CASREACT®

Subject Coverage

CASREACT covers synthetic organic research, including organometallics, total syntheses of natural products and biotransformation reactions.

File Type

Reactions

Features

Alerts (SDIs)	Weekly		
CAS Registry Number® Identifiers	☑	Page Images	☐
Keep & Share	☑	SLART	☑
Learning Database	☑	Structures	☐
Interactive Claims Viewer	☐	Register Links	☑

Record Content

- Records from the CAS database include searchable:
  - CAS Registry Numbers for all reactants, products, reagents, solvents, and catalysts from the CAS database
  - Yields for many products, reaction conditions, and textual reaction information from the CAS database
  - Structure diagrams
  - CAS Roles, reaction sites, and mapping of atoms between reactants and products
  - Common Functional Groups found in reactants, reagents, and products
  - Bibliographic information, in-depth substance and subject indexing, and abstracts
- Records from the CAS database also include displayable reference data such as CAS roles, patent family data, cited references, and CAS Registry Numbers indexed for CA, but not reaction participants.

File Size

More than 2.2 million records with more than 140.2 million reactions and synthetic preparations (11/2023)

Coverage

1840 - present

Updates

Daily

Language

English

Database Producer

Chemical Abstracts Service
2540 Olentangy River Road
P.O. Box 3012
Columbus, Ohio 43210-0012 US
Phone: 800-753-4227 (North America)
Phone: 614-447-3731 (worldwide)
Email: help@cas.org

Sources

Chemical reaction database containing reactions from the following sources:

- CAS database of reactions derived from journals covered in CA from 1984 to the present and patents from January 1989 to the present
- The reaction collection jointly built by the All-Union Institute of Scientific and Technical Information of the Academy of Sciences of the USSR (VINITI) and the German Zentrale Informationsverarbeitung Chemie, Berlin (ZIC) and supplied by the German software company, InfoChem (journals 1974-1999, patents 1982-1999)
- Rxn: Core Reactions database from the French organization, INPI (Institut National de la Propriete Industrielle) (1840-1985)
- Biotransformations database compiled during the years 1971-1997 under the direction of Professor Doctor Klaus Kieslich
- Encyclopedia of Reagents for Organic Synthesis (EROS)
- Wiley reaction collections from John Wiley & Sons, reproduced under license. All Rights Reserved.
- Selected Organic Reaction Database (SORD) (1961-2011)
- Ph.D. dissertations from 1944-1984

User Aids

- Online Helps (HELP DIRECTORY lists all help messages available)
- STNGUIDE

Clusters

- ALLBIB
- AUTHORS
- CASRNS
- CORPSOURCE
- HPATENTS
- PATENTS
- REACTION
- STRUCTURE

STN Database Clusters information (PDF).

Related Databases

LCASREACT

Pricing

Enter HELP COST at an arrow prompt.

Search and Display Field Codes

The fields that allow left truncation are marked with an asterisk (*).

Reaction Fields

Search Field Name	Search Code	Search Examples	Display Codes
Basic Index* (contains CAS Registry Numbers for all reactants, products, reagents, solvents, and catalysts, and single words from the title (TI), supplementary term (ST), abstract (AB), index term (IT), and reaction note (NTE) fields) **(1)**	None (or /BI)	S 50-00-0 S FAILED REACT? S 13129-23-2 (L) 96695-24-8 S TAUTOMERISM S ?TOXIN?	AB, IT, NTE, RX formats, ST, TI
Catalyst	/CAT	S 104-15-4/CAT S L1 (L) ANY/CAT	RX formats
Functional Group that is Formed	/FG.FORM	S THIOPHENOL/FG.FORM	RX formats
Functional Group in Product	/FG.PRO	S NITRO/FG.PRO S PRIMARY AMINE/FG.RCT (S) NITRO/FG.PRO S NITRO/FG.PRO (L) SULFONE/FG.RGT S NITRO/FG.PRO (L) ANY/CAT	RX formats
Functional Group in Reactant	/FG.RCT	S TRIHALIDE/FG.RCT S AZIDE/FG.RCT (S) PRIMARY AMINE/FG.PRO S AMIDE/FG.RCT,FG.RGT S ACETAL/FG.RCT (L) ANY/CAT	RX formats
Functional Group in Reactant, Reagent, or Product	/FG	S PRIMARY AMINE/FG	RX formats
Functional Group that is Reacting	/FG.RXN	S KETONES/FG.RXN (S) THIONE/FG.FORM	RX formats
Functional Group in Reagent	/FG.RGT	S SULFONE/FG.RGT S AMIDE/FG.PRO (L) HALOHYDRIN/FG.RGT S AMIDE/FG.RCT,FG.RGT	RX formats
Functional Group Yield **(2)**	/FG.YD	S FG.YD>=95 S NITRO/FG.FORM (A) FG.YD>=90	RX formats
Functional Group Yield Data	/FG.YDT	S NONE/FG.YDT S (95/FG.YD OR NONE/FG.YDT) S HALIDES/FG.PRO (A) (95/FG.YD OR NONE/FG.YDT)	Not displayed
NonProduct	/NPRO	S 10025-87-3/NPRO	RX formats
Nonreacting Functional Group	/FG.NON	S ALLYL ALCOHOL/FG.FORM (L) LACTONE/FG.NON	RX formats
Number of Steps **(2)**	/NS	S NS>=2 S 109-99-9 (L) 71-43-2 (L) 1/NS	Not displayed
Product	/PRO	S 2577-41-5/PRO	RX formats
Reactant	/RCT	S 999-97-3/RCT S 928-49-4/RCT (L) 114140-93-1/PRO	RX formats
Reactant or Reagent	/RRT	S 100-07-2/RRT	RX formats
Reaction Notes*	/NTE	S 200 DEGREE/NTE S ?HYDROGEN?/NTE	RX formats
Reagent	/RGT	S 74-88-4/RGT	RX formats
Solvent	/SOL	S 64-17-5/SOL S 64-17-5/SOL (L) CARBOXYLIC/FG.PRO	RX formats
Yield **(2)**	/YD	S 98/YD S L1 (A) YD>50 S 138687-69-1/PRO(A)95-100/YD S 2577-41-5/PRO (A) (95-100/YD OR NONE/YDT)	RX formats
Yield Data	/YDT	S NONE/YDT S L5 (A) (95-100/YD OR NONE/YDT) S 2577-41-5/PRO (A) (95-100/YD OR NONE/YDT)	Not displayed

(1) CAS Registry Numbers are from the reaction information, not the IT terms.
(2) Numeric search field that may be searched with numeric operators or ranges.

General Document Fields

Search Field Name	Search Code	Search Examples	Display Codes
Abstract	/AB	S PHOTOLY?/AB	AB
Accession Number	/AN	S 109:149648/AN	AN
Author (Inventor)	/AU	S EVANS D?/AU	AU
CA Section Cross-Reference **(1)** (number and title)	/SX	S 24/CC,SX S ALICYCLIC/SX S CONDENSED BENZENOID/SX	CC
Classification Code **(1)** (contains CA section-subsection number, section title, and section group codes)	/CC	S 24/CC S ALICYCLIC/CC S PHYSICAL ORGANIC/CC	CC
Controlled Term	/CT	S PORPHYRIN#/CT S MICHAEL REACTION/CT	CT, IT
Controlled Word	/CW	S POLYMER/CW	CT, IT
Corporate Source **(1)** (organization name and location, patent assignee)	/CS	S DOW/CS S DOW CHEMICAL/CS S "DOW CORNING"?/CS	CS, PA
Country of Author	/CYA	S USA/CYA	CS, CYA, PA
Document Type (code and text)	/DT (or /TC)	S P/DT S PATENT/DT	DT
Entry Date **(2)**	/ED	S ED>20010600 S ED>JUNE 2001	Not displayed
Field Availability	/FA	S DIA/FA	Not displayed
File Segment **(3)**	/FS	S ORG/FS AND L1 S INFOCHEM/FS AND L1 S INPI/FS	CC, FS
Index Term **(4)**	/IT	S REACTION WITH/IT	IT
International Standard (Document) Number (contains CODEN and ISSN)	/ISN	S JACSAT/ISN S 0002-7863/ISN	ISN, SO
Issue Number of Publication **(2)**	/IS	S 1-3/IS	SO
Journal Title	/JT	S J AM CHEM SOC/JT	JT, SO
Language (code and text)	/LA	S L1 AND EN/LA S L1 AND ENGLISH/LA	LA
Other Source	/OS	S MARPAT/OS	OS
Publication Date **(2)**	/PD	S PD>20010100	PI, SO
Publication Year **(2)**	/PY	S 2000-2001/PY	PI, PY, SO
Publisher **(1)**	/PB	S ACADEMIC/PB	PB
Publisher Item Identifier	/PUI	S "S 0014-3057(96)00299-6"/PUI	PUI
Source (contains publication title, date, collation information (volume, issue, pagination), CODEN, and ISSN)	/SO	S J AM CHEM/SO S JACSAT/SO S 0002-7863/SO	SO
Supplementary Term	/ST	S (ASYM (S) SYNTHESIS)/ST	ST
Title	/TI	S REDOX AGENT#/TI	TI
Uniform Resource Locator	/URL	S "HTTP://MDPI.ORG./MOLECULES /PAPERS/30300051.PDF"/URL	SO, URL
Update Date **(2)**	/UP	S L1 AND UP>20011000	Not displayed
Volume and Issue of CA	/VI	S 107-25/VI	AN
Volume Number of Publication **(2)**	/VL	S 32-33/VL	SO

(1) Search with implied (S) proximity is available in this field.
(2) Numeric search field that may be searched with numeric operators or ranges.
(3) The file segment INFOCHEM includes records derived from the reaction collection jointly built by the All-Union Institute of Scientific and Technical Information of the Academy of Sciences of the USSR (VINITI) and the German Zentrale Informationsverarbeitung Chemie, Berlin (ZIC) and supplied by the German software company, InfoChem (journals 1974-1991, patents 1982-1991).
(4) There are no stopwords in this field.

Patent Search Fields

Search Field Name	Search Code	Search Examples	Display Codes
Designated State	/DS	S BE/DS S BELGIUM/DS	DS
International Patent Classification (includes Main and Secondary IPCs)	/IC	S B01J/IC S B01J027/IC S B01J027-08/IC	IC, ICM, ICS
International Patent Classification, Additional or Supplementary	/ICA	S C07C/ICA S C07C049/ICA S C07C049?/ICA	ICA
International Patent Classification, Index or Complementary	/ICI	S C07D?/ICI	ICI
International Patent Classification, Main	/ICM	S C07C033/ICM	ICM
International Patent Classification, Main Group, Range Searchable **(1)**	/MGR	S 10-20/MGR (L) C07H/IC	IC
International Patent Classification, Secondary	/ICS	S C07C/ICS	ICS
International Patent Classification Subgroup, Range Searchable **(1)**	/SGR	S SGR=>30000(L) C07C211/IC	IC
Inventor Name	/IN	S PATTON JERRY R/IN	IN
National Patent Classification	/NCL	S 548185000/NCL	NCL
National Patent Classification, Range Searchable **(1)**	/NCLR	S 536119000-568720000/NCLR	NCL
Patent Application Country (code and text)	/AC	S US/AC S UNITED STATES/AC	AI
Patent Application Date **(1)**	/AD	S AD>19950101	AI
Patent Application Number **(2)**	/AP	S DE90-4005135/AP	AI
Patent Application Year **(1)**	/AY	S 1991/AY	AI
Patent Assignee **(3)**	/PA	S PFIZER/PA	PA
Patent Country (code and text)	/PC	S WO/PC	PI
Patent Kind Code	/PK	S EPA2/PK	PI
Patent Number **(3)**	/PN	S EP424764/PN	PI
Priority Application Country (code and text)	/PRC	S US/PRC	PRAI
Priority Application Date **(1)**	/PRD	S PRD>19880600	PRAI
Priority Application Number **(3)**	/PRN	S JP89-164593/PRN	PRAI
Priority Application Year **(2)**	/PRY	S 1988-1989/PRY	PRAI

(1) Numeric search field that may be searched with numeric operators or ranges.
(2) Either STN format or Derwent format may be used.
(3) Search with implied (S) proximity is available in this field.

Super Search Fields for Patents

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
International Patent Classifications	/IPC	/IC, /ICA, /ICI	S A01N/IPC S A01N033/IPC	ICA, ICI, ICM, ICS
Patent Application and Priority Number **(1)**	/APPS	/AP, /PRN	S DE90-4005135/APPS S 90DE-4005135/APPS	AI, PRAI
Patent Countries	/PCS	/PC, /DS	S DE/PCS	DS, PI
Patent Numbers **(1)**	/PATS	/PN	S EP424764/PATS S EP-424764/PATS	PI

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

Limiting Search Codes

Only an L-number for an answer set created in CASREACT may be limited.

Search Field Name	Search Code	Search Examples
Answers completely iterated	/COMPLETE **(1)**	S L4/COM
Answers incompletely iterated	/INCOMPLETE **(1)**	S L4/INC

(1) The code may be abbreviated to the first three letters.

Structure Search Terms

Terms (1)	Search Examples
L-numbers of structures built using the STRUCTURE command or uploaded from STN Express (Boolean logic allowed between the L-numbers)	S L1 CSS FUL S L1 NOT L2
L-numbers of screen sets created using the SCREEN command (Boolean logic allowed between the L-numbers)	S L3 OR L4
L-numbers of structures built using the STRUCTURE command or uploaded from STN Express combined with L-numbers of screen sets created using the SCREEN command (Boolean logic allowed between the L-numbers)	S L1 NOT L3

(1) The L-number answer set from a structure search may be combined with text terms, e.g., S L6 (L) ANY/CAT.

Types of Structure Searching

Type	Definition	Search Code	Search Examples
Substructure (default)	Search for substances that match the query. Substitution is allowed at all open positions.	SSS	S L1 SSS FUL S L2
Closed Substructure	Search for substances that match the query exactly. Substitution is allowed at positions opened by CONNECT.	CSS	S L1 CSS FUL S L4 CSS

Scopes of Structure Searches

To create an L-number answer set containing candidate structures that have passed the screening step of your structure search, enter EXTEND on the search command line or enter SET EXTEND ON or SET EXTEND ON PERM at an arrow prompt (=>). For details, enter HELP SET EXTEND at an arrow prompt.

Scope	Definition	Search Code	Search Examples
Sample **(1)** (default)	Search a fixed 5% of the file	SAM	S L1 SAM SSS S L1
Full	Search 100% of the file	FUL	S L5 SSS FUL
Range **(2)**	Search a user-specified portion of the file	RAN	S L4 RAN=(V112) S L1 RAN=(RCR)
Subset Sample	Search a fixed sample of an answer set created by a search in CASREACT	SUB SAM	S L9 SUB=L8 SAM
Subset Range **(2)**	Search a user-specified portion of an answer set created by a search in CASREACT	SUB RAN	S L12 SUB=L11 RAN=(V112,V113) S L3 SUB=L2 RAN=(RCR)
Subset Full	Search 100% of an answer set created by a search in CASREACT	SUB FUL	S L2 CSS SUB=L1 FUL

(1) EXTEND not valid with SAMPLE.
(2) RCR searches the Recent Chemical Reactions, i.e., the current volume and the preceding volume.

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 searchable fields except compressed reaction displays and FS. In reaction fields, highlighting occurs in the Reaction Map and in the Reaction Summary. Highlighting must be ON in order to use the CRD, CRDREF, FCRD, FCRDREF, FHIT, FPATH, FSPATH, HIT, OCC, PATH, RX, RXG, RXL, RXS, and SPATH formats.

Reaction Formats

Format	Content	Examples
CRD(n) **(1)**	Compact Display of Reaction n	D CRD**(1)**
CRDREF(n) **(1)**	Compact Display of Reaction n and SO, PY for Reference	D CRDREF**(2)**
RX(n) **(1)**	Reaction n (Map, Diagram, Summary for reaction n)	D RX**(3)**,RX**(5)**
RXG(n) **(1)**	Reaction n Graphics (Map and Diagram for reaction n)	D RXG**(5)**
RXL(n) **(1)**	Reaction n Long (Map, Diagram, Summary for all steps of reaction n)	D RXL**(8)** RXL**(13)**
RXS(n) **(1)**	Reaction n Summary (Map and Summary for reaction n)	D RXS**(13)**
SSRX(n) **(1)**	Single-Step Reaction n (Map, Diagram, Summary for single-step reaction n)	D SSRX(n)
ALL (MAX) **(2,3,4)**	AN, TI, AU, IN, CS, PA, SO, PB, DT, LA, IC (ICM, ICS), ICA, ICI, NCL, CC, FAN.CNT, PI, PRAI, OS, AB, ST, IT, RL, RE.CNT, RE, SSRX	D L2 1-7 ALL
DALL **(2,3,4)**	ALL, delimited for post-processing	DIS L1 DALL 1-3
IALL **(2,3,4)**	ALL, indented with text labels	D IALL
SCAN **(5)**	TI and FCRD (random display, no answer numbers)	D SCAN
SSRX	Single-Step Reactions (Map, Diagram, and Summary for all single-step reactions)	D SSRX

Reaction Formats (cont'd)

Format	Content	Examples
CRD	Compact display of all hit reactions	D CRD
CRDREF	CRD and SO and Publication Date for Reference	D CRDREF 1-2
FCRD	First Hit Reaction in Compact Format	D FCRD 3-5
FCRDREF	FCRD and SO and publication date for reference (FCRDREF is the default)	D L2 6 FCRDREF
FHIT	First HIT Reaction Map, Diagram, and Summary	D FHIT
FPATH	Full PATH - PATH plus Reaction Summary	D BIB FPATH
FSPATH	Full SPATH - SPATH plus Reaction Summary	D FSPATH
HIT	Reaction Map, Diagram, Summary for all hit reactions and fields containing hit terms	D CBIB HIT
OCC **(5)**	All hit fields and the number of occurrences of the hit terms in each field. Includes total number of HIT, PATH, SPATH reactions. Labels reactions that have incomplete verifications.	DIS 1-10 OCC
PATH	Reaction Map(s) and Diagram(s) of longest PATH(s). Displays all hit reactions except those whose steps are totally included within another hit reaction.	D PATH
RX	Hit Reactions (Map, Diagram, Summary for all hit reactions)	D TI RX
RXG	Hit Reaction Graphics (Map and Diagram for all hit reactions)	D RXG CBIB
RXL	Hit Reaction Long (Map, Diagram, Summary for all hit reactions)	DIS RXL
RXS	Hit Reaction Summaries (Map and Summary for all hit reactions)	D TI AU RXS
SPATH	Reaction Map(s) and Diagram(s) for short PATH(s). Displays reactions having a hit substance in the first and last steps except for those whose steps are totally included within another SPATH reaction.	D SPATH

(1) Custom display only.
(2) 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.
(3) Structure diagrams in abstracts in the Graphics Image (GI) field are available only on graphics terminals and in offline prints.
(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. SCAN must be specified on the command line, i.e., D SCAN or DISPLAY SCAN.

Document Formats

Format	Content	Examples
AB	Abstract Text	D AB
AI (AP) **(1)**	Patent Application Information	D AI
AI.B (AP.B) **(1)**	Patent Application Information, Basic	D AI.B
AN	Accession Number	DISPLAY L2 1-10 AN
AU	Author Name	D AU TI
CC	Classification Code (CA section and section cross-references)	D CC
CS	Corporate Source	D AU CS
CT **(2)**	Controlled Term	D CT
CYA **(2)**	Country Name of Author	D CYA
CYC (CY.CNT) **(2)**	Patent Country Count	D CYC
DS **(2)**	Designated State (Patents)	D DS
DS.B **(2)**	Designated States, Basic	D DS.B
DT (TC)	Document Type	D 1,5,10 DT
FS **(2)**	File Segment	D FS

Document Formats (cont'd)

Format	Content	Examples
GI **(3)**	Graphic Image or Graphic Image Information	D GI
ICA	Additional (Supplementary) IPC	D ICM ICS ICA
ICI	Index or Complementary IPC	D ICI
ICM	Main IPC	D ICM
ICS	Secondary IPC	D ICM ICS
IN	Patent Inventor	D IN
ISN **(2)**	International Standard (Document) Number	D ISN
IT **(4)**	Index Term and CAS Role	D ST IT
JT **(2)**	Journal Title	D JT
LA	Language	D LA
NCL	National Patent Classification	D NCL
OS	Other Source	D OS
PA	Patent Assignee	D PA
PB	Publisher	D PB
PI **(1)**	Patent Information	D AN 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
PRAI (PRN) **(1)**	Patent Priority Information	D PRAI
PRAI.B (PRN.B) **(1)**	Patent Priority Information, Basic	D PRAI.B
PUI **(2)**	Publisher Item Identifier	D PUI
PY **(2)**	Publication Year	D PY
PY.B **(2)**	Publication Year, Basic	D TI PY.B
RE **(5)**	Cited References	D TI RE
RETABLE **(2,5)**	Cited References Table	D TI AU RETABLE
RE.CNT (REC)	Citing Document's Reference Count	D REC
RL **(4)**	Index Term and CAS Role	D RL
SO	Source	D TI AU SO
ST	Supplementary Term (CA Keywords)	D ST
SX **(2,6)**	CA Section Cross-Reference Code	D SX
TI	Title of Document	D TI RX
UO	Ultimate Owner	D UO
UOS	Ultimate Owner Standardized	D UOS
URL **(2)**	Uniform Resource Locator	D URL
ABS **(3)**	GI, AB	DIS 2,4,6 CBIB ABS
ALL (MAX) **(1,3,4)**	AN, TI, AU, IN, CS, PA, UO, UOS, SO, PB, DT, LA, NCL, CC, FAN.CNT, PI, PRAI, OS, AB, ST, IT, RL, RE.CNT, RE, SSRX	D L2 1-7 ALL
CAN	List of CA abstract numbers, no L-number header	D 1-10 CAN
CBIB	AN, plus Compressed Bibliographic Data	DISPLAY L1 1 CBIB
DALL **(1,3,4)**	ALL, delimited for post-processing	DIS L1 DALL 1-3
IABS **(3)**	ABS, with text labels	D IABS
IALL **(1,3,4)**	ALL, indented with text labels	D IALL
IBIB **(1)**	BIB, indented with text labels	D IBIB
IND **(4)**	NCL, CC, ST, IT, RL	D IND
IPC	International Patent Classifications	D IPC
ISTD **(1)**	STD, indented with text labels	D ISTD
OBIB **(1)**	BIB, Original (AN, TI, AU, IN, CS, PA, SO, PB, PI, DS, AI, PRAI, DT, LA, OS)	D OBIB
OIBIB **(1)**	OBIB, indented with text labels	D OIBIB
PATS **(1)**	PI, SO	D PATS

Document Formats (cont'd)

Format	Content	Examples
SBIB **(1)**	BIB, Standard, without cited references (AN, DN, TI, AU, IN, CS, PA, SO, PB, DT, LA, FAN.CNT, PI, PRAI, OS)	D 1 3 SBIB
SIBIB **(1)**	SBIB, indented with text labels	D SIBIB
SCAN **(5,7)**	TI and FCRD (random display, no answer number)	D SCAN
STD **(1)**	AN, TI, AU, IN, CS, PA, SO, PB, DT, LA, NCL, FAN.CNT, PI, PRAI, OS, RE.CNT	D STD
HIT	Reaction Map, Diagram, Summary for all hit reactions and fields containing hit terms	D CBIB HIT
OCC	All hit fields and the number of occurrences of the hit terms in each field. Includes total number of HIT, PATH, SPATH reactions. Labels reactions that have incomplete verifications.	DIS 1-10 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) Structure diagrams in abstracts in the Graphics Image (GI) field are available only on graphics terminals and in offline prints
(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) SX displays all information in the CC field, i.e., CA section and section cross-references.
(7) SCAN must be specified on the command line, i.e., D SCAN or DISPLAY SCAN.

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).

Reaction Fields

Field Name	Field Code	ANALYZE/ SELECT (1)	SORT
All Registry Numbers from Hit Reactions	RX	Y	N
All Registry Numbers from Reaction n	RX(n)	Y	N
All Registry Numbers from Single-Step Reactions	SSRX	Y	N
All Registry Numbers from Single-Step Reaction n	SSRX(n)	Y	N
Catalyst Registry Numbers from HIT Reactions	CAT	Y	N
Catalyst Registry Numbers from Reaction n	CAT(n)	Y	N
Product Registry Numbers from Hit Reactions	PRO	Y	N
Product Registry Numbers from Reaction n	PRO(n)	Y	N

Reaction Fields (cont'd)

Field Name	Field Code	ANALYZE/ SELECT (1)	SORT
Reactant Registry Numbers from Hit Reactions	RCT	Y	N
Reactant Registry Numbers from Reaction n	RCT(n)	Y	N
Reagent Registry Numbers from Hit Reactions	RGT	Y	N
Reagent Registry Numbers from Reaction n	RGT(n)	Y	N
Solvent Registry Numbers from Hit Reactions	SOL	Y	N
Solvent Registry Numbers from Reaction n	SOL(n)	Y	N

(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 CAT to select the hit catalyst Registry Number.

Document Fields

Field Name	Field Code	ANALYZE/ SELECT (1)	SORT
Abstract	AB	Y	N
Accession Number	AN	Y	N
Author	AU	Y	Y
CA Classification Code	CC	Y	Y
CA Section Cross-Reference Code	SX	Y	Y
CAS Role	RL	Y **(2)**	N
Citation	CIT	Y **(2,3)**	N
Cited References	RE	Y	N
Cited Reference(n)	RE(n)	Y **(4)**	N
Cited Reference Accession Number in CAplus	RAN.CAPLUS	Y **(5)**	N
Cited Reference Accession Number(n) in CAplus	RAN.CAPLUS (n)	Y **(4,5)**	N
Cited Reference Accession Number in MEDLINE	RAN.MED	Y **(6)**	N
Cited Reference Accession Number(n) in MEDLINE	RAN.MED(n)	Y **(4,6)**	N
Cited Reference Author Name	RAU	Y	N
	RIN	Y **(7)**	N
Cited Reference Count	RE.CNT	Y	Y
	REC	Y	Y
Cited Reference Patent Number	RPN	Y	N
Cited Reference Publication Year	RPY	Y	N
Cited Reference Work Title	RWK	Y	N
CODEN	CODEN	Y **(8)**	Y
Controlled Term	CT	Y	N
Corporate Source	CS	Y	Y
Corporate Source, Division	CS.DIV	Y	N
Corporate Source, Organization	CS.ORG	Y	N
Country of Author	CYA	Y	Y
Designated States	DS	Y **(2)**	N
Designated States, Basic	DS.B	Y **(2,9)**	N
Document Type	DT	Y	Y
File Segment	FS	Y **(2)**	Y

Document Fields (cont'd)

Field Name	Field Code	ANALYZE/ SELECT (1)	SORT
Index Term	IT	Y	N
International Standard (Document) Number	ISN	Y **(10)**	N
International Standard Serial Number	ISSN	Y **(11)**	Y
Inventor Name	IN	Y	Y
IPC	IPC	Y **(12)**	N
IPC, Additional or Supplementary	ICA	Y	Y
IPC, Index or Complementary	ICI	Y	Y
IPC, Main	ICM	Y	Y
IPC, Main and Secondary	IC	Y	Y
IPC, Secondary	ICS	Y	Y
Journal Title	JT	Y	Y
Language	LA	Y	Y
National Patent Classification	NCL	Y	Y
Other Source	OS	Y	Y
Patent Application Country	AC	Y **(2)**	Y
Patent Application Country, Basic	AC.B	Y **(2,13)**	Y
Patent Application Date	AD	Y **(2)**	Y
Patent Application Date, Basic	AD.B	Y **(2,14)**	Y
Patent Application Information	AI	Y **(2,15,16)**	Y
Patent Application Information, Basic	AI.B	Y **(2,16,17)**	Y
Patent Application Number	AP	Y **(2,16)**	Y
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Patent Application and Priority Number	APPS	Y **(2,16,19)**	N
Patent Application and Priority Number, Basic	APPS.B	Y **(2,16,20)**	N
Patent Application Year	AY	Y **(2)**	Y
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Patent Assignee	PA	Y	Y
Patent Countries	PCS	Y **(2,22)**	N
Patent Countries, Basic	PCS.B	Y **(2,23)**	N
Patent Country	PC	Y **(2)**	Y
Patent Country, Basic	PC.B	Y **(2,24)**	Y
Patent Country Count	CYC	Y **(2,25)**	N
Patent Information	PI	Y **(2,16,26)**	Y
Patent Information, Basic	PI.B	Y **(2,15,27)**	Y
Patent Kind Code	PK	Y **(2)**	Y
Patent Kind Code, Basic	PK.B	Y **(2,28)**	Y
Patent Number	PN	Y **(2,16)**	Y
	PATS	Y **(2,16)**	N
Patent Number, Basic	PN.B	Y **(2,16,29)**	Y
	PATS.B	Y **(2,16,30)**	N
Patent Number Count	PNC	Y **(31)**	N
Priority Application Country	PRC	Y **(2)**	Y
Priority Application Country, Basic	PRC.B	Y **(2,32)**	Y
Priority Application Date	PRD	Y **(2)**	Y
Priority Application Date, Basic	PRD.B	Y **(2,33)**	Y
Priority Application Information	PRAI	Y **(2,16,34)**	Y
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Priority Application Number, Basic	PRN.B	Y **(2,16,36)**	Y
Priority Application Year	PRY	Y **(2)**	Y
Priority Application Year, Basic	PRY.B	Y **(2,37)**	Y
Publication Date	PD	Y	Y
Publication Year	PY	Y	Y
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Publisher	PB	Y	N
Publisher Item Identifier	PUI	Y	N

Document Fields (cont'd)

Field Name	Field Code	ANALYZE/ SELECT (1)	SORT
Source of Document	SO	Y **(39)**	N
Supplementary Term	ST	Y	N
Title of Document	TI	Y	Y
Treatment Code	TC	Y **(40)**	Y
Uniform Resource Locator	URL	Y	N

(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 AU to select the hit AU.
(2) SELECT HIT and ANALYZE HIT not valid with this field.
(3) Extracts first author, publication year, volume, first page with a truncation symbol appended and with /CIT appended to the terms created by SELECT.
(4) (n) may be a single number, range, or a list of numbers separated by a space or comma.
(5) Selects or analyzes cited reference accession number in CAplus and appends /AN to the terms created by SELECT.
(6) Selects or analyzes cited reference accession number in MEDLINE and appends /AN to the terms created by SELECT.
(7) Selects or analyzes cited reference author name and appends /RAU to the terms created by SELECT.
(8) Selects or analyzes the CODEN and appends /ISN to the terms created by SELECT.
(9) Appends /DS to the terms created by SELECT.
(10) Selects or analyzes the CODEN and ISSN and appends /ISN to the terms created by SELECT.
(11) Selects or analyzes the ISSN and appends /ISN to the terms
(12) Selects or analyzes the IC, ICA, ICI and appends /IPC to the terms created by SELECT.
(13) Appends /AC to the terms created by SELECT.
(14) Appends /AD to the terms created by SELECT.
(15) Selects or analyzes the Patent Application Numbers and appends /AP to the terms created by SELECT.
(16) Enter SET PATENT DERWENT at an arrow prompt (=>) to SELECT or ANALYZE patent, application, and priority numbers in Derwent format.
(17) Selects or analyzes the Basic Patent Application Numbers and appends /AP to the terms created by SELECT.
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(19) Selects or analyzes the AP and PRN and appends /APPS to the terms created by SELECT.
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(39) Selects or analyzes the CODEN and ISSN and appends /SO to the terms created by SELECT.
(40) Appends /DT to the terms created by SELECT.

Sample Records

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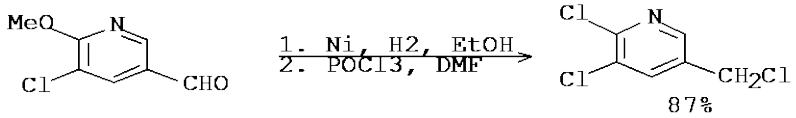
RX(4) OF 6 - 2 STEPS



REF: Ger. Offen., 3924683, 31 Jan 1991
NOTE: 1) Raney Ni

DISPLAY FHIT

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L4   ANSWER 1 OF 1  CASREACT  COPYRIGHT 2009 ACS on STN
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RX(4) OF 6 COMPOSED OF RX(1), RX(2)
RX(4)     A  ===>  F
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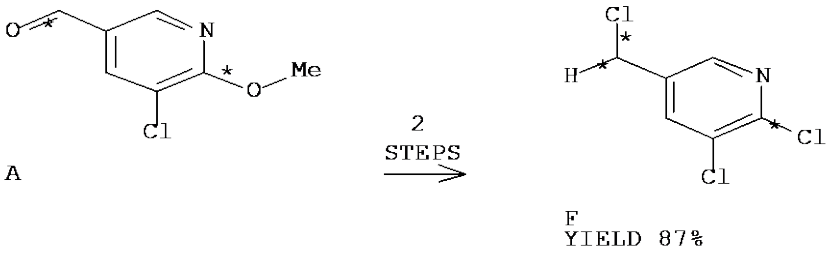


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RX(1)     RCT  A 132865-44-2
          RGT  C 1333-74-0 H2
          PRO  B 132865-53-3
          CAT  7440-02-0 Ni
          SOL  64-17-5 EtOH
          NTE  Raney Ni

RX(2)     RCT  B 132865-53-3
          RGT  G 10025-87-3 POCl3
          PRO  F 54127-31-0
          SOL  68-12-2 DMF
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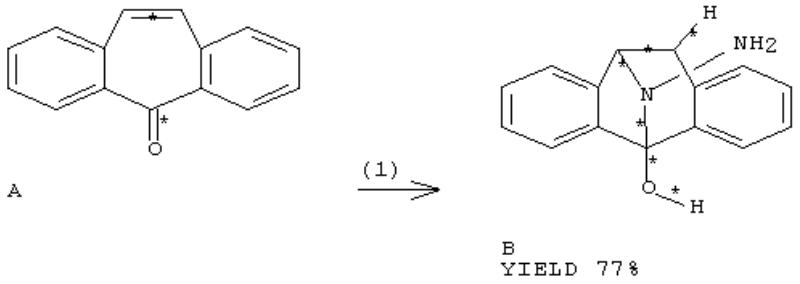
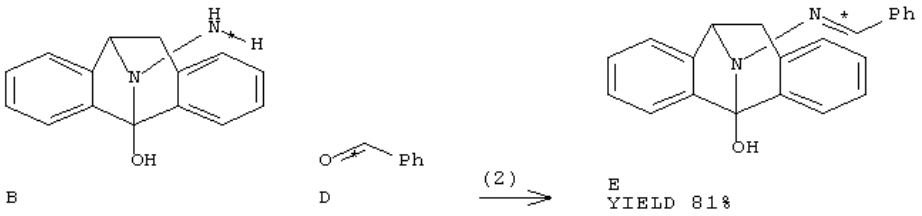
DISPLAY ALL (INFOCHEM File Segment)

AN 83:178776 CASREACT Full-text
TI Novel reaction of 5H-dibenzo[a,d]cyclohepten-5-one with hydrazine
AU Barcza, Sandor; Coppola, Gary M.; Hardtmann, Goetz E.; Mansukhani, Ruth I.
CS Chem. Res. Dep., Sandoz, Inc., East Hanover, N. J., USA
SO J. Org. Chem. (1975), 40(20), 2982-3
CODEN: JOCEAH
DT Journal
LA English
CC 27-19 (Heterocyclic Compounds (One Hetero Atom))
Section cross-reference(s): 26
GI For diagram(s), see printed CA Issue.
AB Reaction of the title compd. (I) with H2NNH2 gave 77% II.
ST dibenzocycloheptenone cyclization hydrazine; iminodibenzocycloheptenol
IT 302-01-2, reactions
RL: RCT (Reactant)
(cyclization of, with dibenzocycloheptenone)
IT 2222-33-5
RL: RCT (Reactant)
(cyclization of, with hydrazine)
IT 55991-62-3P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
(prepn. and reaction with benzaldehydes)
IT 55991-63-4P 55991-64-5P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)
IT 120-14-9
RL: RCT (Reactant)
(reaction of, with iminodibenzocycloheptenol)
IT 100-52-7, reactions
RL: RCT (Reactant)
(with iminodibenzocycloheptenol)
RX(1) OF 3 A ===> B...



RX(1) RCT A 2222-33-5
RGT C 302-01-2 N2H4
PRO B 55991-62-3

RX(2) OF 3 ...B + D ===> E



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RX(2)     RCT  B 55991-62-3, D 100-52-7
          PRO  E 55991-63-4
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DISPLAY ALL (INPI File Segment)

```
AN   1:6281  CASREACT Full-text
TI   Oxidizing o-nitrotoluene
PA   Badische Anilin- und Soda-Fabrik
DT   Patent
LA   Unavailable
CC   10 (Organic Chemistry)
FAN.CNT 1
     PATENT NO.       KIND  DATE           APPLICATION NO.  DATE
     ---------------  ----  --------       ---------------  --------
PI   DE 179589                18990730       DE
AB   Process of oxidizing o-nitrotoluene in the side chain, by means of
     manganese dioxide and sulphuric acid, to o-nitrobenzaldehyde, as well as
     to carbon dioxide with excess of o-nitrotoluene, characterized by
     operating above 100.degree. and preferably in closed vessels.  By
     variation in the concentration of the sulphuric acid, the principal
     product may be either o-nitrobenzaldehyde or o-nitrobenzoic acid, the
     former prevailing at 30-45.degree. B.acte.e., and the latter at
     46-60.degree. B.acte.e. concentration of acid.
IT   88-72-2, Toluene, o-nitro-
       (oxidizing in side chain)
RX(1) OF 1     A  ===>  B
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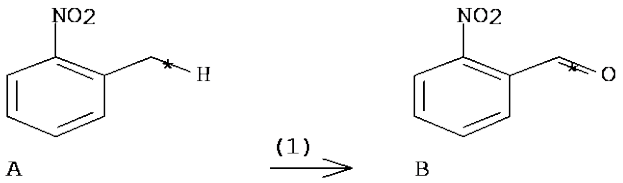


```
RX(1)     RCT  A 88-72-2
          PRO  B 552-89-6
          SOL  7664-93-9 H2SO4
          NTE  Classification: Oxidation; Benzylic oxidation; # Conditions:
               MnO2 H2SO4; 150 deg /P; # Comments: patent date 1906
```