

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference BHC123061-WO	FOR FURTHER ACTION see Form PCT/ISA/220 as well as, where applicable, item 5 below.	
International application No. PCT/EP2015/080041	International filing date (<i>day/month/year</i>) 16 December 2015 (16-12-2015)	(Earliest) Priority Date (<i>day/month/year</i>) 18 December 2014 (18-12-2014)
Applicant BAYER PHARMA AKTIENGESELLSCHAFT		

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 6 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

a. With regard to the **language**, the international search was carried out on the basis of:

- ☒ the international application in the language in which it was filed
☐ a translation of the international application into _____, which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b))

b. ☐ This international search report has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43.6**bis**(a)).

c. ☐ With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.

2. ☐ **Certain claims were found unsearchable** (See Box No. II)

3. ☐ **Unity of invention is lacking** (see Box No III)

4. With regard to the **title**,

- ☐ the text is approved as submitted by the applicant
☒ the text has been established by this Authority to read as follows:

SUBSTITUTED PYRIDYL-CYCLOALKYL-CARBOXYLIC ACIDS, COMPOSITIONS CONTAINING THEM AND MEDICAL USES THEREOF

5. With regard to the **abstract**,

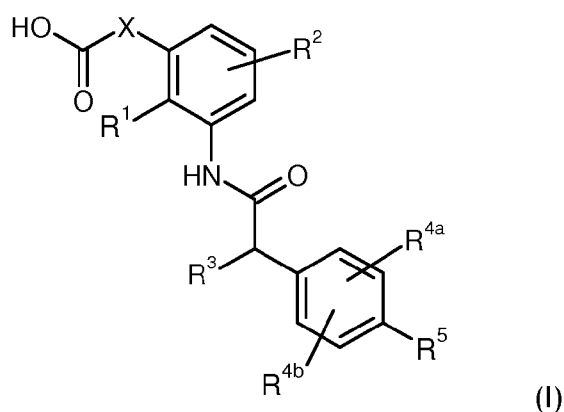
- ☐ the text is approved as submitted by the applicant
☒ the text has been established, according to Rule 38.2, by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority

6. With regard to the **drawings**,

- a. the figure of the **drawings** to be published with the abstract is Figure No. _____
☐ as suggested by the applicant
☐ as selected by this Authority, because the applicant failed to suggest a figure
☐ as selected by this Authority, because this figure better characterizes the invention
b. ☒ none of the figures is to be published with the abstract

Box No. IV Text of the abstract (Continuation of item 5 of the first sheet)

The present invention relates to substituted Pyridyl-cycloalkyl-carboxylic acids of general formula (I), to pharmaceutical compositions and combinations comprising said compounds and to the use of said compounds for manufacturing a pharmaceutical composition for the treatment or prophylaxis of a disease, in particular in mammals, such as diseases associated with pains, or for the treatment or prophylaxis of pain syndromes (acute and chronic), inflammatory-induced pain, pelvic pain, cancer-associated pain, endometriosis-associated pain as well as endometriosis and adenomyosis as such, cancer as such, and proliferative diseases as such like endometriosis.



INTERNATIONAL SEARCH REPORT

International application No

PCT/EP2015/080041

A. CLASSIFICATION OF SUBJECT MATTER

INV. C07D213/84 C07D405/12 C07D213/56 C07D213/61 C07D213/64
 C07D213/65 A61K31/4418 A61P1/00 A61P15/00 A61P29/00

ADD.

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)

C07D

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)

EPO-Internal, CHEM ABS Data, EMBASE

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y A	WO 2011/051165 A1 (BAYER SCHERING PHARMA AG) 5 May 2011 (2011-05-05) cited in the application abstract; claims 1-3,5-11 examples 6,10,11,20,21,25,33-36,105-108,109-112 examples 56,57,61-63,77,91 -----	1-8, 12-14, 17-26 9-11,15, 16
Y A	US 2011/034450 A1 (HAHN MICHAEL [DE] ET AL) 10 February 2011 (2011-02-10) abstract; claims 1,14,17 examples 25-30,115,140,141,144,145,148-155,159,162, 172,198 ----- -/-	1-8, 12-14, 17-26 9-11,15, 16



Further documents are listed in the continuation of Box C.



See patent family 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 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

15 February 2016

Date of mailing of the international search report

24/02/2016

Name and mailing address of the ISA/

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INTERNATIONAL SEARCH REPORT

International application No

PCT/EP2015/080041

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	KOROTKOVA, M. ET AL.: "Characterization of Microsomal Prostaglandin E Synthase 1 Inhibitors", BASIC & CLINICAL PHARMACOLOGY & TOXICOLOGY, vol. 114, no. 1, 2013, pages 64-69, XP055191514, ISSN: 1742-7835, DOI: 10.1111/bcpt.12162 abstract page 66 -----	1-26
A	XU, D. ET AL.: "MF63 [2-(6-Chloro-1H-phenanthro[9,10-d]imidazol-2-yl)-isophthalonitrile], a Selective Microsomal Prostaglandin E Synthase-1 Inhibitor, Relieves Pyresis and Pain in Preclinical Models of Inflammation", JOURNAL OF PHARMACOLOGY AND EXPERIMENTAL THERAPEUTICS, vol. 326, no. 3, 2008, pages 754-763, XP055191557, ISSN: 0022-3565, DOI: 10.1124/jpet.108.138776 cited in the application abstract page 757; figure 2; compound MF63 -----	1-26
A	MBALAVIELE, G. ET AL.: "Distinction of microsomal prostaglandin E synthase-1 (mPGES-1) inhibition from cyclooxygenase-2 inhibition in cells using a novel, selective mPGES-1 inhibitor", BIOCHEMICAL PHARMACOLOGY, vol. 79, no. 10, 2010, pages 1445-1454, XP026939427, ISSN: 0006-2952, DOI: 10.1016/J.BCP.2010.01.003 [retrieved on 2010-03-06] abstract page 1448; figure 1; compounds PF-9184 -----	1-26
A	FINETTI, F. ET AL.: "Pharmacological Inhibition of Microsomal Prostaglandin E Synthase-1 Suppresses Epidermal Growth Factor Receptor-Mediated Tumor Growth and Angiogenesis", PLOS ONE, vol. 7, no. 7, 2012, page e40576, XP055191511, DOI: 10.1371/journal.pone.0040576 abstract page 3; figure 1; compound AF3485 ----- -/--	1-26

INTERNATIONAL SEARCH REPORT

International application No

PCT/EP2015/080041

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	AQUINO, M. ET AL.: "Development of a second generation of inhibitors of microsomal prostaglandin E synthase 1 expression bearing the gamma-hydroxybutenolide scaffold", BIOORGANIC & MEDICINAL CHEMISTRY, vol. 16, no. 19, 2008, pages 9056-9064, XP025468966, ISSN: 0968-0896, DOI: 10.1016/J.BMC.2008.08.001 [retrieved on 2008-08-06] abstract; table 1 page 9059 -----	1-26

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/EP2015/080041

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 2011051165	A1	05-05-2011	AR 079015 A1 21-12-2011
			AU 2010311678 A1 17-05-2012
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			CN 102712577 A 03-10-2012
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			DK 2493845 T3 24-03-2014
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			HR P20140270 T1 25-04-2014
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			US 2011130445 A1 02-06-2011
			US 2014142069 A1 22-05-2014
			UY 32970 A 31-05-2011
			WO 2011051165 A1 05-05-2011

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			CN 102083803 A 01-06-2011
			DE 102008018675 A1 15-10-2009
			EP 2268625 A1 05-01-2011
			ES 2384309 T3 03-07-2012
			HK 1155168 A1 18-12-2015
			JP 5564488 B2 30-07-2014
			JP 2011517688 A 16-06-2011
			KR 20100132075 A 16-12-2010
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			WO 2009127338 A1 22-10-2009
