

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
4 January 2001 (04.01.2001)

PCT

(10) International Publication Number
WO 01/01569 A3

(51) International Patent Classification⁷: C07C 229/48, 227/22

(21) International Application Number: PCT/US00/15969

(22) International Filing Date: 9 June 2000 (09.06.2000)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/141,292 28 June 1999 (28.06.1999) US

(71) Applicant: ORTHO-MCNEIL PHARMACEUTICAL, INC. [US/US]; U.S. Route #202, P.O. Box 300, Raritan, NJ 08869-0602 (US).

(72) Inventors: REY, Max; Riedenerstrasse 69, CH-8304 Wallisellen (CH). WELTI, Gregor; Forchstrasse 111, CH-8032 Zurich (CH). MARYANOFF, Cynthia; 4029 Devonshire Drive, P.O. Box 239, Buckingham Township, PA 18938 (US).

(74) Agents: CIAMPORCERO, Jr. Audley, A., et al.; Johnson & Johnson, 1 Johnson & Johnson Plaza, New Brunswick, NJ 08933-7003 (US).

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW.

(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

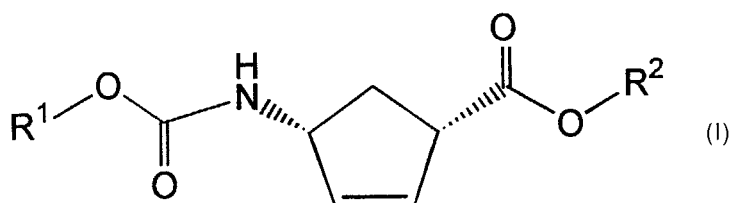
Published:

— With international search report.

(88) Date of publication of the international search report:
3 May 2001

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: PROCESS FOR PREPARING (-)-(1S,4R) N-PROTECTED 4-AMINO-2-CYCLOPENTENE-1-CARBOXYLATE ESTERS



(57) Abstract: The invention relates to a process for preparing (-)-(1S,4R) N protected 4-amino-2-cyclopentene-1-carboxylate esters represented by formula (I) wherein R₁ and R₂ are as described within the specification.

WO 01/01569 A3

INTERNATIONAL SEARCH REPORT

International Application No:
PCT/US 00/15969

A. CLASSIFICATION OF SUBJECT MATTER
C07C229/48,C07C227/22

According to International Patent Classification (IPC) or to both national classification and IPC⁷

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
C07C

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)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 98/24741 A2 (GLAXO GROUP LIMITED) 11 June 1998, claims, examples 1-3. --	1,2,17
A	EP 0590685 A1 (KURARAY CO.LTD.) 06 April 1994, claims 1-7. --	1,2,17
A	US 5399580 A (DALUGE) 21 March 1995, examples 21,26,31,32. --	1,2,17
A	CHEMICAL ABSTRACTS, vol. 124, no. 13, 25 March 1996 Columbus, Ohio, US;	1,2,17

☒ 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

06 December 2000

Date of mailing of the international search report

24 01 2001

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

HOFBAUER