

CAPLUSSM/HCAplus/ZCAPLUS (Chemical Abstracts Plus)



Subject Coverage	- Analytical chemistry - Applied chemistry - Biochemistry - Chemical engineering - Macromolecular chemistry - Organic chemistry			
File Type	Bibliographic			
Features	Thesauri Classification Code (/CC), Company Name (/CO), Controlled Term (/CT), Cooperative Patent Classification (CPC), European Patent Classification (/ECLA), F-Term (/FTERM), ICO (in-computer-only) Classification (/ICO), International Patent Classifications (/IPC), National Patent Classifications Current (/NCL), National Patent Classifications Issue (/INCL), and Role (/RL) Daily (Monday-Friday), weekly (default), biweekly Alerts (SDIs) CAS Registry Number® Identifiers Keep & Share ☒ Page Images ☒ SLART Learning Database ☐ Structures Interactive Claims Viewer ☒ Register Links			
Record Content	- Bibliographic information, indexing, and available abstracts - Claims from the following patent authorities: AM (2015-), AU (2000-), BR (2000-), CH (1975-), CN (1985-), CZ (1993-), DE (1997-), EA (1997-), EE (2000-), EP(1979-), ES (1990-), GB (1973 -), IN (2007-), JP (1983-), KR (1999-), RU (1994-), TW (2000-), US(1906-), WO (1979-) - Substance in Claim (SCLM) role indicator for substances from select patent offices (CN, DE, EP, FR, GB, IN, JP, KR, US, and WO) - Patent Status Indicator information for patents and utility models - Legal status information for U.S. patents since 1980 - Patent classifications: IPC, CPC, ECLA, ICO, NCL and FTERM - Cited references for journals, conference proceedings, and basic patents from the U.S., EPO, WIPO, and German patent offices added to CAS databases since 1997 - Patent examiner citations from British and French patents (2003-present), Canadian patents (2005-present), Japanese patents (2011-present), as well as nearly 300,000 patent records from 1982-2008 - PatentPak-specific PDF links and substance page links featuring claim tagged locations (when available) for select patent offices (CN, DE, EP, FR, GB, IN, JP, KR, US, and WO) - Citing references			
File Size	More than 64.9 million records (09/2025)			
Coverage	1907-present plus more than 180,000 pre-1907 records			
Updates	Daily updates (average of over 8,000 records)			
Language	English			

**Database
Producer**

CAS
2540 Olentangy River Road
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Phone: 800-753-4227 (North America)
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Sources

Journals: Thousands of journals are monitored. All articles, including biographical items, book reviews, editorials, errata, letters to the editor, news announcements, product reviews, meeting abstracts, and miscellaneous items, from nearly 1500 key chemical journals covered since 1994. Bibliographic information and available abstracts for the articles from key journals are added within 1 week of journal receipt. New bibliographic records are added daily.

- Patents
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User Aids

- Training materials are available on the CAS website at www.cas.org
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Clusters

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**Related
Databases**

- CA
- LCA

Search and Display Field Codes

Fields that allow left truncation are indicated by an asterisk (*). The minimum stem length for left truncation is three (3) characters.

General Search Fields

Search Field Name	Search Code	Search Examples	Display Codes
Basic Index * (contains single words from title (TI), supplementary term (ST), index term (IT), and abstract (AB) fields, as well as CAS Registry Numbers)	None (or /BI or /IA)	S 50-21-5 S TRANSGENIC COTTON S ?FLUOROCARBON? S (WATER(S)OIL)/BI	AB, IT, ST, TI
Basic Index plus Claims *	/BI,BIEX or /BI,CLM	S ALLOPURINOL/BI,BIEX S TRANSGENIC/BI,CLM(W)COTTON/BI,CLM	BIB CLM ALL CLM
Abstract *	/AB	S (WATER(1W)OIL)/AB S LD50/AB S HIGH TEMP?/AB S (HIV(S)TREAT?)/AB	AB
Accession Number Author (inventor)	/AN /AU	S 1966:508061/AN S LEHNINGER A?/AU S (DUCHEYNE P?(S)EDITOR#)/AU S ANON/AU	AN, DN AU, IN
CA Section Cross Reference (number and title) (1,2)	/SX	S 1/SX S ANALYTICAL/SX S RADIATION CHEMISTRY/SX	CC
Classification Code (contains CA section-subsection number, if available, section title, and section group codes) (2,3c)	/CC (or /SC)	S 1/CC S 80-6/CC S RADIATION CHEMISTRY/CC S L1 AND BIO/CC	CC
Classification Code Section Descriptor (2)	/CCN (or /SCN)	S TOXICOLOGY/SCN S RADIATION CHEMISTRY/CCN	SCN, CCN
Company Name (3c)	/CO	E DOW CHEMICAL/CO	CO, CS, PA
Controlled Term (3c,4)	/CT	S ANTITUMOR AGENTS/CT	CT, IT
Controlled Word (4)	/CW	S OPTIC?/CW	CT, IT
Corporate Source (organization name, patent assignee) (2)	/CS	S DOW/CS S DOW CHEM MIDLAND/CS S "DOW CORNING"?/CS	CS, PA
Country of Author	/CYA	S USA/CYA	CS, CYA, PA
Digital Object Identifier	/DOI (or /FTDOI)	S 10.1101?/DOI	DOI, FTDOI
Document Number	/DN	S 41:39650/DN	DN
Document Type (code and text)	/DT (or /TC)	S P/DT S PATENT/DT S NEWS ANNOUNCEMENT/DT	DT
Entry Date (5)	/ED	S ED>20060211 S ED>FEB 11, 2006	ED
Field Availability File Segment	/FA /FS	S L1 AND ABS/FA S L1 NOT NONINDEXED/FS S NOSECTION/FS	Not displayed FS
Index Term * (6) International Standard(Document) Number (contains CODEN, ISBN, and ISSN) (7)	/IT /ISN	S 75-28-5(2W)CRACKING OF/IT S JOCRAM/ISN S 0021-9673/ISN	IT ISN, SO

General Search Fields (cont'd)

Search Field Name	Search Code	Search Examples	Display Codes
Issue Number of Publication (5,8) Journal Title	/IS /JT	S 1-3/IS and 30/ML S J CHROMA TOGR/JT S COMPT REND?/JT	SO JT, SO
Journal Title Keyword Language (code and text) (9)	/JTW /LA	S NANO/JTW S L1 AND EN/LA or S L1 AND ENGLISH/LA S L1 NOT DE/LA	SO LA
Original Reference Number (10) Other Sources (1) Publication Date (5)	/OREF /OS /PD	S 63:5967A/OREF S L1 and MARPAT/OS S PD>20010400 S JUNE 1992-SEPT 1993/PD	OREF OS PI, SO
Publication Year (5) Publisher (2) Publisher Item Identifier (1) CAS Registry Number (CAS RN) (12)	/PY /PB /PUI /RN	S 1947-1949/PY S ACADEMIC/PB S "S 0014-5793(96)01227-6"/PUI S 50-78-2/RN S 50-78-2D/RN S 50-78-2DP/RN S 50-78-2P/RN S 50-00?/RNSAR	PI, PY, SO PB PUI RN
CAS Registry Number from CASBIOACTIVITY (RNBIO), ADME (RNADME), SAR (RNSAR) and TOX (RNTOX), collections Role (1,3)	/RNBIO or /RNADME, /RNSAR, /RNTOX /RL	 S 99685-96-8(L)SPN/RL S 99685-96-8/SPN S FULLERENES(L)SPN/RL S FULLERENES/SPN S INORG CHEM/SO S JOCRAM/SO S 0021-9673/SO S AM CERAM SOC/SO S 1992/SO S ACS ASAP/SO S IP COM JOURNAL/SO S LIVER METAB?/ST S LIVER/TI S SPIN SPIN/TI S (METABOLISME(S)VEGETAUX)/TI S "HTTP://WWW.BIOSCIENCE.ORG/BIOSCIENCE/1996/V1/D/CHINTALL/HTMLS/324-339.HTM"/URL	Not displayed IT, RL
Source (contains publication title, date, publisher, conference title, meeting date, volume, issue, pagination, CODEN, ISBN, ISSN, URL, and access to prepublication articles in ACS journals) (7,11) Supplementary Term * (1) Title *	/SO /ST /TI	 S LIVER METAB?/ST S LIVER/TI S SPIN SPIN/TI S (METABOLISME(S)VEGETAUX)/TI S "HTTP://WWW.BIOSCIENCE.ORG/BIOSCIENCE/1996/V1/D/CHINTALL/HTMLS/324-339.HTM"/URL	SO ST TI
Uniform Resource Locator (1)	/URL	S "HTTP://WWW.BIOSCIENCE.ORG/BIOSCIENCE/1996/V1/D/CHINTALL/HTMLS/324-339.HTM"/URL	SO, URL
Update Date (5)	/UP	S L1 AND UP>20060400 S UP>APRIL 1, 2006	Not displayed
Update Date, Addition of Registered Substance (5)	/UPIT	S L2 AND UPIT>20080200	Not displayed
Update Date, CA Abstract Number and Indexing (5)	/UPI	S L1 AND UPI>=200800	Not displayed
Update Date, Maximum (5)	/UPM	S L1 AND UPM>=200803	Not displayed
Volume and Issue of CA Volume Number of Publication (5)	/VI /VL	S 41-17/VI S 105-106/VL AND SCIENCE/JT	DN VL, SO

(1) Content of this field is available for records from 1967 to the present with exception for select role coverage.

(2) Search with implied (S) proximity is available in this field.

(3) (a) PREP role uniquely assigned back to 1907. (b) SCLM role assignment corresponds to PatentPak claim tags coverage. (c) A thesaurus is available in this field.

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(7) ISBNs are included only for records added since December 17, 2001.

(8) Content available only for records from 1963 to the present.

(9) Language is available only for records from 1967 to the present and for some journals prior to 1967.

(10) OREF contains the CA volume number and page location information for abstracts published 1907-1998.

Continued on next page
September 2025

- (11) Searching ACS ASAP/SO gives access to the ACS journal references prior to those articles being published in the printed ACS journals. Starting on July 29, 1998, the bibliographic data and the abstracts for ACS documents are added to CAplus records as soon as they become available on the ACS Publications web site (pubs.acs.org). Once the document receives the volume, issue, and pagination, the record is updated with this bibliographic information in the Source (SO) field and the ACS ASAP notation is removed.
- (12) Search for a non-specific derivative of a substance, a non-specific derivative's preparation, or a preparation by placing a "D", "DP", or "P" following the CAS RN. A non-specific derivative (D) is a compound that is not fully described in the source document. A "P" designation following a CAS RN means that the source document describes preparation of the specific compound. A "DP" denotes the preparation of the non-specific derivative.

Patent Search Fields

Search Field Name	Search Code	Search Examples	Display Codes
Claim * (16)	/CLM or /BIEX	S COBALT (L) SALT#/CLM	CLM
Cooperative Patent Classification (3,14)	/CPC	S C12N0009/CPC	
Cooperative Patent Classification, Action Date	/CPC.ACD	S 20121113/CPC.ACD	CPC.TAB
Cooperative Patent Classification, Combination Sets	/CPC.CS	S (H01L2224-48091 (S) H01L2924-00014)/CPC.CS	CPC.TAB
Cooperative Patent Classification, Keywords (14)	/CPC.KW	S C12N0009/CPC (S) I/CPC.KW	CPC.TAB
Cooperative Patent Classification, Version	/CPC.VER	S 20130101/CPC.VER	CPC.TAB
Cooperative Patent Initial Classification	/CPCI	S A61K0006-0014/CPCI	CPCI
Country Number Count (1)	/CYC (or CY.CNT)	S L1 AND 4-5/CYC	CY.CNT
Designated States (2)	/DS	S FR/DS S R DE/DS S DE/DS.B	DS, PI
Designated States, Basic (2)	/DS.B	S C01B003/ECLA	DS, PI
European Classifications (3)	/ECLA (or /EPC or /EPCLA)	S C01B003/00D2/ECLA	CLASS, ECLA, EPC, EPCLA
European Classification Keywords	/ECLA.KW (or /EPC.KW or /EPCLA.KW)	S A1F1/ECLA.KW	CLASS, ECLA, EPC, EPCLA
Exemplary Claim * (16)	/ECLM	S COBALT (L) MIXTURE/ECLM	ECLM
Extended Basic Index	/BIEX or /CLM	S ALLOPURINOL/BIEX	CLM
Family Accession Number	/FAN	S 1998:98369/FAN	
Family Accession Number Count (1)	/FAN.CNT (or FAM.CNT)	S L1 AND FAN.CNT>1	FAN
F-Terms (Patent Classifications from the Japanese Patent Office) (4)	/FTERM	S 4C002/BB03/FTERM	CLASS, FTERM, FTCLA, JPCLA
ICO (in-computer-only) Classification (3)	(or /FTCLA or /JPCLA)	S 4C002/FTERM	
International Patent Classification, Action Date (1)	/ICO	S K61B0010:00L10/ICO	ECLA, EPC, EPCLA, ICO
International Patent Classification, Additional or Supplementary (2,7)	/IPC.ACD	S 20050101/IPC.ACD	IPC.TAB
International Patent Classification, All (5)	/ICA	S B01J/ICA S B01J027/ICA S CYANOGEN/ICA	ICA, CLASS
International Patent Classification, Basic Patent (6)	/IPC	S A61K/IPC S A61K0031-473/IPC	IPC, CLASS
International Patent Classification, Index or Complementary (2,6)	/IPC.B	S G01N0001-28/IPC.B	IPC.B, CLASS
International Patent Classification, Keywords	/ICI	S A61K/ICI S A61K031/ICI S AMMONIA/ICI	ICI, CLASS
International Patent Classification, Main (2,6)	/IPC.KW	S G01N000128/IPC(S)BASIC/IPC.KW	IPC.TAB
International Patent Classification, Main and Secondary (2,6)	/ICM	S A01N/ICM S A01N025/ICM S AMMONIA/ICM	IC, ICM, CLASS
	/IC	S C07C/IC S C07C015/IC S C07C015-04/IC S CYANOGEN/IC	IC, CLASS

Patent Search Fields (cont'd)

Search Field Name	Search Code	Search Examples	Display Codes
International Patent Classification, Main Group, Range Searchable (1,2,6)	/MGR	S 10-20/MGR(S)C07C/IC	IC, CLASS
International Patent Classification, Secondary (2,6)	/ICS	S C02F/ICS S AMMONIA/ICS	IC, ICS, CLASS
International Patent Classification, Subgroup, Range Searchable (1,2,7)	/SGR	S SGR=>30000(S)C01B031/IC	IC, CLASS
International Patent Classification, Version	/IPC.VER	S 6/IPC.VER	IPC.TAB
International Patent Initial Classification	/IPCI	S H01L0023-29/IPCI	IPCI, CLASS
International Patent Reclassification, Inventor	/IPCR /IN	S C08L0061-00/IPCR S PATTON JERRY R/IN	IPCR, CLASS IN
National Patent Classification, Current (8)	/NCL (or /USNCL or /USCLA)	S 106035000/NCL S 106/035.000/NCL S 433/227-433/229/NCL S ZEOLITES/NCL	NCL, CLASS
National Patent Classification, Issue (9)	/INCL	S 433228000/INCL S 433/227-433/229/INCL S 433/228.000/INCL	INCL, CLASS
National Patent Classification, Issue, Range Searchable (1,8)	/NCLR	S 106020000-106040000/NCLR	NCL, CLASS
Number of Claims (16)	/CLMN	S CLMN>20	CLMN
Patent Application Country, Basic	/AC.B		AI, PI
Patent Application Date (1,10)	/AD	S AD>19920100 S AD>JANUARY 20, 1993	AI, PI
Patent Application Date, Basic (1,10)	/AD.B	S 19970220/AD.B	AI, PI
Patent Application Number (2,11,15)	/AP	S EP83-304630/AP S 83EP-0304630/AP S JP87-10001/AP S 87JP-0010001/AP S US2013-13261341/AP S US2013-261341/AP	AI, PI
Patent Application Number Count	/AP.CNT	S 4/AP.CNT	Not displayed
Patent Application Number, Basic (2,11,15)	/AP.B	S JP87-10001/AP.B	AI, PI
Patent Application Year (1,10)	/AY	S 1990-1992/AY	AI, PI
Patent Application Year, Basic (1,10)	/AY.B	S AY.B>1997	AI, PI
Patent Assignee (12)	/PA	S PFIZER/PA S PFIZER CORP/PA S BADISCHE ANILIN/PA OR BASF/PA	PA
Patent Country	/PC	S WO/PC	PI
Patent Country, Basic	/PC.B	S JP/PC.B	PI
Patent Kind Code (2)	/PK	S DEA1/PK	PI
Patent Kind Code, Basic (2)	/PK.B	S DEA1/PK.B	PI
Patent Number (11)	/PN	S EP536930/PN S EP-536930/PN S WO8402426/PN S IP6243D/PN	PI
Patent Number, Basic (11)	/PN.B	S JP60008341/PN.B	PI
Patent Number Count (1)	/PNC (or PN.CNT)	S 3/PNC	PN.CNT
Patent Number/Kind Code	/PNK	S US20050136407/PNK	PNK
Patent Number/Kind Code of the Basic Patent	/PNK.B	S US20050136407/PNK.B	PNK.B
Patent Status Established Date (1)	/STED	S 20210204/STED	STED
Patent Status Established Year (1)	/STEY	S 2021/STEY	STEY

Patent Search Fields (cont'd)

Search Field Name	Search Code	Search Examples	Display Codes
Patent Status Indicator	/STI or /PSPI	S DEAD/STI S D/PSPI	STI PSPI
Patent Status Indicator Basic	/STI.B or /PSPI.B	S ALIVE/STI.B S A/PSPI.B	PSPI.B
Patent Status Update Date (1)	/STUP	S 20210204/STUP	Not displayed
Patent Status Update Year (1)	/STUY	S 2021/STUY	Not displayed
Priority Application Country	/PRC	S US/PRC	PRAI
Priority Application Country, Basic	/PRC.B	S US/PRC.B	PRAI
Priority Application Date (1,10)	/PRD	S PRD>19910600 S June 20 1991/PRD S PRD.B>19940100	PRAI PRAI
Priority Application Date, Basic (1,10)	/PRD.B		PRAI
Priority Application Number (2,11,13,15)	/PRN	S US91-635890/PRN S 91US-0635890/PRN S IP2002-6243D/PRN S US2013-61686038/PRN S US2013-686038P/PRN S US91-721765/PRN.B	PRAI
Priority Application Number, Basic (2,11,13,15)	/PRN.B		PRAI
Priority Application Year (1,10)	/PRY	S 1990-1992/PRY	PRAI
Priority Application Year, Basic (1,10)	PRY.B	S 1997/PRY.B	PRAI
Publication Date (Patent, Basic) (1)	/PD.B	S 19980109/PD.B	PI
Publication Year (Patent, Basic) (1)	/PY.B	S 2000/PY.B	PI
Ultimate Owner	/UO	S MACRONIX INTERNATIONAL COMPANY LIMITED	UO
Ultimate Owner Standardized Update Date Patent Family (1,2)	/UOS /UPP	S MACRONIX S US5837509/PN AND UPP>19990100	UOS UPP, PI UPP
Update Date, Maximum (contains /UP and /UPP) (1,2)	/UPM	S L1 and UPM>=20040400	

- (1) Numeric search field that may be searched with numeric operators or ranges.
- (2) Content of this field is available only for records starting in 1967.
- (3) A thesaurus is available in this field.
- (4) Content of this field is available only for records from January 2004 to the present. A thesaurus is available in this field.
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- (6) This field contains pre-IPC Reform and post-IPC Reform IPCS for the basic patents.
- (7) This field contains the IPCs only for the basic patents published with pre-IPC Reform codes. This field will not be updated with the IPC Reform codes. Use the /IPC field to search all IPCs (pre-IPC Reform and post-IPC Reform) for the basic patent documents and family members.
- (8) This field contains current US Patent Classifications applied to records for basic and family U.S. patents from 1907 to the present. An online thesaurus is available. Current National Patent Classifications may be range-searchable in Manual of Classification order. However, the /NCL field is not a numeric field and may not be searched using numeric operators.
- Continued on next page**
- (9) This field contains U.S. Patent Classifications that were in effect when the patent was originally published. Content is available for basic patents only. An online thesaurus is available. Issued National Patent Classifications may be range-searchable in Manual of Classification order. However, the /INCL field is not a numeric field and may not be searched using numeric operators.
- (10) Data are available from 1962 (Volume 56) to the present.
- (11) Either STN or Derwent format may be used.
- (12) Search with implied (S) proximity is available in this field.
- (13) U.S. provisional priority numbers are searched only with the P appended, e.g., US1999-121903P/PRN.
- (14) When searching combinations of CPC and CPC.KW data, use (T) proximity operator.
- (15) Application numbers for U.S. utility patents from series code 13 forward, design patents (series code 29) and provisional patent applications (series code 60 and 61) may be searched either with or without their series code. Include the series code if known to ensure precision. Note that provisional patent application numbers searched without their series codes must have a P appended to the end of the number (e.g., US2013-686038P). Series code information is not available for U.S. patent application numbers with series codes below 13.
- (16) Coverage includes PCT (WO), US, and China, from 1999 to present (November 2020).

Super Search Fields

Enter a super search code to execute a search in one or more fields that may contain the desired information. Super search fields facilitate crossfile and multifile searching. EXPAND may not be used with super search fields. Use EXPAND with the individual field codes instead.

Search Field Name	Search Code	Fields Searched	Search Examples	Display Codes
Cooperative Patent Classification (3) Old version of the /IPC super search field (1)	/CPC /IPC.OLD	/CPCI, /CPCR /IC, /ICA, /ICI	S C09K2200-0655/CPC S A01B/IPC.OLD S A01B001/IPC.OLD	CPC, CPCI, CPCR IC, ICA, ICI
Patent Application and Priority Number (2,3,4)	/APPS	/AP, /PRN	S DE84-3400052/APPS S 84DE-3400052/APPS S US2013-13261341/APPS S US2013-261341/APPS S DE84-3400052/APPS.B	APPS, AI, PI, PRAI
Patent Application and Priority Number, Basic (2,3,4)	/APPS.B	/AP.B, /PRN.B		APPS.B, AI, PI, PRAI
Patent Countries Patent Countries, Basic Patent Numbers (3)	/PCS /PCS.B /PATS	/PC, /DS /PC.B, /DS.B /PN	S DE/PCS S AT/PCS.B S EP536930/PATS S EP-536930/PATS S WO8402426/PATS S JP04000104/PATS S JP62000031/PATS S WO9850074/PATS.B	DS, PI DS, PI PI, SO
Patent Numbers, Basic (3)	/PATS.B	/PN.B		PATS.B, PI, SO

(1) Numeric search field that may be searched with numeric operators or ranges.

(2) Content of this field is available only for records from 1967 to the present.

(3) Either STN or Derwent format may be used.

(4) Application numbers for U.S. utility patents from series code 13 forward, design patents (series code 29) and provisional patent applications (series code 60 and 61) may be searched either with or without their series code. Include the series code if known to ensure precision. Note that provisional patent application numbers searched without their series codes must have a P appended to the end of the number (e.g., US2013-686038P). Series code information is not available for U.S. patent application numbers with series codes below 13.

Cited References Search Fields

Search Field Name	Search Code	Search Examples	Display Codes
Cited Reference (contains referenced author, inventor, or assignee, year, volume, page, work title, and patent number)	/RE (or /CIT)	S BLONDELLE S, 1999?/RE S DE 3604874?/RE	RE
Cited Reference Accession Number in CA	/RAN.CA	S 145:292917/RAN.CA	Not displayed
Cited Reference Accession Number in CAPLUS	/RAN.CAPLUS	S 1995:998201/RAN.CAPLUS	Not displayed
Cited Reference Accession Number in MEDLINE	/RAN.MED	S 96233652/RAN.MED	Not displayed
Cited Reference Author Name	/RAU	S O REILLY/RAU	RE
Cited Reference File Availability	/FILE.CIT	S L1 AND CAPLUS/FILE.CIT S L1 AND MEDLINE/FILE.CIT	Not displayed
Cited Reference Inventor Name	/RIN	S ABBOTT ?/RIN	RE
Cited Reference Page Number (first)	/RPG	S 200/RPG	RE
Cited Reference Patent Country Code	/RPC	S DE/RPC	RE
Cited Reference Patent Kind Code	/RPK	S DEA1/RPK	RE
Cited Reference Patent Number	/RPN	S US5792845/RPN	RE
Cited Reference Publication Year (1)	/RPY	S 1997-1998/RPY	RE
Cited Reference Series Issue Number	/RIS	S (2 OR 3)/RIS	RE
Cited Reference Series Volume Number	/RVL	S (3 OR 4)/RVL	RE
Cited Reference Source Information (contains year, volume, issue, page, and publication title) (2)	/RSO	S (MOL AND BIOL AND 1997)/RSO	RE
Cited Reference Work (Publication Title)	/RWK	S CANCER RES/RWK	RE
Cited References Count (1)	/RE.CNT (or /REC)	S REC>0 S 1-20/RE.CNT	RE RE.CNT

(1) Numeric search field that may be searched with numeric operators or ranges.

(2) Search with implied (S) proximity is available in this field.

Citing References Search Fields

Search Field Name	Search Code	Search Examples	Display Codes
Citing Reference Accession Numbers	/OS.G (/OS.CITING.AN)	S 2008:610804/OS.G	OS.G
Citing Reference Count (1)	/OSC.G (/CITING.CNT)	S 2-5/OSC.G	OSC.G
Date Last Citing Reference Entered STN	/UPOS.G (/CITING.UP)	S 16 Feb 2009/UPOS.G S UPOS.G>20090216	UPOS.G
Update Date, Citing Reference (1)	/UPOG	S 20091026/UPOG	UPOS.G

(1) Numeric search field that may be searched with numeric operators or ranges.

REGISTRY Search Fields

You can search directly in CAplus any REGISTRY search term, including structures, with REG1stRY. To search a REGISTRY term in CAplus, enter the SEARCH command and your term followed by the REGISTRY field code, and then followed by /REG, e.g., SEARCH FENFLURAMINE/CN/REG. The REGISTRY search and crossover to CAplus are executed automatically, and only the final CAplus answer set L-number is shown.

To suppress the automatic REG1stRY processing when searching CAS Registry Numbers® in CAplus, enter SET REG1stRY OFF at an arrow prompt (=>). To retain the OFF setting beyond the current session, enter SET REG1stRY OFF PERM at an arrow prompt.

Enter HELP FIRST at an arrow prompt in CAplus for more information.

CA Section (/CC) Thesaurus

The CA Section (/CC) thesaurus is available for records from 1907 to the present.

All Relationship Codes may be used with both the SEARCH and EXPAND commands in the /CC thesaurus.

Code	Content	Examples
ALL	All Associated Terms (BT, SELF, NOTE, HNTE, OLD, CUR, REPL, NT)	E 57 CERAMICS, 1967 TO PRESENT+ALL/CC
BT	Broader Terms (BT, SELF)	E 1 PHARMACOLOGY, 1982 TO PRESENT+BT/CC
CUR	Current Terms (SELF, CUR)	E 1 PHARMACODYNAMICS, 1972-1981+CUR/CC
HIE	Hierarchy (Broader and Narrower Terms) (BT, SELF, NT)	E 31 ALKALOIDS, 1967 TO PRESENT+HIE/CC
HIS	History (SELF, HNTE, CUR, OLD, REPL)	E 17 FOOD AND FEED CHEMISTRY, 1982 TO PRESENT+HIS/CC
HNTE	History Note (SELF, HNTE)	E 1 PHARMACOLOGY, 1982 TO PRESENT+HNTE/CC
KT	Keyword Terms (SELF, KT)	E TOXICITY+KT/CC
NOTE	Notes associated with the term (SELF, NOTE, HNTE)	E 4 TOXICOLOGY, 1972 TO PRESENT+NOTE/CC
NT	Narrower Terms (SELF, NT)	E 4 TOXICOLOGY, 1972 TO PRESENT+NT/CC
RT	Related Terms (SELF, RT)	E 33 CARBOHYDRATES, 1967 TO PRESENT+RT/CC
STD	Standard (Broader Terms, Notes, Narrower Terms) (BT, SELF, HNTE, NOTE, NT)	E 32 STEROIDS, 1967 TO PRESENT+STD/CC
UF	Used For (Forbidden Terms) (SELF, UF)	E 32 STEROIDS, 1967 TO PRESENT+UF/CC
USE	Use (Preferred Terms) (SELF, USE)	E IMMUNOCHEMISTRY+USE/CC

Field Descriptors for the /CC Thesaurus

Code	Description
→	Self
BT	Broader Term (CA section grouping)
CUR	Current Term (current CA section)
HNTE	History Note (section history note)
KT	Keyword Terms (thesaurus terms containing the SELF term)
NOTE	Note (CA section content note)
NT	Narrower Term (subsections for CA sections from 1972 to the present)
OLD	Old Term (previously used sections)
REPL	Replacing Term (more recent, but not current, section)
RT	Related Term (related concurrently existing sections)
UF	Used For Term (non-preferred terms or sections)
USE	Use Term (Preferred Terms)

Company Name (/CO) Thesaurus Search Aid

The Company Name thesaurus search aid is available in the /CO field with the most frequently occurring major company names for records from 1907 to the present.

All Relationship Codes may be used with both the SEARCH and EXPAND commands in the /CO field.

Code	Content	Examples
ALL	All Associated Terms (CNUM, NAME, SELF, RT, NOTE)	E DOW CHEMICAL CO+ALL/CO
CNUM	CAS Assigned Number (CNUM, SELF, NOTE, NAME, RT)	E HONDA MOTOR CO LTD+CNUM/CO
NAME	Highest level company name information (NAME, SELF, NOTE, RT)	E DOW CHEMICAL+NAME/CO E ANGUS CHEMICAL COMPANY+NAME/CO
NOTE	Note (SELF, NOTE)	E CANON INC+NOTE/CO
RT	Related Term (SELF, RT, NAME, NOTE)	E CANON INC+RT/CO

Field Descriptors for the /CO Thesaurus Search Aid

Code	Description
→	Self
NAME	Preferred name for the highest level company name
CNUM	CAS Assigned Number to identify each company family
NOTE	Note associated with the term
RT	Related Term

Controlled Term (/CT) Thesaurus for the CA Lexicon

The CA Lexicon is an online search tool for the CA indexing terms for concepts, chemical classes, and taxonomic vocabulary. The thesaurus is available for records from 1967 to the present.

All Relationship Codes may be used with both the SEARCH and EXPAND commands in the /CT thesaurus.

Code	Content	Examples
ALL	All Associated Terms except for LT terms (BT, SELF, HN, NOTE, UF, USE, OLD, NEW, NT, RT, RTCS)	E AZO DYES+ALL/CT
BT	Broader Terms (BT, SELF, HN)	E BRAIN+BT/CT
HIE	Hierarchy (Broader and Narrower Terms) (BT, SELF, NT)	E BOROXINS+HIE/CT
KT	Keyword Terms (SELF, KT)	E DYES+KT/CT
HN	History Note (HN)	E PHOTOLYSIS+HN/CT
LT	Linking Terms (index heading modifying term)	E RADIOLYSIS+LT/CT
MAX	All Associated Terms, including LT terms (BT, SELF, HN, NOTE, UF, USE, OLD, NEW, NT, RT, RTCS, LT)	E DRUG DELIVERY SYSTEMS+MAX/CT
NEW	New Terms (replace OLD terms)	E NEOPLASM INHIBITORS+NEW/CT
NOTE	Notes associated with the term (SELF, HN, NOTE)	E FISH+NOTE/CT
NT	Narrower Terms (SELF, NT)	E ANTIBIOTICS+NT/CT
OLD	Old term (replaced by NEW term)	E ANTITUMOR AGENTS+OLD/CT
PFT	Preferred and Forbidden Terms (SELF, OLD, NEW, USE, UF)	E PERFUMES+PFT/CT
RT	Related Terms (SELF, RT, RTCS)	E PHOTORESISTS+RT/CT
RTCS	Related Chemical Substance Terms (SELF, RTCS)	E REFRIGERANTS+RTCS/CT
STD	Standard Terms (SELF, BT, HN, NOTE, NT, RT, RTCS)	E SUNSCREENS+STD/CT
UF	Used For (Forbidden Terms) (SELF, UF)	E ARECA CATECHU+UF/CT
USE	Use (SELF, USE)	E BETEL NUT+USE/CT

Field Descriptors for the /CT Thesaurus

Code	Description
→	Self
BT	Broader Term
HN	History Note
KT	Keyword Terms
NOTE	Indexing Note
NT	Narrower Term
RT	Related Term
UF	Used For
USE	Use
RTCS	Related Chemical Substance Terms
LT	Linking Terms (index heading modifying term)
OLD	Old term (replaced by NEW term)
NEW	New Terms (replace OLD terms)

CPC (/CPC) Thesaurus

The Cooperative Patent Classification (CPC) is jointly developed and maintained by the European Patent Office and the US Patent and Trademark Office. This thesaurus is available in the /CPC search field. All relationship codes can be used with both the EXPAND and SEARCH commands.

Relationship Code	Content	Search Examples
ALL	All usually required terms (BT, SELF, CODE, DEF)	E C12M0001-005+ALL/CPC
AUTO (1)	Automatic relationship (BT, SELF, CODE, DEF)	E G01J003-443+AUTO/CPC
BT	Broader terms (BT, SELF)	E G01J0003-443+BT/CPC
CODE	Classification Code (SELF, CODE)	E CARTRIDGES+CODE/CPC
DEF	Definition (SELF, DEF)	E B65G0045-16+DEF/CPC
HIE	Hierarchy terms (all broader and narrower terms) (BT, SELF, DEF, NT)	E A01B0001-00+HIE/CPC
KT	Keyword terms (SELF, KT)	E LASER+KT/CPC
MAX	All associated terms	E G01J0003-44+MAX/CPC
NEXT	Next classification within the same class (SELF, NEXT)	E A01B0001-24+NEXT/CPC
NEXT(n)	Next n classification within the same class	E A01B0001-24+NEXT3/CPC
NT	Narrower terms	E G05B0001-04+NT/CPC
PREV	Previous Code within the same class (SELF, PREV)	E G05B0019-00+PREV/CPC
PREV(n)	Previous n classifications within the same class	E G05B0019-00+PREV2/CPC
TI	Complete Title of SELF Term and Broader Terms (BT, SELF)	E G05B0001-03+TI/CPC

(1) Automatic Relationship is SET OFF. In case of SET REL ON the result of EXPAND or SEARCH without any relationship code is the same as described for AUTO.

European Patent Classification (/ECLA or /EPC) and ICO Thesauri

These thesauri are available in the /EPC search field (for ECLA codes) and /ICO search field (for in-computer-only codes). All relationship codes can be used with both the EXPAND and SEARCH commands.

Relationship Code	Content	Search Examples
ALL	All associated terms	E C12M0001-34H2+ALL/EPC
AUTO (1)	Automatic relationship (BT, SELF, CODE, DEF)	E G01J003-443+AUTO/EPC
BT	Broader terms (BT, SELF, DEF)	E G01J0003-443+BT/EPC
CODE	Classification Code (SELF, CODE)	E SCRAPER BIASING MEANS+CODE/EPC
DEF	Definition (SELF, DEF)	E B65G0045-16+DEF/EPC
HIE	Hierarchy terms (all broader and narrower terms) (BT, SELF, DEF, NT)	E A01B0001+HIE/EPC
KT	Keyword terms (SELF, KT)	E LASER+KT/EPC
MAX	All associated terms	E G01J0003-44B+MAX/EPC
NEXT	Next classification within the same class (SELF, NEXT, DEF)	E A01B0001-24+NEXT/EPC
NEXT(n)	Next n classification within the same class	E A01B0001-24+NEXT3/EPC
NT	Narrower terms (SELF, NT, DEF)	E G05B0001-04+NT/EPC
PREV	Previous Code within the same class (PREV, SELF, DEF)	E G05B0019-418N1+PREV/EPC
PREV(n)	Previous n codes within the same class	E G05B0019-418N1+PREV2/EPC
TI	Complete Title of the SELF Term and Broader Terms (BT, SELF, DEF)	E G05B0001-03+TI/EPC

(1) Automatic Relationship is SET OFF. In case of SET REL ON the result of EXPAND or SEARCH without any relationship code is the same as described for AUTO.

F-Term (/FTERM) Thesaurus

This thesaurus is available in the F-Term (/FTERM) field that contains patent classifications from the Japanese Patent Office in records from January 2004 to the present.

Code	Content	Example
ALL	All Associated Terms (BT, SELF, TI, NT)	E 4K001/AA16+ALL/FTERM
BRO(n) (1)	Browse n preceding and following Classifications	E 4K001/AA20+BRO3/FTERM
BT	Broader Terms (BT, SELF)	E 4K001/AA25+BT/FTERM
HIE	Hierarchy (BT, SELF, NT)	E 4K001/AA14+HIE/FTERM
NEXT(n) (1)	Next n Classifications	E 4K001/AA16+NEXT5/FTERM
NT	Narrower Terms (SELF, NT)	E 4K001+NT/FTERM
PREV(n) (1)	Previous n Classifications	E 5K002+PREV3/FTERM
RT	Related term	E 4K001+RT/FTERM
TI	Complete Title of the SELF Term	E 4K001/AA07+TI/FTERM

(1) When using this code in the F-Term thesaurus, you must specify a number between 1-999 as shown in example.

Field Descriptors for the F-Term Thesaurus

Code	Description
→	Self
BT	Broader Term
NT	Narrower Term
TI	Title

IPC Thesaurus

The classifications and catchwords for the main headings and subheadings from the current (8th) edition of the WIPO International Patent Classification (IPC) manual are available. The classifications from the previous editions (1-7) are also available as separate thesauri. To EXPAND and SEARCH in the thesauri for editions 1-7, use the field code followed by the edition number, e.g., /IPC2, for the 2nd edition. Catchwords are included only in the thesauri for the 8th, 7th, 6th, and 5th editions. The IPC thesauri are available for records from 1967 to the present.

Code	Content	Examples
ALL	All Associated Terms (BT, SELF, NT, RT)	E C01C003-00+ALL/IPC
ADV	Advanced Terms (SELF, ADVANCED)	E A01N0047-02+ADV/IPC
BRO MAN)	Complete Class	E C01C+BRO/IPC
BT	Broader Terms (SELF, BT)	E C01F001-00+BT/IPC
COR	Core Terms (SELF, CORE)	E A01N0047-04+COR/IPC
ED	Complete title of the SELF term and IPC manual edition	E C01F001-00+ED/IPC
HIE	Hierarchy Terms (Broader and Narrower Terms) (BT, SELF, NT)	E C01C003-00+HIE/IPC
INDEX	Complete title of the SELF term	E C01F001-00+INDEX/IPC
KT	Keyword Terms (catchwords) (SELF, KT)	E CYANOGEN+KT/IPC
NEXT	Next Classification	E C01C001-00+NEXT5/IPC
NT	Narrower Terms (SELF, NT)	E C01C+NT/IPC
PREV	Previous Classification	E C01C001-12+PREV10/IPC
RT (SIB)	Related Terms (SELF, RT)	E C01C003-20+RT/IPC
TI	Complete Title of the SELF Term and Broader Terms (BT, SELF)	E C01F001-00+TI/IPC

Field Descriptors for the IPC Thesaurus

Code	Description
→	Self
BT	Broader Term
KT	Keyword Term
NT	Narrower Term
RT	Related Term
TI	Title

National Patent Classification Thesaurus

A thesaurus is present for the National Patent Classification, Current (/NCL) and National Patent Classification, Issue (/INCL) fields.

Code	Content	Example
ALL	All Associated Terms (BT, SELF, TI, NT)	E 210190000+ALL/NCL
BRO(n)	Browse n preceding and following Classifications	E 502060000+BRO3/NCL
BT	Broader Terms (BT, SELF)	E 502060000+BT/NCL
HIE	Hierarchy (BT, SELF, NT)	E 502060000+HIE/NCL
KT	Keyword Terms (SELF, KT) (1)	E ZEOLITES+KT/NCL
NEXT(n)	Next n Classifications	E 210660000+NEXT5/NCL
NT	Narrower Terms (SELF, NT)	E 502060000+NT/NCL
PREV(n)	Previous n Classifications	E 210665000+PREV3/NCL
RT	Related Term	E 220+RT/NCL
TI	Complete Title of the SELF Term	E 502060000+TI/NCL

(1) Keyword terms are the catchwords corresponding to the USPTO Manual of Classifications subject index headings and subheadings.

Field Descriptors for the National Patent Classification Thesaurus

Code	Description
→	Self
BT	Broader Term
KT	Keyword Term
NT	Narrower Term
TI	Title

Role (/RL) Thesaurus

The Role (/RL) thesaurus is available for records from 1967 to the present.

Code	Content	Examples
ALL	All Associated Terms, including Notes (BT, SELF, NOTE, NT)	E SPN+ALL/RL
BT	Broader Terms (SELF, BT)	E CAT+BT/RL
HIE	Hierarchy Terms (Broader and Narrower Terms) (BT, SELF, NT)	E FFD+HIE/RL
NOTE	Any Notes (role definitions) (SELF, NOTE)	E IMF+NOTE/RL
NT	Narrower Terms (SELF, NT)	E USES+NT/RL

Field Descriptors for the Role Thesaurus

Code	Description
→	Self
BT	Broader Term
NOTE	Note
NT	Narrower Term

DISPLAY and PRINT Formats

Any combination of formats may be used to display or print answers. Multiple codes must be separated by spaces or commas, e.g., D L1 1-5 TI AU; D L1 1-5 TI, AU. The fields are displayed or printed in the order requested.

Hit-term highlighting is available in all fields except FAN. In the table-like display of the Patent Information (PI) field, highlighting is shown by an arrow on the right side pointing to the line that includes the hit terms.

Highlighting must be on during SEARCH in order to use the FHITSEQ, FHITSTR, HIT, HITIND, HITRN, HITSEQ, HITSTR, KWIC, and OCC display formats.

Format	Content	Examples
AB	Abstract Text	D TI AB
AI (AP) (1,2)	Patent Application Information	D AI
AI.B (AP.B) (1,2)	Patent Application Information, Basic	D AI.B
AN	Accession Number, Document Number, and Original Reference Number	D 1-5 AN
AU	Author Name	D AU, TI
CC (SC)	CA Classification Code (CA section and section cross-references)	D CC
CCN (SCN)	CA Classification Code Section Descriptor	D SCN
CLM (2)	Claim Text	D CLM
CLM(n) (2)	Claim Text for Claim n	D CLM(9)
CLMN	Number of Claims	D CLMN
CPC	Cooperative Patent Classification	D CPC
CPC.TAB	CPC Tabular Display	D CPC.TAB
CPC.UNIQ	CPC codes unique for a basic patent and equivalents	D CPC.UNIQ
CPCI	CPC Initial Classification	D CPCI
CPCR	CPC Reclassification	D CPCR
CS	Corporate Source	D TI AU CS

DISPLAY and PRINT Formats (cont'd)

Format	Content	Examples
CS.DIV	Corporate Source Division	D CS.DIV
CS.ORG	Corporate Source Organization	D CS.ORG
CT (2)	Controlled Term	D CT
CUR (3)	Patent Currency Status	D CUR ALL
CYA (2)	Country of Author	D CYA
CYC (CY.CNT) (2)	Patent Country Count	D CYC
DOI (FTDOI)	Digital Object Identifier	D DOI
DN	Document Number (CA Reference Number)	D DN
DS (2)	Designated States	D DS
DS.B (2)	Designated States, Basic	D DS.B
DT (TC)	Document Type	D DT
ECLA (EPC, EPCLA)	Patent Family European Classifications associated with patent numbers	D ECLA
ED (2)	Entry Date	D ED
ECLM (2)	Exemplary Claim	D ECLM
FS (2)	File Segment	D FS
FTERM (FTCLA, JPCLA)	File Forming Terms from Japanese Patent Office associated with patent numbers	D FTERM
GI (2)	Graphic Image or Graphic Image Information	D GI
IC	Main and Secondary IPC	D IC
ICA	Additional or Supplementary IPC	D ICA
ICI	Index or Complementary IPC	D ICI
ICM	Main IPC	D ICM
ICO	ICO Classification	D ICO
ICS	Secondary IPC	D ICS
IN	Inventor Name	D IN
INCL	Issued National Classification	D INCL
IPC.B	IPC of the Basic Patent	D IPC.B
IPC.F	IPC, First Invention	D IPC.F
IPC.TAB	IPC, Tabular Display	D IPC.TAB
IPC.UNIQ	IPC codes unique for a basic patent and equivalents	D IPC.UNIQ
IPCI	IPC Initial Classification	D IPCI
IPCR	IPC Reclassification	D IPCR
ISN (2)	International Standard (Document) Number	D ISN
IT (4)	Index Term and Role	D AN IT
JT (2)	Journal Title	D JT
JTA (2)	Journal Title, Abbreviated	D JTA
JTF (2,6)	Journal Title, Full	D JTF 1-3
LA	Language	D LA
LSUS (2)	Legal status information for U.S. patents	D LSUS
NCL	National Patent Classification, Current	D PI IC NCL
OREF (5)	Original Reference Number	D OREF
OS	Other Source	D TI OS
OS.G (OS.CITING.AN)	Citing Reference Accession Numbers	D OS.G
OSC.G (CITING.CNT)	Citing Reference Count	D OSC.G
PA	Patent Assignee	D PA
PB	Publisher	D PB
PI (1)	Patent Information Table	D TI PI
PI.B (PN.B) (1,2)	Patent Information, Basic	D PI.B
PN	Patent Number	D PN
PNC (PN.CNT) (2)	Patent Number Count	D PNC
PNK	Patent Number/Kind Code	D PNK
PNK.B	Patent Number/Kind Code of the Basic Patent	D PNK.B
PRAI (PRN) (1)	Priority Application Information	D PRAI
PRAI.B (PRN.B) (1,2)	Priority Application Information, Basic	D PRAI.B
PSPI	Patent Status Patent Information Table	D PSPI
PSPI.B	Patent Status Information, Basic	D PSPI.B
PUI (2)	Publisher Item Identifier	D PUI
PY (2)	Publication Year	D TI PY
PY.B (2)	Publication Year, Basic	D TI PY.B
RE (5)	Cited References	D TI RE

DISPLAY and PRINT Formats (cont'd)

Format	Content	Examples
RETABLE (2,5) RE.CNT (REC) (5) RL (4) RN (2) RNK (10) RNKM (10) SAR ADME TOX SO ST STED STEY STI SX (2,7) TI UO UOS UPOS.G (CITING.UP) UPP (1) URL (2)	Cited References Table Cited References Count Index Term and Role CAS Registry Number Rank, Relevance Score Rank Multifiles CAS Registry Numbers from CASbioactivity SAR Collection CAS Registry Numbers from CASbioactivity ADME Collection CAS Registry Numbers from CASbioactivity Tox Collection Source Supplementary Term (CA Keyword) Patent Status Established Date Patent Status Established Year Patent Status Indicator CA Section Cross Reference Code Title of Document Ultimate Owner Ultimate Owner Standardized Date Last Citing Reference Entered STN Update Date, Patent Family Uniform Resource Locator	D TI AU RETABLE D REC D RL D AN RN D RNK D RNKM D SAR D ADME D TOX D TI AU SO D ST D STED, D PSPI D STEY, D PSPI D STI, D PSPI D TI SX DIS TI 1-10 D UO D UOS D UPOS.G D UPP D URL
ABS ALL (1,4) APPS (1) APPS.B (1) BIB (1) CAN CBIB (1) CLASS CPC CPC.TAB CPC.UNIQ DALL (1,4) DMAX (1,4) FAM FAN FBIB (1) IABS IALL (1,4) IBIB IMAX (1,4) IND (4) IPC IPC.TAB IPC.UNIQ ISTD (1) MAX (1,4) OBIB (1) OIBIB (1) OSG OSG.MAX	GI, AB AN, DN, OREF, ED, TI, AU, IN, CS, PA, UO, UOS, SO, DOI, PB, DT, LA, CLMN, CC, FAN.CNT, PI, PRAI, CLASS, OS, GI, AB, ST, IT, RL, OSC.G, UPOS.G, OS.G, RE.CNT, RE (If PatentPak enabled, PPPI and PPAK also included.) AI, PRAI AI, PRAI (for Basic Patent) AN, DN, OREF, TI, AU, IN, CS, PA, UO, UOS, SO, DOI, PB, DT, LA, FAN.CNT, PI, PRAI, OS, OSC.G, RE.CNT (If PatentPak™ enabled, PPPI also included.) (BIB is the default) List of CA Abstract Numbers, no L-number headers AN, DN, OREF, plus compressed bibliographic data Classifications (IPC, CPC, NCL, ECLA, ICO, and FTERM codes) associated with basic patent and family members CPCI, CPCR for the basic patent and patent family members CPC, CPC.KW, CPC.ACD, CPC.VER in tabular format Deduplicated list of CPC codes for the patent family ALL, delimited for post-processing MAX, delimited for post-processing AN, DN, FAN.CNT, PI for the accession number, plus PI for other family accession numbers Family Accession Number (AN, FAN.CNT, FAN) BIB plus PI for other family accession numbers ABS, with text labels ALL, indented with text labels BIB, indented with text labels MAX, indented with text labels INCL, IPCI, IPCR, CPCI, CPCR, NCL, ECLA, ICO, FTERM, CC, SX, ST, IT, RL IPCI, IPCR, for the basic patent and patent family members IPC, Tabular Display IPC codes unique for a basic patent and equivalents STD, indented with text labels ALL, plus FAN and PI for other family accession numbers (If PatentPak enabled, PPPI and PPAK also included.) BIB, Original, without patent family data (AN, DN, OREF, TI, AU, IN, CS, PA, SO, DOI, PB, PI, PRAI, DT, LA, OS) OBIB, indented with text labels OSC.G, UPOS.G, OS.G (up to 50 accession numbers) OSC.G, UPOS.G, and OS.G (up to 1020 accession numbers)	D ABS D 1-30 ALL D APPS D APPS.B D 1 3 D CAN D L2 1 CBIB D CLASS D CPC D CPC.TAB D CPC.UNIQ D DALL D DMAX D FAM D FAN D FBIB D IABS D IALL D IBIB D IMAX D TI IND D L2 1 IPC D IPC.TAB D IPC.UNIQ D ISTD D MAX D OBIB D OIBIB D OSG D OSG.MAX

DISPLAY and PRINT Formats (cont'd)

Format	Content	Examples
OS.GMAX PAGE (8) PATS (1) PATS.B (1) SAM (SAMPLE) (4) SCAN (5,9) SBIB (1) SIBIB (1) STD (1) XML	OS.G (up to 1020 accession numbers) Page images of CA pages containing the AN of a record PI, SO PI, SO for basic patents INCL, IPCI, IPCR, CPCI, CPCR, NCL, ECLA, ICO, CC, TI, ST, IT, RL INCL, IPCI, IPCR, CPCI, CPCR, NCL, ECLA, ICO, FTERM, CC, TI, ST, IT fields will appear if available (random display, no answer number) BIB, Standard, without RE.CNT (AN, DN, OREF, TI, AU, IN, CS, PA, SO, DOI, PB, DT, LA, FAN.CNT, DE, AI, PI, PRAI, OS) SBIB, indented with text labels AN, DN, OREF, TI, AU, IN, CS, PA, UO, UOS, SO, DOI, PB, DT, LA, FAN.CNT, PI, PRAI, CLASS, OS, OSC.G, RE.CNT (If PatentPak enabled, PPPI and PPAK also included.) BIB AB in XML format	D OS.GMAX D PAGE D PATS D PATS.B DIS SAM 1-5 D SCAN D 1 3 SBIB D SIBIB D STD D XML
CPC.HIT (HITCPC) FHITSEQ FHITSTR HIT HITADME HITIND HITPPAK (11) HITRN HITSAR HITSEQ HITSTR HITTOX IPC.HIT (HITIPC) KWIC OCC (5)	HIT display of CPC code searched First hit CAS Registry Number, its role, text modification, its CA index name, and the sequence diagram First hit CAS Registry Number, its role, text modification, its CA index name, and the structure diagram Fields containing hit terms Hit CAS Registry Number, CA index name, InChI string, InChI Key and the ADME assay details. NCL, CC, ST, IT, and RL containing hit terms Hit PatentPak Substance Names and CAS Registry Number Hit CAS Registry Number, its role, and text modification Hit CAS Registry Number, CA index name, InChI string, InChI Key and the SARPROP assay details. Hit CAS Registry Number, its role, text modification, its CA index name, and its sequence diagram Hit CAS Registry Number, its role, text modification, its CA index name, and its structure diagram Hit CAS Registry Number, CA index name, InChI string, InChI Key and the TOX assay details. Hit IPC Hit terms plus 20 words on either side (Key-Word-In-Context) Number of occurrences of hit terms and fields in which they occur	D CPC.HIT or D HITCPC D CBIB FHITSEQ D CBIB FHITSTR D HIT 1-5 D HIT ADME D HITIND D HITPPAK D HITRN D HITSAR D HITSTR KWIC D HITSTR KWIC D HIT TOX D IPC.HIT or D HITIPC D 1-7 TI KWIC D OCC

- (1) By default, patent, application, and priority numbers are displayed in STN format. To display them in Derwent format, enter SET PATENT DERWENT at an arrow prompt. To reset display to STN format, enter SET PATENT STN.
- (2) Custom display only.
- (3) CUR must be entered on the command line, e.g., D CUR. The patent status information displays before the requested records.
- (4) By default, roles are displayed as codes and text. To suppress display of role codes and text, enter SET ROLES OFF. To display only codes, enter SET ROLES CODES.
- (5) No online display fee for this format.
- (6) Full journal titles are available for most records.
- (7) SX displays all information in the CC field, i.e., CA section and section cross-references.
- (8) The PAGE format is used in the DISPLAY command to download images of pages of printed CA with abstracts published in 1907-1998. If the abstract is located on more than one page, all the relevant pages are automatically downloaded.
- (9) SCAN must be specified on the command line, i.e., D SCAN or DISPLAY SCAN.
- (10) The RNK and RNKM formats display only the hit term occurrence ranking for the record, with the following line:
RELEVANCE SCORE ##. RNK is for the single file environment, while RNKM is for the multifile environment.
- (11) Custom displays of HITPPAK are available exclusively to PatentPak STN subscribers.

Displaying CAplus or MEDLINE documents for cited references

Enter the following in the DISPLAY command: L-number for the answer set; answer number (only one may be specified); RAN.CAPLUS(x-y), RAN.MED(x-y) where (x-y) is the cited reference number, numbers, or range of numbers; and the display format for the document to display, e.g., BIB ABS. For example, to display Caplus records for the cited references 1 and 2 from answer 2 in the answer set L5, enter the following:

=> **D RAN.CAPLUS(1-2) L5 2 BIB ABS**

SELECT, ANALYZE, and SORT Fields

The SELECT command is used to create E-numbers containing terms taken from the specified field in an answer set.

The ANALYZE command is used to create an L-number containing terms taken from the specified field in an answer set.

The SORT command is used to rearrange the search results in either alphabetic or numeric order of the specified field(s).

Field Name	Field Code	ANALYZE/ SELECT (1)	SORT
Abstract	AB	Y	N
Accession Number	AN	Y (2)	N
Author	AU	Y	Y
CA Classification Code (section and subsection)	CC	Y	Y
CA Classification Code Section Descriptor	CCN (SCN)	Y	Y
CA Section Cross-Reference	SX	Y	Y
CAS Registry Number	RN	Y (3)	N
Citation	CIT	Y (4,5)	N
Cited References	RE	Y	N
Cited Reference(n)	RE(n)	Y	N
Cited Reference Accession Number in CA	RAN.CA	Y (6)	N
Cited Reference Accession Number(n) in CA	RAN.CA(n)	Y (6)	N
Cited Reference Accession Number in CAplus	RAN.CAPLUS	Y (6)	N
Cited Reference Accession Number(n) in CAplus	RAN.CAPLUS(n)	Y (6)	N
Cited Reference Accession Number in MEDLINE	RAN.MED	Y (6)	N
Cited Reference Accession Number(n) in MEDLINE	RAN.MED(n)	Y (6)	N
Cited Reference Author Name	RAU	Y	N
Cited Reference Count	RE.CNT (REC)	Y	Y
Cited Reference Page Number (first)	RPG	Y	N
Cited Reference Patent Number	RPN	Y	N
Cited Reference Publication Year	RPY	Y	N
Cited Reference Volume Number	RVL	Y	N
Cited Reference Work Title	RWK	Y	N
Citing Reference Accession Numbers (up to 50)	OS.G (OS.CITING.AN)	Y	N
Citing Reference OS.G Information (up to 1020 accession numbers)	OS.GMAX	Y	N
Citing Reference Information (OSC.G, UPOS.G, OS.G)(up to 1020 accession numbers)	OSG.MAX	Y	N
Citing Reference Count	OSC.G (CITING.CNT)	Y	Y
Citing Reference Date	UPOS.G (CITING.UP)	Y	Y
Claim Text	CLM	Y	N
CODEN	CODEN	Y (7)	Y
Company Name	CO	Y	Y
Controlled Term	CT	Y	Y
CPC Classification	CPC	Y	N
CPC, Initial	CPCI	Y	N
CPC, Reclassified	CPCR	Y	N
CPC Hit Display	CPC.HIT (HITCPC)	N	Y
CPC Codes Deduplicated for patent family	CPC.UNIQ	N	Y
Corporate Source	CS	Y	Y
Corporate Source, Division	CS.DIV	Y	N
Corporate Source, Organization	CS.ORG	Y	N

SELECT, ANALYZE, and SORT Fields (cont'd)

Field Name	Field Code	ANALYZE/ SELECT (1)	SORT
Country of Author	CYA	Y	Y
Designated States	DS	Y	N
Designated States, Basic	DS.B	N	N
Digital Object Identifier	DOI (FTDOI)	N	Y
Document Number	DN	Y	N
Document Type	DT (DC)	Y	Y
Entry Date	ED	Y	Y
European Classifications	ECLA (EPC, EPCLA)	Y	N
Exemplary Claim Text	ECLM	Y	N
Family Accession Number	FAN	Y	N
File Forming Terms	FTERM (FTCLA, JPCLA)	Y	N
File Segment	FS		Y
GENBANK® Numbers	GBN (GENBANK)	Y	N
HIT Cited Reference	HITRE	N	Y
ICO Classification	ICO	Y	N
Index Term	IT	Y	N
International Standard Book Number	ISBN	Y (7)	Y
International Standard (Document) Number	ISN	Y	N
International Standard Serial Number	ISSN	Y (7)	Y
Inventor Name	IN	Y	Y
IPC, All	IPC	Y (9)	N
IPC, Initial Classification	IPCI	Y	N
IPC, Reclassification	IPCR	Y	N
IPC, Additional or Supplementary	ICA	Y	Y
IPC, Basic Patent	IPC.B	Y (9)	N
IPC, First	IPC.F	Y (9)	N
IPC, Index or Complementary	ICI	Y	Y
IPC, Main	ICM	Y	Y
IPC, Main and Secondary	IC	Y	Y
IPC, Secondary	ICS	Y	Y
Issued National Classification	INCL	Y	Y
Journal Title	JT	Y	Y
Journal Title, Abbreviated	JTA	Y (10)	Y
Journal Title, Full	JTF	Y (10)	Y
Language	LA	Y	Y
National Patent Classification, Current	NCL	Y	N
Occurrence of Hit Terms	OCC	N	Y
Original Reference Number	OREF	Y (5,6)	Y
Other Source	OS	Y	Y
Patent Application Country	AC	Y (5)	Y
Patent Application Country, Basic	AC.B	Y (5,11)	Y
Patent Application Date	AD	Y (5)	Y
Patent Application Date, Basic	AD.B	Y (12)	Y
Patent Application Information	AI	Y (5,13,14)	Y
Patent Application Information, Basic	AI.B	Y (13,14)	Y
Patent Application Number	AP	Y (5,14)	Y
Patent Application Number, Basic	AP.B	Y (5,13,14)	Y
Patent Application and Priority Number	APPS	Y (5,13,15)	N
Patent Application and Priority Number, Basic	APPS.B	Y (5,13,15)	N
Patent Application Year	AY	Y	Y
Patent Application Year, Basic	AY.B	Y (16)	Y
Patent Assignee	PA	Y	Y
Patent Countries	PCS	Y (5,17)	N
Patent Countries, Basic	PCS.B	Y (5,17)	N
Patent Country	PC	Y (5)	Y
Patent Country, Basic	PC.B	Y (5,18)	Y
Patent Country Count	CYC (CY.CNT)	Y (19)	N
Patent Information	PI	Y (5,14,20)	Y
Patent Information, Basic	PI.B	Y (14,20)	Y

SELECT, ANALYZE, and SORT Fields (cont'd)

Field Name	Field Code	ANALYZE/ SELECT (1)	SORT
Patent Kind Code	PK	Y (5)	Y
Patent Kind Code, Basic	PK.B	Y (5,21)	Y
Patent Number	PN	Y (5,14)	Y
	PATS	Y (5,14,22)	N
Patent Number, Basic	PN.B	Y (14,23)	Y
	PATS.B	Y (5,14,22)	N
Patent Number Count	PNC (PN.CNT)	Y (24)	N
Patent Number/Kind Code	PNK	Y	Y
Patent Number/Kind Code of the Basic Patent	PNK.B	Y	Y
Priority Application Country	PRC	Y (5)	Y
Priority Application Country, Basic	PRC.B	Y (5,25)	Y
Priority Application Date	PRD	Y (5)	Y
Priority Application Date, Basic	PRD.B	Y (26)	Y
Priority Application Information	PRAI	Y (5,14,27)	Y
Priority Application Information, Basic	PRAI.B	Y (14,27)	Y
Priority Application Number	PRN	Y (5,14)	Y
Priority Application Number, Basic	PRN.B	Y (14,27)	Y
Priority Application Year	PRY	Y (5)	Y
Priority Application Year, Basic	PRY.B	Y (5,28)	Y
Publication Date	PD	Y (5)	Y
Publication Date, Basic	PD.B	Y (5,29)	Y
Publication Year	PY	Y	Y
Publication Year, Basic	PY.B	Y (30)	Y
Publisher	PB	Y	N
Publisher Item Identifier	PUI	Y	N
Role	RL	Y (5)	N
Source of Document	SO	Y (31)	N
Supplementary Term	ST	Y	N
Title	TI	Y (default)	Y
Treatment Code	TC	Y (32)	Y
Ultimate Owner	UO	Y	Y
Ultimate Owner Standardized	UOS	Y	Y
Uniform Resource Locator	URL	Y	N
Volume Number	VL	Y	Y

- (1) HIT may be used to restrict terms extracted to terms that match the search expression used to create the answer set, e.g., SEL HIT RN.
- (2) Selects or analyzes AN and DN and appends /AN to the terms created by SELECT.
- (3) Appends /BI to the terms created by SELECT.
- (4) Extracts first author, publication year, volume, and first page with a truncation symbol appended and with /RE appended to the terms created by SELECT.
- (5) SELECT HIT and ANALYZE HIT are not valid with this field.
- (6) Appends /AN to the terms created by SELECT.
- (7) Appends /ISN to the terms created by SELECT.
- (8) Appends /DS to the terms created by SELECT.
- (9) Selects specified IPC codes and appends /IPC to the terms created by SELECT.
- (10) Appends /JT to the terms created by SELECT.
- (11) Appends /AC to the terms created by SELECT.
- (12) Appends /AD to the terms created by SELECT.
- (13) Appends /AP to the terms created by SELECT.
- (14) Enter SET PATENT DERWENT at an arrow prompt to SELECT or ANALYZE patent, application, and priority numbers in Derwent format.
- (15) Appends /APPS to the terms created by SELECT.
- (16) Appends /AY to the terms created by SELECT.
- (17) Appends /PCS to the terms created by SELECT.
- (18) Appends /PC to the terms created by SELECT.
- (19) Appends /CY.CNT to the terms created by SELECT.
- (20) Appends /PN to the terms created by SELECT.
- (21) Appends /PK to the terms created by SELECT.
- (22) Appends /PATS to the terms created by SELECT.
- (23) Appends /PN to the terms created by SELECT.
- (24) Appends /PN.CNT to the terms created by SELECT.
- (25) Appends /PRC to the terms created by SELECT.

Continued on next page

- (26) Appends /PRD to the terms created by SELECT.
- (27) Appends /PRN to the terms created by SELECT.
- (28) Appends /PRY to the terms created by SELECT.
- (29) Appends /PD to the terms created by SELECT.
- (30) Appends /PY to the terms created by SELECT.
- (31) Selects or analyzes CODEN and the ISSN and appends /SO to the terms created by SELECT.
- (32) Appends /DT to the terms created by SELECT.

Sample Records

DISPLAY ALL (Journal)

ANSWER 1 OF 1 CAPLUS COPYRIGHT 2013 ACS on STN

AN 2000:138202 CAPLUS [Full-text](#)

DN 132:221385

ED Entered STN: 01 Mar 2000

TI Production process for recombinant human angiostatin in *Pichia pastoris*

AU Lin, J.; Panigraphy, D.; Trinh, L. B.; Folkman, J.; Shiloach, J.

CS Department of Surgery, Children's Hospital and Harvard Medical School,
Boston, MA, 02115, USA

SO Journal of Industrial Microbiology & Biotechnology (2000), 24(1), 31-35
CODEN: JIMBFL; ISSN: 1367-5435

DOI 10.1038/sj.jim.2900766

PB Nature Publishing Group

DT Journal

LA English

CC 16-2 (Fermentation and Bioindustrial Chemistry)

AB A pilot-scale production method of recombinant human angiostatin, a 38-kD fragment of plasminogen which has been reported to have antiangiogenic activity, has been successfully established by expressing the protein in the methylotrophic yeast *Pichia pastoris*. The secreted protein inhibited cultured endothelial cell proliferation in vitro and Lewis lung carcinoma growth in mice. The fermentation process was carried out using an online methanol controller, administering methanol to the growing culture and keeping its concentration under 2 g L⁻¹. The fermentation lasted 90 h, of which 70 h were growth on methanol. During growth on methanol the culture volume increased 64%, from 7 L to 11.5 L, producing 200 mg angiostatin and 5 kg of biomass.

ST recombinant human angiostatin fermn *Pichia*

IT Fermentation

Komagataella pastoris

(production process for recombinant human angiostatin in *Pichia pastoris*)

IT 86090-08-6P, Angiostatin

RL: BMF (Bioindustrial manufacture); BIOL (Biological study); PREP
(Preparation)

(production process for recombinant human angiostatin in *Pichia pastoris*)

IT 67-56-1, Methanol, biological studies

RL: BSU (Biological study, unclassified); BIOL (Biological study)

(production process for recombinant human angiostatin in *Pichia pastoris*)

OSC.G 10 THERE ARE 10 CAPLUS RECORDS THAT CITE THIS RECORD (10 CITINGS)

UPOS.G Date last citing reference entered STN: 27 Feb 2012

OS.G CAPLUS 2012:181723; 2010:1328434; 2010:548903; 2009:1288101;
2009:637424; 2007:75901; 2005:702147; 2005:3368; 2003:236743;
2001:230866

RE.CNT 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE CITED REFERENCES

- (1) Brierley, R; Ann NY Acad Sci 1990, V589, P350 CAPLUS
- (2) Brierley, R; WO 9003431 International Patent (PCT) Application 1989 CAPLUS
- (3) Chen, Y; Proc Biochem 1997, V32, P107
- (4) Folkman, J; Proc Natl Acad Sci 1979, V76, P5217 MEDLINE
- (5) Guarna, M; Biotechnol Bioeng 1997, V56, P279 CAPLUS
- (6) Holmgren, L; Nature Med 1995, V1, P149 CAPLUS
- (7) Hsiao, J; Ann NY Acad Sci 1992, V665, P320 CAPLUS
- (8) Invitrogen Corp; A Manual of Methods of Expression of Recombinant Proteins in *Pichia pastoris* 1998
- (9) Loewen, M; Appl Microbiol Biotechnol 1997, V48, P480 CAPLUS
- (10) Mateles, R; Biotechnol Bioeng 1971, V13, P581 CAPLUS
- (11) O'Reilly, M; Cell 1994, V79, P315 CAPLUS
- (12) Romanos, M; Curr Opin Biotechnol 1995, V6, P527 CAPLUS
- (13) Sim, B; Cancer Res 1977, V57, P1329
- (14) Sreekrishna, K; Gene 1997, V190, P55 CAPLUS
- (15) Sukhatme, P; WO 9929878 International Patent (PCT) application 1999 CAPLUS
- (16) Tschopp, J; Nucleic Acid Res 1987, V15, P3859 CAPLUS
- (17) Wagner, L; Biotechnol Techniques 1997, V11, P791 CAPLUS
- (18) Weidner, N; New Engl J Med 1991, V324, P1 MEDLINE

DISPLAY ALL CLM

L1 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2023 ACS on STN
 AN 2022:1980311 CAPLUS
 DN 179:269299
 ED Entered STN: 02 Aug 2022
 TI Synthesis of Pleuromulin Salicylic acid ester with anti-drug resistant bacteria activity
 IN Zhao, Qianqian; Xin, Liang; Li, Jingyi; Bian, Ruina; Yang, Dan; Qi, Liang; Tian, Bin; Zha, Jian; Yao, Wenbo; Mao, Gennian; Li, Han; Shi, Chunyang; Wang, Yongbo; Xu, Jingwen
 PA Shaanxi University of Science and Technology, Peop. Rep. China
 SO U.S., 11pp.
 CODEN: USXXAM
 DT Patent
 LA English
 CLMN 16
 CC 30-20 (Terpenes and Terpenoids)
 Section cross-reference(s): 1, 63
 FAN.CNT 1
 PI

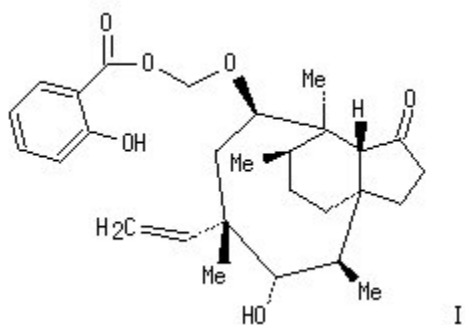
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 11401233	B1	20220802	US 2021-17175582	20210212
US 20220259138	A1	20220818		
PRAI US 2021-17175582		20210212		

PATENT NO.	KIND	STATUS	STATUS DATE
US 11401233	B1	Alive	20220811
US 20220259138	A1	Alive	20220825

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 11401233	IPCI	C07C0069-88 [I]; C07C0067-08 [I]; C07C0067-14 [I]; C07C0069-88 [I]; C07C0067-14 [I]; C07C0067-08 [I]
	IPCR	C07C0069-88 [I]; C07C0067-08 [I]; C07C0067-14 [I]
	CPCI	C07C0067-08 [I]; C07C0067-14 [I]; C07C0069-88 [I]; C07C2603-82; C07C0067-14 [I], C07C0069-88 [I]; C07C0067-08 [I], C07C0069-88 [I]; C07C0067-08 [I], C07C0069-88 [I]; C07C0067-14 [I], C07C0069-88 [I]

OS CASREACT 179:269299
 GI



AB The synthesis of Pleuromulin salicylic acid ester, I, belongs to a class of tricyclic diterpenoid antibiotics with anti-drug resistant bacteria activity is presented. Of note, I, was prepd. from pleuromulin and the appropriate acid chloride, and tested against a variety of MRSA strains, in drug sensitivity.

ST Pleuromulin oxoquinoline carboxylic acid ester prepn antidrug resistant bacteria

- IT Tricyclic diterpenes
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(antibiotics; synthesis of Pleuromulin salicylic acid ester with anti-drug resistant bacteria activity)
- • •
- IT 2805991-79-9P
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(synthesis of Pleuromulin salicylic acid ester with anti-drug resistant bacteria activity)
- IT 125-65-5, Pleuromulin 1441-87-8, Salicyloyl chloride 12027-12-2, Silicomolybdic acid
RL: RCT (Reactant); RACT (Reactant or reagent)
(synthesis of Pleuromulin salicylic acid ester with anti-drug resistant bacteria activity)

RE.CNT 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD

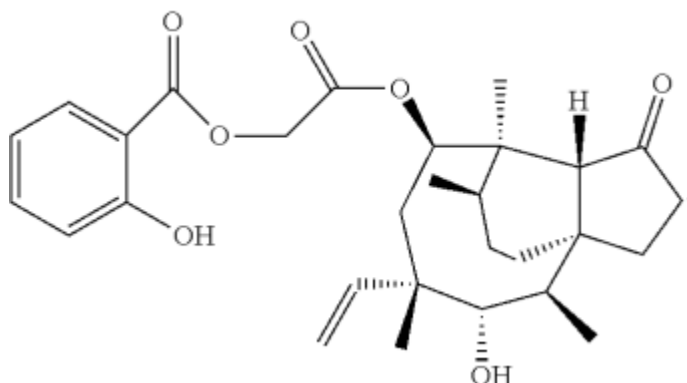
RE CITED REFERENCES

- (1) Anon; WO 0027790 2000 CAPLUS
- (2) Anon; CN 102180809 2011 CAPLUS
- (3) Anon; CAS registry No 125-65-5 (Year:1984)
- (4) Anon; Fazakerley ("Synthesis and synthetic chemistry of pleuromutilin" Tetrahedron, 70, 2014, p 6911-6930) (Year:2014) 2014
- (5) Tang; US 11168049 B1 2021 CAPLUS
- (6) Tang; US 11186607 B1 2021 CAPLUS
- (7) Tian; US 11155514 B1 2021 CAPLUS
- (8) Yang; US 11117859 B1 2021 CAPLUS

CLM What is claimed is:

1. A compound having the following formula (I):

(I)



• • •

14. The method of claim 13, wherein the molar ratio of the compound of formula (II) and the compound of formula (IV) is 1:1.1.
15. The method of claim 10, wherein the reaction mixture is heated at 25.degree. C.
16. The method of claim 10, wherein the reaction mixture is heated for 3 hours.

DISPLAY ALL HITPPAK (PPPI, PPAK and HITPPAK fields)

L1 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2016 ACS on STN
[PatentPak PDF](#) | [PatentPak PDF+](#) | [PatentPak Interactive](#) | [Full Text](#)

AN 2015:758868 CAPLUS
DN 162:591100
ED Entered STN: 05 May 2015
TI Method of jetting ink
IN Breton, Marcel Philippe; Belelie, Jennifer L.; Goredema, Adela; Smith, Paul F.
PA Xerox Corporation, USA
UO XEROX CORP
UOS Xerox
SO U.S., 31pp.
CODEN: USXXAM
DT Patent
LA English
CLMN 18
CC 42-2 (Coatings, Inks, and Related Products)
Section cross-reference(s): 74
FAN.CNT 1
PPPI

PATENT NO.	KIND	DATE	LANGUAGE	PatentPak
US 9022546	B1	20150505	English	PDF PDF+ Interactive
US 20150145920	A1	20150528	English	PDF
DE 102014223318	A1	20150528	German	PDF
JP 2015101103	A	20150604	Japanese	PDF

PI

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 9022546	B1	20150505	US 2013-14089479	20131125
US 20150145920	A1	20150528		
DE 102014223318	A1	20150528	DE 2014-102014223318	20141114
CA 2871394	A1	20150525	CA 2014-2871394	20141117
JP 2015101103	A	20150604	JP 2014-232596	20141117

PRAI US 2013-14089479 A 20131125
PSPI

PATENT NO.	KIND	STATUS	STATUS DATE
US 9022546	B1	Alive	20201120
US 20150145920	A1	Alive	20201121
DE 102014223318	A1	Alive	20201120
CA 2871394	A1	Alive	20201121
CA 2871394	C	Alive	20201121
JP 2015101103	A	Alive	20201121

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 9022546	INCL	347102000
	IPCI	B41J0002-01 [I]; B41J0011-00 [I]; B41J0011-00 [I]
	IPCR	B41J0002-01 [I]; B41J0011-00 [I]
	CPCI	B41J0002-0057 [I]; B41M0005-0256 [I]; B41M0005-0356 [I]
	NCL	347/102.000; 347/020.000
DE 102014223318	IPCI	B41M0001-42 [I]; B41M0001-20 [I]; C09D0011-30 [I]
	IPCR	B41M0001-42 [I]; B41M0001-20 [I]; C09D0011-30 [I]
	CPCI	B41J0002-0057 [I]; B41M0005-0256 [I]; B41M0005-0356 [I]
CA 2871394	IPCI	B41J0002-04 [I]; C09D0011-30 [I]
	IPCR	B41J0002-04 [I]; C09D0011-30 [I]
	CPCI	B41J0002-0057 [I]; B41M0005-0256 [I]; B41M0005-0356 [I]
JP 2015101103	IPCI	B41M0005-00 [I]; C09D0011-30 [I]; B41J0002-01 [I]
	IPCR	B41M0005-00 [I]; B41J0002-01 [I]; C09D0011-30 [I]
	CPCI	B41J0002-0057 [I]; B41M0005-0256 [I]; B41M0005-0356 [I]

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT

OS CASREACT 162:591100

- AB An indirect printing process for printing a gel ink is described. The process comprises providing a gel ink compn. in an ink-jet printing app. Droplets of gel ink are ejected in an imagewise pattern onto an intermediate transfer member, where each ink droplet forms a substantially circular image on the transfer member. The ink droplets are gelled and dried or solidified to form a substantially dry ink pattern on the intermediate transfer member. The substantially dry ink pattern is transferred from the intermediate transfer member to a final substrate.
- ST photocurable jet printing gel ink
- IT Ink-jet printing
- Inks
(indirect printing of gel inks dropwise onto an intermediate transfer member)
- IT Inks
(jet-printing, hot-melt; indirect printing of gel inks dropwise onto an intermediate transfer member)
- IT Inks
(jet-printing, photocurable; indirect printing of gel inks dropwise onto an intermediate transfer member)
- IT Polyesters
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(latex; indirect printing of gel inks dropwise onto an intermediate transfer member)
- IT Polyesters
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(sulfonated, latex; indirect printing of gel inks dropwise onto an intermediate transfer member)
- IT 445378-05-2, Ethylenediamine-Pripol 1009 copolymer
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(gellant; indirect printing of gel inks dropwise onto an intermediate transfer member)
- IT 1413974-93-2P, SR 399LV-SR 833S-UNILIN 350 acrylate copolymer
RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(indirect printing of gel inks dropwise onto an intermediate transfer member)
- IT 261949-00-2P, UNILIN 350 acrylate
RL: IMF (Industrial manufacture); RCT (Reactant); TEM (Technical or engineered material use); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(indirect printing of gel inks dropwise onto an intermediate transfer member)
- IT 9003-53-6D, Polystyrene, sulfonated, sodium salt 72414-06-3, Voranol 370
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(indirect printing of gel inks dropwise onto an intermediate transfer member)
- IT 79-10-7, Acrylic acid, reactions 122-99-6, 2-Phenoxyethanol 165169-28-8, Unilin 350
RL: RCT (Reactant); RACT (Reactant or reagent)
(indirect printing of gel inks dropwise onto an intermediate transfer member)
- IT 25767-47-9P, Styrene-Butyl Acrylate copolymer
RL: IMF (Industrial manufacture); POF (Polymer in formulation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(latex; indirect printing of gel inks dropwise onto an intermediate transfer member)
- IT 2177-70-0D, Phenyl Methacrylate, terpolymer
RL: POF (Polymer in formulation); TEM (Technical or engineered material use); USES (Uses)
(latex; indirect printing of gel inks dropwise onto an intermediate transfer member)

PPAK

67-56-1, Methanol, Pg 11 Claim
68-12-2, N,N-Dimethylformamide, Pg 10 Claim
75-09-2, Dichloromethane, Pg 10 Claim
125-65-5, Pleuromulin, Pg 10 Claim
1441-87-8, Salicyloyl chloride, Pg 10 Claim
11089-20-6, Pg 10 Claim
12027-12-2, Silicomolybdic acid, Pg 10 Claim
174501-65-6, 1-Butyl-3-methylimidazoliumtetrafluoroborate, Pg 11 Claim
244193-50-8, 1-Hexyl-3-methylimidazoliumtetrafluoroborate, Pg 11 Claim
304680-36-2, 1-Octyl-3-methylimidazoliumhexafluorophosphate, Pg 11 Claim
2805991-79-9P, Pg 10 Claim
108-88-3, Toluene, Pg 10

RE.CNT 31 THERE ARE 31 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE CITED REFERENCES

- (1) Anon; "Dimer Acids," Kirk-Othmer Encyclopedia of Chemical Technology, vol 8, 4th Ed (1992), pp 223-237 1992
- (2) Anon; Eliyahu et al, "Inkjet Ink Containing Polystyrene-Co-Butyl Acrylate Latex Suitable for Indirect Printing Method", U.S Appl No 14/067,469, filed Oct 30, 2013, 23 Pages 2013
- (3) Anon; Eliyahu et al, "Inkjet Ink for Indirect Printing Applications", U.S Appl No 14/066,716, filed Oct 30, 2013, 37 Pages 2013
- (4) Anon; Jikei et al "Synthesis and Properties of Hyperbranched Aromatic Polyamide Copolymers from AB and AB2 Monomers by Direct Polycondensation", Macromolecules 2000, 33, pp 6228-6234 (2000) 2000
- (5) Bedford; US 7767011 B2 2010 CAPLUS
- (6) Belelie; US 8142557 B2 2012 CAPLUS
- (7) Breton; US 7172276 B2 2007 CAPLUS
- (8) Breton; US 7202883 B2 2007 CAPLUS
- (9) Duff; US 5385803 A 1995 CAPLUS
- (10) Gervasi; US 8268399 B2 2012 CAPLUS
- (11) Goodbrand; US 5208630 A 1993 CAPLUS
- (12) Jaeger; US 5621022 A 1997 CAPLUS
- (13) Katsen; US 5539038 A 1996 CAPLUS
- (14) Keoshkerian; US 6156858 A 2000 CAPLUS
- (15) King; US 6221137 B1 2001 CAPLUS
- (16) LaMora; US 5202265 A 1993
- (17) Larson; US 8350879 B2 2013 CAPLUS
- (18) Machell; US 5231135 A 1993 CAPLUS
- (19) Morrison; US 5543177 A 1996
- (20) Mychajlowskij; US 5945245 A 1999 CAPLUS
- (21) Patel; US 5554480 A 1996 CAPLUS
- (22) Sacripante; US 5593807 A 1997
- (23) VanDusen; US 5146087 A 1992
- (24) Winnick; US 5286286 A 1994 CAPLUS
- (25) Winnik; US 5145518 A 1992 CAPLUS
- (26) Winnik; US 5256193 A 1993 CAPLUS
- (27) Winnik; US 5271764 A 1993 CAPLUS
- (28) Winnik; US 5275647 A 1994 CAPLUS
- (29) Winnik; US 5378574 A 1995 CAPLUS
- (30) Wright; US 5225900 A 1993
- (31) Wright; US 5301044 A 1994

PPAK

72414-06-3, Voranol 370, [Pg 26](#)

DISPLAY OSG

ANSWER 1 OF 1 CAPLUS COPYRIGHT 2013 ACS on STN

OSC.G 10 THERE ARE 10 CAPLUS RECORDS THAT CITE THIS RECORD (22 CITINGS)

UPOS.G Date last citing reference entered STN: 08 May 2012

OS.G CAPLUS 2012:562677; 2011:720785; 2011:145582; 2010:1528889;
2010:1345624; 2010:564089; 2010:305677; 2009:1367821;
2009:425398; 2009:233307

DISPLAY IPC.TAB

ANSWER 1 OF 1 CAPLUS COPYRIGHT 2013 ACS on STN

PI WO 2007081680

IPCI CODE	VERSION	POS	INV	CC	ASSIGNMENT	DATE	STAT
A61N0001-30	(200601)	F	I	US	Human	20070719	0
A61K0038-00	(200601)	F	I	US	Human	20071227	0
A61K0038-00	(200601)	F	I	US	Human	20071227	0
C12Q0001-58	(200601)	L	I	US	Human	20071227	0
C12Q0001-58	(200601)	L	I	US	Human	20071227	0

IPCR CODE	VERSION	POS	INV	CC	ASSIGNMENT	DATE	STAT
A61N0001-30	(200601)	F	I	US	Human	20070719	0

PI AU 2007205257

IPCI CODE	VERSION	POS	INV	CC	ASSIGNMENT	DATE	STAT
A61K0038-00	(200601)	F	I	US	Human	20080129	0
A61K0038-00	(200601)	F	I	US	Human	20080129	0
C12Q0001-58	(200601)	L	I	US	Human	20080129	0
C12Q0001-58	(200601)	L	I	US	Human	20080129	0

IPCR CODE	VERSION	POS	INV	CC	ASSIGNMENT	DATE	STAT
A61K0038-00	(200601)	F	I	US	Human	20080129	0
C12Q0001-58	(200601)	L	I	US	Human	20080129	0

PI CA 2635616

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DISPLAY CPC.TAB

PI WO 2007081680

CPCI CODE	VERSION	POS	INV	CC	ASSIGNMENT	DATE	STAT
G01N0033-57438	(20130101)		I	EP	Human	20130101	0
A61N0001-30	(20130101)		A	EP	Human	20130101	0
C12Q0001-6886	(20130101)		I	EP	Human	20130101	0
C12Q2600-106	(20130101)		A	EP	Human	20130101	0
C12Q2600-136	(20130101)		A	EP	Human	20130101	0
C12Q2600-178	(20130101)		A	EP	Human	20130101	0

PI AU 2007205257

CPCI CODE	VERSION	POS	INV	CC	ASSIGNMENT	DATE	STAT
G01N0033-57438	(20130101)		I	EP	Human	20130101	0
A61N0001-30	(20130101)		A	EP	Human	20130101	0
C12Q0001-6886	(20130101)		I	EP	Human	20130101	0
C12Q2600-106	(20130101)		A	EP	Human	20130101	0
C12Q2600-136	(20130101)		A	EP	Human	20130101	0
C12Q2600-178	(20130101)		A	EP	Human	20130101	0

PI CA 2635616

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DISPLAY ALL (PRE-1907 JOURNAL RECORD)

ANSWER 1 OF 1 CAPLUS COPYRIGHT 2013 ACS on STN

AN 1906:419 CAPLUS [Full-text](#)

DN 0:419

ED Entered STN: 07 Dec 2003

TI CIII. - A new synthesis of phloroglucinol

AU Jerdan, David Smiles

CS Heidelberg University Chemical Laboratory, Heidelberg, Germany

SO Journal of the Chemical Society, Transactions (1897), 71, 1106-1114

CODEN: JCHTA3; ISSN: 0368-1645

DOI 10.1039/ct8977101106

DT Journal

LA English

CC 10 (Organic Chemistry)

OS CASREACT 0:419

AB Recent researches in the terpene series, and especially investigations into the nature of camphor, have led to the development of various formulae to represent the constitution of the latter. Especially prominent within the last few years have been the formulae proposed by Tiemann and others, in which camphor is represented as containing two

• • •

IT Charcoal, bone
Crystallization
Etherification
Fractionation
Hydrazones
Hydrolysis
Lactones
Wood, pine

(new synthesis of phloroglucinol)

IT 64-17-5, Ethyl alcohol 64-19-7, Acetic acid 67-56-1, Methyl alcohol 67-66-3, Chloroform 71-43-2, Benzene 76-22-2, Camphor 100-63-0, Phenylhydrazine 105-50-0, Ethyl acetonedicarboxylate 106-93-4, Ethylene dibromide 107-07-3, Ethylene chlorhydrin 108-73-6, Phloroglucinol 124-38-9, Carbon dioxide 141-82-2, Malonic acid 497-19-8, Sodium carbonate 513-77-9, Barium carbonate 7440-23-5, Sodium 7647-01-0, Hydrogen chloride 7664-93-9, Sulfuric acid 7705-08-0, Ferric chloride 7726-95-6, Bromine 7783-89-3, Silver bromate 8002-05-9, Petroleum 8032-32-4, Ligroin 17194-00-2, Barium hydroxide 129874-08-4, Terpene
(new synthesis of phloroglucinol)

EXPAND in the //IPC Thesaurus

=> E H01J0001-304/IPC

E#	FREQUENCY	AT	TERM
--	-----	--	----
E1	370	2	H01J0001-28/IPC
E2	4099	6	H01J0001-30/IPC
E3	3547	2 -->	H01J0001-304/IPC
E4	1		H01J0001-307/IPC
E5	161	2	H01J0001-308/IPC
E6	479	2	H01J0001-312/IPC
E7	667	2	H01J0001-316/IPC
E8	193	2	H01J0001-32/IPC
E9	388	2	H01J0001-34/IPC
E10	37	2	H01J0001-35/IPC
E11	37	6	H01J0001-36/IPC
E12	75	2	H01J0001-38/IPC

Continued on next page

=> E E3+HIE

```
E13      0    BT6    H0/IPC
E14      0    BT5    H01/IPC
                     BASIC ELECTRIC ELEMENTS
E15    116658  BT4    H01J/IPC
                     ELECTRIC DISCHARGE TUBES OR DISCHARGE LAMPS (spark-gaps
                     H01T; arc lamps with consumable electrodes H05B;
                     particle accelerators H05H)
E16      862  BT3    H01J0001-00/IPC
                     Details of electrodes, of magnetic control means, of
                     screens, or of the mounting or spacing thereof, common
                     to two or more basic types of discharge tubes or lamps
                     (details of electron-optical arrangements or of ion
                     traps H01J0003-00)
                     CORE
                     VALID FROM 19680901 TO PRESENT ( IPC EDITION: 1-8 )
E17      811  BT2    H01J0001-02/IPC
                     . Main electrodes
                     ADVANCED
                     VALID FROM 19680901 TO PRESENT ( IPC EDITION: 1-8 )
E18      4099  BT1    H01J0001-30/IPC
                     . . Cold cathodes
                     ADVANCED
                     VALID FROM 19680901 TO PRESENT ( IPC EDITION: 1-8 )
E19      3547  -->    H01J0001-304/IPC
                     . . . Field-emissive cathodes
                     ADVANCED
                     VALID FROM 20000101 TO PRESENT ( IPC EDITION: 7-8 )
***** END *****
```

EXPAND in the /RL Thesaurus

=> E PREP+ALL/RL

```
E1      5638617  -->  PREP/RL
E2      5638617    Preparation/RL
                     NOTE Vol. 1 (1907) to present - Assigned to a substance in
                     studies of the synthesis of the substance as a
                     distinct chemical entity, formed with preparative
                     intent, via a chemical, biochemical, or nuclear
                     reaction. The recovery, purification, separation, or
                     other intentional formation with preparative intent of
                     a desired substance also receives a PREP role.
E3      94007    NT1    BMF/RL
E4      210351    NT1    BPN/RL
E5      73798    NT1    BYP/RL
E6      3186     NT1    CPN/RL
E7      805134    NT1    IMF/RL
E8      173908    NT1    PNU/RL
E9      429501    NT1    PUR/RL
E10     2721882    NT1    SPN/RL
***** END *****
```

EXPAND in the /CT Thesaurus for the CA Lexicon

E1 18881 BT3 Chemical compounds/CT
E2 76507 BT2 Organic compounds/CT
E3 10541 BT1 Azo compounds/CT
E4 45724 BT3 Materials/CT
E5 42006 BT2 Coloring materials/CT
E6 172575 BT1 Dyes/CT
E7 16909 --> Azo dyes/CT
HNTD Valid heading during volume 126 (1997) to present.
E8 OLD Dyes (L) azo/CT
E9 12082 OLD Dyes, azo/CT
E10 UF Azo dye/CT
E11 UF Azodye/CT
E12 0 NT1 4-(Dimethylamino)azobenzene/CT
E13 0 NT1 4-Amino-4'-nitroazobenzene/CT
E14 0 NT1 4-Aminoazobenzene/CT
E15 305 NT1 Acid azo dyes/CT
E16 0 NT2 Acid Red 1/CT
E17 0 NT2 Acid Red 14/CT
E18 0 NT2 Acid Red 88/CT
E19 0 NT2 Acid Yellow 36/CT
E20 0 NT2 Amaranth (dye)/CT
E21 0 NT2 Eriochrome Black T/CT
E22 0 NT2 Methyl orange/CT
E23 0 NT2 Methyl red/CT
E24 0 NT2 New Coccine/CT
E25 0 NT2 Orange G/CT
E26 0 NT2 Sunset Yellow/CT
E27 0 NT2 Tartrazine/CT
E28 0 NT2 Trypan blue/CT
E29 0 NT1 Allura Red 40/CT
E30 14 NT1 Azo dye intermediates/CT
E31 17 NT1 Basic azo dyes/CT
E32 0 NT1 Carmine 6B/CT
E33 132 NT1 Cationic azo dyes/CT
E34 145 NT1 Direct azo dyes/CT
E35 0 NT2 Congo red/CT
E36 0 NT2 Trypan blue/CT
E37 933 NT1 Disperse azo dyes/CT
E38 0 NT2 Disperse Blue 165/CT
E39 0 NT2 Disperse Blue 291/CT
E40 0 NT2 Disperse Blue 79/CT
E41 0 NT2 Disperse Red 1/CT
E42 0 NT2 Disperse Violet CW/CT
E43 0 NT1 Pigment Orange 36/CT
E44 0 NT1 Pigment Yellow 12/CT
E45 0 NT1 Pigment Yellow 128/CT
E46 0 NT1 Pigment Yellow 180/CT
E47 0 NT1 Pigment Yellow 74/CT
E48 1527 NT1 Reactive azo dyes/CT
E49 0 NT2 4-(2-Sulfatoethylsulfonyl)aniline/CT
E50 43 NT2 Tetrazolium dyes/CT
E51 0 NT3 Nitro Blue Tetrazolium/CT
E52 0 NT1 Solvent Red 24/CT
E53 0 NT1 Sudan Black B/CT
E54 0 NT1 Sudan I/CT
E55 0 NT1 Sudan II/CT
E56 433 RT Formazans/CT
E57 1330 RT Stains, coloring materials/CT
E58 RTCS 2,5-Dimethoxyaniline/CT
E59 RTCS 4-Phenylazophenol/CT

***** END *****

EXPAND in the CA Section Thesaurus (/CC)

=> E CERAMICS+ALL/CC

E1 517254 --> CERAMICS/CC
E2 1860 USE 17 CERAMICS, 1962 ONLY/CC
E3 9758 USE 21 CERAMICS, 1963-1966/CC
E4 500466 USE 57 CERAMICS, 1967 TO PRESENT/CC
***** END *****

=> E E4+ALL

E5 7707105 BT1 APPLIED/CC
E6 500466 --> 57 CERAMICS, 1967 TO PRESENT/CC
NOTE THIS SECTION INCLUDES THE PREPARATION, COMPOSITION,
ANALYSIS, PROPERTIES, AND USES OF GLASS, CERAMICS,
GLAZES, ENAMELS, REFRACTORIES, CLAY PRODUCTS,
ABRASIVES, AND CARBON PRODUCTS. ORGANIC GLASSES ARE
INCLUDED IN SECTION 37. STUDIES OF RAW MATERIALS ARE
INCLUDED IN SECTION 53 WHEN THE INTEREST IS OF
GEOLOGICAL SIGNIFICANCE AND ULTIMATE USE IS
INCIDENTAL. CERMETS CONTAINING MORE THAN ONE PERCENT
METAL ARE INCLUDED IN SECTION 56. SOME SPECIFIC USES
AND PROPERTIES OF CERAMICS ARE COVERED IN OTHER
SECTIONS (E.G., 63, 65, 75, AND 76).
E7 1860 OLD 17 CERAMICS, 1962 ONLY/CC
E8 496 OLD 19 GLASS AND CERAMICS, 1908-1909/CC
E9 4422 OLD 19 GLASS AND CERAMICS, 1911-1920/CC
E10 1044 OLD 19 GLASS AND POTTERY, 1906-1907/CC
E11 46601 OLD 19 GLASS, CLAY PRODUCTS, REFRACTORIES, AND ENAMELED
METALS, 1921-1961/CC
E12 252 OLD 20 GLASS AND CERAMICS, 1910 ONLY/CC
E13 9758 OLD 21 CERAMICS, 1963-1966/CC
E14 0 NT1 57-0 CERAMICS, 1972 TO PRESENT, REVIEWS/CC
E15 0 NT1 57-1 CERAMICS, 1972 TO PRESENT, GLASS (OXIDE AND
NONOXIDE GLASSES)/CC
E16 0 NT1 57-2 CERAMICS, 1972-1981, CLAYS AND CLAY PRODUCTS/CC
E17 0 NT1 57-2 CERAMICS, 1982 TO PRESENT, CERAMICS/CC
E18 0 NT1 57-3 CERAMICS, 1972-1981, GLAZES/CC
E19 0 NT1 57-3 CERAMICS, 1982 TO PRESENT, PORCELAIN/CC
E20 0 NT1 57-4 CERAMICS, 1972-1981, WHITEWARE/CC
E21 0 NT1 57-4 CERAMICS, 1982 TO PRESENT, GLAZES AND GLASSY
COATINGS/CC
E22 0 NT1 57-5 CERAMICS, 1972-1981, REFRACTORIES/CC
E23 0 NT1 57-5 CERAMICS, 1982 TO PRESENT, CLAYS AND CLAY
PRODUCTS/CC
E24 0 NT1 57-6 CERAMICS, 1972-1981, ABRASIVES/CC
E25 0 NT1 57-6 CERAMICS, 1982 TO PRESENT, REFRACTORIES/CC
E26 0 NT1 57-7 CERAMICS, 1972-1981, OTHER/CC
E27 0 NT1 57-7 CERAMICS, 1982 TO PRESENT, ABRASIVES/CC
E28 0 NT1 57-8 CERAMICS, 1982 TO PRESENT, CARBON PRODUCTS/CC
E29 0 NT1 57-9 CERAMICS, 1982 TO PRESENT, OTHER/CC
***** END *****

EXPAND in the Company Name (/CO) Thesaurus Search Aid

=> E DOW CHEMICAL+NAME/CO

```

E1      17210      NAME DOW CHEMICAL CO/CO
E2      114        --> DOW CHEMICAL/CO
***** END *****

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=> E E1+ALL

```

E3      0          CNUM CAS1000235/CO
E4      17210      --> DOW CHEMICAL CO/CO
                        NOTES 1886: Joy Morton & Co. established
                        1897: Dow Chemical Co. incorporated
                        1898: Firma Johann Haltermann founded
                        1900: Midland Chemical Co. merged into Dow Chemical Co.
                        1907: Rohm & Haas Co. founded
                        1910: Joy Morton & Co. renamed Morton Salt Co.
                        1917: Union Carbide & Carbon Corp. incorporated
                        1920: Carbide and Carbon Chemicals Corp. established
                        1933: Ethyl Dow Co. formed
                        1940: Carlisle Chemical Co. founded
                        1942: Dow Chemical of Canada organized
                        1955: Carlisle Chemical Co. acquired Advance Solvents
                        & Chemical Co.
                        1957: Shipley Co. founded
                        1957: Union Carbide & Carbon Corp. renamed Union
                        Carbide Corp.
                        1970: Rodel Inc. established
                        1980: Carlisle Chemical Co. renamed Carstab Corp.
                        1989: DowElanco formed
                        1989: Morton International, Inc. acquired Carstab Corp.
                        1992: Rohm & Haas Co. acquired Shipley Co.
                        1995: Union Carbide Corp. acquired Shell Polypropylene
                        Company
                        1997: ChiroTech Technology Ltd. established
                        1997: Dow Chemical Co. acquired full ownership of Dow
                        Mitsubishi Chemical Ltd.
                        1998: Dow Chemical Co. acquired Hampshire Chemical
                        Corp.
                        1998: Dow Chemical Co. acquired Mycogen Corp.
                        1998: Dow Chemical Co. acquired Sentrrachem Ltd.
                        integrated
                        1999: Dow Chemical Co. acquired Angus Chemical Company
                        1999: Rohm & Haas Co. acquired LeaRonal, Inc.
                        1999: Rohm & Haas Co. acquired Morton International,
                        Inc.
                        2001: Dow-Reichhold Specialty Latex LLC formed
                        2001: Dow Chemical Co. acquired ChiroTech Technology
                        Ltd.
                        2001: Dow Chemical Co. acquired Haltermann AG
                        2001: Dow Chemical Co. acquired Michael Cotts Chemicals
                        2001: Dow Chemical Co. acquired Union Carbide Corp.
                        2004: Shipley Co. and Rodel Inc. merged to form Rohm &
                        Haas Electronic Materials
                        2006: Dow Chemical Co. acquired Zhejiang Omex
                        Environmental Engineering Ltd
                        2007: Dow Chemical Co. acquired Wolff Walsrode AG
                        2008: Dow-Reichhold Specialty Latex LLC dissolved
                        2009: Dow Chemical Co. acquired Rohm & Haas
E5      40          RT1 ADVANCE SOLVENTS CHEMICAL CORP/CO
E6      32          RT1 AGRIGENET ADV SCI CO/CO
E7      33          RT1 AGRIGENET CORP/CO
E8      79          RT1 AGRIGENETICS INC/CO
E9      14          RT1 AGRIGENETICS RESEARCH ASSOCIATES LTD/CO

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E10	18	RT1	AMERCHOL CORP/CO
E11	20	RT1	AMERCHOL CORPORATION/CO
E12	9	RT1	ANGUS CHEM CO/CO
E13	36	RT1	ANGUS CHEMICAL CO/CO
E14	74	RT1	ANGUS CHEMICAL COMPANY/CO
E15	13	RT1	ANGUS CHEMIE GMBH/CO
E16	8	RT1	AWD TECHNOLOGIES INC/CO
E17	13	RT1	BENFIELD CORP/CO
E18	2	RT1	BORIDE PRODUCTS INC/CO
E19	66	RT1	BUNA SOW LEUNA OLEFINVERBUND G M B H/CO
E20	53	RT1	BUNA SOW LEUNA OLEFINVERBUND GMBH/CO
E21	68	RT1	BUSHY RUN RES CENT/CO
E22	11	RT1	CARBIDE AND CARBON CHEM CO/CO
• • •			
E329	6	RT1	UNION CARBIDE U K LTD/CO
E330	6	RT1	UNION CARBIDE UK LTD/CO
E331	2	RT1	WESTERN CARBIDE CORP/CO
E332	12	RT1	WOLFF CELLULOSICS G M B H CO K G/CO
E333	17	RT1	WOLFF CELLULOSICS GMBH CO KG/CO
E334	242	RT1	WOLFF WALSRÖDE A G/CO
E335	118	RT1	WOLFF WALSRÖDE AG/CO
E336	22	RT1	WOLFF WALSRÖDE AKTIENGESELLSCHAFT/CO
E337	1	RT1	WOLFF WALSRÖDE GMBH CO KG/CO
E338	11	RT1	ZHEJIANG OMEX ENVIRONMENTAL ENGINEERING CO LTD/CO
E339	4	RT1	ZHEJIANG OMEX ENVIRONMENTAL ENGINEERING LIMITED/CO
E340	14	RT1	ZHEJIANG OMEX ENVIRONMENTAL ENGINEERING LTD/CO
***** END *****			

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