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ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO,

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(54) Title: A PROCESS FOR PREPARATION OF OPTICALLY PURE OR OPTICALLY ENRICHED SULFOXIDE
COMPOUNDS, INCLUDING AMORPHOUS ESOMEPRAZOLE AND SALTS THEREOF

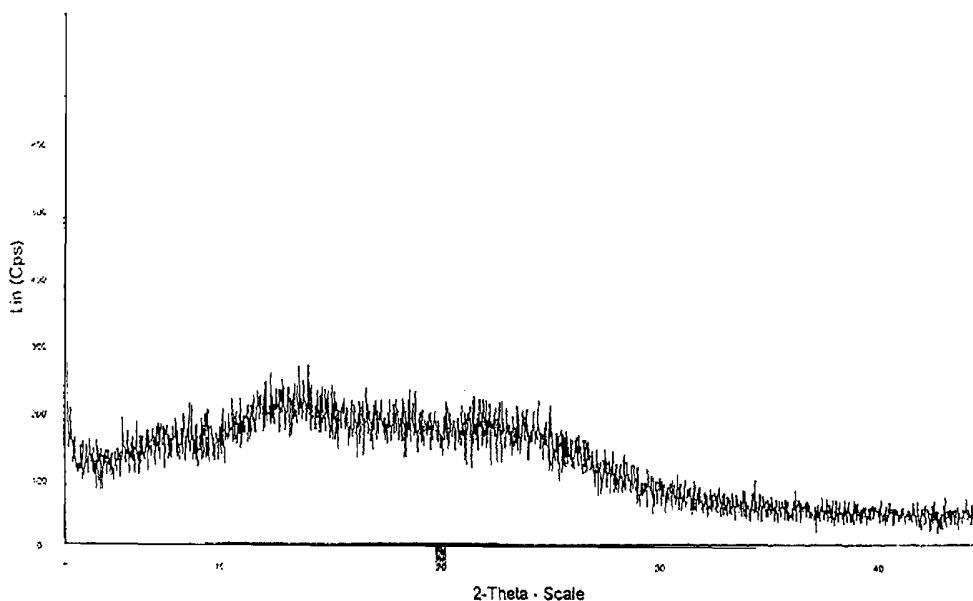


Fig.1

(57) Abstract: A process of preparation of optically pure or optically enriched isomers of omeprazole and structurally related sulfoxides is provided. Also provided are an amorphous form of esomeprazole, as well a pharmaceutical composition containing it and a method of using it for treatment of gastric disorders.

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INTERNATIONAL SEARCH REPORT

International App. No.
PCT/US 03/20250

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 C07D401/12 A61K31/44 A61P1/04

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)
IPC 7 C07D A61K A61P

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, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 96 02535 A (COTTON HANNA KRISTINA ;LARSSON ERIK MAGNUS (SE); ASTRA AB (SE); SO) 1 February 1996 (1996-02-01) the whole document ---	1-63
A	US 6 369 087 B1 (JENKINS DOUGLAS JOHN ET AL) 9 April 2002 (2002-04-09) column 32 --- -/--	1-63

Further documents are listed in the continuation of box C.

Patent family members are listed in 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.
- *&* document member of the same patent family

Date of the actual completion of the international search

23 December 2003

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INTERNATIONAL SEARCH REPORT

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>EBERLE D ET AL: "Chiral resolution of pantoprazole sodium and related sulfoxides by complex formation with bovine serum albumin in capillary electrophoresis" JOURNAL OF CHROMATOGRAPHY A, ELSEVIER SCIENCE, NL, vol. 759, no. 1, 24 January 1997 (1997-01-24), pages 185-192, XP004049986 ISSN: 0021-9673 the whole document</p> <p style="text-align: center;">---</p>	1-63
A	<p>KOMATSU N. ET AL: "Kinetic Resolution of Sulfoxides Catalyzed by Chiral Titanium-Binaphthol Complex" JOURNAL OF ORGANIC CHEMISTRY, vol. 58, 1993, pages 7624-7626, XP002265965 the whole document</p> <p style="text-align: center;">---</p>	1-63
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X	<p>WO 98 54171 A (KRONSTROEM ANDERS ;MOELLER EVA (SE); ASTRA AB (SE); COTTON HANNA ()) 3 December 1998 (1998-12-03) claims</p> <p style="text-align: center;">-----</p>	49,51, 57-63

INTERNATIONAL SEARCH REPORT

International Application No.
PCT/US 03/20250

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

Although claims 61-63 are directed to a method of treatment of the human/animal body, the search has been carried out and based on the alleged effects of the compound/composition.
2. Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this International application, as follows:

1. As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- The additional search fees were accompanied by the applicant's protest.
- No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

Information about patent family members

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