácido cítrico, y el producto se extrajo con acetato de etilo. La capa orgánica obtenida se lavó con agua, se secó con sulfato de magnesio y se concentró para obtener el deseado producto (0,14 g, rendimiento 64 %).

^1H RMN (CDCl_3 , 300 MHz)

δ 1,26-1,49 (4H, m), 2,38-2,46 (1H, m), 2,70 (3H, s), 7,85 (1H, d), 8,05 (1H, d), 8,12 (1H, s), 9,23 (1H, s)

Unos compuestos que se obtuvieron trabajando sobre la base del método de preparación de los compuestos del presente invento que se explican en los Ejemplos de síntesis 1 a 5 se muestran en las siguientes Tablas 1 a 175 en común

con los compuestos sintetizados por los Ejemplos de síntesis 1 a 5.

Además, los datos de RMN y de valores de propiedades físicas de algunos compuestos se muestran en la Tabla 176

Tabla 1

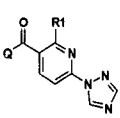
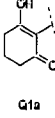
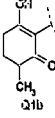
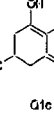
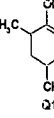
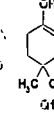
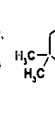
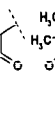
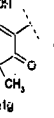
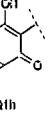
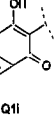
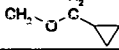
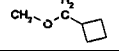
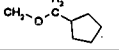
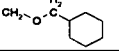
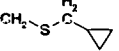
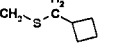
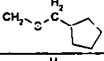
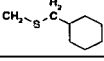
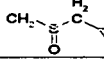
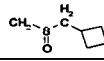
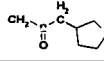
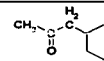
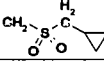
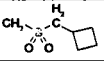
          							
compuesto número	Q	R1	propiedad física (punto de fusión-ND)	compuesto número	Q	R1	propiedad física (punto de fusión-ND)
1-1	Q1a	CH ₃	RMN	1-21	Q1a	CH ₂ O(CH ₂) ₂ CH ₃	
1-2	Q1a	CH ₂ CH ₃		1-22	Q1a	(CH ₂) ₂ OCH ₃	
1-3	Q1a	(CH ₂) ₂ CH ₃		1-23	Q1a	(CH ₂) ₃ OCH ₃	
1-4	Q1a			1-24	Q1a		
1-5	Q1a			1-25	Q1a		
1-6	Q1a			1-26	Q1a		
1-7	Q1a			1-27	Q1a		
1-8	Q1a			1-28	Q1a	CH ₂ OCH ₂ CF ₃	RMN
1-9	Q1a			1-29	Q1a	CH ₂ OCF ₂ CHF ₂	
1-10	Q1a			1-30	Q1a	CH ₂ OCH ₂ CF ₂ CF ₃	
1-11	Q1a			1-31	Q1a	CH ₂ OCH ₂ CH=CH ₂	
1-12	Q1a	CF ₃	132-146°C	1-32	Q1a	CH ₂ OCH ₂ CH=CCl ₂	
1-13	Q1a	CH ₂ CF ₃		1-33	Q1a	CH ₂ OCH ₂ CF=CF ₂	
1-14	Q1a	CF ₂ CF ₃		1-34	Q1a	CH ₂ OC ₂ C=CH	
1-15	Q1a	CH ₂ CH=CH ₂		1-35	Q1a	CH ₂ OCH ₂ C≡CCH ₃	
1-16	Q1a	CH ₂ C≡CH		1-36	Q1a	CH ₂ SCH ₃	1.575E(24)
1-17	Q1a	C ₆ H ₅		1-37	Q1a	CH ₂ SCH ₂ CH ₃	
1-18	Q1a	CH ₂ C ₆ H ₅		1-38	Q1a	CH ₂ S(CH ₂) ₂ CH ₃	
1-19	Q1a	CH ₂ OCH ₃	RMN	1-39	Q1a		
1-20	Q1a	CH ₂ OCH ₂ CH ₃		1-40	Q1a		

Tabla 2

compuesto número	Q	R1	propiedad física (punto de fusión-ND)
1-41	Q1a		
1-42	Q1a		
1-43	Q1a	$\text{CH}_2\text{SCH}_2\text{CF}_3$	
1-44	Q1a	$\text{CH}_2\text{SCH}_2\text{CH}=\text{CH}_2$	
1-45	Q1a	$\text{CH}_2\text{SCH}_2\text{C}\equiv\text{CH}$	
1-46	Q1a	CH_2SOCH_3	
1-47	Q1a	$\text{CH}_2\text{SOCH}_2\text{CH}_3$	
1-48	Q1a	$\text{CH}_2\text{SO}(\text{CH}_2)_2\text{CH}_3$	
1-49	Q1a		
1-50	Q1a		
1-51	Q1a		
1-52	Q1a		
1-53	Q1a	$\text{CH}_2\text{SOCH}_2\text{CF}_3$	
1-54	Q1a	$\text{CH}_2\text{SOCH}_2\text{CH}=\text{CH}_2$	
1-55	Q1a	$\text{CH}_2\text{SOCH}_2\text{C}\equiv\text{CH}$	
1-56	Q1a	$\text{CH}_2\text{SO}_2\text{CH}_3$	173-174°C
1-57	Q1a	$\text{CH}_2\text{SO}_2\text{CH}_2\text{CH}_3$	
1-58	Q1a	$\text{CH}_2\text{SO}_2(\text{CH}_2)_2\text{CH}_3$	
1-59	Q1a		
1-60	Q1a		

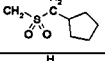
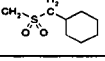
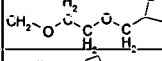
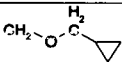
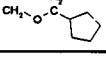
compuesto número	Q	R1	propiedad física (punto de fusión-ND)
1-61	Q1a		
1-62	Q1a		
1-63	Q1a	$\text{CH}_2\text{SO}_2\text{CH}_2\text{CF}_3$	
1-64	Q1a	$\text{CH}_2\text{SO}_2\text{CH}_2\text{CH}=\text{CH}_2$	
1-65	Q1a	$\text{CH}_2\text{SO}_2\text{CH}_2\text{C}\equiv\text{CH}$	
1-66	Q1a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_3$	RMN
1-67	Q1a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2\text{CH}_3$	
1-68	Q1a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2$ 	
1-69	Q1a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2\text{CF}_3$	
1-70	Q1a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2\text{CH}=\text{CH}_2$	
1-71	Q1a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2\text{C}\equiv\text{CH}$	
1-72	Q1a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_3$	
1-73	Q1a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2$ 	
1-74	Q1a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2\text{CF}_3$	
1-75	Q1a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2\text{CH}=\text{CH}_2$	
1-76	Q1a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2\text{C}\equiv\text{CH}$	
1-77	Q1a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_3$	
1-78	Q1a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2$ 	
1-79	Q1a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2\text{CF}_3$	
1-80	Q1a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2\text{CH}=\text{CH}_2$	

Tabla 3

compuesto numero	Q	R1	propiedad fisica (punto de fusión-ND)
1-61	Q1a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2\text{C}\equiv\text{CH}$	
1-62	Q1a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_3$	
1-83	Q1a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2$ 	
1-84	Q1a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{CF}_3$	
1-85	Q1a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{CH}=\text{CH}_2$	
1-86	Q1a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{C}\equiv\text{CH}$	
1-67	Q1a		
1-66	Q1a		
1-89	Q1a		
1-90	Q1a		
1-91	Q1a		
1-92	Q1a		
1-93	Q1a		
1-94	Q1a		
1-95	Q1a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NH}\text{SO}_2\text{CH}_3$	
1-96	Q1a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{N}(\text{CH}_3)(\text{SO}_2\text{CH}_3)$	
1-97	Q1a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NH}(\text{SO}_2\text{CH}_2$ )	
1-98	Q1a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NH}\text{SO}_2\text{CF}_3$	
1-99	Q1a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NH}\text{SO}_2\text{CHF}_2$	
1-100	Q1a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NH}\text{SO}_2\text{CH}_2\text{CF}_3$	

compuesto numero	Q	R1	propiedad fisica (punto de fusión-ND)
1-101	Q1a	SCH_3	
1-102	Q1a	SOCH_3	
1-103	Q1a	SO_2CH_3	
1-104	Q1a	OCH_3	
1-105	Q1a	OCH_2CH_3	
1-106	Q1a	$\text{O}(\text{CH}_2)_2\text{CH}_3$	
1-107	Q1a	OCH_2CF_3	
1-108	Q1a	OCF_2CF_3	
1-109	Q1a	$\text{O}(\text{CH}_2)_2\text{OCH}_3$	
1-110	Q1a	NHCH_3	
1-111	Q1a	NHCH_2CH_3	
1-112	Q1a	$\text{N}(\text{CH}_3)_2$	
1-113	Q1a	$\text{N}(\text{CH}_2\text{CH}_3)_2$	
1-114	Q1a	$\text{N}(\text{CH}_3)(\text{CH}_2\text{CH}_3)$	
1-115	Q1b	CH_3	RMN
1-116	Q1b	CH_2CH_3	
1-117	Q1b	$(\text{CH}_2)_2\text{CH}_3$	
1-118	Q1b		
1-119	Q1b		
1-120	Q1b		

Tabla 4

compuesto número	Q	R1	propiedad física (punto de fusión-°D)
1-121	Q1b		
1-122	Q1b		
1-123	Q1b		
1-124	Q1b		
1-125	Q1b		
1-126	Q1b	CF ₃	1.5395(25)
1-127	Q1b	CH ₂ CF ₃	
1-128	Q1b	CF ₂ CF ₃	
1-129	Q1b	CH ₂ CH=CH ₂	
1-130	Q1b	CH ₂ C≡CH	
1-131	Q1b	C ₆ H ₅	
1-132	Q1b	CH ₂ C ₆ H ₅	
1-133	Q1b	CH ₂ OCH ₃	1.5635(25)
1-134	Q1b	CH ₂ OCH ₂ CH ₃	
1-135	Q1b	CH ₂ O(CH ₂) ₂ CH ₃	
1-136	Q1b	(CH ₂) ₂ OCH ₃	
1-137	Q1b	(CH ₂) ₃ OCH ₃	
1-138	Q1b		
1-139	Q1b		
1-140	Q1b		

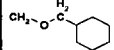
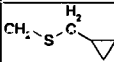
compuesto número	Q	R1	propiedad física (punto de fusión-°D)
1-141	Q1b		
1-142	Q1b	CH ₂ OCH ₂ CF ₃	RMN
1-143	Q1b	CH ₂ OCF ₂ CHF ₂	
1-144	Q1b	CH ₂ OCH ₂ CF ₂ CF ₃	
1-145	Q1b	CH ₂ OCH ₂ CH=CH ₂	
1-146	Q1b	CH ₂ OCH ₂ CH=CCl ₂	
1-147	Q1b	CH ₂ OCH ₂ CF=CF ₂	
1-148	Q1b	CH ₂ OC ₂ C = CH	
1-149	Q1b	CH ₂ OCH ₂ C = CCH ₃	
1-150	Q1b	CH ₂ SCH ₃	
1-151	Q1b	CH ₂ SCH ₂ CH ₃	
1-152	Q1b	CH ₂ S(CH ₂) ₂ CH ₃	
1-153	Q1b		
1-154	Q1b		
1-155	Q1b		
1-156	Q1b		
1-157	Q1b	CH ₂ SCH ₂ CF ₃	
1-158	Q1b	CH ₂ SCH ₂ CH=CH ₂	
1-159	Q1b	CH ₂ SCH ₂ C = CH	
1-160	Q1b	CH ₂ SOCH ₃	

Tabla 5

compuesto número	Q	R1	propiedad física (punto de fusión-ND)
1-161	Q1b	$\text{CH}_2\text{SOCH}_2\text{CH}_3$	
1-162	Q1b	$\text{CH}_2\text{SO}(\text{CH}_2)_2\text{CH}_3$	
1-163	Q1b		
1-164	Q1b		
1-165	Q1b		
1-166	Q1b		
1-167	Q1b	$\text{CH}_2\text{SOCH}_2\text{CF}_3$	
1-168	Q1b	$\text{CH}_2\text{SOCH}_2\text{CH}=\text{CH}_2$	
1-169	Q1b	$\text{CH}_2\text{SOCH}_2\text{C}\equiv\text{CH}$	
1-170	Q1b	$\text{CH}_2\text{SO}_2\text{CH}_3$	
1-171	Q1b	$\text{CH}_2\text{SO}_2\text{CH}_2\text{CH}_3$	
1-172	Q1b	$\text{CH}_2\text{SO}_2(\text{CH}_2)_2\text{CH}_3$	
1-173	Q1b		
1-174	Q1b		
1-175	Q1b		
1-176	Q1b		
1-177	Q1b	$\text{CH}_2\text{SO}_2\text{CH}_2\text{CF}_3$	
1-178	Q1b	$\text{CH}_2\text{SO}_2\text{CH}_2\text{CH}=\text{CH}_2$	
1-179	Q1b	$\text{CH}_2\text{SO}_2\text{CH}_2\text{C}\equiv\text{CH}$	
1-180	Q1b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_3$	

compuesto número	Q	R1	propiedad física (punto de fusión-ND)
1-161	Q1b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2\text{CH}_3$	
1-182	Q1b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2$	
1-183	Q1b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2\text{CF}_3$	
1-184	Q1b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2\text{CH}=\text{CH}_2$	
1-185	Q1b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2\text{C}\equiv\text{CH}$	
1-186	Q1b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_3$	
1-187	Q1b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2$	
1-188	Q1b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2\text{CF}_3$	
1-189	Q1b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2\text{CH}=\text{CH}_2$	
1-190	Q1b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2\text{C}\equiv\text{CH}$	
1-191	Q1b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_3$	
1-192	Q1b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2$	
1-193	Q1b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2\text{CF}_3$	
1-194	Q1b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2\text{CH}=\text{CH}_2$	
1-195	Q1b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2\text{C}\equiv\text{CH}$	
1-196	Q1b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_3$	
1-197	Q1b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2$	
1-198	Q1b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{CF}_3$	
1-199	Q1b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{CH}=\text{CH}_2$	
1-200	Q1b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{C}\equiv\text{CH}$	

Tabla 6

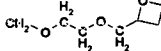
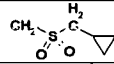
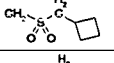
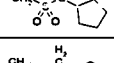
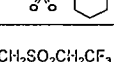
compuesto número	Q	R1	propiedad física (punto de fusión-ND)	compuesto número	Q	R1	propiedad física (punto de fusión-ND)
1-201	Q1b			1-221	Q1b	OCH ₂ CF ₃	
1-202	Q1b			1-222	Q1b	OCF ₂ CF ₃	
1-203	Q1b			1-223	Q1b	O(CH ₂) ₂ OCH ₃	
1-204	Q1b			1-224	Q1b	NHCH ₃	
1-205	Q1b			1-225	Q1b	NHCH ₂ CH ₃	
1-206	Q1b			1-226	Q1b	N(CH ₃) ₂	
1-207	Q1b			1-227	Q1b	N(CH ₂ CH ₃) ₂	
1-208	Q1b			1-228	Q1b	N(CH ₃)(CH ₂ CH ₃)	
1-209	Q1b	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₃		1-229	Q1c	CH ₃	
1-210	Q1b	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)		1-230	Q1c	CH ₂ CH ₃	
1-211	Q1b	CH ₂ O(CH ₂) ₂ NH(SO ₂ CH ₂ - )		1-231	Q1c	(CH ₂) ₂ CH ₃	
1-212	Q1b	CH ₂ O(CH ₂) ₂ NHSO ₂ CF ₃		1-232	Q1c		
1-213	Q1b	CH ₂ O(CH ₂) ₂ NHSO ₂ CHF ₂		1-233	Q1c		
1-214	Q1b	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₂ CF ₃		1-234	Q1c		
1-215	Q1b	SCH ₃		1-235	Q1c		
1-216	Q1b	SOCH ₃		1-236	Q1c		
1-217	Q1b	SO ₂ CH ₃		1-237	Q1c		
1-218	Q1b	OCH ₃		1-238	Q1c		
1-219	Q1b	OCH ₂ CH ₃		1-239	Q1c		
1-220	Q1b	O(CH ₂) ₂ CH ₃		1-240	Q1c	CF ₃	

Tabla 7

compuesto número	Q	F1	propiedad física (punto de fusión-ND)
1-241	Q1c	CH_2CF_3	
1-242	Q1c	CF_2CF_3	
1-243	Q1c	$\text{CH}_2\text{CH}=\text{CH}_2$	
1-244	Q1c	$\text{CH}_2\text{C}\equiv\text{CH}$	
1-245	Q1c	C_6H_5	
1-246	Q1c	$\text{CH}_2\text{C}_6\text{H}_5$	
1-247	Q1c	CH_2OCH_3	
1-248	Q1c	$\text{CH}_2\text{OCH}_2\text{CH}_3$	
1-249	Q1c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{CH}_3$	
1-250	Q1c	$(\text{CH}_2)_2\text{OCH}_3$	
1-251	Q1c	$(\text{CH}_2)_3\text{OCH}_3$	
1-252	Q1c		
1-253	Q1c		
1-254	Q1c		
1-255	Q1c		
1-256	Q1c	$\text{CH}_2\text{OCH}_2\text{CF}_3$	
1-257	Q1c	$\text{CH}_2\text{OCF}_2\text{CHF}_2$	
1-258	Q1c	$\text{CH}_2\text{OCH}_2\text{CF}_2\text{CF}_3$	
1-259	Q1c	$\text{CH}_2\text{OCH}_2\text{CH}=\text{CH}_2$	
1-260	Q1c	$\text{CH}_2\text{OCH}_2\text{CH}=\text{CCl}_2$	
1-261	Q1c	$\text{CH}_2\text{OCH}_2\text{CF}=\text{CF}_2$	
1-262	Q1c	$\text{CH}_2\text{OC}_2\text{C}\equiv\text{CH}$	
1-263	Q1c	$\text{CH}_2\text{OCH}_2\text{C}\equiv\text{CCH}_3$	
1-264	Q1c	CH_2SCH_3	
1-265	Q1c	$\text{CH}_2\text{SCH}_2\text{CH}_3$	
1-266	Q1c	$\text{CH}_2\text{S}(\text{CH}_2)_2\text{CH}_3$	
1-267	Q1c		
1-268	Q1c		
1-269	Q1c		
1-270	Q1c		
1-271	Q1c	$\text{CH}_2\text{SCH}_2\text{CF}_3$	
1-272	Q1c	$\text{CH}_2\text{SCH}_2\text{CH}=\text{CH}_2$	
1-273	Q1c	$\text{CH}_2\text{SCH}_2\text{C}\equiv\text{CH}$	
1-274	Q1c	CH_2SOCH_3	
1-275	Q1c	$\text{CH}_2\text{SOCH}_2\text{CH}_3$	
1-276	Q1c	$\text{CH}_2\text{SO}(\text{CH}_2)_2\text{CH}_3$	
1-277	Q1c		
1-278	Q1c		
1-279	Q1c		
1-280	Q1c		

Tabla 8

compuesto número	Q	R1	propiedad física (punto de fusión-ND)
1-261	Q1c	$\text{CH}_2\text{SOCH}_2\text{CF}_3$	
1-262	Q1c	$\text{CH}_2\text{SOCH}_2\text{CH}=\text{CH}_2$	
1-263	Q1c	$\text{CH}_2\text{SOCH}_2\text{C}\equiv\text{CH}$	
1-264	Q1c	$\text{CH}_2\text{SO}_2\text{CH}_3$	
1-265	Q1c	$\text{CH}_2\text{SO}_2\text{CH}_2\text{CH}_3$	
1-266	Q1c	$\text{CH}_2\text{SO}_2(\text{CH}_2)_2\text{CH}_3$	
1-267	Q1c		
1-268	Q1c		
1-269	Q1c		
1-270	Q1c		
1-291	Q1c	$\text{CH}_2\text{SO}_2\text{CH}_2\text{CF}_3$	
1-292	Q1c	$\text{CH}_2\text{SO}_2\text{CH}_2\text{CH}=\text{CH}_2$	
1-293	Q1c	$\text{CH}_2\text{SO}_2\text{CH}_2\text{C}\equiv\text{CH}$	
1-294	Q1c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_3$	
1-295	Q1c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2\text{CH}_3$	
1-296	Q1c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2$ 	
1-297	Q1c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2\text{CF}_3$	
1-298	Q1c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2\text{CH}=\text{CH}_2$	
1-299	Q1c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2\text{C}\equiv\text{CH}$	
1-300	Q1c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_3$	

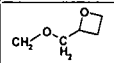
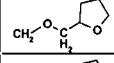
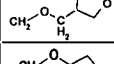
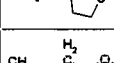
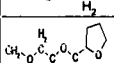
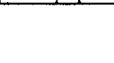
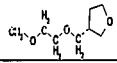
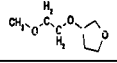
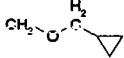
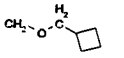
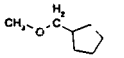
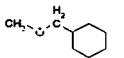
compuesto número	Q	R1	propiedad física (punto de fusión-ND)
1-301	Q1c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2$ 	
1-302	Q1c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2\text{CF}_3$	
1-303	Q1c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2\text{CH}=\text{CH}_2$	
1-304	Q1c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2\text{C}\equiv\text{CH}$	
1-305	Q1c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_3$	
1-306	Q1c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2$ 	
1-307	Q1c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2\text{CF}_3$	
1-308	Q1c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2\text{CH}=\text{CH}_2$	
1-309	Q1c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2\text{C}\equiv\text{CH}$	
1-310	Q1c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_3$	
1-311	Q1c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2$ 	
1-312	Q1c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{CF}_3$	
1-313	Q1c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{CH}=\text{CH}_2$	
1-314	Q1c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{C}\equiv\text{CH}$	
1-315	Q1c		
1-316	Q1c		
1-317	Q1c		
1-318	Q1c		
1-319	Q1c		
1-320	Q1c		

Tabla 9

compuesto número	Q	R1	propiedad física (punto de fusión-ND)
1-321	Q1c		
1-322	Q1c		
1-323	Q1c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NH}\text{SO}_2\text{C}_6\text{H}_5$	
1-324	Q1c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{N}(\text{CH}_3)(\text{SO}_2\text{CH}_3)$	
1-325	Q1c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NH}(\text{SO}_2\text{CH}_2\text{ } \triangle)$	
1-326	Q1c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NH}\text{SO}_2\text{CF}_3$	
1-327	Q1c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NH}\text{SO}_2\text{CHF}_2$	
1-328	Q1c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NH}\text{SO}_2\text{CH}_2\text{CF}_3$	
1-329	Q1c	SCH_3	
1-330	Q1c	SOCH_3	
1-331	Q1c	SO_2CH_3	
1-332	Q1c	OCH_3	
1-333	Q1c	OCH_2CH_3	
1-334	Q1c	$\text{O}(\text{CH}_2)_2\text{CH}_3$	
1-335	Q1c	OCH_2CF_3	
1-336	Q1c	OCF_2CF_3	
1-337	Q1c	$\text{O}(\text{CH}_2)_2\text{OCH}_3$	
1-338	Q1c	NHCH_3	
1-339	Q1c	NHCH_2CH_3	
1-340	Q1c	$\text{N}(\text{CH}_3)_2$	

compuesto número	Q	R1	propiedad física (punto de fusión-ND)
1-341	Q1c	$\text{N}(\text{CH}_2\text{CH}_3)_2$	
1-342	Q1c	$\text{N}(\text{CH}_3)(\text{CH}_2\text{CH}_3)$	
1-343	Q1d	CH_3	
1-344	Q1d	CH_2CH_3	
1-345	Q1d	$(\text{CH}_2)_2\text{CH}_3$	
1-346	Q1d		
1-347	Q1d		
1-348	Q1d		
1-349	Q1d		
1-350	Q1d		
1-351	Q1d		
1-352	Q1d		
1-353	Q1d		
1-354	Q1d	CF_3	
1-355	Q1d	CH_2CF_3	
1-356	Q1d	CF_2CF_3	
1-357	Q1d	$\text{CH}_2\text{CH}=\text{CH}_2$	
1-358	Q1d	$\text{CH}_2\text{C}\equiv\text{CH}$	
1-359	Q1d	C_6H_5	
1-360	Q1d	$\text{CH}_2\text{C}_6\text{H}_5$	

Tabla 10

compuesto número	Q	R1	propiedad física (punto de fusión-ND)
1-361	Q1d	CH ₂ OCH ₃	
1-362	Q1d	CH ₂ OCH ₂ CH ₃	
1-363	Q1d	CH ₂ O(CH ₂) ₂ CH ₃	
1-364	Q1d	(CH ₂) ₂ OCH ₃	
1-365	Q1d	(CH ₂) ₃ OCH ₃	
1-366	Q1d		
1-367	Q1d		
1-368	Q1d		
1-369	Q1d		
1-370	Q1d	CH ₂ OCH ₂ CF ₃	
1-371	Q1d	CH ₂ OCF ₂ CHF ₂	
1-372	Q1d	CH ₂ OCH ₂ CF ₂ CF ₃	
1-373	Q1d	CH ₂ OCH ₂ CH=CH ₂	
1-374	Q1d	CH ₂ OCH ₂ CH=CCl ₂	
1-375	Q1d	CH ₂ OCH ₂ CF=CF ₂	
1-376	Q1d	CH ₂ OC ₂ C ≡ CH	
1-377	Q1d	CH ₂ OCH ₂ C ≡ CCH ₃	
1-378	Q1d	CH ₂ SCH ₃	
1-379	Q1d	CH ₂ SCH ₂ CH ₃	
1-380	Q1d	CH ₂ S(CH ₂) ₂ CH ₃	

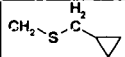
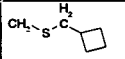
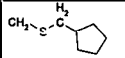
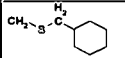
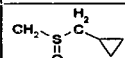
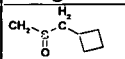
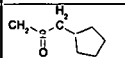
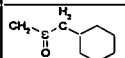
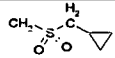
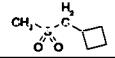
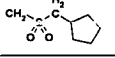
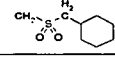
compuesto número	Q	R1	propiedad física (punto de fusión-ND)
1-381	Q1d		
1-382	Q1d		
1-383	Q1d		
1-384	Q1d		
1-385	Q1d	CH ₂ SCH ₂ CF ₃	
1-386	Q1d	CH ₂ SCH ₂ CH=CH ₂	
1-387	Q1d	CH ₂ SCH ₂ C≡CH	
1-388	Q1d	CH ₂ SOCH ₃	
1-389	Q1d	CH ₂ SOCH ₂ CH ₃	
1-390	Q1d	CH ₂ SO(CH ₂) ₂ CH ₃	
1-391	Q1d		
1-392	Q1d		
1-393	Q1d		
1-394	Q1d		
1-395	Q1d	CH ₂ SOCH ₂ CF ₃	
1-396	Q1d	CH ₂ SOCH ₂ CH=CH ₂	
1-397	Q1d	CH ₂ SOCH ₂ C ≡ CH	
1-398	Q1d	CH ₂ SO ₂ CH ₃	
1-399	Q1d	CH ₂ SO ₂ CH ₂ CH ₃	
1-400	Q1d	CH ₂ SO ₂ (CH ₂) ₂ CH ₃	

Tabla 11

compuesto número	Q	R1	propiedad física (punto de fusión-ND)
1-401	Q1d		
1-402	Q1d		
1-403	Q1d		
1-404	Q1d		
1-405	Q1d	$\text{CH}_2\text{SO}_2\text{CH}_2\text{CF}_3$	
1-406	Q1d	$\text{CH}_2\text{SO}_2\text{CH}_2\text{CH}=\text{CH}_2$	
1-407	Q1d	$\text{CH}_2\text{SO}_2\text{CH}_2\text{C} \equiv \text{CH}$	
1-408	Q1d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_3$	
1-409	Q1d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2\text{CH}_3$	
1-410	Q1d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2$ 	
1-411	Q1d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2\text{CF}_3$	
1-412	Q1d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2\text{CH}=\text{CH}_2$	
1-413	Q1d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2\text{C} \equiv \text{CH}$	
1-414	Q1d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_3$	
1-415	Q1d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2$ 	
1-416	Q1d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2\text{CF}_3$	
1-417	Q1d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2\text{CH}=\text{CH}_2$	
1-418	Q1d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2\text{C} \equiv \text{CH}$	
1-419	Q1d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_3$	
1-420	Q1d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2$ 	

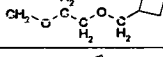
compuesto número	Q	R1	propiedad física (punto de fusión-ND)
1-421	Q1d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2\text{CF}_3$	
1-422	Q1d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2\text{CH}=\text{CH}_2$	
1-423	Q1d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2\text{C} \equiv \text{CH}$	
1-424	Q1d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_3$	
1-425	Q1d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2$ 	
1-426	Q1d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{CF}_3$	
1-427	Q1d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{CH}=\text{CH}_2$	
1-428	Q1d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{C} \equiv \text{CH}$	
1-429	Q1d		
1-430	Q1d		
1-431	Q1d		
1-432	Q1d		
1-433	Q1d		
1-434	Q1d		
1-435	Q1d		
1-436	Q1d		
1-437	Q1d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NHSO}_2\text{CH}_3$	
1-438	Q1d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{N}(\text{CH}_3)(\text{SO}_2\text{CH}_3)$	
1-439	Q1d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NH}(\text{SO}_2\text{CH}_2$ )	
1-440	Q1d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NHSO}_2\text{CF}_3$	

Tabla 12

compuesto número	Q	R1	propiedad física (punto de fusión-ND)
1-141	Q1d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NHSO}_2\text{CHF}_2$	
1-142	Q1d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NHSO}_2\text{CH}_2\text{CF}_3$	
1-143	Q1d	SCH_3	
1-144	Q1d	SOCH_3	
1-145	Q1d	SO_2CH_3	
1-146	Q1d	OCH_3	
1-147	Q1d	OCH_2CH_3	
1-148	Q1d	$\text{O}(\text{CH}_2)_2\text{CH}_3$	
1-149	Q1d	OCH_2CF_3	
1-150	Q1d	OCF_2CF_3	
1-151	Q1d	$\text{O}(\text{CH}_2)_2\text{OCH}_3$	
1-152	Q1d	NHCH_3	
1-153	Q1d	NHCH_2CH_3	
1-154	Q1d	$\text{N}(\text{CH}_3)_2$	
1-155	Q1d	$\text{N}(\text{CH}_2\text{CH}_3)_2$	
1-156	Q1d	$\text{N}(\text{CH}_3)(\text{CH}_2\text{CH}_3)$	
1-157	Q1a	CH_3	NMR
1-158	Q1a	CH_2CH_3	
1-159	Q1a	$(\text{CH}_2)_2\text{CH}_3$	
1-160	Q1a		

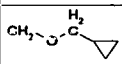
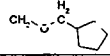
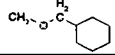
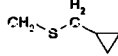
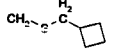
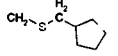
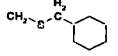
compuesto número	Q	R1	propiedad física (punto de fusión-ND)
1-161	Q1a		
1-162	Q1a		
1-163	Q1a		
1-164	Q1a		
1-165	Q1a		
1-166	Q1a		
1-167	Q1a		
1-168	Q1a	CF_3	
1-169	Q1a	CH_2CF_3	
1-170	Q1a	CF_2CF_3	
1-171	Q1a	$\text{CH}_2\text{CH}=\text{CH}_2$	
1-172	Q1a	$\text{CH}_2\text{C} \equiv \text{CH}$	
1-173	Q1a	C_6H_5	
1-174	Q1a	$\text{CH}_2\text{C}_6\text{H}_5$	
1-175	Q1a	CH_2OCH_3	
1-176	Q1a	$\text{CH}_2\text{OCH}_2\text{CH}_3$	
1-177	Q1a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{CH}_3$	
1-178	Q1a	$(\text{CH}_2)_2\text{OCH}_3$	
1-179	Q1a	$(\text{CH}_2)_3\text{OCH}_3$	
1-180	Q1a		

Tabla 13

compuesto número	Q	R1	propiedad física (punto de fusión-ND)
1-481	Q1e		
1-482	Q1e		
1-483	Q1e		
1-484	Q1e	$\text{CH}_2\text{OCH}_2\text{CF}_3$	
1-485	Q1e		
1-486	Q1e	$\text{CH}_2\text{OCH}_2\text{CF}_2\text{CF}_3$	
1-487	Q1e	$\text{CH}_2\text{OCH}_2\text{CH}=\text{CH}_2$	
1-488	Q1e	$\text{CH}_2\text{OCH}_2\text{CH}=\text{CCl}_2$	
1-489	Q1e	$\text{CH}_2\text{OCH}_2\text{CF}=\text{CF}_2$	
1-490	Q1e	$\text{CH}_2\text{OC}_2\text{C} \equiv \text{CH}$	
1-491	Q1e	$\text{CH}_2\text{OCH}_2\text{C} \equiv \text{CCH}_3$	
1-492	Q1e	CH_2SCH_3	
1-493	Q1e	$\text{CH}_2\text{SCH}_2\text{CH}_3$	
1-494	Q1e	$\text{CH}_2\text{S}(\text{CH}_2)_2\text{CH}_3$	
1-495	Q1e		
1-496	Q1e		
1-497	Q1e		
1-498	Q1e		
1-499	Q1e	$\text{CH}_2\text{SCH}_2\text{CF}_3$	
1-500	Q1e	$\text{CH}_2\text{SCH}_2\text{CH}=\text{CH}_2$	

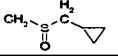
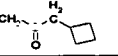
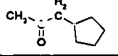
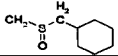
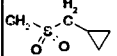
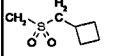
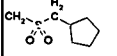
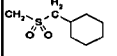
compuesto número	Q	R1	propiedad física (punto de fusión-ND)
1-501	Q1e	$\text{CH}_2\text{SCH}_2\text{C} \equiv \text{CH}$	
1-502	Q1e	CH_2SOCH_3	
1-503	Q1e	$\text{CH}_2\text{SOCH}_2\text{CH}_3$	
1-504	Q1e	$\text{CH}_2\text{SO}(\text{CH}_2)_2\text{CH}_3$	
1-505	Q1e		
1-506	Q1e		
1-507	Q1e		
1-508	Q1e		
1-509	Q1e	$\text{CH}_2\text{SOCH}_2\text{CF}_3$	
1-510	Q1e	$\text{CH}_2\text{SOCH}_2\text{CH}=\text{CH}_2$	
1-511	Q1e	$\text{CH}_2\text{SOCH}_2\text{C} \equiv \text{CH}$	
1-512	Q1e	$\text{CH}_2\text{SO}_2\text{CH}_3$	
1-513	Q1e	$\text{CH}_2\text{SO}_2\text{CH}_2\text{CH}_3$	
1-514	Q1e	$\text{CH}_2\text{SO}_2(\text{CH}_2)_2\text{CH}_3$	
1-515	Q1e		
1-516	Q1e		
1-517	Q1e		
1-518	Q1e		
1-519	Q1e	$\text{CH}_2\text{SO}_2\text{CH}_2\text{CF}_3$	
1-520	Q1e	$\text{CH}_2\text{SO}_2\text{CH}_2\text{CH}=\text{CH}_2$	

Tabla 14

compuesto número	Q	R1	propiedad física (punto de fusión-ND)
1-521	Q16	CH ₂ SO ₂ CH ₂ C≡CH	
1-522	Q16	CH ₂ O(CH ₂) ₂ OCH ₂	
1-523	Q16	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	
1-524	Q16	CH ₂ O(CH ₂) ₂ OCH ₂ 	
1-525	Q16	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
1-526	Q16	CH ₂ O(CH ₂) ₂ OCH ₂ CH=CH ₂	
1-527	Q16	CH ₂ O(CH ₂) ₂ OCH ₂ C≡CH	
1-528	Q16	CH ₂ O(CH ₂) ₂ SOCH ₃	
1-529	Q16	CH ₂ O(CH ₂) ₂ SOCH ₂ 	
1-530	Q16	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
1-531	Q16	CH ₂ O(CH ₂) ₂ SOCH ₂ CH=CH ₂	
1-532	Q16	CH ₂ O(CH ₂) ₂ SOCH ₂ C≡CH	
1-533	Q16	CH ₂ O(CH ₂) ₂ SOCH ₃	
1-534	Q16	CH ₂ O(CH ₂) ₂ SOCH ₂ 	
1-535	Q16	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
1-536	Q16	CH ₂ O(CH ₂) ₂ SOCH ₂ CH=CH ₂	
1-537	Q16	CH ₂ O(CH ₂) ₂ SOCH ₂ C≡CH	
1-538	Q16	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
1-539	Q16	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ 	
1-540	Q16	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	

compuesto número	Q	R1	propiedad física (punto de fusión-ND)
1-541	Q16	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CH=CH ₂	
1-542	Q16	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ C≡CH	
1-543	Q16		
1-544	Q16		
1-545	Q16		
1-546	Q16		
1-547	Q16		
1-548	Q16		
1-549	Q16		
1-550	Q16		
1-551	Q16	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₃	
1-552	Q16	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	
1-553	Q16	CH ₂ O(CH ₂) ₂ NH(SO ₂ CH ₂ 	
1-554	Q16	CH ₂ O(CH ₂) ₂ NHSO ₂ CF ₃	
1-555	Q16	CH ₂ O(CH ₂) ₂ NHSO ₂ CHF ₂	
1-556	Q16	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₂ CF ₃	
1-557	Q16	SCH ₃	
1-558	Q16	SOCH ₃	
1-559	Q16	SO ₂ CH ₃	
1-560	Q16	OCH ₃	

Tabla 15

compuesto número	Q	R1	propiedad física (punto de fusión-ND)
1-561	Q1e	OCH ₂ CH ₃	
1-562	Q1e	O(CH ₂) ₂ CH ₃	
1-563	Q1e	OCH ₂ CF ₃	
1-564	Q1e	OCF ₂ CF ₃	
1-565	Q1e	O(CH ₂) ₂ OCH ₃	
1-566	Q1e	NHCH ₃	
1-567	Q1e	NHCH ₂ CH ₃	
1-568	Q1e	N(CH ₃) ₂	
1-569	Q1e	N(CH ₂ CH ₃) ₂	
1-570	Q1e	N(CH ₃)(CH ₂ CH ₃)	
1-571	Q1f	CH ₃	
1-572	Q1f	CH ₂ CH ₃	
1-573	Q1f	(CH ₂) ₂ CH ₃	
1-574	Q1f		
1-575	Q1f		
1-576	Q1f		
1-577	Q1f		
1-578	Q1f		
1-579	Q1f		
1-580	Q1f		

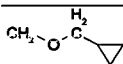
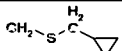
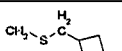
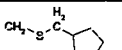
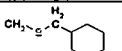
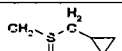
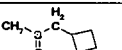
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1-582	Q1f	CF ₃	
1-583	Q1f	CH ₂ CF ₃	
1-584	Q1f	CF ₂ CF ₃	
1-585	Q1f	CH ₂ CH=CH ₂	
1-586	Q1f	CH ₂ C=CH	
1-587	Q1f	C ₆ H ₅	
1-588	Q1f	CH ₂ C ₆ H ₅	
1-589	Q1f	CH ₂ OCH ₃	
1-590	Q1f	CH ₂ OCH ₂ CH ₃	
1-591	Q1f	CH ₂ O(CH ₂) ₂ CH ₃	
1-592	Q1f	(CH ₂) ₂ OCH ₃	
1-593	Q1f	(CH ₂) ₃ OCH ₃	
1-594	Q1f		
1-595	Q1f		
1-596	Q1f		
1-597	Q1f		
1-598	Q1f	CH ₂ OCH ₂ CF ₃	
1-599	Q1f	CH ₂ OCF ₂ CHF ₂	
1-600	Q1f	CH ₂ OCH ₂ CF ₂ CF ₃	

Tabla 16

compuesto número	Q	F1	propiedad física (punto de fusión-ND)
1-601	Q1f	$\text{CH}_2\text{OCH}_2\text{CH}=\text{CH}_2$	
1-602	Q1f	$\text{CH}_2\text{OCH}_2\text{CH}=\text{CCl}_2$	
1-603	Q1f	$\text{CH}_2\text{OCH}_2\text{CF}=\text{CF}_2$	
1-604	Q1f	$\text{CH}_2\text{OC}_2\text{C} \equiv \text{CH}$	
1-605	Q1f	$\text{CH}_2\text{OCH}_2\text{C} \equiv \text{CCH}_3$	
1-606	Q1f	CH_2SCH_3	
1-607	Q1f	$\text{CH}_2\text{SCH}_2\text{CH}_3$	
1-608	Q1f	$\text{CH}_2\text{S}(\text{CH}_2)_2\text{CH}_3$	
1-609	Q1f		
1-610	Q1f		
1-611	Q1f		
1-612	Q1f		
1-613	Q1f	$\text{CH}_2\text{SCH}_2\text{CF}_3$	
1-614	Q1f	$\text{CH}_2\text{SCH}_2\text{CH}=\text{CH}_2$	
1-615	Q1f	$\text{CH}_2\text{SCH}_2\text{C} \equiv \text{CH}$	
1-616	Q1f	CH_2SOCH_3	
1-617	Q1f	$\text{CH}_2\text{SOCH}_2\text{CH}_3$	
1-618	Q1f	$\text{CH}_2\text{SO}(\text{CH}_2)_2\text{CH}_3$	
1-619	Q1f		
1-620	Q1f		

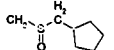
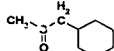
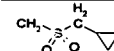
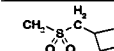
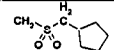
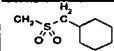
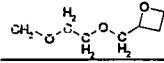
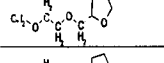
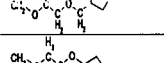
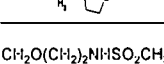
compuesto número	Q	F1	propiedad física (punto de fusión-ND)
1-621	Q1f		
1-622	Q1f		
1-623	Q1f	$\text{CH}_2\text{SOCH}_2\text{CF}_3$	
1-624	Q1f	$\text{CH}_2\text{SOCH}_2\text{CH}=\text{CH}_2$	
1-625	Q1f	$\text{CH}_2\text{SOCH}_2\text{C} \equiv \text{CH}$	
1-626	Q1f	$\text{CH}_2\text{SO}_2\text{CH}_3$	
1-627	Q1f	$\text{CH}_2\text{SO}_2\text{CH}_2\text{CH}_3$	
1-628	Q1f	$\text{CH}_2\text{SO}_2(\text{CH}_2)_2\text{CH}_3$	
1-629	Q1f		
1-630	Q1f		
1-631	Q1f		
1-632	Q1f		
1-633	Q1f	$\text{CH}_2\text{SO}_2\text{CH}_2\text{CF}_3$	
1-634	Q1f	$\text{CH}_2\text{SO}_2\text{CH}_2\text{CH}=\text{CH}_2$	
1-635	Q1f	$\text{CH}_2\text{SO}_2\text{CH}_2\text{C} \equiv \text{CH}$	
1-636	Q1f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_3$	
1-637	Q1f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2\text{CH}_3$	
1-638	Q1f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2$ 	
1-639	Q1f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2\text{CF}_3$	
1-640	Q1f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2\text{CH}=\text{CH}_2$	

Tabla 17

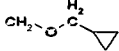
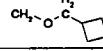
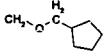
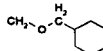
compuesto número	Q	R1	propiedad física (punto de fusión-ND)
1-641	Q1f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2\text{C}\equiv\text{CH}$	
1-642	Q1f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_3$	
1-643	Q1f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2$ 	
1-644	Q1f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2\text{CF}_3$	
1-645	Q1f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2\text{CH}=\text{CH}_2$	
1-646	Q1f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2\text{C}\equiv\text{CH}$	
1-647	Q1f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_3$	
1-648	Q1f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2$ 	
1-649	Q1f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2\text{CF}_3$	
1-650	Q1f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2\text{CH}=\text{CH}_2$	
1-651	Q1f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2\text{C}\equiv\text{CH}$	
1-652	Q1f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_3$	
1-653	Q1f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2$ 	
1-654	Q1f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{CF}_3$	
1-655	Q1f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{CH}=\text{CH}_2$	
1-656	Q1f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{C}\equiv\text{CH}$	
1-657	Q1f		
1-658	Q1f		
1-659	Q1f		
1-660	Q1f		

compuesto número	Q	R1	propiedad física (punto de fusión-ND)
1-661	Q1f		
1-662	Q1f		
1-663	Q1f		
1-664	Q1f		
1-665	Q1f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NHSO}_2\text{CH}_3$	
1-666	Q1f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{N}(\text{CH}_3)(\text{SO}_2\text{CH}_3)$	
1-667	Q1f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NH}(\text{SO}_2\text{CH}_2$ )	
1-668	Q1f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NHSO}_2\text{CF}_3$	
1-669	Q1f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NHSO}_2\text{CHF}_2$	
1-670	Q1f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NHSO}_2\text{CH}_2\text{CF}_3$	
1-671	Q1f	SCH_3	
1-672	Q1f	SOCH_3	
1-673	Q1f	SO_2CH_3	
1-674	Q1f	OCH_3	
1-675	Q1f	OCH_2CH_3	
1-676	Q1f	$\text{O}(\text{CH}_2)_2\text{CH}_3$	
1-677	Q1f	OCH_2CF_3	
1-678	Q1f	OCF_2CF_3	
1-679	Q1f	$\text{O}(\text{CH}_2)_2\text{OCH}_3$	
1-680	Q1f	NHCH_3	

350

Tabla 18

compuesto número	Q	R1	propiedad física (punto de fusión-ND)
1-661	Q1f	NHCH ₂ CH ₃	
1-662	Q1f	N(CH ₃) ₂	
1-663	Q1f	N(CH ₂ CH ₃) ₂	
1-664	Q1f	N(CH ₃)(CH ₂ CH ₃)	
1-665	Q1g	CH ₃	RMN
1-666	Q1g	CH ₂ CH ₃	
1-667	Q1g	(CH ₂) ₂ CH ₃	
1-688	Q1g		
1-689	Q1g		
1-690	Q1g		
1-691	Q1g		
1-692	Q1g		
1-693	Q1g		
1-694	Q1g		
1-695	Q1g		
1-696	Q1g	CF ₃	
1-697	Q1g	CH ₂ CF ₃	
1-698	Q1g	CF ₂ CF ₃	
1-699	Q1g	CH ₂ CH=CH ₂	
1-700	Q1g	CH ₂ C≡CH	

compuesto número	Q	R1	propiedad física (punto de fusión-ND)
1-701	Q1g	C ₆ H ₅	
1-702	Q1g	CH ₂ C ₆ H ₅	
1-703	Q1g	CH ₂ OCH ₃	114-120°C
1-704	Q1g	CH ₂ OCH ₂ CH ₃	
1-705	Q1g	CH ₂ O(CH ₂) ₂ CH ₃	
1-706	Q1g	(CH ₂) ₂ OCH ₃	
1-707	Q1g	(CH ₂) ₃ OCH ₃	
1-708	Q1g		
1-709	Q1g		
1-710	Q1g		
1-711	Q1g		
1-712	Q1g	CH ₂ OCH ₂ CF ₃	RMN
1-713	Q1g	CH ₂ OCF ₂ CHF ₂	
1-714	Q1g	CH ₂ OCH ₂ CF ₂ CF ₃	
1-715	Q1g	CH ₂ OCH ₂ CH=CH ₂	
1-716	Q1g	CH ₂ OCH ₂ CH=CCl ₂	
1-717	Q1g	CH ₂ OCH ₂ CF=CF ₂	
1-718	Q1g	CH ₂ OC ₂ C≡CH	
1-719	Q1g	CH ₂ OCH ₂ C≡CCH ₃	
1-720	Q1g	CH ₂ SCH ₃	

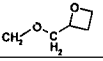
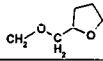
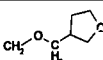
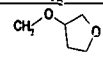
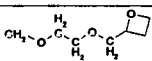
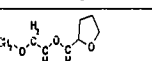
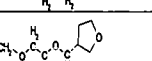
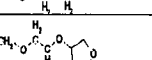
257

Tabla 19

compuesto número	Q	R1	propiedad física (punto de fusión-ND)
1-721	Q1g	<chem>CH2SCH2CH3</chem>	
1-722	Q1g	<chem>CH2S(CH2)2CH3</chem>	
1-723	Q1g	<chem>CH2-S-C(CH2)2</chem>	
1-724	Q1g	<chem>CH2-S-C(CH2)3</chem>	
1-725	Q1g	<chem>CH2-S-C(CH2)4</chem>	
1-726	Q1g	<chem>CH2-S-C(CH2)5</chem>	
1-727	Q1g	<chem>CH2SCH2CF3</chem>	
1-728	Q1g	<chem>CH2SCH2CH=CH2</chem>	
1-729	Q1g	<chem>CH2SCH2C#CH</chem>	
1-730	Q1g	<chem>CH2SOCH3</chem>	
1-731	Q1g	<chem>CH2SOCH2CH3</chem>	
1-732	Q1g	<chem>CH2SO(CH2)2CH3</chem>	
1-733	Q1g	<chem>CH2-SO-C(CH2)2</chem>	
1-734	Q1g	<chem>CH2-SO-C(CH2)3</chem>	
1-735	Q1g	<chem>CH2-SO-C(CH2)4</chem>	
1-736	Q1g	<chem>CH2-SO-C(CH2)5</chem>	
1-737	Q1g	<chem>CH2SOCH2CF3</chem>	
1-738	Q1g	<chem>CH2SOCH2CH=CH2</chem>	
1-739	Q1g	<chem>CH2SOCH2C#CH</chem>	
1-740	Q1g	<chem>CH2SO2CH3</chem>	

compuesto número	Q	R1	propiedad física (punto de fusión-ND)
1-741	Q1g	<chem>CH2SO2CH2CH3</chem>	
1-742	Q1g	<chem>CH2SO2(CH2)2CH3</chem>	
1-743	Q1g	<chem>CH2-SO2-C(CH2)2</chem>	
1-744	Q1g	<chem>CH2-SO2-C(CH2)3</chem>	
1-745	Q1g	<chem>CH2-SO2-C(CH2)4</chem>	
1-746	Q1g	<chem>CH2-SO2-C(CH2)5</chem>	
1-747	Q1g	<chem>CH2SO2CH2CF3</chem>	
1-748	Q1g	<chem>CH2SO2CH2CH=CH2</chem>	
1-749	Q1g	<chem>CH2SO2CH2C#CH</chem>	
1-750	Q1g	<chem>CH2O(CH2)2OCH3</chem>	
1-751	Q1g	<chem>CH2O(CH2)2OCH2CH3</chem>	
1-752	Q1g	<chem>CH2O(CH2)2OCH2</chem> <chem>C1CC1</chem>	
1-753	Q1g	<chem>CH2O(CH2)2OCH2CF3</chem>	
1-754	Q1g	<chem>CH2O(CH2)2OCH2CH=CH2</chem>	
1-755	Q1g	<chem>CH2O(CH2)2OCH2C#CH</chem>	
1-756	Q1g	<chem>CH2O(CH2)2SCH3</chem>	
1-757	Q1g	<chem>CH2O(CH2)2SCH2</chem> <chem>C1CC1</chem>	
1-758	Q1g	<chem>CH2O(CH2)2SCH2CF3</chem>	
1-759	Q1g	<chem>CH2O(CH2)2SCH2CH=CH2</chem>	
1-760	Q1g	<chem>CH2O(CH2)2SCH2C#CH</chem>	

Tabla 20

compuesto número	Q	R1	propiedad física (punto de fusión-ND)
1-761	Q1g	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_3$	
1-762	Q1g	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2$ 	
1-763	Q1g	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2\text{CF}_3$	
1-764	Q1g	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2\text{CH}=\text{CH}_2$	
1-765	Q1g	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2\text{C}\equiv\text{CH}$	
1-766	Q1g	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_3$	
1-767	Q1g	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2$ 	
1-768	Q1g	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{CF}_3$	
1-769	Q1g	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{CH}=\text{CH}_2$	
1-770	Q1g	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{C}\equiv\text{CH}$	
1-771	Q1g		
1-772	Q1g		
1-773	Q1g		
1-774	Q1g		
1-775	Q1g		
1-776	Q1g		
1-777	Q1g		
1-778	Q1g		
1-779	Q1g	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NH}\text{SO}_2\text{CH}_3$	
1-780	Q1g	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{N}(\text{CH}_3)(\text{SO}_2\text{CH}_3)$	

compuesto número	Q	R1	propiedad física (punto de fusión-ND)
1-781	Q1g	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NH}(\text{SO}_2\text{CH}_2$ 	
1-782	Q1g	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NH}\text{SO}_2\text{CF}_3$	
1-783	Q1g	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NH}\text{SO}_2\text{CHF}_2$	
1-784	Q1g	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NH}\text{SO}_2\text{CH}_2\text{CF}_3$	
1-785	Q1g	SCH_3	
1-786	Q1g	SOCH_3	
1-787	Q1g	SO_2CH_3	
1-788	Q1g	OCH_3	
1-789	Q1g	OCH_2CH_3	
1-790	Q1g	$\text{O}(\text{CH}_2)_2\text{CH}_3$	
1-791	Q1g	OCH_2CF_3	
1-792	Q1g	OCF_2CF_3	
1-793	Q1g	$\text{O}(\text{CH}_2)_2\text{OCH}_3$	
1-794	Q1g	NHCH_3	
1-795	Q1g	NHCH_2CH_3	
1-796	Q1g	$\text{N}(\text{CH}_3)_2$	
1-797	Q1g	$\text{N}(\text{CH}_2\text{CH}_3)_2$	
1-798	Q1g	$\text{N}(\text{CH}_3)(\text{CH}_2\text{CH}_3)$	
1-799	Q1h	CH_3	RMN
1-800	Q1h	CH_2CH_3	

Tabla 21

compuesto número	Q	R1	propiedad física (punto de fusión-ND)
1-801	Q1h	$(CH_2)_2CH_3$	
1-802	Q1h		
1-803	Q1h		
1-804	Q1h		
1-805	Q1h		
1-806	Q1h		
1-807	Q1h		
1-808	Q1h		
1-809	Q1h		
1-810	Q1h	CF_3	1.5495(25)
1-811	Q1h	CH_2CF_3	
1-812	Q1h	CF_2CF_3	
1-813	Q1h	$CH_2CH=CH_2$	
1-814	Q1h	$CH_2C \equiv CH$	
1-815	Q1h	C_6H_5	
1-816	Q1h	$CH_2C_6H_5$	
1-817	Q1h	CH_2OCH_3	1.5775(25)
1-818	Q1h	$CH_2OCH_2CH_3$	
1-819	Q1h	$CH_2O(CH_2)_2CH_3$	
1-820	Q1h	$(CH_2)_2OCH_3$	

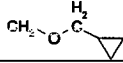
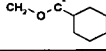
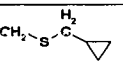
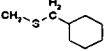
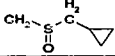
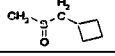
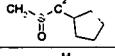
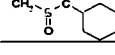
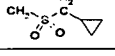
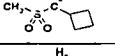
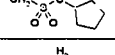
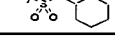
compuesto número	Q	R1	propiedad física (punto de fusión-ND)
1-821	Q1h	$(CH_2)_3OCH_3$	
1-822	Q1h		
1-823	Q1h		
1-824	Q1h		
1-825	Q1h		
1-826	Q1h	$CH_2OCH_2CF_3$	RMN
1-827	Q1h	$CH_2OCF_2CHF_2$	
1-828	Q1h	$CH_2OCH_2CF_2CF_3$	
1-829	Q1h	$CH_2OCH_2CH=CH_2$	
1-830	Q1h	$CH_2OCH_2CH=CCl_2$	
1-831	Q1h	$CH_2OCH_2CF=CF_2$	
1-832	Q1h	$CH_2OC_2C \equiv CH$	
1-833	Q1h	$CH_2OCH_2C \equiv CCH_3$	
1-834	Q1h	CH_2SCH_3	
1-835	Q1h	$CH_2SCH_2CH_3$	
1-836	Q1h	$CH_2S(CH_2)_2CH_3$	
1-837	Q1h		
1-838	Q1h		
1-839	Q1h		
1-840	Q1h		

Tabla 22

compuesto número	Q	R1	propiedad física (punto de fusión-°C)
1-841	Q1h	CH ₂ SCH ₂ CF ₃	
1-842	Q1h	CH ₂ SCH ₂ CH=CH ₂	
1-843	Q1h	CH ₂ SCH ₂ C ≡ CH	
1-844	Q1h	CH ₂ SOCH ₃	
1-845	Q1h	CH ₂ SOCH ₂ CH ₃	
1-846	Q1h	CH ₂ SO(CH ₂) ₂ CH ₃	
1-847	Q1h		
1-848	Q1h		
1-849	Q1h		
1-850	Q1h		
1-851	Q1h	CH ₂ SOCH ₂ CF ₃	
1-852	Q1h	CH ₂ SOCH ₂ CH=CH ₂	
1-853	Q1h	CH ₂ SOCH ₂ C ≡ CH	
1-854	Q1h	CH ₂ SO ₂ CH ₃	
1-855	Q1h	CH ₂ SO ₂ CH ₂ CH ₃	
1-856	Q1h	CH ₂ SO ₂ (CH ₂) ₂ CH ₃	
1-857	Q1h		
1-858	Q1h		
1-859	Q1h		
1-860	Q1h		

compuesto número	Q	R1	propiedad física (punto de fusión-°C)
1-861	Q1h	CH ₂ SO ₂ CH ₂ CF ₃	
1-862	Q1h	CH ₂ SO ₂ CH ₂ CH=CH ₂	
1-863	Q1h	CH ₂ SO ₂ CH ₂ C ≡ CH	
1-864	Q1h	CH ₂ O(CH ₂) ₂ OCH ₃	
1-865	Q1h	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	
1-866	Q1h	CH ₂ O(CH ₂) ₂ OCH ₂ 	
1-867	Q1h	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
1-868	Q1h	CH ₂ O(CH ₂) ₂ OCH ₂ CH=CH ₂	
1-869	Q1h	CH ₂ O(CH ₂) ₂ OCH ₂ C ≡ CH	
1-870	Q1h	CH ₂ O(CH ₂) ₂ SCH ₃	
1-871	Q1h	CH ₂ O(CH ₂) ₂ SCH ₂ 	
1-872	Q1h	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃	
1-873	Q1h	CH ₂ O(CH ₂) ₂ SCH ₂ CH=CH ₂	
1-874	Q1h	CH ₂ O(CH ₂) ₂ SCH ₂ C ≡ CH	
1-875	Q1h	CH ₂ O(CH ₂) ₂ SOCH ₃	
1-876	Q1h	CH ₂ O(CH ₂) ₂ SOCH ₂ 	
1-877	Q1h	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
1-878	Q1h	CH ₂ O(CH ₂) ₂ SOCH ₂ CH=CH ₂	
1-879	Q1h	CH ₂ O(CH ₂) ₂ SOCH ₂ C ≡ CH	
1-880	Q1h	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	

Tabla 23

compuesto número	Q	F1	propiedad física (punto de fusión-ND)
1-661	Q1h	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2$ 	
1-662	Q1h	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{CF}_3$	
1-663	Q1h	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{CH}=\text{CH}_2$	
1-664	Q1h	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{C}\equiv\text{CH}$	
1-885	Q1h		
1-666	Q1h		
1-667	Q1h		
1-886	Q1h		
1-669	Q1h		
1-890	Q1h		
1-891	Q1h		
1-692	Q1h		
1-893	Q1h	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NH}\text{SO}_2\text{CH}_3$	
1-894	Q1h	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{N}(\text{CH}_3)(\text{SO}_2\text{CH}_3)$	
1-895	Q1h	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NH}(\text{SO}_2\text{CH}_2$ 	
1-696	Q1h	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NH}\text{SO}_2\text{CF}_3$	
1-697	Q1h	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NH}\text{SO}_2\text{CHF}_2$	
1-698	Q1h	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NH}\text{SO}_2\text{CH}_2\text{CF}_3$	
1-899	Q1h	SCH_3	
1-900	Q1h	SOCH_3	

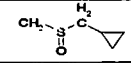
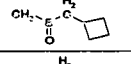
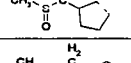
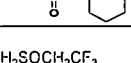
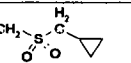
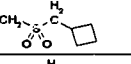
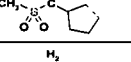
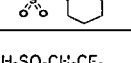
compuesto número	Q	F1	propiedad física (punto de fusión-ND)
1-901	Q1h	SO_2CH_3	
1-902	Q1h	OCH_3	
1-903	Q1h	OCH_2CH_3	
1-904	Q1h	$\text{O}(\text{CH}_2)_2\text{CH}_3$	
1-905	Q1h	OCH_2CF_3	
1-906	Q1h	OCF_2CF_3	
1-907	Q1h	$\text{O}(\text{CH}_2)_2\text{OCH}_3$	
1-908	Q1h	NHCH_3	
1-909	Q1h	NHCH_2CH_3	
1-910	Q1h	$\text{N}(\text{CH}_3)_2$	
1-911	Q1h	$\text{N}(\text{CH}_2\text{CH}_3)_2$	
1-912	Q1h	$\text{N}(\text{CH}_3)(\text{CH}_2\text{CH}_3)$	
1-913	Q1i	CH_3	RMN
1-914	Q1i	CH_2CH_3	
1-915	Q1i	$(\text{CH}_2)_2\text{CH}_3$	
1-916	Q1i		
1-917	Q1i		
1-918	Q1i		
1-919	Q1i		
1-920	Q1i		

Tabla 24

compuesto número	Q	R1	propiedad física (punto de fusión-ND)
1-921	Q1i		
1-922	Q1i		
1-923	Q1i		
1-924	Q1i	CF ₃	
1-925	Q1i	CH ₂ CF ₃	
1-926	Q1i	CF ₂ CF ₃	
1-927	Q1i	CH ₂ CH=CH ₂	
1-928	Q1i	CH ₂ C≡CH	
1-929	Q1i	C ₆ H ₅	
1-930	Q1i	CH ₂ C ₆ H ₅	
1-931	Q1i	CH ₂ OCH ₃	
1-932	Q1i	CH ₂ OCH ₂ CH ₃	
1-933	Q1i	CH ₂ O(CH ₂) ₂ CH ₃	
1-934	Q1i	(CH ₂) ₂ OCH ₃	
1-935	Q1i	(CH ₂) ₃ OCH ₃	
1-936	Q1i		
1-937	Q1i		
1-938	Q1i		
1-939	Q1i		
1-940	Q1i	CH ₂ OCH ₂ CF ₃	

compuesto número	Q	R1	propiedad física (punto de fusión-ND)
1-941	Q1i	CH ₂ OCF ₂ CHF ₂	
1-942	Q1i	CH ₂ OCH ₂ CF ₂ CF ₃	
1-943	Q1i	CH ₂ OCH ₂ CH=CH ₂	
1-944	Q1i	CH ₂ OCH ₂ CH=CCl ₂	
1-945	Q1i	CH ₂ OCH ₂ CF=CF ₂	
1-946	Q1i	CH ₂ OC ₂ C≡CH	
1-947	Q1i	CH ₂ OCH ₂ C≡CCH ₃	
1-948	Q1i	CH ₂ SCH ₃	
1-949	Q1i	CH ₂ SCH ₂ CH ₃	
1-950	Q1i	CH ₂ S(CH ₂) ₂ CH ₃	
1-951	Q1i		
1-952	Q1i		
1-953	Q1i		
1-954	Q1i		
1-955	Q1i	CH ₂ SCH ₂ CF ₃	
1-956	Q1i	CH ₂ SCH ₂ CH=CH ₂	
1-957	Q1i	CH ₂ SCH ₂ C≡CH	
1-958	Q1i	CH ₂ SOCH ₃	
1-959	Q1i	CH ₂ SOCH ₂ CH ₃	
1-960	Q1i	CH ₂ SO(CH ₂) ₂ CH ₃	

Tabla 25

compuesto número	Q	R1	propiedad física (punto de fusión-ND)
1-961	Q1i		
1-962	Q1i		
1-963	Q1i		
1-964	Q1i		
1-965	Q1i	$\text{CH}_2\text{SOCH}_2\text{CF}_3$	
1-966	Q1i	$\text{CH}_2\text{SOCH}_2\text{CH}=\text{CH}_2$	
1-967	Q1i	$\text{CH}_2\text{SOCH}_2\text{C}\equiv\text{CH}$	
1-968	Q1i	$\text{CH}_2\text{SO}_2\text{CH}_3$	
1-969	Q1i	$\text{CH}_2\text{SO}_2\text{CH}_2\text{CH}_3$	
1-970	Q1i	$\text{CH}_2\text{SO}_2(\text{CH}_2)_2\text{CH}_3$	
1-971	Q1i		
1-972	Q1i		
1-973	Q1i		
1-974	Q1i		
1-975	Q1i	$\text{CH}_2\text{SO}_2\text{CH}_2\text{CF}_3$	
1-976	Q1i	$\text{CH}_2\text{SO}_2\text{CH}_2\text{CH}=\text{CH}_2$	
1-977	Q1i	$\text{CH}_2\text{SO}_2\text{CH}_2\text{C}\equiv\text{CH}$	
1-978	Q1i	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_3$	
1-979	Q1i	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2\text{CH}_3$	
1-980	Q1i	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2$ 	

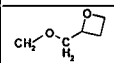
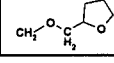
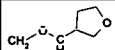
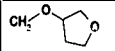
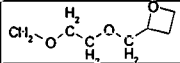
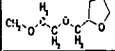
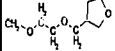
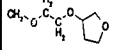
compuesto número	Q	R1	propiedad física (punto de fusión-ND)
1-981	Q1i	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2\text{CF}_3$	
1-982	Q1i	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2\text{CH}=\text{CH}_2$	
1-983	Q1i	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2\text{C}\equiv\text{CH}$	
1-984	Q1i	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_3$	
1-985	Q1i	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2$ 	
1-986	Q1i	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2\text{CF}_3$	
1-987	Q1i	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2\text{CH}=\text{CH}_2$	
1-988	Q1i	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2\text{C}\equiv\text{CH}$	
1-989	Q1i	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_3$	
1-990	Q1i	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2$ 	
1-991	Q1i	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2\text{CF}_3$	
1-992	Q1i	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2\text{CH}=\text{CH}_2$	
1-993	Q1i	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2\text{C}\equiv\text{CH}$	
1-994	Q1i	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_3$	
1-995	Q1i	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2$ 	
1-996	Q1i	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{CF}_3$	
1-997	Q1i	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{CH}=\text{CH}_2$	
1-998	Q1i	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{C}\equiv\text{CH}$	
1-999	Q1i		
1-1000	Q1i		

Tabla 26

compuesto número	Q	R1	propiedad física (punto de fusión-ND)
1-1001	Q1i		
1-1002	Q1i		
1-1003	Q1i		
1-1004	Q1i		
1-1005	Q1i		
1-1006	Q1i		
1-1007	Q1i	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NHSO}_2\text{CH}_3$	
1-1008	Q1i	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{N}(\text{CH}_3)(\text{SO}_2\text{CH}_3)$	
1-1009	Q1i	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NH}(\text{SO}_2\text{CH}_2\text{Cyclopropyl})$	
1-1010	Q1i	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NHSO}_2\text{CF}_3$	
1-1011	Q1i	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NHSO}_2\text{CHF}_2$	
1-1012	Q1i	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NHSO}_2\text{CH}_2\text{CF}_3$	
1-1013	Q1i	SCH_3	
1-1014	Q1i	SOCH_3	
1-1015	Q1i	SO_2CH_3	
1-1016	Q1i	OCH_3	
1-1017	Q1i	OCH_2CH_3	
1-1018	Q1i	$\text{O}(\text{CH}_2)_2\text{CH}_3$	
1-1019	Q1i	OCH_2CF_3	
1-1020	Q1i	OCF_2CF_3	

compuesto número	Q	R1	propiedad física (punto de fusión-ND)
1-1021	Q1i	$\text{O}(\text{CH}_2)_2\text{OCH}_3$	
1-1022	Q1i	NHCH_3	
1-1023	Q1i	NHCH_2CH_3	
1-1024	Q1i	$\text{N}(\text{CH}_3)_2$	
1-1025	Q1i	$\text{N}(\text{CH}_2\text{CH}_3)_2$	
1-1026	Q1i	$\text{N}(\text{CH}_3)(\text{CH}_2\text{CH}_3)$	

Tabla 27

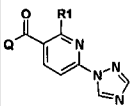
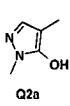
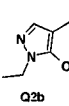
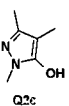
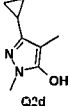
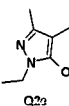
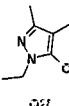
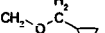
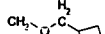
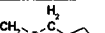
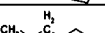
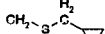
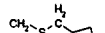
      							
compuesto número	Q	R1	propiedad física (punto de fusión-ND)	compuesto número	Q	R1	propiedad física (punto de fusión-ND)
2-1	Q2a	CH ₃	NMR	2-21	Q2a	CH ₂ O(CH ₂) ₂ CH ₃	
2-2	Q2a	CH ₂ CH ₃		2-22	Q2a	(CH ₂) ₂ OCH ₃	
2-3	Q2a	(CH ₂) ₂ CH ₃		2-23	Q2a	(CH ₂) ₃ OCH ₃	
2-4	Q2a			2-24	Q2a		
2-5	Q2a			2-25	Q2a		
2-6	Q2a			2-26	Q2a		
2-7	Q2a			2-27	Q2a		
2-8	Q2a			2-28	Q2a	CH ₂ OCH ₂ CF ₃	RMN
2-9	Q2a			2-29	Q2a	CH ₂ OCF ₂ CHF ₂	
2-10	Q2a			2-30	Q2a	CH ₂ OCH ₂ CF ₂ CF ₃	
2-11	Q2a			2-31	Q2a	CH ₂ OCH ₂ CH=CH ₂	
2-12	Q2a	CF ₃	174-176°C	2-32	Q2a	CH ₂ OCH ₂ CH=CCl ₂	
2-13	Q2a	CH ₂ CF ₃		2-33	Q2a	CH ₂ OCH ₂ CF=CF ₂	
2-14	Q2a	CF ₂ CF ₃		2-34	Q2a	CH ₂ OC ₂ C=CH	
2-15	Q2a	CH ₂ CH=CH ₂		2-35	Q2a	CH ₂ OCH ₂ C≡CCH ₃	
2-16	Q2a	CH ₂ C=CH		2-36	Q2a	CH ₂ SCH ₃	
2-17	Q2a	C ₆ H ₅		2-37	Q2a	CH ₂ SCH ₂ CH ₃	
2-18	Q2a	CH ₂ C ₆ H ₅		2-38	Q2a	CH ₂ S(CH ₂) ₂ CH ₃	
2-19	Q2a	CH ₂ OCH ₃		2-39	Q2a		
2-20	Q2a	CH ₂ OCH ₂ CH ₃		2-40	Q2a		

Tabla 28

compuesto número	Q	R1	propiedad física (punto de fusión-ND)
2-41	Q2a		
2-42	Q2a		
2-43	Q2a	$\text{CH}_2\text{SCH}_2\text{CF}_3$	
2-44	Q2a	$\text{CH}_2\text{SCH}_2\text{CH}=\text{CH}_2$	
2-45	Q2a	$\text{CH}_2\text{SCH}_2\text{C}\equiv\text{CH}$	
2-46	Q2a	CH_2SOCH_3	
2-47	Q2a	$\text{CH}_2\text{SOCH}_2\text{CH}_2$	
2-48	Q2a	$\text{CH}_2\text{SO}(\text{CH}_2)_2\text{CH}_2$	
2-49	Q2a		
2-50	Q2a		
2-51	Q2a		
2-52	Q2a		
2-53	Q2a	$\text{CH}_2\text{SOCH}_2\text{CF}_3$	
2-54	Q2a	$\text{CH}_2\text{SOCH}_2\text{CH}=\text{CH}_2$	
2-55	Q2a	$\text{CH}_2\text{SOCH}_2\text{C}\equiv\text{CH}$	
2-56	Q2a	$\text{CH}_2\text{SO}_2\text{CH}_3$	
2-57	Q2a	$\text{CH}_2\text{SO}_2\text{CH}_2\text{CH}_3$	
2-58	Q2a	$\text{CH}_2\text{SO}_2(\text{CH}_2)_2\text{CH}_3$	
2-59	Q2a		
2-60	Q2a		

compuesto número	Q	R1	propiedad física (punto de fusión-ND)
2-61	Q2a		
2-62	Q2a		
2-63	Q2a	$\text{CH}_2\text{SO}_2\text{CH}_2\text{CF}_3$	
2-64	Q2a	$\text{CH}_2\text{SO}_2\text{CH}_2\text{CH}=\text{CH}_2$	
2-65	Q2a	$\text{CH}_2\text{SO}_2\text{CH}_2\text{C}\equiv\text{CH}$	
2-66	Q2a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_3$	
2-67	Q2a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2\text{CH}_3$	
2-68	Q2a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2-\triangle$	
2-69	Q2a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2\text{CF}_3$	
2-70	Q2a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2\text{CH}=\text{CH}_2$	
2-71	Q2a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2\text{C}\equiv\text{CH}$	
2-72	Q2a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_3$	
2-73	Q2a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2-\triangle$	
2-74	Q2a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2\text{CF}_3$	
2-75	Q2a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2\text{CH}=\text{CH}_2$	
2-76	Q2a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2\text{C}\equiv\text{CH}$	
2-77	Q2a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_3$	
2-78	Q2a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2-\triangle$	
2-79	Q2a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2\text{CF}_3$	
2-80	Q2a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2\text{CH}=\text{CH}_2$	

Tabla 29

compuesto número	Q	R1	propiedad física (punto de fusión-ND)
2-31	Q2a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{C}\equiv\text{CH}$	
2-32	Q2a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_3$	
2-33	Q2a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2-\triangle$	
2-34	Q2a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{CF}_3$	
2-35	Q2a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{CH}=\text{CH}_2$	
2-36	Q2a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{C}\equiv\text{CH}$	
2-37	Q2a		
2-38	Q2a		
2-39	Q2a		
2-40	Q2a		
2-41	Q2a		
2-42	Q2a		
2-43	Q2a		
2-44	Q2a		
2-45	Q2a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NH}\text{SO}_2\text{CH}_3$	
2-46	Q2a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{N}(\text{CH}_3)(\text{SO}_2\text{CH}_3)$	
2-47	Q2a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NH}(\text{SO}_2\text{CH}_2-\triangle)$	
2-48	Q2a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NH}\text{SO}_2\text{CF}_3$	
2-49	Q2a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NH}\text{SO}_2\text{CHF}_2$	
2-100	Q2a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NH}\text{SO}_2\text{CH}_2\text{CF}_3$	

compuesto número	Q	R1	propiedad física (punto de fusión-ND)
2-101	Q2a	SCH_3	
2-102	Q2a	SOCH_3	
2-103	Q2a	SO_2CH_3	
2-104	Q2a	OCH_3	
2-105	Q2a	OCH_2CH_3	
2-106	Q2a	$\text{O}(\text{CH}_2)_2\text{CH}_3$	
2-107	Q2a	OCH_2CF_3	
2-108	Q2a	OCF_2CF_3	
2-109	Q2a	$\text{O}(\text{CH}_2)_2\text{OCH}_3$	
2-110	Q2a	NHCH_3	
2-111	Q2a	NHCH_2CH_3	
2-112	Q2a	$\text{N}(\text{CH}_3)_2$	
2-113	Q2a	$\text{N}(\text{CH}_2\text{CH}_3)_2$	
2-114	Q2a	$\text{N}(\text{CH}_3)(\text{CH}_2\text{CH}_3)$	
2-115	Q2b	CH_3	
2-116	Q2b	CH_2CH_3	
2-117	Q2b	$(\text{CH}_2)_2\text{CH}_3$	
2-118	Q2b		
2-119	Q2b		
2-120	Q2b		

Tabla 30

compuesto número	Q	R1	propiedad física (punto de fusión-ND)
2-121	Q2b		
2-122	Q2b		
2-123	Q2b		
2-124	Q2b		
2-125	Q2b		
2-126	Q2b	CF ₃	
2-127	Q2b	CH ₂ CF ₃	
2-128	Q2b	CF ₂ CF ₃	
2-129	Q2b	CH ₂ CH=CH ₂	
2-130	Q2b	CH ₂ C≡CH	
2-131	Q2b	C ₆ H ₅	
2-132	Q2b	CH ₂ C ₆ H ₅	
2-133	Q2b	CH ₂ OCH ₃	
2-134	Q2b	CH ₂ OCH ₂ CH ₃	
2-135	Q2b	CH ₂ O(CH ₂) ₂ CH ₃	
2-136	Q2b	(CH ₂) ₂ OCH ₃	
2-137	Q2b	(CH ₂) ₃ OCH ₃	
2-138	Q2b		
2-139	Q2b		
2-140	Q2b		

compuesto número	Q	R1	propiedad física (punto de fusión-ND)
2-141	Q2b		
2-142	Q2b	CH ₂ OCH ₂ CF ₃	
2-143	Q2b	CH ₂ OCF ₂ CHF ₂	
2-144	Q2b	CH ₂ OCH ₂ CF ₂ CF ₃	
2-145	Q2b	CH ₂ OCH ₂ CH=CH ₂	
2-146	Q2b	CH ₂ OCH ₂ CH=CCl ₂	
2-147	Q2b	CH ₂ OCH ₂ CF=CF ₂	
2-148	Q2b	CH ₂ OC ₂ C≡CH	
2-149	Q2b	CH ₂ OCH ₂ C≡CCH ₃	
2-150	Q2b	CH ₂ SCH ₃	
2-151	Q2b	CH ₂ SCH ₂ CH ₃	
2-152	Q2b	CH ₂ S(CH ₂) ₂ CH ₃	
2-153	Q2b		
2-154	Q2b		
2-155	Q2b		
2-156	Q2b		
2-157	Q2b	CH ₂ SCH ₂ CF ₃	
2-158	Q2b	CH ₂ SCH ₂ CH=CH ₂	
2-159	Q2b	CH ₂ SCH ₂ C≡CH	
2-160	Q2b	CH ₂ SOCH ₃	

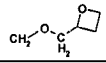
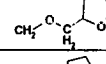
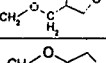
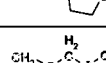
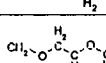
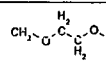
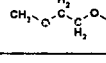
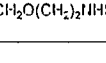
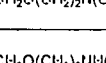
Tabla 31

compuesto número	Q	R1	propiedad física (punto de fusión-ND)
2-161	Q2b	$\text{CH}_2\text{SOCH}_2\text{CH}_3$	
2-162	Q2b	$\text{CH}_2\text{SO}(\text{CH}_2)_2\text{CH}_3$	
2-163	Q2b		
2-164	Q2b		
2-165	Q2b		
2-166	Q2b		
2-167	Q2b	$\text{CH}_2\text{SOCH}_2\text{CF}_3$	
2-168	Q2b	$\text{CH}_2\text{SOCH}_2\text{CH}=\text{CH}_2$	
2-169	Q2b	$\text{CH}_2\text{SOCH}_2\text{C}\equiv\text{CH}$	
2-170	Q2b	$\text{CH}_2\text{SO}_2\text{CH}_3$	
2-171	Q2b	$\text{CH}_2\text{SO}_2\text{CH}_2\text{CH}_3$	
2-172	Q2b	$\text{CH}_2\text{SO}_2(\text{CH}_2)_2\text{CH}_3$	
2-173	Q2b		
2-174	Q2b		
2-175	Q2b		
2-176	Q2b		
2-177	Q2b	$\text{CH}_2\text{SO}_2\text{CH}_2\text{CF}_3$	
2-178	Q2b	$\text{CH}_2\text{SO}_2\text{CH}_2\text{CH}=\text{CH}_2$	
2-179	Q2b	$\text{CH}_2\text{SO}_2\text{CH}_2\text{C}\equiv\text{CH}$	
2-180	Q2b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_3$	

compuesto número	Q	R1	propiedad física (punto de fusión-ND)
2-181	Q2b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2\text{CH}_3$	
2-182	Q2b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2-\triangle$	
2-183	Q2b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2\text{CF}_3$	
2-184	Q2b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2\text{CH}=\text{CH}_2$	
2-185	Q2b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2\text{C}\equiv\text{CH}$	
2-186	Q2b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_3$	
2-187	Q2b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2-\triangle$	
2-188	Q2b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2\text{CF}_3$	
2-189	Q2b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2\text{CH}=\text{CH}_2$	
2-190	Q2b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2\text{C}\equiv\text{CH}$	
2-191	Q2b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_3$	
2-192	Q2b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2-\triangle$	
2-193	Q2b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2\text{CF}_3$	
2-194	Q2b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2\text{CH}=\text{CH}_2$	
2-195	Q2b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2\text{C}\equiv\text{CH}$	
2-196	Q2b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_3$	
2-197	Q2b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2-\triangle$	
2-198	Q2b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{CF}_3$	
2-199	Q2b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{CH}=\text{CH}_2$	
2-200	Q2b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{C}\equiv\text{CH}$	

361

Tabla 32

compuesto número	Q	R1	propiedad física (punto de fusión-ND)	compuesto número	Q	R1	propiedad física (punto de fusión-ND)
2-201	Q2b			2-221	Q2b	OCH ₂ CF ₃	
2-202	Q2b			2-222	Q2b	OCF ₂ CF ₃	
2-203	Q2b			2-223	Q2b	O(CH ₂) ₂ OCH ₃	
2-204	Q2b			2-224	Q2b	NHCH ₃	
2-205	Q2b			2-225	Q2b	NHCH ₂ CH ₃	
2-206	Q2b			2-226	Q2b	N(CH ₃) ₂	
2-207	Q2b			2-227	Q2b	N(CH ₂ CH ₃) ₂	
2-208	Q2b			2-228	Q2b	N(CH ₃)(CH ₂ CH ₃)	
2-209	Q2b			2-229	Q2c	CH ₃	RMN
2-210	Q2b	CH ₂ O(CH ₂) ₂ NH(SO ₂ CH ₃)		2-230	Q2c	CH ₂ CH ₃	
2-211	Q2b	CH ₂ O(CH ₂) ₂ NH(SO ₂ CH ₂ - )		2-231	Q2c	(CH ₂) ₂ CH ₃	
2-212	Q2b	CH ₂ O(CH ₂) ₂ NHSO ₂ CF ₃		2-232	Q2c		
2-213	Q2b	CH ₂ O(CH ₂) ₂ NHSO ₂ CHF ₂		2-233	Q2c		
2-214	Q2b	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₂ CF ₃		2-234	Q2c		
2-215	Q2b	SCH ₃		2-235	Q2c		
2-216	Q2b	SOCH ₃		2-236	Q2c		
2-217	Q2b	SO ₂ CH ₃		2-237	Q2c		
2-218	Q2b	OCH ₂		2-238	Q2c		
2-219	Q2b	OCH ₂ CH ₃		2-239	Q2c		
2-220	Q2b	O(CH ₂) ₂ CH ₃		2-240	Q2c	CF ₃	

365

Tabla 33

compuesto número	Q	R1	propiedad física (punto de fusión-ND)
2-241	Q2c	CH_2CF_3	
2-242	Q2c	CF_2CF_3	
2-243	Q2c	$\text{CH}_2\text{CH}=\text{CH}_2$	
2-244	Q2c	$\text{CH}_2\text{C}\equiv\text{CH}$	
2-245	Q2c	C_3H_5	
2-246	Q2c	$\text{CH}_2\text{C}_6\text{H}_5$	
2-247	Q2c	CH_2OCH_3	
2-248	Q2c	$\text{CH}_2\text{OCH}_2\text{CH}_3$	
2-249	Q2c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{CH}_3$	
2-250	Q2c	$(\text{CH}_2)_2\text{OCH}_3$	
2-251	Q2c	$(\text{CH}_2)_3\text{OCH}_3$	
2-252	Q2c		
2-253	Q2c		
2-254	Q2c		
2-255	Q2c		
2-256	Q2c	$\text{CH}_2\text{OCH}_2\text{CF}_3$	
2-257	Q2c	$\text{CH}_2\text{OCF}_2\text{CHF}_2$	
2-258	Q2c	$\text{CH}_2\text{OCH}_2\text{CF}_2\text{CF}_3$	
2-259	Q2c	$\text{CH}_2\text{OCH}_2\text{CH}=\text{CH}_2$	
2-260	Q2c	$\text{CH}_2\text{OCH}_2\text{CH}=\text{CCl}_2$	

compuesto número	Q	R1	propiedad física (punto de fusión-ND)
2-261	Q2c	$\text{CH}_2\text{OCH}_2\text{CF}=\text{CF}_2$	
2-262	Q2c	$\text{CH}_2\text{OC}_2\text{C}\equiv\text{CH}$	
2-263	Q2c	$\text{CH}_2\text{OCH}_2\text{C}\equiv\text{CCH}_3$	
2-264	Q2c	CH_2SCH_3	
2-265	Q2c	$\text{CH}_2\text{SCH}_2\text{CH}_3$	
2-266	Q2c	$\text{CH}_2\text{S}(\text{CH}_2)_2\text{CH}_3$	
2-267	Q2c		
2-268	Q2c		
2-269	Q2c		
2-270	Q2c		
2-271	Q2c	$\text{CH}_2\text{SCH}_2\text{CF}_3$	
2-272	Q2c	$\text{CH}_2\text{SCH}_2\text{CH}=\text{CH}_2$	
2-273	Q2c	$\text{CH}_2\text{SCH}_2\text{C}\equiv\text{CH}$	
2-274	Q2c	CH_2SOCH_3	
2-275	Q2c	$\text{CH}_2\text{SOCH}_2\text{CH}_3$	
2-276	Q2c	$\text{CH}_2\text{SO}(\text{CH}_2)_2\text{CH}_3$	
2-277	Q2c		
2-278	Q2c		
2-279	Q2c		
2-280	Q2c		

366

Tabla 34

compuesto número	Q	R1	propiedad física (punto de fusión-ND)
2-261	Q2c	$\text{CH}_2\text{SOCH}_2\text{CF}_3$	
2-262	Q2c	$\text{CH}_2\text{SOCH}_2\text{CH}=\text{CH}_2$	
2-263	Q2c	$\text{CH}_2\text{SOCH}_2\text{C}\equiv\text{CH}$	
2-264	Q2c	$\text{CH}_2\text{SO}_2\text{CH}_3$	
2-265	Q2c	$\text{CH}_2\text{SO}_2\text{CH}_2\text{CH}_3$	
2-266	Q2c	$\text{CH}_2\text{SO}_2(\text{CH}_2)_2\text{CH}_3$	
2-267	Q2c		
2-268	Q2c		
2-269	Q2c		
2-269	Q2c		
2-291	Q2c	$\text{CH}_2\text{SO}_2\text{CH}_2\text{CF}_3$	
2-292	Q2c	$\text{CH}_2\text{SO}_2\text{CH}_2\text{CH}=\text{CH}_2$	
2-293	Q2c	$\text{CH}_2\text{SO}_2\text{CH}_2\text{C}\equiv\text{CH}$	
2-294	Q2c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_3$	
2-295	Q2c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2\text{CH}_3$	
2-296	Q2c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2-\triangle$	
2-297	Q2c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2\text{CF}_3$	
2-298	Q2c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2\text{CH}=\text{CH}_2$	
2-299	Q2c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2\text{C}\equiv\text{CH}$	
2-300	Q2c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_3$	

compuesto número	Q	R1	propiedad física (punto de fusión-ND)
2-301	Q2c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2-\triangle$	
2-302	Q2c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2\text{CF}_3$	
2-303	Q2c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2\text{CH}=\text{CH}_2$	
2-304	Q2c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2\text{C}\equiv\text{CH}$	
2-305	Q2c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_3$	
2-306	Q2c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2-\triangle$	
2-307	Q2c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2\text{CF}_3$	
2-308	Q2c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2\text{CH}=\text{CH}_2$	
2-309	Q2c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2\text{C}\equiv\text{CH}$	
2-310	Q2c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_3$	
2-311	Q2c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2-\triangle$	
2-312	Q2c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{CF}_3$	
2-313	Q2c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{CH}=\text{CH}_2$	
2-314	Q2c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{C}\equiv\text{CH}$	
2-315	Q2c		
2-316	Q2c		
2-317	Q2c		
2-318	Q2c		
2-319	Q2c		
2-320	Q2c		

Tabla 36

compuesto número	Q	R1	propiedad física (punto de fusión-TID)
2-361	Q2d	CH ₂ OCH ₃	
2-362	Q2d	CH ₂ OCH ₂ CH ₃	
2-363	Q2d	CH ₂ O(CH ₂) ₂ CH ₃	
2-364	Q2d	(CH ₂) ₂ OCH ₃	
2-365	Q2d	(CH ₂) ₃ OCH ₃	
2-366	Q2d		
2-367	Q2d		
2-368	Q2d		
2-369	Q2d		
2-370	Q2d	CH ₂ OCH ₂ CF ₃	
2-371	Q2d	CH ₂ OCF ₂ CHF ₂	
2-372	Q2d	CH ₂ OCH ₂ CF ₂ CF ₃	
2-373	Q2d	CH ₂ OCH ₂ CH=CH ₂	
2-374	Q2d	CH ₂ OCH ₂ CH=CCl ₂	
2-375	Q2d	CH ₂ OCH ₂ CF=CF ₂	
2-376	Q2d	CH ₂ OC ₂ C≡CH	
2-377	Q2d	CH ₂ OCH ₂ C≡CCH ₃	
2-378	Q2d	CH ₂ SCH ₃	
2-379	Q2d	CH ₂ SCH ₂ CH ₃	
2-380	Q2d	CH ₂ S(CH ₂) ₂ CH ₃	

compuesto número	Q	R1	propiedad física (punto de fusión-TID)
2-381	Q2d		
2-382	Q2d		
2-383	Q2d		
2-384	Q2d		
2-385	Q2d	CH ₂ SCH ₂ CF ₃	
2-386	Q2d	CH ₂ SCH ₂ CH=CH ₂	
2-387	Q2d	CH ₂ SCH ₂ C≡CH	
2-388	Q2d	CH ₂ SOCH ₃	
2-389	Q2d	CH ₂ SOCH ₂ CH ₃	
2-390	Q2d	CH ₂ SO(CH ₂) ₂ CH ₃	
2-391	Q2d		
2-392	Q2d		
2-393	Q2d		
2-394	Q2d		
2-395	Q2d	CH ₂ SOCH ₂ CF ₃	
2-396	Q2d	CH ₂ SOCH ₂ CH=CH ₂	
2-397	Q2d	CH ₂ SOCH ₂ C≡CH	
2-398	Q2d	CH ₂ SO ₂ CH ₃	
2-399	Q2d	CH ₂ SO ₂ CH ₂ CH ₃	
2-400	Q2d	CH ₂ SO ₂ (CH ₂) ₂ CH ₃	

Tabla 37

compuesto número	Q	R1	propiedad física (punto de fusión-ND)
2-401	Q2d		
2-402	Q2d		
2-403	Q2d		
2-404	Q2d		
2-405	Q2d	$\text{CH}_2\text{SO}_2\text{CH}_2\text{CF}_3$	
2-406	Q2d	$\text{CH}_2\text{SO}_2\text{CH}_2\text{CH}=\text{CH}_2$	
2-407	Q2d	$\text{CH}_2\text{SO}_2\text{CH}_2\text{C}\equiv\text{CH}$	
2-408	Q2d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_3$	
2-409	Q2d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2\text{CH}_3$	
2-410	Q2d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2$	
2-411	Q2d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2\text{CF}_3$	
2-412	Q2d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2\text{CH}=\text{CH}_2$	
2-413	Q2d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2\text{C}\equiv\text{CH}$	
2-414	Q2d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_3$	
2-415	Q2d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2$	
2-416	Q2d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2\text{CF}_3$	
2-417	Q2d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2\text{CH}=\text{CH}_2$	
2-418	Q2d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2\text{C}\equiv\text{CH}$	
2-419	Q2d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_3$	
2-420	Q2d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2$	

compuesto número	Q	R1	propiedad física (punto de fusión-ND)
2-421	Q2d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2\text{CF}_3$	
2-422	Q2d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2\text{CH}=\text{CH}_2$	
2-423	Q2d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2\text{C}\equiv\text{CH}$	
2-424	Q2d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_3$	
2-425	Q2d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2$	
2-426	Q2d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{CF}_3$	
2-427	Q2d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{CH}=\text{CH}_2$	
2-428	Q2d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{C}\equiv\text{CH}$	
2-429	Q2d		
2-430	Q2d		
2-431	Q2d		
2-432	Q2d		
2-433	Q2d		
2-434	Q2d		
2-435	Q2d		
2-436	Q2d		
2-437	Q2d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NH}\text{SO}_2\text{CH}_3$	
2-438	Q2d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{N}(\text{CH}_3)(\text{SO}_2\text{CH}_3)$	
2-439	Q2d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NH}(\text{SO}_2\text{CH}_2$)	
2-440	Q2d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NH}\text{SO}_2\text{CF}_3$	

Tabla 38

compuesto número	Q	R1	propiedad física (punto de fusión-ND)
2-141	Q2d	<chem>CH2O(CH2)2NHCH2CHF2</chem>	
2-142	Q2d	<chem>CH2O(CH2)2NHCH2CH2CF3</chem>	
2-143	Q2d	<chem>SOCH3</chem>	
2-144	Q2d	<chem>SOCH3</chem>	
2-145	Q2d	<chem>SO2CH3</chem>	
2-146	Q2d	<chem>OCH3</chem>	
2-147	Q2d	<chem>OCH2CH3</chem>	
2-148	Q2d	<chem>O(CH2)2CH3</chem>	
2-149	Q2d	<chem>OCH2CF3</chem>	
2-150	Q2d	<chem>OCF2CF3</chem>	
2-151	Q2d	<chem>O(CH2)2OCH3</chem>	
2-152	Q2d	<chem>NHCH3</chem>	
2-153	Q2d	<chem>NHCH2CH3</chem>	
2-154	Q2d	<chem>N(CH3)2</chem>	
2-155	Q2d	<chem>N(CH2CH3)2</chem>	
2-156	Q2d	<chem>N(CH3)(CH2CH3)</chem>	
2-157	Q2e	<chem>CH3</chem>	
2-158	Q2i	<chem>CH2CH3</chem>	
2-159	Q2s	<chem>(CH2)2CH3</chem>	
2-160	Q2e		

compuesto número	Q	R1	propiedad física (punto de fusión-ND)
2-161	Q2i		
2-162	Q2e		
2-163	Q2e		
2-164	Q2e		
2-165	Q2e		
2-166	Q2e		
2-167	Q2e		
2-168	Q2i	<chem>CF3</chem>	
2-169	Q2s	<chem>CH2CF3</chem>	
2-170	Q2s	<chem>CF2CF3</chem>	
2-171	Q2s	<chem>CH2CH=CH2</chem>	
2-172	Q2s	<chem>CH2C#CH</chem>	
2-173	Q2i	<chem>C6H5</chem>	
2-174	Q2s	<chem>CH2C6H5</chem>	
2-175	Q2e	<chem>CH2OCH3</chem>	
2-176	Q2s	<chem>CH2OCH2CH3</chem>	
2-177	Q2e	<chem>CH2O(CH2)2CH3</chem>	
2-178	Q2s	<chem>(CH2)2OCH3</chem>	
2-179	Q2s	<chem>(CH2)3OCH3</chem>	
2-180	Q2e		

Tabla 39

compuesto número	Q	R1	propiedad física (punto de fusión-ND)
2-401	Q2s		
2-402	Q2s		
2-403	Q2s		
2-404	Q2s	CH ₂ OCH ₂ CF ₃	
2-405	Q2s		
2-406	Q2s	CH ₂ OCH ₂ CF ₂ CF ₃	
2-407	Q2s	CH ₂ OCH ₂ CH=CH ₂	
2-408	Q2s	CH ₂ OCH ₂ CH=CCl ₂	
2-409	Q2s	CH ₂ OCH ₂ CF=CF ₂	
2-410	Q2s	CH ₂ OC ₂ C≡CH	
2-411	Q2s	CH ₂ OCH ₂ C≡CCH ₃	
2-412	Q2s	CH ₂ SCH ₃	
2-413	Q2s	CH ₂ SCH ₂ CH ₃	
2-414	Q2s	CH ₂ S(CH ₂) ₂ CH ₃	
2-415	Q2s		
2-416	Q2s		
2-417	Q2s		
2-418	Q2s	CH ₂ SCH ₂ CF ₃	
2-500	Q2s	CH ₂ SCH ₂ CH=CH ₂	

compuesto número	Q	R1	propiedad física (punto de fusión-ND)
2-501	Q2s	CH ₂ SCH ₂ C≡CH	
2-502	Q2s	CH ₂ SOCH ₃	
2-503	Q2s	CH ₂ SOCH ₂ CH ₃	
2-504	Q2s	CH ₂ SO(CH ₂) ₂ CH ₃	
2-505	Q2s		
2-506	Q2s		
2-507	Q2s		
2-508	Q2s	CH ₂ SOCH ₂ CF ₃	
2-509	Q2s	CH ₂ SOCH ₂ C≡CH	
2-510	Q2s	CH ₂ SOCH ₂ CH=CH ₂	
2-511	Q2s	CH ₂ SOCH ₂ C≡CCH ₃	
2-512	Q2s	CH ₂ SO ₂ CH ₃	
2-513	Q2s	CH ₂ SO ₂ CH ₂ CH ₃	
2-514	Q2s	CH ₂ SO ₂ (CH ₂) ₂ CH ₃	
2-515	Q2s		
2-516	Q2s		
2-517	Q2s		
2-518	Q2s	CH ₂ SO ₂ CH ₂ CF ₃	
2-519	Q2s	CH ₂ SO ₂ CH ₂ C≡CH	
2-520	Q2s	CH ₂ SO ₂ CH ₂ CH=CH ₂	

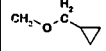
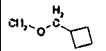
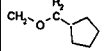
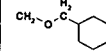
Tabla 40

compuesto número	Q	F.1	propiedad física (punto de fusión-ND)
2-521	Q23	$\text{CH}_2\text{SO}_2\text{CH}_2\text{C}\equiv\text{CH}$	
2-522	Q23	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_3$	
2-523	Q23	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2\text{CH}_3$	
2-524	Q23	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2-\triangle$	
2-525	Q23	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2\text{CF}_3$	
2-526	Q23	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2\text{CH}=\text{CH}_2$	
2-527	Q23	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2\text{C}\equiv\text{CH}$	
2-528	Q23	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_3$	
2-529	Q23	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2-\triangle$	
2-530	Q23	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2\text{CF}_3$	
2-531	Q23	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2\text{CH}=\text{CH}_2$	
2-532	Q23	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2\text{C}\equiv\text{CH}$	
2-533	Q23	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_3$	
2-534	Q23	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2-\triangle$	
2-535	Q23	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2\text{CF}_3$	
2-536	Q23	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2\text{CH}=\text{CH}_2$	
2-537	Q23	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2\text{C}\equiv\text{CH}$	
2-538	Q23	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_3$	
2-539	Q23	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2-\triangle$	
2-540	Q23	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{CF}_3$	

compuesto número	Q	F.1	propiedad física (punto de fusión-ND)
2-541	Q23	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{CH}=\text{CH}_2$	
2-542	Q23	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{C}\equiv\text{CH}$	
2-543	Q23		
2-544	Q23		
2-545	Q23		
2-546	Q23		
2-547	Q23		
2-548	Q23		
2-549	Q23		
2-550	Q23		
2-551	Q23	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NHSO}_2\text{CH}_3$	
2-552	Q23	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{N}(\text{CH}_3)(\text{SO}_2\text{CH}_3)$	
2-553	Q23	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NH}(\text{SO}_2\text{CH}_2-\triangle)$	
2-554	Q23	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NHSO}_2\text{CF}_3$	
2-555	Q23	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NHSO}_2\text{CHF}_3$	
2-556	Q23	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NHSO}_2\text{CH}_2\text{CF}_3$	
2-557	Q23	SCH_3	
2-558	Q23	SOCH_3	
2-559	Q23	SO_2CH_3	
2-560	Q23	OCH_3	

Tabla 41

compuesto número	Q	R1	propiedad física (punto de fusión-ND)
2-561	Q2g	OCH ₂ CH ₃	
2-562	Q2g	O(CH ₂) ₂ CH ₃	
2-563	Q2g	OCH ₂ CF ₃	
2-564	Q2g	OCF ₂ CF ₃	
2-565	Q2g	O(CH ₂) ₂ OCH ₃	
2-566	Q2g	NHCH ₃	
2-567	Q2g	NHCH ₂ CH ₃	
2-568	Q2g	N(CH ₃) ₂	
2-569	Q2g	N(CH ₂ CH ₃) ₂	
2-570	Q2g	N(CH ₃)(CH ₂ CH ₃)	
2-571	Q2f	CH ₃	
2-572	Q2f	CH ₂ CH ₃	
2-573	Q2f	(CH ₂) ₂ CH ₃	
2-574	Q2f		
2-575	Q2f		
2-576	Q2f		
2-577	Q2f		
2-578	Q2f		
2-579	Q2f		
2-580	Q2f		

compuesto número	Q	R1	propiedad física (punto de fusión-ND)
2-581	Q2f		
2-582	Q2f	CF ₃	
2-583	Q2f	CH ₂ CF ₃	
2-584	Q2f	CF ₂ CF ₃	
2-585	Q2f	CH ₂ CH=CH ₂	
2-586	Q2f	CH ₂ C≡CH	
2-587	Q2f	C ₆ H ₅	
2-588	Q2f	CH ₂ C ₃ H ₅	
2-589	Q2f	CH ₂ OCH ₃	
2-590	Q2f	CH ₂ OCH ₂ CH ₃	
2-591	Q2f	CH ₂ O(CH ₂) ₂ CH ₃	
2-592	Q2f	(CH ₂) ₂ OCH ₃	
2-593	Q2f	(CH ₂) ₃ OCH ₃	
2-594	Q2f		
2-595	Q2f		
2-596	Q2f		
2-597	Q2f		
2-598	Q2f	CH ₂ OCH ₂ CF ₃	
2-599	Q2f	CH ₂ OCF ₂ CHF ₂	
2-600	Q2f	CH ₂ OCH ₂ CF ₂ CF ₃	

374

Tabla 42

compuesto número	Q	R1	propiedad física (punto de fusión-ND)
2-601	Q2f	$\text{CH}_2\text{OCH}_2\text{CH}=\text{CH}_2$	
2-602	Q2f	$\text{CH}_2\text{OCH}_2\text{CH}=\text{CCl}_2$	
2-603	Q2f	$\text{CH}_2\text{OCH}_2\text{CF}=\text{CF}_2$	
2-604	Q2f	$\text{CH}_2\text{OC}_2\text{C}\equiv\text{CH}$	
2-605	Q2f	$\text{CH}_2\text{OCH}_2\text{C}\equiv\text{CCH}_3$	
2-606	Q2f	CH_2SCH_3	
2-607	Q2f	$\text{CH}_2\text{SCH}_2\text{CH}_3$	
2-608	Q2f	$\text{CH}_2\text{S}(\text{CH}_2)_2\text{CH}_3$	
2-609	Q2f		
2-610	Q2f		
2-611	Q2f		
2-612	Q2f		
2-613	Q2f	$\text{CH}_2\text{SCH}_2\text{CF}_3$	
2-614	Q2f	$\text{CH}_2\text{SCH}_2\text{CH}=\text{CH}_2$	
2-615	Q2f	$\text{CH}_2\text{SCH}_2\text{C}\equiv\text{CH}$	
2-616	Q2f	CH_2SOCH_3	
2-617	Q2f	$\text{CH}_2\text{SOCH}_2\text{CH}_3$	
2-618	Q2f	$\text{CH}_2\text{SO}(\text{CH}_2)_2\text{CH}_3$	
2-619	Q2f		
2-620	Q2f		

compuesto número	Q	R1	propiedad física (punto de fusión-ND)
2-621	Q2f		
2-622	Q2f		
2-623	Q2f	$\text{CH}_2\text{SOCH}_2\text{CF}_3$	
2-624	Q2f	$\text{CH}_2\text{SOCH}_2\text{CH}=\text{CH}_2$	
2-625	Q2f	$\text{CH}_2\text{SOCH}_2\text{C}\equiv\text{CH}$	
2-626	Q2f	$\text{CH}_2\text{SO}_2\text{CH}_3$	
2-627	Q2f	$\text{CH}_2\text{SO}_2\text{CH}_2\text{CH}_3$	
2-628	Q2f	$\text{CH}_2\text{SO}_2(\text{CH}_2)_2\text{CH}_3$	
2-629	Q2f		
2-630	Q2f		
2-631	Q2f		
2-632	Q2f		
2-633	Q2f	$\text{CH}_2\text{SO}_2\text{CH}_2\text{CF}_3$	
2-634	Q2f	$\text{CH}_2\text{SO}_2\text{CH}_2\text{CH}=\text{CH}_2$	
2-635	Q2f	$\text{CH}_2\text{SO}_2\text{CH}_2\text{C}\equiv\text{CH}$	
2-636	Q2f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_3$	
2-637	Q2f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2\text{CH}_3$	
2-638	Q2f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2-\triangle$	
2-639	Q2f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2\text{CF}_3$	
2-640	Q2f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2\text{CH}=\text{CH}_2$	

375

Tabla 43

compuesto número	Q	R1	propiedad física (punto de fusión-ND)
2-641	Q2f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2\text{C}\equiv\text{CH}$	
2-642	Q2f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_3$	
2-643	Q2f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2-\triangle$	
2-644	Q2f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2\text{CF}_3$	
2-645	Q2f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2\text{CH}=\text{CH}_2$	
2-646	Q2f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2\text{C}\equiv\text{CH}$	
2-647	Q2f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_3$	
2-648	Q2f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2-\triangle$	
2-649	Q2f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2\text{CF}_3$	
2-650	Q2f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2\text{CH}=\text{CH}_2$	
2-651	Q2f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2\text{C}\equiv\text{CH}$	
2-652	Q2f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_3$	
2-653	Q2f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2-\triangle$	
2-654	Q2f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{CF}_3$	
2-655	Q2f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{CH}=\text{CH}_2$	
2-656	Q2f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{C}\equiv\text{CH}$	
2-657	Q2f		
2-658	Q2f		
2-659	Q2f		
2-660	Q2f		

compuesto número	Q	R1	propiedad física (punto de fusión-ND)
2-661	Q2f		
2-662	Q2f		
2-663	Q2f		
2-664	Q2f		
2-665	Q2f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NHSO}_2\text{CH}_3$	
2-666	Q2f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{N}(\text{CH}_3)(\text{SO}_2\text{CH}_3)$	
2-667	Q2f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NH}(\text{SO}_2\text{CH}_2-\triangle)$	
2-668	Q2f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NHSO}_2\text{CF}_3$	
2-669	Q2f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NHSO}_2\text{CHF}_2$	
2-670	Q2f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NHSO}_2\text{CH}_2\text{CF}_3$	
2-671	Q2f	SCH_3	
2-672	Q2f	SOCH_3	
2-673	Q2f	SO_2CH_3	
2-674	Q2f	OCH_3	
2-675	Q2f	OCH_2CH_3	
2-676	Q2f	$\text{O}(\text{CH}_2)_2\text{CH}_3$	
2-677	Q2f	OCH_2CF_3	
2-678	Q2f	OCF_2CF_3	
2-679	Q2f	$\text{O}(\text{CH}_2)_2\text{OCH}_3$	
2-680	Q2f	NHCH_3	

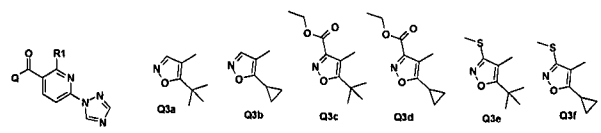
376

Tabla 44

compuesto número	Q	R1	propiedad física (punto de fusión-ND)
2-601	Q2f	NHCH_2CH_3	
2-602	Q2f	$\text{N}(\text{CH}_3)_2$	
2-603	Q2f	$\text{N}(\text{CH}_2\text{CH}_3)_2$	
2-604	Q2f	$\text{N}(\text{CH}_3)(\text{CH}_2\text{CH}_3)$	

387

Tabla 45



compuesto número	Q	R1	propiedad física (punto de fusión-ND)
3-1	Q3a	CH ₃	
3-2	Q3a	CH ₂ CH ₃	
3-3	Q3a	(CH ₂) ₂ CH ₃	
3-4	Q3a		
3-5	Q3a		
3-6	Q3a		
3-7	Q3a		
3-8	Q3a		
3-9	Q3a		
3-10	Q3a		
3-11	Q3a		
3-12	Q3a	CF ₃	
3-13	Q3a	CH ₂ CF ₃	
3-14	Q3a	CF ₂ CF ₃	
3-15	Q3a	CH ₂ CH=CH ₂	
3-16	Q3a	CH ₂ C≡CH	
3-17	Q3a	C ₆ H ₅	
3-18	Q3a	CH ₂ C ₆ H ₅	
3-19	Q3a	CH ₂ OCH ₃	
3-20	Q3a	CH ₂ OCH ₂ CH ₃	

compuesto número	Q	R1	propiedad física (punto de fusión-ND)
3-21	Q3a	CH ₂ O(CH ₂) ₂ CH ₃	
3-22	Q3a	(CH ₂) ₂ OCH ₃	
3-23	Q3a	(CH ₂) ₃ OCH ₃	
3-24	Q3a		
3-25	Q3a		
3-26	Q3a		
3-27	Q3a		
3-28	Q3a	CH ₂ OCH ₂ CF ₃	
3-29	Q3a	CH ₂ OCF ₂ CHF ₂	
3-30	Q3a	CH ₂ OCH ₂ CF ₂ CF ₃	
3-31	Q3a	CH ₂ OCH ₂ CH=CH ₂	
3-32	Q3a	CH ₂ OCH ₂ CH=CCl ₂	
3-33	Q3a	CH ₂ OCH ₂ CF=CF ₂	
3-34	Q3a	CH ₂ OC ₂ C≡CH	
3-35	Q3a	CH ₂ OCH ₂ C≡CCH ₃	
3-36	Q3a	CH ₂ SCH ₃	
3-37	Q3a	CH ₂ SCH ₂ CH ₃	
3-38	Q3a	CH ₂ S(CH ₂) ₂ CH ₃	
3-39	Q3a		
3-40	Q3a		

Tabla 46

compuesto número	Q	R1	propiedad física (punto de fusión-ND)
3-41	Q3a		
3-42	Q3a		
3-43	Q3a	$\text{CH}_2\text{SCH}_2\text{CF}_3$	
3-44	Q3a	$\text{CH}_2\text{SCH}_2\text{CH}=\text{CH}_2$	
3-45	Q3a	$\text{CH}_2\text{SCH}_2\text{C}\equiv\text{CH}$	
3-46	Q3a	CH_2SOCH_3	
3-47	Q3a	$\text{CH}_2\text{SOCH}_2\text{CH}_3$	
3-48	Q3a	$\text{CH}_2\text{SO}(\text{CH}_2)_2\text{CH}_3$	
3-49	Q3a		
3-50	Q3a		
3-51	Q3a		
3-52	Q3a		
3-53	Q3a	$\text{CH}_2\text{SOCH}_2\text{CF}_3$	
3-54	Q3a	$\text{CH}_2\text{SOCH}_2\text{CH}=\text{CH}_2$	
3-55	Q3a	$\text{CH}_2\text{SOCH}_2\text{C}\equiv\text{CH}$	
3-56	Q3a	$\text{CH}_2\text{SO}_2\text{CH}_3$	
3-57	Q3a	$\text{CH}_2\text{SO}_2\text{CH}_2\text{CH}_3$	
3-58	Q3a	$\text{CH}_2\text{SO}_2(\text{CH}_2)_2\text{CH}_3$	
3-59	Q3a		
3-60	Q3a		

compuesto número	Q	R1	propiedad física (punto de fusión-ND)
3-61	Q3a		
3-62	Q3a		
3-63	Q3a	$\text{CH}_2\text{SO}_2\text{CH}_2\text{CF}_3$	
3-64	Q3a	$\text{CH}_2\text{SO}_2\text{CH}_2\text{CH}=\text{CH}_2$	
3-65	Q3a	$\text{CH}_2\text{SO}_2\text{CH}_2\text{C}\equiv\text{CH}$	
3-66	Q3a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_3$	
3-67	Q3a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2\text{CH}_3$	
3-68	Q3a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2-\triangle$	
3-69	Q3a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2\text{CF}_3$	
3-70	Q3a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2\text{CH}=\text{CH}_2$	
3-71	Q3a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2\text{C}\equiv\text{CH}$	
3-72	Q3a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_3$	
3-73	Q3a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2-\triangle$	
3-74	Q3a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2\text{CF}_3$	
3-75	Q3a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2\text{CH}=\text{CH}_2$	
3-76	Q3a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2\text{C}\equiv\text{CH}$	
3-77	Q3a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_3$	
3-78	Q3a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2-\triangle$	
3-79	Q3a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2\text{CF}_3$	
3-80	Q3a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2\text{CH}=\text{CH}_2$	

Tabla 47

compuesto número	Q	R1	propiedad física (punto de fusión-ND)
3-81	Q3a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2\text{C}\equiv\text{CH}$	
3-82	Q3a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_3$	
3-83	Q3a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2$ 	
3-84	Q3a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{CF}_3$	
3-85	Q3a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{CH}=\text{CH}_2$	
3-86	Q3a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{C}\equiv\text{CH}$	
3-87	Q3a		
3-88	Q3a		
3-89	Q3a		
3-90	Q3a		
3-91	Q3a		
3-92	Q3a		
3-93	Q3a		
3-94	Q3a		
3-95	Q3a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NH}\text{SO}_2\text{CH}_3$	
3-96	Q3a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{N}(\text{CH}_3)(\text{SO}_2\text{CH}_3)$	
3-97	Q3a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NH}(\text{SO}_2\text{CH}_2$ )	
3-98	Q3a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NH}\text{SO}_2\text{CF}_3$	
3-99	Q3a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NH}\text{SO}_2\text{CHF}_2$	
3-100	Q3a	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NH}\text{SO}_2\text{CH}_2\text{CF}_3$	

compuesto número	Q	R1	propiedad física (punto de fusión-ND)
3-101	Q3a	SCH_3	
3-102	Q3a	SOCH_3	
3-103	Q3a	SO_2CH_3	
3-104	Q3a	OCH_3	
3-105	Q3a	OCH_2CH_3	
3-106	Q3a	$\text{O}(\text{CH}_2)_2\text{CH}_3$	
3-107	Q3a	OCH_2CF_3	
3-108	Q3a	OCF_2CF_3	
3-109	Q3a	$\text{O}(\text{CH}_2)_2\text{OCH}_3$	
3-110	Q3a	NHCH_3	
3-111	Q3a	NHCH_2CH_3	
3-112	Q3a	$\text{N}(\text{CH}_3)_2$	
3-113	Q3a	$\text{N}(\text{CH}_2\text{CH}_3)_2$	
3-114	Q3a	$\text{N}(\text{CH}_3)(\text{CH}_2\text{CH}_3)$	
3-115	Q3b	CH_3	RMN
3-116	Q3b	CH_2CH_3	
3-117	Q3b	$(\text{CH}_2)_2\text{CH}_3$	
3-118	Q3b		
3-119	Q3b		
3-120	Q3b		

Tabla 48

compuesto número	Q	R1	propiedad física (punto de fusión-ND)
3-121	Q3b		
3-122	Q3b		
3-123	Q3b		
3-124	Q3b		
3-125	Q3b		
3-126	Q3b	CF ₃	
3-127	Q3b	CH ₂ CF ₃	
3-128	Q3b	CF ₂ CF ₃	
3-129	Q3b	CH ₂ CH=CH ₂	
3-130	Q3b	CH ₂ C≡CH	
3-131	Q3b	C ₆ H ₅	
3-132	Q3b	CH ₂ C ₆ H ₅	
3-133	Q3b	CH ₂ OCH ₃	
3-134	Q3b	CH ₂ OCH ₂ CH ₃	
3-135	Q3b	CH ₂ O(CH ₂) ₂ CH ₃	
3-136	Q3b	(CH ₂) ₂ OCH ₃	
3-137	Q3b	(CH ₂) ₃ OCH ₃	
3-138	Q3b		
3-139	Q3b		
3-140	Q3b		

compuesto número	Q	R1	propiedad física (punto de fusión-ND)
3-141	Q3b		
3-142	Q3b	CH ₂ OCH ₂ CF ₃	
3-143	Q3b	CH ₂ OCF ₂ CHF ₂	
3-144	Q3b	CH ₂ OCH ₂ CF ₂ CF ₃	
3-145	Q3b	CH ₂ OCH ₂ CH=CH ₂	
3-146	Q3b	CH ₂ OCH ₂ CH=CCl ₂	
3-147	Q3b	CH ₂ OCH ₂ CF=CF ₂	
3-148	Q3b	CH ₂ OC ₂ C≡CH	
3-149	Q3b	CH ₂ OCH ₂ C≡CCH ₃	
3-150	Q3b	CH ₂ SCH ₃	
3-151	Q3b	CH ₂ SCH ₂ CH ₃	
3-152	Q3b	CH ₂ S(CH ₂) ₂ CH ₃	
3-153	Q3b		
3-154	Q3b		
3-155	Q3b		
3-156	Q3b		
3-157	Q3b	CH ₂ SCH ₂ CF ₃	
3-158	Q3b	CH ₂ SCH ₂ CH=CH ₂	
3-159	Q3b	CH ₂ SCH ₂ C≡CH	
3-160	Q3b	CH ₂ SOCH ₃	

Tabla 49

compuesto número	Q	R1	propiedad física (punto de fusión-ND)
3-161	Q3b	$\text{CH}_2\text{SOCH}_2\text{CH}_3$	
3-162	Q3b	$\text{CH}_2\text{SO}(\text{CH}_2)_2\text{CH}_3$	
3-163	Q3b		
3-164	Q3b		
3-165	Q3b		
3-166	Q3b		
3-167	Q3b	$\text{CH}_2\text{SOCH}_2\text{CF}_3$	
3-168	Q3b	$\text{CH}_2\text{SOCH}_2\text{CH}=\text{CH}_2$	
3-169	Q3b	$\text{CH}_2\text{SOCH}_2\text{C}\equiv\text{CH}$	
3-170	Q3b	$\text{CH}_2\text{SO}_2\text{CH}_3$	
3-171	Q3b	$\text{CH}_2\text{SO}_2\text{CH}_2\text{CH}_3$	
3-172	Q3b	$\text{CH}_2\text{SO}_2(\text{CH}_2)_2\text{CH}_3$	
3-173	Q3b		
3-174	Q3b		
3-175	Q3b		
3-176	Q3b		
3-177	Q3b	$\text{CH}_2\text{SO}_2\text{CH}_2\text{CF}_3$	
3-178	Q3b	$\text{CH}_2\text{SO}_2\text{CH}_2\text{CH}=\text{CH}_2$	
3-179	Q3b	$\text{CH}_2\text{SO}_2\text{CH}_2\text{C}\equiv\text{CH}$	
3-180	Q3b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_3$	

compuesto número	Q	R1	propiedad física (punto de fusión-ND)
3-181	Q3b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2\text{CH}_3$	
3-182	Q3b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2$ 	
3-183	Q3b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2\text{CF}_3$	
3-184	Q3b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2\text{CH}=\text{CH}_2$	
3-185	Q3b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2\text{C}\equiv\text{CH}$	
3-186	Q3b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_3$	
3-187	Q3b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2$ 	
3-188	Q3b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2\text{CF}_3$	
3-189	Q3b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2\text{CH}=\text{CH}_2$	
3-190	Q3b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2\text{C}\equiv\text{CH}$	
3-191	Q3b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_3$	
3-192	Q3b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2$ 	
3-193	Q3b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2\text{CF}_3$	
3-194	Q3b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2\text{CH}=\text{CH}_2$	
3-195	Q3b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2\text{C}\equiv\text{CH}$	
3-196	Q3b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_3$	
3-197	Q3b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2$ 	
3-198	Q3b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{CF}_3$	
3-199	Q3b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{CH}=\text{CH}_2$	
3-200	Q3b	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{C}\equiv\text{CH}$	

382

Tabla 50

compuesto número	Q	P1	propiedad física (punto de fusión-ND)	compuesto número	Q	P1	propiedad física (punto de fusión-ND)
3-201	Q3b			3-221	Q3b	OCH2CF3	
3-202	Q3b			3-222	Q3b	OCF2CF3	
3-203	Q3b			3-223	Q3b	O(CH2)2OCH3	
3-204	Q3b			3-224	Q3b	NHCH3	
3-205	Q3b			3-225	Q3b	NHCH2CH3	
3-206	Q3b			3-226	Q3b	N(CH3)2	
3-207	Q3b			3-227	Q3b	N(CH2CH3)2	
3-208	Q3b			3-228	Q3b	N(CH3)(CH2CH3)	
3-209	Q3b	CH2O(CH2)2NHHSO2CH3		3-229	Q3c	CH3	
3-210	Q3b	CH2O(CH2)2N(CH3)(SO2CH3)		3-230	Q3c	CH2CH3	
3-211	Q3b	CH2O(CH2)2NH(SO2CH2-Δ)		3-231	Q3c	(CH2)2CH3	
3-212	Q3b	CH2O(CH2)2NHHSO2CF3		3-232	Q3c		
3-213	Q3b	CH2O(CH2)2NHHSO2CHF2		3-233	Q3c		
3-214	Q3b	CH2O(CH2)2NHHSO2CH2CF3		3-234	Q3c		
3-215	Q3b	SCH3		3-235	Q3c		
3-216	Q3b	SOCH3		3-236	Q3c		
3-217	Q3b	SO2CH3		3-237	Q3c		
3-218	Q3b	OCH3		3-238	Q3c		
3-219	Q3b	OCH2CH3		3-239	Q3c		
3-220	Q3b	O(CH2)2CH3		3-240	Q3c	CF3	

Tabla 51

compuesto número	Q	R1	propiedad física (punto de fusión-ND)
3-241	Q3c	CH ₂ CF ₃	
3-242	Q3c	CF ₂ CF ₃	
3-243	Q3c	CH ₂ CH=CH ₂	
3-244	Q3c	CH ₂ C≡CH	
3-245	Q3c	C ₃ H ₆	
3-246	Q3c	CH ₂ C ₃ H ₅	
3-247	Q3c	CH ₂ OCH ₃	
3-248	Q3c	CH ₂ OCH ₂ CH ₃	
3-249	Q3c	CH ₂ O(CH ₂) ₂ CH ₃	
3-250	Q3c	(CH ₂) ₂ OCH ₃	
3-251	Q3c	(CH ₂) ₃ OCH ₃	
3-252	Q3c		
3-253	Q3c		
3-254	Q3c		
3-255	Q3c		
3-256	Q3c	CH ₂ OCH ₂ CF ₃	
3-257	Q3c	CH ₂ OCF ₂ CHF ₂	
3-258	Q3c	CH ₂ OCH ₂ CF ₂ CF ₃	
3-259	Q3c	CH ₂ OCH ₂ CH=CH ₂	
3-260	Q3c	CH ₂ OCH ₂ CH=CCl ₂	

compuesto número	Q	R1	propiedad física (punto de fusión-ND)
3-261	Q3c	CH ₂ OCH ₂ CF=CF ₂	
3-262	Q3c	CH ₂ OC ₂ C=CH	
3-263	Q3c	CH ₂ OCH ₂ C≡CCH ₃	
3-264	Q3c	CH ₂ SCH ₃	
3-265	Q3c	CH ₂ SCH ₂ CH ₃	
3-266	Q3c	CH ₂ S(CH ₂) ₂ CH ₃	
3-267	Q3c		
3-268	Q3c		
3-269	Q3c		
3-270	Q3c		
3-271	Q3c	CH ₂ SCH ₂ CF ₃	
3-272	Q3c	CH ₂ SCH ₂ CH=CH ₂	
3-273	Q3c	CH ₂ SCH ₂ C=CH	
3-274	Q3c	CH ₂ SOCH ₃	
3-275	Q3c	CH ₂ SOCH ₂ CH ₃	
3-276	Q3c	CH ₂ SO(CH ₂) ₂ CH ₃	
3-277	Q3c		
3-278	Q3c		
3-279	Q3c		
3-280	Q3c		

Tabla 52

compuesto número	Q	R1	propiedad física (punto de fusión-ND)
3-261	Q3c	CH ₂ SOCH ₂ CF ₃	
3-262	Q3c	CH ₂ SOCH ₂ CH=CH ₂	
3-263	Q3c	CH ₂ SOCH ₂ C≡CH	
3-264	Q3c	CH ₂ SO ₂ CH ₃	
3-265	Q3c	CH ₂ SO ₂ CH ₂ CH ₃	
3-266	Q3c	CH ₂ SO ₂ (CH ₂) ₂ CH ₃	
3-267	Q3c		
3-268	Q3c		
3-269	Q3c		
3-270	Q3c		
3-291	Q3c	CH ₂ SO ₂ CH ₂ CF ₃	
3-292	Q3c	CH ₂ SO ₂ CH ₂ CH=CH ₂	
3-293	Q3c	CH ₂ SO ₂ CH ₂ C≡CH	
3-294	Q3c	CH ₂ O(CH ₂) ₂ OCH ₃	
3-295	Q3c	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	
3-296	Q3c	CH ₂ O(CH ₂) ₂ OCH ₂ - 	
3-297	Q3c	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
3-298	Q3c	CH ₂ O(CH ₂) ₂ OCH ₂ CH=CH ₂	
3-299	Q3c	CH ₂ O(CH ₂) ₂ OCH ₂ C≡CH	
3-300	Q3c	CH ₂ O(CH ₂) ₂ SCH ₃	

compuesto número	Q	R1	propiedad física (punto de fusión-ND)
3-301	Q3c	CH ₂ O(CH ₂) ₂ SCH ₂ - 	
3-302	Q3c	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃	
3-303	Q3c	CH ₂ O(CH ₂) ₂ SCH ₂ CH=CH ₂	
3-304	Q3c	CH ₂ O(CH ₂) ₂ SCH ₂ C≡CH	
3-305	Q3c	CH ₂ O(CH ₂) ₂ SOCH ₃	
3-306	Q3c	CH ₂ O(CH ₂) ₂ SOCH ₂ - 	
3-307	Q3c	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
3-308	Q3c	CH ₂ O(CH ₂) ₂ SOCH ₂ CH=CH ₂	
3-309	Q3c	CH ₂ O(CH ₂) ₂ SOCH ₂ C≡CH	
3-310	Q3c	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
3-311	Q3c	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ - 	
3-312	Q3c	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
3-313	Q3c	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CH=CH ₂	
3-314	Q3c	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ C≡CH	
3-315	Q3c		
3-316	Q3c		
3-317	Q3c		
3-318	Q3c		
3-319	Q3c		
3-320	Q3c		

Tabla 53

compuesto número	Q	R1	propiedad física (punto de fusión-ND)
3-321	Q3c		
3-322	Q3c		
3-323	Q3c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NH}\text{SO}_2\text{CH}_3$	
3-324	Q3c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{N}(\text{CH}_3)(\text{SO}_2\text{CH}_3)$	
3-325	Q3c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NH}(\text{SO}_2\text{CH}_2 \quad \triangle)$	
3-326	Q3c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NH}\text{SO}_2\text{CF}_3$	
3-327	Q3c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NH}\text{SO}_2\text{CHF}_2$	
3-328	Q3c	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NH}\text{SO}_2\text{CH}_2\text{CF}_3$	
3-329	Q3c	SCH_3	
3-330	Q3c	SOCH_3	
3-331	Q3c	SO_2CH_3	
3-332	Q3c	OCH_3	
3-333	Q3c	OCH_2CH_3	
3-334	Q3c	$\text{O}(\text{CH}_2)_2\text{CH}_3$	
3-335	Q3c	OCH_2CF_3	
3-336	Q3c	OCF_2CF_3	
3-337	Q3c	$\text{O}(\text{CH}_2)_2\text{OCH}_3$	
3-338	Q3c	NHCH_3	
3-339	Q3c	NHCH_2CH_3	
3-340	Q3c	$\text{N}(\text{CH}_3)_2$	

compuesto número	Q	P1	propiedad física (punto de fusión-ND)
3-341	Q3c	$N(CH_2CH_3)_2$	
3-342	Q3c	$N(CH_3)(CH_2CH_3)$	
3-343	Q3d	CH_3	RMN
3-344	Q3d	CH_2CH_3	
3-345	Q3d	$(CH_2)_2CH_3$	
3-346	Q3d		
3-347	Q3d		
3-348	Q3d		
3-349	Q3d		
3-350	Q3d		
3-351	Q3d		
3-352	Q3d		
3-353	Q3d		
3-354	Q3d	CF_3	
3-355	Q3d	CH_2CF_3	
3-356	Q3d	CF_2CF_3	
3-357	Q3d	$CH_2CH=CH_2$	
3-358	Q3d	$CH_2C=CH$	
3-359	Q3d	C_6H_6	
3-360	Q3d	$CH_2C_6H_5$	

Tabla 54

compuesto número	Q	R1	propiedad física (punto de fusión-ND)
3-361	Q3d	CH ₂ OCH ₃	
3-362	Q3d	CH ₂ OCH ₂ CH ₃	
3-363	Q3d	CH ₂ O(CH ₂) ₂ CH ₃	
3-364	Q3d	(CH ₂) ₂ OCH ₃	
3-365	Q3d	(CH ₂) ₃ OCH ₃	
3-366	Q3d		
3-367	Q3d		
3-368	Q3d		
3-369	Q3d		
3-370	Q3d	CH ₂ OCH ₂ CF ₃	
3-371	Q3d	CH ₂ OCF ₂ CHF ₂	
3-372	Q3d	CH ₂ OCH ₂ CF ₂ CF ₃	
3-373	Q3d	CH ₂ OCH ₂ CH=CH ₂	
3-374	Q3d	CH ₂ OCH ₂ CH=CCl ₂	
3-375	Q3d	CH ₂ OCH ₂ CF=CF ₂	
3-376	Q3d	CH ₂ OC ₂ C≡CH	
3-377	Q3d	CH ₂ OCH ₂ C≡CCH ₃	
3-378	Q3d	CH ₂ SCH ₃	
3-379	Q3d	CH ₂ SCH ₂ CH ₃	
3-380	Q3d	CH ₂ S(CH ₂) ₂ CH ₃	

compuesto número	Q	R1	propiedad física (punto de fusión-ND)
3-381	Q3d		
3-382	Q3d		
3-383	Q3d		
3-384	Q3d		
3-385	Q3d	CH ₂ SCH ₂ CF ₃	
3-386	Q3d	CH ₂ SCH ₂ CH=CH ₂	
3-387	Q3d	CH ₂ SCH ₂ C≡CH	
3-388	Q3d	CH ₂ SOCH ₃	
3-389	Q3d	CH ₂ SOCH ₂ CH ₃	
3-390	Q3d	CH ₂ SO(CH ₂) ₂ CH ₃	
3-391	Q3d		
3-392	Q3d		
3-393	Q3d		
3-394	Q3d		
3-395	Q3d	CH ₂ SOCH ₂ CF ₃	
3-396	Q3d	CH ₂ SOCH ₂ CH=CH ₂	
3-397	Q3d	CH ₂ SOCH ₂ C≡CH	
3-398	Q3d	CH ₂ SO ₂ CH ₃	
3-399	Q3d	CH ₂ SO ₂ CH ₂ CH ₃	
3-400	Q3d	CH ₂ SO ₂ (CH ₂) ₂ CH ₃	

Tabla 55

compuesto número	Q	R1	propiedad física (punto de fusión-ND)
3-101	Q3d		
3-102	Q3d		
3-103	Q3d		
3-104	Q3d		
3-105	Q3d	$\text{CH}_2\text{SO}_2\text{CH}_2\text{CF}_3$	
3-106	Q3d	$\text{CH}_2\text{SO}_2\text{CH}_2\text{CH}=\text{CH}_2$	
3-107	Q3d	$\text{CH}_2\text{SO}_2\text{CH}_2\text{C}\equiv\text{CH}$	
3-108	Q3d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_3$	
3-109	Q3d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2\text{CH}_3$	
3-110	Q3d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2$	
3-111	Q3d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2\text{CF}_3$	
3-112	Q3d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2\text{CH}=\text{CH}_2$	
3-113	Q3d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2\text{C}\equiv\text{CH}$	
3-114	Q3d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_3$	
3-115	Q3d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2$	
3-116	Q3d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2\text{CF}_3$	
3-117	Q3d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2\text{CH}=\text{CH}_2$	
3-118	Q3d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2\text{C}\equiv\text{CH}$	
3-119	Q3d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_3$	
3-120	Q3d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2$	

compuesto número	Q	R1	propiedad física (punto de fusión-ND)
3-121	Q3d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2\text{CF}_3$	
3-122	Q3d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2\text{CH}=\text{CH}_2$	
3-123	Q3d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2\text{C}\equiv\text{CH}$	
3-124	Q3d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_3$	
3-125	Q3d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2$	
3-126	Q3d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{CF}_3$	
3-127	Q3d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{CH}=\text{CH}_2$	
3-128	Q3d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{C}\equiv\text{CH}$	
3-129	Q3d		
3-130	Q3d		
3-131	Q3d		
3-132	Q3d		
3-133	Q3d		
3-134	Q3d		
3-135	Q3d		
3-136	Q3d		
3-137	Q3d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NH}\text{SO}_2\text{CH}_3$	
3-138	Q3d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{N}(\text{CH}_3)(\text{SO}_2\text{CH}_3)$	
3-139	Q3d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NH}(\text{SO}_2\text{CH}_2$)	
3-140	Q3d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NH}\text{SO}_2\text{CF}_3$	

Tabla 56

compuesto número	Q	R1	propiedad física (punto de fusión-ND)
3-441	Q3d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NH}\text{SO}_2\text{CHF}_2$	
3-442	Q3d	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NH}\text{SO}_2\text{CH}_2\text{CF}_3$	
3-443	Q3d	SCH_3	
3-444	Q3d	SOCH_3	
3-445	Q3d	SO_2CH_3	
3-446	Q3d	OCH_3	
3-447	Q3d	OCH_2CH_3	
3-448	Q3d	$\text{O}(\text{CH}_2)_2\text{CH}_3$	
3-449	Q3d	OCH_2CF_3	
3-450	Q3d	OCF_2CF_3	
3-451	Q3d	$\text{O}(\text{CH}_2)_2\text{OCH}_3$	
3-452	Q3d	NHCH_3	
3-453	Q3d	NHCH_2CH_3	
3-454	Q3d	$\text{N}(\text{CH}_3)_2$	
3-455	Q3d	$\text{N}(\text{CH}_2\text{CH}_3)_2$	
3-456	Q3d	$\text{N}(\text{CH}_3)(\text{CH}_2\text{CH}_3)$	
3-457	Q3e	CH_3	
3-458	Q3e	CH_2CH_3	
3-459	Q3e	$(\text{CH}_2)_2\text{CH}_3$	
3-460	Q3e		

compuesto número	Q	R1	propiedad física (punto de fusión-ND)
3-461	Q3e		
3-462	Q3e		
3-463	Q3e		
3-464	Q3e		
3-465	Q3e		
3-466	Q3e		
3-467	Q3e		
3-468	Q3e	CF_3	
3-469	Q3e	CH_2CF_3	
3-470	Q3e	CF_2CF_3	
3-471	Q3e	$\text{CH}_2\text{CH}=\text{CH}_2$	
3-472	Q3e	$\text{CH}_2\text{C}\equiv\text{CH}$	
3-473	Q3e	C_6H_5	
3-474	Q3e	$\text{CH}_2\text{C}_6\text{H}_5$	
3-475	Q3e	CH_2OCH_3	
3-476	Q3e	$\text{CH}_2\text{OCH}_2\text{CH}_3$	
3-477	Q3e	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{CH}_3$	
3-478	Q3e	$(\text{CH}_2)_2\text{OCH}_3$	
3-479	Q3e	$(\text{CH}_2)_2\text{OCH}_2\text{CH}_3$	
3-480	Q3e		

Tabla 57

compuesto número	Q	R1	propiedad física (punto de fusión-ND)
3-481	Q3e		
3-482	Q3e		
3-483	Q3e		
3-484	Q3e	$\text{CH}_2\text{OCH}_2\text{CF}_3$	
3-485	Q3e		
3-486	Q3e	$\text{CH}_2\text{OCH}_2\text{CF}_2\text{CF}_3$	
3-487	Q3e	$\text{CH}_2\text{OCH}_2\text{CH}=\text{CH}_2$	
3-488	Q3e	$\text{CH}_2\text{OCH}_2\text{CH}=\text{CCl}_2$	
3-489	Q3e	$\text{CH}_2\text{OCH}_2\text{CF}=\text{CF}_2$	
3-490	Q3e	$\text{CH}_2\text{OC}_2\text{C}\equiv\text{CH}$	
3-491	Q3e	$\text{CH}_2\text{OCH}_2\text{C}\equiv\text{CCH}_3$	
3-492	Q3e	CH_2SCH_3	
3-493	Q3e	$\text{CH}_2\text{SCH}_2\text{CH}_3$	
3-494	Q3e	$\text{CH}_2\text{S}(\text{CH}_2)_2\text{CH}_3$	
3-495	Q3e		
3-496	Q3e		
3-497	Q3e		
3-498	Q3e		
3-499	Q3e	$\text{CH}_2\text{SCH}_2\text{CF}_3$	
3-500	Q3e	$\text{CH}_2\text{SCH}_2\text{CH}=\text{CH}_2$	

compuesto número	Q	R1	propiedad física (punto de fusión-ND)
3-501	Q3e	$\text{CH}_2\text{SCH}_2\text{C}\equiv\text{CH}$	
3-502	Q3e	CH_2SOCH_3	
3-503	Q3e	$\text{CH}_2\text{SOCH}_2\text{CH}_3$	
3-504	Q3e	$\text{CH}_2\text{SO}(\text{CH}_2)_2\text{CH}_3$	
3-505	Q3e		
3-506	Q3e		
3-507	Q3e		
3-508	Q3e		
3-509	Q3e	$\text{CH}_2\text{SOCH}_2\text{CF}_3$	
3-510	Q3e	$\text{CH}_2\text{SOCH}_2\text{CH}=\text{CH}_2$	
3-511	Q3e	$\text{CH}_2\text{SOCH}_2\text{C}\equiv\text{CH}$	
3-512	Q3e	$\text{CH}_2\text{SO}_2\text{CH}_3$	
3-513	Q3e	$\text{CH}_2\text{SO}_2\text{CH}_2\text{CH}_3$	
3-514	Q3e	$\text{CH}_2\text{SO}_2(\text{CH}_2)_2\text{CH}_3$	
3-515	Q3e		
3-516	Q3e		
3-517	Q3e		
3-518	Q3e		
3-519	Q3e	$\text{CH}_2\text{SO}_2\text{CH}_2\text{CF}_3$	
3-520	Q3e	$\text{CH}_2\text{SO}_2\text{CH}_2\text{CH}=\text{CH}_2$	

Tabla 58

compuesto número	Q	R1	propiedad física (punto de fusión-ND)
3-E21	Q3e	CH ₂ SO ₂ CH ₂ C≡CH	
3-E22	Q3e	CH ₂ O(CH ₂) ₂ OCH ₃	
3-E23	Q3e	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	
3-E24	Q3e	CH ₂ O(CH ₂) ₂ OCH ₂ — 	
3-E25	Q3e	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
3-E26	Q3e	CH ₂ O(CH ₂) ₂ OCH ₂ CH=CH ₂	
3-E27	Q3e	CH ₂ O(CH ₂) ₂ OCH ₂ C≡CH	
3-E28	Q3e	CH ₂ O(CH ₂) ₂ SCH ₃	
3-E29	Q3e	CH ₂ O(CH ₂) ₂ SCH ₂ — 	
3-E30	Q3e	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃	
3-E31	Q3e	CH ₂ O(CH ₂) ₂ SC ₂ H ₄ CH=CH ₂	
3-E32	Q3e	CH ₂ O(CH ₂) ₂ SCH ₂ C≡CH	
3-E33	Q3e	CH ₂ O(CH ₂) ₂ SOCH ₃	
3-E34	Q3e	CH ₂ O(CH ₂) ₂ SOCH ₂ — 	
3-E35	Q3e	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
3-E36	Q3e	CH ₂ O(CH ₂) ₂ SOCH ₂ CH=CH ₂	
3-E37	Q3e	CH ₂ O(CH ₂) ₂ SOCH ₂ C≡CH	
3-E38	Q3e	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
3-E39	Q3e	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ — 	
3-E40	Q3e	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	

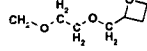
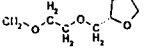
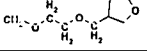
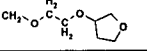
compuesto número	Q	R1	propiedad física (punto de fusión-ND)
3-E41	Q3e	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CH=CH ₂	
3-E42	Q3e	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ C≡CH	
3-E43	Q3e		
3-E44	Q3e		
3-E45	Q3e		
3-E46	Q3e		
3-E47	Q3e		
3-E48	Q3e		
3-E49	Q3e		
3-E50	Q3e		
3-E51	Q3e	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₃	
3-E52	Q3e	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	
3-E53	Q3e	CH ₂ O(CH ₂) ₂ NH(SO ₂ CH ₂ — 	
3-E54	Q3e	CH ₂ O(CH ₂) ₂ NHSO ₂ CF ₃	
3-E55	Q3e	CH ₂ O(CH ₂) ₂ NHSO ₂ CHF ₂	
3-E56	Q3e	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₂ CF ₃	
3-E57	Q3e	SOCH ₃	
3-E58	Q3e	SOCH ₃	
3-E59	Q3e	SO ₂ CH ₃	
3-E60	Q3e	OCH ₃	

Tabla 59

compuesto número	Q	R1	propiedad física (punto de fusión-ND)
3-561	Q3e	OCH ₂ CH ₃	
3-562	Q3e	O(CH ₂) ₂ CH ₃	
3-563	Q3e	OCH ₂ CF ₃	
3-564	Q3e	OCF ₂ CF ₃	
3-565	Q3e	O(CH ₂) ₂ OCH ₃	
3-566	Q3e	NHCH ₃	
3-567	Q3e	NHCH ₂ CH ₃	
3-568	Q3e	N(CH ₃) ₂	
3-569	Q3e	N(CH ₂ CH ₃) ₂	
3-570	Q3e	N(CH ₃)(CH ₂ CH ₃)	
3-571	Q3f	CH ₃	
3-572	Q3f	CH ₂ CH ₃	
3-573	Q3f	(CH ₂) ₂ CH ₃	
3-574	Q3f		
3-575	Q3f		
3-576	Q3f		
3-577	Q3f		
3-578	Q3f		
3-579	Q3f		
3-580	Q3f		

compuesto número	Q	R1	propiedad física (punto de fusión-ND)
3-581	Q3f		
3-582	Q3f	CF ₃	
3-583	Q3f	CH ₂ CF ₃	
3-584	Q3f	CF ₂ CF ₃	
3-585	Q3f	CH ₂ CH=CH ₂	
3-586	Q3f	CH ₂ C≡CH	
3-587	Q3f	C ₆ H ₅	
3-588	Q3f	CH ₂ C ₆ H ₅	
3-589	Q3f	CH ₂ OCH ₃	
3-590	Q3f	CH ₂ OCH ₂ CH ₃	
3-591	Q3f	CH ₂ O(CH ₂) ₂ CH ₃	
3-592	Q3f	(CH ₂) ₂ OCH ₃	
3-593	Q3f	(CH ₂) ₃ OCH ₃	
3-594	Q3f		
3-595	Q3f		
3-596	Q3f		
3-597	Q3f		
3-598	Q3f	CH ₂ OCH ₂ CF ₃	
3-599	Q3f	CH ₂ OCF ₂ CHF ₂	
3-600	Q3f	CH ₂ OCH ₂ CF ₂ CF ₃	

Tabla 60

compuesto número	Q	R1	propiedad física (punto de fusión-ND)
3-601	Q3f	CH ₂ OCH ₂ CH=CH ₂	
3-602	Q3f	CH ₂ OCH ₂ CH=CCl ₂	
3-603	Q3f	CH ₂ OCH ₂ CF=CF ₂	
3-604	Q3f	CH ₂ OC ₂ C≡CH	
3-605	Q3f	CH ₂ OCH ₂ C≡CCH ₃	
3-606	Q3f	CH ₂ SCH ₃	
3-607	Q3f	CH ₂ SCH ₂ CH ₃	
3-608	Q3f	CH ₂ S(CH ₂) ₂ CH ₃	
3-609	Q3f		
3-610	Q3f		
3-611	Q3f		
3-612	Q3f		
3-613	Q3f	CH ₂ SCH ₂ CF ₃	
3-614	Q3f	CH ₂ SCH ₂ CH=CH ₂	
3-615	Q3f	CH ₂ SCH ₂ C≡CH	
3-616	Q3f	CH ₂ SOCH ₃	
3-617	Q3f	CH ₂ SOCH ₂ CH ₃	
3-618	Q3f	CH ₂ SO(CH ₂) ₂ CH ₃	
3-619	Q3f		
3-620	Q3f		

compuesto número	Q	R1	propiedad física (punto de fusión-ND)
3-621	Q3f		
3-622	Q3f		
3-623	Q3f	CH ₂ SOCH ₂ CF ₃	
3-624	Q3f	CH ₂ SOCH ₂ CH=CH ₂	
3-625	Q3f	CH ₂ SOCH ₂ C≡CH	
3-626	Q3f	CH ₂ SO ₂ CH ₃	
3-627	Q3f	CH ₂ SO ₂ CH ₂ CH ₃	
3-628	Q3f	CH ₂ SO ₂ (CH ₂) ₂ CH ₃	
3-629	Q3f		
3-630	Q3f		
3-631	Q3f		
3-632	Q3f		
3-633	Q3f	CH ₂ SO ₂ CH ₂ CF ₃	
3-634	Q3f	CH ₂ SO ₂ CH ₂ CH=CH ₂	
3-635	Q3f	CH ₂ SO ₂ CH ₂ C≡CH	
3-636	Q3f	CH ₂ O(CH ₂) ₂ OCH ₃	
3-637	Q3f	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	
3-638	Q3f	CH ₂ O(CH ₂) ₂ OCH ₂ - 	
3-639	Q3f	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
3-640	Q3f	CH ₂ O(CH ₂) ₂ OCH ₂ CH=CH ₂	

Tabla 61

compuesto número	Q	F1	propiedad física (punto de fusión-ND)
3-641	Q3f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2\text{C}\equiv\text{CH}$	
3-642	Q3f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_3$	
3-643	Q3f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2$ 	
3-644	Q3f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2\text{CF}_3$	
3-645	Q3f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2\text{CH}=\text{CH}_2$	
3-646	Q3f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2\text{C}\equiv\text{CH}$	
3-647	Q3f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_3$	
3-648	Q3f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2$ 	
3-649	Q3f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2\text{CF}_3$	
3-650	Q3f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2\text{CH}=\text{CH}_2$	
3-651	Q3f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2\text{C}\equiv\text{CH}$	
3-652	Q3f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_3$	
3-653	Q3f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2$ 	
3-654	Q3f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{CF}_3$	
3-655	Q3f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{CH}=\text{CH}_2$	
3-656	Q3f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{C}\equiv\text{CH}$	
3-657	Q3f		
3-658	Q3f		
3-659	Q3f		
3-660	Q3f		

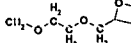
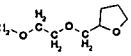
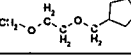
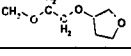
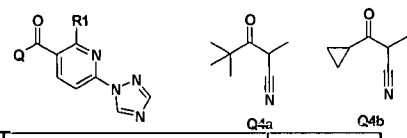
compuesto número	Q	F1	propiedad física (punto de fusión-ND)
3-661	Q3f		
3-662	Q3f		
3-663	Q3f		
3-664	Q3f		
3-665	Q3f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NHSO}_2\text{CH}_3$	
3-666	Q3f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{N}(\text{CH}_3)(\text{SO}_2\text{CH}_3)$	
3-667	Q3f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NH}(\text{SO}_2\text{CH}_2$ )	
3-668	Q3f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NHSO}_2\text{CF}_3$	
3-669	Q3f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NHSO}_2\text{CHF}_2$	
3-670	Q3f	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NHSO}_2\text{CH}_2\text{CF}_3$	
3-671	Q3f	SCH_3	
3-672	Q3f	SOCH_3	
3-673	Q3f	SO_2CH_3	
3-674	Q3f	OCH_3	
3-675	Q3f	OCH_2CH_3	
3-676	Q3f	$\text{O}(\text{CH}_2)_2\text{CH}_3$	
3-677	Q3f	OCH_2CF_3	
3-678	Q3f	OCF_2CF_3	
3-679	Q3f	$\text{O}(\text{CH}_2)_2\text{OCH}_3$	
3-680	Q3f	NHCH_3	

Tabla 62

compuesto número	Q	R1	propiedad física (punto de fusión-ND)
3-681	Q3f	NHCH ₂ CH ₃	
3-682	Q3f	N(CH ₃) ₂	
3-683	Q3f	N(CH ₂ CH ₃) ₂	
3-684	Q3f	N(CH ₃)(CH ₂ CH ₃)	

Tabla 63



compuesto número	Q	R1	propiedad física (punto de fusión-ND)
4-1	Q4a	CH ₃	
4-2	Q4e	CH ₂ CH ₃	
4-3	Q4e	(CH ₂) ₂ CH ₃	
4-4	Q4a		
4-5	Q4a		
4-6	Q4e		
4-7	Q4a		
4-8	Q4a		
4-9	Q4a		
4-10	Q4a		
4-11	Q4a		
4-12	Q4a	CF ₃	
4-13	Q4a	CH ₂ CF ₃	
4-14	Q4a	CF ₂ CF ₃	
4-15	Q4e	CH ₂ CH=CH ₂	
4-16	Q4a	CH ₂ C≡CH	
4-17	Q4a	C ₆ H ₅	
4-18	Q4e	CH ₂ C ₆ H ₅	
4-19	Q4e	CH ₂ OCH ₃	
4-20	Q4e	CH ₂ OCH ₂ CH ₃	

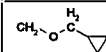
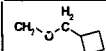
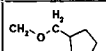
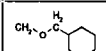
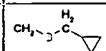
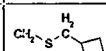
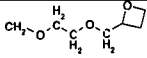
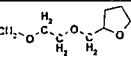
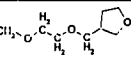
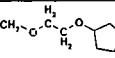
compuesto número	Q	R1	propiedad física (punto de fusión-ND)
4-21	Q4a	CH ₂ O(CH ₂) ₂ CH ₃	
4-22	Q4e	(CH ₂) ₂ OCH ₃	
4-23	Q4e	(CH ₂) ₃ OCH ₃	
4-24	Q4a		
4-25	Q4a		
4-26	Q4a		
4-27	Q4a		
4-28	Q4a	CH ₂ OCH ₂ CF ₃	
4-29	Q4a	CH ₂ OCF ₂ CHF ₂	
4-30	Q4e	CH ₂ OCH ₂ CF ₂ CF ₃	
4-31	Q4a	CH ₂ OCH ₂ CH=CH ₂	
4-32	Q4a	CH ₂ OCH ₂ CH=CCl ₂	
4-33	Q4a	CH ₂ OCH ₂ CF=CF ₂	
4-34	Q4a	CH ₂ OC ₂ C≡CH	
4-35	Q4a	CH ₂ OCH ₂ C≡CCH ₃	
4-36	Q4a	CH ₂ SCH ₃	
4-37	Q4a	CH ₂ SCH ₂ CH ₃	
4-38	Q4e	CH ₂ S(CH ₂) ₂ CH ₃	
4-39	Q4a		
4-40	Q4a		

Table 64

compuesto número	Q	R1	propiedad física (punto de fusión-ND)
4-41	Q-4a		
4-42	Q-4a		
4-43	Q-4a	CH2SCH2CF3	
4-44	Q-4a	CH2SCH2CH=CH2	
4-45	Q-4a	CH2SCH2C≡CH	
4-46	Q-4a	CH2SOCH3	
4-47	Q-4a	CH2SOCH2CH3	
4-48	Q-4a	CH2SO(CH2)2CH3	
4-49	Q-4a		
4-50	Q-4a		
4-51	Q-4a		
4-52	Q-4a		
4-53	Q-4a	CH2SOCH2CF3	
4-54	Q-4a	CH2SOCH2CH=CH2	
4-55	Q-4a	CH2SOCH2C≡CH	
4-56	Q-4a	CH2SO2CH3	
4-57	Q-4a	CH2SO2CH2CH3	
4-58	Q-4a	CH2SO2(CH2)2CH3	
4-59	Q-4a		
4-60	Q-4a		

compuesto número	Q	R1	propiedad física (punto de fusión-ND)
4-61	Q-4a		
4-62	Q-4a		
4-63	Q-4a	CH2SO2CH2CF3	
4-64	Q-4a	CH2SO2CH2CH=CH2	
4-65	Q-4a	CH2SO2CH2C≡CH	
4-66	Q-4a	CH2O(CH2)2OCH3	
4-67	Q-4a	CH2O(CH2)2OCH2CH3	
4-68	Q-4a	CH2O(CH2)2OCH2-	
4-69	Q-4a	CH2O(CH2)2OCH2CF3	
4-70	Q-4a	CH2O(CH2)2OCH2CH=CH2	
4-71	Q-4a	CH2O(CH2)2OCH2C≡CH	
4-72	Q-4a	CH2O(CH2)2SCH3	
4-73	Q-4a	CH2O(CH2)2SCH2-	
4-74	Q-4a	CH2O(CH2)2SCH2CF3	
4-75	Q-4a	CH2O(CH2)2SCH2CH=CH2	
4-76	Q-4a	CH2O(CH2)2SCH2C≡CH	
4-77	Q-4a	CH2O(CH2)2SOCH3	
4-78	Q-4a	CH2O(CH2)2SOCH2-	
4-79	Q-4a	CH2O(CH2)2SOCH2CF3	
4-80	Q-4a	CH2O(CH2)2SOCH2CH=CH2	

Tabla 65

compuesto número	Q	R1	propiedad física (punto de fusión-ND)
4-91	Q-4E	CH ₂ O(CH ₂) ₂ SOCH ₂ C≡CH	
4-92	Q-4a	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
4-93	Q-4a	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ 	
4-94	Q-4a	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
4-95	Q-4a	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CH=CH ₂	
4-96	Q-4E	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ C≡CH	
4-97	Q-4a		
4-98	Q-4a		
4-99	Q-4E		
4-90	Q-4a		
4-91	Q-4a		
4-92	Q-4a		
4-93	Q-4a		
4-94	Q-4a		
4-95	Q-4E	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₃	
4-96	Q-4a	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	
4-97	Q-4a	CH ₂ O(CH ₂) ₂ NH(SO ₂ CH ₂ )	
4-98	Q-4a	CH ₂ O(CH ₂) ₂ NHSO ₂ CF ₃	
4-99	Q-4a	CH ₂ O(CH ₂) ₂ NHSO ₂ CHF ₂	
4-100	Q-4a	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₂ CF ₃	

compuesto número	Q	R1	propiedad física (punto de fusión-ND)
4-101	Q-4a	SCH ₃	
4-102	Q-4a	SOCH ₃	
4-103	Q-4E	SO ₂ CH ₃	
4-104	Q-4E	OCH ₃	
4-105	Q-4a	OCH ₂ CH ₃	
4-106	Q-4a	O(CH ₂) ₂ CH ₃	
4-107	Q-4a	OCH ₂ CF ₃	
4-108	Q-4a	OCF ₂ CF ₃	
4-109	Q-4a	O(CH ₂) ₂ OCH ₃	
4-110	Q-4a	NHCH ₃	
4-111	Q-4a	NHCH ₂ CH ₃	
4-112	Q-4a	N(CH ₃) ₂	
4-113	Q-4a	N(CH ₂ CH ₃) ₂	
4-114	Q-4E	N(CH ₂)(CH ₂ CH ₃)	
4-115	Q-4b	CH ₃	NMR
4-116	Q-4b	CH ₂ CH ₃	
4-117	Q-4b	(CH ₂) ₂ CH ₃	
4-118	Q-4b		
4-119	Q-4b		
4-120	Q-4b		

Tabla 66

compuesto número	Q	R1	propiedad física (punto de fusión-ND)
4-121	Q4b		
4-122	Q4b		
4-123	Q4b		
4-124	Q4b		
4-125	Q4b		
4-126	Q4b	CF ₃	122-132°C
4-127	Q4b	CH ₂ CF ₃	
4-128	Q4b	CF ₂ CF ₃	
4-129	Q4b	CH ₂ CH=CH ₂	
4-130	Q4b	CH ₂ C≡CH	
4-131	Q4b	C ₃ H ₅	
4-132	Q4b	CH ₂ C ₆ H ₅	
4-133	Q4b	CH ₂ OCH ₃	1.5723(±5)
4-134	Q4b	CH ₂ OCH ₂ CH ₃	
4-135	Q4b	CH ₂ O(CH ₂) ₂ CH ₃	
4-136	Q4b	(CH ₂) ₂ OCH ₃	
4-137	Q4b	(CH ₂) ₃ OCH ₃	
4-138	Q4b		
4-139	Q4b		
4-140	Q4b		

compuesto número	Q	R1	propiedad física (punto de fusión-ND)
4-141	Q4b		
4-142	Q4b	CH ₂ OCH ₂ CF ₃	CMN
4-143	Q4b	CH ₂ OCF ₂ CHF ₂	
4-144	Q4b	CH ₂ OCH ₂ CF ₂ CF ₃	
4-145	Q4b	CH ₂ OCH ₂ CH=CH ₂	
4-146	Q4b	CH ₂ OCH ₂ CH=CCl ₂	
4-147	Q4b	CH ₂ OCH ₂ CF=CF ₂	
4-148	Q4b	CH ₂ OC ₂ C≡CH	
4-149	Q4b	CH ₂ OCH ₂ C≡CCH ₃	
4-150	Q4b	CH ₂ SCH ₃	
4-151	Q4b	CH ₂ SCH ₂ CH ₃	
4-152	Q4b	CH ₂ S(CH ₂) ₂ CH ₃	
4-153	Q4b		
4-154	Q4b		
4-155	Q4b		
4-156	Q4b		
4-157	Q4b	CH ₂ SCH ₂ CF ₃	
4-158	Q4b	CH ₂ SCH ₂ CH=CH ₂	
4-159	Q4b	CH ₂ SCH ₂ C≡CH	
4-160	Q4b	CH ₂ SOCH ₃	

Tabla 67

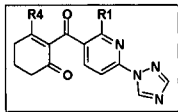
compuesto número	Q	F.1	propiedad física (punto de fusión-ND)
4-161	Q-4b	<chem>CH2SOCH2CH3</chem>	
4-162	Q-4b	<chem>CH2SO(CH2)2CH3</chem>	
4-163	Q-4b		
4-164	Q-4b		
4-165	Q-4b		
4-166	Q-4b		
4-167	Q-4b	<chem>CH2SOCH2CF3</chem>	
4-168	Q-4b	<chem>CH2SOCH2CH=CH2</chem>	
4-169	Q-4b	<chem>CH2SOCH2C#CH</chem>	
4-170	Q-4b	<chem>CH2SO2CH3</chem>	
4-171	Q-4b	<chem>CH2SO2CH2CH3</chem>	
4-172	Q-4b	<chem>CH2SO2(CH2)2CH3</chem>	
4-173	Q-4b		
4-174	Q-4b		
4-175	Q-4b		
4-176	Q-4b		
4-177	Q-4b	<chem>CH2SO2CH2CF3</chem>	
4-178	Q-4b	<chem>CH2SO2CH2CH=CH2</chem>	
4-179	Q-4b	<chem>CH2SO2CH2C#CH</chem>	
4-180	Q-4b	<chem>CH2O(CH2)2OCH3</chem>	

compuesto número	Q	F.1	propiedad física (punto de fusión-ND)
4-181	Q-4b	<chem>CH2O(CH2)2OCH2CH3</chem>	
4-182	Q-4b	<chem>CH2O(CH2)2OCH2</chem> 	
4-183	Q-4b	<chem>CH2O(CH2)2OCH2CF3</chem>	
4-184	Q-4b	<chem>CH2O(CH2)2OCH2CH=CH2</chem>	
4-185	Q-4b	<chem>CH2O(CH2)2OCH2C#CH</chem>	
4-186	Q-4b	<chem>CH2O(CH2)2SCH3</chem>	
4-187	Q-4b	<chem>CH2O(CH2)2SCH2</chem> 	
4-188	Q-4b	<chem>CH2O(CH2)2SCH2CF3</chem>	
4-189	Q-4b	<chem>CH2O(CH2)2SCH2CH=CH2</chem>	
4-190	Q-4b	<chem>CH2O(CH2)2SCH2C#CH</chem>	
4-191	Q-4b	<chem>CH2O(CH2)2SOCH3</chem>	
4-192	Q-4b	<chem>CH2O(CH2)2SOCH2</chem> 	
4-193	Q-4b	<chem>CH2O(CH2)2SOCH2CF3</chem>	
4-194	Q-4b	<chem>CH2O(CH2)2SOCH2CH=CH2</chem>	
4-195	Q-4b	<chem>CH2O(CH2)2SOCH2C#CH</chem>	
4-196	Q-4b	<chem>CH2O(CH2)2SO2CH3</chem>	
4-197	Q-4b	<chem>CH2O(CH2)2SO2CH2</chem> 	
4-198	Q-4b	<chem>CH2O(CH2)2SO2CH2CF3</chem>	
4-199	Q-4b	<chem>CH2O(CH2)2SO2CH2CH=CH2</chem>	
4-200	Q-4b	<chem>CH2O(CH2)2SO2CH2C#CH</chem>	

Tabla 68

compuesto número	Q	R1	propiedad física (punto de fusión-TID)	compuesto número	Q	R1	propiedad física (punto de fusión-TID)
4-201	Q4b			4-221	Q4b	OCH2CF3	
4-202	Q4b			4-222	Q4b	OCF2CF3	
4-203	Q4b			4-223	Q4b	O(CH2)2OCH3	
4-204	Q4b			4-224	Q4b	NHCH3	
4-205	Q4b			4-225	Q4b	NHCH2CH3	
4-206	Q4b			4-226	Q4b	N(CH3)2	
4-207	Q4b			4-227	Q4b	N(CH2CH3)2	
4-208	Q4b			4-228	Q4b	N(CH3)(CH2CH3)	
4-209	Q4b	CH2O(CH2)2NHOSO2CH3					
4-210	Q4b	CH2O(CH2)2N(CH3)(SO2CH3)					
4-211	Q4b	CH2O(CH2)2NH(SO2CH2 )					
4-212	Q4b	CH2O(CH2)2NHOSO2CF3					
4-213	Q4b	CH2O(CH2)2NHOSO2CHF2					
4-214	Q4b	CH2O(CH2)2NHOSO2CH2CF3					
4-215	Q4b	SCH3					
4-216	Q4b	SOCH3					
4-217	Q4b	SO2CH3					
4-218	Q4b	OCH3					
4-219	Q4b	OCH2CH3					
4-220	Q4b	O(CH2)2CH3					

Tabla 69



compuesto número	R4	R1	propiedad física (punto de fusión-ND)	compuesto número	R4	R1	propiedad física (punto de fusión-ND)
5-1	Cl	CH ₃		5-21	Cl	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
5-2	Cl	CF ₃		5-22	Cl	CH ₂ O(CH ₂) ₂ SCH ₃	
5-3	Cl	CH ₂ OCH ₃		5-23	Cl	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃	
5-4	Cl	CH ₂ OCH ₂ CH ₃		5-24	Cl	CH ₂ O(CH ₂) ₂ SOCH ₃	
5-5	Cl			5-25	Cl	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
5-6	Cl	CH ₂ OCH ₂ CF ₃		5-26	Cl	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
5-7	Cl	CH ₂ SCH ₃		5-27	Cl	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
5-8	Cl	CH ₂ SCH ₂ CH ₃		5-28	Cl		
5-9	Cl			5-29	Cl		
5-10	Cl	CH ₂ SCH ₂ CF ₃		5-30	Cl	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₃	
5-11	Cl	CH ₂ SOCH ₃		5-31	Cl	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	
5-12	Cl	CH ₂ SOCH ₂ CH ₃		5-32	SCH ₃	CH ₃	
5-13	Cl			5-33	SCH ₃	CF ₃	
5-14	Cl	CH ₂ SOCH ₂ CF ₃		5-34	SCH ₃	CH ₂ OCH ₃	
5-15	Cl	CH ₂ SO ₂ CH ₃		5-35	SCH ₃	CH ₂ OCH ₂ CH ₃	
5-16	Cl	CH ₂ SO ₂ CH ₂ CH ₃		5-36	SCH ₃		
5-17	Cl			5-37	SCH ₃	CH ₂ OCH ₂ CF ₃	
5-18	Cl	CH ₂ SO ₂ CH ₂ CF ₃		5-38	SCH ₃	CH ₂ SCH ₃	
5-19	Cl	CH ₂ O(CH ₂) ₂ OCH ₃		5-39	SCH ₃	CH ₂ SCH ₂ CH ₃	
5-20	Cl	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃		5-40	SCH ₃		

Tabla 70

compuesto número	R1	R1	propiedad física (punto de fusión-ND)	compuesto número	R1	R1	propiedad física (punto de fusión-ND)
5-41	SCH ₃	CH ₂ SOCH ₂ CF ₃		5-61	SCH ₃	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₃	
5-42	SCH ₃	CH ₂ SOCH ₃		5-62	SCH ₃	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	
5-43	SCH ₃	CH ₂ SOCH ₂ CH ₃		5-63	SCH ₂ CH ₃	CH ₃	
5-44	SCH ₃			5-64	SCH ₂ CH ₃	CF ₃	
5-45	SCH ₃	CH ₂ SOCH ₂ CF ₃		5-65	SCH ₂ CH ₃	CH ₂ OCH ₃	
5-46	SCH ₃	CH ₂ SO ₂ CH ₃		5-66	SCH ₂ CH ₃	CH ₂ OCH ₂ CH ₃	
5-47	SCH ₃	CH ₂ SO ₂ CH ₂ CH ₃		5-67	SCH ₂ CH ₃		
5-48	SCH ₃			5-68	SCH ₂ CH ₃	CH ₂ OCH ₂ CF ₃	
5-49	SCH ₃	CH ₂ SO ₂ CH ₂ CF ₃		5-69	SCH ₂ CH ₃	CH ₂ SCH ₃	
5-50	SCH ₃	CH ₂ O(CH ₂) ₂ OCH ₃		5-70	SCH ₂ CH ₃	CH ₂ SCH ₂ CH ₃	
5-51	SCH ₃	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃		5-71	SCH ₂ CH ₃		
5-52	SCH ₃	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃		5-72	SCH ₂ CH ₃	CH ₂ SCH ₂ CF ₃	
5-53	SCH ₃	CH ₂ O(CH ₂) ₂ SCH ₃		5-73	SCH ₂ CH ₃	CH ₂ SOCH ₃	
5-54	SCH ₃	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃		5-74	SCH ₂ CH ₃	CH ₂ SOCH ₂ CH ₃	
5-55	SCH ₃	CH ₂ O(CH ₂) ₂ SOCH ₃		5-75	SCH ₂ CH ₃		
5-56	SCH ₃	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃		5-76	SCH ₂ CH ₃	CH ₂ SOCH ₂ CF ₃	
5-57	SCH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃		5-77	SCH ₂ CH ₃	CH ₂ SO ₂ CH ₃	
5-58	SCH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃		5-78	SCH ₂ CH ₃	CH ₂ SO ₂ CH ₂ CH ₃	
5-59	SCH ₃			5-79	SCH ₂ CH ₃		
5-60	SCH ₃			5-80	SCH ₂ CH ₃	CH ₂ SO ₂ CH ₂ CF ₃	

Tabla 71

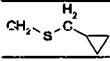
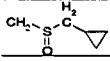
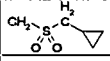
compuesto número	R1	R1	propiedad física (punto de fusión-ND)	compuesto número	R1	R1	propiedad física (punto de fusión-ND)
5-81	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ OCH ₃		5-101	S(CH ₂) ₂ CH ₃	CH ₂ SCCH ₂ CH ₃	
5-82	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃		5-102	S(CH ₂) ₂ CH ₃		
5-83	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃		5-103	S(CH ₂) ₂ CH ₃	CH ₂ SCCH ₂ CF ₃	
5-84	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ SCH ₃		5-104	S(CH ₂) ₂ CH ₃	CH ₂ SOCH ₃	
5-85	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃		5-105	S(CH ₂) ₂ CH ₃	CH ₂ SOCH ₂ CH ₃	
5-86	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₃		5-106	S(CH ₂) ₂ CH ₃		
5-87	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃		5-107	S(CH ₂) ₂ CH ₃	CH ₂ SOCH ₂ CF ₃	
5-88	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃		5-108	S(CH ₂) ₂ CH ₃	CH ₂ SO ₂ CH ₃	
5-89	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃		5-109	S(CH ₂) ₂ CH ₃	CH ₂ SO ₂ CH ₂ CH ₃	
5-90	SCH ₂ CH ₃			5-110	S(CH ₂) ₂ CH ₃		
5-91	SCH ₂ CH ₃			5-111	S(CH ₂) ₂ CH ₃	CH ₂ SO ₂ CH ₂ CF ₃	
5-92	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₃		5-112	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ OCH ₃	
5-93	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)		5-113	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	
5-94	S(CH ₂) ₂ CH ₃	CH ₃		5-114	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
5-95	S(CH ₂) ₂ CH ₃	CF ₃		5-115	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SCH ₃	
5-96	S(CH ₂) ₂ CH ₃	CH ₂ OCH ₃		5-116	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃	
5-97	S(CH ₂) ₂ CH ₃	CH ₂ OCH ₂ CH ₃		5-117	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₃	
5-98	S(CH ₂) ₂ CH ₃			5-118	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
5-99	S(CH ₂) ₂ CH ₃	CH ₂ OCH ₂ CF ₃		5-119	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
5-100	S(CH ₂) ₂ CH ₃	CH ₂ SCH ₃		5-120	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	

Tabla 72

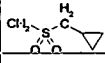
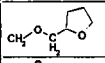
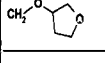
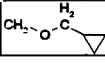
compuesto número	R1	R1	propiedad física (punto de fusión-ND)	compuesto número	R1	R1	propiedad física (punto de fusión-ND)
5-121	S(CH ₂) ₂ CH ₃			5-141	SC ₆ H ₅		
5-122	S(CH ₂) ₂ CH ₃			5-142	SC ₆ H ₅	CH ₂ SO ₂ CH ₂ CF ₃	
5-123	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₃		5-143	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ OCH ₃	
5-124	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)		5-144	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	
5-125	SC ₆ H ₅	CH ₃		5-145	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
5-126	SC ₆ H ₅	CF ₃		5-146	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ SC ₂ H ₅	
5-127	SC ₆ H ₅	CH ₂ OCH ₃		5-147	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ SC ₂ H ₂ CF ₃	
5-128	SC ₆ H ₅	CH ₂ OCH ₂ CH ₃		5-148	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ SOCH ₃	
5-129	SC ₆ H ₅			5-149	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
5-130	SC ₆ H ₅	CH ₂ OCH ₂ CF ₃		5-150	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
5-131	SC ₆ H ₅	CH ₂ SC ₂ H ₅		5-151	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
5-132	SC ₆ H ₅	CH ₂ SC ₂ H ₂ CH ₃		5-152	SC ₆ H ₅		
5-133	SC ₆ H ₅			5-153	SC ₆ H ₅		
5-134	SC ₆ H ₅	CH ₂ SC ₂ H ₂ CF ₃		5-154	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₃	
5-135	SC ₆ H ₅	CH ₂ SOCH ₃		5-155	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	
5-136	SC ₆ H ₅	CH ₂ SOCH ₂ CH ₃		5-156	SCH ₂ C ₆ H ₅	CH ₃	
5-137	SC ₆ H ₅			5-157	SCH ₂ C ₆ H ₅	CF ₃	
5-138	SC ₆ H ₅	CH ₂ SOCH ₂ CF ₃		5-158	SCH ₂ C ₆ H ₅	CH ₂ OCH ₃	
5-139	SC ₆ H ₅	CH ₂ SO ₂ CH ₃		5-159	SCH ₂ C ₆ H ₅	CH ₂ OCH ₂ CH ₃	
5-140	SC ₆ H ₅	CH ₂ SO ₂ CH ₂ CH ₃		5-160	SCH ₂ C ₆ H ₅		

Tabla 73

compuesto número	R1	R1	propiedad física (punto de fusión-ND)
5-161	SCH ₂ C ₆ H ₅	CH ₂ OCH ₂ CF ₃	
5-162	SCH ₂ C ₆ H ₅	CH ₂ SCH ₃	
5-163	SCH ₂ C ₆ H ₅	CH ₂ SCH ₂ CH ₃	
5-164	SCH ₂ C ₆ H ₅		
5-165	SCH ₂ C ₆ H ₅	CH ₂ SCH ₂ CF ₃	
5-166	SCH ₂ C ₆ H ₅	CH ₂ SOCH ₃	
5-167	SCH ₂ C ₆ H ₅	CH ₂ SOCH ₂ CH ₃	
5-168	SCH ₂ C ₆ H ₅		
5-169	SCH ₂ C ₆ H ₅	CH ₂ SOCH ₂ CF ₃	
5-170	SCH ₂ C ₆ H ₅	CH ₂ SO ₂ CH ₃	
5-171	SCH ₂ C ₆ H ₅	CH ₂ SO ₂ CH ₂ CH ₃	
5-172	SCH ₂ C ₆ H ₅		
5-173	SCH ₂ C ₆ H ₅	CH ₂ SO ₂ CH ₂ CF ₃	
5-174	SCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ OCH ₃	
5-175	SCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
5-176	SCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
5-177	SCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ SCH ₃	
5-178	SCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃	
5-179	SCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ SOCH ₃	
5-180	SCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
5-181	SCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
5-182	SCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
5-183	SCH ₂ C ₆ H ₅		
5-184	SCH ₂ C ₆ H ₅		
5-185	SCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₃	
5-186	SCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	
5-187	1H-pyrazol-1-yl	CH ₃	
5-188	1H-pyrazol-1-yl	CF ₃	
5-189	1H-pyrazol-1-yl	CH ₂ OCH ₃	
5-190	1H-pyrazol-1-yl	CH ₂ OCH ₂ CH ₃	
5-191	1H-pyrazol-1-yl		
5-192	1H-pyrazol-1-yl	CH ₂ OCH ₂ CF ₃	
5-193	1H-pyrazol-1-yl	CH ₂ SCH ₃	
5-194	1H-pyrazol-1-yl	CH ₂ SCH ₂ CH ₃	
5-195	1H-pyrazol-1-yl		
5-196	1H-pyrazol-1-yl	CH ₂ SCH ₂ CF ₃	
5-197	1H-pyrazol-1-yl	CH ₂ SOCH ₃	
5-198	1H-pyrazol-1-yl	CH ₂ SOCH ₂ CH ₃	
5-199	1H-pyrazol-1-yl		
5-200	1H-pyrazol-1-yl	CH ₂ SOCH ₂ CF ₃	

Tabla 74

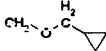
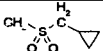
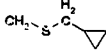
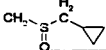
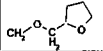
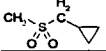
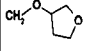
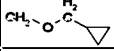
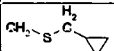
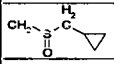
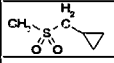
compuesto número	R1	R1	propiedad física (punto de fusión-ND)	compuesto número	R1	R1	propiedad física (punto de fusión-ND)
5-201	1H-pirazol-1-ilo	CH ₂ SO ₂ CH ₃		5-221	1H-imidazol-1-ilo	CH ₂ OCH ₂ CH ₃	
5-202	1H-pirazol-1-ilo	CH ₂ SO ₂ CH ₂ CH ₃		5-222	1H-imidazol-1-ilo		
5-203	1H-pirazol-1-ilo			5-223	1H-imidazol-1-ilo	CH ₂ OCH ₂ CF ₃	
5-204	1H-pirazol-1-ilo	CH ₂ SO ₂ CH ₂ CF ₃		5-224	1H-imidazol-1-ilo	CH ₂ SCH ₃	
5-205	1H-pirazol-1-ilo	CH ₂ O(CH ₂) ₂ OCH ₃		5-225	1H-imidazol-1-ilo	CH ₂ SCH ₂ CH ₃	
5-206	1H-pirazol-1-ilo	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃		5-226	1H-imidazol-1-ilo		
5-207	1H-pirazol-1-ilo	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃		5-227	1H-imidazol-1-ilo	CH ₂ SCH ₂ CF ₃	
5-208	1H-pirazol-1-ilo	CH ₂ O(CH ₂) ₂ SCH ₃		5-228	1H-imidazol-1-ilo	CH ₂ SOCH ₃	
5-209	1H-pirazol-1-ilo	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃		5-229	1H-imidazol-1-ilo	CH ₂ SOCH ₂ CH ₃	
5-210	1H-pirazol-1-ilo	CH ₂ O(CH ₂) ₂ SOCH ₃		5-230	1H-imidazol-1-ilo		
5-211	1H-pirazol-1-ilo	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃		5-231	1H-imidazol-1-ilo	CH ₂ SOCH ₂ CF ₃	
5-212	1H-pirazol-1-ilo	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃		5-232	1H-imidazol-1-ilo	CH ₂ SO ₂ CH ₃	
5-213	1H-pirazol-1-ilo	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃		5-233	1H-imidazol-1-ilo	CH ₂ SO ₂ CH ₂ CH ₃	
5-214	1H-pirazol-1-ilo			5-234	1H-imidazol-1-ilo		
5-215	1H-pirazol-1-ilo			5-235	1H-imidazol-1-ilo	CH ₂ SO ₂ CH ₂ CF ₃	
5-216	1H-pirazol-1-ilo	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₃		5-236	1H-imidazol-1-ilo	CH ₂ O(CH ₂) ₂ OCH ₃	
5-217	1H-pirazol-1-ilo	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)		5-237	1H-imidazol-1-ilo	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	
5-218	1H-imidazol-1-ilo	CH ₃		5-238	1H-imidazol-1-ilo	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
5-219	1H-imidazol-1-ilo	CF ₃		5-239	1H-imidazol-1-ilo	CH ₂ O(CH ₂) ₂ SCH ₃	
5-220	1H-imidazol-1-ilo	CH ₂ OCH ₃		5-240	1H-imidazol-1-ilo	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃	

Tabla 75

compuesto número	R4	R1	propiedad física (punto de fusión-ND)	compuesto número	R4	R1	propiedad física (punto de fusión-ND)
S-241	1H-imidazol-1-ilo	CH ₂ O(CH ₂) ₂ SOCH ₃		S-261	1H-triazol-1-ilo		
S-242	1H-imidazol-1-ilo	CH ₂ O(CH ₂) ₂ SOC ⁺ H ₂ CF ₃		S-262	1H-triazol-1-ilo	CH ₂ SOCH ₂ CF ₃	
S-243	1H-imidazol-1-ilo	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃		S-263	1H-triazol-1-ilo	CH ₂ SO ₂ CH ₃	
S-244	1H-imidazol-1-ilo	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃		S-264	1H-triazol-1-ilo	CH ₂ SO ₂ CH ₂ CH ₃	
S-245	1H-imidazol-1-ilo			S-265	1H-triazol-1-ilo		
S-246	1H-imidazol-1-ilo			S-266	1H-triazol-1-ilo	CH ₂ SO ₂ CH ₂ CF ₃	
S-247	1H-imidazol-1-ilo	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₃		S-267	1H-triazol-1-ilo	CH ₂ O(CH ₂) ₂ OCH ₃	
S-248	1H-imidazol-1-ilo	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)		S-268	1H-triazol-1-ilo	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	
S-249	1H-triazol-1-ilo	CH ₃		S-269	1H-triazol-1-ilo	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
S-250	1H-triazol-1-ilo	CF ₃		S-270	1H-triazol-1-ilo	CH ₂ O(CH ₂) ₂ SCH ₃	
S-251	1H-triazol-1-ilo	CH ₂ OCH ₃		S-271	1H-triazol-1-ilo	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃	
S-252	1H-triazol-1-ilo	CH ₂ OCH ₂ CH ₃		S-272	1H-triazol-1-ilo	CH ₂ O(CH ₂) ₂ SOCH ₃	
S-253	1H-triazol-1-ilo			S-273	1H-triazol-1-ilo	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
S-254	1H-triazol-1-ilo	CH ₂ OCH ₂ CF ₃		S-274	1H-triazol-1-ilo	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
S-255	1H-triazol-1-ilo	CH ₂ SCH ₃		S-275	1H-triazol-1-ilo	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
S-256	1H-triazol-1-ilo	CH ₂ SCH ₂ CH ₃		S-276	1H-triazol-1-ilo		
S-257	1H-triazol-1-ilo			S-277	1H-triazol-1-ilo		
S-258	1H-triazol-1-ilo	CH ₂ SCH ₂ CF ₃		S-278	1H-triazol-1-ilo	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₃	
S-259	1H-triazol-1-ilo	CH ₂ SOCH ₃		S-279	1H-triazol-1-ilo	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	
S-260	1H-triazol-1-ilo	CH ₂ SOCH ₂ CH ₃		S-280	1H-triazol-1-ilo	CH ₃	

compuesto número	R3	R1	propiedad física (punto de fusión-ND)
5-231	1H-tetrazol-1-ilo	CF ₃	
5-232	1H-tetrazol-1-ilo	CH ₂ OCH ₃	
5-233	1H-tetrazol-1-ilo	CH ₂ OCH ₂ CH ₃	
5-234	1H-tetrazol-1-ilo		
5-235	1H-tetrazol-1-ilo	CH ₂ OCH ₂ CF ₃	
5-236	1H-tetrazol-1-ilo	CH ₂ SCH ₃	
5-237	1H-tetrazol-1-ilo	CH ₂ SCH ₂ CH ₃	
5-238	1H-tetrazol-1-ilo		
5-239	1H-tetrazol-1-ilo	CH ₂ SCH ₂ CF ₃	
5-240	1H-tetrazol-1-ilo	CH ₂ SOCH ₃	
5-241	1H-tetrazol-1-ilo	CH ₂ SOCH ₂ CH ₃	
5-242	1H-tetrazol-1-ilo		
5-243	1H-tetrazol-1-ilo	CH ₂ SOCH ₂ CF ₃	
5-244	1H-tetrazol-1-ilo	CH ₂ SO ₂ CH ₃	
5-245	1H-tetrazol-1-ilo	CH ₂ SO ₂ CH ₂ CH ₃	
5-246	1H-tetrazol-1-ilo		
5-247	1H-tetrazol-1-ilo	CH ₂ SO ₂ CH ₂ CF ₃	
5-248	1H-tetrazol-1-ilo	CH ₂ O(CH ₂) ₂ OCH ₃	
5-249	1H-tetrazol-1-ilo	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	
5-250	1H-tetrazol-1-ilo	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	

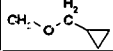
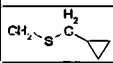
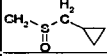
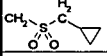
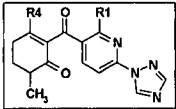
compuesto número	R3	R1	propiedad física (punto de fusión-ND)
5-301	1H-tetrazol-1-ilo	CH ₂ O(CH ₂) ₂ SCH ₃	
5-302	1H-tetrazol-1-ilo	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃	
5-303	1H-tetrazol-1-ilo	CH ₂ O(CH ₂) ₂ SOCH ₃	
5-304	1H-tetrazol-1-ilo	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
5-305	1H-tetrazol-1-ilo	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
5-306	1H-tetrazol-1-ilo	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
5-307	1H-tetrazol-1-ilo		
5-308	1H-tetrazol-1-ilo		
5-309	1H-tetrazol-1-ilo	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₃	
5-310	1H-tetrazol-1-ilo	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	
5-311	1H-tetrazol-2-ilo	CH ₃	
5-312	1H-tetrazol-2-ilo	CF ₃	
5-313	1H-tetrazol-2-ilo	CH ₂ OCH ₃	
5-314	1H-tetrazol-2-ilo	CH ₂ OCH ₂ CH ₃	
5-315	1H-tetrazol-2-ilo		
5-316	1H-tetrazol-2-ilo	CH ₂ OCH ₂ CF ₃	
5-317	1H-tetrazol-2-ilo	CH ₂ SCH ₃	
5-318	1H-tetrazol-2-ilo	CH ₂ SCH ₂ CH ₃	
5-319	1H-tetrazol-2-ilo		
5-320	1H-tetrazol-2-ilo	CH ₂ SCH ₂ CF ₃	

Tabla 77

compuesto número	R2	R1	propiedad física (punto de fusión-ND)
5-321	1H-tetrazol-2-ilo	CH ₂ SOCH ₃	
5-322	1H-tetrazol-2-ilo	CH ₂ SOCH ₂ CH ₃	
5-323	1H-tetrazol-2-ilo		
5-324	1H-tetrazol-2-ilo	CH ₂ SOCH ₂ CF ₃	
5-325	1H-tetrazol-2-ilo	CH ₂ SO ₂ CH ₃	
5-326	1H-tetrazol-2-ilo	CH ₂ SO ₂ CH ₂ CH ₃	
5-327	1H-tetrazol-2-ilo		
5-328	1H-tetrazol-2-ilo	CH ₂ SO ₂ CH ₂ CF ₃	
5-329	1H-tetrazol-2-ilo	CH ₂ O(CH ₂) ₂ OCH ₃	
5-330	1H-tetrazol-2-ilo	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	
5-331	1H-tetrazol-2-ilo	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
5-332	1H-tetrazol-2-ilo	CH ₂ O(CH ₂) ₂ SCH ₃	
5-333	1H-tetrazol-2-ilo	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃	
5-334	1H-tetrazol-2-ilo	CH ₂ O(CH ₂) ₂ SOCH ₃	
5-335	1H-tetrazol-2-ilo	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
5-336	1H-tetrazol-2-ilo	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
5-337	1H-tetrazol-2-ilo	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
5-338	1H-tetrazol-2-ilo		
5-339	1H-tetrazol-2-ilo		
5-340	1H-tetrazol-2-ilo	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₃	

compuesto número	R2	R1	propiedad física (punto de fusión-ND)
5-341	1H-tetrazol-2-ilo	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	

Tabla 78



compuesto número	R4	R1	propiedad física (punto de fusión-ND)
6-1	Cl	CH ₃	
6-2	Cl	CF ₃	
6-3	Cl	CH ₂ OCH ₃	
6-4	Cl	CH ₂ OCH ₂ CH ₃	
6-5	Cl		
6-6	Cl	CH ₂ OCH ₂ CF ₃	
6-7	Cl	CH ₂ SCH ₃	
6-8	Cl	CH ₂ SCH ₂ CH ₃	
6-9	Cl		
6-10	Cl	CH ₂ SCH ₂ CF ₃	
6-11	Cl	CH ₂ SOCH ₃	
6-12	Cl	CH ₂ SOCH ₂ CH ₃	
6-13	Cl		
6-14	Cl	CH ₂ SOCH ₂ CF ₃	
6-15	Cl	CH ₂ SO ₂ CH ₃	
6-16	Cl	CH ₂ SO ₂ CH ₂ CH ₃	
6-17	Cl		
6-18	Cl	CH ₂ SO ₂ CH ₂ CF ₃	
6-19	Cl	CH ₂ O(CH ₂) ₂ OCH ₃	
6-20	Cl	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	

compuesto número	R4	R1	propiedad física (punto de fusión-ND)
6-21	Cl	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
6-22	Cl	CH ₂ O(CH ₂) ₂ SCH ₃	
6-23	Cl	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃	
6-24	Cl	CH ₂ O(CH ₂) ₂ SOCH ₃	
6-25	Cl	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
6-26	Cl	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
6-27	Cl	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
6-28	Cl		
6-29	Cl		
6-30	Cl	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₃	
6-31	Cl	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	
6-32	SCH ₃	CH ₃	
6-33	SCH ₃	CF ₃	
6-34	SCH ₃	CH ₂ OCH ₃	
6-35	SCH ₃	CH ₂ OCH ₂ CH ₃	
6-36	SCH ₃		
6-37	SCH ₃	CH ₂ OCH ₂ CF ₃	
6-38	SCH ₃	CH ₂ SCH ₃	
6-39	SCH ₃	CH ₂ SCH ₂ CH ₃	
6-40	SCH ₃		

Tabla 79

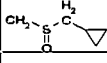
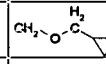
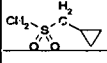
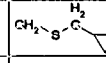
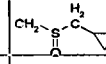
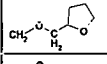
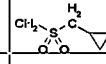
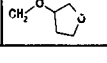
compuesto número	R1	R1	propiedad física (punto de fusión-ND)	compuesto número	R1	R1	propiedad física (punto de fusión-ND)
6-41	SCH ₃	CH ₂ SOCH ₂ CF ₃		6-61	SCH ₃	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₃	
6-42	SCH ₃	CH ₂ SOCH ₃		6-62	SCH ₃	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	
6-43	SCH ₃	CH ₂ SOCH ₂ CH ₃		6-63	SCH ₂ CH ₃	CH ₃	
6-44	SCH ₃			6-64	SCH ₂ CH ₃	CF ₃	
6-45	SCH ₃	CH ₂ SOCH ₂ CF ₃		6-65	SCH ₂ CH ₃	CH ₂ OCH ₃	
6-46	SCH ₃	CH ₂ SO ₂ CH ₃		6-66	SCH ₂ CH ₃	CH ₂ OCH ₂ CH ₃	
6-47	SCH ₃	CH ₂ SO ₂ CH ₂ CH ₃		6-67	SCH ₂ CH ₃		
6-48	SCH ₃			6-68	SCH ₂ CH ₃	CH ₂ OCH ₂ CF ₃	
6-49	SCH ₃	CH ₂ SO ₂ CH ₂ CF ₃		6-69	SCH ₂ CH ₃	CH ₂ SCH ₃	
6-50	SCH ₃	CH ₂ O(CH ₂) ₂ OCH ₃		6-70	SCH ₂ CH ₃	CH ₂ SCH ₂ CH ₃	
6-51	SCH ₃	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃		6-71	SCH ₂ CH ₃		
6-52	SCH ₃	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃		6-72	SCH ₂ CH ₃	CH ₂ SCH ₂ CF ₃	
6-53	SCH ₃	CH ₂ O(CH ₂) ₂ SCH ₃		6-73	SCH ₂ CH ₃	CH ₂ SOCH ₃	
6-54	SCH ₃	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃		6-74	SCH ₂ CH ₃	CH ₂ SOCH ₂ CH ₃	
6-55	SCH ₃	CH ₂ O(CH ₂) ₂ SOCH ₃		6-75	SCH ₂ CH ₃		
6-56	SCH ₃	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃		6-76	SCH ₂ CH ₃	CH ₂ SOCH ₂ CF ₃	
6-57	SCH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃		6-77	SCH ₂ CH ₃	CH ₂ SO ₂ CH ₃	
6-58	SCH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃		6-78	SCH ₂ CH ₃	CH ₂ SO ₂ CH ₂ CH ₃	
6-59	SCH ₃			6-79	SCH ₂ CH ₃		
6-60	SCH ₃			6-80	SCH ₂ CH ₃	CH ₂ SO ₂ CH ₂ CF ₃	

Tabla 80

compuesto número	R2	R1	propiedad física (punto de fusión-ND)
6-81	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ OCH ₃	
6-82	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ CCH ₂ CH ₃	
6-83	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
6-84	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ SCH ₃	
6-85	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃	
6-86	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₃	
6-87	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
6-88	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
6-89	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
6-90	SCH ₂ CH ₃		
6-91	SCH ₂ CH ₃		
6-92	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₃	
6-93	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	
6-94	S(CH ₂) ₂ CH ₃	CH ₃	
6-95	S(CH ₂) ₂ CH ₃	CF ₃	
6-96	S(CH ₂) ₂ CH ₃	CH ₂ OCH ₃	
6-97	S(CH ₂) ₂ CH ₃	CH ₂ OCH ₂ CH ₃	
6-98	S(CH ₂) ₂ CH ₃		
6-99	S(CH ₂) ₂ CH ₃	CH ₂ OCH ₂ CF ₃	
6-100	S(CH ₂) ₂ CH ₃	CH ₂ SCH ₃	
6-101	S(CH ₂) ₂ CH ₃	CH ₂ SCH ₂ CH ₃	
6-102	S(CH ₂) ₂ CH ₃		
6-103	S(CH ₂) ₂ CH ₃	CH ₂ SCH ₂ CF ₃	
6-104	S(CH ₂) ₂ CH ₃	CH ₂ SOCH ₃	
6-105	S(CH ₂) ₂ CH ₃	CH ₂ SOCH ₂ CH ₃	
6-106	S(CH ₂) ₂ CH ₃		
6-107	S(CH ₂) ₂ CH ₃	CH ₂ SOCH ₂ CF ₃	
6-108	S(CH ₂) ₂ CH ₃	CH ₂ SO ₂ CH ₃	
6-109	S(CH ₂) ₂ CH ₃	CH ₂ SO ₂ CH ₂ CH ₃	
6-110	S(CH ₂) ₂ CH ₃		
6-111	S(CH ₂) ₂ CH ₃	CH ₂ SO ₂ CH ₂ CF ₃	
6-112	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ OCH ₃	
6-113	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	
6-114	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
6-115	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SCH ₃	
6-116	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃	
6-117	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₃	
6-118	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
6-119	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
6-120	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	

Tabla 81

compuesto número	R1	R1	propiedad física (punto de fusión-ND)	compuesto número	R1	R1	propiedad física (punto de fusión-ND)
6-121	S(CH ₂) ₂ CH ₃			6-141	SC ₆ H ₅		
6-122	S(CH ₂) ₂ CH ₃			6-142	SC ₆ H ₅	CH ₂ SO ₂ CH ₂ CF ₃	
6-123	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₃		6-143	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ OCH ₃	
6-124	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)		6-144	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	
6-125	SC ₆ H ₅	CH ₃		6-145	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
6-126	SC ₆ H ₅	CF ₃		6-146	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ SCH ₃	
6-127	SC ₆ H ₅	CH ₂ OCH ₃		6-147	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃	
6-128	SC ₆ H ₅	CH ₂ OCH ₂ CH ₃		6-148	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ SOCH ₃	
6-129	SC ₆ H ₅			6-149	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
6-130	SC ₆ H ₅	CH ₂ OCH ₂ CF ₃		6-150	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
6-131	SC ₆ H ₅	CH ₂ SCH ₃		6-151	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
6-132	SC ₆ H ₅	CH ₂ SCH ₂ CH ₃		6-152	SC ₆ H ₅		
6-133	SC ₆ H ₅			6-153	SC ₆ H ₅		
6-134	SC ₆ H ₅	CH ₂ SCH ₂ CF ₃		6-154	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₃	
6-135	SC ₆ H ₅	CH ₂ SOCH ₃		6-155	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	
6-136	SC ₆ H ₅	CH ₂ SOCH ₂ CH ₃		6-156	SCH ₂ C ₆ H ₅	CH ₃	
6-137	SC ₆ H ₅			6-157	SCH ₂ C ₆ H ₅	CF ₃	
6-138	SC ₆ H ₅	CH ₂ SOCH ₂ CF ₃		6-158	SCH ₂ C ₆ H ₅	CH ₂ OCH ₃	
6-139	SC ₆ H ₅	CH ₂ SO ₂ CH ₃		6-159	SCH ₂ C ₆ H ₅	CH ₂ OCH ₂ CH ₃	
6-140	SC ₆ H ₅	CH ₂ SO ₂ CH ₂ CH ₃		6-160	SCH ₂ C ₆ H ₅		

454

Tabla 82

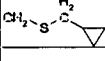
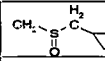
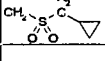
compuesto número	R1	R1	propiedad física (punto de fusión-ND)	compuesto número	R1	R1	propiedad física (punto de fusión-ND)
6-161	SCH ₂ C ₆ H ₅	CH ₂ OCH ₂ CF ₃		6-181	SCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
6-162	SCH ₂ C ₆ H ₅	CH ₂ SCH ₃		6-182	SCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
6-163	SCH ₂ C ₆ H ₅	CH ₂ SCH ₂ CH ₃		6-183	SCH ₂ C ₆ H ₅		
6-164	SCH ₂ C ₆ H ₅			6-184	SCH ₂ C ₆ H ₅		
6-165	SCH ₂ C ₆ H ₅	CH ₂ SCH ₂ CF ₃		6-185	SCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₃	
6-166	SCH ₂ C ₆ H ₅	CH ₂ SOCH ₃		6-186	SCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	
6-167	SCH ₂ C ₆ H ₅	CH ₂ SOCH ₂ CH ₃		6-187	1H-pirazol-1-ilo	CH ₃	
6-168	SCH ₂ C ₆ H ₅			6-188	1H-pirazol-1-ilo	CF ₃	
6-169	SCH ₂ C ₆ H ₅	CH ₂ SOCH ₂ CF ₃		6-189	1H-pirazol-1-ilo	CH ₂ OCH ₃	
6-170	SCH ₂ C ₆ H ₅	CH ₂ SO ₂ CH ₃		6-190	1H-pirazol-1-ilo	CH ₂ OCH ₂ CH ₃	
6-171	SCH ₂ C ₆ H ₅	CH ₂ SO ₂ CH ₂ CH ₃		6-191	1H-pirazol-1-ilo		
6-172	SCH ₂ C ₆ H ₅			6-192	1H-pirazol-1-ilo	CH ₂ OCH ₂ CF ₃	
6-173	SCH ₂ C ₆ H ₅	CH ₂ SO ₂ CH ₂ CF ₃		6-193	1H-pirazol-1-ilo	CH ₂ SCH ₃	
6-174	SCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ OCH ₃		6-194	1H-pirazol-1-ilo	CH ₂ SCH ₂ CH ₃	
6-175	SCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃		6-195	1H-pirazol-1-ilo		
6-176	SCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃		6-196	1H-pirazol-1-ilo	CH ₂ SCH ₂ CF ₃	
6-177	SCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ SCH ₃		6-197	1H-pirazol-1-ilo	CH ₂ SOCH ₃	
6-178	SCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃		6-198	1H-pirazol-1-ilo	CH ₂ SOCH ₂ CH ₃	
6-179	SCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ SOCH ₃		6-199	1H-pirazol-1-ilo		
6-180	SCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃		6-200	1H-pirazol-1-ilo	CH ₂ SOCH ₂ CF ₃	

Tabla 83

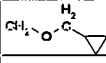
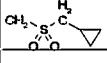
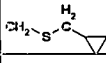
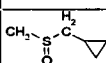
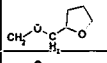
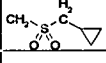
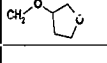
compuesto número	R4	R1	propiedad física (punto de fusión-ND)	compuesto número	R4	R1	propiedad física (punto de fusión-ND)
6-201	1H-pirazol-1-ilo	CH ₂ SO ₂ CH ₃		6-221	1H-imidazol-1-ilo	CH ₂ OCH ₂ CH ₃	
6-202	1H-pirazol-1-ilo	CH ₂ SO ₂ CH ₂ CH ₃		6-222	1H-imidazol-1-ilo		
6-203	1H-pirazol-1-ilo			6-223	1H-imidazol-1-ilo	CH ₂ OCH ₂ CF ₃	
6-204	1H-pirazol-1-ilo	CH ₂ SO ₂ CH ₂ CF ₃		6-224	1H-imidazol-1-ilo	CH ₂ SCH ₃	
6-205	1H-pirazol-1-ilo	CH ₂ O(CH ₂) ₂ OCH ₃		6-225	1H-imidazol-1-ilo	CH ₂ SCH ₂ CH ₃	
6-206	1H-pirazol-1-ilo	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃		6-226	1H-imidazol-1-ilo		
6-207	1H-pirazol-1-ilo	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃		6-227	1H-imidazol-1-ilo	CH ₂ SCH ₂ CF ₃	
6-208	1H-pirazol-1-ilo	CH ₂ O(CH ₂) ₂ SCH ₃		6-228	1H-imidazol-1-ilo	CH ₂ SOCH ₃	
6-209	1H-pirazol-1-ilo	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃		6-229	1H-imidazol-1-ilo	CH ₂ SOCH ₂ CH ₃	
6-210	1H-pirazol-1-ilo	CH ₂ O(CH ₂) ₂ SOCH ₃		6-230	1H-imidazol-1-ilo		
6-211	1H-pirazol-1-ilo	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃		6-231	1H-imidazol-1-ilo	CH ₂ SOCH ₂ CF ₃	
6-212	1H-pirazol-1-ilo	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃		6-232	1H-imidazol-1-ilo	CH ₂ SO ₂ CH ₃	
6-213	1H-pirazol-1-ilo	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃		6-233	1H-imidazol-1-ilo	CH ₂ SO ₂ CH ₂ CH ₃	
6-214	1H-pirazol-1-ilo			6-234	1H-imidazol-1-ilo		
6-215	1H-pirazol-1-ilo			6-235	1H-imidazol-1-ilo	CH ₂ SO ₂ CH ₂ CF ₃	
6-216	1H-pirazol-1-ilo	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₃		6-236	1H-imidazol-1-ilo	CH ₂ O(CH ₂) ₂ OCH ₃	
6-217	1H-pirazol-1-ilo	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)		6-237	1H-imidazol-1-ilo	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	
6-218	1H-imidazol-1-ilo	CH ₃		6-238	1H-imidazol-1-ilo	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
6-219	1H-imidazol-1-ilo	CF ₃		6-239	1H-imidazol-1-ilo	CH ₂ O(CH ₂) ₂ SCH ₃	
6-220	1H-imidazol-1-ilo	CH ₂ OCH ₃		6-240	1H-imidazol-1-ilo	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃	

Tabla 84

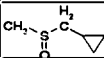
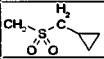
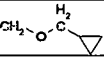
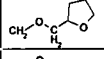
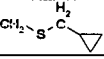
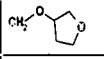
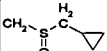
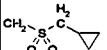
compuesto número	R1	R1	propiedad física (punto de fusión-ND)	compuesto número	R1	R1	propiedad física (punto de fusión-ND)
6-241	1H-imidazol-1-ilo	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_3$		6-261	1H-triazol-1-ilo		
6-242	1H-imidazol-1-ilo	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2\text{CF}_3$		6-262	1H-triazol-1-ilo	$\text{CH}_2\text{SOCH}_2\text{CF}_3$	
6-243	1H-imidazol-1-ilo	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_3$		6-263	1H-triazol-1-ilo	$\text{CH}_2\text{SO}_2\text{CH}_3$	
6-244	1H-imidazol-1-ilo	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{CF}_3$		6-264	1H-triazol-1-ilo	$\text{CH}_2\text{SO}_2\text{CH}_2\text{CH}_3$	
6-245	1H-imidazol-1-ilo			6-265	1H-triazol-1-ilo		
6-246	1H-imidazol-1-ilo			6-266	1H-triazol-1-ilo	$\text{CH}_2\text{SO}_2\text{CH}_2\text{CF}_3$	
6-247	1H-imidazol-1-ilo	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NHSO}_2\text{CH}_3$		6-267	1H-triazol-1-ilo	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_3$	
6-248	1H-imidazol-1-ilo	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{N}(\text{CH}_3)(\text{SO}_2\text{CH}_3)$		6-268	1H-triazol-1-ilo	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2\text{CH}_3$	
6-249	1H-triazol-1-ilo	CH_3		6-269	1H-triazol-1-ilo	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2\text{CF}_3$	
6-250	1H-triazol-1-ilo	CF_3		6-270	1H-triazol-1-ilo	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_3$	
6-251	1H-triazol-1-ilo	CH_2OCH_3		6-271	1H-triazol-1-ilo	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2\text{CF}_3$	
6-252	1H-triazol-1-ilo	$\text{CH}_2\text{OCH}_2\text{CH}_3$		6-272	1H-triazol-1-ilo	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_3$	
6-253	1H-triazol-1-ilo			6-273	1H-triazol-1-ilo	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2\text{CF}_3$	
6-254	1H-triazol-1-ilo	$\text{CH}_2\text{OCH}_2\text{CF}_3$		6-274	1H-triazol-1-ilo	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_3$	
6-255	1H-triazol-1-ilo	CH_2SCH_3		6-275	1H-triazol-1-ilo	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{CF}_3$	
6-256	1H-triazol-1-ilo	$\text{CH}_2\text{SCH}_2\text{CH}_3$		6-276	1H-triazol-1-ilo		
6-257	1H-triazol-1-ilo			6-277	1H-triazol-1-ilo		
6-258	1H-triazol-1-ilo	$\text{CH}_2\text{SCH}_2\text{CF}_3$		6-278	1H-triazol-1-ilo	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NHSO}_2\text{CH}_3$	
6-259	1H-triazol-1-ilo	CH_2SOCH_3		6-279	1H-triazol-1-ilo	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{N}(\text{CH}_3)(\text{SO}_2\text{CH}_3)$	
6-260	1H-triazol-1-ilo	$\text{CH}_2\text{SOCH}_2\text{CH}_3$		6-280	1H-tetrazol-1-ilo	CH_3	

Tabla 85

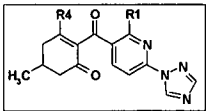
compuesto número	R1	R1	propiedad física (punto de fusión-ND)	compuesto número	R1	R1	propiedad física (punto de fusión-ND)
6-261	1H-tetrazol-1-ilo	CF ₃		6-301	1H-tetrazol-1-ilo	CH ₂ O(CH ₂) ₂ SCH ₃	
6-262	1H-tetrazol-1-ilo	CH ₂ OCH ₃		6-302	1H-tetrazol-1-ilo	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃	
6-263	1H-tetrazol-1-ilo	CH ₂ OCH ₂ CH ₃		6-303	1H-tetrazol-1-ilo	CH ₂ O(CH ₂) ₂ SOCH ₃	
6-264	1H-tetrazol-1-ilo			6-304	1H-tetrazol-1-ilo	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
6-265	1H-tetrazol-1-ilo	CH ₂ OCH ₂ CF ₃		6-305	1H-tetrazol-1-ilo	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
6-266	1H-tetrazol-1-ilo	CH ₂ SCH ₃		6-306	1H-tetrazol-1-ilo	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
6-267	1H-tetrazol-1-ilo	CH ₂ SCH ₂ CH ₃		6-207	1H-tetrazol-1-ilo		
6-268	1H-tetrazol-1-ilo			6-302	1H-tetrazol-1-ilo		
6-269	1H-tetrazol-1-ilo	CH ₂ SCH ₂ CF ₃		6-303	1H-tetrazol-1-ilo	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₃	
6-269	1H-tetrazol-1-ilo	CH ₂ SOCH ₃		6-310	1H-tetrazol-1-ilo	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	
6-291	1H-tetrazol-1-ilo	CH ₂ SOCH ₂ CH ₃		6-311	1H-tetrazol-2-ilo	CH ₃	
6-292	1H-tetrazol-1-ilo			6-312	1H-tetrazol-2-ilo	CF ₃	
6-293	1H-tetrazol-1-ilo	CH ₂ SOCH ₂ CF ₃		6-313	1H-tetrazol-2-ilo	CH ₂ OCH ₃	
6-294	1H-tetrazol-1-ilo	CH ₂ SO ₂ CH ₃		6-314	1H-tetrazol-2-ilo	CH ₂ OCH ₂ CH ₃	
6-295	1H-tetrazol-1-ilo	CH ₂ SO ₂ CH ₂ CH ₃		6-315	1H-tetrazol-2-ilo		
6-296	1H-tetrazol-1-ilo			6-316	1H-tetrazol-2-ilo	CH ₂ OCH ₂ CF ₃	
6-297	1H-tetrazol-1-ilo	CH ₂ SO ₂ CH ₂ CF ₃		6-317	1H-tetrazol-2-ilo	CH ₂ SCH ₃	
6-298	1H-tetrazol-1-ilo	CH ₂ O(CH ₂) ₂ OCH ₃		6-318	1H-tetrazol-2-ilo	CH ₂ SCH ₂ CH ₃	
6-299	1H-tetrazol-1-ilo	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃		6-319	1H-tetrazol-2-ilo		
6-300	1H-tetrazol-1-ilo	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃		6-320	1H-tetrazol-2-ilo	CH ₂ SCH ₂ CF ₃	

Tabla 86

compuesto número	R4	R1	propiedad física (punto de fusión-ND)
6-321	1H-tetrazol-2-ilo	CH ₂ SOCH ₃	
6-322	1H-tetrazol-2-ilo	CH ₂ SOCH ₂ CH ₃	
6-323	1H-tetrazol-2-ilo		
6-324	1H-tetrazol-2-ilo	CH ₂ SOCH ₂ CF ₃	
6-325	1H-tetrazol-2-ilo	CH ₂ SO ₂ CH ₃	
6-326	1H-tetrazol-2-ilo	CH ₂ SO ₂ CH ₂ CH ₃	
6-327	1H-tetrazol-2-ilo		
6-328	1H-tetrazol-2-ilo	CH ₂ SO ₂ CH ₂ CF ₃	
6-329	1H-tetrazol-2-ilo	CH ₂ O(CH ₂) ₂ OCH ₃	
6-330	1H-tetrazol-2-ilo	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	
6-331	1H-tetrazol-2-ilo	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
6-332	1H-tetrazol-2-ilo	CH ₂ O(CH ₂) ₂ SCH ₃	
6-333	1H-tetrazol-2-ilo	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃	
6-334	1H-tetrazol-2-ilo	CH ₂ O(CH ₂) ₂ SOCH ₃	
6-335	1H-tetrazol-2-ilo	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
6-336	1H-tetrazol-2-ilo	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
6-337	1H-tetrazol-2-ilo	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
6-338	1H-tetrazol-2-ilo		
6-339	1H-tetrazol-2-ilo		
6-340	1H-tetrazol-2-ilo	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₃	

compuesto número	R4	R1	propiedad física (punto de fusión-ND)
6-341	1H-tetrazol-2-ilo	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	

Tabla 87



compuesto número	R4	R1	propiedad física (punto de fusión-ND)
7-1	Cl	CH ₃	
7-2	Cl	CF ₃	
7-3	Cl	CH ₂ OCH ₃	
7-4	Cl	CH ₂ OCH ₂ CH ₃	
7-5	Cl		
7-6	Cl	CH ₂ OCH ₂ CF ₃	
7-7	Cl	CH ₂ SCH ₃	
7-8	Cl	CH ₂ SCH ₂ CH ₃	
7-9	Cl		
7-10	Cl	CH ₂ SCH ₂ CF ₃	
7-11	Cl	CH ₂ SOCH ₃	
7-12	Cl	CH ₂ SOCH ₂ CH ₃	
7-13	Cl		
7-14	Cl	CH ₂ SOCH ₂ CF ₃	
7-15	Cl	CH ₂ SO ₂ CH ₃	
7-16	Cl	CH ₂ SO ₂ CH ₂ CH ₃	
7-17	Cl		
7-18	Cl	CH ₂ SO ₂ CH ₂ CF ₃	
7-19	Cl	CH ₂ O(CH ₂) ₂ OCH ₃	
7-20	Cl	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	

compuesto número	R4	R1	propiedad física (punto de fusión-ND)
7-21	Cl	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
7-22	Cl	CH ₂ O(CH ₂) ₂ SCH ₃	
7-23	Cl	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃	
7-24	Cl	CH ₂ O(CH ₂) ₂ SOCH ₃	
7-25	Cl	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
7-26	Cl	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
7-27	Cl	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
7-28	Cl		
7-29	Cl		
7-30	Cl	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₃	
7-31	Cl	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	
7-32	SCH ₃	CH ₃	
7-33	SCH ₃	CF ₃	
7-34	SCH ₃	CH ₂ OCH ₃	
7-35	SCH ₃	CH ₂ OCH ₂ CH ₃	
7-36	SCH ₃		
7-37	SCH ₃	CH ₂ OCH ₂ CF ₃	
7-38	SCH ₃	CH ₂ SCH ₃	
7-39	SCH ₃	CH ₂ SCH ₂ CH ₃	
7-40	SCH ₃		

Tabla 88

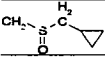
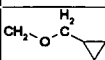
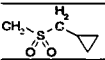
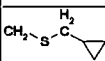
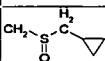
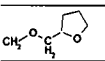
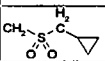
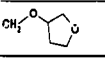
compuesto número	R4	R1	propiedad física (punto de fusión-ND)	compuesto número	R4	R1	propiedad física (punto de fusión-ND)
7-41	SCH ₃	CH ₂ SOCH ₂ CF ₃		7-61	SCH ₃	CH ₂ O(CH ₂) ₂ NH ₂ SO ₂ CH ₃	
7-42	SCH ₃	CH ₂ SOCH ₃		7-62	SCH ₃	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	
7-43	SCH ₃	CH ₂ SOCH ₂ CH ₃		7-63	SCH ₂ CH ₃	CH ₃	
7-44	SCH ₃			7-64	SCH ₂ CH ₃	CF ₃	
7-45	SCH ₃	CH ₂ SOCH ₂ CF ₃		7-65	SCH ₂ CH ₃	CH ₂ OCH ₃	
7-46	SCH ₃	CH ₂ SO ₂ CH ₃		7-66	SCH ₂ CH ₃	CH ₂ OCH ₂ CH ₃	
7-47	SCH ₃	CH ₂ SO ₂ CH ₂ CH ₃		7-67	SCH ₂ CH ₃		
7-48	SCH ₃			7-68	SCH ₂ CH ₃	CH ₂ OCH ₂ CF ₃	
7-49	SCH ₃	CH ₂ SO ₂ CH ₂ CF ₃		7-69	SCH ₂ CH ₃	CH ₂ SOCH ₃	
7-50	SCH ₃	CH ₂ O(CH ₂) ₂ OCH ₃		7-70	SCH ₂ CH ₃	CH ₂ SOCH ₂ CH ₃	
7-51	SCH ₃	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃		7-71	SCH ₂ CH ₃		
7-52	SCH ₃	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃		7-72	SCH ₂ CH ₃	CH ₂ SOCH ₂ CF ₃	
7-53	SCH ₃	CH ₂ O(CH ₂) ₂ SOCH ₃		7-73	SCH ₂ CH ₃	CH ₂ SOCH ₃	
7-54	SCH ₃	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃		7-74	SCH ₂ CH ₃	CH ₂ SOCH ₂ CH ₃	
7-55	SCH ₃	CH ₂ O(CH ₂) ₂ SOCH ₃		7-75	SCH ₂ CH ₃		
7-56	SCH ₃	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃		7-76	SCH ₂ CH ₃	CH ₂ SOCH ₂ CF ₃	
7-57	SCH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃		7-77	SCH ₂ CH ₃	CH ₂ SO ₂ CH ₃	
7-58	SCH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃		7-78	SCH ₂ CH ₃	CH ₂ SO ₂ CH ₂ CH ₃	
7-59	SCH ₃			7-79	SCH ₂ CH ₃		
7-60	SCH ₃			7-80	SCH ₂ CH ₃	CH ₂ SO ₂ CH ₂ CF ₃	

Tabla 89

compuesto número	R1	R1	propiedad física (punto de fusión-ND)	compuesto número	R1	R1	propiedad física (punto de fusión-ND)
7-81	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ OCH ₃		7-101	S(CH ₂) ₂ CH ₃	CH ₂ SCCH ₂ CH ₃	
7-82	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃		7-102	S(CH ₂) ₂ CH ₃		
7-83	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃		7-103	S(CH ₂) ₂ CH ₃	CH ₂ SCCH ₂ CF ₃	
7-84	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ SCH ₃		7-104	S(CH ₂) ₂ CH ₃	CH ₂ SOCH ₃	
7-85	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃		7-105	S(CH ₂) ₂ CH ₃	CH ₂ SOCH ₂ CH ₃	
7-86	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₃		7-106	S(CH ₂) ₂ CH ₃		
7-87	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃		7-107	S(CH ₂) ₂ CH ₃	CH ₂ SOCH ₂ CF ₃	
7-88	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃		7-108	S(CH ₂) ₂ CH ₃	CH ₂ SO ₂ CH ₃	
7-89	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃		7-109	S(CH ₂) ₂ CH ₃	CH ₂ SO ₂ CH ₂ CH ₃	
7-90	SCH ₂ CH ₃			7-110	S(CH ₂) ₂ CH ₃		
7-91	SCH ₂ CH ₃			7-111	S(CH ₂) ₂ CH ₃	CH ₂ SO ₂ CH ₂ CF ₃	
7-92	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₃		7-112	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ OCH ₃	
7-93	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)		7-113	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	
7-94	S(CH ₂) ₂ CH ₃	CH ₃		7-114	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
7-95	S(CH ₂) ₂ CH ₃	CF ₃		7-115	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SCH ₃	
7-96	S(CH ₂) ₂ CH ₃	CH ₂ OCH ₃		7-116	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃	
7-97	S(CH ₂) ₂ CH ₃	CH ₂ OCH ₂ CH ₃		7-117	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₃	
7-98	S(CH ₂) ₂ CH ₃			7-118	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
7-99	S(CH ₂) ₂ CH ₃	CH ₂ OCH ₂ CF ₃		7-119	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
7-100	S(CH ₂) ₂ CH ₃	CH ₂ SCH ₃		7-120	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	

Tabla 90

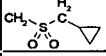
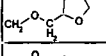
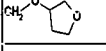
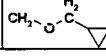
compuesto número	R2	R1	propiedad física (punto de fusión-ND)	compuesto número	R2	R1	propiedad física (punto de fusión-ND)
7-121	S(CH ₂) ₂ CH ₃			7-141	SC ₆ H ₅		
7-122	S(CH ₂) ₂ CH ₃			7-142	SC ₆ H ₅	CH ₂ SO ₂ CH ₂ CF ₃	
7-123	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₃		7-143	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ OCH ₃	
7-124	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)		7-144	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	
7-125	SC ₆ H ₅	CH ₃		7-145	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
7-126	SC ₆ H ₅	CF ₃		7-146	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ SCH ₃	
7-127	SC ₆ H ₅	CH ₂ OCH ₃		7-147	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃	
7-128	SC ₆ H ₅	CH ₂ OCH ₂ CH ₃		7-148	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ SOCH ₃	
7-129	SC ₆ H ₅			7-149	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
7-130	SC ₆ H ₅	CH ₂ OCH ₂ CF ₃		7-150	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
7-131	SC ₆ H ₅	CH ₂ SCH ₃		7-151	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
7-132	SC ₆ H ₅	CH ₂ SCH ₂ CH ₃		7-152	SC ₆ H ₅		
7-133	SC ₆ H ₅			7-153	SC ₆ H ₅		
7-134	SC ₆ H ₅	CH ₂ SCH ₂ CF ₃		7-154	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₃	
7-135	SC ₆ H ₅	CH ₂ SOCH ₃		7-155	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	
7-136	SC ₆ H ₅	CH ₂ SOCH ₂ CH ₃		7-156	SCH ₂ C ₆ H ₅	CH ₃	
7-137	SC ₆ H ₅			7-157	SCH ₂ C ₆ H ₅	CF ₃	
7-138	SC ₆ H ₅	CH ₂ SOCH ₂ CF ₃		7-158	SCH ₂ C ₆ H ₅	CH ₂ OCH ₃	
7-139	SC ₆ H ₅	CH ₂ SO ₂ CH ₃		7-159	SCH ₂ C ₆ H ₅	CH ₂ OCH ₂ CH ₃	
7-140	SC ₆ H ₅	CH ₂ SO ₂ CH ₂ CH ₃		7-160	SCH ₂ C ₆ H ₅		

Tabla 91

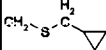
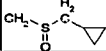
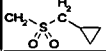
compuesto número	R4	R1	propiedad física (punto de fusión-ND)
7-161	SCH ₂ C ₆ H ₅	CH ₂ OCH ₂ CF ₃	
7-162	SCH ₂ C ₆ H ₅	CH ₂ SCH ₃	
7-163	SCH ₂ C ₆ H ₅	CH ₂ SCH ₂ CH ₃	
7-164	SCH ₂ C ₆ H ₅		
7-165	SCH ₂ C ₆ H ₅	CH ₂ SCH ₂ CF ₃	
7-166	SCH ₂ C ₆ H ₅	CH ₂ SOCH ₃	
7-167	SCH ₂ C ₆ H ₅	CH ₂ SOCH ₂ CH ₃	
7-168	SCH ₂ C ₆ H ₅		
7-169	SCH ₂ C ₆ H ₅	CH ₂ SOCH ₂ CF ₃	
7-170	SCH ₂ C ₆ H ₅	CH ₂ SO ₂ CH ₃	
7-171	SCH ₂ C ₆ H ₅	CH ₂ SO ₂ CH ₂ CH ₃	
7-172	SCH ₂ C ₆ H ₅		
7-173	SCH ₂ C ₆ H ₅	CH ₂ SO ₂ CH ₂ CF ₃	
7-174	SCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ OCH ₃	
7-175	SCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	
7-176	SCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
7-177	SCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ SCH ₃	
7-178	SCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃	
7-179	SCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ SOCH ₃	
7-180	SCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
7-181	SCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
7-182	SCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
7-183	SCH ₂ C ₆ H ₅		
7-184	SCH ₂ C ₆ H ₅		
7-185	SCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₃	
7-186	SCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	
7-187	1H-pirazol-1-ilo	CH ₃	
7-188	1H-pirazol-1-ilo	CF ₃	
7-189	1H-pirazol-1-ilo	CH ₂ OCH ₃	
7-190	1H-pirazol-1-ilo	CH ₂ OCH ₂ CH ₃	
7-191	1H-pirazol-1-ilo		
7-192	1H-pirazol-1-ilo	CH ₂ OCH ₂ CF ₃	
7-193	1H-pirazol-1-ilo	CH ₂ SCH ₃	
7-194	1H-pirazol-1-ilo	CH ₂ SCH ₂ CH ₃	
7-195	1H-pirazol-1-ilo		
7-196	1H-pirazol-1-ilo	CH ₂ SCH ₂ CF ₃	
7-197	1H-pirazol-1-ilo	CH ₂ SOCH ₃	
7-198	1H-pirazol-1-ilo	CH ₂ SOCH ₂ CH ₃	
7-199	1H-pirazol-1-ilo		
7-200	1H-pirazol-1-ilo	CH ₂ SOCH ₂ CF ₃	

Tabla 92

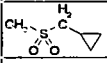
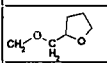
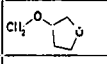
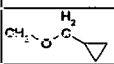
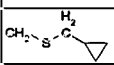
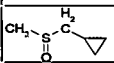
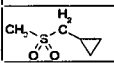
compuesto número	R4	R1	propiedad física (punto de fusión-ND)
7-201	1H-pirazol-1-ilo	CH ₂ SO ₂ CH ₃	
7-202	1H-pirazol-1-ilo	CH ₂ SO ₂ CH ₂ CH ₃	
7-203	1H-pirazol-1-ilo		
7-204	1H-pirazol-1-ilo	CH ₂ SO ₂ CH ₂ CF ₃	
7-205	1H-pirazol-1-ilo	CH ₂ O(CH ₂) ₂ OCH ₃	
7-206	1H-pirazol-1-ilo	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	
7-207	1H-pirazol-1-ilo	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
7-208	1H-pirazol-1-ilo	CH ₂ O(CH ₂) ₂ SCH ₃	
7-209	1H-pirazol-1-ilo	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃	
7-210	1H-pirazol-1-ilo	CH ₂ O(CH ₂) ₂ SOCH ₃	
7-211	1H-pirazol-1-ilo	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
7-212	1H-pirazol-1-ilo	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
7-213	1H-pirazol-1-ilo	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
7-214	1H-pirazol-1-ilo		
7-215	1H-pirazol-1-ilo		
7-216	1H-pirazol-1-ilo	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₃	
7-217	1H-pirazol-1-ilo	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	
7-218	1H-imidazol-1-ilo	CH ₃	
7-219	1H-imidazol-1-ilo	CF ₃	
7-220	1H-imidazol-1-ilo	CH ₂ OCH ₃	
7-221	1H-imidazol-1-ilo	CH ₂ OCH ₂ CH ₃	
7-222	1H-imidazol-1-ilo		
7-223	1H-imidazol-1-ilo	CH ₂ OCH ₂ CF ₃	
7-224	1H-imidazol-1-ilo	CH ₂ SCCH ₃	
7-225	1H-imidazol-1-ilo	CH ₂ SCCH ₂ CH ₃	
7-226	1H-imidazol-1-ilo		
7-227	1H-imidazol-1-ilo	CH ₂ SCCH ₂ CF ₃	
7-228	1H-imidazol-1-ilo	CH ₂ SOCH ₃	
7-229	1H-imidazol-1-ilo	CH ₂ SOCH ₂ CH ₃	
7-230	1H-imidazol-1-ilo		
7-231	1H-imidazol-1-ilo	CH ₂ SOCH ₂ CF ₃	
7-232	1H-imidazol-1-ilo	CH ₂ SO ₂ CH ₃	
7-233	1H-imidazol-1-ilo	CH ₂ SO ₂ CH ₂ CH ₃	
7-234	1H-imidazol-1-ilo		
7-235	1H-imidazol-1-ilo	CH ₂ SO ₂ CH ₂ CF ₃	
7-236	1H-imidazol-1-ilo	CH ₂ O(CH ₂) ₂ OCH ₃	
7-237	1H-imidazol-1-ilo	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	
7-238	1H-imidazol-1-ilo	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
7-239	1H-imidazol-1-ilo	CH ₂ O(CH ₂) ₂ SCH ₃	
7-240	1H-imidazol-1-ilo	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃	

Tabla 93

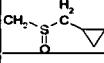
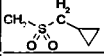
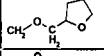
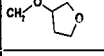
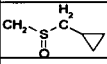
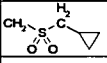
compuesto número	R1	R1	propiedad física (punto de fusión-ND)	compuesto número	R1	R1	propiedad física (punto de fusión-ND)
7-241	1H-imidazol-1-ilo	CH ₂ O(CH ₂) ₂ SOCH ₃		7-261	1H-triazol-1-ilo		
7-242	1H-imidazol-1-ilo	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃		7-262	1H-triazol-1-ilo	CH ₂ SOCH ₂ CF ₃	
7-243	1H-imidazol-1-ilo	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃		7-263	1H-triazol-1-ilo	CH ₂ SO ₂ CH ₃	
7-244	1H-imidazol-1-ilo	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃		7-264	1H-triazol-1-ilo	CH ₂ SO ₂ CH ₂ CH ₃	
7-245	1H-imidazol-1-ilo			7-265	1H-triazol-1-ilo		
7-246	1H-imidazol-1-ilo			7-266	1H-triazol-1-ilo	CH ₂ SO ₂ CH ₂ CF ₃	
7-247	1H-imidazol-1-ilo	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₃		7-267	1H-triazol-1-ilo	CH ₂ O(CH ₂) ₂ OCH ₃	
7-248	1H-imidazol-1-ilo	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)		7-268	1H-triazol-1-ilo	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
7-249	1H-triazol-1-ilo	CH ₃		7-269	1H-triazol-1-ilo	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
7-250	1H-triazol-1-ilo	CF ₃		7-270	1H-triazol-1-ilo	CH ₂ O(CH ₂) ₂ SCH ₃	
7-251	1H-triazol-1-ilo	CH ₂ OCH ₃		7-271	1H-triazol-1-ilo	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃	
7-252	1H-triazol-1-ilo	CH ₂ OCH ₂ CH ₃		7-272	1H-triazol-1-ilo	CH ₂ O(CH ₂) ₂ SOCH ₃	
7-253	1H-triazol-1-ilo			7-273	1H-triazol-1-ilo	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
7-254	1H-triazol-1-ilo	CH ₂ OCH ₂ CF ₃		7-274	1H-triazol-1-ilo	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
7-255	1H-triazol-1-ilo	CH ₂ SCH ₃		7-275	1H-triazol-1-ilo	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
7-256	1H-triazol-1-ilo	CH ₂ SCH ₂ CH ₃		7-276	1H-triazol-1-ilo		
7-257	1H-triazol-1-ilo			7-277	1H-triazol-1-ilo		
7-258	1H-triazol-1-ilo	CH ₂ SCH ₂ CF ₃		7-278	1H-triazol-1-ilo	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₃	
7-259	1H-triazol-1-ilo	CH ₂ SOCH ₃		7-279	1H-triazol-1-ilo	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	
7-260	1H-triazol-1-ilo	CH ₂ SOCH ₂ CH ₃		7-280	1H-tetrazol-1-ilo	CH ₃	

Tabla 94

compuesto número	R4	R1	propiedad física (punto de fusión-ND)	compuesto número	R4	R1	propiedad física (punto de fusión-ND)
7-281	1H-tetrazol-1-ilo	CF ₃		7-301	1H-tetrazol-1-ilo	CH ₂ O(CH ₂) ₂ SCH ₃	
7-282	1H-tetrazol-1-ilo	CH ₂ OCH ₃		7-302	1H-tetrazol-1-ilo	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃	
7-283	1H-tetrazol-1-ilo	CH ₂ OCH ₂ CH ₃		7-303	1H-tetrazol-1-ilo	CH ₂ O(CH ₂) ₂ SOCH ₃	
7-284	1H-tetrazol-1-ilo			7-304	1H-tetrazol-1-ilo	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
7-285	1H-tetrazol-1-ilo	CH ₂ OCH ₂ CF ₃		7-305	1H-tetrazol-1-ilo	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
7-286	1H-tetrazol-1-ilo	CH ₂ SCH ₃		7-306	1H-tetrazol-1-ilo	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
7-287	1H-tetrazol-1-ilo	CH ₂ SCH ₂ CH ₃		7-307	1H-tetrazol-1-ilo		
7-288	1H-tetrazol-1-ilo			7-200	1H-tetrazol-1-ilo		
7-289	1H-tetrazol-1-ilo	CH ₂ SCH ₂ CF ₃		7-309	1H-tetrazol-1-ilo	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₃	
7-290	1H-tetrazol-1-ilo	CH ₂ SOCH ₃		7-310	1H-tetrazol-1-ilo	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	
7-291	1H-tetrazol-1-ilo	CH ₂ SOCH ₂ CH ₃		7-311	1H-tetrazol-2-ilo	CH ₃	
7-292	1H-tetrazol-1-ilo			7-312	1H-tetrazol-2-ilo	CF ₃	
7-293	1H-tetrazol-1-ilo	CH ₂ SOCH ₂ CF ₃		7-313	1H-tetrazol-2-ilo	CH ₂ OCH ₃	
7-294	1H-tetrazol-1-ilo	CH ₂ SO ₂ CH ₃		7-314	1H-tetrazol-2-ilo	CH ₂ OCH ₂ CH ₃	
7-295	1H-tetrazol-1-ilo	CH ₂ SO ₂ CH ₂ CH ₃		7-315	1H-tetrazol-2-ilo		
7-296	1H-tetrazol-1-ilo			7-316	1H-tetrazol-2-ilo	CH ₂ OCH ₂ CF ₃	
7-297	1H-tetrazol-1-ilo	CH ₂ SO ₂ CH ₂ CF ₃		7-317	1H-tetrazol-2-ilo	CH ₂ SCH ₃	
7-298	1H-tetrazol-1-ilo	CH ₂ O(CH ₂) ₂ OCH ₃		7-318	1H-tetrazol-2-ilo	CH ₂ SCH ₂ CH ₃	
7-299	1H-tetrazol-1-ilo	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃		7-319	1H-tetrazol-2-ilo		
7-300	1H-tetrazol-1-ilo	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃		7-320	1H-tetrazol-2-ilo	CH ₂ SCH ₂ CF ₃	

Tabla 95

compuesto número	R1	R1	propiedad física (punto de fusión-ND)
7-321	1H-tetrazol-2-ilo	CH_2SOCH_3	
7-322	1H-tetrazol-2-ilo	$\text{CH}_2\text{SOCH}_2\text{CH}_3$	
7-323	1H-tetrazol-2-ilo		
7-324	1H-tetrazol-2-ilo	$\text{CH}_2\text{SOCH}_2\text{CF}_3$	
7-325	1H-tetrazol-2-ilo	$\text{CH}_2\text{SO}_2\text{CH}_3$	
7-326	1H-tetrazol-2-ilo	$\text{CH}_2\text{SO}_2\text{CH}_2\text{CH}_3$	
7-327	1H-tetrazol-2-ilo		
7-328	1H-tetrazol-2-ilo	$\text{CH}_2\text{SO}_2\text{CH}_2\text{CF}_3$	
7-329	1H-tetrazol-2-ilo	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_3$	
7-330	1H-tetrazol-2-ilo	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2\text{CH}_3$	
7-331	1H-tetrazol-2-ilo	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2\text{CF}_3$	
7-332	1H-tetrazol-2-ilo	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_3$	
7-333	1H-tetrazol-2-ilo	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2\text{CF}_3$	
7-334	1H-tetrazol-2-ilo	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_3$	
7-335	1H-tetrazol-2-ilo	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2\text{CF}_3$	
7-336	1H-tetrazol-2-ilo	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_3$	
7-337	1H-tetrazol-2-ilo	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{CF}_3$	
7-338	1H-tetrazol-2-ilo		
7-339	1H-tetrazol-2-ilo		
7-340	1H-tetrazol-2-ilo	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NHSO}_2\text{CH}_3$	

compuesto número	R1	R1	propiedad física (punto de fusión-ND)
7-341	1H-tetrazol-2-ilo	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{N}(\text{CH}_3)(\text{SO}_2\text{CH}_3)$	

Tabla 96

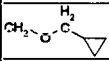
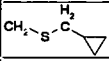
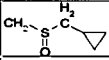
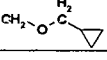
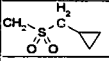
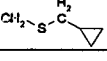
compuesto número	R4	R1	propiedad física (punto de fusión-ND)	compuesto número	R4	R1	propiedad física (punto de fusión-ND)
8-1	Cl	CH ₃		8-21	Cl	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
8-2	Cl	CF ₃		8-22	Cl	CH ₂ O(CH ₂) ₂ SCH ₃	
8-3	Cl	CH ₂ OCH ₃		8-23	Cl	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃	
8-4	Cl	CH ₂ OCH ₂ CH ₃		8-24	Cl	CH ₂ O(CH ₂) ₂ SOCH ₃	
8-5	Cl			8-25	Cl	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
8-6	Cl	CH ₂ OCH ₂ CF ₃		8-26	Cl	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
8-7	Cl	CH ₂ SCH ₃		8-27	Cl	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
8-8	Cl	CH ₂ SCH ₂ CH ₃		8-28	Cl		
8-9	Cl			8-29	Cl		
8-10	Cl	CH ₂ SCH ₂ CF ₃		8-30	Cl	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₃	
8-11	Cl	CH ₂ SOCH ₃		8-31	Cl	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	
8-12	Cl	CH ₂ SOCH ₂ CH ₃		8-32	SCH ₃	CH ₃	
8-13	Cl			8-33	SCH ₃	CF ₃	
8-14	Cl	CH ₂ SOCH ₂ CF ₃		8-34	SCH ₃	CH ₂ OCH ₃	
8-15	Cl	CH ₂ SO ₂ CH ₃		8-35	SCH ₃	CH ₂ OCH ₂ CH ₃	
8-16	Cl	CH ₂ SO ₂ CH ₂ CH ₃		8-36	SCH ₃		
8-17	Cl			8-37	SCH ₃	CH ₂ OCH ₂ CF ₃	
8-18	Cl	CH ₂ SO ₂ CH ₂ CF ₃		8-38	SCH ₃	CH ₂ SCH ₃	
8-19	Cl	CH ₂ O(CH ₂) ₂ OCH ₃		8-39	SCH ₃	CH ₂ SCH ₂ CH ₃	
8-20	Cl	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃		8-40	SCH ₃		

Tabla 97

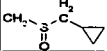
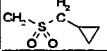
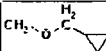
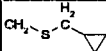
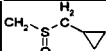
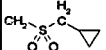
compuesto número	R4	R1	propiedad física (punto de fusión-ND)
B-41	SCH ₃	CH ₂ SOCH ₂ CF ₃	
B-42	SCH ₃	CH ₂ SOCH ₃	
B-43	SCH ₃	CH ₂ SOCH ₂ CH ₃	
B-44	SCH ₃		
B-45	SCH ₃	CH ₂ SOCH ₂ CF ₃	
B-46	SCH ₃	CH ₂ SO ₂ CH ₃	
B-47	SCH ₃	CH ₂ SO ₂ CH ₂ CH ₃	
B-48	SCH ₃		
B-49	SCH ₃	CH ₂ SO ₂ CH ₂ CF ₃	
B-50	SCH ₃	CH ₂ O(CH ₂) ₂ OCH ₃	
B-51	SCH ₃	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	
B-52	SCH ₃	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
B-53	SCH ₃	CH ₂ O(CH ₂) ₂ SCH ₃	
B-54	SCH ₃	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃	
B-55	SCH ₃	CH ₂ O(CH ₂) ₂ SOCH ₃	
B-56	SCH ₃	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
B-57	SCH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
B-58	SCH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
B-59	SCH ₃		
B-60	SCH ₃		
B-61	SCH ₃	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₃	
B-62	SCH ₃	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	
B-63	SCH ₂ CH ₃	CH ₃	
B-64	SCH ₂ CH ₃	CF ₃	
B-65	SCH ₂ CH ₃	CH ₂ OCH ₃	
B-66	SCH ₂ CH ₃	CH ₂ OCH ₂ CH ₃	
B-67	SCH ₂ CH ₃		
B-68	SCH ₂ CH ₃	CH ₂ OCH ₂ CF ₃	
B-69	SCH ₂ CH ₃	CH ₂ SCH ₃	
B-70	SCH ₂ CH ₃	CH ₂ SCH ₂ CH ₃	
B-71	SCH ₂ CH ₃		
B-72	SCH ₂ CH ₃	CH ₂ SCH ₂ CF ₃	
B-73	SCH ₂ CH ₃	CH ₂ SOCH ₃	
B-74	SCH ₂ CH ₃	CH ₂ SOCH ₂ CH ₃	
B-75	SCH ₂ CH ₃		
B-76	SCH ₂ CH ₃	CH ₂ SOCH ₂ CF ₃	
B-77	SCH ₂ CH ₃	CH ₂ SO ₂ CH ₃	
B-78	SCH ₂ CH ₃	CH ₂ SO ₂ CH ₂ CH ₃	
B-79	SCH ₂ CH ₃		
B-80	SCH ₂ CH ₃	CH ₂ SO ₂ CH ₂ CF ₃	

Tabla 98

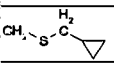
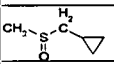
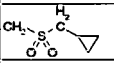
compuesto número	R1	R1	propiedad física (punto de fusión-ND)	compuesto número	R1	R1	propiedad física (punto de fusión-ND)
6-61	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ OCH ₃		6-101	S(CH ₂) ₂ CH ₃	CH ₂ SCCH ₂ CH ₃	
6-62	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃		6-102	S(CH ₂) ₂ CH ₃		
6-63	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃		6-103	S(CH ₂) ₂ CH ₃	CH ₂ SCCH ₂ CF ₃	
6-64	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ SCH ₃		6-104	S(CH ₂) ₂ CH ₃	CH ₂ SOCH ₃	
6-65	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃		6-105	S(CH ₂) ₂ CH ₃	CH ₂ SOCH ₂ CH ₃	
6-66	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₃		6-106	S(CH ₂) ₂ CH ₃		
6-67	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃		6-107	S(CH ₂) ₂ CH ₃	CH ₂ SOCH ₂ CF ₃	
6-68	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃		6-108	S(CH ₂) ₂ CH ₃	CH ₂ SO ₂ CH ₃	
6-69	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃		6-109	S(CH ₂) ₂ CH ₃	CH ₂ SO ₂ CH ₂ CH ₃	
6-60	SCH ₂ CH ₃			6-110	S(CH ₂) ₂ CH ₃		
6-91	SCH ₂ CH ₃			6-111	S(CH ₂) ₂ CH ₃	CH ₂ SO ₂ CH ₂ CF ₃	
6-92	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ NHHSO ₂ CH ₃		6-112	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ OCH ₃	
6-93	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)		6-113	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	
6-94	S(CH ₂) ₂ CH ₃	CH ₃		6-114	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
6-95	S(CH ₂) ₂ CH ₃	CF ₃		6-115	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SCH ₃	
6-96	S(CH ₂) ₂ CH ₃	CH ₂ OCH ₃		6-116	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃	
6-97	S(CH ₂) ₂ CH ₃	CH ₂ OCH ₂ CH ₃		6-117	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₃	
6-98	S(CH ₂) ₂ CH ₃			6-118	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
6-99	S(CH ₂) ₂ CH ₃	CH ₂ OCH ₂ CF ₃		6-119	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
6-100	S(CH ₂) ₂ CH ₃	CH ₂ SCCH ₃		6-120	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	

Tabla 99

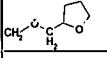
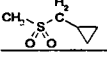
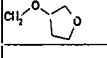
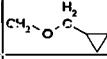
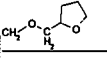
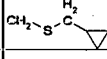
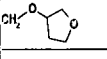
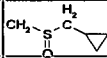
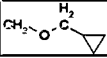
compuesto número	R4	R1	propiedad física (punto de fusión-ND)	compuesto número	R4	R1	propiedad física (punto de fusión-ND)
6-121	S(CH ₂) ₂ CH ₃			6-141	SC ₆ H ₅		
6-122	S(CH ₂) ₂ CH ₃			6-142	SC ₆ H ₅	CH ₂ SO ₂ CH ₂ CF ₃	
6-123	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₃		6-143	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ OCH ₃	
6-124	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)		6-144	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	
6-125	SC ₆ H ₅	CH ₃		6-145	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
6-126	SC ₆ H ₅	CF ₃		6-146	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ SOCH ₃	
6-127	SC ₆ H ₅	CH ₂ OCH ₃		6-147	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
6-128	SC ₆ H ₅	CH ₂ OCH ₂ CH ₃		6-148	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ SOCH ₃	
6-129	SC ₆ H ₅			6-149	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
6-130	SC ₆ H ₅	CH ₂ OCH ₂ CF ₃		6-150	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
6-131	SC ₆ H ₅	CH ₂ SOCH ₃		6-151	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
6-132	SC ₆ H ₅	CH ₂ SOCH ₂ CH ₃		6-152	SC ₆ H ₅		
6-133	SC ₆ H ₅			6-153	SC ₆ H ₅		
6-134	SC ₆ H ₅	CH ₂ SOCH ₂ CF ₃		6-154	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₃	
6-135	SC ₆ H ₅	CH ₂ SOCH ₃		6-155	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	
6-136	SC ₆ H ₅	CH ₂ SOCH ₂ CH ₃		6-156	SCH ₂ C ₆ H ₅	CH ₃	
6-157	SC ₆ H ₅			6-157	SCH ₂ C ₆ H ₅	CF ₃	
6-158	SC ₆ H ₅	CH ₂ SOCH ₂ CF ₃		6-158	SCH ₂ C ₆ H ₅	CH ₂ OCH ₃	
6-159	SC ₆ H ₅	CH ₂ SO ₂ CH ₃		6-159	SCH ₂ C ₆ H ₅	CH ₂ OCH ₂ CH ₃	
6-160	SC ₆ H ₅	CH ₂ SO ₂ CH ₂ CH ₃		6-160	SCH ₂ C ₆ H ₅		

Tabla 100

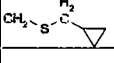
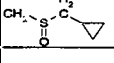
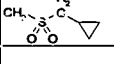
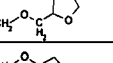
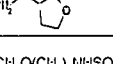
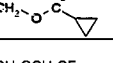
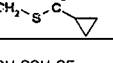
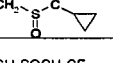
compuesto número	R4	R1	propiedad física (punto de fusión-ND)
G-161	SCH ₂ C ₆ H ₅	CH ₂ OCH ₂ CF ₃	
G-162	SCH ₂ C ₆ H ₅	CH ₂ SCH ₃	
G-163	SCH ₂ C ₆ H ₅	CH ₂ SOCH ₂ CH ₃	
G-164	SCH ₂ C ₆ H ₅		
G-165	SCH ₂ C ₆ H ₅	CH ₂ SOCH ₂ CF ₃	
G-166	SCH ₂ C ₆ H ₅	CH ₂ SOCH ₃	
G-167	SCH ₂ C ₆ H ₅	CH ₂ SOCH ₂ CH ₃	
G-168	SCH ₂ C ₆ H ₅		
G-169	SCH ₂ C ₆ H ₅	CH ₂ SOCH ₂ CF ₃	
G-170	SCH ₂ C ₆ H ₅	CH ₂ SO ₂ CH ₃	
G-171	SCH ₂ C ₆ H ₅	CH ₂ SO ₂ CH ₂ CH ₃	
G-172	SCH ₂ C ₆ H ₅		
G-173	SCH ₂ C ₆ H ₅	CH ₂ SO ₂ CH ₂ CF ₃	
G-174	SCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ OCH ₃	
G-175	SCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	
G-176	SCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
G-177	SCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ SCH ₃	
G-178	SCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
G-179	SCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ SOCH ₃	
G-180	SCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
G-181	SCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
G-182	SCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
G-183	SCH ₂ C ₆ H ₅		
G-184	SCH ₂ C ₆ H ₅		
G-185	SCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₃	
G-186	SCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	
G-187	1H-pirazol-1-ilo	CH ₃	
G-188	1H-pirazol-1-ilo	CF ₃	
G-189	1H-pirazol-1-ilo	CH ₂ OCH ₃	
G-190	1H-pirazol-1-ilo	CH ₂ OCH ₂ CH ₃	
G-191	1H-pirazol-1-ilo		
G-192	1H-pirazol-1-ilo	CH ₂ OCH ₂ CF ₃	
G-193	1H-pirazol-1-ilo	CH ₂ SCH ₃	
G-194	1H-pirazol-1-ilo	CH ₂ SOCH ₂ CH ₃	
G-195	1H-pirazol-1-ilo		
G-196	1H-pirazol-1-ilo	CH ₂ SOCH ₂ CF ₃	
G-197	1H-pirazol-1-ilo	CH ₂ SOCH ₃	
G-198	1H-pirazol-1-ilo	CH ₂ SOCH ₂ CH ₃	
G-199	1H-pirazol-1-ilo		
G-200	1H-pirazol-1-ilo	CH ₂ SOCH ₂ CF ₃	

Tabla 101

compuesto número	R4	R1	propiedad física (punto de fusión-ND)
B-201	1H-pirazol-1-ilo	CH ₂ SO ₂ CH ₃	
B-202	1H-pirazol-1-ilo	CH ₂ SO ₂ CH ₂ CH ₃	
C-203	1H-pirazol-1-ilo		
C-204	1H-pirazol-1-ilo	CH ₂ SO ₂ CH ₂ CF ₃	
B-205	1H-pirazol-1-ilo	CH ₂ O(CH ₂) ₂ OCH ₃	
C-206	1H-pirazol-1-ilo	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	
C-207	1H-pirazol-1-ilo	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
C-208	1H-pirazol-1-ilo	CH ₂ O(CH ₂) ₂ SCH ₃	
C-209	1H-pirazol-1-ilo	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃	
G-210	1H-pirazol-1-ilo	CH ₂ O(CH ₂) ₂ SOCH ₃	
G-211	1H-pirazol-1-ilo	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
C-212	1H-pirazol-1-ilo	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
B-213	1H-pirazol-1-ilo	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CH ₃	
C-214	1H-pirazol-1-ilo		
C-215	1H-pirazol-1-ilo		
C-216	1H-pirazol-1-ilo	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₃	
C-217	1H-pirazol-1-ilo	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	
C-218	1H-imidazol-1-ilo	CH ₃	
C-219	1H-imidazol-1-ilo	CF ₃	
C-220	1H-imidazol-1-ilo	CH ₂ OCH ₃	
C-221	1H-imidazol-1-ilo	CH ₂ OCH ₂ CH ₃	
C-222	1H-imidazol-1-ilo		
B-223	1H-imidazol-1-ilo	CH ₂ OCH ₂ CF ₃	
B-224	1H-imidazol-1-ilo	CH ₂ SCH ₃	
B-225	1H-imidazol-1-ilo	CH ₂ SCH ₂ CH ₃	
B-226	1H-imidazol-1-ilo		
C-227	1H-imidazol-1-ilo	CH ₂ SCH ₂ CF ₃	
B-228	1H-imidazol-1-ilo	CH ₂ SOCH ₃	
G-229	1H-imidazol-1-ilo	CH ₂ SOCH ₂ CH ₃	
G-230	1H-imidazol-1-ilo		
G-231	1H-imidazol-1-ilo	CH ₂ SOCH ₂ CF ₃	
B-232	1H-imidazol-1-ilo	CH ₂ SO ₂ CH ₃	
B-233	1H-imidazol-1-ilo	CH ₂ SO ₂ CH ₂ CH ₃	
B-234	1H-imidazol-1-ilo		
B-235	1H-imidazol-1-ilo	CH ₂ SO ₂ CH ₂ CF ₃	
C-236	1H-imidazol-1-ilo	CH ₂ O(CH ₂) ₂ OCH ₃	
B-237	1H-imidazol-1-ilo	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	
B-238	1H-imidazol-1-ilo	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
B-239	1H-imidazol-1-ilo	CH ₂ O(CH ₂) ₂ SCH ₃	
B-240	1H-imidazol-1-ilo	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃	

Tabla 102

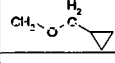
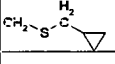
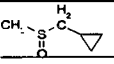
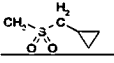
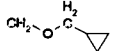
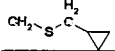
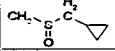
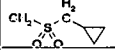
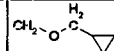
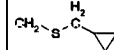
compuesto número	R4	R1	propiedad física (punto de fusión-ND)
C-241	1H-imidazol-1-ilo	CH ₂ O(CH ₂) ₂ SOCH ₃	
C-242	1H-imidazol-1-ilo	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
C-243	1H-imidazol-1-ilo	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
C-244	1H-imidazol-1-ilo	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
C-245	1H-imidazol-1-ilo		
C-246	1H-imidazol-1-ilo		
C-247	1H-imidazol-1-ilo	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₃	
C-248	1H-imidazol-1-ilo	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	
C-249	1H-triazol-1-ilo	CH ₃	
C-250	1H-triazol-1-ilo	CF ₃	
C-251	1H-triazol-1-ilo	CH ₂ OCH ₃	
C-252	1H-triazol-1-ilo	CH ₂ OCH ₂ CH ₃	
C-253	1H-triazol-1-ilo		
C-254	1H-triazol-1-ilo	CH ₂ OCH ₂ CF ₃	
C-255	1H-triazol-1-ilo	CH ₂ SCH ₃	
C-256	1H-triazol-1-ilo	CH ₂ SCH ₂ CH ₃	
C-257	1H-triazol-1-ilo		
C-258	1H-triazol-1-ilo	CH ₂ SCH ₂ CF ₃	
C-259	1H-triazol-1-ilo	CH ₂ SOCH ₃	
C-260	1H-triazol-1-ilo	CH ₂ SOCH ₂ CH ₃	
C-261	1H-triazol-1-ilo		
C-262	1H-triazol-1-ilo	CH ₂ SOCH ₂ CF ₃	
C-263	1H-triazol-1-ilo	CH ₂ SO ₂ CH ₃	
C-264	1H-triazol-1-ilo	CH ₂ SO ₂ CH ₂ CH ₃	
C-265	1H-triazol-1-ilo		
C-266	1H-triazol-1-ilo	CH ₂ SO ₂ CH ₂ CF ₃	
C-267	1H-triazol-1-ilo	CH ₂ O(CH ₂) ₂ OCH ₃	
C-268	1H-triazol-1-ilo	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	
C-269	1H-triazol-1-ilo	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
C-270	1H-triazol-1-ilo	CH ₂ O(CH ₂) ₂ SCN	
C-271	1H-triazol-1-ilo	CH ₂ O(CH ₂) ₂ SCNCH ₂ CF ₃	
C-272	1H-triazol-1-ilo	CH ₂ O(CH ₂) ₂ SOCH ₃	
C-273	1H-triazol-1-ilo	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
C-274	1H-triazol-1-ilo	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
C-275	1H-triazol-1-ilo	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
C-276	1H-triazol-1-ilo		
C-277	1H-triazol-1-ilo		
C-278	1H-triazol-1-ilo	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₃	
C-279	1H-triazol-1-ilo	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	
C-280	1H-tetrazol-1-ilo	CH ₃	

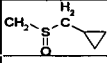
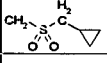
Tabla 103

compuesto número	R4	R1	propiedad física (punto de fusión-ND)
0-201	1H-tetrazol-1-ilo	CF ₃	
0-202	1H-tetrazol-1-ilo	CH ₂ OCH ₃	
0-203	1H-tetrazol-1-ilo	CH ₂ OCH ₂ CH ₃	
0-204	1H-tetrazol-1-ilo		
0-205	1H-tetrazol-1-ilo	CH ₂ OCH ₂ CF ₃	
0-206	1H-tetrazol-1-ilo	CH ₂ SCH ₃	
0-207	1H-tetrazol-1-ilo	CH ₂ SCH ₂ CH ₃	
0-208	1H-tetrazol-1-ilo		
0-209	1H-tetrazol-1-ilo	CH ₂ SCH ₂ CF ₃	
0-210	1H-tetrazol-1-ilo	CH ₂ SOCH ₃	
0-211	1H-tetrazol-1-ilo	CH ₂ SOCH ₂ CH ₃	
0-212	1H-tetrazol-1-ilo		
0-213	1H-tetrazol-1-ilo	CH ₂ SOCH ₂ CF ₃	
0-214	1H-tetrazol-1-ilo	CH ₂ SO ₂ CH ₃	
0-215	1H-tetrazol-1-ilo	CH ₂ SO ₂ CH ₂ CH ₃	
0-216	1H-tetrazol-1-ilo		
0-217	1H-tetrazol-1-ilo	CH ₂ SO ₂ CH ₂ CF ₃	
0-218	1H-tetrazol-1-ilo	CH ₂ O(CH ₂) ₂ OCH ₃	
0-219	1H-tetrazol-1-ilo	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	
0-220	1H-tetrazol-1-ilo	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	

compuesto número	R4	R1	propiedad física (punto de fusión-ND)
0-301	1H-tetrazol-1-ilo	CH ₂ O(CH ₂) ₂ SCH ₃	
0-302	1H-tetrazol-1-ilo	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃	
0-303	1H-tetrazol-1-ilo	CH ₂ O(CH ₂) ₂ SOCH ₃	
0-304	1H-tetrazol-1-ilo	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
0-305	1H-tetrazol-1-ilo	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
0-306	1H-tetrazol-1-ilo	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
0-307	1H-tetrazol-1-ilo		
0-308	1H-tetrazol-1-ilo		
0-309	1H-tetrazol-1-ilo	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₃	
0-310	1H-tetrazol-1-ilo	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	
0-311	1H-tetrazol-2-ilo	CH ₃	
0-312	1H-tetrazol-2-ilo	CF ₃	
0-313	1H-tetrazol-2-ilo	CH ₂ OCH ₃	
0-314	1H-tetrazol-2-ilo	CH ₂ OCH ₂ CH ₃	
0-315	1H-tetrazol-2-ilo		
0-316	1H-tetrazol-2-ilo	CH ₂ OCH ₂ CF ₃	
0-317	1H-tetrazol-2-ilo	CH ₂ SCH ₃	
0-318	1H-tetrazol-2-ilo	CH ₂ SCH ₂ CH ₃	
0-319	1H-tetrazol-2-ilo		
0-320	1H-tetrazol-2-ilo	CH ₂ SCH ₂ CF ₃	

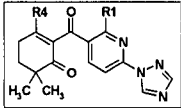
436

Tabla 104

compuesto número	R4	R1	propiedad física (punto de fusión-ND)
C-321	1H-tetrazol-2-ilo	CH ₂ SOCH ₃	
C-322	1H-tetrazol-2-ilo	CH ₂ SOCH ₂ CH ₃	
C-323	1H-tetrazol-2-ilo		
C-324	1H-tetrazol-2-ilo	CH ₂ SOCH ₂ CF ₃	
C-325	1H-tetrazol-2-ilo	CH ₂ SO ₂ CH ₃	
C-326	1H-tetrazol-2-ilo	CH ₂ SO ₂ CH ₂ CH ₃	
C-327	1H-tetrazol-2-ilo		
C-328	1H-tetrazol-2-ilo	CH ₂ SO ₂ CH ₂ CF ₃	
C-329	1H-tetrazol-2-ilo	CH ₂ O(CH ₂) ₂ OCH ₃	
C-330	1H-tetrazol-2-ilo	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	
C-331	1H-tetrazol-2-ilo	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
C-332	1H-tetrazol-2-ilo	CH ₂ O(CH ₂) ₂ SCH ₃	
C-333	1H-tetrazol-2-ilo	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃	
C-334	1H-tetrazol-2-ilo	CH ₂ O(CH ₂) ₂ SOCH ₃	
C-335	1H-tetrazol-2-ilo	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
C-336	1H-tetrazol-2-ilo	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
C-337	1H-tetrazol-2-ilo	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
C-338	1H-tetrazol-2-ilo		
C-339	1H-tetrazol-2-ilo		
C-340	1H-tetrazol-2-ilo	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₃	

compuesto número	R4	R1	propiedad física (punto de fusión-ND)
C-341	1H-tetrazol-2-ilo	CH ₂ O(CH ₂) ₂ H(CH ₂)(SO ₂ CH ₃)	

Tabla 105



compuesto número	R4	R1	propiedad física (punto de fusión-ND)
9-1	Cl	CH ₃	
9-2	Cl	CF ₃	
9-3	Cl	CH ₂ OCH ₃	
9-4	Cl	CH ₂ OCH ₂ CH ₃	
9-5	Cl		
9-6	Cl	CH ₂ OCH ₂ CF ₃	
9-7	Cl	CH ₂ SCH ₃	
9-8	Cl	CH ₂ SCH ₂ CH ₃	
9-9	Cl		
9-10	Cl	CH ₂ SCH ₂ CF ₃	
9-11	Cl	CH ₂ SOCH ₃	
9-12	Cl	CH ₂ SOCH ₂ CH ₃	
9-13	Cl		
9-14	Cl	CH ₂ SOCH ₂ CF ₃	
9-15	Cl	CH ₂ SO ₂ CH ₃	
9-16	Cl	CH ₂ SO ₂ CH ₂ CH ₃	
9-17	Cl		
9-18	Cl	CH ₂ SO ₂ CH ₂ CF ₃	
9-19	Cl	CH ₂ O(CH ₂) ₂ OCH ₃	
9-20	Cl	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	

compuesto número	R4	R1	propiedad física (punto de fusión-ND)
9-21	Cl	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
9-22	Cl	CH ₂ O(CH ₂) ₂ SCH ₃	
9-23	Cl	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃	
9-24	Cl	CH ₂ O(CH ₂) ₂ SOCH ₃	
9-25	Cl	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
9-26	Cl	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
9-27	Cl	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
9-28	Cl		
9-29	Cl		
9-30	Cl	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₃	
9-31	Cl	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	
9-32	SCH ₃	CH ₃	
9-33	SCH ₃	CF ₃	
9-34	SCH ₃	CH ₂ OCH ₃	
9-35	SCH ₃	CH ₂ OCH ₂ CH ₃	
9-36	SCH ₃		
9-37	SCH ₃	CH ₂ OCH ₂ CF ₃	
9-38	SCH ₃	CH ₂ SCH ₃	
9-39	SCH ₃	CH ₂ SCH ₂ CH ₃	
9-40	SCH ₃		

Tabla 106

compuesto número	R4	R1	propiedad física (punto de fusión-ND)	compuesto número	R4	R1	propiedad física (punto de fusión-ND)
9-41	SCF ₃	CH ₂ SCF ₂ CF ₃		9-81	SCF ₃	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₃	
9-42	SCF ₃	CH ₂ SOCH ₃		9-82	SCF ₃	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	
9-43	SCF ₃	CH ₂ SOCH ₂ CH ₃		9-83	SCF ₂ CH ₃	CH ₃	
9-44	SCF ₃			9-84	SCF ₂ CH ₃	CF ₃	
9-45	SCF ₃	CH ₂ SOCH ₂ CF ₃		9-85	SCF ₂ CH ₃	CH ₂ OCH ₃	
9-46	SCF ₃	CH ₂ SO ₂ CH ₃		9-86	SCF ₂ CH ₃	CH ₂ OCH ₂ CH ₃	
9-47	SCF ₃	CH ₂ SO ₂ CH ₂ CH ₃		9-87	SCF ₂ CH ₃		
9-48	SCF ₃			9-88	SCF ₂ CH ₃	CH ₂ OCH ₂ CF ₃	
9-49	SCF ₃	CH ₂ SO ₂ CH ₂ CF ₃		9-89	SCF ₂ CH ₃	CH ₂ SCH ₃	
9-50	SCF ₃	CH ₂ O(CH ₂) ₂ OCH ₃		9-90	SCF ₂ CH ₃	CH ₂ SCF ₂ CH ₃	
9-51	SCF ₃	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃		9-71	SCF ₂ CH ₃		
9-52	SCF ₃	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃		9-72	SCF ₂ CH ₃	CH ₂ SCF ₂ CF ₃	
9-53	SCF ₃	CH ₂ O(CH ₂) ₂ SCF ₃		9-73	SCF ₂ CH ₃	CH ₂ SOCH ₃	
9-54	SCF ₃	CH ₂ O(CH ₂) ₂ SCF ₂ CF ₃		9-74	SCF ₂ CH ₃	CH ₂ SOCH ₂ CH ₃	
9-55	SCF ₃	CH ₂ O(CH ₂) ₂ SOCH ₃		9-75	SCF ₂ CH ₃		
9-56	SCF ₃	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃		9-76	SCF ₂ CH ₃	CH ₂ SOCH ₂ CF ₃	
9-57	SCF ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃		9-77	SCF ₂ CH ₃	CH ₂ SO ₂ CH ₃	
9-58	SCF ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃		9-78	SCF ₂ CH ₃	CH ₂ SO ₂ CH ₂ CH ₃	
9-59	SCF ₃			9-79	SCF ₂ CH ₃		
9-60	SCF ₃			9-80	SCF ₂ CH ₃	CH ₂ SO ₂ CH ₂ CF ₃	

Tabla 107

compuesto número	R1	R1	propiedad física (punto de fusión-ND)	compuesto número	R1	R1	propiedad física (punto de fusión-ND)
9-01	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ OCF ₃		9-101	S(CH ₂) ₂ CH ₃	CH ₂ SCCH ₂ CH ₃	
9-02	SCCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃		9-102	S(CH ₂) ₂ CH ₃		
9-03	SCCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃		9-103	S(CH ₂) ₂ CH ₃	CH ₂ SCCH ₂ CF ₃	
9-04	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ SCH ₃		9-104	S(CH ₂) ₂ CF ₃	CH ₂ SOCH ₃	
9-05	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ SCCH ₂ CF ₃		9-105	S(CH ₂) ₂ CH ₃	CH ₂ SOCH ₂ CH ₃	
9-06	SCCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₃		9-106	S(CH ₂) ₂ CH ₃		
9-07	SCCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃		9-107	S(CH ₂) ₂ CH ₃	CH ₂ SOCH ₂ CF ₃	
9-08	SCCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃		9-108	S(CH ₂) ₂ CH ₃	CH ₂ SO ₂ CH ₃	
9-09	SCCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃		9-109	S(CH ₂) ₂ CH ₃	CH ₂ SO ₂ CH ₂ CH ₃	
9-10	SCH ₂ CH ₃			9-110	S(CH ₂) ₂ CH ₃		
9-11	SCCH ₂ CH ₃			9-111	S(CH ₂) ₂ CH ₃	CH ₂ SO ₂ CH ₂ CF ₃	
9-12	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₃		9-112	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ OCH ₃	
9-13	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)		9-113	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	
9-14	S(CH ₂) ₂ CH ₃	CH ₃		9-114	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
9-15	S(CH ₂) ₂ CH ₃	CF ₃		9-115	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SCH ₃	
9-16	S(CH ₂) ₂ CH ₃	CH ₂ OCH ₃		9-116	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SCCH ₂ CF ₃	
9-17	S(CH ₂) ₂ CH ₃	CH ₂ OCH ₂ CH ₃		9-117	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₃	
9-18	S(CH ₂) ₂ CH ₃			9-118	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
9-19	S(CH ₂) ₂ CH ₃	CH ₂ SCCH ₂ CF ₃		9-119	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
9-100	S(CH ₂) ₂ CH ₃	CH ₂ SCCH ₃		9-120	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	

Tabla 108

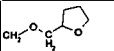
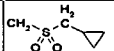
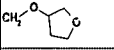
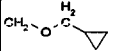
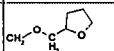
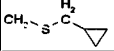
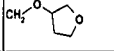
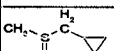
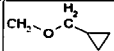
compuesto número	R1	R1	propiedad física (punto de fusión-ND)	compuesto número	R1	R1	propiedad física (punto de fusión-ND)
9-121	S(CH ₂) ₂ CH ₃			9-141	SC ₆ H ₅		
9-122	S(CH ₂) ₂ CH ₃			9-142	SC ₆ H ₅	CH ₂ SO ₂ CH ₂ CF ₃	
9-123	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ HSO ₂ CH ₃		9-143	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ OCH ₃	
9-124	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ HSO ₂ CH ₃		9-144	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	
9-125	SC ₆ H ₅	CH ₃		9-145	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
9-126	SC ₆ H ₅	CF ₃		9-146	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ SCH ₃	
9-127	SC ₆ H ₅	CH ₂ OCH ₃		9-147	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃	
9-128	SC ₆ H ₅	CH ₂ SOCH ₂ CH ₃		9-148	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ SOCH ₃	
9-129	SC ₆ H ₅			9-149	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
9-130	SC ₆ H ₅	CH ₂ SOCH ₂ CF ₃		9-150	SC ₆ H ₅	CH ₂ SO(CH ₂) ₂ SO ₂ CH ₃	
9-131	SC ₆ H ₅	CH ₂ SCH ₃		9-151	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
9-132	SC ₆ H ₅	CH ₂ SCH ₂ CH ₃		9-152	SC ₆ H ₅		
9-133	SC ₆ H ₅			9-153	SC ₆ H ₅		
9-134	SC ₆ H ₅	CH ₂ SOCH ₂ CF ₃		9-154	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ HSO ₂ CH ₃	
9-135	SC ₆ H ₅	CH ₂ SOCH ₃		9-155	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ HSO ₂ CH ₃	
9-136	SC ₆ H ₅	CH ₂ SOCH ₂ CH ₃		9-156	SC ₆ H ₅	CH ₃	
9-137	SC ₆ H ₅			9-157	SC ₆ H ₅	CF ₃	
9-138	SC ₆ H ₅	CH ₂ SOCH ₂ CF ₃		9-158	SC ₆ H ₅	CH ₂ OCH ₃	
9-139	SC ₆ H ₅	CH ₂ SO ₂ CH ₃		9-159	SC ₆ H ₅	CH ₂ OCH ₂ CH ₃	
9-140	SC ₆ H ₅	CH ₂ SO ₂ CH ₂ CH ₃		9-160	SC ₆ H ₅		

Tabla 109

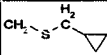
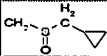
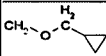
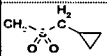
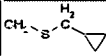
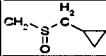
compuesto número	R4	R1	propiedad física (punto de fusión-ND)	compuesto número	R4	R1	propiedad física (punto de fusión-ND)
9-161	SCH ₂ C ₆ H ₅	CH ₂ OCH ₂ CF ₃		9-181	SCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
9-162	SCH ₂ C ₆ H ₅	CH ₂ SOCH ₃		9-182	SCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
9-163	SCH ₂ C ₆ H ₅	CH ₂ SOCH ₂ CH ₃		9-183	SCH ₂ C ₆ H ₅		
9-164	SCH ₂ C ₆ H ₅			9-184	SCH ₂ C ₆ H ₅		
9-165	SCH ₂ C ₆ H ₅	CH ₂ SOCH ₂ CF ₃		9-185	SCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₃	
9-166	SCH ₂ C ₆ H ₅	CH ₂ SOCH ₃		9-186	SCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	
9-167	SCH ₂ C ₆ H ₅	CH ₂ SOCH ₂ CH ₃		9-187	1H-pirazol-1-ilo	CH ₃	
9-168	SCH ₂ C ₆ H ₅			9-188	1H-pirazol-1-ilo	CF ₃	
9-169	SCH ₂ C ₆ H ₅	CH ₂ SOCH ₂ CF ₃		9-189	1H-pirazol-1-ilo	CH ₂ OCH ₃	
9-170	SCH ₂ C ₆ H ₅	CH ₂ SO ₂ CH ₃		9-190	1H-pirazol-1-ilo	CH ₂ OCH ₂ CH ₃	
9-171	SCH ₂ C ₆ H ₅	CH ₂ SO ₂ CH ₂ CH ₃		9-191	1H-pirazol-1-ilo		
9-172	SCH ₂ C ₆ H ₅			9-192	1H-pirazol-1-ilo	CH ₂ OCH ₂ CF ₃	
9-173	SCH ₂ C ₆ H ₅	CH ₂ SO ₂ CH ₂ CF ₃		9-193	1H-pirazol-1-ilo	CH ₂ SOCH ₃	
9-174	SCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ OCH ₃		9-194	1H-pirazol-1-ilo	CH ₂ SOCH ₂ CH ₃	
9-175	SCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ SOCH ₂ CH ₃		9-195	1H-pirazol-1-ilo		
9-176	SCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃		9-196	1H-pirazol-1-ilo	CH ₂ SOCH ₂ CF ₃	
9-177	SCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ SOCH ₃		9-197	1H-pirazol-1-ilo	CH ₂ SOCH ₃	
9-178	SCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃		9-198	1H-pirazol-1-ilo	CH ₂ SOCH ₂ CH ₃	
9-179	SCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ SOCH ₃		9-199	1H-pirazol-1-ilo		
9-180	SCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃		9-200	1H-pirazol-1-ilo	CH ₂ SOCH ₂ CF ₃	

Tabla 110

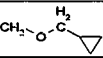
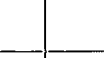
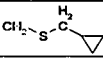
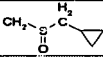
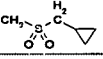
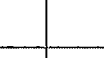
compuesto número	R1	R1	propiedad física (punto de fusión-ND)	compuesto número	R1	R1	propiedad física (punto de fusión-ND)
9-201	1H-pirazol-1-ilo	CH ₂ SO ₂ CH ₃		9-221	1H-imidazol-1-ilo	CH ₂ OCH ₂ CH ₃	
9-202	1H-pirazol-1-ilo	CH ₂ SO ₂ CH ₂ CH ₃		9-222	1H-imidazol-1-ilo		
9-203	1H-pirazol-1-ilo			9-223	1H-imidazol-1-ilo	CH ₂ OCH ₂ CF ₃	
9-204	1H-pirazol-1-ilo	CH ₂ SO ₂ CH ₂ CF ₃		9-224	1H-imidazol-1-ilo	CH ₂ SCH ₃	
9-205	1H-pirazol-1-ilo	CH ₂ O(CH ₂) ₂ OCH ₃		9-225	1H-imidazol-1-ilo	CH ₂ SCH ₂ CH ₃	
9-206	1H-pirazol-1-ilo	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃		9-226	1H-imidazol-1-ilo		
9-207	1H-pirazol-1-ilo	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃		9-227	1H-imidazol-1-ilo	CH ₂ SCH ₂ CF ₃	
9-208	1H-pirazol-1-ilo	CH ₂ O(CH ₂) ₂ SCH ₃		9-228	1H-imidazol-1-ilo	CH ₂ SOCH ₃	
9-209	1H-pirazol-1-ilo	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃		9-229	1H-imidazol-1-ilo	CH ₂ SOCH ₂ CH ₃	
9-210	1H-pirazol-1-ilo	CH ₂ O(CH ₂) ₂ SOCH ₃		9-230	1H-imidazol-1-ilo		
9-211	1H-pirazol-1-ilo	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃		9-231	1H-imidazol-1-ilo	CH ₂ SOCH ₂ CF ₃	
9-212	1H-pirazol-1-ilo	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃		9-232	1H-imidazol-1-ilo	CH ₂ SO ₂ CH ₃	
9-213	1H-pirazol-1-ilo	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃		9-233	1H-imidazol-1-ilo	CH ₂ SO ₂ CH ₂ CH ₃	
9-214	1H-pirazol-1-ilo			9-234	1H-imidazol-1-ilo		
9-215	1H-pirazol-1-ilo			9-235	1H-imidazol-1-ilo	CH ₂ SO ₂ CH ₂ CF ₃	
9-216	1H-pirazol-1-ilo	CH ₂ O(CH ₂) ₂ NH ₂ SO ₂ CH ₃		9-236	1H-imidazol-1-ilo	CH ₂ O(CH ₂) ₂ OCH ₃	
9-217	1H-pirazol-1-ilo	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)		9-237	1H-imidazol-1-ilo	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	
9-218	1H-imidazol-1-ilo	CH ₃		9-238	1H-imidazol-1-ilo	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
9-219	1H-imidazol-1-ilo	CF ₃		9-239	1H-imidazol-1-ilo	CH ₂ O(CH ₂) ₂ SCH ₃	
9-220	1H-imidazol-1-ilo	CH ₂ OC ₂ H ₅		9-240	1H-imidazol-1-ilo	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃	

Tabla 111

compuesto número	R4	R1	propiedad física (punto de fusión-ND)	compuesto número	R4	R1	propiedad física (punto de fusión-ND)
9-241	1H-imidazol-1-ilo	CH ₂ O(CH ₂) ₂ SOCH ₃		9-261	1H-triazol-1-ilo		
9-242	1H-imidazol-1-ilo	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃		9-262	1H-triazol-1-ilo	CH ₂ SOCH ₂ CF ₃	
9-243	1H-imidazol-1-ilo	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃		9-263	1H-triazol-1-ilo	CH ₂ SO ₂ CH ₃	
9-244	1H-imidazol-1-ilo	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃		9-264	1H-triazol-1-ilo	CH ₂ SO ₂ CH ₂ CH ₃	
9-245	1H-imidazol-1-ilo			9-265	1H-triazol-1-ilo		
9-246	1H-imidazol-1-ilo			9-266	1H-triazol-1-ilo	CH ₂ SO ₂ CH ₂ CF ₃	
9-247	1H-imidazol-1-ilo	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₃		9-267	1H-triazol-1-ilo	CH ₂ O(CH ₂) ₂ OCH ₃	
9-248	1H-imidazol-1-ilo	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)		9-268	1H-triazol-1-ilo	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	
9-249	1H-triazol-1-ilo	CH ₃		9-269	1H-triazol-1-ilo	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
9-250	1H-triazol-1-ilo	CF ₃		9-270	1H-triazol-1-ilo	CH ₂ O(CH ₂) ₂ SClCH ₃	
9-251	1H-triazol-1-ilo	CH ₂ OCH ₃		9-271	1H-triazol-1-ilo	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃	
9-252	1H-triazol-1-ilo	CH ₂ OCH ₂ CH ₃		9-272	1H-triazol-1-ilo	CH ₂ O(CH ₂) ₂ SOCH ₃	
9-253	1H-triazol-1-ilo			9-273	1H-triazol-1-ilo	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
9-254	1H-triazol-1-ilo	CH ₂ OCH ₂ CF ₃		9-274	1H-triazol-1-ilo	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
9-255	1H-triazol-1-ilo	CH ₂ SClCH ₃		9-275	1H-triazol-1-ilo	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
9-256	1H-triazol-1-ilo	CH ₂ SCl ₂ CH ₃		9-276	1H-triazol-1-ilo		
9-257	1H-triazol-1-ilo			9-277	1H-triazol-1-ilo		
9-258	1H-triazol-1-ilo	CH ₂ SCl ₂ CF ₃		9-278	1H-triazol-1-ilo	CH ₂ O(CH ₂) ₂ NH-SO ₂ CH ₃	
9-259	1H-triazol-1-ilo	CH ₂ SOCH ₃		9-279	1H-triazol-1-ilo	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	
9-260	1H-triazol-1-ilo	CH ₂ SOCH ₂ CH ₃		9-280	1H-triazol-1-ilo	CH ₃	

Tabla 112

compuesto número	R4	R1	propiedad física (punto de fusión-ND)	compuesto número	R4	R1	propiedad física (punto de fusión-ND)
9-221	1H-tetrazol-1-ilo	CF ₃		9-301	1H-tetrazol-1-ilo	CH ₂ O(CH ₂) ₂ SCF ₃	
9-222	1H-tetrazol-1-ilo	CH ₂ OCH ₃		9-302	1H-tetrazol-1-ilo	CH ₂ O(CH ₂) ₂ SCF ₃	
9-223	1H-tetrazol-1-ilo	CH ₂ OCH ₂ CH ₃		9-303	1H-tetrazol-1-ilo	CH ₂ O(CH ₂) ₂ SOCH ₃	
9-224	1H-tetrazol-1-ilo			9-304	1H-tetrazol-1-ilo	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
9-225	1H-tetrazol-1-ilo	CH ₂ OCH ₂ CF ₃		9-305	1H-tetrazol-1-ilo	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
9-226	1H-tetrazol-1-ilo	CH ₂ SCF ₃		9-306	1H-tetrazol-1-ilo	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
9-227	1H-tetrazol-1-ilo	CH ₂ SCCH ₂ CH ₃		9-307	1H-tetrazol-1-ilo		
9-228	1H-tetrazol-1-ilo			9-308	1H-tetrazol-1-ilo		
9-229	1H-tetrazol-1-ilo	CH ₂ SCCH ₂ CF ₃		9-309	1H-tetrazol-1-ilo	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₃	
9-230	1H-tetrazol-1-ilo	CH ₂ SOCH ₃		9-310	1H-tetrazol-1-ilo	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	
9-231	1H-tetrazol-1-ilo	CH ₂ SOCH ₂ CH ₃		9-311	1H-tetrazol-2-ilo	CH ₃	
9-232	1H-tetrazol-1-ilo			9-312	1H-tetrazol-2-ilo	CF ₃	
9-233	1H-tetrazol-1-ilo	CH ₂ SOCH ₂ CF ₃		9-313	1H-tetrazol-2-ilo	CH ₂ OCH ₃	
9-234	1H-tetrazol-1-ilo	CH ₂ SO ₂ CH ₃		9-314	1H-tetrazol-2-ilo	CH ₂ OCH ₂ CH ₃	
9-235	1H-tetrazol-1-ilo	CH ₂ SO ₂ CH ₂ CH ₃		9-315	1H-tetrazol-2-ilo		
9-236	1H-tetrazol-1-ilo			9-316	1H-tetrazol-2-ilo	CH ₂ OCH ₂ CF ₃	
9-237	1H-tetrazol-1-ilo	CH ₂ SO ₂ CH ₂ CF ₃		9-317	1H-tetrazol-2-ilo	CH ₂ SCF ₃	
9-238	1H-tetrazol-1-ilo	CH ₂ O(CH ₂) ₂ OCH ₃		9-318	1H-tetrazol-2-ilo	CH ₂ SCCH ₂ CH ₃	
9-239	1H-tetrazol-1-ilo	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃		9-319	1H-tetrazol-2-ilo		
9-240	1H-tetrazol-1-ilo	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃		9-320	1H-tetrazol-2-ilo	CH ₂ SCCH ₂ CF ₃	

Tabla 113

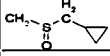
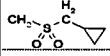
compuesto número	R1	R1	propiedad física (punto de fusión-ND)	compuesto número	R1	R1	propiedad física (punto de fusión-ND)
9-321	1H-tetrazol-2-ilo	CH ₂ SOCH ₃		9-341	1H-tetrazol-2-ilo	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	
9-322	1H-tetrazol-2-ilo	CH ₂ SOCH ₂ CH ₃					
9-323	1H-tetrazol-2-ilo						
9-324	1H-tetrazol-2-ilo	CH ₂ SOCH ₂ CF ₃					
9-325	1H-tetrazol-2-ilo	CH ₂ SO ₂ CH ₃					
9-326	1H-tetrazol-2-ilo	CH ₂ SO ₂ CH ₂ CH ₃					
9-327	1H-tetrazol-2-ilo						
9-328	1H-tetrazol-2-ilo	CH ₂ SO ₂ CH ₂ CF ₃					
9-329	1H-tetrazol-2-ilo	CH ₂ O(CH ₂) ₂ OCH ₃					
9-330	1H-tetrazol-2-ilo	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃					
9-331	1H-tetrazol-2-ilo	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃					
9-332	1H-tetrazol-2-ilo	CH ₂ O(CH ₂) ₂ SCl ₃					
9-333	1H-tetrazol-2-ilo	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃					
9-334	1H-tetrazol-2-ilo	CH ₂ O(CH ₂) ₂ SOCH ₃					
9-335	1H-tetrazol-2-ilo	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃					
9-336	1H-tetrazol-2-ilo	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃					
9-337	1H-tetrazol-2-ilo	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃					
9-338	1H-tetrazol-2-ilo						
9-339	1H-tetrazol-2-ilo						
9-340	1H-tetrazol-2-ilo	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₃					

Tabla 114

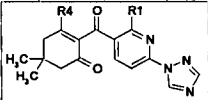
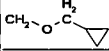
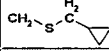
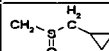
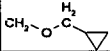
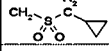
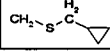
							
compuesto número	R4	R1	propiedad física (punto de fusión-ND)	compuesto número	R4	R1	propiedad física (punto de fusión-ND)
10-1	Cl	CH ₃		10-21	Cl	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
10-2	Cl	CF ₃		10-22	Cl	CH ₂ O(CH ₂) ₂ SCH ₃	
10-3	Cl	CH ₂ OCH ₃		10-23	Cl	CH ₂ O(CH ₂) ₂ SClCH ₂ CF ₃	
10-4	Cl	CH ₂ OCH ₂ CH ₃		10-24	Cl	CH ₂ O(CH ₂) ₂ SOCH ₃	
10-5	Cl			10-25	Cl	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
10-6	Cl	CH ₂ OCH ₂ CF ₃		10-26	Cl	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
10-7	Cl	CH ₂ SCH ₃		10-27	Cl	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
10-8	Cl	CH ₂ SCH ₂ CH ₃		10-28	Cl		
10-9	Cl			10-29	Cl		
10-10	Cl	CH ₂ SCH ₂ CF ₃		10-30	Cl	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₃	
10-11	Cl	CH ₂ SOCH ₃		10-31	Cl	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	
10-12	Cl	CH ₂ SOCH ₂ CH ₃		10-32	SCH ₃	CH ₃	
10-13	Cl			10-33	SCH ₃	CF ₃	
10-14	Cl	CH ₂ SOCH ₂ CF ₃		10-34	SCH ₃	CH ₂ OCH ₃	
10-15	Cl	CH ₂ SO ₂ CH ₃		10-35	SCH ₃	CH ₂ OCH ₂ CH ₃	
10-16	Cl	CH ₂ SO ₂ CH ₂ CH ₃		10-36	SCH ₃		
10-17	Cl			10-37	SCH ₃	CH ₂ OCH ₂ CF ₃	
10-18	Cl	CH ₂ SO ₂ CH ₂ CF ₃		10-38	SCH ₃	CH ₂ SCH ₃	
10-19	Cl	CH ₂ O(CH ₂) ₂ OCH ₃		10-39	SCH ₃	CH ₂ SCH ₂ CH ₃	
10-20	Cl	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃		10-40	SCH ₃		

Tabla 116

compuesto número	R1	R1	propiedad física (punto de fusión-ND)	compuesto número	R1	R1	propiedad física (punto de fusión-ND)
10-91	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ OCH ₃		10-101	S(CH ₂) ₂ CH ₃	CH ₂ SCCH ₂ CH ₃	
10-92	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃		10-102	S(CH ₂) ₂ CH ₃		
10-93	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃		10-103	S(CH ₂) ₂ CH ₃	CH ₂ SCCH ₂ CF ₃	
10-94	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ SCCH ₃		10-104	S(CH ₂) ₂ CH ₃	CH ₂ SOCH ₃	
10-95	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ SCCH ₂ CF ₃		10-105	S(CH ₂) ₂ CH ₃	CH ₂ SOCH ₂ CH ₃	
10-96	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₃		10-106	S(CH ₂) ₂ CH ₃		
10-97	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃		10-107	S(CH ₂) ₂ CH ₃	CH ₂ SOCH ₂ CF ₃	
10-98	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃		10-108	S(CH ₂) ₂ CH ₃	CH ₂ SO ₂ CH ₃	
10-99	SCH ₂ CH ₃	C ₁₂ H ₂₅ O(C ₁₂ H ₂₅) ₂ SO ₂ CH ₂ CF ₃		10-109	S(CH ₂) ₂ CH ₃	CH ₂ SO ₂ CH ₂ CH ₃	
10-90	SCH ₂ CH ₃			10-110	S(CH ₂) ₂ CH ₃		
10-91	SCH ₂ CH ₃			10-111	S(CH ₂) ₂ CH ₃	CH ₂ SO ₂ CH ₂ CF ₃	
10-92	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ HSO ₂ CH ₃		10-112	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ OCH ₃	
10-92	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)		10-112	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	
10-94	S(CH ₂) ₂ CH ₃	CH ₃		10-114	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
10-95	S(CH ₂) ₂ CH ₃	CF ₃		10-115	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SCCH ₃	
10-96	S(CH ₂) ₂ CH ₃	CH ₂ OCH ₃		10-116	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SCCH ₂ CF ₃	
10-97	S(CH ₂) ₂ CH ₃	CH ₂ OCH ₂ CH ₃		10-117	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₃	
10-98	S(CH ₂) ₂ CH ₃			10-118	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
10-99	S(CH ₂) ₂ CH ₃	CH ₂ OCH ₂ CF ₃		10-119	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
10-100	S(CH ₂) ₂ CH ₃	CH ₂ SCCH ₃		10-120	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	

Tabla 117

compuesto número	R1	R1	propiedad física (punto de fusión-ND)	compuesto número	R1	R1	propiedad física (punto de fusión-ND)
10-121	S(CH ₂) ₂ CH ₃			10-141	SC ₆ H ₅		
10-122	S(CH ₂) ₂ CH ₃			10-142	SC ₆ H ₅	CH ₂ SO ₂ CH ₂ CF ₃	
10-123	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ NH ₂ SO ₂ CH ₃		10-143	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ OCH ₃	
10-124	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)		10-144	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	
10-125	SC ₆ H ₅	CH ₃		10-145	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
10-126	SC ₆ H ₅	CF ₃		10-146	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ SCH ₃	
10-127	SC ₆ H ₅	CH ₂ OCH ₃		10-147	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃	
10-128	SC ₆ H ₅	CH ₂ OCH ₂ CH ₃		10-148	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ SOCH ₃	
10-129	SC ₆ H ₅			10-149	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
10-130	SC ₆ H ₅	CH ₂ OCH ₂ CF ₃		10-150	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
10-131	SC ₆ H ₅	CH ₂ SCH ₃		10-151	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
10-132	SC ₆ H ₅	CH ₂ SCH ₂ CH ₃		10-152	SC ₆ H ₅		
10-133	SC ₆ H ₅			10-153	SC ₆ H ₅		
10-134	SC ₆ H ₅	CH ₂ SCH ₂ CF ₃		10-154	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ NH ₂ SO ₂ CH ₃	
10-135	SC ₆ H ₅	CH ₂ SOCH ₃		10-155	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	
10-136	SC ₆ H ₅	CH ₂ SOC ₂ H ₅		10-156	SCH ₂ C ₆ H ₅	CH ₃	
10-137	SC ₆ H ₅			10-157	SCH ₂ C ₆ H ₅	CF ₃	
10-138	SC ₆ H ₅	CH ₂ SOC ₂ H ₂ CF ₃		10-158	SCH ₂ C ₆ H ₅	CH ₂ OCH ₃	
10-139	SC ₆ H ₅	CH ₂ SO ₂ CH ₃		10-159	SCH ₂ C ₆ H ₅	CH ₂ OCH ₂ CH ₃	
10-140	SC ₆ H ₅	CH ₂ SO ₂ CH ₂ CH ₃		10-160	SCH ₂ C ₆ H ₅		

Tabla 119

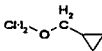
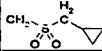
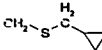
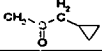
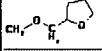
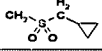
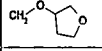
compuesto número	R4	R1	propiedad física (punto de fusión-ND)	compuesto número	R4	R1	propiedad física (punto de fusión-ND)
10-201	1H-pirazol-1-ilo	CH ₂ SO ₂ CH ₃		10-221	1H-imidazol-1-ilo	CH ₂ OCH ₂ CH ₃	
10-202	1H-pirazol-1-ilo	CH ₂ SO ₂ CH ₂ CH ₃		10-222	1H-imidazol-1-ilo		
10-203	1H-pirazol-1-ilo			10-222	1H-imidazol-1-ilo	CH ₂ OCH ₂ CF ₃	
10-204	1H-pirazol-1-ilo	CH ₂ SO ₂ CH ₂ CF ₃		10-224	1H-imidazol-1-ilo	CH ₂ SCH ₃	
10-205	1H-pirazol-1-ilo	CH ₂ O(CH ₂) ₂ OCH ₃		10-225	1H-imidazol-1-ilo	CH ₂ SCH ₂ CH ₃	
10-206	1H-pirazol-1-ilo	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃		10-226	1H-imidazol-1-ilo		
10-207	1H-pirazol-1-ilo	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃		10-227	1H-imidazol-1-ilo	CH ₂ SCH ₂ CF ₃	
10-208	1H-pirazol-1-ilo	CH ₂ O(CH ₂) ₂ SOCH ₃		10-228	1H-imidazol-1-ilo	CH ₂ SOCH ₃	
10-209	1H-pirazol-1-ilo	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃		10-229	1H-imidazol-1-ilo	CH ₂ SOCH ₂ CH ₃	
10-210	1H-pirazol-1-ilo	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃		10-230	1H-imidazol-1-ilo		
10-211	1H-pirazol-1-ilo	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃		10-231	1H-imidazol-1-ilo	CH ₂ SOCH ₂ CF ₃	
10-212	1H-pirazol-1-ilo	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃		10-232	1H-imidazol-1-ilo	CH ₂ SO ₂ CH ₃	
10-213	1H-pirazol-1-ilo	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃		10-233	1H-imidazol-1-ilo	CH ₂ SO ₂ CH ₂ CH ₃	
10-214	1H-pirazol-1-ilo			10-234	1H-imidazol-1-ilo		
10-215	1H-pirazol-1-ilo			10-235	1H-imidazol-1-ilo	CH ₂ SO ₂ CH ₂ CF ₃	
10-216	1H-pirazol-1-ilo	CH ₂ O(CH ₂) ₂ HSO ₂ CH ₃		10-236	1H-imidazol-1-ilo	CH ₂ O(CH ₂) ₂ OCH ₃	
10-217	1H-pirazol-1-ilo	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)		10-237	1H-imidazol-1-ilo	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	
10-218	1H-imidazol-1-ilo	CH ₃		10-238	1H-imidazol-1-ilo	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
10-219	1H-imidazol-1-ilo	CF ₃		10-239	1H-imidazol-1-ilo	CH ₂ O(CH ₂) ₂ SCH ₃	
10-220	1H-imidazol-1-ilo	CH ₂ OCH ₃		10-240	1H-imidazol-1-ilo	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃	

Tabla 120

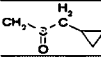
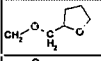
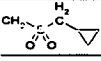
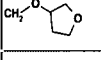
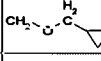
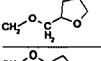
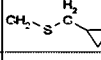
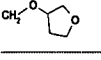
compuesto número	R1	R1	propiedad física (punto de fusión-ND)	compuesto número	R1	R1	propiedad física (punto de fusión-ND)
10-241	1H-imidazol-1-ilo	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_3$		10-261	1H-triazol-1-ilo		
10-242	1H-imidazol-1-ilo	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2\text{CF}_3$		10-262	1H-triazol-1-ilo	$\text{CH}_2\text{SOCH}_2\text{CF}_3$	
10-243	1H-imidazol-1-ilo	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_3$		10-263	1H-triazol-1-ilo	$\text{CH}_2\text{SO}_2\text{CH}_3$	
10-244	1H-imidazol-1-ilo	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{CF}_3$		10-264	1H-triazol-1-ilo	$\text{CH}_2\text{SO}_2\text{CH}_2\text{CH}_3$	
10-245	1H-imidazol-1-ilo			10-265	1H-triazol-1-ilo		
10-246	1H-imidazol-1-ilo			10-266	1H-triazol-1-ilo	$\text{CH}_2\text{SO}_2\text{CH}_2\text{CF}_3$	
10-247	1H-imidazol-1-ilo	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NHSO}_2\text{CH}_3$		10-267	1H-triazol-1-ilo	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_3$	
10-248	1H-imidazol-1-ilo	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{N}(\text{CH}_3)(\text{SO}_2\text{CH}_3)$		10-268	1H-triazol-1-ilo	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2\text{CH}_3$	
10-249	1H-triazol-1-ilo	CH_3		10-269	1H-triazol-1-ilo	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2\text{CF}_3$	
10-250	1H-triazol-1-ilo	CF_3		10-270	1H-triazol-1-ilo	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_3$	
10-251	1H-triazol-1-ilo	CH_2OCH_3		10-271	1H-triazol-1-ilo	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2\text{CF}_3$	
10-252	1H-triazol-1-ilo	$\text{CH}_2\text{OCH}_2\text{CH}_3$		10-272	1H-triazol-1-ilo	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_3$	
10-253	1H-triazol-1-ilo			10-273	1H-triazol-1-ilo	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2\text{CF}_3$	
10-254	1H-triazol-1-ilo	$\text{CH}_2\text{OCH}_2\text{CF}_3$		10-274	1H-triazol-1-ilo	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_3$	
10-255	1H-triazol-1-ilo	CH_2SCH_3		10-275	1H-triazol-1-ilo	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{CF}_3$	
10-256	1H-triazol-1-ilo	$\text{CH}_2\text{SCH}_2\text{CH}_3$		10-276	1H-triazol-1-ilo		
10-257	1H-triazol-1-ilo			10-277	1H-triazol-1-ilo		
10-258	1H-triazol-1-ilo	$\text{CH}_2\text{SCH}_2\text{CF}_3$		10-278	1H-triazol-1-ilo	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NHSO}_2\text{CH}_3$	
10-259	1H-triazol-1-ilo	CH_2SOCH_3		10-279	1H-triazol-1-ilo	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{N}(\text{CH}_3)(\text{SO}_2\text{CH}_3)$	
10-260	1H-triazol-1-ilo	$\text{CH}_2\text{SOCH}_2\text{CH}_3$		10-280	1H-tetrazol-1-ilo	CH_3	

Tabla 121

compuesto número	R4	R1	propiedad física (punto de fusión-ND)
10-251	1H-tetrazol-1-ilo	CF ₃	
10-252	1H-tetrazol-1-ilo	CH ₂ OCH ₃	
10-253	1H-tetrazol-1-ilo	CH ₂ OCH ₂ CH ₃	
10-254	1H-tetrazol-1-ilo		
10-255	1H-tetrazol-1-ilo	CH ₂ OCH ₂ CF ₃	
10-256	1H-tetrazol-1-ilo	CH ₂ SCH ₃	
10-257	1H-tetrazol-1-ilo	CH ₂ SCH ₂ CH ₃	
10-258	1H-tetrazol-1-ilo		
10-259	1H-tetrazol-1-ilo	CH ₂ SCH ₂ CF ₃	
10-260	1H-tetrazol-1-ilo	CH ₂ SOCH ₃	
10-261	1H-tetrazol-1-ilo	CH ₂ SOCH ₂ CH ₃	
10-262	1H-tetrazol-1-ilo		
10-263	1H-tetrazol-1-ilo	CH ₂ SOCH ₂ CF ₃	
10-264	1H-tetrazol-1-ilo	CH ₂ SO ₂ CH ₃	
10-265	1H-tetrazol-1-ilo	CH ₂ SO ₂ CH ₂ CH ₃	
10-266	1H-tetrazol-1-ilo		
10-267	1H-tetrazol-1-ilo	CH ₂ SO ₂ CH ₂ CF ₃	
10-268	1H-tetrazol-1-ilo	CH ₂ O(CH ₂) ₂ OCH ₃	
10-269	1H-tetrazol-1-ilo	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	
10-300	1H-tetrazol-1-ilo	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
10-301	1H-tetrazol-1-ilo	CH ₂ O(CH ₂) ₂ SCH ₃	
10-302	1H-tetrazol-1-ilo	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃	
10-303	1H-tetrazol-1-ilo	CH ₂ O(CH ₂) ₂ SOCH ₃	
10-304	1H-tetrazol-1-ilo	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
10-305	1H-tetrazol-1-ilo	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
10-306	1H-tetrazol-1-ilo	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
10-307	1H-tetrazol-1-ilo		
10-503	1H-tetrazol-1-ilo		
10-509	1H-tetrazol-1-ilo	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₃	
10-510	1H-tetrazol-1-ilo	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	
10-511	1H-tetrazol-2-ilo	CH ₃	
10-312	1H-tetrazol-2-ilo	CF ₃	
10-313	1H-tetrazol-2-ilo	CH ₂ OCH ₃	
10-314	1H-tetrazol-2-ilo	CH ₂ OCH ₂ CH ₃	
10-215	1H-tetrazol-2-ilo		
10-216	1H-tetrazol-2-ilo	CH ₂ OCH ₂ CF ₃	
10-317	1H-tetrazol-2-ilo	CH ₂ SCl ₃	
10-218	1H-tetrazol-2-ilo	CH ₂ SCH ₂ CH ₃	
10-519	1H-tetrazol-2-ilo		
10-320	1H-tetrazol-2-ilo	CH ₂ SCH ₂ CF ₃	

Tabla 122

compuesto número	R1	R1	propiedad física (punto de fusión-ND)
10-321	1H-tetrazol-2-ilo	CH ₂ SOCH ₃	
10-322	1H-tetrazol-2-ilo	CH ₂ SOCH ₂ CH ₃	
10-323	1H-tetrazol-2-ilo		
10-324	1H-tetrazol-2-ilo	CH ₂ SOCH ₂ CF ₃	
10-325	1H-tetrazol-2-ilo	CH ₂ SO ₂ CH ₃	
10-326	1H-tetrazol-2-ilo	CH ₂ SO ₂ CH ₂ CH ₃	
10-327	1H-tetrazol-2-ilo		
10-328	1H-tetrazol-2-ilo	CH ₂ SO ₂ CH ₂ CF ₃	
10-329	1H-tetrazol-2-ilo	CH ₂ O(CH ₂) ₂ OCH ₃	
10-330	1H-tetrazol-2-ilo	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	
10-331	1H-tetrazol-2-ilo	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
10-332	1H-tetrazol-2-ilo	CH ₂ O(CH ₂) ₂ SCH ₃	
10-333	1H-tetrazol-2-ilo	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃	
10-334	1H-tetrazol-2-ilo	CH ₂ O(CH ₂) ₂ SOCH ₃	
10-335	1H-tetrazol-2-ilo	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
10-336	1H-tetrazol-2-ilo	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
10-337	1H-tetrazol-2-ilo	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
10-338	1H-tetrazol-2-ilo		
10-339	1H-tetrazol-2-ilo		
10-340	1H-tetrazol-2-ilo	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₃	

compuesto número	R1	R1	propiedad física (punto de fusión-ND)
10-341	1H-tetrazol-2-ilo	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	

Tabla 123

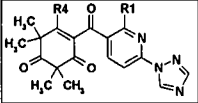
							
compuesto número	R2	R1	propiedad física (punto de fusión-ND)	compuesto número	R2	R1	propiedad física (punto de fusión-ND)
11-1	Cl	CH ₃		11-21	Cl	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
11-2	Cl	CF ₃		11-22	Cl	CH ₂ O(CH ₂) ₂ SCH ₃	
11-3	Cl	CH ₂ OCH ₃		11-23	Cl	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃	
11-4	Cl	CH ₂ OCH ₂ CH ₃		11-24	Cl	CH ₂ O(CH ₂) ₂ SOCH ₃	
11-5	Cl			11-25	Cl	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
11-6	Cl	CH ₂ OCH ₂ CF ₃		11-26	Cl	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
11-7	Cl	CH ₂ SCH ₃		11-27	Cl	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
11-8	Cl	CH ₂ SClCH ₂ CH ₃		11-28	Cl		
11-9	Cl			11-29	Cl		
11-10	Cl	CH ₂ SCH ₂ CF ₃		11-30	Cl	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₃	
11-11	Cl	CH ₂ SOCH ₃		11-31	Cl	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	
11-12	Cl	CH ₂ SOCH ₂ CH ₃		11-32	SCH ₃	CH ₃	
11-13	Cl			11-33	SCH ₃	CF ₃	
11-14	Cl	CH ₂ SOCH ₂ CF ₃		11-34	SCH ₃	CH ₂ OCH ₃	
11-15	Cl	CH ₂ SO ₂ CH ₃		11-35	SCH ₃	CH ₂ OCH ₂ CH ₃	
11-16	Cl	CH ₂ SO ₂ CH ₂ CH ₃		11-36	SCH ₃		
11-17	Cl			11-37	SCH ₃	CH ₂ OCH ₂ CF ₃	
11-18	Cl	CH ₂ SO ₂ CH ₂ CF ₃		11-38	SCH ₃	CH ₂ SCH ₃	
11-19	Cl	CH ₂ O(CH ₂) ₂ OCH ₃		11-39	SCH ₃	CH ₂ SClCH ₂ CH ₃	
11-20	Cl	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃		11-40	SCH ₃		

Tabla 124

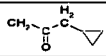
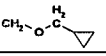
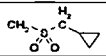
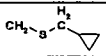
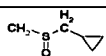
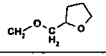
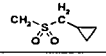
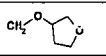
compuesto número	R1	R1	propiedad física (punto de fusión-ND)	compuesto número	R1	R1	propiedad física (punto de fusión-ND)
11-41	SCH ₃	CH ₂ SOCH ₂ CF ₃		11-61	SCH ₃	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₃	
11-42	SCH ₃	CH ₂ SOCH ₃		11-62	SCH ₃	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	
11-43	SCH ₃	CH ₂ SOCH ₂ CH ₃		11-63	SCH ₂ CH ₃	CH ₃	
11-44	SCH ₃			11-64	SCH ₂ CH ₃	CF ₃	
11-45	SCH ₃	CH ₂ SOCH ₂ CF ₃		11-65	SCH ₂ CH ₃	CH ₂ OCH ₃	
11-46	SCH ₃	CH ₂ SO ₂ CH ₃		11-66	SCH ₂ CH ₃	CH ₂ OCH ₂ CH ₃	
11-47	SCH ₃	CH ₂ SO ₂ CH ₂ CH ₃		11-67	SCH ₂ CH ₃		
11-48	SCH ₃			11-68	SCH ₂ CH ₃	CH ₂ OCH ₂ CF ₃	
11-49	SCH ₃	CH ₂ SO ₂ CH ₂ CF ₃		11-69	SCH ₂ CH ₃	CH ₂ SOCH ₃	
11-50	SCH ₃	CH ₂ O(CH ₂) ₂ OCH ₃		11-70	SCH ₂ CH ₃	CH ₂ SOCH ₂ CH ₃	
11-51	SCH ₃	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃		11-71	SCH ₂ CH ₃		
11-52	SCH ₃	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃		11-72	SCH ₂ CH ₃	CH ₂ SOCH ₂ CF ₃	
11-53	SCH ₃	CH ₂ O(CH ₂) ₂ SOCH ₃		11-73	SCH ₂ CH ₃	CH ₂ SOCH ₃	
11-54	SCH ₃	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃		11-74	SCH ₂ CH ₃	CH ₂ SOCH ₂ CH ₃	
11-55	SCH ₃	CH ₂ O(CH ₂) ₂ SOCH ₃		11-75	SCH ₂ CH ₃		
11-56	SCH ₃	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃		11-76	SCH ₂ CH ₃	CH ₂ SOCH ₂ CF ₃	
11-57	SCH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃		11-77	SCH ₂ CH ₃	CH ₂ SO ₂ CH ₃	
11-58	SCH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃		11-78	SCH ₂ CH ₃	CH ₂ SO ₂ CH ₂ CH ₃	
11-59	SCH ₃			11-79	SCH ₂ CH ₃		
11-60	SCH ₃			11-80	SCH ₂ CH ₃	CH ₂ SO ₂ CH ₂ CF ₃	

Tabla 125

compuesto número	R1	R1	propiedad física (punto de fusión-ND)
11-81	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ OCH ₃	
11-82	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	
11-83	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
11-84	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ SCH ₃	
11-85	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃	
11-86	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₃	
11-87	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
11-88	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
11-89	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
11-90	SCH ₂ CH ₃		
11-91	SCH ₂ CH ₃		
11-92	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₃	
11-93	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	
11-94	S(CH ₂) ₂ CH ₃	CH ₃	
11-95	S(CH ₂) ₂ CH ₃	CF ₃	
11-96	S(CH ₂) ₂ CH ₃	CH ₂ OCH ₃	
11-97	S(CH ₂) ₂ CH ₃	CH ₂ OCH ₂ CH ₃	
11-98	S(CH ₂) ₂ CH ₃		
11-99	S(CH ₂) ₂ CH ₃	CH ₂ OCH ₂ CF ₃	
11-100	S(CH ₂) ₂ CH ₃	CH ₂ SCH ₃	
11-101	S(CH ₂) ₂ CH ₃	CH ₂ SCH ₂ CH ₃	
11-102	S(CH ₂) ₂ CH ₃		
11-103	S(CH ₂) ₂ CH ₃	CH ₂ SCH ₂ CF ₃	
11-104	S(CH ₂) ₂ CH ₃	CH ₂ SOCH ₃	
11-105	S(CH ₂) ₂ CH ₃	CH ₂ SOCH ₂ CH ₃	
11-106	S(CH ₂) ₂ CH ₃		
11-107	S(CH ₂) ₂ CH ₃	CH ₂ SOCH ₂ CF ₃	
11-108	S(CH ₂) ₂ CH ₃	CH ₂ SO ₂ CH ₃	
11-109	S(CH ₂) ₂ CH ₃	CH ₂ SO ₂ CH ₂ CH ₃	
11-110	S(CH ₂) ₂ CH ₃		
11-111	S(CH ₂) ₂ CH ₃	CH ₂ SO ₂ CH ₂ CF ₃	
11-112	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ OCH ₃	
11-113	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	
11-114	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
11-115	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SCH ₃	
11-116	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃	
11-117	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₃	
11-118	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
11-119	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
11-120	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	

Tabla 126

compuesto número	R1	R1	propiedad física (punto de fusión-ND)	compuesto número	R1	R1	propiedad física (punto de fusión-ND)
11-121	S(CH ₂) ₂ CH ₃			11-141	SC ₆ H ₅		
11-122	S(CH ₂) ₂ CH ₃			11-142	SC ₆ H ₅	CH ₂ SO ₂ CH ₂ CF ₃	
11-123	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₃		11-143	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ OCH ₃	
11-124	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)		11-144	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	
11-125	SC ₆ H ₅	CH ₃		11-145	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
11-126	SC ₆ H ₅	CF ₃		11-146	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ SCH ₃	
11-127	SC ₆ H ₅	CH ₂ OCH ₃		11-147	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃	
11-128	SC ₆ H ₅	CH ₂ OCH ₂ CH ₃		11-148	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ SOCH ₃	
11-129	SC ₆ H ₅			11-149	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
11-130	SC ₆ H ₅	CH ₂ OCH ₂ CF ₃		11-150	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
11-131	SC ₆ H ₅	CH ₂ SCCH ₃		11-151	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
11-132	SC ₆ H ₅	CH ₂ SCCH ₂ CH ₃		11-152	SC ₆ H ₅		
11-133	SC ₆ H ₅			11-153	SC ₆ H ₅		
11-134	SC ₆ H ₅	CH ₂ SCCH ₂ CF ₃		11-154	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₃	
11-135	SC ₆ H ₅	CH ₂ SOCH ₃		11-155	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	
11-136	SC ₆ H ₅	CH ₂ SOCH ₂ CH ₃		11-156	SCH ₂ C ₆ H ₅	CH ₃	
11-137	SC ₆ H ₅			11-157	SCH ₂ C ₆ H ₅	CF ₃	
11-138	SC ₆ H ₅	CH ₂ SOCH ₂ CF ₃		11-158	SCH ₂ C ₆ H ₅	CH ₂ OCH ₃	
11-139	SC ₆ H ₅	CH ₂ SO ₂ CH ₃		11-159	SCH ₂ C ₆ H ₅	CH ₂ OCH ₂ CH ₃	
11-140	SC ₆ H ₅	CH ₂ SO ₂ CH ₂ CH ₃		11-160	SCH ₂ C ₆ H ₅		

Tabla 127

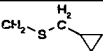
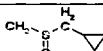
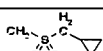
compuesto número	R1	R1	propiedad física (punto de fusión-ND)
11-161	SCH ₂ C ₆ H ₅	CH ₂ OCH ₂ CF ₃	
11-162	SCH ₂ C ₆ H ₅	CH ₂ SCH ₃	
11-163	SCH ₂ C ₆ H ₅	CH ₂ SCCH ₂ CH ₃	
11-164	SCH ₂ C ₆ H ₅		
11-165	SCH ₂ C ₆ H ₅	CH ₂ SCCH ₂ CF ₃	
11-166	SCH ₂ C ₆ H ₅	CH ₂ SOCH ₃	
11-167	SCH ₂ C ₆ H ₅	CH ₂ SOCH ₂ CH ₃	
11-168	SCH ₂ C ₆ H ₅		
11-169	SCH ₂ C ₆ H ₅	CH ₂ SOCH ₂ CF ₃	
11-170	SCH ₂ C ₆ H ₅	CH ₂ SO ₂ CH ₃	
11-171	SCH ₂ C ₆ H ₅	CH ₂ SO ₂ CH ₂ CH ₃	
11-172	SCH ₂ C ₆ H ₅		
11-173	SCH ₂ C ₆ H ₅	CH ₂ SO ₂ CH ₂ CF ₃	
11-174	SCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ OCH ₃	
11-175	SCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	
11-176	SCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
11-177	SCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ SCCH ₃	
11-178	SCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ SCCH ₂ CF ₃	
11-179	SCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ SOCH ₃	
11-180	SCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
11-161	SCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
11-182	SCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
11-183	SCH ₂ C ₆ H ₅		
11-184	SCH ₂ C ₆ H ₅		
11-185	SCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ NH ₂ SO ₂ CH ₃	
11-186	SCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	
11-187	1H-pyrazol-1-yl	CH ₃	
11-188	1H-pyrazol-1-yl	CF ₃	
11-189	1H-pyrazol-1-yl	CH ₂ OCH ₃	
11-190	1H-pyrazol-1-yl	CH ₂ OCH ₂ CH ₃	
11-191	1H-pyrazol-1-yl		
11-192	1H-pyrazol-1-yl	CH ₂ OCH ₂ CF ₃	
11-193	1H-pyrazol-1-yl	CH ₂ SCH ₃	
11-194	1H-pyrazol-1-yl	CH ₂ SCCH ₂ CH ₃	
11-195	1H-pyrazol-1-yl		
11-196	1H-pyrazol-1-yl	CH ₂ SCCH ₂ CF ₃	
11-197	1H-pyrazol-1-yl	CH ₂ SOCH ₃	
11-198	1H-pyrazol-1-yl	CH ₂ SOCH ₂ CH ₃	
11-199	1H-pyrazol-1-yl		
11-200	1H-pyrazol-1-yl	CH ₂ SOCH ₂ CF ₃	

Tabla 128

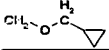
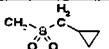
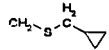
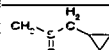
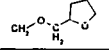
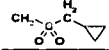
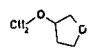
compuesto número	R4	R1	propiedad física (punto de fusión-ND)	compuesto número	R4	R1	propiedad física (punto de fusión-ND)
11-201	1H-pyrazol-1-yl	CH ₂ SO ₂ CH ₃		11-221	1H-imidazol-1-yl	CH ₂ OCH ₂ CH ₃	
11-202	1H-pyrazol-1-yl	CH ₂ SO ₂ CH ₂ CH ₃		11-222	1H-imidazol-1-yl		
11-203	1H-pyrazol-1-yl			11-223	1H-imidazol-1-yl	CH ₂ OCH ₂ CF ₃	
11-204	1H-pyrazol-1-yl	CH ₂ SO ₂ CH ₂ CF ₃		11-224	1H-imidazol-1-yl	CH ₂ SCH ₃	
11-205	1H-pyrazol-1-yl	CH ₂ O(CH ₂) ₂ OCH ₃		11-225	1H-imidazol-1-yl	CH ₂ SCH ₂ CH ₃	
11-206	1H-pyrazol-1-yl	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃		11-226	1H-imidazol-1-yl		
11-207	1H-pyrazol-1-yl	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃		11-227	1H-imidazol-1-yl	CH ₂ SCH ₂ CF ₃	
11-208	1H-pyrazol-1-yl	CH ₂ O(CH ₂) ₂ SCH ₃		11-228	1H-imidazol-1-yl	CH ₂ SOCH ₃	
11-209	1H-pyrazol-1-yl	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃		11-229	1H-imidazol-1-yl	CH ₂ SOCH ₂ CH ₃	
11-210	1H-pyrazol-1-yl	CH ₂ O(CH ₂) ₂ SOCH ₃		11-230	1H-imidazol-1-yl		
11-211	1H-pyrazol-1-yl	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃		11-231	1H-imidazol-1-yl	CH ₂ SOCH ₂ CF ₃	
11-212	1H-pyrazol-1-yl	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃		11-232	1H-imidazol-1-yl	CH ₂ SO ₂ CH ₃	
11-213	1H-pyrazol-1-yl	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃		11-233	1H-imidazol-1-yl	CH ₂ SO ₂ CH ₂ CH ₃	
11-214	1H-pyrazol-1-yl			11-234	1H-imidazol-1-yl		
11-215	1H-pyrazol-1-yl			11-235	1H-imidazol-1-yl	CH ₂ SO ₂ CH ₂ CF ₃	
11-216	1H-pyrazol-1-yl	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₃		11-236	1H-imidazol-1-yl	CH ₂ O(CH ₂) ₂ OCH ₃	
11-217	1H-pyrazol-1-yl	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)		11-237	1H-imidazol-1-yl	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	
11-218	1H-imidazol-1-yl	CH ₃		11-238	1H-imidazol-1-yl	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
11-219	1H-imidazol-1-yl	CF ₃		11-239	1H-imidazol-1-yl	CH ₂ O(CH ₂) ₂ SCH ₃	
11-220	1H-imidazol-1-yl	CH ₂ OCH ₃		11-240	1H-imidazol-1-yl	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃	

Tabla 129

compuesto número	R1	R1	propiedad física (punto de fusión-ND)
11-241	1H-imidazol-1-yl	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_3$	
11-242	1H-imidazol-1-yl	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2\text{CF}_3$	
11-243	1H-imidazol-1-yl	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_3$	
11-244	1H-imidazol-1-yl	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{CF}_3$	
11-245	1H-imidazol-1-yl		
11-246	1H-imidazol-1-yl		
11-247	1H-imidazol-1-yl	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NH}\text{SO}_2\text{CH}_3$	
11-248	1H-imidazol-1-yl	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{N}(\text{CH}_3)(\text{SO}_2\text{CH}_3)$	
11-249	1H-triazol-1-yl	CH_3	
11-250	1H-triazol-1-yl	CF_3	
11-251	1H-triazol-1-yl	CH_2OCH_3	
11-252	1H-triazol-1-yl	$\text{CH}_2\text{OCH}_2\text{CH}_3$	
11-253	1H-triazol-1-yl		
11-254	1H-triazol-1-yl	$\text{CH}_2\text{OCH}_2\text{CF}_3$	
11-255	1H-triazol-1-yl	CH_2SCH_3	
11-256	1H-triazol-1-yl	$\text{CH}_2\text{SCH}_2\text{CH}_3$	
11-257	1H-triazol-1-yl		
11-258	1H-triazol-1-yl	$\text{CH}_2\text{SCH}_2\text{CF}_3$	
11-259	1H-triazol-1-yl	CH_2SOCH_3	
11-260	1H-triazol-1-yl	$\text{CH}_2\text{SOCH}_2\text{CH}_3$	
11-261	1H-triazol-1-yl		
11-262	1H-triazol-1-yl	$\text{CH}_2\text{SOCH}_2\text{CF}_3$	
11-263	1H-triazol-1-yl	$\text{CH}_2\text{SO}_2\text{CH}_3$	
11-264	1H-triazol-1-yl	$\text{CH}_2\text{SO}_2\text{CH}_2\text{CH}_3$	
11-265	1H-triazol-1-yl		
11-266	1H-triazol-1-yl	$\text{CH}_2\text{SO}_2\text{CH}_2\text{CF}_3$	
11-267	1H-triazol-1-yl	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_3$	
11-268	1H-triazol-1-yl	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2\text{CH}_3$	
11-269	1H-triazol-1-yl	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{OCH}_2\text{CF}_3$	
11-270	1H-triazol-1-yl	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_3$	
11-271	1H-triazol-1-yl	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SCH}_2\text{CF}_3$	
11-272	1H-triazol-1-yl	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_3$	
11-273	1H-triazol-1-yl	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SOCH}_2\text{CF}_3$	
11-274	1H-triazol-1-yl	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_3$	
11-275	1H-triazol-1-yl	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{SO}_2\text{CH}_2\text{CF}_3$	
11-276	1H-triazol-1-yl		
11-277	1H-triazol-1-yl		
11-278	1H-triazol-1-yl	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{NH}\text{SO}_2\text{CH}_3$	
11-279	1H-triazol-1-yl	$\text{CH}_2\text{O}(\text{CH}_2)_2\text{N}(\text{CH}_3)(\text{SO}_2\text{CH}_3)$	
11-280	1H-triazol-1-yl	CH_3	

Tabla 130

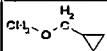
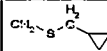
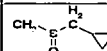
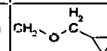
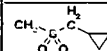
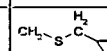
compuesto número	R4	R1	propiedad física (punto de fusión-ND)	compuesto número	R4	R1	propiedad física (punto de fusión-ND)
11-261	1H-tetrazol-1-yl	CF ₃		11-301	1H-tetrazol-1-yl	CH ₂ O(CH ₂) ₂ SCH ₃	
11-262	1H-tetrazol-1-yl	CH ₂ OCH ₃		11-302	1H-tetrazol-1-yl	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
11-263	1H-tetrazol-1-yl	CH ₂ OCH ₂ CH ₃		11-303	1H-tetrazol-1-yl	CH ₂ O(CH ₂) ₂ SOCH ₃	
11-264	1H-tetrazol-1-yl			11-304	1H-tetrazol-1-yl	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
11-265	1H-tetrazol-1-yl	CH ₂ OCH ₂ CF ₃		11-305	1H-tetrazol-1-yl	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
11-266	1H-tetrazol-1-yl	CH ₂ SOCH ₃		11-306	1H-tetrazol-1-yl	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
11-267	1H-tetrazol-1-yl	CH ₂ SOCH ₂ CH ₃		11-307	1H-tetrazol-1-yl		
11-268	1H-tetrazol-1-yl			11-308	1H-tetrazol-1-yl		
11-269	1H-tetrazol-1-yl	CH ₂ SOCH ₂ CF ₃		11-309	1H-tetrazol-1-yl	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₃	
11-270	1H-tetrazol-1-yl	CH ₂ SOCH ₃		11-310	1H-tetrazol-1-yl	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	
11-271	1H-tetrazol-1-yl	CH ₂ SOCH ₂ CH ₃		11-311	1H-tetrazol-2-yl	CH ₃	
11-272	1H-tetrazol-1-yl			11-312	1H-tetrazol-2-yl	CF ₃	
11-273	1H-tetrazol-1-yl	CH ₂ SOCH ₂ CF ₃		11-313	1H-tetrazol-2-yl	CH ₂ OCH ₃	
11-274	1H-tetrazol-1-yl	CH ₂ SO ₂ CH ₃		11-314	1H-tetrazol-2-yl	CH ₂ OCH ₂ CH ₃	
11-275	1H-tetrazol-1-yl	CH ₂ SO ₂ CH ₂ CH ₃		11-315	1H-tetrazol-2-yl		
11-276	1H-tetrazol-1-yl			11-316	1H-tetrazol-2-yl	CH ₂ OCH ₂ CF ₃	
11-277	1H-tetrazol-1-yl	CH ₂ SO ₂ CH ₂ CF ₃		11-317	1H-tetrazol-2-yl	CH ₂ SOCH ₃	
11-278	1H-tetrazol-1-yl	CH ₂ O(CH ₂) ₂ OCH ₃		11-318	1H-tetrazol-2-yl	CH ₂ SOCH ₂ CH ₃	
11-279	1H-tetrazol-1-yl	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃		11-319	1H-tetrazol-2-yl		
11-280	1H-tetrazol-1-yl	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃		11-320	1H-tetrazol-2-yl	CH ₂ SOCH ₂ CF ₃	

Tabla 146

compuesto número	R4	R1	propiedad física (punto de fusión-ND)
13-201	1H-pyrazol-1-yl	CH ₂ SO ₂ CH ₃	
13-202	1H-pyrazol-1-yl	CH ₂ SO ₂ CH ₂ CH ₃	
13-203	1H-pyrazol-1-yl		
13-204	1H-pyrazol-1-yl	CH ₂ SO ₂ CH ₂ CF ₃	
13-205	1H-pyrazol-1-yl	CH ₂ O(CH ₂) ₂ OCH ₃	
13-206	1H-pyrazol-1-yl	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	
13-207	1H-pyrazol-1-yl	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
13-208	1H-pyrazol-1-yl	CH ₂ O(CH ₂) ₂ SCH ₃	
13-209	1H-pyrazol-1-yl	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃	
13-210	1H-pyrazol-1-yl	CH ₂ O(CH ₂) ₂ SOCH ₃	
13-211	1H-pyrazol-1-yl	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
13-212	1H-pyrazol-1-yl	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
13-213	1H-pyrazol-1-yl	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
13-214	1H-pyrazol-1-yl		
13-215	1H-pyrazol-1-yl		
13-216	1H-pyrazol-1-yl	CH ₂ O(CH ₂) ₂ NH ₂ SO ₂ CH ₃	
13-217	1H-pyrazol-1-yl	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	
13-218	1H-imidazol-1-yl	CH ₃	
13-219	1H-imidazol-1-yl	CF ₃	
13-220	1H-imidazol-1-yl	CH ₂ OCH ₃	
13-221	1H-imidazol-1-yl	CH ₂ OCH ₂ CH ₃	
13-222	1H-imidazol-1-yl		
13-223	1H-imidazol-1-yl	CH ₂ OCH ₂ CF ₃	
13-224	1H-imidazol-1-yl	CH ₂ SCH ₃	
13-225	1H-imidazol-1-yl	CH ₂ SCH ₂ CH ₃	
13-226	1H-imidazol-1-yl		
13-227	1H-imidazol-1-yl	CH ₂ SCH ₂ CF ₃	
13-228	1H-imidazol-1-yl	CH ₂ SOCH ₃	
13-229	1H-imidazol-1-yl	CH ₂ SOCH ₂ CH ₃	
13-230	1H-imidazol-1-yl		
13-231	1H-imidazol-1-yl	CH ₂ SOCH ₂ CF ₃	
13-232	1H-imidazol-1-yl	CH ₂ SO ₂ CH ₃	
13-233	1H-imidazol-1-yl	CH ₂ SO ₂ CH ₂ CH ₃	
13-234	1H-imidazol-1-yl		
13-235	1H-imidazol-1-yl	CH ₂ SO ₂ CH ₂ CF ₃	
13-236	1H-imidazol-1-yl	CH ₂ O(CH ₂) ₂ OCH ₃	
13-237	1H-imidazol-1-yl	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	
13-238	1H-imidazol-1-yl	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
13-239	1H-imidazol-1-yl	CH ₂ O(CH ₂) ₂ SCH ₃	
13-240	1H-imidazol-1-yl	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃	

Tabla 147

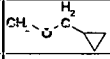
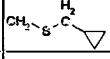
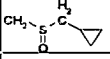
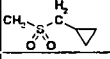
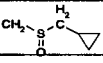
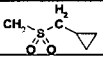
compuesto número	R4	R1	propiedad física (punto d: fusión-ND)
13-241	1H-imidazole-1-yl	CH ₂ O(CH ₂) ₂ SOCH ₃	
13-242	1H-imidazole-1-yl	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
13-243	1H-imidazole-1-yl	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
13-244	1H-imidazole-1-yl	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
13-245	1H-imidazole-1-yl		
13-246	1H-imidazole-1-yl		
13-247	1H-imidazole-1-yl	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₃	
13-248	1H-imidazole-1-yl	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	
13-249	1H-triazole-1-yl	CH ₃	
13-250	1H-triazole-1-yl	CF ₃	
13-251	1H-triazole-1-yl	CH ₃ OCH ₃	
13-252	1H-triazole-1-yl	CH ₃ OCH ₂ CH ₃	
13-253	1H-triazole-1-yl		
13-254	1H-triazole-1-yl	CH ₂ OCH ₂ CF ₃	
13-255	1H-triazole-1-yl	CH ₂ SC ₂ H ₅	
13-256	1H-triazole-1-yl	CH ₂ SC ₂ H ₄ CH ₃	
13-257	1H-triazole-1-yl		
13-258	1H-triazole-1-yl	CH ₂ SC ₂ H ₄ CF ₃	
13-259	1H-triazole-1-yl	CH ₂ SOCH ₃	
13-260	1H-triazole-1-yl	CH ₂ SOCH ₂ CH ₃	
13-261	1H-triazole-1-yl		
13-262	1H-triazole-1-yl	CH ₂ SOCH ₂ CF ₃	
13-263	1H-triazole-1-yl	CH ₂ SO ₂ CH ₃	
13-264	1H-triazole-1-yl	CH ₂ SO ₂ CH ₂ CH ₃	
13-265	1H-triazole-1-yl		
13-266	1H-triazole-1-yl	CH ₂ SO ₂ CH ₂ CF ₃	
13-267	1H-triazole-1-yl	CH ₂ O(CH ₂) ₂ OCH ₃	
13-268	1H-triazole-1-yl	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	
13-269	1H-triazole-1-yl	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
13-270	1H-triazole-1-yl	CH ₂ O(CH ₂) ₂ SC ₂ H ₅	
13-271	1H-triazole-1-yl	CH ₂ O(CH ₂) ₂ SC ₂ H ₄ CF ₃	
13-272	1H-triazole-1-yl	CH ₂ O(CH ₂) ₂ SOCH ₃	
13-273	1H-triazole-1-yl	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
13-274	1H-triazole-1-yl	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
13-275	1H-triazole-1-yl	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
13-276	1H-triazole-1-yl		
13-277	1H-triazole-1-yl		
13-278	1H-triazole-1-yl	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₃	
13-279	1H-triazole-1-yl	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	
13-280	1H-tetrazole-1-yl	CH ₃	

Tabla 148

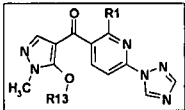
compuesto número	R4	R1	propiedad física (punto de fusión-ND)
13-201	1H-tetrazol-1-yl	CF ₃	
13-202	1H-tetrazol-1-yl	CH ₂ OCH ₃	
13-203	1H-tetrazol-1-yl	CH ₂ OCH ₂ CH ₃	
13-204	1H-tetrazol-1-yl		
13-205	1H-tetrazol-1-yl	CH ₂ OCH ₂ CF ₃	
13-206	1H-tetrazol-1-yl	CH ₂ SCH ₃	
13-207	1H-tetrazol-1-yl	CH ₂ SCH ₂ CH ₃	
13-208	1H-tetrazol-1-yl		
13-209	1H-tetrazol-1-yl	CH ₂ SOCH ₂ CF ₃	
13-210	1H-tetrazol-1-yl	CH ₂ SOCH ₃	
13-211	1H-tetrazol-1-yl	CH ₂ SOCH ₂ CH ₃	
13-212	1H-tetrazol-1-yl		
13-213	1H-tetrazol-1-yl	CH ₂ SOCH ₂ CF ₃	
13-214	1H-tetrazol-1-yl	CH ₂ SO ₂ CH ₃	
13-215	1H-tetrazol-1-yl	CH ₂ SO ₂ CH ₂ CH ₃	
13-216	1H-tetrazol-1-yl		
13-217	1H-tetrazol-1-yl	CH ₂ SO ₂ CH ₂ CF ₃	
13-218	1H-tetrazol-1-yl	CH ₂ SO ₂ CH ₂ CH ₃	
13-219	1H-tetrazol-1-yl	CH ₂ O(CH ₂) ₂ OCH ₃	
13-220	1H-tetrazol-1-yl	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	
13-300	1H-tetrazol-1-yl	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
13-301	1H-tetrazol-1-yl	CH ₂ O(CH ₂) ₂ SCH ₃	
13-302	1H-tetrazol-1-yl	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃	
13-303	1H-tetrazol-1-yl	CH ₂ O(CH ₂) ₂ SOCH ₃	
13-304	1H-tetrazol-1-yl	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
13-305	1H-tetrazol-1-yl	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
13-306	1H-tetrazol-1-yl	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
13-307	1H-tetrazol-1-yl		
13-308	1H-tetrazol-1-yl		
13-309	1H-tetrazol-1-yl	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₃	
13-310	1H-tetrazol-1-yl	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	
13-311	1H-tetrazol-2-yl	CH ₃	
13-312	1H-tetrazol-2-yl	CF ₃	
13-313	1H-tetrazol-2-yl	CH ₂ OCH ₃	
13-314	1H-tetrazol-2-yl	CH ₂ OCH ₂ CH ₃	
13-315	1H-tetrazol-2-yl		
13-316	1H-tetrazol-2-yl	CH ₂ OCH ₂ CF ₃	
13-317	1H-tetrazol-2-yl	CH ₂ SCH ₃	
13-318	1H-tetrazol-2-yl	CH ₂ SCH ₂ CH ₃	
13-319	1H-tetrazol-2-yl		
13-320	1H-tetrazol-2-yl	CH ₂ SOCH ₂ CF ₃	

Tabla 149

compuesto número	R1	R1	propiedad física (punto de fusión-ND)
13-321	1H-tetrazol-2-yl	CH ₂ SOCH ₃	
13-322	1H-tetrazol-2-yl	CH ₂ SOCH ₂ CH ₃	
13-323	1H-tetrazol-2-yl		
13-324	1H-tetrazol-2-yl	CH ₂ SOCH ₂ CF ₃	
13-325	1H-tetrazol-2-yl	CH ₂ SO ₂ CH ₃	
13-326	1H-tetrazol-2-yl	CH ₂ SO ₂ ClCH ₂ CH ₃	
13-327	1H-tetrazol-2-yl		
13-328	1H-tetrazol-2-yl	CH ₂ SO ₂ CH ₂ CF ₃	
13-329	1H-tetrazol-2-yl	CH ₂ O(CH ₂) ₂ OCH ₃	
13-330	1H-tetrazol-2-yl	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	
13-331	1H-tetrazol-2-yl	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
13-332	1H-tetrazol-2-yl	CH ₂ O(CH ₂) ₂ SCH ₃	
13-333	1H-tetrazol-2-yl	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃	
13-334	1H-tetrazol-2-yl	CH ₂ O(CH ₂) ₂ SOCH ₃	
13-335	1H-tetrazol-2-yl	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
13-336	1H-tetrazol-2-yl	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
13-337	1H-tetrazol-2-yl	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
13-338	1H-tetrazol-2-yl		
13-339	1H-tetrazol-2-yl		
13-340	1H-tetrazol-2-yl	CH ₂ O(CH ₂) ₂ NHISO ₂ CH ₃	

compuesto número	R1	R1	propiedad física (punto de fusión-ND)
13-341	1H-tetrazol-2-yl	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	

Tabla 150



compuesto número	R13	R1	propiedad física (punto de fusión-ND)
14-1	CH ₃	CH ₃	
14-2	CH ₃	CF ₃	
14-3	CH ₃	CH ₂ OCH ₃	
14-4	CH ₃	CH ₂ OCH ₂ CH ₃	
14-5	CH ₃		
14-6	CH ₃	CH ₂ OCH ₂ CF ₃	
14-7	CH ₃	CH ₂ SCH ₃	
14-8	CH ₃	CH ₂ SCH ₂ CH ₃	
14-9	CH ₃		
14-10	CH ₃	CH ₂ SCH ₂ CF ₃	
14-11	CH ₃	CH ₂ SOCH ₃	
14-12	CH ₃	CH ₂ SOCH ₂ CH ₃	
14-13	CH ₃		
14-14	CH ₃	CH ₂ SOCH ₂ CF ₃	
14-15	CH ₃	CH ₂ SO ₂ CH ₃	
14-16	CH ₃	CH ₂ SO ₂ CH ₂ CH ₃	
14-17	CH ₃		
14-18	CH ₃	CH ₂ SO ₂ CH ₂ CF ₃	
14-19	CH ₃	CH ₂ O(CH ₂) ₂ OCH ₃	
14-20	CH ₃	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	

compuesto número	R13	R1	propiedad física (punto de fusión-ND)
14-21	CH ₃	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
14-22	CH ₃	CH ₂ O(CH ₂) ₂ SCH ₃	
14-23	CH ₃	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃	
14-24	CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₃	
14-25	CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
14-26	CH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
14-27	CH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
14-28	CH ₃		
14-29	CH ₃		
14-30	CH ₃	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₃	
14-31	CH ₃	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	
14-32	CH ₂ CH ₃	CH ₃	
14-33	CH ₂ CH ₃	CF ₃	
14-34	CH ₂ CH ₃	CH ₂ OCH ₃	
14-35	CH ₂ CH ₃	CH ₂ OCH ₂ CH ₃	
14-36	CH ₂ CH ₃		
14-37	CH ₂ CH ₃	CH ₂ OCH ₂ CF ₃	
14-38	CH ₂ CH ₃	CH ₂ SCH ₃	
14-39	CH ₂ CH ₃	CH ₂ SCH ₂ CH ₃	
14-40	CH ₂ CH ₃		

Tabla 151

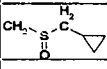
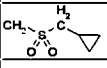
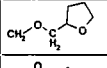
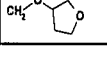
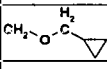
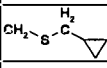
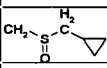
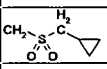
compuesto número	R13	R1	propiedad física (punto de fusión-ND)
14-41	CH ₂ CH ₃	CH ₂ SCH ₂ CF ₃	
14-42	CH ₂ CH ₃	CH ₂ SOCH ₃	
14-43	CH ₂ CH ₃	CH ₂ SOCH ₂ CH ₃	
14-44	CH ₂ CH ₃		
14-45	CH ₂ CH ₃	CH ₂ SOCH ₂ CF ₃	
14-46	CH ₂ CH ₃	CH ₂ SO ₂ CH ₃	
14-47	CH ₂ CH ₃	CH ₂ SO ₂ CH ₂ CH ₃	
14-48	CH ₂ CH ₃		
14-49	CH ₂ CH ₃	CH ₂ SO ₂ CH ₂ CF ₃	
14-50	CH ₂ CH ₃	CH ₂ O(CH ₂) ₂ OCH ₃	
14-51	CH ₂ CH ₃	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	
14-52	CH ₂ CH ₃	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
14-53	CH ₂ CH ₃	CH ₂ O(CH ₂) ₂ SCH ₃	
14-54	CH ₂ CH ₃	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃	
14-55	CH ₂ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₃	
14-56	CH ₂ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
14-57	CH ₂ CH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
14-58	CH ₂ CH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
14-59	CH ₂ CH ₃		
14-60	CH ₂ CH ₃		
14-61	CH ₂ CH ₃	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₃	
14-62	CH ₂ CH ₃	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	
14-63	(CH ₂) ₂ CH ₃	CH ₃	
14-64	(CH ₂) ₂ CH ₃	CF ₃	
14-65	(CH ₂) ₂ CH ₃	CH ₂ OCH ₃	
14-66	(CH ₂) ₂ CH ₃	CH ₂ OCH ₂ CH ₃	
14-67	(CH ₂) ₂ CH ₃		
14-68	(CH ₂) ₂ CH ₃	CH ₂ OCH ₂ CF ₃	
14-69	(CH ₂) ₂ CH ₃	CH ₂ SCH ₃	
14-70	(CH ₂) ₂ CH ₃	CH ₂ SCH ₂ CH ₃	
14-71	(CH ₂) ₂ CH ₃		
14-72	(CH ₂) ₂ CH ₃	CH ₂ SCH ₂ CF ₃	
14-73	(CH ₂) ₂ CH ₃	CH ₂ SOCH ₃	
14-74	(CH ₂) ₂ CH ₃	CH ₂ SOCH ₂ CH ₃	
14-75	(CH ₂) ₂ CH ₃		
14-76	(CH ₂) ₂ CH ₃	CH ₂ SOCH ₂ CF ₃	
14-77	(CH ₂) ₂ CH ₃	CH ₂ SO ₂ CH ₃	
14-78	(CH ₂) ₂ CH ₃	CH ₂ SO ₂ CH ₂ CH ₃	
14-79	(CH ₂) ₂ CH ₃		
14-80	(CH ₂) ₂ CH ₃	CH ₂ SO ₂ CH ₂ CF ₃	

Tabla 152

compuesto número	R13	R1	propiedad física (punto de fusión-ND)
14-81	(CH ₃) ₂ CH ₃	CH ₂ O(CH ₂) ₂ OCH ₃	
14-82	(CH ₃) ₂ CH ₃	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	
14-83	(CH ₃) ₂ CH ₃	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
14-84	(CH ₃) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SCH ₃	
14-85	(CH ₃) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃	
14-86	(CH ₃) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₃	
14-87	(CH ₃) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
14-88	(CH ₃) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
14-89	(CH ₃) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
14-90	(CH ₃) ₂ CH ₃		
14-91	(CH ₃) ₂ CH ₃		
14-92	(CH ₃) ₂ CH ₃	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₃	
14-93	(CH ₃) ₂ CH ₃	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	
14-94	CH ₂ CH=CH ₂	CH ₃	
14-95	CH ₂ CH=CH ₂	CF ₃	
14-96	CH ₂ CH=CH ₂	CH ₂ OCH ₃	
14-97	CH ₂ CH=CH ₂	CH ₂ OCH ₂ CH ₃	
14-98	CH ₂ CH=CH ₂		
14-99	CH ₂ CH=CH ₂	CH ₂ OCH ₂ CF ₃	
14-100	CH ₂ CH=CH ₂	CH ₂ SCCH ₃	
14-101	CH ₂ CH=CH ₂	CH ₂ SCCH ₂ CH ₃	
14-102	CH ₂ CH=CH ₂		
14-103	CH ₂ CH=CH ₂	CH ₂ SCCH ₂ CF ₃	
14-104	CH ₂ CH=CH ₂	CH ₂ SOCH ₃	
14-105	CH ₂ CH=CH ₂	CH ₂ SOCH ₂ CH ₃	
14-106	CH ₂ CH=CH ₂		
14-107	CH ₂ CH=CH ₂	CH ₂ SOCH ₂ CF ₃	
14-108	CH ₂ CH=CH ₂	CH ₂ SO ₂ CH ₃	
14-109	CH ₂ CH=CH ₂	CH ₂ SO ₂ CH ₂ CH ₃	
14-110	CH ₂ CH=CH ₂		
14-111	CH ₂ CH=CH ₂	CH ₂ SO ₂ CH ₂ CF ₃	
14-112	CH ₂ CH=CH ₂	CH ₂ O(CH ₂) ₂ OCH ₃	
14-113	CH ₂ CH=CH ₂	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	
14-114	CH ₂ CH=CH ₂	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
14-115	CH ₂ CH=CH ₂	CH ₂ O(CH ₂) ₂ SCH ₃	
14-116	CH ₂ CH=CH ₂	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃	
14-117	CH ₂ CH=CH ₂	CH ₂ O(CH ₂) ₂ SOCH ₃	
14-118	CH ₂ CH=CH ₂	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
14-119	CH ₂ CH=CH ₂	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
14-120	CH ₂ CH=CH ₂	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	

Tabla 153

compuesto número	R10	R1	propiedad física (punto de fusión-ND)	compuesto número	R10	R1	propiedad física (punto de fusión-ND)
14-121	CH ₂ CH=CH ₂			14-141	CH ₂ CH=CH ₂		
14-122	CH ₂ CH=CH ₂			14-142	CH ₂ CH=CH ₂	CH ₂ SO ₂ CH ₂ CF ₃	
14-123	CH ₂ CH=CH ₂	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₃		14-143	CH ₂ CH=CH ₂	CH ₂ O(CH ₂) ₂ OCH ₃	
14-124	CH ₂ CH=CH ₂	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)		14-144	CH ₂ CH=CH ₂	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	
14-125	CH ₂ CH=CH ₂	CH ₃		14-145	CH ₂ CH=CH ₂	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
14-126	CH ₂ CH=CH ₂	CF ₃		14-146	CH ₂ CH=CH ₂	CH ₂ O(CH ₂) ₂ SCH ₃	
14-127	CH ₂ CH=CH ₂	CH ₂ OCH ₃		14-147	CH ₂ CH=CH ₂	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃	
14-128	CH ₂ CH=CH ₂	CH ₂ OCH ₂ CH ₃		14-148	CH ₂ CH=CH ₂	CH ₂ O(CH ₂) ₂ SOCH ₃	
14-129	CH ₂ CH=CH ₂			14-149	CH ₂ CH=CH ₂	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
14-130	CH ₂ CH=CH ₂	CH ₂ OCH ₂ CF ₃		14-150	CH ₂ CH=CH ₂	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
14-131	CH ₂ CH=CH ₂	CH ₂ SCH ₃		14-151	CH ₂ CH=CH ₂	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
14-132	CH ₂ CH=CH ₂	CH ₂ SCH ₂ CH ₃		14-152	CH ₂ CH=CH ₂		
14-133	CH ₂ CH=CH ₂			14-153	CH ₂ CH=CH ₂		
14-134	CH ₂ CH=CH ₂	CH ₂ SCH ₂ CF ₃		14-154	CH ₂ CH=CH ₂	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₃	
14-135	CH ₂ CH=CH ₂	CH ₂ SOCH ₃		14-155	CH ₂ CH=CH ₂	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	
14-136	CH ₂ CH=CH ₂	CH ₂ SOCH ₂ CH ₃		14-156	CH ₂ C ₆ H ₅	CH ₃	
14-137	CH ₂ CH=CH ₂			14-157	CH ₂ C ₆ H ₅	CF ₃	
14-138	CH ₂ CH=CH ₂	CH ₂ SOCH ₂ CF ₃		14-158	CH ₂ C ₆ H ₅	CH ₂ OCH ₃	
14-139	CH ₂ CH=CH ₂	CH ₂ SO ₂ CH ₃		14-159	CH ₂ C ₆ H ₅	CH ₂ OCH ₂ CH ₃	
14-140	CH ₂ CH=CH ₂	CH ₂ SO ₂ CH ₂ CH ₃		14-160	CH ₂ C ₆ H ₅		

Tabla 154

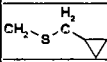
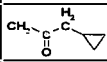
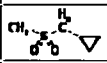
compuesto número	R13	R1	propiedad física (punto de fusión-ND)	compuesto número	R13	R1	propiedad física (punto de fusión-ND)
14-161	CH ₂ C ₆ H ₅	CH ₂ OCH ₂ CF ₃		14-181	CH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
14-162	CH ₂ C ₆ H ₅	CH ₂ SOCH ₃		14-182	CH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
14-163	CH ₂ C ₆ H ₅	CH ₂ SOCH ₂ CH ₃		14-183	CH ₂ C ₆ H ₅		
14-164	CH ₂ C ₆ H ₅			14-184	CH ₂ C ₆ H ₅		
14-165	CH ₂ C ₆ H ₅	CH ₂ SOCH ₂ CF ₃		14-185	CH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ HSO ₂ CH ₃	
14-166	CH ₂ C ₆ H ₅	CH ₂ SOCH ₃		14-186	CH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ H(CH ₃)(SO ₂ CH ₃)	
14-167	CH ₂ C ₆ H ₅	CH ₂ SOCH ₂ CH ₃		14-187	SO ₂ CH ₃	CH ₃	
14-168	CH ₂ C ₆ H ₅			14-188	SO ₂ CH ₃	CF ₃	
14-169	CH ₂ C ₆ H ₅	CH ₂ SOCH ₂ CF ₃		14-189	SO ₂ CH ₃	CH ₂ OCH ₃	
14-170	CH ₂ C ₆ H ₅	CH ₂ SO ₂ CH ₃		14-190	SO ₂ CH ₃	CH ₂ OCH ₂ CH ₃	
14-171	CH ₂ C ₆ H ₅	CH ₂ SO ₂ CH ₂ CH ₃		14-191	SO ₂ CH ₃		
14-172	CH ₂ C ₆ H ₅			14-192	SO ₂ CH ₃	CH ₂ OCH ₂ CF ₃	
14-173	CH ₂ C ₆ H ₅	CH ₂ SO ₂ CH ₂ CF ₃		14-193	SO ₂ CH ₃	CH ₂ SOCH ₃	
14-174	CH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ OCH ₃		14-194	SO ₂ CH ₃	CH ₂ SOCH ₂ CH ₃	
14-175	CH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃		14-195	SO ₂ CH ₃		
14-176	CH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃		14-196	SO ₂ CH ₃	CH ₂ SOCH ₂ CF ₃	
14-177	CH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ SOCH ₃		14-197	SO ₂ CH ₃	CH ₂ SOCH ₃	
14-178	CH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃		14-198	SO ₂ CH ₃	CH ₂ SOCH ₂ CH ₃	
14-179	CH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ SOCH ₃		14-199	SO ₂ CH ₃		
14-180	CH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃		14-200	SO ₂ CH ₃	CH ₂ SOCH ₂ CF ₃	

Tabla 155

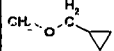
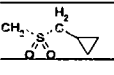
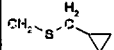
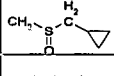
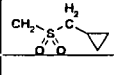
compuesto número	R10	R1	propiedad física (punto de fusión-ND)	compuesto número	R10	R1	propiedad física (punto de fusión-ND)
14-201	SO ₂ CH ₃	CH ₂ SO ₂ CH ₃		14-221	SO ₂ CH ₂ CH ₃	CH ₂ OCH ₂ CH ₃	
14-202	SO ₂ CH ₃	CH ₂ SO ₂ CH ₂ CH ₃		14-222	SO ₂ CH ₂ CH ₃		
14-203	SO ₂ CH ₃			14-223	SO ₂ CH ₂ CH ₃	CH ₂ OCH ₂ CF ₃	
14-204	SO ₂ CH ₃	CH ₂ SO ₂ CH ₂ CF ₃		14-224	SO ₂ CH ₂ CH ₃	CH ₂ SCCH ₃	
14-205	SO ₂ CH ₃	CH ₂ O(CH ₂) ₂ OCH ₃		14-225	SO ₂ CH ₂ CH ₃	CH ₂ SCCH ₂ CH ₃	
14-206	SO ₂ CH ₃	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃		14-226	SO ₂ CH ₂ CH ₃		
14-207	SO ₂ CH ₃	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃		14-227	SO ₂ CH ₂ CH ₃	CH ₂ SCCH ₂ CF ₃	
14-208	SO ₂ CH ₃	CH ₂ O(CH ₂) ₂ SCCH ₃		14-228	SO ₂ CH ₂ CH ₃	CH ₂ SOCH ₃	
14-209	SO ₂ CH ₃	CH ₂ O(CH ₂) ₂ SCCH ₂ CF ₃		14-229	SO ₂ CH ₂ CH ₃	CH ₂ SOCH ₂ CH ₃	
14-210	SO ₂ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₃		14-230	SO ₂ CH ₂ CH ₃		
14-211	SO ₂ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃		14-231	SO ₂ CH ₂ CH ₃	CH ₂ SOCH ₂ CF ₃	
14-212	SO ₂ CH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃		14-232	SO ₂ CH ₂ CH ₃	CH ₂ SO ₂ CH ₃	
14-213	SO ₂ CH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃		14-233	SO ₂ CH ₂ CH ₃	CH ₂ SO ₂ CH ₂ CH ₃	
14-214	SO ₂ CH ₃			14-234	SO ₂ CH ₂ CH ₃		
14-215	SO ₂ CH ₃			14-235	SO ₂ CH ₂ CH ₃	CH ₂ SO ₂ CH ₂ CF ₃	
14-216	SO ₂ CH ₃	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₃		14-236	SO ₂ CH ₂ CH ₃	CH ₂ O(CH ₂) ₂ OCH ₃	
14-217	SO ₂ CH ₃	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)		14-237	SO ₂ CH ₂ CH ₃	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	
14-218	SO ₂ CH ₂ CH ₃	CH ₃		14-238	SO ₂ CH ₂ CH ₃	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
14-219	SO ₂ CH ₂ CH ₃	CF ₃		14-239	SO ₂ CH ₂ CH ₃	CH ₂ O(CH ₂) ₂ SCCH ₃	
14-220	SO ₂ CH ₂ CH ₃	CH ₃ OCH ₃		14-240	SO ₂ CH ₂ CH ₃	CH ₂ O(CH ₂) ₂ SCCH ₂ CF ₃	

Tabla 157

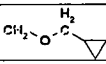
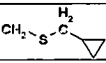
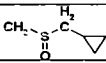
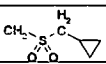
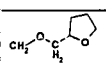
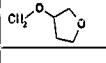
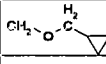
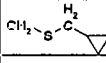
compuesto número	R10	R1	propiedad física (punto de fusión-ND)
14-261	SO ₂ C ₆ H ₅	CF ₃	
14-262	SO ₂ C ₆ H ₅	CH ₂ OCH ₃	
14-263	SO ₂ C ₆ H ₅	CH ₂ OCH ₂ CH ₃	
14-264	SO ₂ C ₆ H ₅		
14-265	SO ₂ C ₆ H ₅	CH ₂ OCH ₂ CF ₃	
14-266	SO ₂ C ₆ H ₅	CH ₂ SC ₂ H ₅	
14-267	SO ₂ C ₆ H ₅	CH ₂ SC ₂ H ₄ CH ₃	
14-268	SO ₂ C ₆ H ₅		
14-269	SO ₂ C ₆ H ₅	CH ₂ SC ₂ H ₄ CF ₃	
14-270	SO ₂ C ₆ H ₅	CH ₂ SOCH ₃	
14-271	SO ₂ C ₆ H ₅	CH ₂ SOCH ₂ CH ₃	
14-272	SO ₂ C ₆ H ₅		
14-273	SO ₂ C ₆ H ₅	CH ₂ SOCH ₂ CF ₃	
14-274	SO ₂ C ₆ H ₅	CH ₂ SO ₂ CH ₃	
14-275	SO ₂ C ₆ H ₅	CH ₂ SO ₂ CH ₂ CH ₃	
14-276	SO ₂ C ₆ H ₅		
14-277	SO ₂ C ₆ H ₅	CH ₂ SO ₂ CH ₂ CF ₃	
14-278	SO ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ OCH ₃	
14-279	SO ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	
14-300	SO ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
14-301	SO ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ SCH ₃	
14-302	SO ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃	
14-303	SO ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ SOCH ₃	
14-304	SO ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
14-305	SO ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
14-306	SO ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
14-307	SO ₂ C ₆ H ₅		
14-308	SO ₂ C ₆ H ₅		
14-309	SO ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ NH ₂ SO ₂ CH ₃	
14-310	SO ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	
14-311	SO ₂ -(1-CH ₃)C ₆ H ₄	CH ₃	
14-312	SO ₂ -(1-CH ₃)C ₆ H ₄	CF ₃	
14-313	SO ₂ -(1-CH ₃)C ₆ H ₄	CH ₂ OCH ₃	
14-314	SO ₂ -(1-CH ₃)C ₆ H ₄	CH ₂ OCH ₂ CH ₃	
14-315	SO ₂ -(1-CH ₃)C ₆ H ₄		
14-316	SO ₂ -(1-CH ₃)C ₆ H ₄	CH ₂ OCH ₂ CF ₃	
14-317	SO ₂ -(1-CH ₃)C ₆ H ₄	CH ₂ SC ₂ H ₅	
14-318	SO ₂ -(1-CH ₃)C ₆ H ₄	CH ₂ SC ₂ H ₄ CH ₃	
14-319	SO ₂ -(1-CH ₃)C ₆ H ₄		
14-320	SO ₂ -(1-CH ₃)C ₆ H ₄	CH ₂ SC ₂ H ₄ CF ₃	

Tabla 158

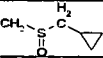
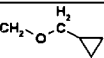
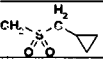
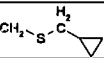
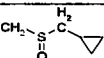
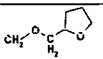
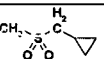
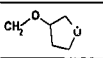
compuesto número	R12	R1	propiedad física (punto de fusión-ND)	compuesto número	R12	R1	propiedad física (punto de fusión-ND)
14-321	SO ₂ (4-CH ₃)C ₆ H ₄	CH ₂ SOCH ₃		14-341	SO ₂ (4-CH ₃)C ₆ H ₄	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	
14-322	SO ₂ (4-CH ₃)C ₆ H ₄	CH ₂ SOCH ₂ CH ₃		14-342	COCH ₃	CH ₃	
14-323	SO ₂ (4-CH ₃)C ₆ H ₄			14-343	COCH ₃	CF ₃	
14-324	SO ₂ (4-CH ₃)C ₆ H ₄	CH ₂ SOCH ₂ CF ₃		14-344	COCH ₃	CH ₃ OCH ₃	
14-325	SO ₂ (4-CH ₃)C ₆ H ₄	CH ₂ SO ₂ CH ₃		14-345	COCH ₃	CH ₂ OCH ₂ CH ₃	
14-326	SO ₂ (4-CH ₃)C ₆ H ₄	CH ₂ SO ₂ CH ₂ CH ₃		14-346	COCH ₃		
14-327	SO ₂ (4-CH ₃)C ₆ H ₄			14-347	COCH ₃	CH ₂ OCH ₂ CF ₃	
14-328	SO ₂ (4-CH ₃)C ₆ H ₄	CH ₂ SO ₂ CH ₂ CF ₃		14-348	COCH ₃	CH ₂ SCl ₃	
14-329	SO ₂ (4-CH ₃)C ₆ H ₄	CH ₂ O(CH ₂) ₂ OCH ₃		14-349	COCH ₃	CH ₂ SCCH ₂ CH ₃	
14-330	SO ₂ (4-CH ₃)C ₆ H ₄	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃		14-350	COCH ₃		
14-331	SO ₂ (4-CH ₃)C ₆ H ₄	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃		14-351	COCH ₃	CH ₂ SCCH ₂ CF ₃	
14-332	SO ₂ (4-CH ₃)C ₆ H ₄	CH ₂ O(CH ₂) ₂ SCH ₃		14-352	COCH ₃	CH ₂ SOCH ₃	
14-333	SO ₂ (4-CH ₃)C ₆ H ₄	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃		14-353	COCH ₃	CH ₂ SOCH ₂ CH ₃	
14-334	SO ₂ (4-CH ₃)C ₆ H ₄	CH ₂ O(CH ₂) ₂ SOCH ₃		14-354	COCH ₃		
14-335	SO ₂ (4-CH ₃)C ₆ H ₄	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃		14-355	COCH ₃	CH ₂ SOCH ₂ CF ₃	
14-336	SO ₂ (4-CH ₃)C ₆ H ₄	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃		14-356	COCH ₃	CH ₂ SO ₂ CH ₃	
14-337	SO ₂ (4-CH ₃)C ₆ H ₄	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃		14-357	COCH ₃	CH ₂ SO ₂ CH ₂ CH ₃	
14-338	SO ₂ (4-CH ₃)C ₆ H ₄			14-358	COCH ₃		
14-339	SO ₂ (4-CH ₃)C ₆ H ₄			14-359	COCH ₃	CH ₂ SO ₂ CH ₂ CF ₃	
14-340	SO ₂ (4-CH ₃)C ₆ H ₄	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₃		14-360	COCH ₃	CH ₂ O(CH ₂) ₂ OCH ₃	

Tabla 159

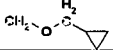
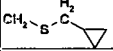
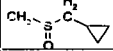
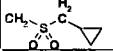
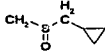
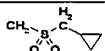
compuesto número	R13	R1	propiedad física (punto de fusión-ND)
14-361	COCH ₃	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	
14-362	COCH ₃	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
14-363	COCH ₃	CH ₂ O(CH ₂) ₂ SCH ₃	
14-364	COCH ₃	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃	
14-365	COCH ₃	CH ₂ O(CH ₂) ₂ SOCH ₃	
14-366	COCH ₃	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
14-367	COCH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
14-368	COCH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
14-369	COCH ₃		
14-370	COCH ₃		
14-371	COCH ₃	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₃	
14-372	COCH ₃	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	
14-373	COC ₆ H ₅	CH ₃	
14-374	COC ₆ H ₅	CF ₃	
14-375	COC ₆ H ₅	CH ₂ OCH ₃	
14-376	COC ₆ H ₅	CH ₂ OCH ₂ CH ₃	
14-377	COC ₆ H ₅		
14-378	COC ₆ H ₅	CH ₂ OCH ₂ CF ₃	
14-379	COC ₆ H ₅	CH ₂ SCH ₃	
14-380	COC ₆ H ₅	CH ₂ SCH ₂ CH ₃	
14-381	COC ₆ H ₅		
14-382	COC ₆ H ₅	CH ₂ SCH ₂ CF ₃	
14-383	COC ₆ H ₅	CH ₂ SOCH ₃	
14-384	COC ₆ H ₅	CH ₂ SOCH ₂ CH ₃	
14-385	COC ₆ H ₅		
14-386	COC ₆ H ₅	CH ₂ SOCH ₂ CF ₃	
14-387	COC ₆ H ₅	CH ₂ SO ₂ CH ₃	
14-388	COC ₆ H ₅	CH ₂ SO ₂ CH ₂ CH ₃	
14-389	COC ₆ H ₅		
14-390	COC ₆ H ₅	CH ₂ SO ₂ CH ₂ CF ₃	
14-391	COC ₆ H ₅	CH ₂ O(CH ₂) ₂ OCH ₃	
14-392	COC ₆ H ₅	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	
14-393	COC ₆ H ₅	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
14-394	COC ₆ H ₅	CH ₂ O(CH ₂) ₂ SCH ₃	
14-395	COC ₆ H ₅	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃	
14-396	COC ₆ H ₅	CH ₂ O(CH ₂) ₂ SOCH ₃	
14-397	COC ₆ H ₅	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
14-398	COC ₆ H ₅	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
14-399	COC ₆ H ₅	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
14-400	COC ₆ H ₅		

Tabla 160

compuesto número	R13	R1	propiedad física (punto de fusión-ND)	compuesto número	R13	R1	propiedad física (punto de fusión-ND)
14-401	COC ₆ H ₅			14-421	COCH ₂ C ₆ H ₅	CH ₂ SO ₂ CH ₂ CF ₃	
14-402	COC ₃ H ₇	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₃		14-422	COCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ OCH ₃	
14-403	COC ₃ H ₇	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)		14-423	COCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	
14-404	COCH ₂ C ₆ H ₅	CH ₃		14-424	COCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
14-405	COCH ₂ C ₆ H ₅	CF ₃		14-425	COCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ SCH ₃	
14-406	COCH ₂ C ₆ H ₅	CH ₂ OCH ₃		14-426	COCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃	
14-407	COCH ₂ C ₆ H ₅	CH ₂ OCH ₂ CH ₃		14-427	COCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ SOCH ₃	
14-408	COCH ₂ C ₆ H ₅			14-428	COCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
14-409	COCH ₂ C ₆ H ₅	CH ₂ OCH ₂ CF ₃		14-429	COCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
14-410	COCH ₂ C ₆ H ₅	CH ₂ SCH ₃		14-430	COCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
14-411	COCH ₂ C ₆ H ₅	CH ₂ SCH ₂ CH ₃		14-431	COCH ₂ C ₆ H ₅		
14-412	COCH ₂ C ₆ H ₅			14-432	COCH ₂ C ₆ H ₅		
14-413	COCH ₂ C ₆ H ₅	CH ₂ SCH ₂ CF ₃		14-433	COCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₃	
14-414	COCH ₂ C ₆ H ₅	CH ₂ SOCH ₃		14-434	COCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	
14-415	COCH ₂ C ₆ H ₅	CH ₂ SOCH ₂ CH ₃		4-435	CH ₂ COCH ₃	CH ₃	
14-416	COCH ₂ C ₆ H ₅			4-436	CH ₂ COCH ₃	CF ₃	
14-417	COCH ₂ C ₆ H ₅	CH ₂ SOCH ₂ CF ₃		4-437	CH ₂ COCH ₃	CH ₂ OCH ₃	
14-418	COCH ₂ C ₆ H ₅	CH ₂ SO ₂ CH ₃		4-438	CH ₂ COCH ₃	CH ₂ OCH ₂ CH ₃	
14-419	COCH ₂ C ₆ H ₅	CH ₂ SO ₂ CH ₂ CH ₃		4-439	CH ₂ COCH ₃		
14-420	COCH ₂ C ₆ H ₅			4-440	CH ₂ COCH ₃	CH ₂ OCH ₂ CF ₃	

Tabla 131

compuesto número	R4	R1	propiedad física (punto de fusión-ND)
11-321	1H-tetrazol-2-yl	CH ₂ SOCH ₃	
11-322	1H-tetrazol-2-yl	CH ₂ SOCH ₂ CH ₃	
11-323	1H-tetrazol-2-yl		
11-324	1H-tetrazol-2-yl	CH ₂ SOCH ₂ CF ₃	
11-325	1H-tetrazol-2-yl	CH ₂ SO ₂ CH ₃	
11-326	1H-tetrazol-2-yl	CH ₂ SO ₂ CH ₂ CH ₃	
11-327	1H-tetrazol-2-yl		
11-328	1H-tetrazol-2-yl	CH ₂ SO ₂ CH ₂ CF ₃	
11-329	1H-tetrazol-2-yl	CH ₂ O(CH ₂) ₂ OCH ₃	
11-330	1H-tetrazol-2-yl	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	
11-331	1H-tetrazol-2-yl	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
11-332	1H-tetrazol-2-yl	CH ₂ O(CH ₂) ₂ SCH ₃	
11-333	1H-tetrazol-2-yl	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃	
11-334	1H-tetrazol-2-yl	CH ₂ O(CH ₂) ₂ SOCH ₃	
11-335	1H-tetrazol-2-yl	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
11-336	1H-tetrazol-2-yl	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
11-337	1H-tetrazol-2-yl	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
11-338	1H-tetrazol-2-yl		
11-339	1H-tetrazol-2-yl		
11-340	1H-tetrazol-2-yl	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₃	

compuesto número	R4	R1	propiedad física (punto de fusión-ND)
11-341	1H-tetrazol-2-yl	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	

Tabla 133

compuesto número	R ³	R ¹	propiedad física (punto de fusión-ND)
12-41	SCH ₃	CH ₂ SCCH ₂ CF ₃	
12-42	SCH ₃	CH ₂ SOCH ₃	
12-43	SCH ₃	CH ₂ SOCH ₂ CH ₃	
12-44	SCH ₃		
12-45	SCH ₃	CH ₂ SOCH ₂ CF ₃	
12-46	SCH ₃	CH ₂ SO ₂ CH ₃	
12-47	SCH ₃	CH ₂ SO ₂ CH ₂ CH ₃	
12-48	SCH ₃		
12-49	SCH ₃	CH ₂ SO ₂ CH ₂ CF ₃	
12-50	SCH ₃	CH ₂ O(CH ₂) ₂ OCH ₃	
12-51	SCH ₃	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	
12-52	SCH ₃	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
12-53	SCH ₃	CH ₂ O(CH ₂) ₂ SCCH ₃	
12-54	SCH ₃	CH ₂ O(CH ₂) ₂ SCCH ₂ CF ₃	
12-55	SCH ₃	CH ₂ O(CH ₂) ₂ SOCH ₃	
12-56	SCH ₃	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
12-57	SCH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
12-58	SCH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
12-59	SCH ₃		
12-60	SCH ₃		
12-61	SCH ₃	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₃	
12-62	SCH ₃	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	
12-63	SCH ₂ CH ₃	CH ₃	
12-64	SCH ₂ CH ₃	CF ₃	
12-65	SCH ₂ CH ₃	CH ₂ OCH ₃	
12-66	SCH ₂ CH ₃	CH ₂ OCH ₂ CH ₃	
12-67	SCH ₂ CH ₃		
12-68	SCH ₂ CH ₂	CH ₂ OCH ₂ CF ₃	
12-69	SCH ₂ CH ₃	CH ₂ SCCH ₃	
12-70	SCH ₂ CH ₃	CH ₂ SCCH ₂ CH ₃	
12-71	SCH ₂ CH ₃		
12-72	SCH ₂ CH ₃	CH ₂ SCCH ₂ CF ₃	
12-73	SCH ₂ CH ₃	CH ₂ SOCH ₃	
12-74	SCH ₂ CH ₃	CH ₂ SOCH ₂ CH ₃	
12-75	SCH ₂ CH ₃		
12-76	SCH ₂ CH ₃	CH ₂ SOCH ₂ CF ₃	
12-77	SCH ₂ CH ₃	CH ₂ SO ₂ CH ₃	
12-78	SCH ₂ CH ₃	CH ₂ SO ₂ CH ₂ CH ₃	
12-79	SCH ₂ CH ₃		
12-80	SCH ₂ CH ₃	CH ₂ SO ₂ CH ₂ CF ₃	

Tabla 134

compuesto número	R1	R1	propiedad física (punto de fusión-ND)	compuesto número	R1	R1	propiedad física (punto de fusión-ND)
12-81	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ OCH ₃		12-101	S(CH ₂) ₂ CH ₃	CH ₂ SCl ₂ CH ₃	
12-92	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃		12-102	S(CH ₂) ₂ CH ₃		
12-93	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃		12-103	S(CH ₂) ₂ CH ₃	CH ₂ SCl ₂ CF ₃	
12-94	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ SCH ₃		12-104	S(CH ₂) ₂ CH ₃	CH ₂ SOCH ₃	
12-95	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃		12-105	S(CH ₂) ₂ CH ₃	CH ₂ SOCH ₂ CH ₃	
12-96	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₃		12-106	S(CH ₂) ₂ CH ₃		
12-97	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃		12-107	S(CH ₂) ₂ CH ₃	CH ₂ SOCH ₂ CF ₃	
12-98	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃		12-108	S(CH ₂) ₂ CH ₃	CH ₂ SO ₂ CH ₃	
12-99	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃		12-109	S(CH ₂) ₂ CH ₃	CH ₂ SO ₂ CH ₂ CH ₃	
12-90	SCH ₂ CH ₃			12-110	S(CH ₂) ₂ CH ₃		
12-91	SCH ₂ CH ₃			12-111	S(CH ₂) ₂ CH ₃	CH ₂ SO ₂ CH ₂ CF ₃	
12-92	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₃		12-112	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ OCH ₃	
12-93	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)		12-113	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	
12-94	S(CH ₂) ₂ CH ₃	CH ₃		12-114	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
12-95	S(CH ₂) ₂ CH ₃	CF ₃		12-115	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SCH ₃	
12-96	S(CH ₂) ₂ CH ₃	CH ₂ OCH ₃		12-116	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃	
12-97	S(CH ₂) ₂ CH ₃	CH ₂ OCH ₂ CH ₃		12-117	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₃	
12-98	S(CH ₂) ₂ CH ₃			12-118	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
12-99	S(CH ₂) ₂ CH ₃	CH ₂ OCH ₂ CF ₃		12-119	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
12-100	S(CH ₂) ₂ CH ₃	CH ₂ SCH ₃		12-120	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	

Tabla 135

compuesto número	R4	R1	propiedad física (punto de fusión-ND)
12-121	S(CH ₂) ₂ CH ₃		
12-122	S(CH ₂) ₂ CH ₃		
12-123	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ NH(SO ₂ CH ₃)	
12-124	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	
12-125	SC ₆ H ₅	CH ₃	
12-126	SC ₆ H ₅	CF ₃	
12-127	SC ₆ H ₅	CH ₂ OCH ₃	
12-128	SC ₆ H ₅	CH ₂ OCH ₂ CH ₃	
12-129	SC ₆ H ₅		
12-130	SC ₆ H ₅	CH ₂ OCH ₂ CF ₃	
12-131	SC ₆ H ₅	CH ₂ SCH ₃	
12-132	SC ₆ H ₅	CH ₂ SCH ₂ CH ₃	
12-133	SC ₆ H ₅		
12-134	SC ₆ H ₅	CH ₂ SCH ₂ CF ₃	
12-135	SC ₆ H ₅	CH ₂ SOCH ₃	
12-136	SC ₆ H ₅	CH ₂ SOCH ₂ CH ₃	
12-137	SC ₆ H ₅		
12-138	SC ₆ H ₅	CH ₂ SOCH ₂ CF ₃	
12-139	SC ₆ H ₅	CH ₂ SO ₂ CH ₃	
12-140	SC ₆ H ₅	CH ₂ SO ₂ CH ₂ CH ₃	
12-141	SC ₆ H ₅		
12-142	SC ₆ H ₅	CH ₂ SO ₂ CH ₂ CF ₃	
12-143	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ OCH ₃	
12-144	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	
12-145	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
12-146	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ SCH ₃	
12-147	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃	
12-148	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ SOCH ₃	
12-149	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
12-150	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
12-151	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
12-152	SC ₆ H ₅		
12-153	SC ₆ H ₅		
12-154	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ NH(SO ₂ CH ₃)	
12-155	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	
12-156	SCH ₂ C ₆ H ₅	CH ₃	
12-157	SCH ₂ C ₆ H ₅	CF ₃	
12-158	SCH ₂ C ₆ H ₅	CH ₂ OCH ₃	
12-159	SCH ₂ C ₆ H ₅	CH ₂ OCH ₂ CH ₃	
12-160	SCH ₂ C ₆ H ₅		

Tabla 136

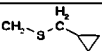
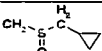
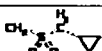
compuesto número	R4	R1	propiedad física (punto de fusión-ND)	compuesto número	R4	R1	propiedad física (punto de fusión-ND)
12-161	SCH ₂ C ₆ H ₅	CH ₂ OCH ₂ CF ₃		12-181	SCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
12-162	SCH ₂ C ₆ H ₅	CH ₂ SOCH ₃		12-182	SCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
12-163	SCH ₂ C ₆ H ₅	CH ₂ SECH ₂ CH ₃		12-183	SCH ₂ C ₆ H ₅		
12-164	SCH ₂ C ₆ H ₅			12-184	SCH ₂ C ₆ H ₅		
12-165	SCH ₂ C ₆ H ₅	CH ₂ SOCH ₂ CF ₃		12-185	SCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ NH(SO ₂ CH ₃)	
12-166	SCH ₂ C ₆ H ₅	CH ₂ SOCH ₃		12-186	SCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	
12-167	SCH ₂ C ₆ H ₅	CH ₂ SOCH ₂ CH ₃		12-187	1H-pyrazol-1-yl	CH ₃	
12-168	SCH ₂ C ₆ H ₅			12-188	1H-pyrazol-1-yl	CF ₃	
12-169	SCH ₂ C ₆ H ₅	CH ₂ SOCH ₂ CF ₃		12-189	1H-pyrazol-1-yl	CH ₂ OCH ₃	
12-170	SCH ₂ C ₆ H ₅	CH ₂ SO ₂ CH ₃		12-190	1H-pyrazol-1-yl	CH ₂ OCH ₂ CH ₃	
12-171	SCH ₂ C ₆ H ₅	CH ₂ SO ₂ CH ₂ CH ₃		12-191	1H-pyrazol-1-yl		
12-172	SCH ₂ C ₆ H ₅			12-192	1H-pyrazol-1-yl	CH ₂ OCH ₂ CF ₃	
12-173	SCH ₂ C ₆ H ₅	CH ₂ SO ₂ CH ₂ CF ₃		12-193	1H-pyrazol-1-yl	CH ₂ SOCH ₃	
12-174	SCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ OCH ₃		12-194	1H-pyrazol-1-yl	CH ₂ SOCH ₂ CH ₃	
12-175	SCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃		12-195	1H-pyrazol-1-yl		
12-176	SCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃		12-196	1H-pyrazol-1-yl	CH ₂ SOCH ₂ CF ₃	
12-177	SCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ SOCH ₃		12-197	1H-pyrazol-1-yl	CH ₂ SOCH ₃	
12-178	SCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃		12-198	1H-pyrazol-1-yl	CH ₂ SOCH ₂ CH ₃	
12-179	SCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ SOCH ₃		12-199	1H-pyrazol-1-yl		
12-180	SCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃		12-200	1H-pyrazol-1-yl	CH ₂ SOCH ₂ CF ₃	

Tabla 137

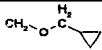
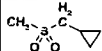
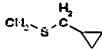
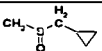
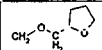
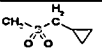
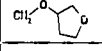
compuesto número	R1	R1	propiedad física (punto de fusión-ND)	compuesto número	R1	R1	propiedad física (punto de fusión-ND)
12-201	1H-pyrazol-1-yl	CH ₂ SO ₂ CH ₃		12-221	1H-imidazol-1-yl	CH ₂ OCH ₂ CH ₃	
12-202	1H-pyrazol-1-yl	CH ₂ SO ₂ CH ₂ CH ₃		12-222	1H-imidazol-1-yl		
12-203	1H-pyrazol-1-yl			12-223	1H-imidazol-1-yl	CH ₂ OCH ₂ CF ₃	
12-204	1H-pyrazol-1-yl	CH ₂ SO ₂ CH ₂ CF ₃		12-224	1H-imidazol-1-yl	CH ₂ SCH ₃	
12-205	1H-pyrazol-1-yl	CH ₂ O(CH ₂) ₂ OCH ₃		12-225	1H-imidazol-1-yl	CH ₂ SCH ₂ CH ₃	
12-206	1H-pyrazol-1-yl	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃		12-226	1H-imidazol-1-yl		
12-207	1H-pyrazol-1-yl	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃		12-227	1H-imidazol-1-yl	CH ₂ SCH ₂ CF ₃	
12-208	1H-pyrazol-1-yl	CH ₂ O(CH ₂) ₂ SCH ₃		12-228	1H-imidazol-1-yl	CH ₂ SOCH ₃	
12-209	1H-pyrazol-1-yl	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃		12-229	1H-imidazol-1-yl	CH ₂ SOCH ₂ CH ₃	
12-210	1H-pyrazol-1-yl	CH ₂ O(CH ₂) ₂ SOCH ₃		12-230	1H-imidazol-1-yl		
12-211	1H-pyrazol-1-yl	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃		12-231	1H-imidazol-1-yl	CH ₂ SOCH ₂ CF ₃	
12-212	1H-pyrazol-1-yl	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃		12-232	1H-imidazol-1-yl	CH ₂ SO ₂ CH ₃	
12-213	1H-pyrazol-1-yl	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃		12-233	1H-imidazol-1-yl	CH ₂ SO ₂ CH ₂ CH ₃	
12-214	1H-pyrazol-1-yl			12-234	1H-imidazol-1-yl		
12-215	1H-pyrazol-1-yl			12-235	1H-imidazol-1-yl	CH ₂ SO ₂ CH ₂ CF ₃	
12-216	1H-pyrazol-1-yl	CH ₂ O(CH ₂) ₂ HSO ₂ CH ₃		12-236	1H-imidazol-1-yl	CH ₂ O(CH ₂) ₂ OCH ₃	
12-217	1H-pyrazol-1-yl	CH ₂ O(CH ₂) ₂ l(CH ₃)(SO ₂ CH ₃)		12-237	1H-imidazol-1-yl	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	
12-218	1H-imidazol-1-yl	CH ₃		12-238	1H-imidazol-1-yl	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
12-219	1H-imidazol-1-yl	CF ₃		12-239	1H-imidazol-1-yl	CH ₂ O(CH ₂) ₂ SCH ₃	
12-220	1H-imidazol-1-yl	CH ₂ OCH ₃		12-240	1H-imidazol-1-yl	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃	

Tabla 138

compuesto número	R4	R1	propiedad física (punto de fusión-ND)
12-241	1H-imidazol-1-yl	CH ₂ O(CH ₂) ₂ SOCH ₃	
12-242	1H-imidazol-1-yl	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
12-243	1H-imidazol-1-yl	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
12-244	1H-imidazol-1-yl	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
12-245	1H-imidazol-1-yl		
12-246	1H-imidazol-1-yl		
12-247	1H-imidazol-1-yl	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₃	
12-248	1H-imidazol-1-yl	CH ₂ O(CH ₂) ₂ l(CH ₃)(SO ₂ CH ₃)	
12-249	1H-imidazol-1-yl	CH ₃	
12-250	1H-imidazol-1-yl	CF ₃	
12-251	1H-imidazol-1-yl	CH ₃ OCH ₃	
12-252	1H-imidazol-1-yl	CH ₂ OCH ₂ CH ₃	
12-253	1H-imidazol-1-yl		
12-254	1H-imidazol-1-yl	CH ₂ OCH ₂ CF ₃	
12-255	1H-imidazol-1-yl	CH ₂ SCH ₃	
12-256	1H-imidazol-1-yl	CH ₂ SCH ₂ CH ₃	
12-257	1H-imidazol-1-yl		
12-258	1H-imidazol-1-yl	CH ₂ SCH ₂ CF ₃	
12-259	1H-imidazol-1-yl	CH ₂ SOCH ₃	
12-260	1H-imidazol-1-yl	CH ₂ SOCH ₂ CH ₃	
12-261	1H-triazol-1-yl		
12-262	1H-triazol-1-yl	CH ₂ SOCH ₂ CF ₃	
12-263	1H-triazol-1-yl	CH ₂ SO ₂ CH ₃	
12-264	1H-triazol-1-yl	CH ₂ SO ₂ CH ₂ CH ₃	
12-265	1H-triazol-1-yl		
12-266	1H-triazol-1-yl	CH ₂ SO ₂ CH ₂ CF ₃	
12-267	1H-triazol-1-yl	CH ₂ O(CH ₂) ₂ OCH ₃	
12-268	1H-triazol-1-yl	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	
12-269	1H-triazol-1-yl	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
12-270	1H-triazol-1-yl	CH ₂ O(CH ₂) ₂ SCH ₃	
12-271	1H-triazol-1-yl	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃	
12-272	1H-triazol-1-yl	CH ₂ O(CH ₂) ₂ SOCH ₃	
12-273	1H-triazol-1-yl	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
12-274	1H-triazol-1-yl	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
12-275	1H-triazol-1-yl	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
12-276	1H-triazol-1-yl		
12-277	1H-triazol-1-yl		
12-278	1H-triazol-1-yl	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₃	
12-279	1H-triazol-1-yl	CH ₂ O(CH ₂) ₂ l(CH ₃)(SO ₂ CH ₃)	
12-280	1H-tetrazol-1-yl	CH ₃	

Tabla 139

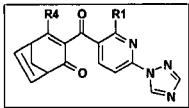
compuesto número	R4	R1	propiedad física (punto de fusión-ND)
12-261	1H-tetrazol-1-yl	CF ₃	
12-262	1H-tetrazol-1-yl	CH ₂ OCH ₃	
12-263	1H-tetrazol-1-yl	CH ₂ OCH ₂ CH ₃	
12-264	1H-tetrazol-1-yl		
12-265	1H-tetrazol-1-yl	CH ₂ OCH ₂ CF ₃	
12-266	1H-tetrazol-1-yl	CH ₂ SCH ₃	
12-267	1H-tetrazol-1-yl	CH ₂ SCH ₂ CH ₃	
12-268	1H-tetrazol-1-yl		
12-269	1H-tetrazol-1-yl	CH ₂ SCH ₂ CF ₃	
12-270	1H-tetrazol-1-yl	CH ₂ SOCH ₃	
12-281	1H-tetrazol-1-yl	CH ₂ SOCH ₂ CH ₃	
12-282	1H-tetrazol-1-yl		
12-283	1H-tetrazol-1-yl	CH ₂ SOCH ₂ CF ₃	
12-284	1H-tetrazol-1-yl	CH ₂ SO ₂ CH ₃	
12-285	1H-tetrazol-1-yl	CH ₂ SO ₂ CH ₂ CH ₃	
12-286	1H-tetrazol-1-yl		
12-287	1H-tetrazol-1-yl	CH ₂ SO ₂ CH ₂ CF ₃	
12-288	1H-tetrazol-1-yl	CH ₂ O(CH ₂) ₂ OCH ₃	
12-289	1H-tetrazol-1-yl	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	
12-290	1H-tetrazol-1-yl	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
12-301	1H-tetrazol-1-yl	CH ₂ O(CH ₂) ₂ SCH ₃	
12-302	1H-tetrazol-1-yl	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃	
12-303	1H-tetrazol-1-yl	CH ₂ O(CH ₂) ₂ SOCH ₃	
12-304	1H-tetrazol-1-yl	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
12-305	1H-tetrazol-1-yl	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
12-306	1H-tetrazol-1-yl	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
12-307	1H-tetrazol-1-yl		
12-308	1H-tetrazol-1-yl		
12-309	1H-tetrazol-1-yl	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₃	
12-310	1H-tetrazol-1-yl	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	
12-311	1H-tetrazol-2-yl	CH ₃	
12-312	1H-tetrazol-2-yl	CF ₃	
12-313	1H-tetrazol-2-yl	CH ₂ OCH ₃	
12-314	1H-tetrazol-2-yl	CH ₂ OCH ₂ CH ₃	
12-315	1H-tetrazol-2-yl		
12-316	1H-tetrazol-2-yl	CH ₂ OCH ₂ CF ₃	
12-317	1H-tetrazol-2-yl	CH ₂ SCH ₃	
12-318	1H-tetrazol-2-yl	CH ₂ SCH ₂ CH ₃	
12-319	1H-tetrazol-2-yl		
12-320	1H-tetrazol-2-yl	CH ₂ SOCH ₂ CF ₃	

Tabla 140

compuesto número	R4	R1	propiedad física (punto de fusión-ND)
12-321	1H-tetrazol-2-yl	CH ₃ SOCH ₃	
12-322	1H-tetrazol-2-yl	CH ₃ SOCH ₂ CH ₃	
12-323	1H-tetrazol-2-yl		
12-324	1H-tetrazol-2-yl	CH ₃ SOCH ₂ CF ₃	
12-325	1H-tetrazol-2-yl	CH ₃ SO ₂ CH ₃	
12-326	1H-tetrazol-2-yl	CH ₃ SO ₂ CH ₂ CH ₃	
12-327	1H-tetrazol-2-yl		
12-328	1H-tetrazol-2-yl	CH ₃ SO ₂ CH ₂ CF ₃	
12-329	1H-tetrazol-2-yl	CH ₃ O(CH ₂) ₂ OCH ₃	
12-330	1H-tetrazol-2-yl	CH ₃ O(CH ₂) ₂ OCH ₂ CH ₃	
12-331	1H-tetrazol-2-yl	CH ₃ O(CH ₂) ₂ OCH ₂ CF ₃	
12-332	1H-tetrazol-2-yl	CH ₃ O(CH ₂) ₂ SCH ₃	
12-333	1H-tetrazol-2-yl	CH ₃ O(CH ₂) ₂ SCH ₂ CF ₃	
12-334	1H-tetrazol-2-yl	CH ₃ O(CH ₂) ₂ SOCH ₃	
12-335	1H-tetrazol-2-yl	CH ₃ O(CH ₂) ₂ SOCH ₂ CF ₃	
12-336	1H-tetrazol-2-yl	CH ₃ O(CH ₂) ₂ SO ₂ CH ₃	
12-337	1H-tetrazol-2-yl	CH ₃ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
12-338	1H-tetrazol-2-yl		
12-339	1H-tetrazol-2-yl		
12-340	1H-tetrazol-2-yl	CH ₃ O(CH ₂) ₂ NHSO ₂ CH ₃	

compuesto número	R4	R1	propiedad física (punto de fusión-ND)
12-341	1H-tetrazol-2-yl	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	

Tabla 141



compuesto número	R4	R1	propiedad física (punto de fusión-ND)
13-1	Cl	CH ₃	
13-2	Cl	CF ₃	
13-3	Cl	CH ₂ OCH ₃	
13-4	Cl	CH ₂ OCH ₂ CH ₃	
13-5	Cl		
13-6	Cl	CH ₂ OCH ₂ CF ₃	
13-7	Cl	CH ₂ SCH ₃	
13-8	Cl	CH ₂ SCH ₂ CH ₃	
13-9	Cl		
13-10	Cl	CH ₂ SCH ₂ CF ₃	
13-11	Cl	CH ₂ SOCH ₃	
13-12	Cl	CH ₂ SOCH ₂ CH ₃	
13-13	Cl		
13-14	Cl	CH ₂ SOCH ₂ CF ₃	
13-15	Cl	CH ₂ SO ₂ CH ₃	
13-16	Cl	CH ₂ SO ₂ CH ₂ CH ₃	
13-17	Cl		
13-18	Cl	CH ₂ SO ₂ CH ₂ CF ₃	
13-19	Cl	CH ₂ O(CH ₂) ₂ OCH ₃	
13-20	Cl	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	

compuesto número	R4	R1	propiedad física (punto de fusión-ND)
13-21	Cl	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
13-22	Cl	CH ₂ O(CH ₂) ₂ SCH ₃	
13-23	Cl	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃	
13-24	Cl	CH ₂ O(CH ₂) ₂ SOCH ₃	
13-25	Cl	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
13-26	Cl	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
13-27	Cl	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
13-28	Cl		
13-29	Cl		
13-30	Cl	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₃	
13-31	Cl	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	
13-32	SCH ₃	CH ₃	
13-33	SCH ₃	CF ₃	
13-34	SCH ₃	CH ₂ OCH ₃	
13-35	SCH ₃	CH ₂ OCH ₂ CH ₃	
13-36	SCH ₃		
13-37	SCH ₃	CH ₂ OCH ₂ CF ₃	
13-38	SCH ₃	CH ₂ SCH ₃	
13-39	SCH ₃	CH ₂ SCH ₂ CH ₃	
13-40	SCH ₃		

Tabla 142

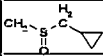
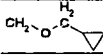
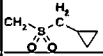
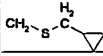
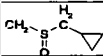
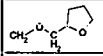
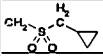
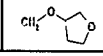
compuesto número	R4	R1	propiedad física (punto de fusión-ND)	compuesto número	R4	R1	propiedad física (punto de fusión-ND)
13-41	SCH ₃	CH ₂ SOCH ₂ CF ₃		13-61	SCH ₃	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₃	
13-42	SCH ₃	CH ₂ SOCH ₃		13-62	SCH ₃	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	
13-43	SCH ₃	CH ₂ SOCH ₂ CH ₃		13-63	SCH ₂ CH ₃	CH ₃	
13-44	SCH ₃			13-64	SCH ₂ CH ₃	CF ₃	
13-45	SCH ₃	CH ₂ SOCH ₂ CF ₃		13-65	SCH ₂ CH ₃	CH ₂ OCH ₃	
13-46	SCH ₃	CH ₂ SO ₂ CH ₃		13-66	SCH ₂ CH ₃	CH ₂ OCH ₂ CH ₃	
13-47	SCH ₃	CH ₂ SO ₂ CH ₂ CH ₃		13-67	SCH ₂ CH ₃		
13-48	SCH ₃			13-68	SCH ₂ CH ₃	CH ₂ OCH ₂ CF ₃	
13-49	SCH ₃	CH ₂ SO ₂ CH ₂ CF ₃		13-69	SCH ₂ CH ₃	CH ₂ SOCH ₃	
13-50	SCH ₃	CH ₂ O(CH ₂) ₂ OCH ₃		13-70	SCH ₂ CH ₃	CH ₂ SOCH ₂ CH ₃	
13-51	SCH ₃	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃		13-71	SCH ₂ CH ₃		
13-52	SCH ₃	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃		13-72	SCH ₂ CH ₃	CH ₂ SOCH ₂ CF ₃	
13-53	SCH ₃	CH ₂ O(CH ₂) ₂ SOCH ₃		13-73	SCH ₂ CH ₃	CH ₂ SOCH ₃	
13-54	SCH ₃	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃		13-74	SCH ₂ CH ₃	CH ₂ SOCH ₂ CH ₃	
13-55	SCH ₃	CH ₂ O(CH ₂) ₂ SOCH ₃		13-75	SCH ₂ CH ₃		
13-56	SCH ₃	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃		13-76	SCH ₂ CH ₃	CH ₂ SOCH ₂ CF ₃	
13-57	SCH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃		13-77	SCH ₂ CH ₃	CH ₂ SO ₂ CH ₃	
13-58	SCH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃		13-78	SCH ₂ CH ₃	CH ₂ SO ₂ CH ₂ CH ₃	
13-59	SCH ₃			13-79	SCH ₂ CH ₃		
13-60	SCH ₃			13-80	SCH ₂ CH ₃	CH ₂ SO ₂ CH ₂ CF ₃	

Tabla 143

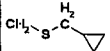
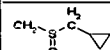
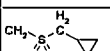
compuesto número	R1	R1	propiedad física (punto de fusión-ND)	compuesto número	R1	R1	propiedad física (punto de fusión-ND)
13-81	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ OCH ₃		13-101	S(CH ₂) ₂ CH ₃	CH ₂ SCCH ₂ CH ₃	
13-82	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃		13-102	S(CH ₂) ₂ CH ₃		
13-83	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃		13-103	S(CH ₂) ₂ CH ₃	CH ₂ SCCH ₂ CF ₃	
13-84	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ SCH ₃		13-104	S(CH ₂) ₂ CH ₃	CH ₂ SOCH ₃	
13-85	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃		13-105	S(CH ₂) ₂ CH ₃	CH ₂ SOCH ₂ CH ₃	
13-86	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₃		13-106	S(CH ₂) ₂ CH ₃		
13-87	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃		13-107	S(CH ₂) ₂ CH ₃	CH ₂ SOCH ₂ CF ₃	
13-88	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃		13-108	S(CH ₂) ₂ CH ₃	CH ₂ SO ₂ CH ₃	
13-89	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃		13-109	S(CH ₂) ₂ CH ₃	CH ₂ SO ₂ CH ₂ CH ₃	
13-90	SCH ₂ CH ₃			13-110	S(CH ₂) ₂ CH ₃		
13-91	SCH ₂ CH ₃			13-111	S(CH ₂) ₂ CH ₃	CH ₂ SO ₂ CH ₂ CF ₃	
13-92	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ NHHSO ₂ CH ₃		13-112	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ OCH ₃	
13-93	SCH ₂ CH ₃	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)		13-113	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	
13-94	S(CH ₂) ₂ CH ₃	CH ₃		13-114	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
13-95	S(CH ₂) ₂ CH ₃	CF ₃		13-115	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SCH ₃	
13-96	S(CH ₂) ₂ CH ₃	CH ₂ OCH ₃		13-116	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃	
13-97	S(CH ₂) ₂ CH ₃	CH ₂ OCH ₂ CH ₃		13-117	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₃	
13-98	S(CH ₂) ₂ CH ₃			13-118	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
13-99	S(CH ₂) ₂ CH ₃	CH ₂ OCH ₂ CF ₃		13-119	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
13-100	S(CH ₂) ₂ CH ₃	CH ₂ SCCH ₃		13-120	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	

Tabla 144

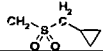
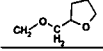
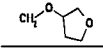
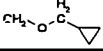
compuesto número	R1	R1	propiedad física (punto de fusión-ND)	compuesto número	R1	R1	propiedad física (punto de fusión-ND)
13-121	S(CH ₂) ₂ CH ₃			13-141	SC ₆ H ₅		
13-122	S(CH ₂) ₂ CH ₃			13-142	SC ₆ H ₅	CH ₂ SO ₂ CH ₂ CF ₃	
13-123	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₃		13-143	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ OCH ₃	
13-124	S(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)		13-144	SC ₂ H ₅	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	
13-125	SC ₆ H ₅	CH ₃		13-145	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
13-126	SC ₆ H ₅	CF ₃		13-146	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ SCH ₃	
13-127	SC ₆ H ₅	CH ₂ OCH ₃		13-147	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃	
13-128	SC ₆ H ₅	CH ₂ OCH ₂ CH ₃		13-148	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ SOCH ₃	
13-129	SC ₆ H ₅			13-149	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
13-130	SC ₆ H ₅	CH ₂ OCH ₂ CF ₃		13-150	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
13-131	SC ₆ H ₅	CH ₂ SCH ₃		13-151	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
13-132	SC ₆ H ₅	CH ₂ SCH ₂ CH ₃		13-152	SC ₆ H ₅		
13-133	SC ₆ H ₅			13-153	SC ₆ H ₅		
13-134	SC ₆ H ₅	CH ₂ SCH ₂ CF ₃		13-154	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₃	
13-135	SC ₆ H ₅	CH ₂ SOCH ₃		13-155	SC ₆ H ₅	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	
13-136	SC ₆ H ₅	CH ₂ SOCH ₂ CH ₃		13-156	SCH ₂ C ₆ H ₅	CH ₃	
13-137	SC ₆ H ₅			13-157	SCH ₂ C ₆ H ₅	CF ₃	
13-138	SC ₆ H ₅	CH ₂ SOCH ₂ CF ₃		13-158	SCH ₂ C ₆ H ₅	CH ₂ OCH ₃	
13-139	SC ₆ H ₅	CH ₂ SO ₂ CH ₃		13-159	SCH ₂ C ₆ H ₅	CH ₂ OCH ₂ CH ₃	
13-140	SC ₆ H ₅	CH ₂ SO ₂ CH ₂ CH ₃		13-160	SCH ₂ C ₆ H ₅		

Tabla 145

compuesto número	R4	R1	propiedad física (punto de fusión-ND)	compuesto número	R4	R1	propiedad física (punto de fusión-ND)
15-161	SCH ₂ C ₆ H ₅	CH ₂ OCH ₂ CF ₃		13-181	SCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
13-162	SCH ₂ C ₆ H ₅	CH ₂ SCH ₃		13-182	SCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
13-163	SCH ₂ C ₆ H ₅	CH ₂ SCCH ₂ CH ₃		13-183	SCH ₂ C ₆ H ₅		
13-164	SCH ₂ C ₆ H ₅			13-184	SCH ₂ C ₆ H ₅		
13-165	SCH ₂ C ₆ H ₅	CH ₂ SCCH ₂ CF ₃		15-165	SCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₃	
15-166	SCH ₂ C ₆ H ₅	CH ₂ SOCH ₃		13-166	SCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	
13-167	SCH ₂ C ₆ H ₅	CH ₂ SOCH ₂ CH ₃		13-187	1H-pyrazol-3-yl	CH ₃	
13-168	SCH ₂ C ₆ H ₅			13-188	1H-pyrazol-3-yl	CF ₃	
13-169	SCH ₂ C ₆ H ₅	CH ₂ SOCH ₂ CF ₃		15-189	1H-pyrazol-3-yl	CH ₂ OCH ₃	
15-170	SCH ₂ C ₆ H ₅	CH ₂ SO ₂ CH ₃		13-190	1H-pyrazol-3-yl	CH ₂ OCH ₂ CH ₃	
13-171	SCH ₂ C ₆ H ₅	CH ₂ SO ₂ CH ₂ CH ₃		13-191	1H-pyrazol-3-yl		
15-172	SCH ₂ C ₆ H ₅			13-192	1H-pyrazol-3-yl	CH ₂ OCH ₂ CF ₃	
13-173	SCH ₂ C ₆ H ₅	CH ₂ SO ₂ CH ₂ CF ₃		13-193	1H-pyrazol-3-yl	CH ₂ SCH ₃	
15-174	SCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ OCH ₃		13-194	1H-pyrazol-3-yl	CH ₂ SCCH ₂ CH ₃	
15-175	SCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃		13-195	1H-pyrazol-3-yl		
13-176	SCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃		13-196	1H-pyrazol-3-yl	CH ₂ SCCH ₂ CF ₃	
13-177	SCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ SCCH ₃		13-197	1H-pyrazol-3-yl	CH ₂ SOCH ₃	
15-178	SCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ SCCH ₂ CF ₃		13-198	1H-pyrazol-3-yl	CH ₂ SOCH ₂ CH ₃	
13-179	SCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ SOCH ₃		15-199	1H-pyrazol-3-yl		
13-180	SCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃		13-200	1H-pyrazol-3-yl	CH ₂ SOCH ₂ CF ₃	

Tabla 161

compuesto número	R13	R1	propiedad física (punto de fusión-ND)
4-111	CH ₂ COCH ₃	CH ₂ SCH ₃	
4-112	CH ₂ COCH ₃	CH ₂ SCH ₂ CH ₃	
4-113	CH ₂ COCH ₃		
4-114	CH ₂ COCH ₃	CH ₂ SCH ₂ CF ₃	
4-115	CH ₂ COCH ₃	CH ₂ SOCH ₃	
4-116	CH ₂ COCH ₃	CH ₂ SOCH ₂ CH ₃	
4-117	CH ₂ COCH ₃		
4-118	CH ₂ COCH ₃	CH ₂ SOCH ₂ CF ₃	
4-119	CH ₂ COCH ₃	CH ₂ SO ₂ CH ₃	
4-120	CH ₂ COCH ₃	CH ₂ SO ₂ CH ₂ CH ₃	
4-121	CH ₂ COCH ₃		
4-122	CH ₂ COCH ₃	CH ₂ SO ₂ CH ₂ CF ₃	
4-123	CH ₂ COCH ₃	CH ₂ O(CH ₂) ₂ OCH ₃	
4-124	CH ₂ COCH ₃	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	
4-125	CH ₂ COCH ₃	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
4-126	CH ₂ COCH ₃	CH ₂ O(CH ₂) ₂ SOCH ₃	
4-127	CH ₂ COCH ₃	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
4-128	CH ₂ COCH ₃	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
4-129	CH ₂ COCH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
4-130	CH ₂ COCH ₃	CH ₂ SO ₂ CH ₃	
4-131	CH ₂ COCH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
4-132	CH ₂ COCH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
4-133	CH ₂ COCH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
4-134	CH ₂ COCH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
4-135	CH ₂ COCH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
4-136	CH ₂ COCH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
4-137	CH ₂ COCH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
4-138	CH ₂ COCH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
4-139	CH ₂ COCH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
4-140	CH ₂ COCH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
4-141	CH ₂ COCH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
4-142	CH ₂ COCH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
4-143	CH ₂ COCH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
4-144	CH ₂ COCH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
4-145	CH ₂ COCH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
4-146	CH ₂ COCH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
4-147	CH ₂ COCH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
4-148	CH ₂ COCH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
4-149	CH ₂ COCH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
4-150	CH ₂ COCH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
4-151	CH ₂ COCH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
4-152	CH ₂ COCH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
4-153	CH ₂ COCH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
4-154	CH ₂ COCH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
4-155	CH ₂ COCH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
4-156	CH ₂ COCH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
4-157	CH ₂ COCH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
4-158	CH ₂ COCH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
4-159	CH ₂ COCH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
4-160	CH ₂ COCH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
4-161	CH ₂ COCH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
4-162	CH ₂ COCH ₃		
4-163	CH ₂ COCH ₃		
4-164	CH ₂ COCH ₃	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₃	
4-165	CH ₂ COCH ₃	CH ₂ O(CH ₂) ₂ M(CH ₂) ₂ (SO ₂ CH ₃)	
4-166	CH ₂ COCH ₃	CH ₃	
4-167	CH ₂ COCH ₃	CF ₃	
4-168	CH ₂ COCH ₃	CH ₂ OCH ₃	
4-169	CH ₂ COCH ₃	CH ₂ OCH ₂ CH ₃	
4-170	CH ₂ COCH ₃		
4-171	CH ₂ COCH ₃	CH ₂ OCH ₂ CF ₃	
4-172	CH ₂ COCH ₃	CH ₂ SCH ₃	
4-173	CH ₂ COCH ₃	CH ₂ SCH ₂ CH ₃	
4-174	CH ₂ COCH ₃		
4-175	CH ₂ COCH ₃	CH ₂ SOCH ₂ CF ₃	
4-176	CH ₂ COCH ₃	CH ₂ SOCH ₃	
4-177	CH ₂ COCH ₃	CH ₂ SOCH ₂ CH ₃	
4-178	CH ₂ COCH ₃		
4-179	CH ₂ COCH ₃	CH ₂ SOCH ₂ CF ₃	
4-180	CH ₂ COCH ₃	CH ₂ SO ₂ CH ₃	

Tabla 162

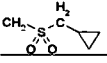
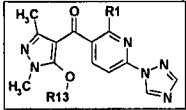
compuesto número	R13	R1	propiedad física (punto de fusión-ND)
14-481	CH ₂ COC ₆ H ₅	CH ₂ SO ₂ CH ₂ CH ₃	
14-482	CH ₂ COC ₆ H ₅		
14-483	CH ₂ COC ₆ H ₅	CH ₂ SO ₂ CH ₂ CF ₃	
14-484	CH ₂ COC ₆ H ₅	CH ₂ O(CH ₂) ₂ OCH ₃	
14-485	CH ₂ COC ₆ H ₅	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	
14-486	CH ₂ COC ₆ H ₅	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
14-487	CH ₂ COC ₆ H ₅	CH ₂ O(CH ₂) ₂ SCH ₃	
14-488	CH ₂ COC ₆ H ₅	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃	
14-489	CH ₂ COC ₆ H ₅	CH ₂ O(CH ₂) ₂ SOCH ₃	
14-490	CH ₂ COC ₆ H ₅	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
14-491	CH ₂ COC ₆ H ₅	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
14-492	CH ₂ COC ₆ H ₅	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
14-493	CH ₂ COC ₆ H ₅		
14-494	CH ₂ COC ₆ H ₅		
14-495	CH ₂ COC ₆ H ₅	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₃	
14-496	CH ₂ COC ₆ H ₅	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	

Tabla 163



compuesto número	R13	R1	propiedad física (punto de fusión-ND)
15-1	CH ₃	CH ₃	
15-2	CH ₃	CF ₃	
15-3	CH ₃	CH ₂ OCH ₃	
15-4	CH ₃	CH ₂ OCH ₂ CH ₃	
15-5	CH ₃		
15-6	CH ₃	CH ₂ OCH ₂ CF ₃	
15-7	CH ₃	CH ₂ SCH ₃	
15-8	CH ₃	CH ₂ SCH ₂ CH ₃	
15-9	CH ₃		
15-10	CH ₃	CH ₂ SCH ₂ CF ₃	
15-11	CH ₃	CH ₂ SOCH ₃	
15-12	CH ₃	CH ₂ SOCH ₂ CH ₃	
15-13	CH ₃		
15-14	CH ₃	CH ₂ SOCH ₂ CF ₃	
15-15	CH ₃	CH ₂ SO ₂ CH ₃	
15-16	CH ₃	CH ₂ SO ₂ CH ₂ CH ₃	
15-17	CH ₃		
15-18	CH ₃	CH ₂ SO ₂ CH ₂ CF ₃	
15-19	CH ₃	CH ₂ O(CH ₂) ₂ OCH ₃	
15-20	CH ₃	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	

compuesto número	R13	R1	propiedad física (punto de fusión-ND)
15-21	CH ₃	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
15-22	CH ₃	CH ₂ O(CH ₂) ₂ SCH ₃	
15-23	CH ₃	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃	
15-24	CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₃	
15-25	CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
15-26	CH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
15-27	CH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
15-28	CH ₃		
15-29	CH ₃		
15-30	CH ₃	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₃	
15-31	CH ₃	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	
15-32	Cl-CH ₂ CH ₃	CH ₃	
15-33	CH ₂ CH ₃	CF ₃	
15-34	CH ₂ CH ₃	CH ₂ OCH ₃	
15-35	CH ₂ CH ₃	CH ₂ OCH ₂ CH ₃	
15-36	CH ₂ CH ₃		
15-37	CH ₂ CH ₃	CH ₂ OCH ₂ CF ₃	
15-38	CH ₂ CH ₃	CH ₂ SCH ₃	
15-39	CH ₂ CH ₃	CH ₂ SCH ₂ CH ₃	
15-40	CH ₂ CH ₃		

Tabla 164

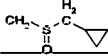
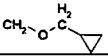
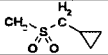
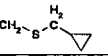
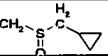
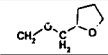
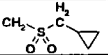
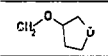
compuesto número	R10	R1	propiedad física (punto de fusión-ND)	compuesto número	R10	R1	propiedad física (punto de fusión-ND)
15-41	CH ₂ CH ₃	CH ₂ SOCH ₂ CF ₃		15-61	CH ₂ CH ₃	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₃	
15-42	CH ₂ CH ₃	CH ₂ SOCH ₃		15-62	CH ₂ CH ₃	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	
15-43	CH ₂ CH ₃	CH ₂ SOCH ₂ CH ₃		15-63	(CH ₂) ₂ CH ₃	CH ₃	
15-44	CH ₂ CH ₃			15-64	(CH ₂) ₂ CH ₃	CF ₃	
15-45	CH ₂ CH ₃	CH ₂ SOCH ₂ CF ₃		15-65	(CH ₂) ₂ CH ₃	CH ₂ OCH ₃	
15-46	CH ₂ CH ₃	CH ₂ SO ₂ CH ₃		15-66	(CH ₂) ₂ CH ₃	CH ₂ OCH ₂ CH ₃	
15-47	CH ₂ CH ₃	CH ₂ SO ₂ CH ₂ CH ₃		15-67	(CH ₂) ₂ CH ₃		
15-48	CH ₂ CH ₃			15-68	(CH ₂) ₂ CH ₃	CH ₂ OCH ₂ CF ₃	
15-49	CH ₂ CH ₃	CH ₂ SO ₂ CH ₂ CF ₃		15-69	(CH ₂) ₂ CH ₃	CH ₂ SCH ₃	
15-50	CH ₂ CH ₃	CH ₂ O(CH ₂) ₂ OCH ₃		15-70	(CH ₂) ₂ CH ₃	CH ₂ SCH ₂ CH ₃	
15-51	CH ₂ CH ₃	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃		15-71	(CH ₂) ₂ CH ₃		
15-52	CH ₂ CH ₃	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃		15-72	(CH ₂) ₂ CH ₃	CH ₂ SCH ₂ CF ₃	
15-53	CH ₂ CH ₃	CH ₂ O(CH ₂) ₂ SCH ₃		15-73	(CH ₂) ₂ CH ₃	CH ₂ SOCH ₃	
15-54	CH ₂ CH ₃	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃		15-74	(CH ₂) ₂ CH ₃	CH ₂ SOCH ₂ CH ₃	
15-55	CH ₂ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₃		15-75	(CH ₂) ₂ CH ₃		
15-56	CH ₂ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃		15-76	(CH ₂) ₂ CH ₃	CH ₂ SOCH ₂ CF ₃	
15-57	CH ₂ CH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃		15-77	(CH ₂) ₂ CH ₃	CH ₂ SO ₂ CH ₃	
15-58	CH ₂ CH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃		15-78	(CH ₂) ₂ CH ₃	CH ₂ SO ₂ CH ₂ CH ₃	
15-59	CH ₂ CH ₃			15-79	(CH ₂) ₂ CH ₃		
15-60	CH ₂ CH ₃			15-80	(CH ₂) ₂ CH ₃	CH ₂ SO ₂ CH ₂ CF ₃	

Tabla 165

compuesto número	R13	R1	propiedad física (punto de fusión-ND)
15-91	(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ OCH ₃	
15-92	(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	
15-93	(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
15-94	(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SCH ₃	
15-95	(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃	
15-96	(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₃	
15-97	(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
15-98	(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
15-99	(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
15-100	(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CH ₃	
15-91	(CH ₂) ₂ CH ₃		
15-91	(CH ₂) ₂ CH ₃		
15-92	(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₃	
15-93	(CH ₂) ₂ CH ₃	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	
15-94	CH ₂ CH=CH ₂	CH ₃	
15-95	CH ₂ CH=CH ₂	CF ₃	
15-96	CH ₂ CH=CH ₂	CH ₂ OCH ₃	
15-97	CH ₂ CH=CH ₂	CH ₂ OCH ₂ CH ₃	
15-98	CH ₂ CH=CH ₂		
15-99	CH ₂ CH=CH ₂	CH ₂ OCH ₂ CF ₃	
15-100	CH ₂ CH=CH ₂	CH ₂ SCH ₃	
15-101	CH ₂ CH=CH ₂	CH ₂ SCH ₂ CH ₃	
15-102	CH ₂ CH=CH ₂		
15-103	CH ₂ CH=CH ₂	CH ₂ SCH ₂ CF ₃	
15-104	CH ₂ CH=CH ₂	CH ₂ SOCH ₃	
15-105	CH ₂ CH=CH ₂	CH ₂ SOCH ₂ CH ₃	
15-106	CH ₂ CH=CH ₂		
15-107	CH ₂ CH=CH ₂	CH ₂ SOCH ₂ CF ₃	
15-108	CH ₂ CH=CH ₂	CH ₂ SO ₂ CH ₃	
15-109	CH ₂ CH=CH ₂	CH ₂ SO ₂ CH ₂ CH ₃	
15-110	CH ₂ CH=CH ₂		
15-111	CH ₂ CH=CH ₂	CH ₂ SO ₂ CH ₂ CF ₃	
15-112	CH ₂ CH=CH ₂	CH ₂ O(CH ₂) ₂ OCH ₃	
15-113	CH ₂ CH=CH ₂	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	
15-114	CH ₂ CH=CH ₂	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
15-115	CH ₂ CH=CH ₂	CH ₂ O(CH ₂) ₂ SCH ₃	
15-116	CH ₂ CH=CH ₂	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃	
15-117	CH ₂ CH=CH ₂	CH ₂ O(CH ₂) ₂ SOCH ₃	
15-118	CH ₂ CH=CH ₂	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
15-119	CH ₂ CH=CH ₂	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
15-120	CH ₂ CH=CH ₂	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	

Tabla 166

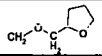
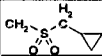
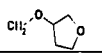
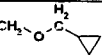
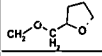
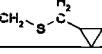
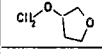
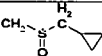
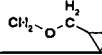
compuesto número	R10	R1	propiedad física (punto de fusión-ND)	compuesto número	R10	R1	propiedad física (punto de fusión-ND)
15-121	CH ₂ CH=CH ₂			15-141	CH ₂ CH≡CH ₂		
15-122	CH ₂ CH=CH ₂			15-142	CH ₂ CH≡CH ₂	CH ₂ SO ₂ CH ₂ CF ₃	
15-123	CH ₂ CH=CH ₂	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₃		15-143	CH ₂ CH≡CH ₂	CH ₂ O(CH ₂) ₂ OCH ₃	
15-124	CH ₂ CH=CH ₂	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)		15-144	CH ₂ CH≡CH ₂	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	
15-125	CH ₂ CH≡CH ₂	CH ₃		15-145	CH ₂ CH≡CH ₂	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
15-126	CH ₂ CH≡CH ₂	CF ₃		15-146	CH ₂ CH≡CH ₂	CH ₂ O(CH ₂) ₂ SCH ₃	
15-127	CH ₂ CH≡CH ₂	CH ₂ OCH ₃		15-147	CH ₂ CH≡CH ₂	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃	
15-128	CH ₂ CH≡CH ₂	CH ₂ OCH ₂ CH ₃		15-148	CH ₂ CH≡CH ₂	CH ₂ O(CH ₂) ₂ SOCH ₃	
15-129	CH ₂ CH≡CH ₂			15-149	CH ₂ CH≡CH ₂	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
15-130	CH ₂ CH≡CH ₂	CH ₂ OCH ₂ CF ₃		15-150	CH ₂ CH≡CH ₂	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
15-131	CH ₂ CH≡CH ₂	CH ₂ SCH ₃		15-151	CH ₂ CH≡CH ₂	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
15-132	CH ₂ CH≡CH ₂	CH ₂ SCH ₂ CH ₃		15-152	CH ₂ CH≡CH ₂		
15-133	CH ₂ CH≡CH ₂			15-153	CH ₂ CH≡CH ₂		
15-134	CH ₂ CH≡CH ₂	CH ₂ SCH ₂ CF ₃		15-154	CH ₂ CH≡CH ₂	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₃	
15-135	CH ₂ CH≡CH ₂	CH ₂ SOCH ₃		15-155	CH ₂ CH≡CH ₂	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	
15-136	CH ₂ CH≡CH ₂	CH ₂ SOCH ₂ CH ₃		15-156	CH ₂ C ₆ H ₅	CH ₃	
15-137	CH ₂ CH≡CH ₂			15-157	CH ₂ C ₆ H ₅	CF ₃	
15-138	CH ₂ CH≡CH ₂	CH ₂ SOCH ₂ CF ₃		15-158	CH ₂ C ₆ H ₅	CH ₂ OCH ₃	
15-139	CH ₂ CH≡CH ₂	CH ₂ SO ₂ CH ₃		15-159	CH ₂ C ₆ H ₅	CH ₂ OCH ₂ CH ₃	
15-140	CH ₂ CH≡CH ₂	CH ₂ SO ₂ CH ₂ CH ₃		15-160	CH ₂ C ₆ H ₅		

Tabla 167

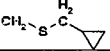
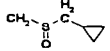
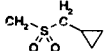
compuesto número	R13	R1	propiedad física (punto de fusión-ND)	compuesto número	R13	R1	propiedad física (punto de fusión-ND)
15-161	CH ₂ C ₆ H ₅	CH ₂ OCH ₂ CF ₃		15-181	CH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
15-162	CH ₂ C ₆ H ₅	CH ₂ SCH ₃		15-182	CH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
15-163	CH ₂ C ₆ H ₅	CH ₂ SCH ₂ CH ₃		15-183	CH ₂ C ₆ H ₅		
15-164	CH ₂ C ₆ H ₅			15-184	CH ₂ C ₆ H ₅		
15-165	CH ₂ C ₆ H ₅	CH ₂ SCl ₂ CF ₃		15-185	CH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₃	
15-166	CH ₂ C ₆ H ₅	CH ₂ SOCH ₃		15-186	CH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	
15-167	CH ₂ C ₆ H ₅	CH ₂ SOCH ₂ CH ₃		15-187	SO ₂ CH ₃	CH ₃	
15-168	CH ₂ C ₆ H ₅			15-188	SO ₂ CH ₃	CF ₃	
15-169	CH ₂ C ₆ H ₅	CH ₂ SOCH ₂ CF ₃		15-189	SO ₂ CH ₃	CH ₂ OCH ₃	
15-170	CH ₂ C ₆ H ₅	CH ₂ SO ₂ CH ₃		15-190	SO ₂ CH ₃	CH ₂ OCH ₂ CH ₃	
15-171	CH ₂ C ₆ H ₅	CH ₂ SO ₂ CH ₂ CH ₃		15-191	SO ₂ CH ₃		
15-172	CH ₂ C ₆ H ₅			15-192	SO ₂ CH ₃	CH ₂ OCH ₂ CF ₃	
15-173	CH ₂ C ₆ H ₅	CH ₂ SO ₂ CH ₂ CF ₃		15-193	SO ₂ CH ₃	CH ₂ SCH ₃	
15-174	CH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ OCH ₃		15-194	SO ₂ CH ₃	CH ₂ SCH ₂ CH ₃	
15-175	CH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃		15-195	SO ₂ CH ₃		
15-176	CH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃		15-196	SO ₂ CH ₃	CH ₂ SCl ₂ CF ₃	
15-177	CH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ SCH ₃		15-197	SO ₂ CH ₃	CH ₂ SOCH ₃	
15-178	CH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃		15-198	SO ₂ CH ₃	CH ₂ SOCH ₂ CH ₃	
15-179	CH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ SOCH ₃		15-199	SO ₂ CH ₃		
15-180	CH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃		15-200	SO ₂ CH ₃	CH ₂ SOCH ₂ CF ₃	

Tabla 168

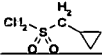
compuesto número	R13	R1	propiedad física (punto de fusión-ND)	compuesto número	R13	R1	propiedad física (punto de fusión-ND)
15-201	SO ₂ CH ₃	CH ₂ SO ₂ CH ₃		15-221	SO ₂ CH ₂ CH ₃	CH ₂ OCH ₂ CH ₃	
15-202	SO ₂ CH ₃	CH ₂ SO ₂ CH ₂ CH ₃		15-222	SO ₂ CH ₂ CH ₃		
15-203	SO ₂ CH ₃			15-223	SO ₂ CH ₂ CH ₃	CH ₂ OCH ₂ CF ₃	
15-204	SO ₂ CH ₃	CH ₂ SO ₂ CH ₂ CF ₃		15-224	SO ₂ CH ₂ CH ₃	CH ₂ SCH ₃	
15-205	SO ₂ CH ₃	CH ₂ O(CH ₂) ₂ OCH ₃		15-225	SO ₂ CH ₂ CH ₃	CH ₂ SCH ₂ CH ₃	
15-206	SO ₂ CH ₃	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃		15-226	SO ₂ CH ₂ CH ₃		
15-207	SO ₂ CH ₃	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃		15-227	SO ₂ CH ₂ CH ₃	CH ₂ SCF ₃	
15-208	SO ₂ CH ₃	CH ₂ O(CH ₂) ₂ SCH ₃		15-228	SO ₂ CH ₂ CH ₃	CH ₂ SOCH ₃	
15-209	SO ₂ CH ₃	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃		15-229	SO ₂ CH ₂ CH ₃	CH ₂ SOCH ₂ CH ₃	
15-210	SO ₂ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₃		15-230	SO ₂ CH ₂ CH ₃		
15-211	SO ₂ CH ₃	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃		15-231	SO ₂ CH ₂ CH ₃	CH ₂ SOCH ₂ CF ₃	
15-212	SO ₂ CH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃		15-232	SO ₂ CH ₂ CH ₃	CH ₂ SO ₂ CH ₃	
15-213	SO ₂ CH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃		15-233	SO ₂ CH ₂ CH ₃	CH ₂ SO ₂ CH ₂ CH ₃	
15-214	SO ₂ CH ₃			15-234	SO ₂ CH ₂ CH ₃		
15-215	SO ₂ CH ₃			15-235	SO ₂ CH ₂ CH ₃	CH ₂ SO ₂ CH ₂ CF ₃	
15-216	SO ₂ CH ₃	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₃		15-236	SO ₂ CH ₂ CH ₃	CH ₂ O(CH ₂) ₂ OCH ₃	
15-217	SO ₂ CH ₃	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)		15-237	SO ₂ CH ₂ CH ₃	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	
15-218	SO ₂ CH ₂ CH ₃	CH ₃		15-238	SO ₂ CH ₂ CH ₃	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
15-219	SO ₂ CH ₂ CH ₃	CF ₃		15-239	SO ₂ CH ₂ CH ₃	CH ₂ O(CH ₂) ₂ SCH ₃	
15-220	SO ₂ CH ₂ CH ₃	CH ₂ OCH ₃		15-240	SO ₂ CH ₂ CH ₃	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃	

Tabla 171

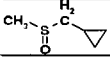
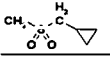
compuesto número	R13	R1	propiedad física (punto de fusión-ND)
15-321	SO ₂ -(1-CH ₃)C ₆ H ₄	CH ₂ SOCH ₃	
15-322	SO ₂ -(1-CH ₃)C ₆ H ₄	CH ₂ SOCH ₂ CH ₃	
15-323	SO ₂ -(1-CH ₃)C ₆ H ₄		
15-324	SO ₂ -(1-CH ₃)C ₆ H ₄	CH ₂ SOCH ₂ CF ₃	
15-325	SO ₂ -(1-CH ₃)C ₆ H ₄	CH ₂ SO ₂ CH ₃	
15-326	SO ₂ -(1-CH ₃)C ₆ H ₄	CH ₂ SO ₂ CH ₂ CH ₃	
15-327	SO ₂ -(1-CH ₃)C ₆ H ₄		
15-328	SO ₂ -(1-CH ₃)C ₆ H ₄	CH ₂ SO ₂ CH ₂ CF ₃	
15-329	SO ₂ -(1-CH ₃)C ₆ H ₄	CH ₂ O(CH ₂) ₂ OCH ₃	
15-330	SO ₂ -(1-CH ₃)C ₆ H ₄	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	
15-331	SO ₂ -(1-CH ₃)C ₆ H ₄	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
15-332	SO ₂ -(1-CH ₃)C ₆ H ₄	CH ₂ O(CH ₂) ₂ SCH ₃	
15-333	SO ₂ -(1-CH ₃)C ₆ H ₄	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃	
15-334	SO ₂ -(1-CH ₃)C ₆ H ₄	CH ₂ O(CH ₂) ₂ SOCH ₃	
15-335	SO ₂ -(1-CH ₃)C ₆ H ₄	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
15-336	SO ₂ -(1-CH ₃)C ₆ H ₄	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
15-337	SO ₂ -(1-CH ₃)C ₆ H ₄	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
15-338	SO ₂ -(1-CH ₃)C ₆ H ₄		
15-339	SO ₂ -(1-CH ₃)C ₆ H ₄		
15-340	SO ₂ -(1-CH ₃)C ₆ H ₄	CH ₂ O(CH ₂) ₂ NH ₂ SO ₂ CH ₃	
15-341	SO ₂ -(1-CH ₃)C ₆ H ₄	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	
15-342	COCH ₃	CH ₃	
15-343	COCH ₃	CF ₃	
15-344	COCH ₃	CH ₂ OCH ₃	
15-345	COCH ₃	CH ₂ OCH ₂ CH ₃	
15-346	COCH ₃		
15-347	COCH ₃	CH ₂ OCH ₂ CF ₃	
15-348	COCH ₃	CH ₂ SCH ₃	
15-349	COCH ₃	CH ₂ SCH ₂ CH ₃	
15-350	COCH ₃		
15-351	COCH ₃	CH ₂ SCH ₂ CF ₃	
15-352	COCH ₃	CH ₂ SOCH ₃	
15-353	COCH ₃	CH ₂ SOCH ₂ CH ₃	
15-354	COCH ₃		
15-355	COCH ₃	CH ₂ SOCH ₂ CF ₃	
15-356	COCH ₃	CH ₂ SO ₂ CH ₃	
15-357	COCH ₃	CH ₂ SO ₂ CH ₂ CH ₃	
15-358	COCH ₃		
15-359	COCH ₃	CH ₂ SO ₂ CH ₂ CF ₃	
15-360	COCH ₃	CH ₂ O(CH ₂) ₂ OCH ₃	

Tabla 172

compuesto número	R10	R1	propiedad física (punto de fusión-ND)	compuesto número	R10	R1	propiedad física (punto de fusión-ND)
15-361	COCH ₃	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃		15-361	COC ₆ H ₅		
15-362	COCH ₃	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃		15-362	COC ₆ H ₅	CH ₂ SCl ₂ CF ₃	
15-363	COCH ₃	CH ₂ O(CH ₂) ₂ SCH ₃		15-363	COC ₆ H ₅	CH ₂ SOCH ₃	
15-364	COCH ₃	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃		15-364	COC ₆ H ₅	CH ₂ SOCH ₂ CH ₃	
15-365	COCH ₃	CH ₂ O(CH ₂) ₂ SOCH ₃		15-365	COC ₆ H ₅		
15-366	COCH ₃	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃		15-366	COC ₆ H ₅	CH ₂ SOCH ₂ CF ₃	
15-367	COCH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃		15-367	COC ₆ H ₅	CH ₂ SO ₂ CH ₃	
15-368	COCH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃		15-368	COC ₆ H ₅	CH ₂ SO ₂ CH ₂ CH ₃	
15-369	COCH ₃			15-369	COC ₆ H ₅		
15-370	COCH ₃			15-370	COC ₆ H ₅	CH ₂ SO ₂ CH ₂ CF ₃	
15-371	COCH ₃	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₃		15-371	COC ₆ H ₅	CH ₂ O(CH ₂) ₂ OCH ₃	
15-372	COCH ₃	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)		15-372	COC ₆ H ₅	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	
15-373	COC ₆ H ₅	CH ₃		15-373	COC ₆ H ₅	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
15-374	COC ₆ H ₅	CF ₃		15-374	COC ₆ H ₅	CH ₂ O(CH ₂) ₂ SCH ₃	
15-375	COC ₆ H ₅	CH ₂ OCH ₃		15-375	COC ₆ H ₅	CH ₂ O(CH ₂) ₂ SCl ₂ CF ₃	
15-376	COC ₆ H ₅	CH ₂ OCH ₂ CH ₃		15-376	COC ₆ H ₅	CH ₂ O(CH ₂) ₂ SOCH ₃	
15-377	COC ₆ H ₅			15-377	COC ₆ H ₅	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
15-378	COC ₆ H ₅	CH ₂ OCH ₂ CF ₃		15-378	COC ₆ H ₅	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
15-379	COC ₆ H ₅	CH ₂ SCl ₂		15-379	COC ₆ H ₅	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
15-380	COC ₆ H ₅	CH ₂ SCl ₂ CH ₃		15-400	COC ₆ H ₅		

Tabla 173

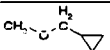
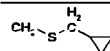
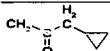
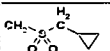
compuesto número	R13	R1	propiedad física (punto de fusión-ND)
15-101	COC ₆ H ₅		
15-102	COC ₆ H ₅	CH ₂ O(CH ₂) ₂ HSO ₃ CH ₃	
15-103	COC ₆ H ₅	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	
15-104	COCH ₂ C ₆ H ₅	CH ₃	
15-105	COCH ₂ C ₆ H ₅	CF ₃	
15-106	COCH ₂ C ₆ H ₅	CH ₂ OCH ₃	
15-107	COCH ₂ C ₆ H ₅	CH ₂ OCH ₂ CH ₃	
15-108	COCH ₂ C ₆ H ₅		
15-109	COCH ₂ C ₆ H ₅	CH ₂ OCH ₂ CF ₃	
15-110	COCH ₂ C ₆ H ₅	CH ₂ SCH ₃	
15-111	COCH ₂ C ₆ H ₅	CH ₂ SCH ₂ CH ₃	
15-112	COCH ₂ C ₆ H ₅		
15-113	COCH ₂ C ₆ H ₅	CH ₂ SCH ₂ CF ₃	
15-114	COCH ₂ C ₆ H ₅	CH ₂ SOCH ₃	
15-115	COCH ₂ C ₆ H ₅	CH ₂ SOCH ₂ CH ₃	
15-116	COCH ₂ C ₆ H ₅		
15-117	COCH ₂ C ₆ H ₅	CH ₂ SOCH ₂ CF ₃	
15-118	COCH ₂ C ₆ H ₅	CH ₂ SO ₂ CH ₃	
15-119	COCH ₂ C ₆ H ₅	CH ₂ SO ₂ CH ₂ CH ₃	
15-120	COCH ₂ C ₆ H ₅		
15-121	COCH ₂ C ₆ H ₅	CH ₂ SO ₂ CH ₂ CF ₃	
15-122	COCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ OCH ₃	
15-123	COCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	
15-124	COCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
15-125	COCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ SCH ₃	
15-126	COCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃	
15-127	COCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ SOCH ₃	
15-128	COCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
15-129	COCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
15-130	COCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
15-131	COCH ₂ C ₆ H ₅		
15-132	COCH ₂ C ₆ H ₅		
15-133	COCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ HSO ₃ CH ₃	
15-134	COCH ₂ C ₆ H ₅	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	
4-135	CH ₂ COCH ₃	CH ₃	
4-136	CH ₂ COCH ₃	CF ₃	
4-137	CH ₂ COCH ₃	CH ₂ OCH ₃	
4-138	CH ₂ COCH ₃	CH ₂ OCH ₂ CH ₃	
4-139	CH ₂ COCH ₃		
4-140	CH ₂ COCH ₃	CH ₂ OCH ₂ CF ₃	

Tabla 174

compuesto número	R13	R1	propiedad física (punto de fusión-ND)
4-441	CH ₃ COCH ₃	CH ₂ SCH ₃	
4-442	CH ₃ COCH ₃	CH ₂ SCH ₂ CH ₃	
4-443	CH ₃ COCH ₃		
4-444	CH ₃ COCH ₃	CH ₂ SCH ₂ CF ₃	
4-445	CH ₃ COCH ₃	CH ₂ SOCH ₃	
4-446	CH ₃ COCH ₃	CH ₂ SOCH ₂ CH ₃	
4-447	CH ₃ COCH ₃		
4-448	CH ₃ COCH ₃	CH ₂ SOCH ₂ CF ₃	
4-449	CH ₃ COCH ₃	CH ₂ SO ₂ CH ₃	
4-450	CH ₃ COCH ₃	CH ₂ SO ₂ CH ₂ CH ₃	
4-451	CH ₃ COCH ₃		
4-452	CH ₃ COCH ₃	CH ₂ SO ₂ CH ₂ CF ₃	
4-453	CH ₃ COCH ₃	CH ₂ O(CH ₂) ₂ OCH ₃	
4-454	CH ₃ COCH ₃	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	
4-455	CH ₃ COCH ₃	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
4-456	CH ₃ COCH ₃	CH ₂ O(CH ₂) ₂ SCH ₃	
4-457	CH ₃ COCH ₃	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃	
4-458	CH ₃ COCH ₃	CH ₂ O(CH ₂) ₂ SOCH ₃	
4-459	CH ₃ COCH ₃	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
4-460	CH ₃ COCH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
4-461	CH ₂ COCH ₃	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
4-462	CH ₂ COCH ₃		
4-463	CH ₂ COCH ₃		
4-464	CH ₂ COCH ₃	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₃	
4-465	CH ₂ COCH ₃	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	
15-466	CH ₂ COC ₆ H ₅	CH ₃	
15-467	CH ₂ COC ₆ H ₅	CF ₃	
15-468	CH ₂ COC ₆ H ₅	CH ₂ OCH ₃	
15-469	CH ₂ COC ₆ H ₅	CH ₂ OCH ₂ CH ₃	
15-470	CH ₂ COC ₆ H ₅		
15-471	CH ₂ COC ₆ H ₅	CH ₂ OCH ₂ CF ₃	
15-472	CH ₂ COC ₆ H ₅	CH ₂ SCCH ₃	
15-473	CH ₂ COC ₆ H ₅	CH ₂ SCH ₂ CH ₃	
15-474	CH ₂ COC ₆ H ₅		
15-475	CH ₂ COC ₆ H ₅	CH ₂ SCH ₂ CF ₃	
15-476	CH ₂ COC ₆ H ₅	CH ₂ SOCH ₃	
15-477	CH ₂ COC ₆ H ₅	CH ₂ SOCH ₂ CH ₃	
15-478	CH ₂ COC ₆ H ₅		
15-479	CH ₂ COC ₆ H ₅	CH ₂ SOCH ₂ CF ₃	
15-480	CH ₂ COC ₆ H ₅	CH ₂ SO ₂ CH ₃	

Tabla 175

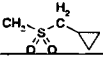
compuesto número	R13	R1	propiedad física (punto de fusión-ND)
15-481	CH ₂ COC ₆ H ₅	CH ₂ SO ₂ CH ₂ CH ₃	
15-482	CH ₂ COC ₆ H ₅		
15-483	CH ₂ COC ₆ H ₅	CH ₂ SO ₂ CH ₂ CF ₃	
15-484	CH ₂ COC ₆ H ₅	CH ₂ O(CH ₂) ₂ OCH ₃	
15-485	CH ₂ COC ₆ H ₅	CH ₂ O(CH ₂) ₂ OCH ₂ CH ₃	
15-486	CH ₂ COC ₆ H ₅	CH ₂ O(CH ₂) ₂ OCH ₂ CF ₃	
15-487	CH ₂ COC ₆ H ₅	CH ₂ O(CH ₂) ₂ SCH ₃	
15-488	CH ₂ COC ₆ H ₅	CH ₂ O(CH ₂) ₂ SCH ₂ CF ₃	
15-489	CH ₂ COC ₆ H ₅	CH ₂ O(CH ₂) ₂ SOCH ₃	
15-490	CH ₂ COC ₆ H ₅	CH ₂ O(CH ₂) ₂ SOCH ₂ CF ₃	
15-491	CH ₂ COC ₆ H ₅	CH ₂ O(CH ₂) ₂ SO ₂ CH ₃	
15-492	CH ₂ COC ₆ H ₅	CH ₂ O(CH ₂) ₂ SO ₂ CH ₂ CF ₃	
15-493	CH ₂ COC ₆ H ₅		
15-494	CH ₂ COC ₆ H ₅		
15-495	CH ₂ COC ₆ H ₅	CH ₂ O(CH ₂) ₂ NHSO ₂ CH ₃	
15-496	CH ₂ COC ₆ H ₅	CH ₂ O(CH ₂) ₂ N(CH ₃)(SO ₂ CH ₃)	

Tabla 176

	¹ H NMR (CDCl ₃ , 300MHz)
1-1	δ 2.02-2.16(2H,m), 2.49(3H,s), 2.45-2.59(2H,m), 2.70-2.91(2H,m), 7.59(1H,d), 7.74(1H,d), 8.09(1H,s), 9.21(1H,s)
1-19	δ 2.01-2.11(2H,m), 2.45(2H,t), 2.60(2H,t), 3.27(3H,s), 4.63(2H,s), 7.65(1H,d), 7.85(1H,d), 8.11(1H,s), 9.21(1H,s)
1-28	δ 1.77-1.94(2H,m), 2.01-2.36(2H,m), 2.62-2.75(2H,m), 3.97(2H,q), 4.64(2H,s), 7.54(1H,d), 7.61(1H,d), 7.99(1H,s), 9.09(1H,s)
1-66	δ 2.02-2.10(2H,m), 2.44(2H,t), 2.79(2H,t), 3.34(3H,s), 3.42-3.45(2H,m), 3.52-3.55(2H,m), 4.73(2H,s), 7.65(1H,d), 7.79(1H,d), 8.11(1H,s), 9.21(1H,s)
1-115	δ 1.13(3H,d), 1.72-1.86(1H,m), 2.10-2.16(1H,m), 2.39-2.60(2H,m), 2.45(3H,s), 2.79-2.92(2H,m), 7.60(1H,d), 7.75(1H,d), 8.10(1H,s), 9.21(1H,s)
1-142	δ 1.14(3H,d), 1.75-2.63(5H,m), 3.30(2H,q), 4.84(2H,s), 7.67(1H,d), 7.83(1H,d), 8.12(1H,s), 9.19(1H,s)
1-457	δ 1.12(3H,s), 1.19(1H,s), 1.76-1.89(2H,m), 2.33-2.37(2H,m), 2.44(3H,s), 7.54(1H,d), 7.71(1H,d), 8.07(1H,s), 9.19(1H,s)
1-685	δ 1.26(6H,s), 1.36(6H,s), 2.55(3H,s), 7.60(1H,d), 7.75(1H,d), 8.10(1H,s), 9.22(1H,s)
1-712	δ 1.34(12H,s), 2.34(2H,q), 4.91(2H,s), 7.69(1H,d), 7.91(1H,d), 8.14(1H,s), 9.221(1H,s)
1-799	δ 1.72-2.25(6H,m), 2.47(3H,s), 2.99-3.13(2H,m), 7.61(1H,d), 7.75(1H,d), 8.09(1H,s), 9.21(1H,s)
1-826	δ 1.71-2.07(6H,m), 2.90-3.19(2H,m), 4.64(2H,q), 4.84(2H,s), 7.39(1H,d), 7.53(1H,d), 8.11(1H,s), 9.17(1H,s)
1-913	δ 2.40-2.68(2H,m), 2.44(3H,s), 3.33-3.55(2H,m), 6.21-6.22(1H,m), 6.36-6.93(2H,m), 6.44-6.47(1H,m), 7.61(1H,d), 7.75(1H,d), 8.10(1H,s), 9.21(1H,s)
2-1	δ 2.71(3H,s), 3.73(3H,s), 7.43(1H,s), 7.84(1H,d), 8.00(1H,d), 8.13(1H,s), 9.25(1H,s)
2-28	δ 3.73(3H,s), 3.93(2H,q), 5.01(1H,s), 7.45(1H,s), 7.99(1H,d), 8.10(1H,d), 8.15(1H,s), 9.24(1H,s)
2-229	δ 1.51(3H,s), 2.59(3H,s), 3.66(3H,s), 7.76(1H,d), 7.84(1H,d), 8.14(1H,s), 9.26(1H,s)
3-115	δ 1.21-1.40(4H,m), 2.60-2.73(1H,m), 2.66(3H,s), 7.82(1H,d), 7.90(1H,d), 8.11(1H,s), 8.22(1H,s), 9.22(1H,s)
3-343	δ 1.16-1.38(7H,m), 2.30-2.39(1H,m), 2.77(3H,s), 4.10-4.17(2H,q), 7.75(1H,d), 7.85(1H,d), 8.11(1H,s), 9.24(1H,s)
4-115	δ 1.26-1.49(4H,m), 2.33-2.46(1H,m), 2.70(3H,s), 7.55(1H,d), 8.05(1H,d), 8.12(1H,s), 9.23(1H,s)
4-142	δ 1.29-1.36(2H,m), 1.43-1.49(2H,m), 2.33-2.41(1H,m), 3.91(2H,q), 5.00(2H,s), 7.99(1H,d), 8.12(1H,d), 8.14(1H,s), 9.19(1H,s)

<Ejemplos biológicos de ensayo>

Ejemplo de ensayo 1 Ensayo del efecto herbicida contra malezas del campo (tratamiento de atomización sobre la tierra antes de la germinación)

5 Preparar una formulación de compuesto activo

Vehículo: DMF 5 partes en peso

Emulsionante: Benciloxi poliglicol éter 1 parte en peso

Una formulación de un compuesto activo se obtiene en forma de una emulsión mezclando 1 parte en peso de un compuesto activo
10 con las cantidades antes señaladas del vehículo y del emulsionante. Una cantidad prescrita de la formulación se diluye con agua.

En un invernadero, semillas de unas malezas del campo [amaranto lívido (*Amaranthus*) y cola de zorro (*Setaria*)] se
15 sembraron sobre la capa superficial de unas macetas de 16 cm² llenas con tierra de campo (légamo arenoso), y se cubrieron con tierra. Aquí, se sembró una clase de maleza en cada maceta. Inmediatamente después de haber sembrado, las soluciones diluidas prescritas que se habían preparado de acuerdo con el
20 anterior método de preparación de la formulación de los respectivos compuestos activos se atomizaron sobre la tierra. Después de 2 semanas desde el tratamiento, se examinó el efecto herbicida de cada uno de los compuestos. En la evaluación del efecto herbicida, la muerte completa se evaluó como 100 %, y el
25 caso de no haber ningún efecto herbicida se evaluó como 0 %. Cuando el efecto herbicida es de 80 % o más, se evalúa que dichos compuestos activos tienen utilidad práctica como un herbicida. Los resultados se muestran en la Tabla 177.

Tabla 177

Tratamiento de atomización sobre la tierra antes de la germinación

5

Compuesto número	Dosificación (g de ia/ha)	Cola de zorro	Amaranto lívido
1-1	500	100	100
2-1	500	100	100
2-229	500	100	100
3-343	500	95	100
4-115	500	100	100

Ejemplo de ensayo 2 Ensayo del efecto herbicida contra malezas del campo (tratamiento de atomización sobre el follaje después de la germinación)

10

En un invernadero, a unas macetas de 16 cm² llenas con tierra del campo (légamo arenoso), se trasplantaron plántulas (en el estadio de 2ª-3ª hojas) de una maleza del campo (cola de zorro). Después de 1 día, las soluciones diluidas prescritas que se habían preparado de acuerdo con el anterior Ejemplo de ensayo 1, se atomizaron desde la cara superior del cuerpo de las plantas. Después de 2 semanas desde el tratamiento, se examinó el efecto herbicida de cada uno de los compuestos. La evaluación del efecto herbicida se llevó a cabo de una manera similar a la del Ejemplo de ensayo 1. Los resultados se muestran en la Tabla

15

20

178.

Tabla 178

Tratamiento de atomización sobre el follaje después de la germinación

Compuesto número	Dosificación (g de ia/ha)	Cola de zorro
1-36	500	100
1-66	500	90
1-115	500	100
1-457	500	100
3-115	500	100

5

Ejemplo de ensayo 3 Ensayo del efecto herbicida selectivo para plantas cultivadas en el campo (tratamiento de atomización sobre la tierra antes de la germinación)

En un invernadero, semillas de plantas cultivadas en el
10 campo [trigo (*Triticum*), maíz (*Zea*), soja (*Glycine*)] y de malezas [capín arroz (*Echinochloa*), digitaria sanguinalis (*Digitaria*), amaranto lívido (*Amaranthus*), chenopodio (*Chenopodium*)] se sembraron sobre la capa superficial de unas macetas de 16 cm² llenas con tierra de campo (légamo arenoso), y
15 se cubrieron con tierra. Después de 1 día, las soluciones diluidas prescritas que se habían preparado de acuerdo con el Ejemplo de ensayo 1, se atomizaron sobre la tierra. Después de 2 semanas desde el tratamiento, se examinaron la fitotoxicidad para las plantas cultivadas y el efecto herbicida de los
20 respectivos compuestos. En la evaluación del efecto herbicida y de la fitotoxicidad, la muerte completa se evaluó como 100 %, el caso de no haber ningún efecto herbicida o ninguna fitotoxicidad se evaluó como 0 %. Cuando el efecto herbicida es de 80 % o más, se evalúa que dichos compuestos activos tienen utilidad práctica

como un herbicida. Cuando la fitotoxicidad es de 20 % o menos, se evalúa que dichos compuestos activos tienen una excelente seguridad como un herbicida. Los resultados se muestran en la Tabla 179.

5

Tabla 179

Compuesto número	Dosificación (g/ha)	Trigo	Maíz	Soja	Capin arroz	Digitaria	Amaranto lívido	Chenopodio
1-1	320	10	0	20	100	100	80	100
1-28	320	0	5	10	100	100	90	100
1-115	320	0	0	10	100	100	90	100
1-535	80	40	30	10	100	100	90	90
1-799	320	0	5	30	90	100	100	90
1-913	320	0	0	0	100	100	100	90
3-115	320	5	10	20	100	100	90	100
3-343	320	0	0	0	90	100	100	100
4-115	320	20	30	0	100	100	100	100

Ejemplo de ensayo 4 Ensayo del efecto herbicida selectivo para plantas cultivadas en el campo (tratamiento de atomización sobre el follaje después de la germinación)

10

En un invernadero, unas respectivas semillas de malezas (capin arroz, digitaria, chenopodio y amaranto lívido) y de plantas cultivadas (trigo, maíz y soja) se sembraron sobre la capa superficial de unas macetas llenas con tierra de campo, y se cubrieron con tierra. Después de un día y de 10 días (estadio medio de 2ª hoja para malezas) desde la siembra y el cubrimiento de las semillas con tierra, las soluciones diluidas prescritas que se habían preparado de acuerdo con el Ejemplo de ensayo 1, se atomizaron uniformemente sobre las superficies de tierra de las respectivas macetas de ensayo y las partes de follaje de los cuerpos de las plantas.

15

20

Después de 14 días desde la atomización, se examinó el grado del efecto herbicida. Las evaluaciones del efecto herbicida y de la fitotoxicidad se llevaron a cabo de una manera similar a la del Ejemplo de ensayo 3.

5 Los resultados se muestran en la Tabla 180.

Tabla 180

Compuesto número	Dosificación (g/ha)	Trigo	Maíz	Soja	Capin amoz	Digitaria	Amaranio livido	Chenopodio
1-36	320	0	10	50	100	100	80	90
1-56	320	0	50	50	100	100	80	90
1-66	320	10	50	50	100	100	100	100
1-457	320	20	50	40	100	100	100	100
2-1	80	0	5	50	100	95	100	90
2-229	320	10	50	60	100	100	100	90

10 <Ejemplos de formulación>

Ejemplo de formulación 1 (granulados)

Se añade agua (25 partes) a una mezcla del compuesto N° 1-1 (10 partes) del presente invento, de una bentonita (montmorillonita) (30 partes), de un talco (58 partes), y de un lignina sulfonato (2 partes), y la mezcla se amasa bien, se transforma en granulados con un tamaño de 10-40 mallas con un aparato granulador por extrusión, y se seca a 40-50°C para producir unos granulados.

Ejemplo de formulación 2 (granulados)

20 Se colocan granos de un mineral arcilloso (95 partes) que tienen una distribución de tamaños de partículas de 0,2-2 mm dentro de un mezclador rotatorio, y el compuesto N° 1-1 (5 partes) del presente invento se atomiza junto con un diluyente líquido mediando rotación, y los granos se humedecen

uniformemente y luego se secan a 40-50°C para producir unos granulados.

Ejemplo de formulación 3 (emulsión)

El compuesto N° 1-1 (30 partes) del presente invento,
5 xileno (55 partes), un polioxietilen alquil fenil éter (8 partes), y un alquilbenceno sulfonato de calcio (7 partes) se mezclan y agitan para producir una emulsión.

Ejemplo de formulación 4 (polvo humectable)

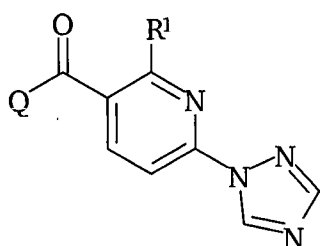
El compuesto N° 1-1 (15 partes) del presente invento, una
10 mezcla de carbón blanco (polvos finos de sílice amorfa que contienen agua) y de arcilla en polvo (1:5) (80 partes), un alquilbenceno sulfonato de sodio (2 partes), y un polímero de un alquilbenceno sulfonato de sodio y formalina (3 partes) se mezclan en polvo para producir a polvo humectable.

15 Ejemplo de formulación 5 (granulados dispersables en agua)

El compuesto N° 1-1 (20 partes) del presente invento, un lignina sulfonato de sodio (30 partes), una bentonita (15 partes), y un polvo de una tierra de diatomeas calcinada (35 partes) se mezclan de una manera suficiente, y se les añade
20 agua, y la mezcla se extrude y se seca a través de un tamiz de 0,3 mm para producir unos granulados dispersables en agua.

REIVINDICACIONES

1. Derivado de triazolilpiridina cetona representado por la fórmula (I)

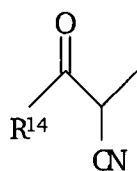
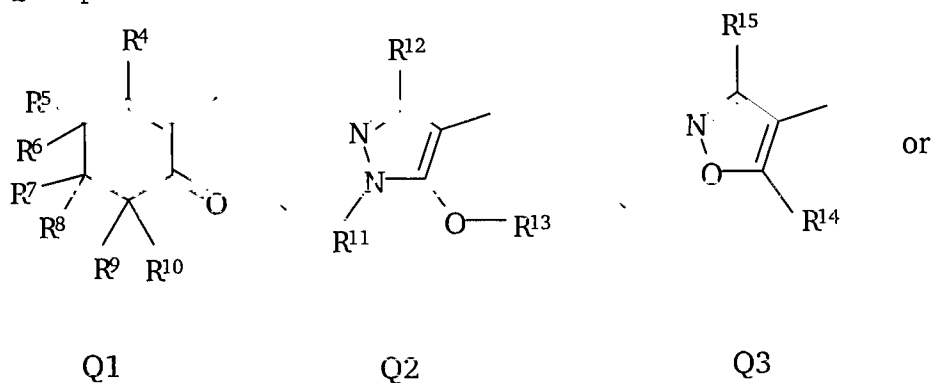


Formula (I)

5 en la que R¹ representa alquilo, cicloalquilo, cicloalquil-alquilo, haloalquilo, alqueniilo, alquiniilo, arilo, aralquilo, alcoxialquilo, cicloalquil-alcoxialquilo, haloalcoxialquilo, alqueniiloxialquilo, alquiniiloxialquilo, 10 alquiltioalquilo, alquilsulfinilalquilo, alquilsulfonilalquilo, cicloalquil-alquiltioalquilo, cicloalquil-alquilsulfinilalquilo, cicloalquil-alquilsulfonilalquilo, haloalquiltioalquilo, 15 haloalquilsulfinilalquilo, haloalquilsulfonilalquilo, alqueniiltioalquilo, alqueniilsulfinilalquilo, alqueniilsulfonilalquilo, alquiniiltioalquilo, alquiniilsulfinilalquilo, alquiniilsulfonilalquilo, alcoxialcoxialquilo, cicloalquil-alcoxialcoxialquilo, 20 haloalcoxialcoxialquilo, alqueniiloxialcoxialquilo, alquiniiloxialcoxialquilo, alquiltioalcoxialquilo, alquilsulfinilalcoxialquilo, alquilsulfonilalcoxialquilo, cicloalquil-alquiltioalcoxialquilo, cicloalquil-alquilsulfinilalcoxialquilo,

cicloalquil-alquilsulfonilalcoxialquilo,
haloalquiltioalcoxialquilo, haloalquilsulfinilalcoxialquilo,
haloalquilsulfonilalcoxialquilo, alqueniltioalcoxialquilo,
alquenilsulfinilalcoxialquilo, alquenilsulfonilalcoxialquilo,
5 alquiniltioalcoxialquilo,
alquinilsulfinilalcoxialquilo, alquinilsulfonilalcoxialquilo,
éter cíclico - O - alquilo, éter cíclico - alcoxialquilo,
alquilsulfonilaminoalcoxialquilo,
cicloalquil-alquilsulfonilaminoalcoxialquilo,
10 haloalquilsulfonilaminoalcoxialquilo, alquiltio,
alquilsulfinilo, alquilsulfonilo, alcoxi, haloalcoxi,
alcoxialcoxi, o NR^2R^3 ,
 R^2 y R^3 representan respectivamente hidrógeno o alquilo,

Q representa



Q4

15 en la que R^4 representa hidroxilo, halógeno, alquiltio, feniltio
sustituido, benciltio sustituido, 1-pirazolilo sustituido, 1-

imidazolilo sustituido, 1,2,4-triazolil-1-ilo, 1H-tetrazol-1-ilo o 2H-tetrazol-2-ilo,

R⁵, R⁶, R⁷, R⁸, R⁹ y R¹⁰ representan respectivamente hidrógeno o alquilo,

5 R⁵ y R¹⁰ en común representan etileno o -CH=CH-,

R⁷ y R⁸ en común representan carbonilo,

R¹¹ representa alquilo,

R¹² representa hidrógeno, alquilo o cicloalquilo,

R¹³ representa hidrógeno, alquilo, alquenilo, alquinilo,

10 aralquilo, alquilsulfonilo, fenilsulfonilo sustituido, acilo o acilalquilo,

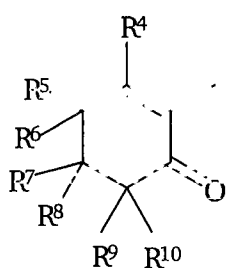
R¹⁴ representa alquilo o cicloalquilo, y

R¹⁵ representa hidrógeno, alcoxicarbonilo o alquiltio.

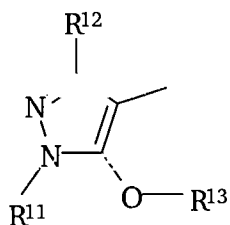
15 2. El compuesto de acuerdo con la reivindicación 1, en el que R¹ representa alquilo de C₁₋₆, cicloalquilo de C₃₋₈, cicloalquil de C₃₋₈ - alquilo de C₁₋₂, haloalquilo de C₁₋₆, alquenilo de C₂₋₆, alquinilo de C₂₋₆, arilo de C₆₋₁₂, aril de C₆₋₁₂ - alquilo de C₁₋₂, alcoxi de C₁₋₆ - alquilo de C₁₋₄, cicloalquil de C₃₋₈ - alcoxi de
20 C₁₋₄ - alquilo de C₁₋₄, haloalcoxi de C₁₋₆ - alquilo de C₁₋₄, alqueniloxi de C₂₋₆ - alquilo de C₁₋₄, alquiniloxi de C₂₋₆ - alquilo de C₁₋₄, alquiltio de C₁₋₆ - alquilo de C₁₋₄, alquilsulfinil de C₁₋₆ - alquilo de C₁₋₄, alquilsulfonil de C₁₋₆ - alquilo de C₁₋₄, cicloalquil de C₃₋₈ - alquiltio de C₁₋₄ - alquilo
25 de C₁₋₄, cicloalquil de C₃₋₈ - alquilsulfinil de C₁₋₄ - alquilo de C₁₋₄, cicloalquil de C₃₋₈ - alquilsulfonil de C₁₋₄ - alquilo de C₁₋₄, haloalquiltio de C₁₋₆ - alquilo de C₁₋₄, haloalquilsulfinil de C₁₋₆ - alquilo de C₁₋₄, haloalquilsulfonil de C₁₋₆ - alquilo de C₁₋₄,

alqueniltio de C₂₋₆ - alquilo de C₁₋₄, alquenilsulfenil de C₂₋₆ -
alquilo de C₁₋₄, alquenilsulfonil de C₂₋₆ - alquilo de C₁₋₄,
alquiniltio de C₂₋₆ - alquilo de C₁₋₄, alquinilsulfinil de C₂₋₆ -
alquilo de C₁₋₄, alquinilsulfonil de C₂₋₆ - alquilo de C₁₋₄, alcoxi
5 de C₁₋₆ - alcoxi de C₁₋₄ - alquilo de C₁₋₄, cicloalquil de C₃₋₈ -
alcoxi de C₁₋₄ - alcoxi de C₁₋₄ - alquilo de C₁₋₄, haloalcoxi de C₁₋₆
- alcoxi de C₁₋₄ - alquilo de C₁₋₄, alqueniloxi de C₂₋₆ - alcoxi de
C₁₋₄ - alquilo de C₁₋₄, alquiniloxi de C₂₋₆ - alcoxi de C₁₋₄ -
alquilo de C₁₋₄, alquiltio de C₁₋₆ - alcoxi de C₁₋₄ - alquilo de C₁₋₄,
10 4, alquilsulfinil de C₁₋₆ - alcoxi de C₁₋₄ - alquilo de C₁₋₄,
alquilsulfonil de C₁₋₆ - alcoxi de C₁₋₄ - alquilo de C₁₋₄,
cicloalquil de C₃₋₈ - alquiltio de C₁₋₄ - alcoxi de C₁₋₄ - alquilo
de C₁₋₄, cicloalquil de C₃₋₈ - alquilsulfinil de C₁₋₄ - alcoxi de
C₁₋₄ - alquilo de C₁₋₄, cicloalquil de C₃₋₈ - alquilsulfonil de C₁₋₄
15 - alcoxi de C₁₋₄ - alquilo de C₁₋₄, haloalquiltio de C₁₋₆ - alcoxi
de C₁₋₄ - alquilo de C₁₋₄, haloalquilsulfinil de C₁₋₆ - alcoxi de
C₁₋₄ - alquilo de C₁₋₄, haloalquilsulfonil de C₁₋₆ - alcoxi de C₁₋₄
- alquilo de C₁₋₄, alqueniltio de C₂₋₆ - alcoxi de C₁₋₄ - alquilo
de C₁₋₄, alquenilsulfinil de C₂₋₆ - alcoxi de C₁₋₄ - alquilo de C₁₋₄,
20 4, alquenilsulfonil de C₂₋₆ - alcoxi de C₁₋₄ - alquilo de C₁₋₄,
alquiniltio de C₂₋₆ - alcoxi de C₁₋₄ - alquilo de C₁₋₄,
alquinilsulfinil de C₂₋₆ - alcoxi de C₁₋₄ - alquilo de C₁₋₄,
alquinilsulfonil de C₂₋₆ - alcoxi de C₁₋₄ - alquilo de C₁₋₄, éter
cíclico de C₂₋₅ - O - alquilo de C₁₋₄, éter cíclico de C₂₋₅ - alcoxi
25 de C₁₋₄ - alquilo de C₁₋₄, alquilsulfonilamino de C₁₋₆ - alcoxi de
C₁₋₄ - alquilo de C₁₋₄, cicloalquil de C₃₋₈ - alquilsulfonilamino
de C₁₋₄ - alcoxi de C₁₋₄ - alquilo de C₁₋₄, haloalquilsulfonilamino
de C₁₋₆ - alcoxi de C₁₋₄ - alquilo de C₁₋₄, alquiltio de C₁₋₄,

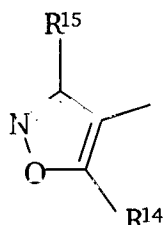
alquilsulfinilo de C₁₋₆, alquilsulfonilo de C₁₋₆, alcoxí de C₁₋₆, haloalcoxí de C₁₋₆, alcoxí de C₁₋₆ - alcoxí de C₁₋₄, o NR²R³, R² y R³ representan respectivamente hidrógeno o alquilo de C₁₋₆, Q representa



Q1

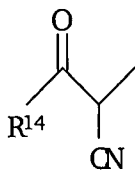


Q2



or

Q3



Q4

- 5 en la que R⁴ representa hidroxí, halógeno, alquiltio de C₁₋₆, feniltio sustituido, benciltio sustituido, 1-pirazolilo sustituido, 1-imidazolilo sustituido,
- 10 1,2,4-triazol-1-ilo, 1H-tetrazol-1-ilo o 2H-tetrazol-2-ilo, R⁵, R⁶, R⁷, R⁸, R⁹ y R¹⁰ representan respectivamente hidrógeno o alquilo de C₁₋₆, R⁵ y R¹⁰ en común representan etileno o -CH=CH-, R⁷ y R⁸ en común representan carbonilo,
- 15 R¹¹ representa alquilo de C₁₋₆, R¹² representa hidrógeno, alquilo de C₁₋₆ o cicloalquilo de C₃₋₈,

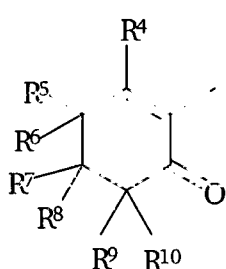
R^{13} representa hidrógeno, alquilo de C_{1-6} , alquenilo de C_{2-6} ,
 alquinilo de C_{2-6} , aril de C_{6-10} - alquilo de C_{1-2} , alquilsulfonilo
 de C_{1-6} , fenilsulfonilo sustituido,
 alquil de C_{1-6} - carbonilo, benzoílo, heteroarilcarbonilo, alquil
 5 de C_{1-6} - carbonil - alquilo de C_{1-4} ,
 benzoíl - alquilo de C_{1-4} , o
 heteroarilcarbonil - alquilo de C_{1-4} ,
 R^{14} representa alquilo de C_{1-6} o cicloalquilo de C_{3-8} , y
 R^{15} representa hidrógeno, alcoxi de C_{1-6} - carbonilo o
 10 alquiltio de C_{1-6} .

3. El compuesto de acuerdo con la reivindicación 1 o 2, en el
 que R^1 representa alquilo de C_{1-4} , cicloalquilo de C_{3-7} ,
 cicloalquil de C_{3-7} - alquilo de C_{1-2} , haloalquilo de C_{1-4} ,
 15 alquenilo de C_{2-4} , alquinilo de C_{2-4} , arilo de C_{6-8} , aril de C_{6-8} -
 alquilo de C_{1-2} , alcoxi de C_{1-4} - alquilo de C_{1-4} , cicloalquil de
 C_{3-7} - alcoxi de C_{1-4} - alquilo de C_{1-4} , haloalcoxi de C_{1-4} - alquilo
 de C_{1-4} , alqueniloxi de C_{2-4} - alquilo de C_{1-4} , alquiniloxi de C_{2-4}
 - alquilo de C_{1-4} , alquiltio de C_{1-4} - alquilo de C_{1-4} ,
 20 alquilsulfinil de C_{1-4} - alquilo de C_{1-4} , alquilsulfonil de C_{1-4} -
 alquilo de C_{1-4} , cicloalquil de C_{3-7} - alquiltio de C_{1-4} - alquilo
 de C_{1-4} , cicloalquil de C_{3-7} - alquilsulfinil de C_{1-4} - alquilo de
 C_{1-4} , cicloalquil de C_{3-7} - alquilsulfonil de C_{1-4} - alquilo de C_{1-4} ,
 haloalquiltio de C_{1-4} - alquilo de C_{1-4} , haloalquilsulfinil de C_{1-4}
 25 - alquilo de C_{1-4} , haloalquilsulfonil de C_{1-4} - alquilo de C_{1-4} ,
 alqueniltio de C_{2-4} - alquilo de C_{1-4} , alquenilsulfenil de C_{2-4} -
 alquilo de C_{1-4} , alquenilsulfonil de C_{2-4} - alquilo de C_{1-4} ,
 alquiniltio de C_{2-4} - alquilo de C_{1-4} , alquinilsulfinil de C_{2-4} -

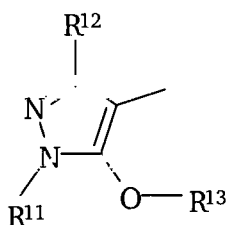
alquilo de C₁₋₄, alquinilsulfonil de C₂₋₄ - alquilo de C₁₋₄, alcoxi
 de C₁₋₄ - alcoxi de C₁₋₄ - alquilo de C₁₋₄, cicloalquil de C₃₋₇ -
 alcoxi de C₁₋₄ - alcoxi de C₁₋₄ - alquilo de C₁₋₄, haloalcoxi de C₁₋₄
 - alcoxi de C₁₋₄ - alquilo de C₁₋₄, alqueniloxi de C₂₋₄ - alcoxi de
 5 C₁₋₄ - alquilo de C₁₋₄, alquiniloxi de C₂₋₄ - alcoxi de C₁₋₄ -
 alquilo de C₁₋₄, alquiltio de C₁₋₄ - alcoxi de C₁₋₄ - alquilo de C₁₋₄,
 alquilsulfinil de C₁₋₄ - alcoxi de C₁₋₄ - alquilo de C₁₋₄,
 alquilsulfonil de C₁₋₄ - alcoxi de C₁₋₄ - alquilo de C₁₋₄,
 cicloalquil de C₃₋₇ - alquiltio de C₁₋₄ - alcoxi de C₁₋₄ - alquilo
 10 de C₁₋₄, cicloalquil de C₃₋₇ - alquilsulfinil de C₁₋₄ - alcoxi de
 C₁₋₄ - alquilo de C₁₋₄, cicloalquil de C₃₋₇ - alquilsulfonil de C₁₋₄
 - alcoxi de C₁₋₄ - alquilo de C₁₋₄, haloalquiltio de C₁₋₄ - alcoxi
 de C₁₋₄ - alquilo de C₁₋₄, haloalquilsulfinil de C₁₋₄ - alcoxi de
 C₁₋₄ - alquilo de C₁₋₄, haloalquilsulfonil de C₁₋₄ - alcoxi de C₁₋₄
 15 - alquilo de C₁₋₄, alqueniltio de C₂₋₄ - alcoxi de C₁₋₄ - alquilo
 de C₁₋₄, alquenilsulfinil de C₂₋₄ - alcoxi de C₁₋₄ - alquilo de C₁₋₄,
 alquenilsulfonil de C₂₋₄ - alcoxi de C₁₋₄ - alquilo de C₁₋₄,
 alquiniltio de C₂₋₄ - alcoxi de C₁₋₄ - alquilo de C₁₋₄,
 alquinilsulfinil de C₂₋₄ - alcoxi de C₁₋₄ - alquilo de C₁₋₄,
 20 alquinilsulfonil de C₂₋₄ - alcoxi de C₁₋₄ - alquilo de C₁₋₄, éter
 cíclico de C₂₋₄ - O - alquilo de C₁₋₄, éter cíclico de C₂₋₄ -
 alcoxi de C₁₋₄ - alquilo de C₁₋₄, alquilsulfonilamino de C₁₋₄ -
 alcoxi de C₁₋₄ - alquilo de C₁₋₄, cicloalquil de C₃₋₇ -
 alquilsulfonilamino de C₁₋₄ - alcoxi de C₁₋₄ - alquilo de C₁₋₄,
 25 haloalquilsulfonilamino de C₁₋₄ - alcoxi de C₁₋₄ - alquilo de C₁₋₄,
 alquiltio de C₁₋₄, alquilsulfinilo de C₁₋₄, alquilsulfonilo de C₁₋₄,
 alcoxi de C₁₋₄, haloalcoxi de C₁₋₄, alcoxi de C₁₋₄ - alcoxi de
 C₁₋₄, o NR²R³,

R^2 y R^3 representan respectivamente hidrógeno o alquilo de C_{1-4} ,

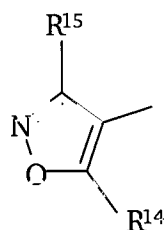
Q representa



Q1

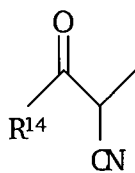


Q2



Q3

or



Q4

- 5 en el que R^4 representa hidroxilo, halógeno, alquiltio de C_{1-4} , feniltio sustituido, benciltio sustituido, 1-pirazolilo sustituido, 1-imidazolilo sustituido, 1,2,4-triazol-1-ilo, 1H-tetrazol-1-ilo o 2H-tetrazol-2-ilo,
- 10 R^5 , R^6 , R^7 , R^8 , R^9 y R^{10} representan respectivamente hidrógeno o alquilo de C_{1-4} ,
 R^5 y R^{10} en común representan etileno o $-CH=CH-$,
 R^7 y R^8 en común representan carbonilo,
 R^{11} representa alquilo de C_{1-4} ,
- 15 R^{12} representa hidrógeno, alquilo de C_{1-4} , o cicloalquilo de C_{3-7} ,
 R^{13} representa hidrógeno, alquilo de C_{1-4} , alqueno de C_{2-4} , alquino de C_{2-4} , aril de C_6-8 - alquilo de C_{1-2} ,

alquilsulfonilo de C₁₋₄, fenilsulfonilo sustituido,
alquilcarbonilo de C₁₋₄, benzoílo, heteroarilcarbonilo,
alquil de C₁₋₄ - carbonil - alquilo de C₁₋₄,
benzoíl - alquilo de C₁₋₄, o

5 heteroarilcarbonil - alquilo de C₁₋₄,

R¹⁴ representa alquilo de C₁₋₄ o cicloalquilo de C₃₋₇, y

R¹⁵ representa hidrógeno, alcoxi de C₁₋₄ - carbonilo o alquiltio
de C₁₋₄.

10 4. Un herbicida que contiene como un componente eficaz el
compuesto de acuerdo con una cualquiera de las reivindicaciones
1 hasta 3.

Resumen:

Triazolil-piridina cetonas expresadas por la siguiente fórmula (I) y su uso como herbicidas. Fórmula (I), en la que R^1 es alquilo o similares, y Q es la Fórmula (Q1) o similares.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/EP2008/006063

A. CLASSIFICATION OF SUBJECT MATTER

INV. C07D401/04 C07D401/14 C07D413/14 A01N43/653 A01N43/80
A01N47/40

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)
C07D A01N

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 practical, search terms used)

EPO-Internal, WPI Data, BEILSTEIN Data, CHEM ABS Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	WO 97/46530 A (DU PONT [US]; PATEL KANU MAGANBHAI [US]; RORER MORRIS PADGETT [US]; TS) 11 December 1997 (1997-12-11) cited in the application * residues A-46 and A-47 * page 7, line 5; claims; tables 15,16; compounds 6,7	1-4
Y	WO 99/03845 A (RHONE POULENC AGRICULTURE [GB]) 28 January 1999 (1999-01-28) cited in the application page 10; claims; example 1; compounds 1-54 ----- -/-	1-4

☒ Further documents are listed in the continuation of Box C.

☒ 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 document 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.
- *Z* document member of the same patent family

Date of the actual completion of the international search

29 November 2008

Date of mailing of the international search report

05/12/2008

Name and mailing address of the ISA/

European Patent Office, P.O. 5618 Patentlaan 2
NL - 2280 HV Rijswijk
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Fax: (+31-70) 340-3016

Authorized officer

Härtinger, Stefan

INTERNATIONAL SEARCH REPORT

International application No
PCT/EP2008/006063

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 03/106448 A (SYNGENTA PARTICIPATIONS AG [CH]; LUETHY CHRISTOPH [CH]; BEAUDEGNIES RE) 24 December 2003 (2003-12-24) * Formula ID * page 15; claims page 8, last paragraph	1-4
A	WO 2004/058712 A (SYNGENTA PARTICIPATIONS AG [CH]; BEAUDEGNIES RENAUD [CH]; EDMUNDS ANDR) 15 July 2004 (2004-07-15) page 149; claims 1,5-7; example B3	1-4

527

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/EP2008/006063

Patent document cited in search report		Publication date		Patent family member(s)	Publication date
WO 9746530	A	11-12-1997	AU	3297397 A	05-01-1998
			CA	2257196 A1	11-12-1997
			EP	0922032 A1	16-06-1999
WO 9903845	A	23-01-1999	AU	9339993 A	10-02-1999
			GB	2327413 A	27-01-1999
			TW	508215 B	01-11-2002
			ZA	9806381 A	23-02-1999
WO 03106448	A	24-12-2003	AU	2003276976 A1	31-12-2003
			EP	1513829 A2	16-03-2005
			US	2005256003 A1	17-11-2005
WO 2004058712	A	15-07-2004	AU	2003296741 A1	22-07-2004
			BR	0317842 A	06-12-2005
			CA	2509892 A1	15-07-2004
			CN	1732166 A	08-02-2006
			EP	1578747 A2	28-09-2005
			JP	2006515305 T	25-05-2006
			MX	PA05006946 A	16-03-2005
			RU	2329267 C2	20-07-2008
			UA	82351 C2	10-04-2008
			US	2006052247 A1	09-03-2006
			ZA	200504646 A	22-02-2006

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference BCS 07-7008	FOR FURTHER ACTION See Form PCT/PEA/416	
International application No. PCT/EP2008/006063	International filing date (day/month/year) 24.07.2008	Priority date (day/month/year) 03.08.2007
International Patent Classification (IPC) or national classification and IPC INV. C07D401D4		
Applicant BAYER CROPSCIENCE AG et al		
1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36. 2. This REPORT consists of a total of <u>5</u> sheets, including this cover sheet. 3. This report is also accompanied by ANNEXES, comprising: a. ☐ sent to the applicant and to the International Bureau a total of sheets, as follows: ☐ sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions). ☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box. b. ☐ (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in electronic form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).		
4. This report contains indications relating to the following items: ☒ Box No. I Basis of the report ☐ Box No. II Priority ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability ☐ Box No. IV Lack of unity of invention ☒ Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement ☐ Box No. VI Certain documents cited ☐ Box No. VII Certain defects in the international application ☒ Box No. VIII Certain observations on the international application		
Date of submission of the demand 2008-05-12	Date of completion of this report 27.07.2008	
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80296 Munich Tel. +49 89 2399-0 Fax: +49 89 2399-4465	Authorized officer Härtinger, Stefan Telephone No. +49 89 2399-6 	

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.
PCT/EP2008/006063

Box No. I Basis of the report

1. With regard to the **language**, this report is based on
 - ☒ the international application in the language in which it was filed
 - ☐ a translation of the international application into , which is the language of a translation furnished for the purposes of:
 - ☐ international search (under Rules 12.3(a) and 23.1(b))
 - ☐ publication of the international application (under Rule 12.4(a))
 - ☐ international preliminary examination (under Rules 55.2(a) and/or 55.3(a))
2. With regard to the **elements*** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report):*

Description, Pages

1-244 as originally filed

Claims, Numbers

1-4 as originally filed

- ☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing
3. ☐ The amendments have resulted in the cancellation of:
 - ☐ the description, pages
 - ☐ the claims, Nos.
 - ☐ the drawings, sheets/figs
 - ☐ the sequence listing (*specify*):
 - ☐ any table(s) related to sequence listing (*specify*):
 4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
 - ☐ the description, pages
 - ☐ the claims, Nos.
 - ☐ the drawings, sheets/figs
 - ☐ the sequence listing (*specify*):
 - ☐ any table(s) related to sequence listing (*specify*):
 5. ☐ This opinion has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 70.2 (e)).
 6. ☐ Supplementary international search report(s) from Authority(ies) have been received and taken into account in drawing up this report (Rule 15bis.3(b) and (c)).

**INTERNATIONAL PRELIMINARY REPORT
ON PATENTABILITY**

International application No.
PCT/EP2008/006063

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	<u>1-4</u>
	No: Claims	
Inventive step (IS)	Yes: Claims	
	No: Claims	<u>1-4</u>
Industrial applicability (IA)	Yes: Claims	<u>1-4</u>
	No: Claims	

2. Citations and explanations (Rule 70.7):

see separate sheet

Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

see separate sheet

**INTERNATIONAL PRELIMINARY
REPORT ON PATENTABILITY
(SEPARATE SHEET)**

International application No.

PCT/EP2008/006063

Re Item V.

1. The present application does not meet the criteria of Article 33(1) PCT, because the subject matter of claim 1 does not involve an inventive step in the sense of Art. 33(3)PCT.

a) Document D1 (= WO 97/46530 A), which is considered to represent the most relevant state of the art to the subject matter of claim 1, discloses a class of herbicides which overlaps with that of present formula (I). According to page 7, line 5 the terminal group "A" in the compounds of D1 can be a not further substituted 1H-1,2,4-triazolyl group. Also the group "W" in the aromatic ring can be either a carbon or nitrogen atom. The structurally closest combination of these features is the class of compounds disclosed in the first groups under Tables 15 and 16. The products with the codes A-46 and A-47 differ from the present compounds merely in that the N-bonded 1,2,4-triazolyl group exhibit one extra methyl substituent, which is absent in the present compounds. Since the combination of the aromatic ring element "W" as a nitrogen atom with "A" as an unsubstituted 1,2,4-triazolyl ring is not individualised, the present selection appears formally to be novel.

The objective technical problem to be solved by the present invention may therefore be regarded as the provision of a selected class of herbicides with not obvious properties.

The test data in present Tables 177-180 just demonstrate the herbicidal activity of certain compounds. This property is however expected by the skilled person given that the present herbicides fall under the general definition of the herbicides of D1. The problem has therefore not been solved and consequently the claims can also not be based on an inventive step.

The test data merely show that certain compounds have solved the problem of providing further herbicides.

In view of D2 (= WO 99/03345 A) the solution proposed in claim 1 of the present application cannot be considered as involving an inventive step (Art. 33(3) PCT) for the following reasons. The product of Example 1, and also that of Table 1 with product numbers 1 to 54, are herbicides which exhibit an unsubstituted 1,2,4-triazolyl ring bonded to a carbocyclic aryl ring. Hence, these herbicides merely differ from the present class of herbicides by a replacement of a ring carbon through a ring nitrogen

**INTERNATIONAL PRELIMINARY
REPORT ON PATENTABILITY
(SEPARATE SHEET)**

International application No.

PCT/EP2008/006063

atom in the said aromatic ring. Exactly this type of substitution is taught by D1 (cf. group "W" which is either a carbon or an nitrogen atom).

Since D1 and D2 are in the same field and relate to the same type of compounds, the features disclosed in D1 and D2 would be combined by the skilled person, without exercise of any inventive skills in order to solve the problem posed. The proposed solution in independent claim 1 thus cannot be considered inventive (Art. 33(3) PCT).

b) The present application does not meet the criteria of Art. 33(1) PCT, because the subject-matter of claim 1 does not involve an inventive step in the sense of Art. 33(3)PCT over D3 (= WO 03/106448 A).

The general Formula ID in the document D3 is a generic representation of the present class of compounds (the element "L" can be a bond; the terminal group "W" is also a group "Uo" which embraces a N-bonded triazole; R4 can be hydrogen; R3 is i.a. alkyl; and the group "Q" embraces all of the present groups "Q"). Since unsubstituted 1,2,4-triazolyl compounds have not been individualized in D3, the selection of the present class of compounds appears to be novel. However, for analogous reasons to that given above, the selection of such an unsubstituted 1,2,4-triazolyl ring is obvious and does not involve an inventive step.

Re Item VIII.

1. D3 is highly relevant for the understanding of the invention. Since it has not been cited in the description, the requirement of Rule 5.1(ii) PCT is not met.

2. The moiety "Q" in present formula (I) embraces variants which bear not further defined "optional substituents" (cf. the "substituted" alternatives for R4 and R13). Since such a definition extends to virtually any kind of organic group, it would appear that the claim covers variants which have never been explored and tested. Such variants must be considered as speculative in that they embrace variants which do not have the desired herbicidal activity. In this regard, reference is made to the comparative example B3 disclosed on page 149 of D4 (= WO 2004/058712 A) which shows that very minor structural modifications at the molecular position related to present group "Q" may lead to a loss of herbicidal activity. The present claims which extend to optionally substituted groups does therefore not meet the requirement of Art. 33(3) PCT.

533

PATENT COOPERATION TREATY

PCT/EP2008/006063

From the INTERNATIONAL BUREAU

PCT

NOTIFICATION OF THE RECORDING
OF A CHANGE

(PCT Rule 92bis.1 and
Administrative Instructions, Section 422)

To:

BAYER CROPSCIENCE AG
Patent- und Lizenzabteilung
Industriepark Höchst
Gebäude K 607
65926 Frankfurt
ALLEMAGNE

Date of mailing (day/month/year) 23 June 2009 (23.06.2009)
Applicant's or agent's file reference BCS 07-7008
International application No. PCT/EP2008/006063

IMPORTANT NOTIFICATION
International filing date (day/month/year) 24 July 2008 (24.07.2008)

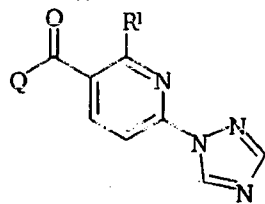
1. The following indications appeared on record concerning:				
☒ the applicant	☒ the inventor	☐ the agent	☐ the common representative	
Name and Address SHIRAKURA, Shinichi 5-14-1, 303, Joto Oyama-shi Tochigi 323-0807 Japan		State of Nationality JP	State of Residence JP	
		Telephone No.		
		Facsimile No.		
		E-mail address		
2. The International Bureau hereby notifies the applicant that the following change has been recorded concerning:				
☐ the person	☐ the name	☒ the address	☐ the nationality	☐ the residence
Name and Address SHIRAKURA, Shinichi 2-6-3, Ekihigashidouri Oyama-shi Tochigi 323-0022 Japan		State of Nationality JP	State of Residence JP	
		Telephone No.		
		Facsimile No.		
		E-mail address ☐ Notifications by e-mail authorized		
3. Further observations, if necessary:				
4. A copy of this notification has been sent to:				
☒ the receiving Office	☒ the International Preliminary Examining Authority			
☐ the International Searching Authority	☐ the designated Offices concerned			
☐ the Authority(ies) specified for supplementary search	☒ the elected Offices concerned			
	☐ other:			

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland	Authorized officer Wimmer Peter e-mail pt06.pct@wipo.int Telephone No. +41 22 338 74 06
Facsimile No. +41 22 338 39 70	

 Industria y Comercio SUPERINTENDENCIA		SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO DIVISION DE NUEVAS CREACIONES EXTRACTO PARA PUBLICACIÓN SOLICITUD DE PATENTE DE INVENCION PCT	
(21) N° de solicitud:		(51) Int Cl:	C07D 401/004
(22) Fecha de solicitud:		(71) Solicitante(a)	BAYER CROPSCIENCE AG
(30) Prioridad	(31) Prioridad 2007-202808	(32) Fecha 03/08/2007	(33) País JP
		(72) Inventor(es)	ANDREAS VAN ALMSICK Y OTROS
		(74) Apoderado:	OSCAR CORREA
(85)	Fecha limite inicio fase nacional:		03/03/2010
(86)	Datos relativos a la presentación de la solicitud PCT		
	Fecha de presentación de la solicitud:		24/07/2008
	No. de solicitud PCT/EP2008/006063		
		(87)	Publicación internacional
		Fecha:	12/02/2009
		N° publicación:	WO 2009/018925 A8
(54) Titulo: TRIAZOLILPIRIDINA CETONAS HERBICIDAS			

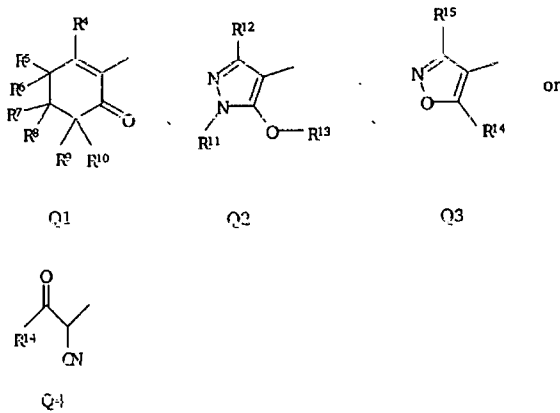
Reivindicación(es):

1. Derivado de triazolilpiridina cetona representado por la fórmula (I)



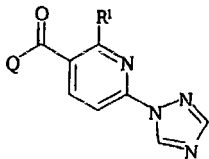
Formula (I)

en la que R¹ representa alquilo, cicloalquilo, cicloalquil-alquilo, haloalquilo, alquenilo, alquinilo, arilo, aralquilo, alcoxialquilo, cicloalquil-alcoxialquilo, haloalcoxialquilo, alqueniloxialquilo, alquiniloxialquilo, alquiltioalquilo, alquilsulfinitalquilo, alquilsulfonilalquilo, cicloalquil-alquiltioalquilo, cicloalquil-alquilsulfinitalquilo, cicloalquil-alquilsulfonilalquilo, haloalquiltioalquilo, haloalquilsulfinitalquilo, haloalquilsulfonilalquilo, alqueniltioalquilo, alquenilsulfinitalquilo, alquenilsulfonilalquilo, alquiniltioalquilo, alquinilsulfinitalquilo, alquinilsulfonilalquilo, alcoxialcoxialquilo, cicloalquil-alcoxialcoxialquilo, haloalcoxialcoxialquilo, alqueniloxialcoxialquilo, alquiniloxialcoxialquilo, alquiltioalcoxialquilo, alquilsulfinalcoxialquilo, alquilsulfonilalcoxialquilo, cicloalquil-alquiltioalcoxialquilo, cicloalquil-alquilsulfinitalcoxialquilo, cicloalquil-alquilsulfonilalcoxialquilo, haloalquiltioalcoxialquilo, haloalquilsulfinitalcoxialquilo, haloalquilsulfonilalcoxialquilo, alqueniltioalcoxialquilo, alquenilsulfinitalcoxialquilo, alquenilsulfonilalcoxialquilo, alquiniltioalcoxialquilo, alquinilsulfinitalcoxialquilo, alquinilsulfonilalcoxialquilo, éter cíclico - O - alquilo, éter cíclico - alcoxialquilo, alquilsulfonilaminoalcoxialquilo, cicloalquil-alquilsulfonilaminoalcoxialquilo, haloalquilsulfonilaminoalcoxialquilo, alquiltio, alquilsulfinito, alquilsulfonilo, alcoxi, haloalcoxi, alcoxialcoxi, o NR²R³, R² y R³ representan respectivamente hidrógeno o alquilo, Q representa

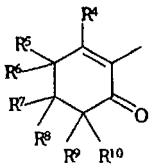


en la que R⁴ representa hidroxil, halógeno, alquiltio, feniltio sustituido, bencilio sustituido, 1-pirazolio sustituido, 1-imidazolio sustituido, 1,2,4-triazolil-1-ilo, 1H-tetrazol-1-ilo o 2H-tetrazol-2-ilo, R⁵, R⁶, R⁷, R⁸, R⁹ y R¹⁰ representan respectivamente hidrógeno o alquilo, R⁶ y R¹⁰ en común representan etileno o -CH=CH-, R⁷ y R⁸ en común representan carbonilo, R¹¹ representa alquilo, R¹² representa hidrógeno, alquilo o cicloalquilo, R¹³ representa hidrógeno, alquilo, alquenilo, alquinilo, aralquilo, alquilsulfonilo, fenilsulfonilo sustituido, acilo o acilalquilo, R¹⁴ representa alquilo o cicloalquilo, y R¹⁵ representa hidrógeno, alcocarbonilo o alquiltio.

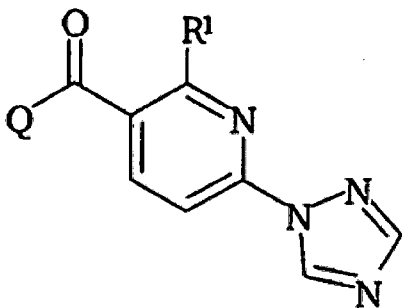
2. El compuesto de acuerdo con la reivindicación 1, en el que R¹ representa alquilo de C₁₋₆, cicloalquilo de C₃₋₆, cicloalquil de C₃₋₆ - alquilo de C₁₋₂, haloalquilo de C₁₋₆, alquenilo de C₂₋₆, alquinilo de C₂₋₆, arilo de C₆₋₁₂, aril de C₆₋₁₂ - alquilo de C₁₋₂, alcoxi de C₁₋₆ - alquilo de C₁₋₄, cicloalquil de C₃₋₆ - alcoxi de C₁₋₄ - alquilo de C₁₋₄, haloalcoxi de C₁₋₆ - alquilo de C₁₋₄, alqueniloxi de C₂₋₆ - alquilo de C₁₋₄, alquiniloxi de C₂₋₆ - alquilo de C₁₋₄, alquiltio de C₁₋₆ - alquilo de C₁₋₄, alquilsulfinit de C₁₋₆ - alquilo de C₁₋₄, alquilsulfonil de C₁₋₆ - alquilo de C₁₋₄, cicloalquil de C₃₋₆ - alquilsulfinit de C₁₋₄ - alquilo de C₁₋₄, cicloalquil de C₃₋₆ - alquilsulfonil de C₁₋₄ - alquilo de C₁₋₄, haloalquiltio de C₁₋₆ - alquilo de C₁₋₄, haloalquilsulfinit de C₁₋₆ - alquilo de C₁₋₄, haloalquilsulfonil de C₁₋₆ - alquilo de C₁₋₄, alqueniltio de C₂₋₆ -



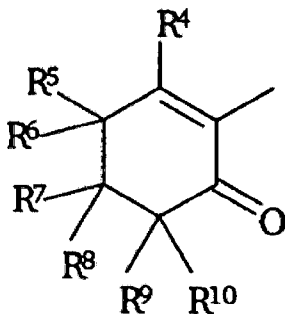
Formula (I)



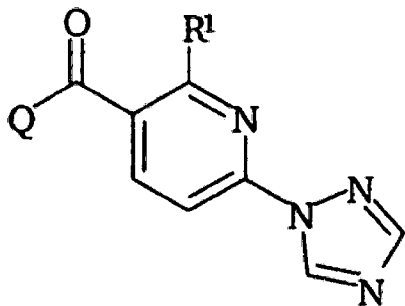
Formula (Q1)



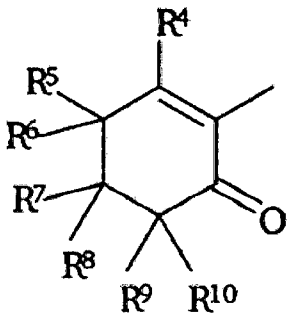
Formula (I)



Formula (Q1)



Formula (I)



Formula (Q1)

536

SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO

NIT : 800176089-2

RECIBO OFICIAL DE CAJA : 10 - 7,882
FECHA : FEBRERO 1 DE 2010

SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO



No. 10-011404- -00000-0000

Fecha: 2010-02-03 17:01:19 Dep. 2020 DIR. NUEVASCR
Tra 11 PATENTE/II Evt: 379 FASENACIONALII
Act 411 PRESENTACION Folio: 536

***** CONSIGNACION *****

DEPOSITANTE	TIPO PAGO	BANCO	CUENTA	No. PAGO	FECHA PGO	Vr. PAGO
CAVELIER ABOGADOS	CONSIGNACION	BANCO DE BOGOTA	062754307	325693432	01/02/2010	77,170,000.00

***** CONCEPTO *****

CANT.	RENTISTICO	CONCEPTO	TOTAL CONCEPTO
1	50005-01-01 SOLICITUDES	1 TRAMITES DE SOL. DE PATENTE DE IN	554,000.00
		TOTAL :	\$ 554,000.00

SON: QUINIENTOS CINCUENTA Y CUATRO MIL PESOS

RESPONSABLE :

RECIBO DE CAJA APLICADO AL EXPEDIENTE No. _____

COLO: 13549-BAI-151-5.



PATENTE DE INVENCION ☐

MODELO DE UTILIDAD ☐

- ☐ Indicación que se solicita una patente.
 - ☐ Datos de identificación del solicitante o de la persona que presenta la solicitud
 - ☐ Descripción de la invención
 - ☐ Dibujos de ser estos pertinentes
 - ☐ Comprobante de pago de las tasas establecidas (De ser el caso formato de descuento)
- Completa ☐ Incompleta ☐

PATENTE DE INVENCION PCT ☒

MODELO DE UTILIDAD PCT ☐

Art.33 Decisión 486/00, Circular Única

- ☒ Indicación que se solicita una PCT
 - ☒ Copia de la solicitud en español, tal como fue presentada inicialmente (capítulo descriptivo, reivindicatorio, resumen)
 - ☐ Dibujos de ser estos pertinentes
 - ☒ Comprobante de pago de las tasas establecidas (de ser el caso formato de descuento)
- Completa ☐ Incompleta ☐

DISEÑO INDUSTRIAL ☐

(Art. 119 Decisión 486/00)

- ☐ Indicación que se solicita Diseño industrial
 - ☐ Datos de identificación del solicitante o de la persona que 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 ☐

(Art. 92 Decisión 486/00)

- ☐ Indicación que se solicita un esquema de trazado
 - ☐ Datos de identificación del solicitante o de la persona que presenta la solicitud
 - ☐ Representación gráfica de un esquema de trazado
 - ☐ Comprobante de pago de las tasas establecidas
- Completa ☐ Incompleta ☐



Bogotá,
2020

Doctor(a)
CORREA BARBOSA OSCAR
Apoderado(a) y/o Representante de
BAYER CROPS SCIENCE AG

REFERENCIA	Radicación No.	10 11404
	Solicitud internacional	PCT/EP2008/006063
	Fecha inicio fase nacional	03/03/2010
	Trámite	11
	Evento	379
	Actuación	430
	Oficio No.	 0 47 7.8

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, conforme a lo establecido por el artículo 26 literal k) de la Decisión 486 de la Comisión de la Comunidad Andina. Cuando se trate de documentos otorgados en el extranjero, estos deberán legalizarse de conformidad con lo dispuesto por los artículos 259 y 260 del Código de Procedimiento Civil. Cuando se trate de las declaraciones a que hace referencia la Regla 4.17 ii) del Tratado de Cooperación en Materia de Patentes PCT., el alcance de las tales declaraciones se determinará según indiquen claramente una cesión de derechos del inventor al solicitante o su causante, de conformidad con lo dispuesto en el numeral 5.2.15 del Capítulo Quinto, Título X de la Circular Única de Superintendencia de Industria y Comercio.

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 Única No.10 de 2001.


ALIX CARMENZA CESPÉDES DE VERGEL
Directora de Nuevas Creaciones (c)

El anterior requerimiento fue notificado por fijación en lista de fecha 09 ABR. 2010
adpall

Al contestar favor indique el número de radicación consignado en el rótulo

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