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AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, 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, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PE, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

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Declarations under Rule 4.17:

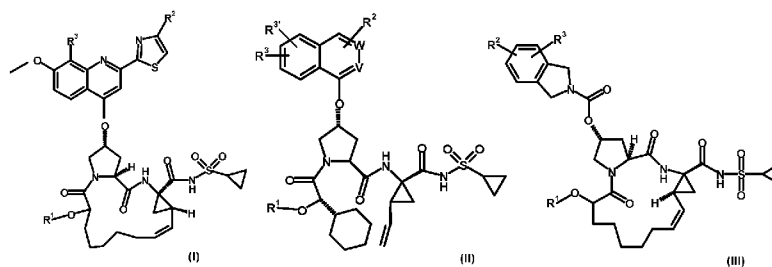
- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))
- of inventorship (Rule 4.17(iv))

Published:

- with international search report (Art. 21(3))
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))

(88) Date of publication of the international search report:
8 March 2012

(54) Title: HCV INHIBITOR COMPOUNDS AND METHODS OF USE THEREOF



(57) Abstract: The present invention features compounds of Formula (I), (II) and (III), pharmaceutical compositions and use in the treatment of viral disease:

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US 11/38110

A. CLASSIFICATION OF SUBJECT MATTER

IPC(8) - A61K 38/00 (2011.11)

USPC - 514/4.3

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)

USPC - 514/4.3 (see search terms below)

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
 USPC - 514/183; 514/277; 514/430; 514/21.1; 530/317; 530/321; 530/331; 540/454; 540/455; 540/460; 548/536; 548/537 (search terms below)

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
 PubWEST(PGPB,USPT,USOC,EPAB,JPAB), Google: macrocyclic, peptides, hepatitis C virus, NS3 protease, pharmaceutical compositions, acceptable carriers, diluents, tablets, capsules, isopropylthiazolyl, quinoline, vinyl-ACCA, HCV, crystal structure, 2-vinylcyclopropanecarboxylate, NS3 helicase domain, NTP binding protei

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 6,608,027 B1 (TSANTRIZOS et al.) 19 August 2003 (19.08.2003) col 3, ln 42-44; col 3, ln 65 - col 4, ln 61; col 9, ln 14-20; col 12, ln 26-32, 48-51; col 12, ln 65 - col 13, ln 4; col 13, ln 11-25; Table 2 - col 117, cpds #213 and #220	1-2, 7 and 10-12
Y	US 2007/0249637 A1 (COLLINS et al.) 25 October 2007 (25.10.2007) para [0010]-[0020]; [0293] - [0294]	1-2, 7 and 10-12
Y	US 7,438,920 B1 (KIM et al.) 21 October 2008 (21.10.2008) col 6, ln 7 to col 7, ln 35; col 9, ln 1 to col 10, ln 60; col 12, ln 12-26; col 12, ln 65 to col 13, ln 41; col 14, ln 29-39	1-2, 7 and 10-12
A,P	WO 2010/088394 A1 (COOPER et al.) 05 August 2010 (05.08.2010) pg 2, ln 1 to pg 14, ln 19; pg 21, ln 4-20; pg 21, ln 35 to pg 22, ln 3; pg 23, ln 17-33	1-2, 7 and 10-12

 Further documents are listed in the continuation of Box C.


* 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 application or patent 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

19 December 2011 (19.12.2011)

Date of mailing of the international search report

13 JAN 2012

Name and mailing address of the ISA/US

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

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US 11/38110

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 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:
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. [X] Claims Nos.: 13-29 because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

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

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

- Group I: claims 1-2, 7, 10-12, drawn to a compound of Formula (I).
Group II: claims 3-4, 8, 10-12, drawn to a compound of Formula (II).
Group III: claims 5-6, 9-12, drawn to a compound of Formula (III).

The inventions listed as Groups I-III do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons:

***** See Supplemental Sheet to continue *****

- 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 additional fees, this Authority did not invite payment of additional fees.
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. [X] 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.: claims 1-2, 7, 10-12

Remark on Protest

- [] The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
[] The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
[] No protest accompanied the payment of additional search fees.