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SUPERINDUSTRIA Y COMERCIO

Radicación 0050414 00010000

Folios 2

Fecha (DD) 2004-06-31 11 56 58

Trámite : 002 PATENTES 332 PRESENTAC 411 PRESENTAC

Dependencia 0029 DIVISION DE NUEVAS CREACIONES

Señor

SUPERINTENDENTE DELEGADO PARA LA F

DIVISION DE NUEVAS CREACIONES

E. _____ S. _____ D. _____

Ref P1.-GRUNENTHAL GmbH.-Expediente No. 00-058 414.-

1 Me refiero al asunto de la referencia

2 Por medio del presente, atentamente me permito manifestar que hubo un **cambio** de apoderado para todos los asuntos de la Propiedad Industrial en Bogotá de la sociedad **GRUNENTHAL GmbH**

3 En consecuencia, atentamente solicito a ese Despacho reconocermé personería en este asunto, de conformidad con la sustitución de poder adjunta, otorgada a favor de la SUSCRITA

4 Por lo tanto, ruego a usted notificarme de las providencias expedidas dentro de este expediente y notificadas al anterior apoderado, que actualmente se encuentran pendientes de cumplimiento o de respuesta

5 Solicito a ese Despacho proceder de conformidad

Atentamente,


ALICIA LLOREDA RICAURTE

T P 53215

Código 231

221 218

Señor
SUPERINTENDENTE DE INDUSTRIA Y COMERCIO
DIVISION DE NUEVAS CREACIONES
E. _____ S. _____ D. _____

Ref P1.-GRUNENTHAL GmbH.-Expediente No.00-058.414.-

Yo, **JOSE ANTONIO LLOREDA**, mayor de edad y vecino de esta ciudad, abogado titulado e inscrito, identificado como aparece al pie de mi firma, actuando en mi carácter de Representante Legal en Bogotá para asuntos relacionados con la propiedad industrial de **GRUNENTHAL GmbH**, sociedad organizada y existente de conformidad con las leyes de Alemania, domiciliada en Aachen, Alemania, tal y como consta en este expediente, atentamente manifiesto a usted que **SUSTITUYO** el poder a mi conferido a la doctora **ALICIA LLOREDA RICAURTE**, abogada titulada e inscrita, identificada con la cédula de ciudadanía No 39 690 713 de Usaquén, para que continúe representando a la mencionada sociedad en el expediente de la referencia

De conformidad con el artículo 66 del C P C , manifiesto bajo la gravedad de juramento que los demás apoderados citados en el documento otorgado a mi favor no desean ejercer el poder a ellos conferido

El mencionado apoderado tendrá las mismas facultades a mi conferidas, en especial, renunciar, recibir, sustituir, desistirse, presentar recursos, conciliar, transigir, y en fin, para todo lo que se encamine a la correcta defensa de los intereses de la sociedad en cuyo nombre hablo

RECONOCIMIENTO Y PRESENTACION PERSONAL

Atentamente,
Ante mí **PABLO MENDEZ BARRAL**
NOTARIO SEXTO(E) DEL CIRCULO **JOSE ANTONIO LLOREDA**
BOGOTA
C.C. No 17 159 681 T.P. 10784
Código 231

quien (os) exhibió(ron) la(s) C.C.
y declaró(aron) que la(s) firma(s) que aparece(n)
en el presente documento es (son) la(s) cuya(s) y
que el contenido del mismo es cierto.
En la ciudad de Bogotá a 25 de Agosto de 2004
Yo el Notario firmo esta diligencia y se imprimen
las firmas.

JOSE ANTONIO LLOREDA
C C No 17 159 681 de Bogotá



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3,443,943

PHOTOGRAPHIC PRODUCTS AND PROCESSES EMPLOYING RING CLOSING 2 EQUIVALENT SILVER HALIDE DEVELOPING AGENTS

Howard G. Rogers, Weston, and Stanley M. Bloom, Weston, Mass., assignors to Polaroid Corporation, Cambridge, Mass., a corporation of Delaware
No Drawing. Filed July 24, 1967, Ser. No. 633,346

Int. Cl. G43c 5/54

U.S. Cl. 96-29

26 Claims

ABSTRACT OF THE DISCLOSURE

Two-equivalent silver halide developing agents capable of undergoing an intramolecular ring closure by oxidation in the development of exposed silver halide are used in novel processes and products for producing monochromatic and multicolor diffusion transfer pictures wherein separate negative and/or positive images are formed.

This invention relates to photography and, more particularly to compositions and processes useful in the formation of photographic images.

A principal object of this invention is to provide novel silver halide developer compositions and processes employing such novel compositions for the development of silver halide emulsions, wherein the silver halide developing agent is capable of undergoing an intramolecular ring-closure as a result of oxidation.

A further object of the present invention is to provide novel chemical compounds capable of developing silver halide emulsions, said compounds being "two equivalent" silver halide developing agents.

A further object of the present invention is to provide novel silver halide developing agents particularly useful in diffusion transfer processes, which developing agents are colorless and which form colorless or only slightly colored oxidation products.

A further object of the present invention is to provide novel processes for forming monochromatic as well as multicolor pictures by diffusion transfer practices wherein a single reagent is utilized for the formation of a negative image as well as a positive transfer of said negative image, and wherein the quantity of reagent which is available for positive image formation is controlled as a function of the development of a silver halide latent image, said development providing, as an oxidation product of said reagent, a colored substance which is substantially nondiffusible from the photosensitive stratum, the unreacted reagent being transferred to a superposed print-receiving material, which unreacted reagent, upon subsequent oxidation, provides a colored substance to dye the print-receiving material and form said positive image.

Other objects of the invention will in part be obvious and will in part appear hereafter.

The invention accordingly comprises the several steps and the relation and order of one or more of such steps with respect to each of the others, and the products and compositions possessing the features, properties, and the relation of elements which are exemplified in the following detailed disclosure, and the scope of the application of which will be indicated in the claims.

For a fuller understanding of the nature and objects of the invention, reference should be had to the following detailed description.

Diffusion transfer processes are well known as effective and convenient means for providing monochromatic, multicolor and black-and-white photographic reproductions. Of particular interest in this respect are those

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processes generally designated as "one-step photographic processes" wherein a photographic processing composition is provided between a photoexposed photosensitive element and a superposed image-receiving element. These elements are maintained in superposed position for a sufficient time to enable image-forming components to transfer in an imagewise manner from the photosensitive element, and sometimes from the layer of processing composition as well, to the image-receiving element. Thereafter the photosensitive element is separated from the image-receiving element to permit viewing of the transfer image.

The present invention provides a novel class of silver halide developing agents, especially suited for use in diffusion transfer processes of the general type described above. The class may be characterized as consisting of compounds which reduce exposed silver halide to silver and whose oxidation products autoreact by intramolecular cyclization in such a way as to form a new heterocyclic or carbocyclic ring which ring may be aromatic or nonaromatic. For convenience, these silver halide developing agents may be referred to as "ring-closing" silver halide developing agents.

The "ring-closing" reaction itself may be achieved by any one of a wide variety of mechanisms initiated by oxidation in a photographic system the preferred developing agents are hydroquinones and aminophenols having a molecular structure such that internal cyclization will precede external attack by the variety of nucleophilic agents (e.g., hydroxide ions, certain quaternary ammonium salts, etc.) present in a photographic processing composition. In the reduced form (i.e. prior to reduction of silver halide) the ring-closing developing agents of this invention should be sufficiently stable in alkaline solution so as not to undergo oxidation and ring-closure within, or prior to, the processing period except as a consequence of silver halide development.

It has been found that depending in part upon the nature of the newly-formed ring and in part upon the mechanism by which this ring is formed subsequent to the oxidation of the original developing agent, numerous novel and unexpected effects may be achieved. These effects will be discussed in detail hereinafter with particular regard to diffusion transfer photographic processes; however it will be readily apparent to those skilled in the art that many of these same effects are highly desirable in conventional "dry" or "wet" photographic developing processes.

The ring-closing silver halide developing agent may be colorless or colored in its reduced form. The newly formed ring may contribute to the spectral absorption of the oxidation product in such a manner that the oxidation product is substantially colorless or if originally colored unchanged in color i.e., there is no significant new absorption in the visible region, or in such a manner that a new chromophore is provided which does absorb in the visible region.

As is well known, black-and-white photographic positive prints may be prepared by silver diffusion transfer processes. In processes of this type, silver transfer images may be produced by contacting a photoexposed photosensitive silver halide element and an image-receptive element with a processing composition containing a silver halide developing agent and a silver halide solvent while said elements are in superposed relation. Examples of photographic materials useful in the production of silver transfer images are described in detail in the literature, e.g., in U.S. Patent No. 2,543,181 issued to Edwin H. Land on Feb. 27, 1951 and U.S. Patent No. 2,647,056, issued to Edwin H. Land on July 28, 1953. In a typical process employing such materials a processing composition contain-

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ing a viscous aqueous solution of a silver halide developing agent, a silver halide solvent, and an alkali is spread in a uniformly thin layer between the photoexposed gelatin silver halide stratum of a photosensitive element and the silver-receptive stratum of an image-receptive element as said elements are brought into superposed relationship. The elements are maintained in superposed relation for a predetermined period, ordinarily of approximately 10 to 120 seconds in duration, during which exposed silver halide is reduced to silver and unreduced silver halide forms a water soluble complex silver salt which diffuses through the layer of processing composition to the image-receptive stratum, where, upon being reduced or precipitated to silver it forms a silver print. At the end of this period, the photosensitive element, preferably together with the solidified layer of processing composition, is stripped from the image-receptive element.

Image-receptive strata of the foregoing type include silver precipitating nuclei dispersed in a macroscopically continuous vehicle comprising submacroscopic agglomerates of minute particles of a water insoluble, inorganic, preferably siliceous material such as silica aerogel. This stratum, both before and after receiving the precipitated silver is extremely thin, preferably being approximately 1 to 8 microns thick. Materials of the foregoing type, including suitable silver precipitating agents, are described in the literature, e.g., in U.S. Patents Nos. 2,698,237 and 2,698,245 issued to Edwin H. Land on Dec. 28, 1954. Other binders or carriers for silver precipitating nuclei include organic polymers such as gelatin and polyvinyl alcohol.

Silver transfer images usually retain traces of the photographic reagents with which they have been processed, the continued presence of which may adversely affect their optical properties and/or their stability. It is well known that the quinones formed upon oxidation of hydroquinones and hydroquinone derivatives, which together provide one of the more commonly employed groups of developing agents for silver transfer processes, will undergo various additional reactions, particularly in the presence of alkali and air. These reaction products include humic acids and other colored products. In addition, the quinones may attack the image silver under certain conditions.

For these reasons, it has been common practice to render the oxidation products innocuous or to prevent their subsequent formation by various techniques. One such technique is generally known as "print-coating," in which the image is swabbed with a composition which serves to simultaneously wash the developing agent residues from the image-bearing surface and leave behind a protective film which may comprise, for example, gelatin or a suitable plastic. Procedures of this type are described, e.g., in U.S. Patent No. 2,719,791 issued Oct. 4, 1955 to Edwin H. Land. However while such procedures are generally satisfactory there is always the possibility that traces of developing agent residues may remain behind.

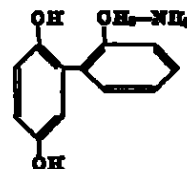
The problems discussed above—formation of undesirable colored oxidation products and/or oxidation products which may attack image silver—may be avoided or at least minimized by the use of silver halide developing agents capable of undergoing an intramolecular cyclization reaction which eliminates the quinonoid-type structure usually found in the oxidation products of silver halide developing agents. Where the silver halide developing agent is a hydroquinone or an amino-phenol, an intramolecular cyclization can occur between the carbon atom of the oxidation-generated carbonyl



of the benzene ring with a substituent so positioned as to form a new six-membered carbocyclic or heterocyclic ring upon cyclization and 1,2-addition. The resultant cyclized oxidation product is no longer a quinone and will not undergo the by-product reactions common to photographically generated quinones.

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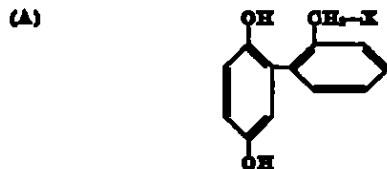
Hydroquinones are generally considered to be "four-equivalent" silver halide developing agents, that is four molecules of exposed silver halide are developed by one molecule of the hydroquinone before the reducing action of the hydroquinone is exhausted. This fact results from the ability of the initially formed quinone to hydroxylate to yield a new hydroquinonoid compound which also will reduce silver halide. The intramolecular cyclization with which this invention is concerned yields an oxidation product which is neither a quinone nor a hydroquinone and which is not a new reducing agent for silver halide. It has been experimentally determined e.g., with the ring-closing developing agent



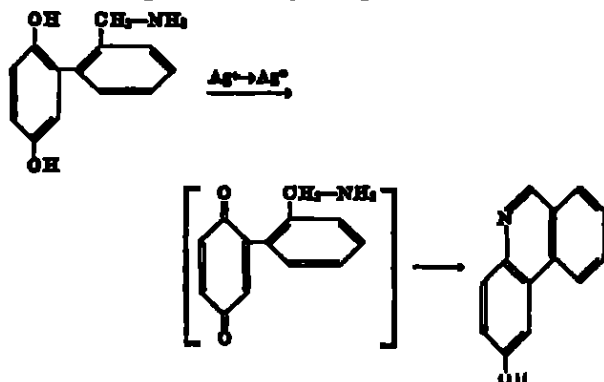
that 1,2-addition occurs and that only two molecules of silver halide are reduced by one molecule of the ring-closing developing agent. Two-equivalent silver halide developing agents have several distinct and important advantages over the conventional or four-equivalent silver halide developing agents. For example, in diffusion transfer processes a given quantity of exposed silver halide will control twice as many molecules of the developing agent. Conversely 50% less silver halide may be used to fully develop a given quantity of silver halide developing agent. This not only reduces the cost of the photosensitive element but it makes possible the use of thinner silver halide emulsion layers which in turn permit improved resolving power and image definition.

The "two-equivalent" property of the ring-closing silver halide developing agents is particularly significant in those embodiments of the invention which involve the control of, or the formation of, an image dye, as described in detail below.

One group of ring-closing hydroquinone developing agents within the scope of this invention may be represented by the general formula



wherein X is a group which is capable, upon oxidation of the hydroquinone entity to the corresponding quinone or precursor of forming a new ring grouping. As examples of groups which may be used as said X, mention may be made of amino, preferably primary amino, and active methylene groups, i.e., a methylene group which is adjacent to a suitable activating group such as carbonyl or sulfonyl. Thus, for example, where X is a primary amino group the reaction which takes place upon oxidation of the developing agent may be represented as follows:



United States Patent [19]
Montgomery et al.

[11] **Patent Number** **4,473,709**
[45] **Date of Patent** **Sep. 25, 1984**

[34] **PYRETHROID INTERMEDIATES AND PROCESS**

[75] **Inventors:** Ronald E. Montgomery, Middleport;
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[73] **Assignee:** FMC Corporation, Philadelphia, Pa.

[21] **Appl. No.** 168,870

[22] **Filed.** Jul. 14, 1980

[31] **Int. Cl.** ³ — — — — — C07C 87/30

[32] **U.S. Cl.** — — — — — 564/282, 564/337-
570/185, 570/191

[38] **Field of Search** — — — — — 564/282, 305, 337-
368/631 260/631, 570/185 191

[36] **References Cited**

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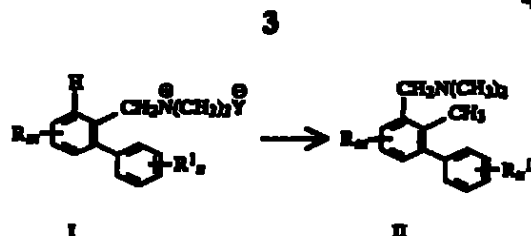
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Primary Examiner—James H. Resmer
Attorney, Agent, or Firm—Robert M. Kennedy H.
Robinson Ertelt, Robert L. Andersen

[57] **ABSTRACT**

A novel N,N,N-trimethyl-[1 1-biphenyl]-2-methanesulfonate compound is subjected to a rearrangement reaction to give a 3-dimethylaminomethyl-2-methyl-[1 1-biphenyl] compound which is then converted to the corresponding 3-halomethyl-2-methyl-[1 1-biphenyl] compound. The halomethyl compound is an intermediate for pyrethroid and related insecticides having the alcohol moiety derived from a 2-methyl-[1 1-biphenyl]-3-methanol.

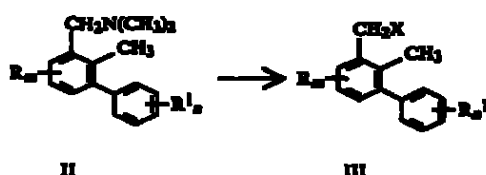
13 Claims, No Drawings



The substituents R and R' are the same or different and are selected from the group consisting of halogen, alkyl of 1 to 4 carbon atoms, fluoroalkyl of 1 carbon atom, alkoxy of 1 or 2 carbon atoms, and fluoroalkoxy of 1 to 2 carbon atoms; m is 0-3, preferably 0; n is 0-3, preferably 0; and Y is a chloride, bromide, iodide, or hydroxide ion, preferably an iodide ion. The rearrangement is similar to the Sommelet Rearrangement or the Sommelet-Hauser Rearrangement [The Merck Index, Martha Windholz, Ed., Merck & Co., Inc. 9th Edition, 1976, page ONR-83 and Organic Syntheses, Coll. Vol. 4, 385 (1963), both incorporated herein by reference], and is catalyzed by sulfuric acid, phosphorus pentoxide, or an alkali metal amide such as sodium or potassium amide. The use of an alkali metal amide, particularly sodium amide, is preferred. When sodium amide is used, it is advantageous to conduct the rearrangement in the presence of liquified ammonia, and to prepare the sodium amide in situ by addition of metallic sodium, in small portions, to the liquified ammonia in the reaction vessel. Preparation of the sodium amide by this method is generally facilitated by adding a small amount of ferric nitrate to the liquified ammonia.

In a preferred embodiment wherein m and n are each 0, and Y is an iodide ion, and the rearrangement is conducted in the presence of sodium amide, prepared in situ, in liquified ammonia, the dimethylaminoethyl-methylbiphenyl compound of formula II is obtained in about an 80% yield. This reaction is described more fully in Example 2 below.

(B) In a second process aspect of the invention, a dimethylaminoethyl-methylbiphenyl compound of formula II is converted to the corresponding halomethyl compound of formula III, wherein R , R' , m , and n are as defined above in (A), and X is a halogen, such as a bromine or chlorine atom, preferably a chlorine atom.



In this aspect of the invention, the dimethylaminoethyl-methylbiphenyl compound, wherein m and n are preferably 0, is subjected to a von Braun type degradation to give the corresponding halomethyl compound.

The bromomethyl compound (III, $X = \text{Br}$) is prepared by the reaction of the compound of formula II with cyanogen bromide. This reaction is analogous to the normal von Braun degradation, and proceeds under the conditions described for that reaction in *Organic Reactions*, 7:198 (1953), incorporated herein by reference. The reaction is usually conducted at a temperature in the range of about 0° C. to the boiling point of cyanogen bromide, about 60° C. and is preferably conducted at or about the temperature of reflux. If the

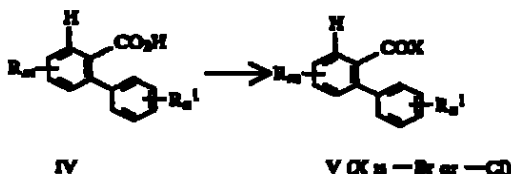
reaction is to be conducted at a temperature higher than 60° C. a pressure reactor should be used. An inert solvent such as benzene, toluene, or xylene is generally used, except when the reaction is performed under pressure.

The chloromethyl derivative (III, $X = \text{Cl}$) is prepared by contacting the dimethylaminoethyl-methylbiphenyl compound, II, with either methyl or ethyl chloroformate, preferably ethyl chloroformate, at an elevated temperature generally in the range of about 30° C. to the boiling point of the chloroformate used. The reaction is conveniently conducted in the presence of an inert solvent, for example, an aromatic hydrocarbon such as benzene, toluene, or xylene. This reaction is similar to Gadamier-Knoch modification of the von Braun degradation as described by L. G. Humber in *J. Med. Chem.* 14, 982 (1971), incorporated herein by reference. The conversion proceeds with relative ease and in a very high yield, and for this reason is preferred to the normal von Braun type reaction discussed above. This aspect of the invention is exemplified in Example 3 below wherein the chloromethyl derivative was obtained in quantitative yield from the compound of formula II wherein m and n are 0. The reaction was conducted in the presence of ethyl chloroformate and toluene at about 80° C.

(C) The third process aspect of the invention comprises a method for preparing the halomethyl-methylbiphenyl compound of formula III in two steps from the methanaminium compound of formula I, or in three or more steps from a compound (formula IV, V, VI, or VII below) which can be converted into the methanaminium compound. The individual steps of the two-step process are those described above for the first two process aspects of the invention. The number of additional steps will depend upon the choice of starting material and the number of steps required to convert it to the methanaminium compound.

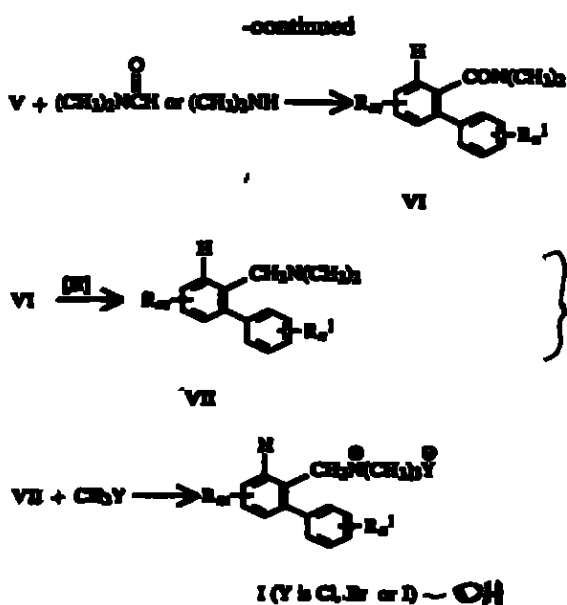
Various methods may be used to prepare the methanaminium compound. In the method of the present invention, illustrated in the chemical equations below an appropriate 2-biphenylcarboxylic acid, formula IV is converted into the corresponding dimethylamide VI by treatment of the acid halide derivative V with dimethylamine or preferably dimethylformamide. The dimethylamide compound is then reduced, advantageously by treatment with lithium aluminum hydride, to give the corresponding dimethylamine derivative VII, which is converted into the methanaminium halide I ($Y = \text{Cl}, \text{Br}$ or I) by treatment with the appropriate methyl halide. The methanaminium hydroxide ($Y = \text{OH}$) may be prepared by treating the corresponding methanaminium halide with silver oxide in water.

In the chemical equations below R , R' , m and n are as defined above, and Y is a chloride, bromide, or iodide ion. This series of reactions for the compounds wherein m and n are 0, and Y is an iodide ion is described in greater detail in Example 1.



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The composition of matter aspect of the present invention relates to the methanaminium compound of formula I wherein R , R' , m , and n are as defined above, and Y is a chloride, bromide, iodide, or hydrosulfate ion, preferably an iodide ion. In a preferred embodiment m and n are each 0. The critical feature of this compound is the placement of the methanaminium group at C-3 of the first phenyl ring, adjacent to the second phenyl ring, since it results in the methyl group being situated at C-3 between the methylene carbon at C-3 and the phenyl ring at C-1 in the 3-bromoethyl-2-methyl-[1,1-biphenyl] product of the present process and pyrethroid insecticides derived therefrom. Such pyrethroid insecticides show unexpectedly high insecticidal activity which is attributed to this particular placement of groups.

The Examples which follow illustrate the process of the present invention, the preparation of starting materials used therein, and the utility of the products thereof as intermediates for pyrethroid and related insecticides, in accordance with the general methods described above. In the Examples, temperatures are in degrees Celsius and pressures are in mm Hg.

EXAMPLE 1

PREPARATION OF N,N,N-TRIMETHYL-[1,1-BIPHENYL]-2-METHANAMINIUM IODIDE

Step A. [1,1-Biphenyl]-2-Carbonyl Chloride

Under a dry nitrogen atmosphere 10 g (0.05 mole) of 2-biphenylcarboxylic acid was dissolved with stirring in 116 ml of dry toluene. Pyridine, 4.2 g (0.054 mole), was then added to the reaction mixture followed by 6.4 g (0.054 mole) of thionyl chloride. The reaction mixture was stirred at room temperature for two hours, then filtered to remove a white precipitate. The toluene was removed from the filtrate under reduced pressure to give [1,1-biphenyl]-2-carbonyl chloride as a liquid residue, which was used without purification in Step B below.

Step B. N,N-Dimethyl-[1,1-Biphenyl]-2-Carboxamide

This compound was prepared by a method similar to that described by C. M. Copplager *J. Am. Chem. Soc.* 76, 1372 (1954), for N,N-dimethylbenzamide.

Under a dry nitrogen atmosphere, 7.3 g (0.1 mole) of dimethylformamide was added with stirring to the [1,1-biphenyl]-2-carbonyl chloride residue from Step A above. The reaction mixture was heated at reflux temperature for 3.5 hours, then cooled to room temperature where it was allowed to stand for 16 hours.

A white crystalline precipitate which had formed in the reaction mixture was collected by filtration. The precipitate was dissolved in ethanol and combined with the filtrate. The ethanol was removed under reduced pressure and the excess dimethylformamide was removed by short path distillation at 120° C./5 mm to give a semi-solid residue. The residue was dissolved in methylene chloride and washed with three 10 ml portions of a 10% aqueous solution of sodium hydroxide. The organic phase was dried with anhydrous sodium sulfate and filtered. The solvent was removed from the filtrate to give 6.1 g (61% yield from biphenylcarboxylic acid) of N,N-dimethyl-[1,1-biphenyl]-2-carboxamide as a dark oil.

The nmr and infra red spectra were consistent with the proposed structure.

Step C. N,N-Dimethyl-[1,1-Biphenyl]-2-Methanamine

Under a dry nitrogen atmosphere, 6.1 g (0.037 mole) of N,N-dimethyl-[1,1-biphenyl]-2-carboxamide was dissolved with stirring in 250 ml of dry 1,2-dimethoxyethane. To this solution was added portionwise 1.3 g (0.034 mole) of lithium aluminum hydride. Upon complete addition, the reaction mixture was heated at reflux temperature for 18 hours. The reaction mixture was then cooled to room temperature, and 1.22 ml (0.068 mole) of water was added dropwise. The reaction mixture was filtered, and the filtrate concentrated under reduced pressure to give 6.1 g (100% yield) of N,N-dimethyl-[1,1-biphenyl]-2-methanamine as a yellow liquid.

The nmr and infra red spectra were consistent with the proposed structure.

Step D.

N,N,N-Trimethyl-[1,1-Biphenyl]-2-Methanaminium Iodide

Under a dry nitrogen atmosphere, 6.1 g (0.037 mole) of N,N-dimethyl-[1,1-biphenyl]-2-methanamine was dissolved with stirring in 6.4 ml of anhydrous ethanol. To this solution 5.1 g (0.036 mole) of methyl iodide was added slowly. After complete addition, the reaction mixture was heated at reflux temperature for 45 minutes, then cooled. Diethyl ether was added until the mixture was cloudy then the whole was placed in a freezer for 16 hours. An oil which had formed in the mixture was separated then dissolved in ethanol, and the solution was concentrated under reduced pressure to give 10.0 g (100% yield) of N,N,N-trimethyl-[1,1-biphenyl]-2-methanaminium iodide as a brittle yellow form.

The nmr spectrum was consistent with the proposed structure.

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SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO

DIVISION DE NUEVAS CREACIONES

2020
Bogotá D C Diciembre 7 de 2005

Doctora
ALICIA LLOREDA RICAURTE

ASUNTO	Radicación No	00 058 414
	Trámite	002
	Evento	001
	Actuación	430
	Oficio No	13060
	Folios	0

Como resultado del examen de patentabilidad de la solicitud de patente de invención realizado según lo establece el artículo 45 de la Decisión 486 de la Comisión de la Comunidad Andina se notifica el siguiente concepto técnico

1 Documentos estudiados

Para el presente estudio se tuvieron en cuenta el capítulo descriptivo comprendido en los folios 6 - 79 y el nuevo capítulo reivindicatorio de los folios 80 - 94 de la solicitud en estudio

2 Objeto de la invención

El objeto de la presente solicitud de patente de invención consiste en

Las reivindicaciones 1 – 7 se refieren a derivados 2-dialquilaminoalquilbifenil sustituidos de fórmula I

Las reivindicaciones 8 - 16 se refieren a un procedimiento de preparación de derivados 2-dialquilaminoalquilbifenil sustituidos de fórmula I

Las reivindicaciones 17 - 18 se refieren a un medicamento que contiene derivados 2-dialquilaminoalquilbifenil sustituidos de fórmula I

Las reivindicaciones 19 - 31 se refieren al uso de derivados 2-dialquilaminoalquilbifenil sustituidos de fórmula I

El problema planteado en esta solicitud es la necesidad de proporcionar una composición para tratamiento del dolor reacciones inflamatorias y alérgicas, depresiones abuso de drogas y alcohol gastritis diarrea incontinencia urinaria afecciones cardiovasculares de las vías respiratorias psíquicas y epilepsia

Para resolver este problema técnico la solicitud en estudio proporciona derivados 2-dialquilaminoalquilbifenil sustituidos de fórmula I

El objeto de la invención definido anteriormente se clasificó de acuerdo con la IPC A 61 K 31/135 // C 07 C 211/29

También se reivindica prioridad de la Solicitud de Patente de Alemania DE 199 37 537 2 de agosto 9 de 1999 con respecto a la cual la fecha de presentación de la actual solicitud cumple el plazo máximo permitido

3 Usos

El artículo 21 de la Decisión 486 de la Comisión de la Comunidad Andina establece que *"Los productos o procedimientos ya patentados, comprendidos en el estado de la técnica de conformidad con el artículo 16 de la presente Decisión no serán objeto de nueva patente por el simple hecho de atribuirse un uso distinto al originalmente comprendido por la patente inicial"*

El artículo 14 de la Decisión 486 de la Comisión de la Comunidad Andina establece que *"Los Países Miembros otorgarán patentes para las invenciones, sean de producto o de procedimiento en todos los campos de la tecnología siempre que sean nuevas, tengan nivel inventivo y sean susceptibles de aplicación industrial"*

El Artículo 19 de la Decisión 486 de la Comisión de la Comunidad Andina establece que *Se considerará que una invención es susceptible de aplicación industrial cuando su objeto pueda ser producido o utilizado en cualquier tipo de industria entendiéndose por industria la referencia a cualquier actividad productiva, incluidos los servicios."*

Las reivindicaciones 19 - 31 se refieren al uso de derivados 2-dialquilaminoalquilbifenil sustituidos de fórmula I

Se aclara que de acuerdo con el Art 14 no se puede otorgar patente a usos porque estos no son un producto ni un procedimiento tecnológico

De otro lado de acuerdo con el Art 19 se considera que los usos no tienen aplicación industrial porque no se refiere a un tipo de producción ó utilización en ningún tipo de industria

Además los usos de los derivados 2-dialquilaminoalquilbifenil sustituidos de fórmula I reivindicados no pueden ser objeto de nueva patente, aunque el solicitante los considere distintos a los originalmente comprendidos por la patente inicial porque estos se conocían originalmente en las Pat US 3 443 943 (ver folio 223) como compuestos para procesos fotográficos y 4 473 709 (ver folios 225 y 226) como compuestos intermedio de piretroides

4. Determinación del Estado de la Técnica

El artículo 16 de la decisión 486 de la comisión de la Comunidad Andina que establece que *El estado de la técnica comprenderá todo lo que haya sido accesible al público por una descripción escrita u oral utilización comercialización o cualquier otro medio antes de la fecha de presentación de la solicitud de patente o en su caso de la prioridad reconocida*

Solo para el efecto de la determinación de la novedad también se considerará dentro del estado de la técnica el contenido de una solicitud de patente en trámite ante la oficina nacional competente cuya fecha de presentación o de prioridad fuese anterior a la fecha de presentación o de prioridad de la solicitud de patente que se estuviese examinando siempre que dicho contenido esté incluido en la solicitud de fecha anterior

cuando ella se publique o hubiese transcurrido el plazo previsto en el artículo 40"

Considerando que la fecha de presentación de la primera solicitud de patente de la cual se reivindica prioridad es agosto 9 de 1999, se consultaron las bases de datos y los archivos con que cuenta la entidad con fecha de publicación anterior y se encontraron los siguientes documentos que anticipan el objeto de esta solicitud

No	Documento	Título	Fecha de Publicación
D1	US 3 443 943	Productos fotográficos y procesos que emplean agentes de revelado 2-aromáticos equivalentes a haluro de plata	Mayo 13 1969
D2	US 4 473 709	Intermedios de piretroides y proceso	Sep 25 1984

5 Evaluación de los requisitos de Patentabilidad

El artículo 14 de la Decisión 486 de la Comisión de la Comunidad Andina establece que *Los Países Miembros otorgarán patentes para las invenciones sean de producto o de procedimiento en todos los campos de la tecnología siempre que sean nuevas tengan nivel inventivo y sean susceptibles de aplicación industrial"*

En cumplimiento del artículo 14 de la Decisión 486 se procedió a evaluar el cumplimiento de los requisitos de novedad nivel inventivo y aplicación industrial con el fin de establecer la patentabilidad de la invención reivindicada en la solicitud en estudio

Evaluación de la Novedad

El Art. 16 de la Decisión 486 de la Comisión de la Comunidad Andina establece *Una invención se considerará nueva cuando no está comprendida en el estado de la técnica El estado de la técnica comprenderá todo lo que haya sido accesible al público por una descripción escrita u oral utilización comercialización o cualquier otro medio antes de la fecha de presentación de la solicitud de patente o en su caso de la prioridad reconocida*

Solo para el efecto de la determinación de la novedad también se considerará dentro del estado de la técnica el contenido de una solicitud de patente en trámite ante la oficina nacional competente cuya fecha de presentación o de prioridad fuese anterior a la fecha de presentación o de prioridad de la solicitud de patente que se estuviese examinando siempre que dicho contenido esté incluido en la solicitud de fecha anterior cuando ella se publique o hubiese transcurrido el plazo previsto en el Art 40"

Las reivindicaciones 1 – 7 se refieren a derivados 2-dialquilaminoalquilbifenil sustituidos de fórmula I

D1 enseña derivados 2-dialquilaminoalquilbifenil (ver folio 223)

D2 enseña derivados 2-dialquilaminoalquilbifenil (ver folio 226)

En D1 en el folio 223 se presenta un compuesto bicclico que es igual al compuesto (I) de la reivindicación 1 folio 80 cuando R₁ = H R₂ y R₃ = OR₄ y R₆ = H Y n = 1 y R₄ y R₅ = H

En D2 en el folio 226 se presenta un compuesto bicclico donde R_n = halógeno alquil C₁₋₄ alcoxi C₁₋₂ y R_m = H que es igual al compuesto (I) de la reivindicación

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1 folio 80 cuando R_1 y $R_2 = H$ y $R_3 = \text{halógeno}$ alquil C_{1-4} alcoxi C_{1-2} y R_4 y $R_5 = CH_3$

Se observa entonces que derivados 2-dialquilaminoalquilbifenil como los reivindicados, ya estaban contenidos en D1 y D2 por lo cual no pueden considerarse nuevos

Evaluación del Nivel Inventivo

El artículo 18 de la Decisión 486 de la Comisión de la Comunidad Andina establece que *Se considerará que una invención tiene nivel inventivo si para una persona del oficio normalmente versada en la materia técnica correspondiente esa invención no hubiese resultado obvia ni se hubiese derivado de manera evidente del estado de la técnica*

Las reivindicaciones 1 – 7 se refieren a derivados 2-dialquilaminoalquilbifenil sustituidos de fórmula I

Las reivindicaciones 17 - 18 se refieren a un medicamento que contiene derivados 2-dialquilaminoalquilbifenil sustituidos de fórmula I

D1 enseña derivados 2-dialquilaminoalquilbifenil

D2 enseña derivados 2-dialquilaminoalquilbifenil

En D1 en el folio 223 se presenta un compuesto bicíclico que es igual al compuesto (I) de la reivindicación 1, folio 80 cuando $R_1 = H$, R_2 y $R_3 = OR_4$ y $R_5 = H$ Y $n = 1$ y R_4 y $R_6 = H$ De manera que para una persona normalmente conocedora de la materia era obvio el utilizar estos sustituyentes y los otros sustituyentes R_1 R_2 R_3 R_4 y R_6

En D2, en el folio 225 se presenta un compuesto bicíclico donde $R_m = \text{halógeno}$ alquil C_{1-4} alcoxi C_{1-2} y $R_n = H$ que es igual al compuesto (I) de la reivindicación 1 folio 80 cuando R_1 y $R_2 = H$ y $R_3 = \text{halógeno}$ alquil C_{1-4} alcoxi C_{1-2} y R_4 y $R_5 = CH_3$ Así que para una persona normalmente conocedora de la materia era obvio el utilizar estos sustituyentes y los otros sustituyentes R_1 R_2 R_3 R_4 y R_5

$R = \text{halógeno}$
alquil
fluoro alquil
fluoro alcox
alcoxi
(R1 too)

Se observa entonces que derivados 2-dialquilaminoalquilbifenil como los reivindicados, se podían lograr por sustitución de los radicales, según lo mencionado en D1 y D2 por lo cual no puede considerarse que tengan nivel inventivo

Entonces (a) debido a que los compuestos de esta solicitud eran conocidos en las anteroridades para una persona conocedora de la materia era evidente el elaborar los medicamentos de manera similar, teniendo en cuenta estos compuestos (b) las reivindicaciones de esta solicitud no mencionan una característica que conceda un efecto diferente o especial a los compuestos que pueda considerarse como un aporte a la técnica así que son obvios para una persona versada en la materia y (c) el problema planteado en esta solicitud que era la necesidad de proporcionar una composición para tratamiento del dolor reacciones inflamatorias y alérgicas depresiones abuso de drogas y alcohol gastritis diarrea incontinencia urinaria afecciones cardiovasculares de las vías respiratorias, psíquicas y epilepsia se resuelve proporcionando derivados 2-dialquilaminoalquilbifenil sustituidos de fórmula I que eran conocidos en las anteroridades y aquellos que no están expresamente mencionados en las anteroridades se logran de manera obvia haciendo los reemplazos respectivos los cuales a juzgar por la descripción no producen resultados

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sorprendentes las reivindicaciones son 1 – 7 obvias y evidentes para una persona versada en la materia De manera que no tienen nivel inventivo

Puesto que los derivados 2-dialquilaminoalquilbifenil sustituidos de fórmula I que caracterizan a los medicamentos de las reivindicaciones 17 – 18 no tienen nivel inventivo, entonces tampoco lo tienen los medicamentos en cuestión Porque elaborarlos con base en el principio activo era obvio para una persona normalmente conocedora de la materia

5 Conclusión

En conclusión los requisitos de patentabilidad de la presente solicitud están afectados así

Item	Documento	Reivindicaciones afectadas	Requisito que afecta
D1	US 3 443 943	1 – 7 17 18	Novedad y Nivel inventivo Nivel inventivo
D2	US 4 473 709	1 – 7 17 18	Novedad y Nivel inventivo Nivel inventivo

En cumplimiento del artículo 45 de la Decisión 486 de la Comisión de la Comunidad Andina se le indica que debe dar respuesta dentro del término de sesenta días contados a partir de la fecha de la notificación de la presente comunicación En caso de no dar respuesta al presente requerimiento o si a pesar de la respuesta subsistieran los impedimentos para la concesión se denegará la patente

Notifíquese el presente oficio conforme a lo dispuesto en el numeral 5.2 literal e), del capítulo quinto del título primero de la Circular Unica No 10 de 2001

Clara C de Jaimes
CLARA C DE JAIMES
Jefe de la División de Nuevas Creaciones

El anterior requerimiento fue notificado por fijación en lista de fecha
29 DIC. 2003

CONCEPTO TÉCNICO No 1965	EXAMINADOR TÉCNICO Código 202007
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