

Topic 9: Retrieving and Comparing Prior Art Citations

Lutz Mailänder

Head, International Cooperation on Examination and Training Section

Daejeon July 6, 2017

Agenda

- Types of prior art citations
- Search reports, list of citations
- Retrieval options
- Comparing search reports: CCD



Types of citations/references

Prior art relevant for patentability of claimed subject matter may be

- Cited by an applicant
- Cited by an examiner or other official search/examination bodies
- Cited by third parties (for example, Sect. 801 of PCT AI)
- Citations may originate from
 - Substantive examination before grant
 - Opposition, re-examination, revocation, ... after grant
- Patents
 - can cite other patents as prior art (backward citations)
 - can be cited by other patents (forward citations)



Samples of prior art citations

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Diagonal Anti-	Development a compare a compare boot DOCUMENTS CONSIDERED TO BE RELEVANT	T	EP		INDICAT	ING A TEM	RATUS FOR PORARY BLOCK FLO BACKED ACK/NACK	(56) W	References Cited	ïs
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASS APPLIC		FIELD IS	ADDRESSE	D	5,7	51,741 A * 5/1998 Voith et al	714/758
Y Y	3 October 2000 (2000-10-03) * column 3, line 57 - column 4, line 28; figure 2 * US 6 163 029 A (YAMADA SHINICHI [JP] ET AL) 19 December 2000 (2000-12-19) * column 15, line 30 - column 16, line 45; figures 2,15,16 * FR 2 864 628 A1 (COMMISSARIAT ENERGIE ATOMIQUE [FR]) 1 July 2005 (2005-07-01) * page 4, line 18 - page 6, line 15; figure 3 *	1-13 1,3-7 1,3-7 1-13	INV. G01T3	(73)		G. Dick, Ne Prabhakar (US); Maria Behrouz Ag Khushali N. InterDigital Wilmington, Subject to ar patent is extl	ter Valley, PA (US); Stepl sconset, NY (US); R. Chitrapu, Blue Bell, F n Rudolf, Vitre (FR); hili, Melville, NY (US); Manseta, Yardley, PA (U Technology Corporation DE (US) ny disclaimer, the term of ended or adjusted under by 981 days.	A EP IS) n, Third G Group C (Release this 35	(Continued) FOREIGN PATENT DOCUME 1 376 950 1/2004 (Continued) OTHER PUBLICATIONS eneration Partnership Project, "Techr iSMEDGE Radio Access Network; 7)", 3GPP TS 45.003 V7.4.0 (Feb. 2008 (Continued) <i>Examiner</i> — Scott Baderman	ical Specification Channel coding
·	WO 2004/064168 A1 (SCHERRER INST PAUL [CH]; BROENNIMANN CHRISTIAN [CH]; SCHMITT BERND [CH) 29 July 2004 (2004-07-29) * the whole document *	1-13	G01T	(21)	Appl. No.:	12/106,138	Cited in		I Examiner — Jeison C.Arcos [X]> US4268635 (HOY LESLIE R J, et a	
E	WO 2009/131151 A1 (HAMAMATSU PHOTONICS KK	1					l I		[X]* <u>DE19513403</u> (BASF AG [DE]) [X] 1	
	[JP]; MORI HARUMICHI [JP]; KYUSHIMA RYUJI [JP];) 29 October 2009 (2009-10-29) * figure 12 *								[X] # <u>WO2004096418</u> (UNIV TSINGHUA document *;	
									[A] * US4804724 (HARRIS JAMES E [U: document *	S], et al) [A] 1-17 * the whole
								by applicant	→ <u>WO2007071780</u>	
									→ <u>US4268635</u>	
							 		→ <u>DE19513403</u>	
							I 		→ <u>WO2004096418</u>	
	The present search report has been drawn up for all claims Place of search Date of completion of the search		Examiner				1	Opposition	→ <u>EP0332012</u>	
	The Hague 23 March 2010	_	lveryck,	J	_ ¦		1 1		→ <u>JP2006028414</u>	
X : part	ATEGORY OF CITED DOCUMENTS T : theory or principle E : earlier patent doo isularly relevant if taken alone after the filing dat						1		→ <u>EP2000492</u>	
docu A : tech	icularly relevant if combined with another D : document olfed in ment of the same category L : document cited for mological background	the application other reasons	•				I I I		→ <u>EP0030033</u>	
	-written disclosure & : member of the so mediate document document	ne patent fami	iy, corresponding				'			/IPO

WORLD INTELLECTUAL PROPERTY ORGANIZATION

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Overview: Access to prior art citations

Citations/references are usually presented as

- Bare listings of citations, for example lists of publication numbers only
- Citations in search reports supplemented with further useful information

Search reports are available as:

- Regular patent publications (EP-A1/A3/A4, WO-A1/A3)
- Electronic documents accessible through file/dossier access platforms, such as online registers, Global Dossier, WIPO CASE

Bare lists of citations are usually available

- On front pages of publications of granted patents, republications after opposition (EP-B1/B2..)
- Through separate links or integrated tables in patent databases, such as national registers (e.g. DE or EP Register) when viewing individual applications
 - Trilateral Common Citation Document (CCD)

International Search Report (ISR)

- Established by (selected) competent ISA
- Search based on claims as originally filed (Article 15)
 - Limited utility of ISR for amended claims in national phase
- Search performed according to PCT Examination Guidelines
- Prior art is everything made available to the public (Rule 33)
 - in written disclosure (ISR may refer to oral disclosure, exhibition, though)
 - prior to the international filing date (i.e. priorities are not taken into account for the international search)
- Not any written disclosure is to be searched: only PCT minimum documentation (Rule 34)
- In case of lack of unity, only the "first" invention will be searched (Rule 40), unless additional fees are paid
- ISA can decline search of certain subject matter (Rule 39), namely subject matter that is excluded from patentability in national law (PCT does not define what is patentable!)

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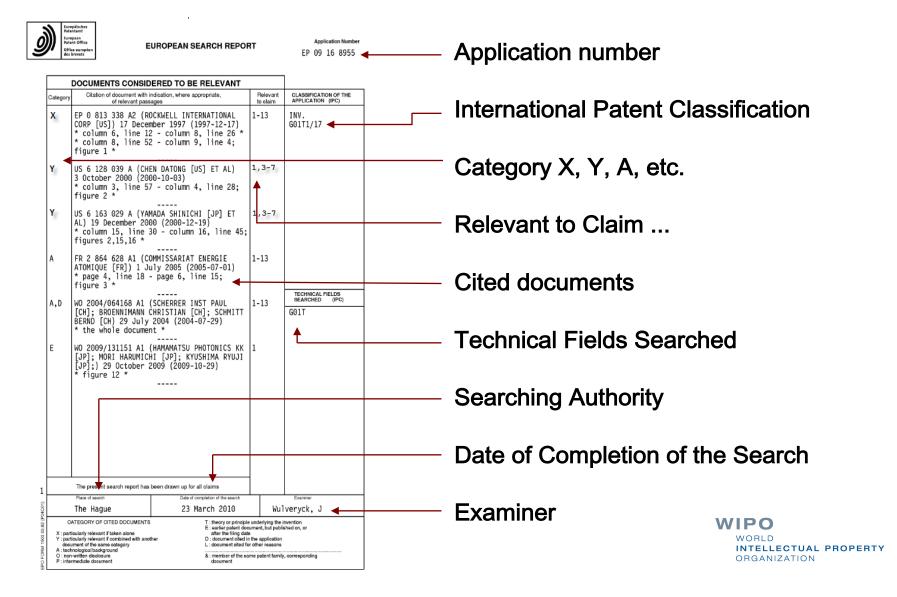
ISR

ISR is "enriched" search report as it includes

- List of relevant prior art documents (citations) plus indications:
- Claims for which a citation is relevant
- Parts of the cited document which are relevant (e.g. 'line 5-6, page 7; drawing 6') for those claims
- Why the document is relevant (challenging novelty, inventive step; describing background art)
- IPCs of the claimed subject matter
- Limited search strategy: technology areas (IPC) searched
- Includes observations regarding lack of unity (Box III), or whether no meaningful search could be performed (clarity of claims)



Enriched prior art search reports



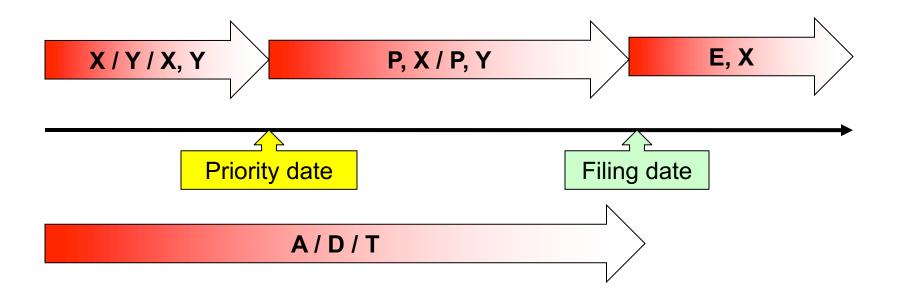
Categories of citations

- X particularly relevant if taken alone (novelty)
- Y particularly relevant if combined with another document of the same category (inventive step)
- A technological background
- O non written disclosure
- P intermediate document, i.e. published between the earliest priority date and the filing date
- E earlier document but published on or after the filing date
- T theory or principle underlying the invention
- D document cited in the application

See 16.59ff of the PCT Examination Guidelines

Prior art categories

Publication dates of prior art documents





Publications of search reports

- ISRs are published as WO-A1 or WO-A3 documents
- In addition to the PCT, only the EPO publishes search reports
 - EP-A1 or A3 similar to WO-A1 or A3
 - EP-A4 for supplementary European search reports if examiners conduct additional searches
- No other IPO publishes search reports, they are only made publicly available through national registers ('laid open for public inspection')
- Accessible as well through Global Dossier and WIPO CASE
- Citation information is also made available through other interfaces of various databases (not in Patentscope, though)



US-PAIR: search report US examiner

		Notice of Reference	e Cited		11/689,638 FC		Applicant(s)/Patent Under Reexamination COX ET AL.			
		Notice of neterence	s ched				Art Unit 1773	Page 1 of 1		
U.S. PATENT DOCUMENTS										
*		Document Number Country Code-Number-Kind Code	Date MM-YYYY			hame		Classification		
*	Α	US-4,662,516 A	05-1987	Baker e	et al.			206/363		
*	в	US-5,003,892 A	04-1991	Bricken	, Jonathan			110/346		
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US-PAIR: prior art in image file wrapper

"Image File Wrapper" contains search and examination reports

09-28-2006 WFEE Fee Worksheet (SB06)								PROS	ECUTION	1		
04-28-2006 CTNF Non-Final Rejection				PROSECUTION 10								
			nces cited by applicant and	considered	d by	PRIC	OR ART	1				
04-28-20	006		892	List of	referer	nces cited by examiner			PRIC	OR ART	1	
04-28-20	006		FWCLM	Index	of Clair	ms			PROS	ECUTION	1	
Notice of References Cited				Application/Control No. 11/093,685 Examiner Tina M. Wong	Applicant(s)/i Reexaminatic CHAN ET AL Art Unit 2874	on	nt Under Page 1 of 1					
					U.S. P/	ATENT DOCUMENTS						
* Document Number Date Country Code-Number-Kind Code MM-YYYY			Name			Classification						
* A US-6,081,638 06-2000 Zhou, F			Ping			385/31						
* B US-6,842,467 01-2005 Aronsor			onson et al. 3			372/27						
* C US-5,179,420 01-1993 So et al.			al.		356/73.1							
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WIPO WORLD INTELLECTUAL PROPERTY ORGANIZATION

US-PAIR: prior art tab

Heat Processing Systems, A	pparatuses, and Methods for Colection	and Disposal of Infectious and Medical Waste					
		5					
🕖 Document Code 👫	Document Description						
892	List of references cited by examiner						
1449	List of References cited by applicant and	d considered by examiner					
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US Final and Non-Final Rejections

Relevance of citations (X, Y) can (currently) only be derived from the reasons of rejections stated in US examination reports and decisions ('final' and 'non-final rejections')

9. Claims 1, 8-10, 15-16, 34, 39-40, 42, 51, 63, 68, 69 and 79 are rejected	d under 35 U.S.C. 102(b)	
as being anticipated by Tibor (Tibor) (US Pub. No. 2004/0234117).		
As per claim 1 Tibor discloses:		
A secure universal transaction system, comprising: an operation	ource component,	
including a first biometric security component, a second security component, (p	ago oh 33, the	
central system 12 can be remotely located from the electronic transaction statio		1
location as the electronic transaction station, e.g., an in-store central processor	^a 'Claims 1,	8-10, not
 	novel in	view of
	US20040	23117A1'



US search reports in Global Dossier

17.11.2011	List of References cited by applicant and considered by examiner
17.11.2011	Notice of Allowance and Fees Due (PTOL-85)
17.11.2011	Examiner's search strategy and results
17.11.2011	Search information including classification, databases and other search related notes
17.11.2011	List of References cited by applicant and considered by examiner
17.11.2011	Bibliographic Data Sheet
17.11.2011	Foreign Reference
17.11.2011	List of References cited by applicant and considered by examiner
17.11.2011	Issue Information including classification, examiner, name, claim, renumbering, etc.
17.11.2011	List of references cited by examiner

WO2011113363

Espacenet: Backward Citations

Europäisches Patentamt European Patent Office Office européen des brevets	Espacenet Patent search	Deutsch English Français Contact Change country ❤
4 About Espacenet Other EPO		
	My patents list (0) Query history Settings Help	
<u>WO2011113363 (A1)</u> → Citations		
WO2011113363 (A1)	Cited documents: WO2011113363 (A1) — 2011-09-22	
Bibliographic data	□ Select all (0/3)	🔒 Print
Description		
Claims	3 documents cited in relation to WO2011113363 (A1)	
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Original document		
Cited documents	Sort by Priority date Sort order Descending Sort	
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INPADOC patent family	International search citation	
	1. Agomelatine halogen hydride complex and preparation thereof	
Quick help - + What are cited documents? - • Can I export this list? - • What happens if I click on "Download covers"? - • What happens if I click on the -	Inventor: Applicant: CPC: IPC: PENG ZHANG SHANGHAI INST PHARM INDUSTRY C07C233/18 C07C233/18 [CN] [CN] [CN] HANBIN SHAN [CN] [CN] [CN] [CN] (+8) (+8)	Publication info: Priority date: CN101481321 (A) 2009-02-27 2009-07-15 CN101481321 (B) 2012-04-18 CN12-04-18
star icon?	2. New crystal form of Agomelatine, preparation method and use thereof	
	Inventor: Applicant: CPC: IPC: HANBIN SHAN SHANGHAI INST PHARM INDUSTRY A61K31/165 A61K31/165 [CN] [CN] [CN] A61P25/00 [CN] (+7) (+6)	Publication info: Priority date: CN101585779 (A) 2009-03-10 2009-11-25 CN101585779 (B) 2014-04-02 Image: Comparison of the second se
	Patents cited by the applicant	
	3. Agomelatine halogen hydride complex and preparation thereof	
	Inventor: Applicant: CPC: IPC: PENG ZHANG SHANGHAI INST PHARM INDUSTRY C07C233/18 C07C233/18 C07C233/18 [CN] [CN] [CN] HANBIN SHAN C07C233/18 C07C233/1	Publication info: Priority date: CN101481321 (A) 2009-02-27 2009-07-15 CN101481321 (B) 2012-04-18 2012-04-18

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Citations in Inpadoc family list

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INPADOC leg	-	1 .	AGOMELATINE HY	DROBROMIDE HYDRATE AN	D PREPARATIO	ON THEREOF				
INPADOC pa	atent family	*	Inventor: SHAN HANBIN	Applicant: SERVIER LAB [FR]	CPC: A61K31/165	Citations: CN101481321 A	Publication info: WO2011113363 (A1)	Priority date: 2010-03-17		
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→ What happen star icon? → What is a pate	ent family? s if I tick the "show ?	*	Inventor: ZHANG PENG [CN] ZHU XUEYAN [CN] (+1)	Applicant: SERVIER LAB [FR]	CPC: A61K31/165 C07C233/18	Citations:	Publication info: AP3199 (A) 2015-03-31	Priority date: 2010-03-17		
INPADOC fam	nily equivalents?	3.	3. Agomelatine hydrobromide hydrate and preparation thereof							
→ Why is the sau published sev same country	eral times in the	*	Inventor: SHAN HANBIN YUAN ZHEDONG (+4)	Applicant: SERVIER LAB	CPC: <u>A61K31/165</u> <u>C07C233/18</u>	Citations: US2011313198 A1	Publication info: AU2011229619 (A1) 2012-09-27 AU2011229619 (B2) 2014-05-22	Priority date: 2010-03-17		
		4 .	AGOMELATINE HY	DROBROMIDE HYDRATE AN	D PREPARATIO	ON THEREOF				
		*	Inventor: SHAN HANBIN [CN] YUAN ZHEDONG [CN] (+4)	Applicant: SERVIER LAB [FR]	CPC: A61K31/165 C07C233/18	Citations:	Publication info: CA2792430 (A1) 2011-09-22 CA2792430 (C) 2015-12-08	Priority date: 2010-03-17		

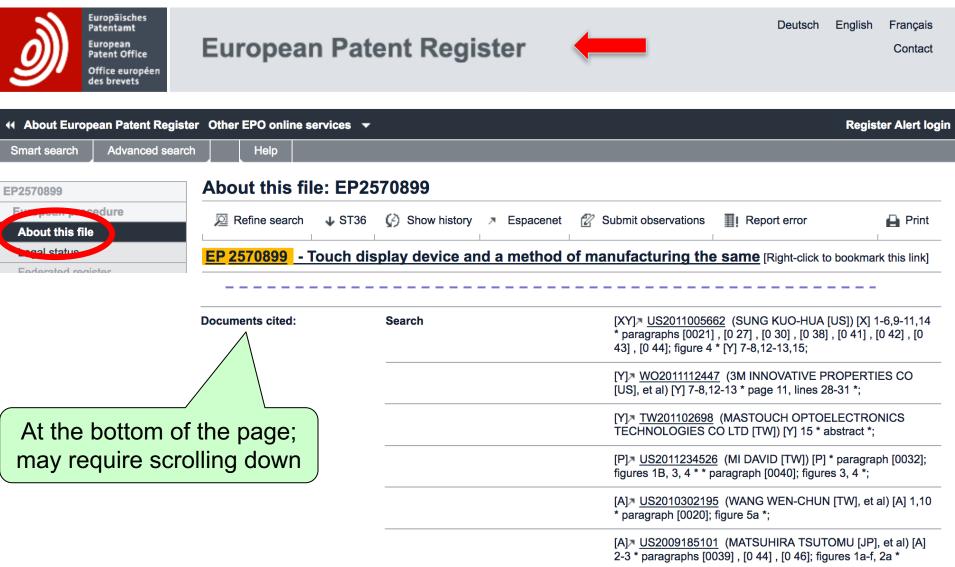
WIPO WORLD INTELLECTUAL PROPERTY ORGANIZATION

Citations (enriched) in EP-Register - 1

Europäisches Patentamt European Patent Office Office européen des brevets	Euro	pean Patent	Deutsch English	Français Contact														
4 About European Patent Registe			Regist	er Alert logi														
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Patent namily All documents	Publication No.: > US2011005662 [XY] (SUNG KUO-HUA [US]) [X] 1-6,9-11,14 par. 21, 27, 30, 38, 41, 42, 43, 44, fig. 4 [Y] 7																	
		Туре:	Patent literature															
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→ What is non-patent literature?		Туре:	Non-patent literature															
Maintenance news +		Publication information:	: US2011234526 A1 20110929 [] (MI DAVID [TW]) par. 0032 , fig. 1B, 3, 4 , par. 0040 , fig. 3, 4															
News flashes +		Туре:	Patent literature															
Related links + Publication No.: > US2010302195 [A] (WANG WEN-CHUN [TW], et al) [A] 1,10 par. 0020 , fig. 5a																		
		Туре:	Patent literature															

EP2570899

Citations (enriched) in EP-Register – 2



Citations on front pages of grant publications

References cited:

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THE MARCONI REVIEW, vol. XLIII, no. 218,

DON: "Vibratory process control trans-

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TION AND MEASURMENT, vol. IM-32, no. 3, September 1983, pages 434-437, IEEE, New York, US; E. STEMME et al.: "Measuring liquid density with a tuning-fork transducer"

I.S.A. TRANSACTIONS, vol. 20, no. 3, 1981,

for viscous liquids and slurries"

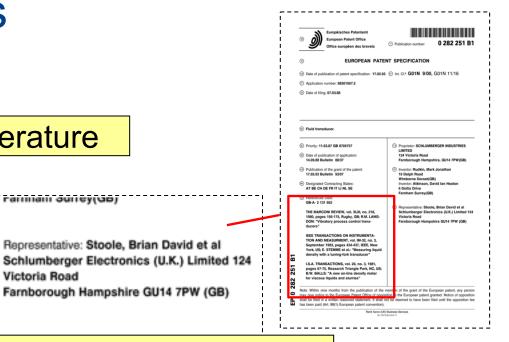
pages 67-75, Research Triangle Park, NC, US; B.W. BALLS: "A new on-line density meter

1980, pages 156-175, Rugby, GB; R.M. LANG-

Patent literature

raimani ouney(ub)

Victoria Road



Non patent literature

Note: Within nine months from the publication of the mention of the grant of the European patent, any person may give notice to the European Patent Office of opposition to the European patent granted. Notice of opposition shall be filed in a written reasoned statement. It shall not be deemed to have been filed until the opposition fee has been paid (Art. 99(1) European patent convention).

WIPO WORLD INTELLECTUAL PROPERTY ORGANIZATION

Citation during opposition (EP Register)

Cited in	International search	[X] [,] US4268635 (HOY LESLIE R J, et al) [X] 1-17 * the whole document *;
		[X] [,] DE19513403 (BASF AG [DE]) [X] 1-17 * the whole document *;
		[X] <i></i> ↗ <u>WO2004096418</u> (UNIV TSINGHUA [CN], et al) [X] 1-17 * the whole document *;
		[A] [,] <u>US4804724</u> (HARRIS JAMES E [US], et al) [A] 1-17 * the whole document *
	by applicant	→ <u>WO2007071780</u>
		→ <u>US4268635</u>
		→ <u>DE19513403</u>
		→ <u>WO2004096418</u>
	Opposition	→ <u>EP0332012</u>
		→ <u>JP2006028414</u>
		→ <u>EP2000492</u>
		→ <u>EP0030033</u>

Third party observations

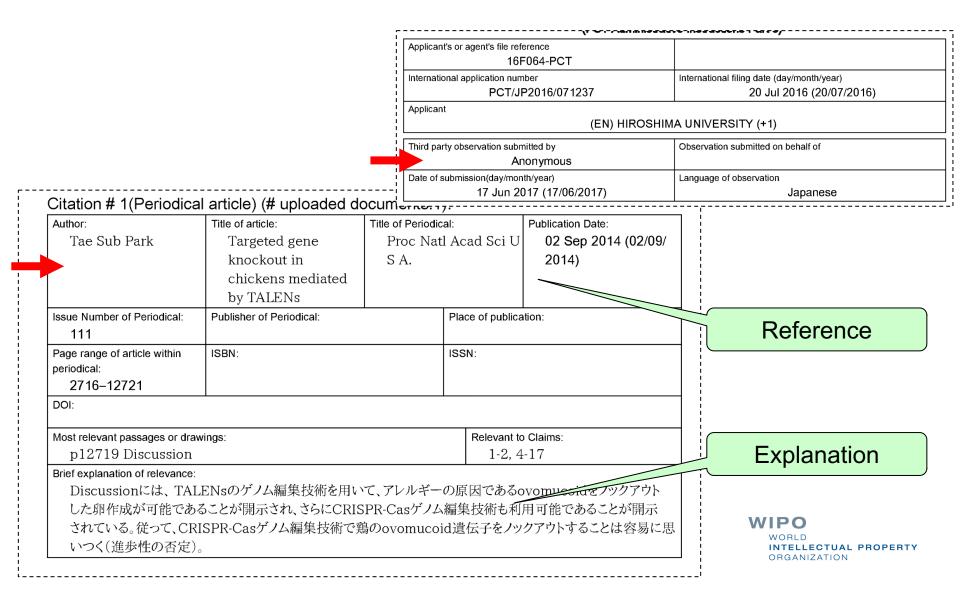
Overview:

http://www.wipo.int/scp/en/revocation_mechanisms/third_party/index.html

- For PCT, possible according to Section 801ff of Administrative Instructions
- Searchable in Patentscope: TPO:(* to *)
- Retrievable through tab "Documents"

	Search and Examination-Related Documents									
Date	Title	View	Download							
26.05.2017	Third Party Observation	PDF (2p.)	PDF (2p.), ZIP(XML + TIFFs)							
26.05.2017	Additional comments submitted with observation	PDF (15p.)	PDF (15p.), ZIP(XML + TIFFs)							
24.04.2017	Third Party Observation	PDF (1p.)	PDF (1p.), ZIP(XML + TIFFs)							
24.04.2017	Third Party Observation	PDF (1p.)	PDF (1p.), ZIP(XML + TIFFs)							
16.03.2017	International Search Report	PDF (4p.)	PDF (4p.), ZIP(XML + TIFFs)							
16.03.2017	Written Opinion of the International Search Authority	PDF (9p.)	PDF (9p.), ZIP(XML + TIFFs)							
16.03.2017	Search Strategy	PDF (1p.)	PDF (1p.), ZIP(XML + TIFFs)							

Third party observations



Backward and forward citations

Patents

can cite other patents as prior art (backward citations)

can be cited by other patents (forward citations)

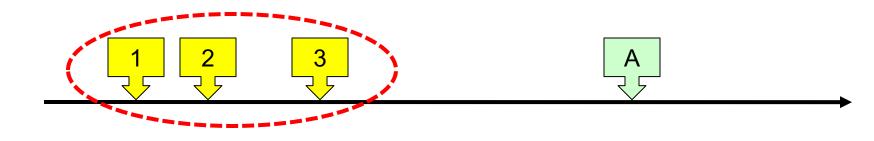


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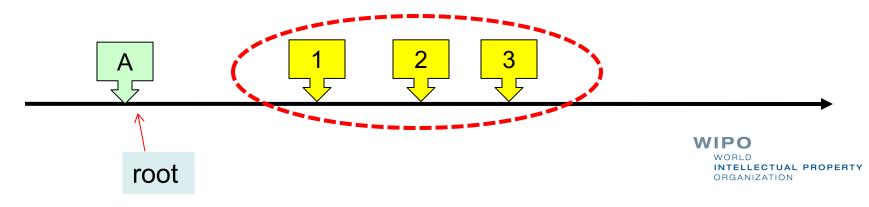
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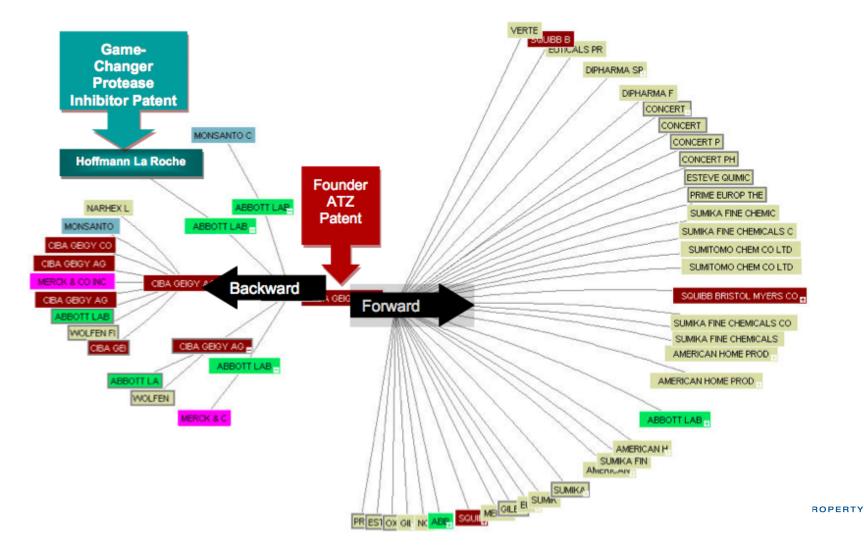


Publications citing A -> Forward citations of A



Atazanavir – citation map

Figure 29. Citation map of the founder composition patent for Atazanavir



Espacenet: Forward Citations

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Citing documents	Sort by Priority date Sort order Descending Sort								
INPADOC legal status	□ 1. Agomelatine methanesulfonic acid complex and preparation method thereof								
Quick help -	Inventor: Applicant: CPC: IPC: HAIPING WANG SHANGHAI RIGHT HAND MEDICAL A61K31/165 CHENG CHI TECHNOLOGY DEV CO LTD A61P1/00 (+3) A61P25/00 (+6)	Publication info: Priority date: CN102718675 (A) 2012-06-07 2012-10-10 CN102718675 (B) 2015-03-25 CN102718675 (C)							
What happens if I click on "Download covers"?	2. SOLID PHARMACEUTICAL COMPOSITION FOR ORALLY DELIVERING AGOMELATINE								
→ What are citing documents? → Why do some documents not have any citing documents? → What happens if I click on the star icon?	Inventor: Applicant: CPC: IPC: THARRAULT SERVIER LAB [FR] A61K31/165 A61K31/165 FRANCOIS [FR] THARRAULT FRANCOIS [FR] A61K9/0056 A61K9/00 POIRIER CECILE (+3) A61K9/006 A61K9/20 [FR] (+2) (+3) A61K9/20	Publication info: Priority date: WO2013021139 (A1) 2011-08-10 2013-02-14 2011-08-10							
	3. Solid pharmaceutical composition for buccal administration of agomelatine								
	Inventor: Applicant: CPC: IPC: THARRAULT SERVIER LAB [FR] A61K31/165 A61K31/165 FRANCOIS [FR] POIRIER CECILE A61K9/0056 A61K9/20 [FR] (+3) (+3) (+3)	Publication info: Priority date: EP2556824 (A1) 2011-08-10 2013-02-13 2011-08-10							

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Agomelatine hydrobromide hydrate and preparation thereof

Abstract

An agomelatine hydrobromide hydrate of formula (I), in which X is Br, preparation method and use thereof as well as pharmaceutical composition containing it are provided. The solubility of the agomelatine hydrobromide hydrate obtained by the present method is significantly higher than that of agomelatine. Therefore, it is more suitable for manufacturing pharmaceutical formulations. In addition, the product has higher stability and purity. The present product of high purity can be obtained through a simple process, rather than process with complicated steps.

Classifications

C07C233/18 Carboxylic acid amides having carbon atoms of carboxamide groups bound to hydrogen atoms or to acyclic carbon atoms having the nitrogen atom of at least one of the carboxamide groups bound to a carbon atom of a hydrocarbon radical substituted by singly-bound oxygen atoms with the substituted hydrocarbon radical bound to the nitrogen atom of the carboxamide group by an acyclic carbon atom having the carbon atom of the carboxamide group bound to a hydrogen atom or to a carbon atom of an acyclic saturated carbon skeleton

View 1 more classifications

W02011113363A1

WO Application

Application number: PCT/CN2011/071912

Other languages: French

Inventor: Hanbin Shan , Zhedong Yuan , Xueyan Zhu , Peng Zhang , Hongjuan Pan , Xiong Yu

Original Assignee: Les Laboratoires Servier

Priority date: 2010-03-17

Filing date: 2011-03-17

Publication date: 2011-09-22

Info: Patent citations (2), Non-patent citations (1), Cited by (4), Also published as (16), Legal events, Similar documents

External links: Espacenet, Global Dossier, PatentScope, Discuss

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	View				Inspector: biblio for	EP2004042	2547	5	
Compa	act viev	v Sor	t by country Filter (1) - Classifications & fields searched		Bibliographic da	ta: EP 1612	2403	(A1)
#	CC EP	Cat.	Citation details Application N° EP04425475 (EP20040425475) - 30 June 2004	Claims	Servo valve for o engine fuel injec		an i	nterr	nal combustior
•			National Search Report		Publication date:	4 January 2	2006		
DEVONthink		X Y	DE4310984 A1 (REXROTH MANNESMANN GMBH [DE]) - 6 October 1994 Column 4, line 31 - column 5, line 54 Figure 1	1-5,13 6	Inventor(s):	RICCO MARIO [IT]; DE MATTHAEIS SIS LUIGI [IT]; GORGOGLIONE ADRIANO (DI MEO ALFONSO [IT]			
		X	WO0111227 A1 (SIEMENS AG [DE], et al) - 15 February 2001 Page 7, line 9 - page 9, line 3	6	Applicant(s):	FIAT RICER	CHE [IT]	
		6	Figure 1 Claim 17		Classifications:	International: F02M5		59/46;	
		A	EP0740068 A2 (LUCAS IND PLC [GB]) - 30 October 1996 Column 4, line 27 - column 5, line 13 Figure 2	1		European		F02M	47/02D;
		Α	US6257499 B1 (STURMAN ODED E) - 10 July 2001 Column 4, line 49 - column 5, line 23 Figure 4	1				F02M63/00E2B; F02M63/00E4C; F02M63/00E4D	
2	ΑΤ		Application Nº AT05425384 (AT20050425384T) - 27 May 2005		Application number	er: EP20040425475 20040630			
3	ΑΤ		Application Nº AT05425383 (AT20050425383T) - 27 May 2005		Priority number(s)	EP2004042	25475	2004	0630
4	DE		Application N° DE602004004254 (DE200460004254T) - 30 June 2004		Abstract of EP 1		1)		
5	DE		Application N° DE602005000662 (DE200560000662T) - 27 May 2005		A control servo valve combustion engine fu chamber (13) commu	el inje	Hide	<u>C</u> CD	Double
6	DE		Application Nº DE602005003175 (DE200560003175T) - 27 May		outlet passage (22), a the actuator (9) betw	een a	/iew		
7	FP		2005		close and open the ou the servo valve (8) al		d view	Sort	by country Filter (1
'	EP		Application Nº EP05425384 (EP20050425384) - 27 May 2005 National Search Report		the actuator (9) and the outlet passage (2)		сс	Cat.	Citation details
					(30) of the axial rod (and the shutter (35)	29) 7	EP		Application N
Simple	e famili	es: 5	Total family members: 23		outer lateral surface (ES		Application N
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Expan	t view Sor	rt by country Filter (1) - Classifications & fields searched	Bibliographic data: EP 1612403 (A1)				
#	CC Cat	t. Citation details Claims	Servo valve for controlling an internal combustion				
7	EP	Application Nº EP05425384 (EP20050425384) - 27 May 2005	engine fuel injector				
8	ES	Application N° ES04425475 (ES20040425475T) - 30 June 2004	Abstract of EP 1612403 (A1)				
	ES	Application Nº ES05425384 (ES20050425384T) - 27 May 2005	A control servo valve (8) is housed inside the casing of an internal combustion engine fuel injector (1), and has an actuator (9), a control				
5 10	JP	Application Nº JP2005192051 (JP20050192051) - 30 June 2005	chamber (13) communicating with a fuel inlet (5) and with a fuel				
11	JP	Application Nº JP2005118446 (JP20050118446) - 15 April 2005	outlet passage (22), and a shutter (35) movable along an axis (3) by the actuator (9) between a closed position and an open position to				
12	US	Application Nº US11112772 (US20050112772) - 21 April 2005	close and open the outlet passage (22) respectively the servo valve (8) also has a fixed axial rod (29) interposed between				
13	US	Application Nº US11741474 (US20070741474) - 27 April 2007	the actuator (9) and the control chamber (13) the outlet passage (22) comes out through an outer lateral surface				
14	US	Application Nº US11171659 (US20050171659) - 30 June 2005	(30) of the axial rod (29) and the shutter (35) is defined by a sleeve which slides axially on the				
15	EP	Application Nº EP05425383 (EP20050425383) - 27 May 2005	outer lateral surface (30), and, in the closed position, closes the outlet passage (22) so as to be subjected to a zero axial resultant force by				
16	JP	Application Nº JP2005191978 (JP20050191978) - 30 June 2005	the pressure of the fuel.				
17	US	Application Nº US11171658 (US20050171658) - 30 June 2005					
18	ΑΤ	Application Nº AT06114551 (AT20060114551T) - 25 May 2006	Bibliographic data: EP 1612403 (B1)				
, 19	CN	Application N° CNA2006101639681 (CN20061163968) - 24 November 2006					
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22	JP	Application Nº JP2006147852 (JP20060147852) - 29 May 2006					
	families: 5	Application NO IIS11441641 (US20060441641) 26 May 2006 5 Total family members: 23	-				

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Quick help	Inventor: SHAN HANBIN [CN] YUAN ZHEDONG [CN]	Applicant: SERVIER LAB [FR] SHAN HANBIN [CN] (+5)	CPC: A61K31/165 C07C233/18	Citations: CN101481321 A CN101585779 A	Publicatio WO201111 2011-09-2:	far	nily i	n new	window	
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star icon? → What is a patent family? → What happens if I tick the "show citations" box? → What is an INPADOC patent family? → Are all the documents in an	★ Inventor: ZHANG PENG [CN] ZHU XUEYAN [CN] (+1)	Applicant: SERVIER LAB [FR]	CPC: A61K31/165 C07C233/18	Citations:	Publication in AP3199 (A) 2015-03-31		Priority date: 2010-03-17			
INPADOC family equivalents?	3. Agomelatine hyd	robromide hydrate and prepar	ation thereof							
→ Why is the same document published several times in the same country?	Inventor: SHAN HANBIN YUAN ZHEDONG (+4)	Applicant: SERVIER LAB	CPC: <u>A61K31/165</u> <u>C07C233/18</u>	Citations: US2011313198 A1	Publication in AU2011229619 2012-09-27 AU2011229619 2014-05-22	9 (A1)	Priority date: 2010-03-17			
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	Inventor: SHAN HANBIN [CN] YUAN ZHEDONG [CN] (+4)	Applicant: SERVIER LAB [FR]	CPC: A61K31/165 C07C233/18	Citations:	Publication in CA2792430 (A 2011-09-22 CA2792430 (C 2015-12-08	A1) :	Priority date: 2010-03-17		WIPO WORLD INTELLECTUAL PI ORGANIZATION	ROPERTY

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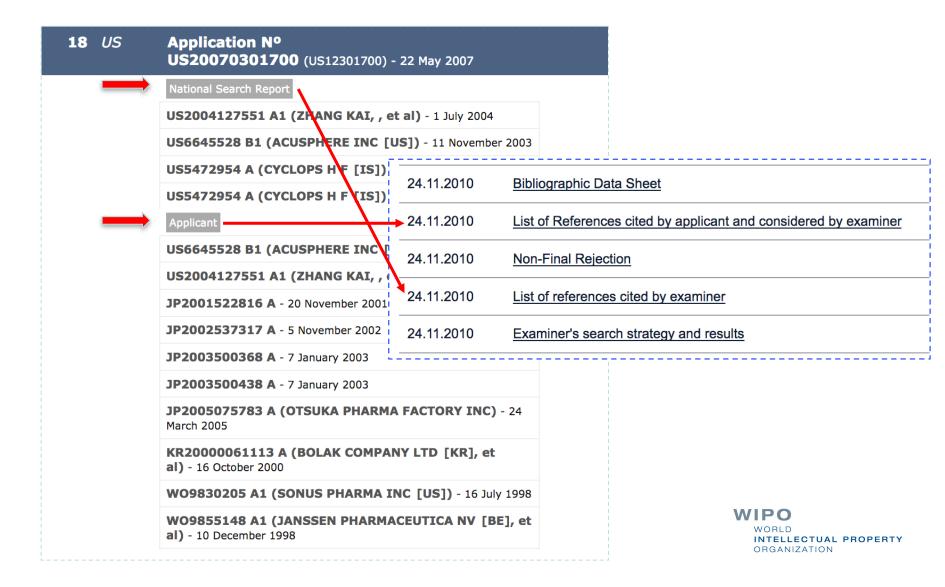
Number: US6565803 Search examples: EP1612402, US2006000447A1, JP20090214944	
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5	JР		Application Nº JP20050120087 (JP2005120087) - 18 April 2005		[56] References Cited communicates with the pump
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lutz.mailander@wipo.int

