

The logo for STN, consisting of the letters 'S', 'T', and 'N' in a bold, blue, sans-serif font. The letters are three-dimensional with a slight shadow underneath, and a registered trademark symbol (®) is located to the upper right of the 'N'.

Dealing with Large Answer Sets

Agenda

- Part 1: Show techniques to reduce the number of answers while retaining confidence in search results
- Part 2: Show use of STN commands to manipulate large answer sets

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Part 1: Techniques for refining answer sets

- Removing duplicates
- Limiting by
 - Dates
 - CAS ROLES
 - Free text
 - Index terms
 - Classification codes

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What does the DUPLICATE REMOVE command do?

- STN uses an algorithm to compare author names, titles, and source information to determine if a reference is duplicated in different databases
- Works well with journal references, less so with patent references

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Remove duplicate answers after a multi-file search with DUP REM

```
=> FILE CAPLUS MEDLINE BIOSIS EMBASE SCISEARCH
=> S (PHENYLKETONURIA OR PHENILPYRUVIC OLIGOPHRENIA OR PKU) AND
    (NEWBORN OR INFANT OR NEONATAL) AND(GENETIC OR GENOMIC) AND
    (?ASSAY? OR TEST)
TOTAL FOR ALL FILES
L6      459 L1
=> SET DUPORDER FILE
=> DUP REM L6
PROCESSING COMPLETED FOR L6
L7      351 DUP REM L6 (108 DUPLICATES REMOVED)
        ANSWERS '1-14' FROM FILE CAPLUS
        ANSWERS '15-151' FROM FILE MEDLINE
        ANSWERS '152-282' FROM FILE BIOSIS
        ANSWERS '283-345' FROM FILE EMBASE
        ANSWERS '346-351' FROM FILE SCISEARCH
```

SET DUPORDER FILE keeps answers in file order rather than in reverse chronological order.

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Techniques for refining answer sets

- Removing duplicates
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Patent files contain many different publication date options

- Date information can be found in several fields in an STN record
 - Publication year and date (/PY, /PD)
 - Application year and date (/AY, AD)
 - Priority year and date (/PRY, PRD)
- Use /PY to limit answer sets from multifile searches
 - /PY.B - Patent Year Basic - for patent files
 - Date associated with the patent indexed as the “basic” patent document.
- Use /PD to find prior art published before an exact date
 - Format is YYYYMMDD

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Answer sets can be focused by using a date restriction

- Searches can be **refined** by date
- Searches can also be **SORT**ed by date
 - Faster
 - Does not remove any answers

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Refine your search by date

```
=> DISPLAY HISTORY
L1 56 S (MARIJUANA OR CANNABIS)(S) CHEMOTHERAP?
    (S) NAUSEA?
    SET DUPORDER FILE
L2 28 DUP REM L1 (28 DUPLICATES REMOVED)

=> S L2 AND PD<=19920229
L3 16 S L2 AND PD<=19920229

    OR

=> S L2 NOT PD>19920229
L4 16 S L2 NOT PD>19920229
```

Date searches can take some time...

This alternate way of searching results in the same answers but often runs faster.

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SORT your multifile answer set by date

```
=> SORT L2 PY A
SORT ENTIRE ANSWER SET? (Y)/N:Y
PROCESSING COMPLETED FOR L2
```

Sorting is quicker than refining.

PY A means Publication Year in ASCENDING order.

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Displays are now in order from oldest to newest

=> D BIB ABS

```
L5 ANSWER 1 OF 28 EMBASE COPYRIGHT (c) 2007 Elsevier B.V. All rights reserved on STN
AN 80200205 EMBASE Full-text
DN 1980200205
TI How-to manual languishes in obscurity.
AU Korcok M.
CS United States
SO US Journal of Drug and Alcohol Dependence, (1979) Vol.3, No. 7, pp.1-2
ED Entered STN: 9 Dec 1991
   Last Updated on STN: 9 Dec 1991
AB Though therapeutic use of marijuana remains illegal in most of the country, there are growing legions of cancer patients turning to pot to ease the debilitating nausea that often accompanies chemotherapy and sometimes radiation therapy. A newly published manual, entitled Using Marijuana in the Reduction of Nausea Associated with Chemotherapy, might well eliminate a lot of this hesitancy if it ever gets the kind of distribution its author would like.
```

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Techniques for refining answer sets

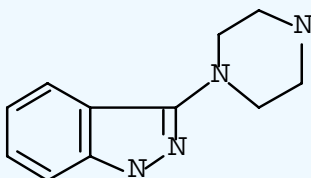
- Removing duplicates
- Limiting by
 - Dates
 - CAS ROLES
 - Free text
 - Index terms
 - Classification codes

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Refine the results of a structure search using CAS ROLES

Search Problem: Locate references describing the therapeutic use of the following class of substances:



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Steps for adding CAS ROLES to a structure search

1. Run a structure search
2. Crossover the answer set to CAplusSM
3. Refine with CAS roles (or keywords)
4. DISPLAY final answer set using IBIB ABS HITSTR

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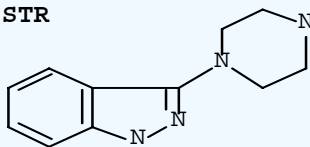
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Run the structure search

```
=> FILE REGISTRY  
  
=>  
Uploading C:\Program Files\stnexp\Queries\large6.str  
  
L1      STRUCTURE UPLOADED  
  
=> D L1
```

```
L1 HAS NO ANSWERS
```

```
L1      STR
```



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Run the sample and full structure searches

```
=> S L1 SAM
```

```
=> S L1 FULL
```

```
FULL SEARCH INITIATED 10:27:22 FILE 'REGISTRY'  
FULL SCREEN SEARCH COMPLETED - 1611 TO ITERATE
```

```
100.0% PROCESSED      1611 ITERATIONS      374  
ANSWERS
```

```
SEARCH TIME: 00.00.01
```

```
L3      564 SEA SSS FUL L1
```

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CAS Roles add precision to the search

=> FILE CAPLUS

=> S L3

L4 68

Some of the publications might be preparations or studies.

=> D 3 7 TI

L4 ANSWER 3 OF 68 CAPLUS COPYRIGHT 2007 ACS on STN

TI Azole. 47. 3-Thiomorpholino- and 3-(4-Methylpiperazino)-5-nitroindazole

L4 ANSWER 7 OF 68 CAPLUS COPYRIGHT 2007 ACS on STN

TI Facile preparation of 3-(1-piperaziny1)-1H-indazoles

=> S L3/THU

L5 49 L3/THU

THU is the role for therapeutic use. Note the search is linked to L3, the answer set from CAS REGISTRYSM. 49 of the 68 answers discuss the therapeutic use of the substances.

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Or, narrow your answer set with keywords

=> S L4 AND (PHARM? OR DRUG? OR DISEASE?)

L6 34 L4 AND (PHARM? OR DRUG? OR DISEASE?)

=> S L5 OR L6

L7 50 (L5 OR L6)

L4 contains 68 CAplus records indexed to the RNs for the substances of interest. The answer set can also be refined by adding keywords associated with the therapy concept. The keywords are searched in the CAplus basic index.

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One additional reference is identified

```

=> S L7 NOT L5
L8          1 L7 NOT L5

L8  ANSWER 1 OF 1  CAPLUS  COPYRIGHT 2007 ACS on STN
AN  1989:553842  CAPLUS
DN  111:153842
TI  Neuroleptic arylpiperazinylalkyl-substituted heterocycles and their
    pharmaceutical compositions and use
IN  Lowe, John A., III.; Nagel, Arthur A.
PA  Pfizer Inc., USA
SO  U.S., 9 pp.
    CODEN: USXXAM
DT  Patent
LA  English
FAN.CNT 1
    PATENT NO.          KIND  DATE          APPLICATION NO.      DATE
    -----
PI  US 4831031          A    19890516      US 1988-146886      19880122
    IN 173938           A1   19940813      IN 1988-DE139       19880219
    US 4883795          A    19891128      US 1989-300995      19890123
PRAI US 1988-146886    A    19880122
OS  CASREACT 111:153842; MARPAT 111:153842
  
```

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Use the IBIB format to see full field labels

```

=> D L7 IBIB ABS HITSTR 50
L7  ANSWER 50 OF 50  CAPLUS  COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1989:39024  CAPLUS Full-text
DOCUMENT NUMBER:  110:39024
TITLE:            Preparation of (heterocyclophenylalkyl)piperazinyl-
                  arenes as antipsychotics
INVENTOR(S):     Lowe, John Adams, III; Nagel, Arthur Adam
PATENT ASSIGNEE(S): Pfizer Inc., USA
SOURCE:          Eur. Pat. Appl., 13 pp.
                  CODEN: EPXXDW
DOCUMENT TYPE:   Patent
LANGUAGE:       English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:
    PATENT NO.          KIND  DATE          APPLICATION NO.      DATE
    -----
EP 281309              A1   19880907      EP 1988-301561      19880224
EP 281309              B1   19911227
R:  AT, BE, CH, DE, ES, FR, GB, GR, IT, LI, LU, NL, SE
IL 85495               A1   19930513      IL 1988-85495       19880222
...
  
```

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The ABS format displays abstract and any associated graphic

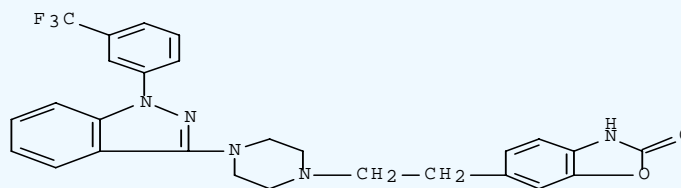
AB The title compds. [I; Ar = (substituted) naphthyl, quinolyl, isoquinolyl, quinazolyl, benzisothiazolyl, indolyl, indanyl, etc.; X, Y = atoms to complete quinolyl, benzothiazolyl, indazolyl, indolyl, oxindolyl, benzoxazolyl benzimidazolonyl, benzotriazolyl rings, etc.; n = 1,2] useful as antipsychotics (no data) were prepared A mixture of benzoxazolone and BrCH₂CO₂H in polyphosphoric acid was stirred at 115° for 2-5 h and the product was treated with CF₃CO₂H and then Et₃SiH. The mixture was stirred overnight at room temperature to give 11% 6-(2-bromoethyl)benzoxazolone. The latter was refluxed with N-(1-naphthyl)piperazine, NaI, and Et₃N in EtOH for 3 days to give 23% 6-[2-[4-(1-naphthyl)piperazinyl]ethyl] benzoxazolone.

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HITSTR shows the hit structure that retrieved the answer

IT 118289-91-1P 118289-92-2P
 RL: BAC (Biological activity or effector, except adverse);
 SPN(Synthetic preparation); THU (Therapeutic use); BIOL
 (Biological study); PREP (Preparation); USES (Uses)
 (preparation of, as antipsychotic)
 RN 118289-91-1 CAPLUS
 CN 2(3H)-Benzoxazolone, 6-[2-[4-[1-[3-(trifluoromethyl)phenyl]-
 1H-indazol-3-yl]-1-piperazinyl]ethyl]- (9CI) (CA INDEX
 NAME)



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To find out more about CAS ROLES

- Type => **HELP ROLES** in the CAplus file
- <http://www.cas.org/ONLINE/QR/casroles.pdf>

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Techniques for refining answer sets

- Removing duplicates
- Limiting by
 - Dates
 - CAS ROLES
 - Free text
 - Index terms
 - Classification codes

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Refine search results with index terms

- CAS controlled vocabulary found in the Index Term fields in CASM/CAplus records
- Facilitates precision refinement of an answer set

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Steps for refining using index terms

1. Run a text search
2. DISPLAY relevant answers in the **IND** format
3. Refine with appropriate indexing terms

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Run a text search

```
=> FILE BIOSIS
=> S (NUCLEIC ACID OR POLYNUCLEOTIDE OR
DNA)(W)PROBE?
L1      13435 (NUCLEIC ACID OR POLYNUCLEOTIDE OR DNA)
        (W) PROBE?

=> S PRENATAL OR FETUS OR FETAL
L2      182753 PRENATAL OR FETUS OR FETAL

=> S SEXING OR DETERMIN?(2A)(SEX? OR
GENDER?)
L3      8544 SEXING OR DETERMIN? (2A)(SEX? OR GENDER?)

=> S L1 AND L2 AND L3
L4      36 L1 AND L2 AND L3
```

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Identify relevant answers

```
=> D 1-36 TI

L4      ANSWER 1 OF 36 BIOSIS COPYRIGHT (c) 2007 The
        Thomson Corporation on STN
TI      Y-chromosome specific polynucleotide probes for
        prenatal sexing.

...

L4      ANSWER 19 OF 36 BIOSIS COPYRIGHT (c) 2007
        The Thomson Corporation on STN
TI      DETERMINATION OF THE SEX OF THE FETUS BY DNA
        ANALYSIS FROM CHORIONIC VILLUS SAMPLES.
```

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Display indexing

```
=> D IND 1

L4 ANSWER 1 OF 36 BIOSIS COPYRIGHT (c) 2007
  The Thomson Corporation on STN
NCL 435006000
CC Biochemical Studies - Nucleic Acids, Purines and Pyrimidines
   *10062
   Developmental Biology - Embryology - General and Descriptive
   *25502
   Reproductive System - General; Methods *16501
   Pathology, General and Miscellaneous - Diagnostic *12504
   Genetics and Cytogenetics - Human *03508
   Methods, Materials and Apparatus, General - Laboratory Methods
   *01004
IT Major Concepts
   Biochemistry and Molecular Biophysics; Development; Genetics;
   Methods and Techniques; Pathology; Reproductive System
   (Reproduction)
IT Sequence Data
   NUCLEIC ACID SEQUENCE
IT Miscellaneous Descriptors
   BIOTECHNOLOGY; DIAGNOSTIC TESTING; GENDER DETERMINATION;
   GENETICS
```

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Refine search with index terms

```
=> D IND 19

L4 ANSWER 19 OF 36 BIOSIS BIOSIS COPYRIGHT (c) 2007
  The Thomson Corporation on STN
CC Genetics and Cytogenetics - Human *03508
   Genetics and Cytogenetics - Sex Differences *03510
   Biochemical Methods - Nucleic Acids, Purines and Pyrimidines
   10052
   Biochemical Studies - Nucleic Acids, Purines and Pyrimidines
   *10062
   Reproductive System - General; Methods 16501
   Reproductive System - Pathology *16506
   Developmental Biology - Embryology - Pathological *25503
BC Hominidae 86215
IT Miscellaneous Descriptors
   HUMAN DNA PRENATAL DIAGNOSIS X-LINKED GENETIC DISORDER

=> S L4 AND (GENDER DETERMINATION/CT)

L5 17 L4 AND (GENDER DETERMINATION/CT
   OR 03510/CC)
```

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Display final results

=> D TI 1-5

L5 ANSWER 1 OF 17 BIOSIS COPYRIGHT (c) 2007
The Thomson Corporation on STN
TI Birth of a healthy girl after preimplantation **gender determination** using a combination of polymerase chain reaction and fluorescent in situ hybridization analysis.

L5 ANSWER 2 OF 17 BIOSIS COPYRIGHT (c) 2007
The Thomson Corporation on STN
TI **Sexing** of human embryos and **fetuses** by fluorescent in situ hybridization (FISH) to paraffin-embedded tissues with sex chromosome-specific **DNA probes**.

L5 ANSWER 3 OF 17 BIOSIS COPYRIGHT (c) 2007
The Thomson Corporation on STN
TI **Sexing** of human embryos and **fetuses** by fluorescent in situ hybridization (FISH) to paraffin-embedded tissues with sex chromosome-specific **DNA probes**.

L5 ANSWER 4 OF 17 BIOSIS COPYRIGHT (c) 2007
The Thomson Corporation on STN
TI **Sexing** of human embryos and **fetuses** by fluorescent in situ hybridization (FISH) to paraffin-embedded tissues with sex chromosome-specific **DNA probes**.

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Search Problem: Locate references describing a bacterial DNA encoding an enzyme for the detoxification of a pesticide.

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The CAPLUS thesaurus identifies narrower terms and chemical substance terms

```
=> FILE CAPLUS
=> E PESTICIDES+ALL/CT
E1      8922      BT2  Materials/CT
E2      1735      BT1  Biocides/CT
E3      32766     -->  Pesticides/CT
E4      8404      HN   Valid heading during volume 66 (1967) to present.
E5      791       NT1  Fumigants/CT
E6      791       NT2  Bactericides, Disinfectants, and Antiseptics (L)
      fumigants/CT
E7      17959     NT1  Fungicides/CT
E8      17959     NT2  Fungicides and Fungistats (L) agrochem./CT
E9      17959     NT2  Fungicides and Fungistats (L) biol./CT
E10     17959     NT2  Fungicides and Fungistats (L) fumigants/CT
E11     17959     NT2  Fungicides and Fungistats (L) industrial/CT
      .
      .
      .
E161    RTCS  Thiobencarb/CT
E162    RTCS  Thiophanate methyl/CT
E163    RTCS  Trans-Chlordane/CT
E164    RTCS  Trans-Nonachlor/CT
E165    RTCS  Triadimefon/CT
E166    RTCS  Trifluralin/CT
E167    RTCS  Vinclozolin/CT
***** END***
```

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Enhance your search query with controlled terminology

```
=> S PESTICIDE? OR HERBICIDE? OR
ACARICIDE? OR BACTERICIDE? OR
FUNGICIDE? OR MICROBICIDE? OR
INSECTICIDE? OR PESTICIDES+NT,RTCS/CT
```

```
THE ESTIMATED SEARCH COST FOR FILE 'CAPLUS' IS
267.33 U.S. DOLLARS
DO YOU WANT TO CONTINUE WITH THIS REQUEST? (Y)/N or
END:N
SEARCH ENDED BY USER
```

The **SET NOTICE SEARCH** command can help you monitor search costs.

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Compare search charges

CAPLUS

connect time (**\$41/hr**)
plus
search terms (~**\$2** ea.)

HCAPLUS

connect time (**\$254/hr**)
search terms (free)

=> **HELP COST**

With this many terms, the better choice is HCAPLUS. Display charges are the same in both files.

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Techniques for refining answer sets

- Removing duplicates
- Limiting by
 - Dates
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 - Classification codes

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Use CA Section Codes (/SC) to focus your answer set

- 80 CA Section Codes
- Each CA section covers only one broad area of technology
- Each abstract in CA appears in only one section
- Abstracts are assigned to a section according to the novelty of the process or substance that is being reported in the literature
- <http://www.cas.org/PRINTED/sects.html>

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Refine the results of a structure search using CAS Classifications

Technology	Sections
Biochemistry	1-20
Organic Chemistry	21-34
Macromolecular	35-46
Applied Chemistry and Chemical Engineering	47-64
Physical, Inorganic, and Analytical Chemistry	65-80

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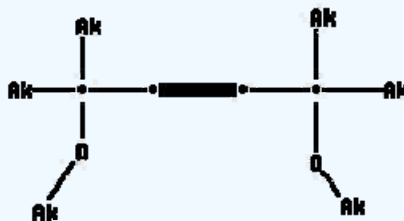
Steps to limit a search by CAS section code

1. Run a structure search
2. Crossover the answer set to CAPLUS
3. Explore appropriate CAS section codes
4. Refine with CAS section codes
5. DISPLAY using IBIB ABS HITSTR

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Search Problem: Locate references describing the following class of substances as a coating:

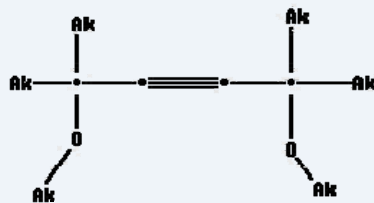


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Upload the structure in REGISTRY

```
=> FILE REGISTRY
L1      STRUCTURE UPLOADED
=> D L1
L1 HAS NO ANSWERS
L1      STR
```



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Run the full search and crossover to CAPlus

```
=> S L1 SAM
=> S L1 FULL
L3      250 SEA SSS FUL L1
=> FILE CAPLUS
=> S L3
L4      1420 L2
```

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Expand the classification code (Section Code)

```
=> E COATINGS+ALL/CC
E1      219248  --> COATINGS/CC
E2      212236  USE 42 COATINGS, INKS, AND RELATED
          PRODUCTS, 1967 TO PRESENT/CC
```

```
=> E E2+ALL/CC
E1      2446489 BT1 MACROMOLECULAR/CC
E2      212236  --> 42 COATINGS, INKS, AND RELATED
          PRODUCTS, 1967 TO PRESENT/CC
```

NOTE THIS SECTION INCLUDES THE MANUFACTURE AND USE OF DECORATIVE, FINISHING, AND PROTECTIVE COATINGS AND THE MATERIALS USED IN THEIR MANUFACTURE. COATINGS OF A SPECIFIC CLASS OR FOR A SPECIFIC USE ARE INCLUDED IN THE SECTION ENCOMPASSING THE CLASS OR USE: E.G., FIBER COATINGS IN SECTION 40; PAPER COATINGS IN SECTION 43; VITREOUS COATINGS IN SECTION 57; COSMETIC ENAMELS IN SECTION 62; DENTAL COATINGS IN SECTION 63; ELECTRODE OXIDE COATINGS IN SECTION 72; PHOTOGRAPHIC COATINGS IN SECTION 74.

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Refine with the classification code

```
=> S L4 AND COATINGS+ALL/CC
          219248 COATINGS+ALL/CC (2 TERMS)
L5          592 L4 AND COATINGS+ALL/CC
```

For more information on using the CAS Section Code thesaurus, consult the Quick Reference Card at:

<http://www.cas.org/ONLINE/QR/casecthes.pdf>

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Narrow further by date

```
=> S L5 NOT PY>2001
L6          178 L5 NOT PY>2001

=> SORT L6 PY, A
SORT ENTIRE ANSWER SET? (Y)/N:Y
PROCESSING COMPLETED FOR L6
L7          178 SORT L6 PY A
```

Helpful hint: To review potential prior art, refine the initial answer set by desired application or publication date range and then **SORT** by date, in ascending order.

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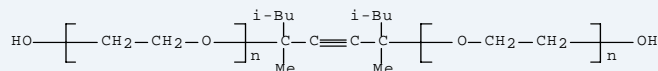
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Display answers

AB Polyethylene glycol 2,4,7,9-tetramethyl-5-decyne-4,7-diol ether (I) [9014-85-1] was added to dodecanedicarboxylic acid-2-ethylhexyl methacrylate-glycidyl methacrylate-.beta.-hydroxyethyl methacrylate-methacrylic acid-Me methacrylate-styrene copolymer (II) [73048-33-6], acrylic acid-2-ethylhexyl acrylate-2-ethylhexyl methacrylate-2-hydroxypropyl methacrylate-Melan 27-Me methacrylate-styrene copolymer [73048-14-3], or a similar polymer to improve coating properties. Thus, a water-contg. powd. cake of II (58% solids) 84, I 1, Emulgen 0.3, a bentonite thickening agent 0.1, and water 16 parts were mixed, dild., (100 parts) with 10 parts water, and coated on iron to give a surface which was smoother than the surface coated in the absence of I.

IT 9014-85-1
RL: USES (Uses)
(acrylic polymers contg., for improved coating properties)

RN 9014-85-1 CAPLUS



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Part 2: Browsing large answer sets

- Highlighting
- Browsing formats
- Relevance ranking
- DISPLAY BROWSE
 - Tagging answers
 - “String search”

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Control highlighting in the answers

The Problem: Certain words can appear over and over in a reference, causing **KWIC** or **HIT** displays to show irrelevant parts of the record.

The Solution: Target certain search terms with hit-term highlighting to make browsing easier and faster.

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Steps to control term highlighting

1. **SET HIGHLIGHT OFF**
2. Search the “background” of the invention
(broad search)
3. **SET HIGHLIGHT ON**
4. Search for the “novelty” (narrow search)
5. **D HIT** or **D KWIC**

Only terms used in novelty search will be highlighted!

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Turn highlighting on before you search for
the novel aspects of the invention.

```
=> FILE CAPLUS

=> SET HIGHLIGHTING OFF
SET COMMAND COMPLETED

=> S HAIR?(S)(PREPARATION? OR FIX!TIVE OR SHAMPOO? OR ?CONDITION?
OR ?TREATMENT? OR GEL? OR MOUSSE? OR DYE# OR COLOR? OR COLOUR?
OR COMPOSITION OR CREAM? OR WAV?)

L1      35340 HAIR?(S)(PREPARATION? OR FIX!TIVE OR SHAMPOO? OR
?CONDITION? OR ?TREATMENT? OR GEL? OR MOUSSE? OR DYE# OR
COLOR? OR COLOUR? OR COMPOSITION OR CREAM? OR WAV?)

=> SET HIGHLIGHTING ON
SET COMMAND COMPLETED

=> S JOJOBA (S) L1
L2      125 JOJOBA (S) L1
```

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Only the “novelty” words are highlighted

```
=> D HIT 1-2

L2 ANSWER 1 OF 125 CAPLUS COPYRIGHT 2007 ACS on STN
IT Castor oil
   Glycols, biological studies
   Jojoba oil
   Polyesters, biological studies
   Polyoxyalkylenes, biological studies
   Polysiloxanes, biological studies
RL: COS (Cosmetic use); BIOL (Biological study); USES
    (Uses) (spray atomizer for release of cosmetic hair
    and skin cleaning compns.)
```

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Part 2: Browsing large answer sets

- Highlighting
- Browsing formats
- Relevance ranking
- DISPLAY BROWSE
 - Tagging answers
 - “String search”

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Browse answers efficiently with **D HIT** or **D KWIC**

- Assess the relevance of the answers by reviewing the search terms in the context of each answer record
 - **D HIT** displays entire hit term field
 - **D KWIC** displays hit term and 20 terms on either side
- Screen answers offline

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Steps for browsing a large answer set

1. Run the search
2. **D HIT TOT** or **D KWIC TOT**
3. **LOGOFF HOLD**
4. Review the answers offline
5. Log on to STN and display only desired answers in BIB ABS format

LOGOFF HOLD now holds your search for 2 hours.

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Search Problem: An invention involves a series of acids used in semiconductor etching. Two of the acids must be present and a number of steps must be involved (e.g., washing, neutralizing, etc.).

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Search for initial concept

```
=> FILE HCAPLUS

=> S PHOSPHORIC OR PHOSPHORIC ACID/CN
L3      109616 PHOSPHORIC OR L2

=> S PHOSPHORUS OR PHOSPHOROUS ACID/CN
L6      320838 PHOSPHOROUS OR L5

=> S NITRIC OR NITRIC ACID/CN
L9      188843 NITRIC OR L8

=> S SULFURIC OR SULFURIC ACID/CN
L12     152556 SULFURIC OR L11

=> S CARBONIC OR CARBONIC ACID/CN
L15     30229 CARBONIC OR L14
```

Search for keyword
in basic index and
CAS Registry
Number (identified
via a /CN search in
Registry.)

STN

56

Link with next concept

```
=> S L3 (L) ETCH? (L) SEMICONDUCT?
L16      546 L3(L)ETCH?(L)SEMICONDUCT?

=> S L6 (L) ETCH? (L) SEMICONDUCT?
L17      220 L6(L)ETCH?(L)SEMICONDUCT?

=> S L9 (L) ETCH? (L) SEMICONDUCT?
L18      517 L9(L)ETCH?(L)SEMICONDUCT?

=> S L12 (L) ETCH? (L) SEMICONDUCT?
L19      379 L12(L)ETCH?(L)SEMICONDUCT?

=> S L15 (L) ETCH? (L) SEMICONDUCT?
L20      16 L15(L)ETCH?(L)SEMICONDUCT?
```

STN

57

Combine as necessary

```
=> S (L16 AND L17) OR (L16 AND L18)
OR (L16 AND L19) OR (L16 AND L20)
OR (L17 AND L18) OR (L17 AND L19)
OR (L17 AND L20) OR (L18 AND L19)
OR (L18 AND L20) OR (L19 AND L20)

L21 235 (L16 AND L17) OR (L16 AND L18)
OR (L16 AND L19) OR (L16 AND L20)
OR (L17 AND L18) OR (L17 AND L19)
OR (L17 AND L20) OR (L18 AND L19)
OR (L18 AND L20) OR (L19 AND L20)
```

Search query requires
that at least two of the
acids be present.

STN

58

Display in abbreviated format and review offline

=> D HIT TOT; LOGOFF HOLD

L21 ANSWER 1 OF 235 HCAPLUS COPYRIGHT 2007 ACS on STN
IT 7664-38-2, Phosphoric acid, uses 7664-39-3, Hydrogen
fluoride, uses 7664-93-9, Sulfuric acid, uses
7697-37-2, Nitric acid, uses 12125-01-8, Ammonium
fluoride
RL: RGT (Reagent); TEM (Technical or engineered material
use); RACT (Reactant or reagent); USES (Uses)
(device for etching layers on semiconductor wafers
and procedures for etching and use of spectrometer in
etching control)

Hits in fields other than the TI, ST, and IT fields
can not be reviewed with the D SCAN format.

STN

59

Reconnect to STN within 2 hours

=> D HIS 5

L17 220 S L6 (L) ETCH? (L) SEMICONDUCT?
L18 517 S L9 (L) ETCH? (L) SEMICONDUCT?
L19 379 S L12 (L) ETCH? (L) SEMICONDUCT?
L20 16 S L15 (L) ETCH? (L) SEMICONDUCT?
L21 235 S (L16 AND L17) OR (L16 AND L18)...

=> D L21 IBIB ABS HITRN 80 81 ...

STN

60

L21 ANSWER 80 OF 235 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2002:450315 HCAPLUS
DOCUMENT NUMBER: 137:26897
TITLE: Residue-free contact openings and methods for fabricating same in integrate circuit

INVENTOR(S): Li, Li
PATENT ASSIGNEE(S): USA
SOURCE: U.S. Pat. Appl. Publ., 22 pp.
CODEN: USXXCO

DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2002072230	A1	20020613	US 1998-35497	19980305
US 6576547	B2	20030610		
US 6747359	B1	20040608	US 2000-648696	20000825
US 2003143840	A1	20030731	US 2003-358629	20030204
US 6828228	B2	20041207		
PRIORITY APPLN. INFO.:			US 1998-35497	A3 19980305



AB A two-step via cleaning process which removes anisotropic **etching**-resulted "metal polymer" and "oxide polymer" residues from a via with substantially no damage to the via or underlying structures on a **semiconductor** substrate; the anisotropic etching may include, e.g., plasma **etching** and reactive ion **etching**. The via is formed through a dielec. layer and a barrier layer which are disposed over a metal-contg. trace, pad, or other such circuitry, wherein the metal-contg. trace, pad, or other circuitry is disposed on a **semiconductor** substrate. When such a via is formed, the sidewalls of the via are coated with a residue layer. The residue layer generally has a distinct "oxide polymer" component and a distinct "metal polymer" component. The two-step cleaning process comprises first subjecting the residue layer to a **nitric** acid dip which removes the "metal polymer" component to expose the "oxide polymer" component. The "oxide polymer" component is then subjected to a **phosphoric** acid dip which removes the "oxide polymer" component. The "oxide polymer" and "metal polymer" residues may also be removed during the fabrication of the via by removing them directly after their resp. formations.



Part 2: Browsing large answer sets

- Highlighting
- Browsing formats
- Relevance ranking
- DISPLAY BROWSE
 - Tagging answers
 - “String search”

STN

63

Use the **FOCUS** command to rank answers by relevance

- How close the search terms are to one another
- How many times the search terms appear
- Where the search terms appear in the online record

STN

64

Search Question: Locate references mentioning pectin as a fat replacement in ice cream.

STN

65

SEARCH and FOCUS

```
=> FILE CAPLUS USPATALL WPIDS

=> S (FAT? or OIL?)(2A)(SUBSTITUT? OR REPLAC?) AND
    PECTIN? and ICE CREAM?

L1          361 (FAT? OR OIL?)(2A)(SUBSTITUT? OR
    REPLAC?) AND PECTIN? AND ICE  CREAM?

=> FOCUS L1

PROCESSING COMPLETED FOR L1
L2          361 FOCUS L1 1-
```

STN

66

=> D KWIC

```
L2 ANSWER 1 OF 361 CAPLUS COPYRIGHT 2007 ACS on STN
TI Pectin composition as fat replacer and emulsifier
AB A fat replacer comprises a pectin compn.,
   wherein the pectin compn. comprises at least a population of
   pectin which is covalently cross linked.
ST pectin crosslinked fat substitute
. . .
IT Bakery products
   Beverages
   Dairy products
   Emulsifying agents
   Fruit and vegetable juices
   Ice cream
   Jams and Jellies
   Margarine
   Mayonnaise
   Meat
   Salad dressings
   Sauces (condiments)
   Soups
   (pectin compn. as fat replacer and
   emulsifier)
```

STN

67

Part 2: Browsing large answer sets

- Highlighting
- Browsing formats
- Relevance ranking
- **DISPLAY BROWSE**
 - Browse and tag answers
 - “String search” within answer records

STN

68

Flexible and fast review of answers

Use **DISPLAY BROWSE** to:

- Display an answer in multiple formats
- Tag relevant answers
- String search within an answer record

STN

69

DISPLAY BROWSE

This D BROWSE option	Shows the following information:
TI	Title of the record you are on
TI 2	Title for answer 2
DIS	The next answer, in default format
1-3	Answers 1-3, in default format
IBIB ABS 10	Answer 10 in IBIB ABS format
KWIC 1-3	Answers 1-3 in KWIC format
*KWIC	Answers in KWIC format as the default format for the remainder of the D BROWSE session
END	Ends the D BROWSE session

STN

70

Display in abbreviated format and review online

=> D BROWSE

: TI

L4 ANSWER 1 OF 71 CAPLUS COPYRIGHT 2001 ACS
TI Preparation of 2,3,5-trimethyl-p-benzoquinone

: TI 3-5

L4 ANSWER 3 OF 71 CAPLUS COPYRIGHT 2001 ACS
TI Oxidation of the .alpha.-tocopherol model compound 2,2,5,7,8-pentamethyl-6-chromanol in the presence of alcohols

L4 ANSWER 4 OF 71 CAPLUS COPYRIGHT 2001 ACS
TI Development of new manufacture process of vitamin E using artificial enzymes

L4 ANSWER 5 OF 71 CAPLUS COPYRIGHT 2001 ACS
TI Preparation of 2,3,5-trimethylbenzoquinone from 2,3,6-trimethylphenol

STN

71

: KWIC

L4 ANSWER 5 OF 71 CAPLUS COPYRIGHT 2001 ACS
AB 2,3,5-Trimethylbenzoquinone (I),
useful as an intermediate for drugs, e.g. vitamin E,
is prepd. by oxidn. of 2,3,6-Me3C6H2OH (II) with O or
in the presence of Cu chlorides and. . .
ST benzoquinone trimethyl prepn intermediate tocopherol;
vitamin E intermediate trimethylbenzoquinone
prepn; phenol trimethyl oxidn solvent; polyglycol ether solvent
trimethylphenol oxidn
IT 1406-18-4, Vitamin E
RL: RCT (Reactant)
(intermediate for, trimethylbenzoquinone as)

Examine the KWIC of Answer 5.

: BIB

L4 ANSWER 5 OF 71 CAPLUS COPYRIGHT 2001 ACS
AN 1991:163741 CAPLUS
DN 114:163741
TI Preparation of 2,3,5-trimethylbenzoquinone from
trimethylphenol
IN Kimura, Ichiro; Onodera, Kenji
PA C. K. Fine Chemicals K. K., Japan
SO Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXXF
DT Patent
LA Japanese
FAN.CNT 1
PATENT NO. KIND DATE APPLICATION NO. DATE

PI JP 02300146 A2 19901212 JP 1989-117425 19890512
JP 2575058 B2 19970122
OS MARPAT 114:163741

Display the bibliographic info for
Answer 5.

: END

STN

72

Steps to tag an answer and sort tagged answers

1. => **D BROWSE**
2. : **TAG** to mark answers
3. : **END** to finish tagging
3. Optionally, **SORT TAG** to sort tagged answers

STN

73

```
=> FILE USPATFULL  
  
=> S SOFTENING AGENT? (P) (QUATERNARY OR  
    QUATERNARY) (W) AMMONIUM  
L1      1087 SOFTENING AGENT? (P) (QUATERNARY OR  
    QUATERNARY) (W) AMMONIUM  
  
=> S L1 (2P) IMAGE?  
L2      29 L1 (2P) IMAG?  
  
=> D BROWSE  
:  
: *TI KWIC  
: 1-2
```

*TI KWIC is now the default format.

STN

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```
:TAG 1
:3-5
:TAG 4-5
:END
=> SORT L2 TAG PD
=> D FP 1-12
...
```

Answers 1,4,5 are tagged.

Tagged answers are sorted by Publication Date. Display front page information.

STN

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Search within D BROWSE

- USPATFULL and USPAT2 only
 - Single file searching only
- : **S** for forward string search
- : **S-** for backward string search

STN

76

```
=> FILE USPATFULL
=> SOFTENING AGENT? (P) (QUATERNARY OR
    QUATERNARY) (W) AMMONIUM
L1      567 SOFTENING AGENT? (P) (QUATERNARY OR QUATERNARY) (W)
    AMMONIUM
```

Finds the term within L1 and displays.

```
=> D BROWSE
: S FIXING
```

```
L1      ANSWER 7 OF 567 USPATFULL
SUMM    Technologies which provide a type of color care benefit can also
        be included. Examples of these technologies are metallo catalysts
        for color maintenance. Such metallo catalysts are described in
        copending European Patent Application No. 92870181.2. Dye fixing
        agents, polyolefin dispersion for anti-wrinkles and improved water
        absorbancy, perfume and amino-functional polymer for color care
        treatment and perfume substantivity are further examples of color
        care/fabric care technologies and are described in the co-pending
        Patent Application No. 96870140.9, filed Nov. 7, 1996.
```

```
:S      Repeats the search.
```

STN

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Summary: Dealing with Large Answer Sets

- Refine answer sets by removing duplicates and limiting by dates, CAS Roles, free text, index terms, or classification codes
- Browse large answer sets more effectively by setting highlighting off and on, using the **HIT** and **KWIC** display formats followed by offline browsing, relevance ranking with **FOCUS**, or using **DISPLAY BROWSE** to tag answers and string search within answer set records

STN

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STN[®]

Dealing with Large Answer Sets