

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
24 June 2004 (24.06.2004)

PCT

(10) International Publication Number
WO 2004/052312 A3

(51) International Patent Classification:
C07D 417/04 (2006.01) A61P 31/12 (2006.01)
A61K 31/549 (2006.01)

N. [US/US]; 1250 South Collegeville Road, Collegeville,
PA 19426 (US).

(21) International Application Number:
PCT/US2003/039982

(74) Agents: SIEBURTH, Kathryn, L. et al.; SmithKline
Beecham Corporation, Corporate Intellectual Property,
UW 2220, 709 Swedeland Road, P.O. Box 1539, King of
Prussia, PA 19406-0939 (US).

(22) International Filing Date:
11 December 2003 (11.12.2003)

(25) Filing Language: English

(26) Publication Language: English

(81) Designated States (*national*): AE, AG, AL, AU, BA, BB,
BR, BZ, CA, CN, CO, CR, CU, DM, DZ, EC, EG, GD, GE,
HR, ID, IL, IN, IS, JP, KP, KR, LC, LK, LR, LT, LV, MA,
MG, MK, MN, MX, NO, NZ, OM, PH, PL, RO, SC, SG,
TN, TT, UA, US, UZ, VN, YU, ZA.

(30) Priority Data:
60/432,413 11 December 2002 (11.12.2002) US

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

(71) Applicant (*for all designated States except US*):
SMITHKLINE BEECHAM CORPORATION
[US/US]; One Franklin Plaza, P.O. Box 7929, Philadel-
phia, PA 19101 (US).

(72) Inventors; and

(75) Inventors/Applicants (*for US only*): CHAI, Deping
[CN/US]; 1250 South Collegeville Road, Collegeville,
PA 19426 (US). DUFFY, Kevin, J. [GB/US]; 1250
South Collegeville Road, Collegeville, PA 19426 (US).
FITCH, Duke, M. [US/US]; 1250 South Collegeville
Road, Collegeville, PA 19426 (US). SHAW, Antony, N.
[GB/US]; 1250 Collegeville Road, Collegeville, PA 19426
(US). TEDESCO, Rosanna [IT/US]; 1250 South Col-
legeville Road, Collegeville, PA 19426 (US). WIGGALL,
Kenneth, J. [GB/US]; 1250 South Collegeville Road,
Collegeville, PA 19426 (US). ZIMMERMAN, Michael,

Published:

— with international search report
— before the expiration of the time limit for amending the
claims and to be republished in the event of receipt of
amendments

(88) Date of publication of the international search report:
2 August 2007

*For two-letter codes and other abbreviations, refer to the "Guid-
ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.*

(54) Title: ANTI-INFECTIVES

(57) Abstract: Compounds useful as HCV anti-infectives are disclosed. Also disclosed are methods of making and using the same.



WO 2004/052312 A3

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US03/39982

A. CLASSIFICATION OF SUBJECT MATTER

IPC: C07D 417/04(2006.01);A61K 31/549(2006.01);A61P 31/12(2006.01)

USPC: 544/12;514/223.2

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)

U.S. : 544/12; 514/223.2

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

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
CAS ONLINE, EAST

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P, A	US 6,919,331 B2 (YU et al) 19 July 2005(19.07.2005). See entire document.	1-21

Further documents are listed in the continuation of Box C.

See patent family annex.

* Special categories of cited documents:	"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
"A" document defining the general state of the art which is not considered to be of particular relevance	"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
"E" earlier application or patent published on or after the international filing date	"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
"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)	"&"	document member of the same patent family
"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		

Date of the actual completion of the international search

31 May 2007 (31.05.2007)

Date of mailing of the international search report

12 JUN 2007

Name and mailing address of the ISA/US

Mail Stop PCT, Attn: ISA/US
Commissioner of Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Authorized officer

/Venkataraman Basubramanian

Telephone No. (571) 272-1600

Facsimile No. (571) 273-3201