

Topic 6: Retrieval and Comparison of Prior Art Citations

Lutz Mailänder

Head, International Cooperation on Examination and Training Section

Cybercity October 21, 2021

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)

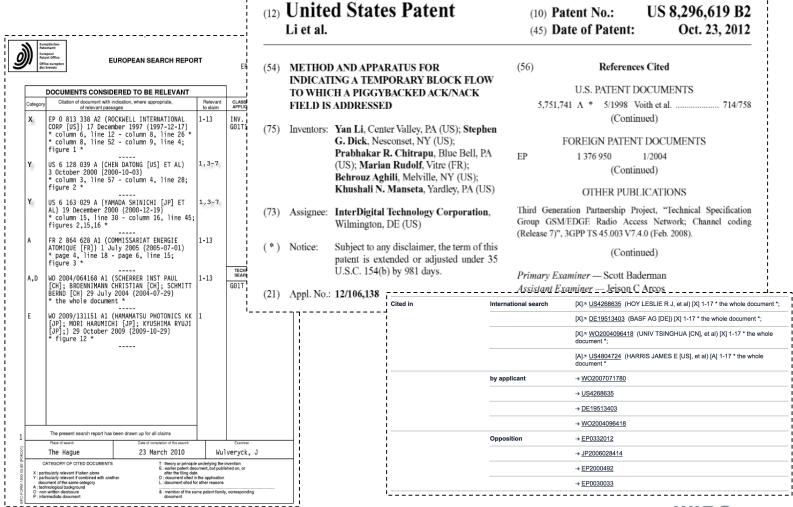


Foreign Citations for Work-Sharing

- Useful for assessing novelty/obviousness
 - Limited expertise in search (search skills)
 - Limited access to professional or specialized databases
 - Limited time
- Useful for selecting foreign claims sets already granted
 - Claim sets granted in jurisdictions where additional substantial prior art was considered may be more trust worthy
 - Additional prior art may convince applicant to accept claim proposals
- Need to be checked prior to grant decision
 - If additional relevant prior art was found in other jurisdictions you need to consider it before granting
 - Should be applied even when bilateral work-sharing agreements like PPH, Validation, Reinforced Cooperation or Parallel Patent Grant Initiative are in place



Samples of prior art citations



INTELLECTUAL PROPERTY ORGANIZATION

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!)



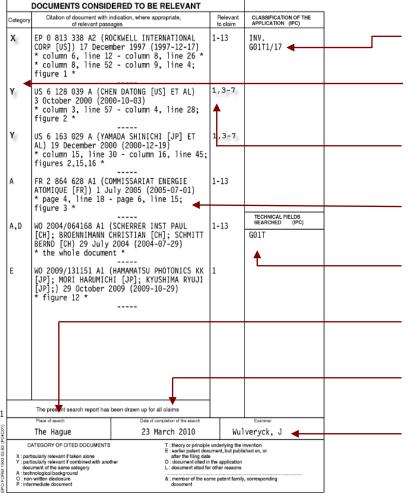
ISR

- 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



EUROPEAN SEARCH REPORT EP 09 16 8955 ← Application number Application number



International Patent Classification

Category X, Y, A, etc.

Relevant to Claim ...

Cited documents

Technical Fields Searched

Searching Authority

Date of Completion of the Search

Examiner

WIPO
WORLD
INTELLECTUAL PROPERTY
ORGANIZATION

Categories of citations

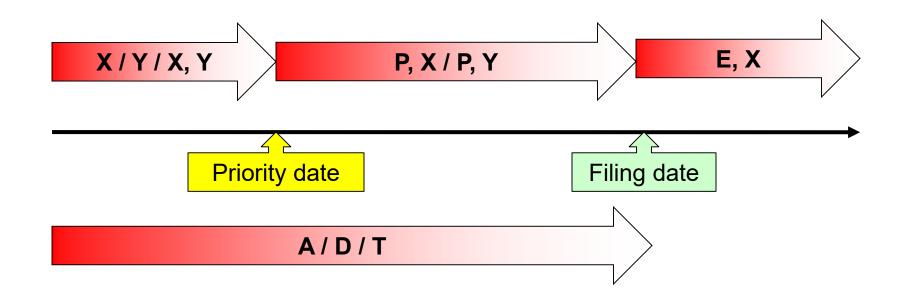
- X particularly relevant if taken alone (novelty)
- Y particularly relevant if combined with another document of the same category (inventive step)
- A technological background
- O non written disclosure
- P intermediate document, i.e. published between the earliest priority date and the filing date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

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	Application/C 11/689,638	Examiner		Applicant(s)/Patent Under Reexamination COX ET AL.	
		Notice of neterence	s chea	Examiner REGINA YOU			Page 1 of 1	
				U.S. PATENT DOCUME		1773		
*		Document Number Country Code-Number-Kind Gode	Date MM-YYYY		Marme		Classification	
*	Α	US-4,662,516 A	05-1987	Baker et al.			206/363	
*	В	US-5,003,892 A	04-1991	Bricken, Jonathan			110/346	
	С	US-			119 503	rch re	ports are	
	D	US-					•	
	Ε	US-			_ not en	riched	d , i.e. no X, `	
	F	US-					· ·	
	G	US-			$\overline{}$ A; no re	eieren	ices to	
	Н	US-			claims	no re	ferences to	
	-	US-						
	J	US-			pages,	lines,	drawings,	
	K .	US-						
	L	US-						
	IM	100		FOREIGN PATENT DOCU	IMENTS			
*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name		Classification	
-								

US-PAIR: prior art in image file wrapper

"Image File Wrapper" contains search and examination reports



US-



US-PAIR: prior art tab

_11/689,638	Heat Processing Systems,	Apparatuses, and Methods for Co. ion and Disposal of Infectious and M	edical Waste					
Select Application Transaction Image File Continuity Published Address & Display New Case Data History Wrapper Data Documents Attorney/Agent References								
Reference Forms	Reference Forms							
Mail Room Date 🗘 Document Code 📢 Document Description 📢								
02-24-2011	892	List of references cited by examiner						
09-16-2010	1449	List of References cited by applicant and considered by examiner						
08-16-2010	08-16-2010 IDS <u>Information Disclosure Statement (IDS) Form (SB08)</u>							
06-23-2009	6-23-2009 892 <u>List of references cited by examiner</u>							
06-23-2009	06-23-2009 1449 <u>List of References cited by splicant and considered by examiner</u>							
09-12-2007 IDS <u>Information Disclosure Statems</u> (IDS) Form (SB08)								
Foreign Patent an	d Non-Patent Docum	\$						
Mail Room Date 👫 🕡 Document Description 👫								
08-16-2010	NPL /	Non Patent Literature						
08-16-2 <u>010</u>	NPL	Non Patent Literature						
08-16- List of re	ferences cited by	Non Patent Literature List of references cit	ted by					
108-16-1	•	Non Patent Literature	icd by					
09-12-	applicant	Foreign Reference examiner						
09-12-2007	FOR	Foreign Reference						
09-12-2007	FOR	Foreign Reference						

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 under 35 U.S.C. 102(b) as being anticipated by Tibor (Tibor) (US Pub. No. 2004/0234117).

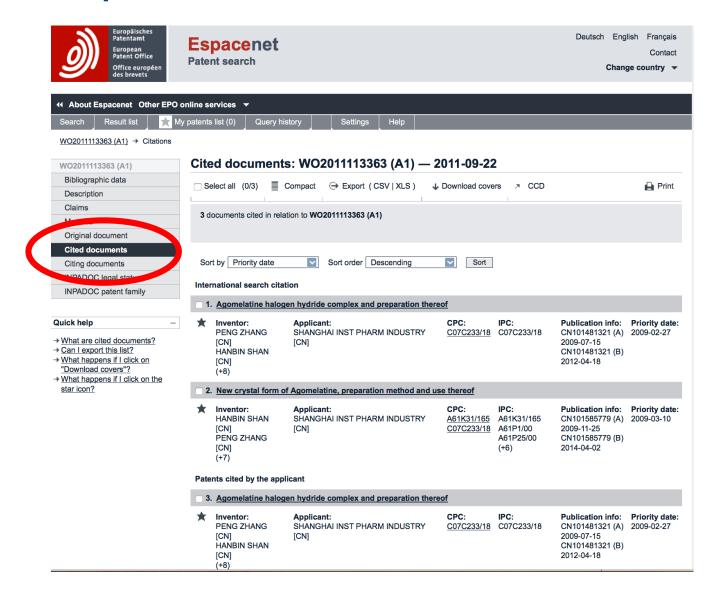
As per claim 1 Tibor discloses:

A secure universal transaction system, comprising: an operation ource component, including a first biometric security component, a second security component, (page 1) 33, the central system 12 can be remotely located from the electronic transaction station to as the electronic transaction station, e.g., an in-store central processor at 1 Claims 1, 8-10,... not novel in view of US2004023117A1'

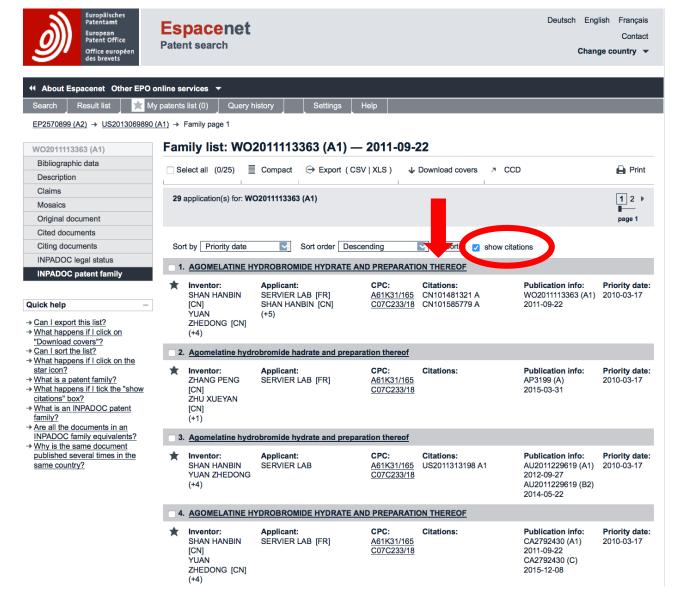
US search reports in Global Dossier

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

Espacenet: Backward Citations



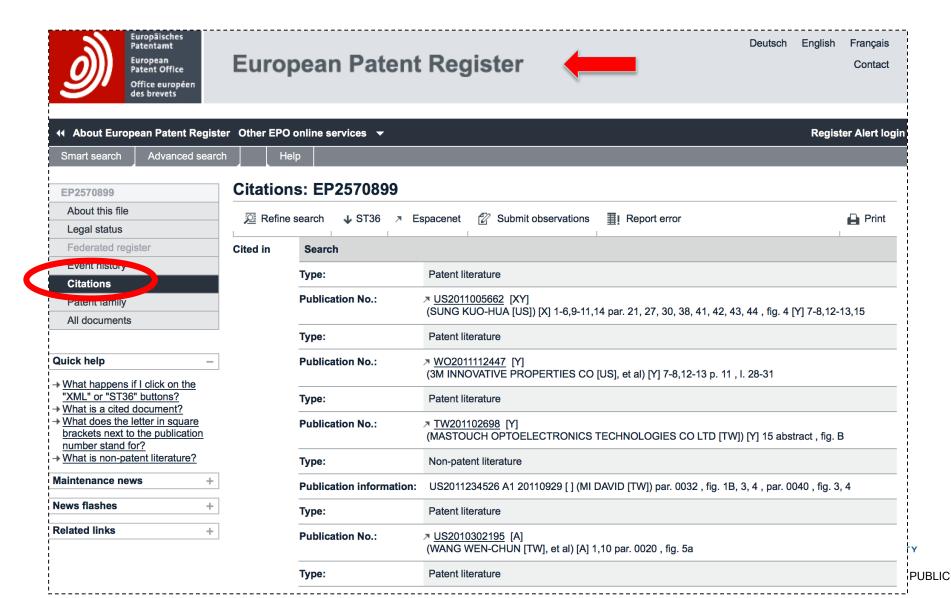
Citations in Inpadoc family list



WIPO
WORLD
INTELLECTUAL PROPERTY
ORGANIZATION

WIPO PUBLIC

Citations (enriched) in EP-Register - 1



WIPO PUBLIC

Citations (enriched) in EP-Register – 2

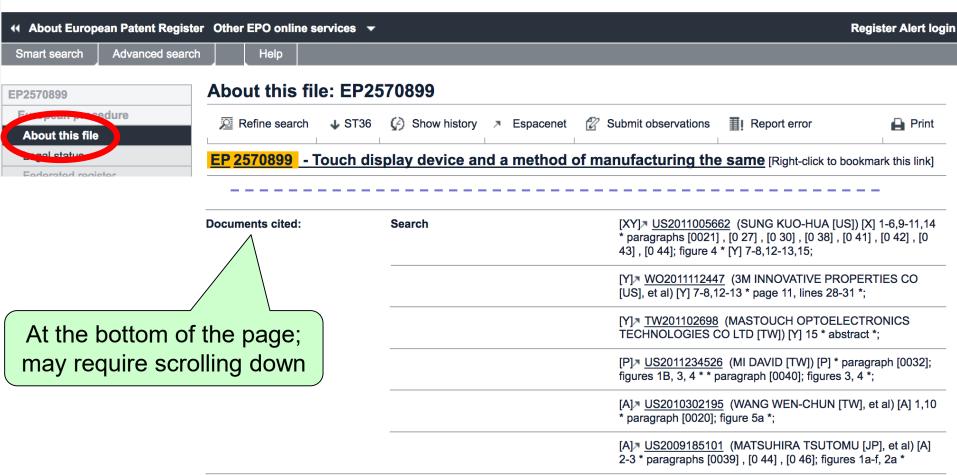


European Patent Register

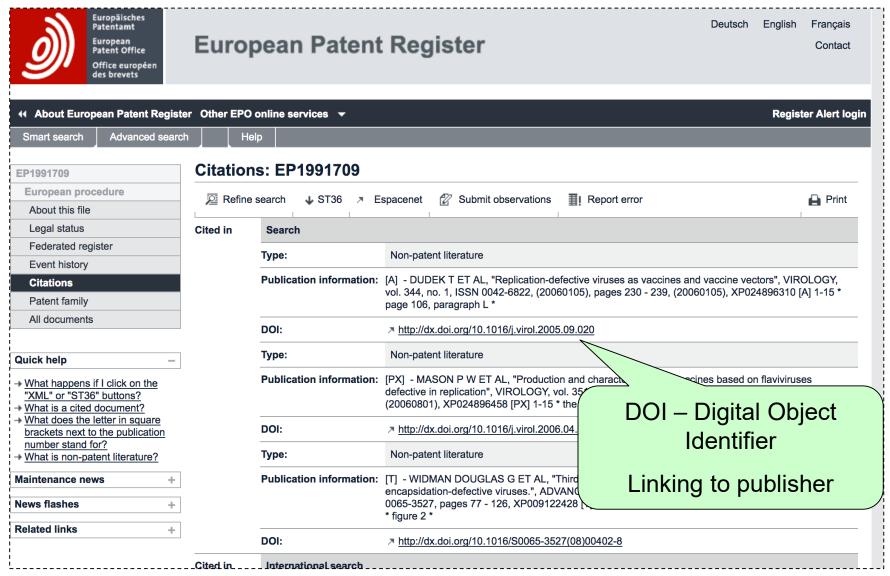


Deutsch English Français

Contact



NON-PL Citations in EP-Register



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] WO2004096418 (UNIV TSINGHUA [CN], et al) [X] 1-17 * the whole document *;				
		[A] US4804724 (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>				

Citations on front pages of grant publications

Patent literature

References cited: GB-A- 2 131 952

282

THE MARCONI REVIEW, vol. XLIII, no. 218, 1980, pages 156-175, Rugby, GB; R.M. LANG-DON: "Vibratory process control transducers"

IEEE TRANSACTIONS ON INSTRUMENTA-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, pages 67-75, Research Triangle Park, NC, US; B.W. BALLS: "A new on-line density meter for viscous liquids and slurries" raililiaili oulley(GD)

 Representative: Stoole, Brian David et al Schlumberger Electronics (U.K.) Limited 124 Victoria Road
 Farnborough Hampshire GU14 7PW (GB)

Non patent literature

European Patent Office
Office europelen des brevets

© Publication number: 0 282 251 B1

EUROPEAN PATENT SPECIFICATION

© Date of publication of patent specification: 17,0232 © bt. 0.1 GOTN 900, GOTN 11/16

© Application number: 83098972

© Date of English State of Specification: 17,0232 0 bt. 0.1 GOTN 900, GOTN 11/16

Public State of publication of application: 14,0232 0 bt. 0.1 GOTN 900, GOTN 11/16

Proving: 11,023,7 GB ETICEST?

© Date of English State of Specification: 14,0232 0 bt. 0.1 GOTN 900, GOTN 11/16

Proving: 11,023,7 GB ETICEST?

© Date of publication of the specific 11,0232 0 bt. 0.1 GOTN 900, GOTN 11/16

Proving: 11,023,7 GB ETICEST?

© Publication of the specific 11,0232 0 bt. 0.1 GOTN 900, GOTN 11/16

Proving: 11,023,7 GB ETICEST?

© Publication of the specific 11,0232 0 bt. 0.1 GOTN 900, GOTN 11/16

© Proving: 11,023,7 GB ETICEST?

**Object State of Specific 11,0232 0 bt. 0.1 GOTN 900, GOTN 11/16

**Object State of Specific 11,0232 0 bt. 0.1 GOTN 900, GOTN 11/16

**Object State of Specific 11,0232 0 bt. 0.1 GOTN 900, GOTN 11/16

**Object State of Specific 11,0232 0 bt. 0.1 GOTN 900, GOTN 11/16

**Object State of Specific 11,0232 0 bt. 0.1 GOTN 900, GOTN 11/16

**Object State of Specific 11,0232 0 bt. 0.1 GOTN 900, GOTN 11/16

**Object State of Specific 11,0232 0 bt. 0.1 GOTN 900, GOTN 11/16

**Object State of Specific 11,0232 0 bt. 0.1 GOTN 900, GOTN 11/16

**Object State of Specific 11,0232 0 bt. 0.1 GOTN 900, GOTN 11/16

**Object State of Specific 11,0232 0 bt. 0.1 GOTN 11/16

**Object State of Specific 11,0232 0 bt. 0.1 GOTN 11/16

**Object State of Specific 11,0232 0 bt. 0.1 GOTN 11/16

**Object State of Specific 11,0232 0 bt. 0.1 GOTN 11/16

**Object State of Specific 11,0232 0 bt. 0.1 GOTN 11/16

**Object State of Specific 11,0232 0 bt. 0.1 GOTN 11/16

**Object State of Specific 11,0232 0 bt. 0.1 GOTN 11/16

**Object State of Specific 11,0232 0 bt. 0.1 GOTN 11/16

**Object State of Specific 11,0232 0 bt. 0.1 GOTN 11/16

**Object State of Specific 11,0232 0 bt. 0.1 GOTN 11/16

**Object St

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).

WORLD

INTELLECTUAL PROPERTY ORGANIZATION

WIPO PUBLIC

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

		Appli	cant's or agent's file refo 16F	erence F064-PCT		
		Interr	· · · · · · · · · · · · · · · · · · ·			al filing date (day/month/year)
				P2016/071237		20 Jul 2016 (20/07/2016)
		Appli	Applicant (EN) HIROSHIMA UI			RSITY (+1)
		Third	party observation subm	nitted by nonymous	Observation	n submitted on behalf of
		Date	of submission(day/mon	,	Language of	of observation
Sitation # 1/Periodica	ıl article) (# uploaded do	CIIM-	17 Jun 20)17 (17/06/2017)		Japanese
Author:	Title of article:	Title of Perio		Publication Date:	¬ ;	
Tae Sub Park	Targeted gene		atl Acad Sci U	02 Sep 2014 (02/09/		
rae bab rark	knockout in	S A.	All Fiedd Bei C	2014)		
	chickens mediated	SA.		2014)		
	by TALENs					
ssue Number of Periodical:	Publisher of Periodical:		Place of publica	tion:		
111			Place of publication:			Reference
Page range of article within periodical:			ISSN:			
2716–12721					」	
DOI:						
Most relevant passages or draw	wings:		Relevant to	Claims:	\exists	
p12719 Discussion		1-2, 4-17			Explanation	
Brief explanation of relevance:			'		77	
Discussionには、TAI	ENsのゲノム編集技術を用い	て、アレルギ	一の原因であるc	vomusiaをノックアウト		
した卵作成が可能であ						
	ISPR-Casゲノム編集技術で鶏					WIPO
いつく(進歩性の否定)。						WORLD Intellectual proper
					─ !	ORGANIZATION

Backward and forward citations

- Patents
 - can cite other patents as prior art (backward citations)
 - can be cited by other patents (forward citations)

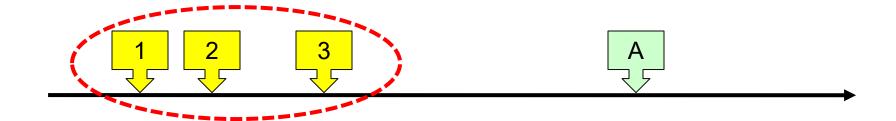


Backward and forward citations

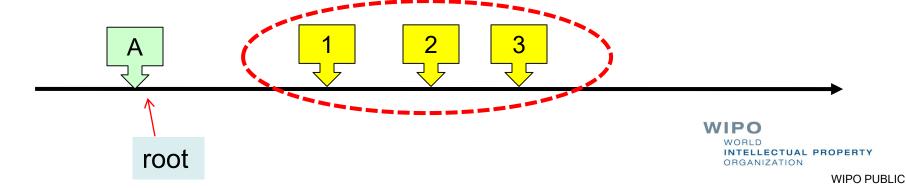
For any publication A:

Time dimension

Publications cited in A → Backward citations of A

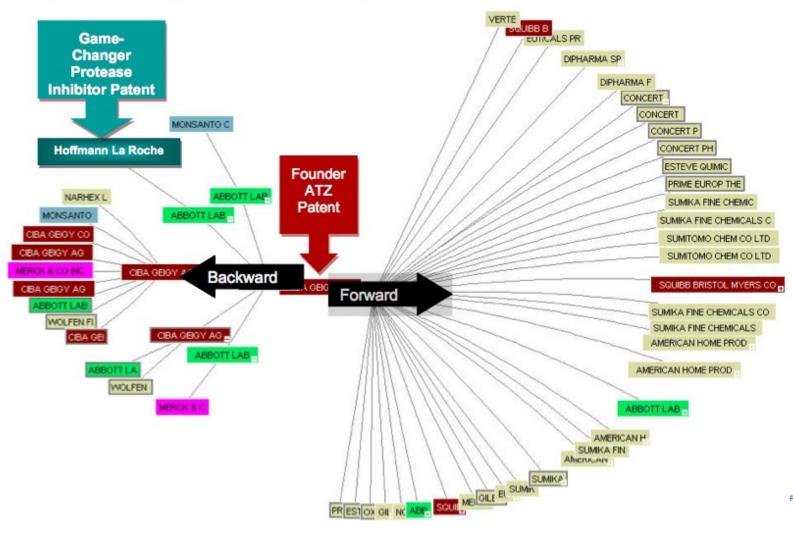


Publications citing A → Forward citations of A

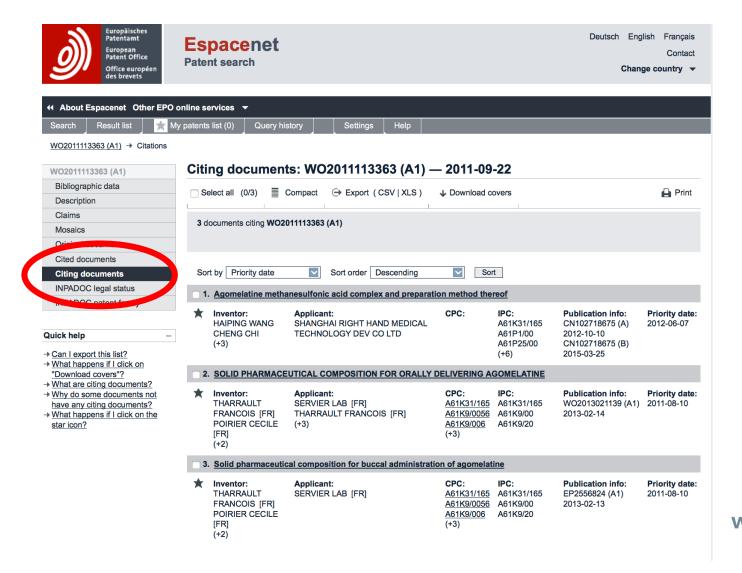


Atazanavir – citation map

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



Espacenet: Forward Citations



Google patents: Forward Citations

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

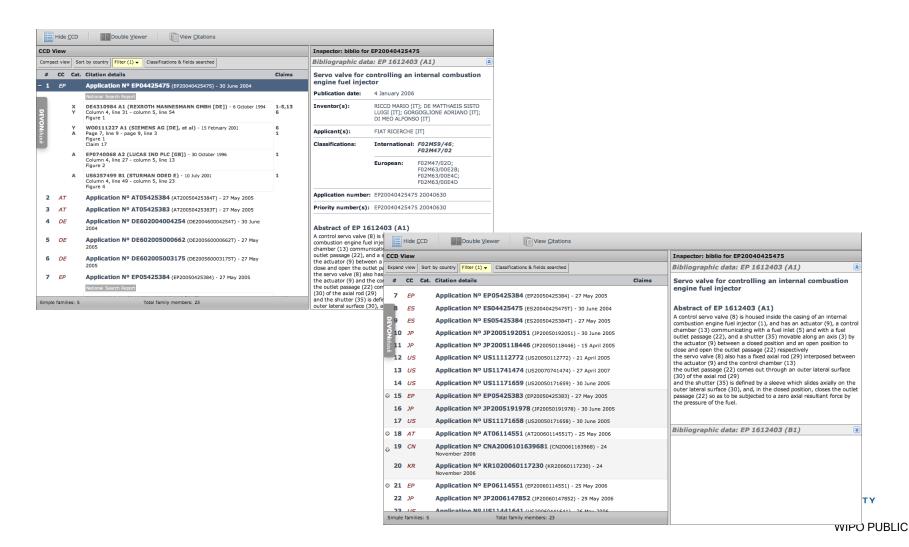
Info: Patent citations (2), Non-patent citations (1), Cited by (4), Also published as (16), Legal events, Similar documents

External links: Espacenet, Global Dossier,

PatentScope, Discuss

Common Citation Document (CCD)

http://ccd.fiveipoffices.org/CCD-2.1.6/



Common Citation Document (CCD)

- CCD originated from a request of the US commercial sector to have a one-stop-shop for citations of prior art identified by different IPOs for members of the patent family
 - To avoid researching individual national phases
 - Facilitate comparing prior art searches
 - Facilitate identification of prior art seen only by one examiner, or prior art not included in the ISR
 - Provide public access to trilateral offices' internal resources
 - Trilateral and other offices had established mechanisms for non public exchange of prior art search reports
- CCD has been developed and is hosted by the EPO
- Access via link in Inpadoc family list of Espacenet or at
- http://ccd.fiveipoffices.org/CCD-2.1.6/

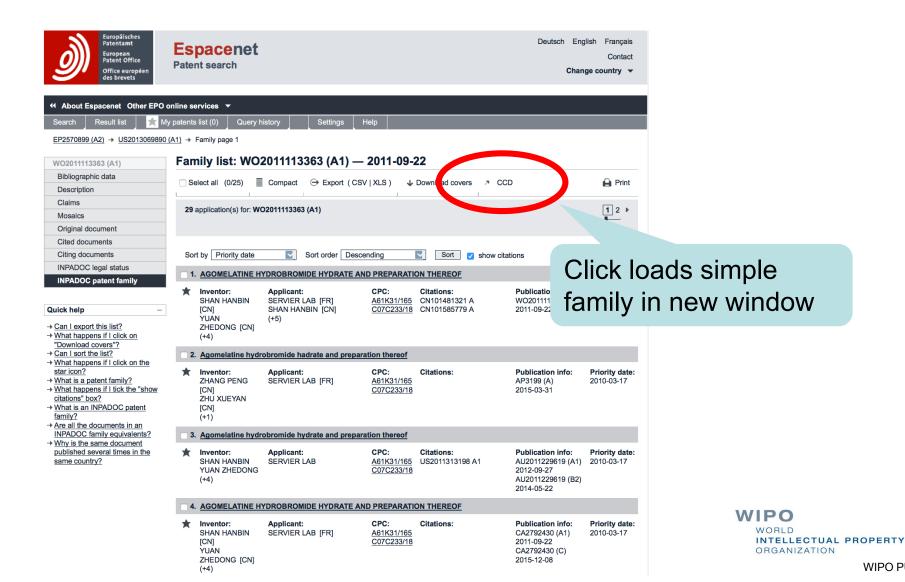


Common Citation Document (CCD)

- CCD offers consolidated access to family information and citation data from EPO, KIPO, JPO, SIPO, USPTO, PCT and several other jurisdictions for each respective family member where available.
- CCD builds on the EPO's family system:
 - Family information is equivalent to that presented in Espacenet
 - CCD presents family data in a different way: members of the extended family are ordered/sorted into simple families
- CCD permits comparing of search reports; namely, if a selected citation was seen by only one, several or all examiners (appears in one, several or all available search reports)
- CCD permits viewing of cited patent documents per family member in PDF and html
- No examination reports included yet

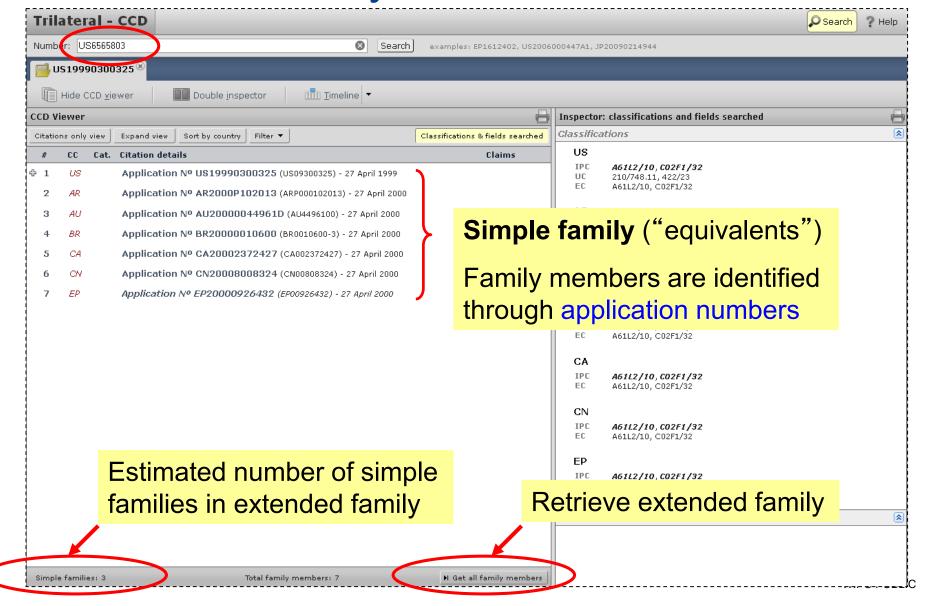


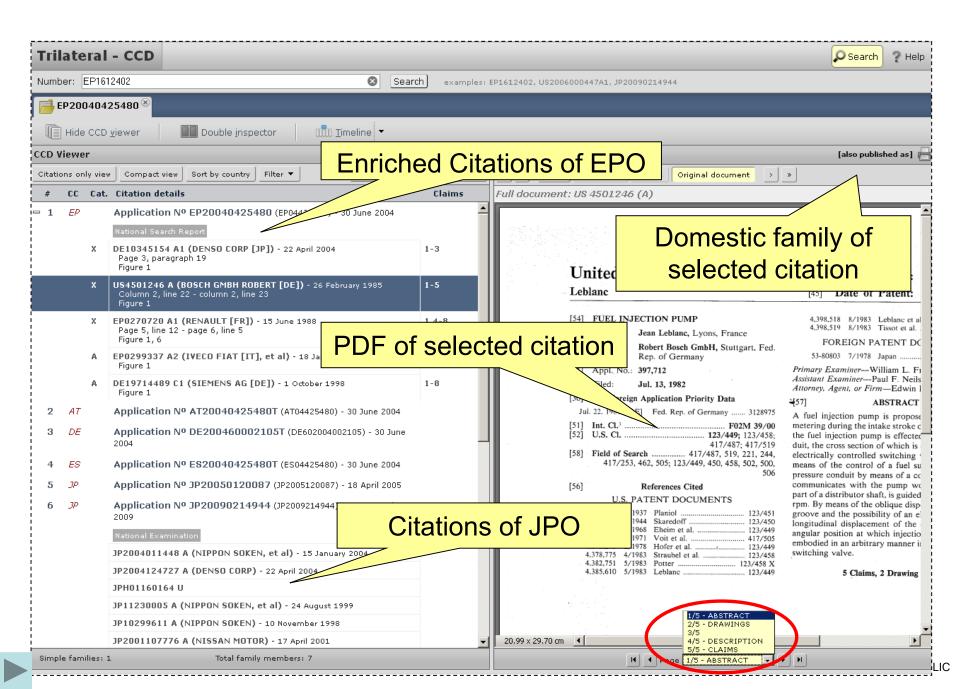
CCD: Access via Inpadoc family list



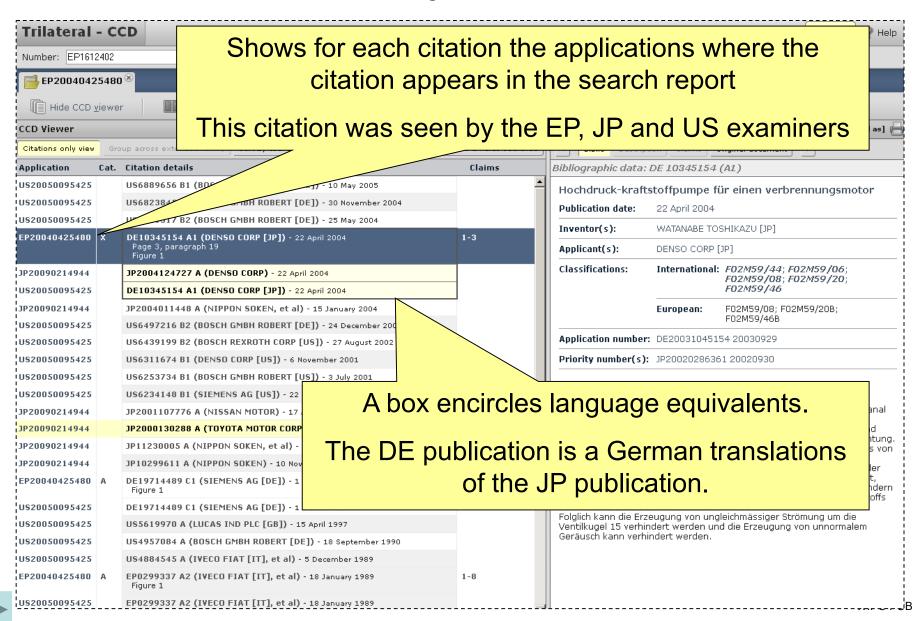
WIPO PUBLIC

Sources of family information: CCD

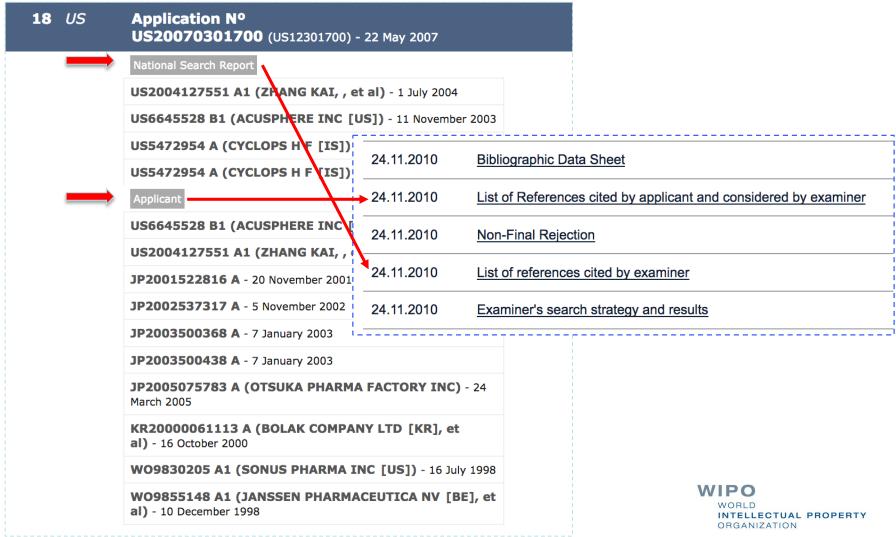




CCD – citations only view



US citations in CCD



Citations Database: Top 10 Main offices of origin

Country	First publication date	Number of citing publications	Number of cited patents	Number of cited non-patents
UNITED STATES OF AMERICA	04-02-1947	11 425 603	167 530 941	27 200 065
JAPAN	09-11-1965	5 071 602	19 816 033	453 775
WIPO	19-10-1978	3 294 659	16 312 310	4 346 752
CHINA	02-06-2010	2 924 018	14 126 563	1 705 684
EUROPEAN PATENT OFFICE	20-12-1978	2 592 831	10 235 245	3 335 114
GERMANY	18-09-1943	1 819 664	6 894 561	755 340
KOREA	07-01-2006	906 244	2 766 266	80 953
FRANCE	29-08-1969	666 441	2 497 330	306 360
GREAT BRITAIN	04-01-1979	573 139	2 315 470	104 202
AUSTRALIA	18-03-1971	388 841	987 570	84 435

WIPO
WORLD
INTELLECTUAL PROPERTY

ORGANIZATION

European Patent Office WijPO PUBLIC

Overview: Access options to citations of EP applications via EPO databases

- Publication of search report EP-A1/3
- Front page of grant publication EP-B1
- Espacenet: page 'Inpadoc family' (tick citations option)
- Espacenet: page 'Cited documents'
- EP-Register: bottom of page 'About this file'
- EP-Register: page 'citations'
- CCD
- ...[other database providers]



Thank you

lutz.mailander@wipo.int