

# STN<sup>®</sup>

Improving Searches by Including Patent  
Classification Codes

## Agenda

- Learn the most common systems for patent technology classification
- Use STN patent classification resources to identify patents pertaining to a particular technology
- Understand STN patent classification displays
- Learn techniques for effective retrieval of patent documents based on classification codes

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Technology classification codes are assigned to each granted patent and each published application

- Use patent classification codes to:
  - Define technical areas for further search
  - Refine a search with too many answers
  - Identify *claimed* technology
  - Identify competitors for analysis
  - Analyze technology trends

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Today's focus is on patent classification codes

***A patent classification code:***

- Represents a searchable collection of patents grouped together according to similarly claimed subject matter
- Allows patent documents related to different areas of technology to be identified and retrieved

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## Patent classification codes offer advantages over keyword searches

- Classification codes offer a consistent approach to identifying patents in a particular technology:
  - Relevant patent document may not contain the keywords in your search query
  - Same keyword may be used in more than one technology
  - Classification coding is intellectually assigned and printed on patent front page

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## Four patent classification systems can be searched and displayed on STN

- U.S. National Classification (NCL)
- International Patent Classification (IPC)
- European Classification (ECLA)
- Japanese Patent Classification (F-terms)
- >50 STN files can be searched using at least one of these patent classification systems

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## US Patent Classification System divides patents into searchable collections

- Primary groupings are called **classes**
- Classes are subdivided into relatively small, ordered collections of patents called **subclasses**
- The ordered listing of subclasses that make up a class is called a **class schedule**

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## Subclasses are listed in a class schedule in superiority order

- The number assigned to a subclass title further provides an address for the technology
- **Mainline** subclasses do not have a dot between the title and number for the subclass
- **Indented** subclasses are referred to by the number of indent levels:
  - A **parent** subclass is a subclass under which another subclass is indented
  - A **one-dot** subclass is indented one level below a mainline subclass
  - **Coordinate** subclasses are positioned at the same level of indentation and have the same parent subclass

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## Example: US Patent Classification System Class Schedule

CLASS 424 DRUG, BIO-AFFECTING AND BODY TREATING COMPOSITIONS

1.11 **RADIONUCLIDE OR INTENDED RADIONUCLIDE CONTAINING; AEROSOL CARRIER COMPOSITIONS; INTERMEDIATE OR PREPARATORY COMPOSITIONS**

Mainline subclass.

1.13 . In aerosol, fine spray, effervescent, pressurized fluid, vapor or gas, or complete composition therefore

1.17 . Attached to or within viable or invisible organism, cell, virus, fungus or spore, or structure thereof (e.g., platelet, red blood cell)

Coordinate one dot subclasses.

To understand the content of the material classified in a particular subclass, read the class title and the titles of the subclasses under which the particular subclass is indented.

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## US Patent Classification System divides patents based on *claimed* technology

- **Utility** patent classes are based on:
  - Technology associated with a particular industry, or
  - Subject matter having similar function, use, or structure
- **Design** classes are based on ornamental appearance
- **Plants** are provided for in a single Plant class

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## Each patent claim is assigned a mandatory classification

- The **original (OR) patent classification** is selected from the mandatory classifications for the patent claims
- Discretionary **cross-reference (XR) patent classifications** may be designated for other novel subject matter in the patent specification or claims

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## U.S. Patent Classification System consists of ~450 classes and ~150,000 subclasses

- Administered by the USPTO
- Preferred classification for searching US patent documents
- Patent documents revised and reclassified at regular intervals:
  - IFI files and USPAT files track issued and current classification codes
- Subclass codes consist of numerals and occasionally letters
- Codes are printed on the front page of a patent, identified by the international identification (INID) code 52

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## USPATFULL record (STD display)

|      |   |  |
|------|---|--|
| TI   | Process for the preparation of fatty ac<br>esters of isopropylidene derivatives of                          | This particular US patent has<br>been reclassified by the<br>USPTO- the:   |
| PI   | US 5024787 19910618   |  |
| INCL | INCLM: 260/410.600  |  |
|      | INCLS: 260/410.700; 549/448.000; 549/46   | <ul style="list-style-type: none"> <li>• INCL fields match the print document</li> <li>• NCL fields match the current classification</li> </ul>  |
| NCL  | NCLM: 549/448.000   |  |
|      | NCLS: 549/454.000; 549/465.000  | <ul style="list-style-type: none"> <li>• International Classification (IC) fields are not reclassified by the USPTO, but IPCR fields contain reclassification data provided by the EPO reclassification project</li> </ul> |
| IC   | [5]   |  |
| ICM  | C09F005-08  |  |
| ICS  | C09F007-10  |  |
| IPCI | C09F0005-08 [ICM,5]; C09F0005-00<br>[ICS,5]; C09F0007-00 [ICS,5,C*]   |  |
| IPCR | A61K0008-30 [I,C*]; A61K0008-39<br>A61K0047-22 [I,C*]; B01F0017-00<br>C09D0007-00 [I,A]; C09D0007-00 [I,C*] |  |
| EXF  | 260/410.6; 260/410.7; 549/448; 549/465  |  |
|      | CAS INDEXING IS AVAILABLE FOR THIS PATENT.  |  |

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## US patent classification is searchable in >20 STN files

- AEROSPACE, BIOBUSINESS, BIOSIS, CA/CAPLUS<sup>SM</sup> files, CASREACT<sup>®</sup>, DPCI, IFI files, INPADOC, LITALERT, PAPERCHEM2, USPATFULL, USPAT2, WPI files
- EXPAND and SEARCH the National Classification (NCL) field for current classification
- EXPAND and SEARCH the Issue National Classification (INCL) field for classification as printed on the issued or published patent document

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Patent classification codes can be used to augment text searches

**Search Question:**

Use US patent classification codes to augment a text-based search on Vitamin C.

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## Search Strategy

*To augment a text-based search with patent classification codes...*

- Step 1. In USPATFULL, identify relevant US patent classifications by EXPANDING in the NCL thesaurus
- Step 2. Use INDEX to preview the patent files which have the relevant classification
- Step 3. Use US classification codes to augment text based patent searches

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## Identify relevant US patent classifications by EXPANDING in the NCL thesaurus

```

=> FILE USPATFULL

=> E VITAMIN/NCL 8

E#   FREQUENCY   AT   TERM
---   -
E1      0       1   VISUAL DISPLAY (SEE D
E2      0       1   VISUAL DISPLAY * COMM
E3      0       1   --> VITAMIN/NCL
E4      0       1   VITAMIN * A/NCL
E5      0       1   VITAMIN * B1/NCL
E6      0       1   VITAMIN * B2 OR RIBOFLAVIN/NCL
E7      0       1   VITAMIN * B6/NCL
E8      0       1   VITAMIN * C/NCL

=> E E8+ALL
E9      0       --> VITAMIN * C/NCL
E10     141     KT   549315000/NCL
***** END *****

```

You can control the number of terms in your EXPAND by appending a number from 5-25.

Expanding words in the NCL field looks up KEYWORD TERMS (KT).

Vitamin C is classified in US Class 549, subclass 315.

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## Use INDEX to preview the patent files which have the relevant classification

```

=> INDEX PATENTS

=> S 549315000/NCL
      0* FILE CAOLD
      7 FILE CAPLUS
      2 FILE CASREACT...
5 FILES HAVE ONE OR MORE ANSWERS, 39 FILES SEARCHED IN STNINDEX

L1   QUE 549315000/NCL

=> D RANK
F1      166   IFIPAT
F2      141   USPATFULL
F3      11    USPAT2
F4      7     CAPLUS
F5      2     CASREACT

```

The D RANK command ranks the answer set in file order, by number of hits.

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## Use US classification codes to augment text based patent searches

```
=> FILE USPATALL
=> S VITAMIN C/CLM
L2          1573 VITAMIN C/CLM
=> S 549315000/NCL
L3          152 549315000/NCL
=> S L3 NOT L2
L4          143 L3 NOT L2
=> FILE IFIPAT
=> S VITAMIN C
L5          1787 VITAMIN C
=> S 549315000/NCL
L6          166 549315000/NCL
=> S L6 NOT L5
L7          150 L6 NOT L5
=> DUP IDE L4 L7
=> FSORT L8
```

Classification code searching identified additional patent documents in the IFIPAT file and USPATALL cluster.

These publications may have used different terminology, or only identified a compound by structure, or in the case of IFIPAT, *predates* the USPAT files.

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## FSORT groups answer sets by invention

```
L9          293 FSO L8
           109 Multi-record Families   Answers 1-272
                Family 1               Answers 1-2
                Family 2               Answers 3-4
                Family 3               Answers 5-6
                Family 4               Answers 7-9
                Family 5               Answers 10-11
                Family 6               Answers 12-14
                Family 7               Answers 15-17
                Family 8               Answers 18-21
                Family 9               Answers 22-25
           . . .
21 Individual Records   Answers 273-293
```

109 multi-record families (applications + grants + duplicate IFI records) plus 21 individual records = 130 unique inventions identified by class searching. Most of the 21 unique records are from IFI from 1950-1973.

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## US20040236098 was uniquely retrieved by using classification codes

[[0033] The values obtained show a simultaneous release of vitamins E and A from the liposoyl acetyl succinate. These results confirm the very good cleavage kinetics in the case of succinate esters via the liposoyl esters. Furthermore, a release with a narrow effect is observed, since the undegraded precursor is found in the sample taken.

1. A lipoprecursor of formula (I)



in which

$A_1$  and  $A_2$  represent, independently of each other, a radical derived from a molecule capable of being used in dermatology or cosmetology;

$X$  and  $Y$  represent, independently of each other, a hydrogen atom, a hydroxyl group or a  $(C_1-C_{20})$ alkyl group; and

$n$  represents an integer between 0 and 10;

2. The lipoprecursor as claimed in claim 1, characterized in that the molecule capable of being used in dermatology or cosmetology has anti-inflammatory, antibacterial, antibiotic or vitamin activity;

3. The lipoprecursor as claimed in claim 1, in which:

$A_1$  and  $A_2$  represent, independently of each other, an acetyl, a cholesteroyl, retinyl or troloxoyl radical;

4. The lipoprecursor as claimed in claim 3, characterized in that  $A_1$  represents a troloxoyl radical and  $A_2$  represents a radical chosen from the group comprising retinyl, cholesteroyl and acetyl radicals;

5. The lipoprecursor as claimed in claim 1, characterized in that it is chosen from the group consisting of troloxoyl retinyl succinate, troloxoyl cholesteroyl succinate and troloxoyl acetyl succinate;

6. The lipoprecursor as claimed in claim 1, characterized in that it is chosen from:

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## DISPLAY U.S. patent classification with these formats

- **CLASS** All Patent Classifications (CA/CAplus only)
- **INCL** Issue National Patent Classification Code, Main and Secondary
- **NCL** Current National Patent Classification Code, Main and Secondary

Original class (OR) => Main class fields  
Cross ref classes (XR) => Secondary class fields

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## International Patent Classification (IPC) is administered by WIPO

- IPC historically revised every 5 years; Currently in 8<sup>th</sup> or “reform” edition:
  - More rapid updating planned at least every year, planned to be revised every quarter
  - New version identified by year and version e.g., C07K 16/08<sup>(2006.01)</sup>
- Patent documents were historically not reclassified with each revision, however;
  - 2006 – EPO published a reclassification of the world’s patent literature based on their internal ECLA system and classified documents back to the 1800’s
- 5 level hierarchy

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## The IPC codes are an index to the subject matter of the patent

- Printed on the front page of a patent publication
- Identified by the international identification (INID) code 51
- Superscript numeral indicates which edition (1-7) or version of the IPC has been used to classify the document. e.g.

Int CI<sup>7</sup>

A21B 1/02

Int CI

A21B 1/02<sup>(2006.01)</sup>

- >40 STN files can be searched by IPC

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## Each IPC Section has a letter (symbol) and a title

- **A** Human Necessities
- **B** Performing Operations; Transporting
- **C** Chemistry; Metallurgy
- **D** Textiles; Paper
- **E** Fixed Constructions
- **F** Mechanical Engineering; Lighting; Heating; Weapons; Blasting
- **G** Physics
- **H** Electricity

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## Each IPC Subgroup has a title, subclass letter and two numbers

- Main group A 21 B 1/00 (Bakers' ovens) is divided into 19 subgroups, including:
  - A 21 B 1/02 ..characterized by the heating arrangements
  - A 21 B 1/04 .. Ovens heated by fire before baking only
  - A 21 B 1/06 .. Ovens heated by radiators
  - A 21 B 1/08 ... by steam-heated radiators
- Titles can be searched in the CPlus, USPATFULL/USPAT2, or PATIPC files:
  - Most patent files have the current IPC thesaurus
  - PATIPC contains the English text of IPC editions 1-7 and the Catchword index of Edition 7
  - PATIPC is provided by the German Patent office

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## IPC codes are searchable at section, class, subclass, and group levels

- Section E Fixed Construction
  - Class: ANN => S E01!/IPC  
(Construction of roads, railways, etc.)
    - Use truncation to include all subclasses
  - Subclass: ANNA => S E01D/IPC  
(Construction of bridges or viaducts, etc.)
  - Group: ANNANNNN => S E01D0019/IPC  
(Construction elements for bridges)
  - Subgroup: ANNANNNN-NN => S E01D0019-12/IPC  
(Fastening railway tracks to bridges)

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## Format IPC codes for online searching

- IPC code as it appears in printed concordance or WIPO website:

C07B GENERAL METHODS OF  
ORGANIC CHEMISTRY;  
APPARATUS THEREFOR  
49/00 Grignard reactions

- Search on STN as:

=> S C07B0049-00/IPC

» Zero-fill class to 2 digits

» Zero-fill main group to 4 digits

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## Search IPC field for comprehensive searching

```
=> S A61F0002-30/IPC
```

The IPC field searches ALL possible IPC fields in any database that has current IPC information. This includes old codes and new codes.

Old codes are still available to search, however, they only retrieve data through ~ 2005.

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## SET ICFORMAT ON PERM

- Use SET command to standardize IPC **display** codes across all versions
  - => **SET ICFORMAT ON PERM**
- Provides IPCR formats for pre-reform codes:
  - Displays pre-reform code in IPC 8 format
  - Creates IPC 8 term when using SELECT
  - Provides consistent crossfile format

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## IPC search fields are parsed from patent front-page information

IPC edition 1-7 formats. in the presence of transition metal carbene catalysts.

IN Gurtler, Christoph; Jautelat, Manfred  
 PA Bayer A.-G., Germany  
 SO Eur. Pat. Appl., 16 pp.  
 CODEN: EPXXDW  
 DT Patent  
 LA German  
 IC **ICM C07B0037-10**  
**ICS C08F0002-14; C07D4007-04**

ICA C07C0013-20; C07C0271-24; C07D0225-0  
 ICI C07D0407-04, C07D0307-28, C07D0307-2

FAN.CNT 2

| PATENT NO. | KIND | DATE     | APP                     |
|------------|------|----------|-------------------------|
| EP 1035093 | A2   | 20000913 | EP 2000-103339 20000221 |

(11) EP 1 035 093 A2

PATENTANMELDUNG

(51) Int. Cl.<sup>7</sup> **C07B 37/10** **C08F 2/14**  
**C07D 407/04**  
 // C07C13/20, C07C271/24,  
 C07D225/02, C07D295/185,  
**C07F7/08** **C07D407/04**,  
**307:28, 307:28**

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## New IPC philosophy is based on INVENTION and NON-INVENTION

TI Eph receptor Fc variants with enhanced antibody dependent cell mediated cytotoxicity activity

IN Wu, Herren; Gao, Ch  
 PA Medimmune, Inc., US  
 SO U.S. Pat. Appl. Pub  
 CODEN: USXXCO  
 DT Patent  
 LA English  
 FAN.CNT 1

(43) International Publication Date  
2 March 2006 (02.03.2006) PCT

(51) International Patent Classification:

|                             |                              |
|-----------------------------|------------------------------|
| <b>C07K 16/00</b> (2006.01) | <b>A61K 39/395</b> (2006.01) |
| <b>C12P 21/04</b> (2006.01) | <b>C07K 1/00</b> (2006.01)   |
| <b>C12P 21/08</b> (2006.01) | <b>C07K 14/00</b> (2006.01)  |

| PATENT NO.    | CLASS | PATENT FAMILY CLASSIFICATION CODES |
|---------------|-------|------------------------------------|
| US 2006039904 | A1    | 20060223 US 2005-203251 20050815   |
| US 2006040325 | A1    | 20060223 US 2005-203253 20050815   |
| WO 2006023403 | A2    | 20060302 WO 2005-US28839 20050815  |

CLASS

| PATENT NO.    | CLASS | PATENT FAMILY CLASSIFICATION CODES  |
|---------------|-------|---|
| WO 2006023403 | IPCI  | <b>A61K0039-395 [I,A]; C07K0016-28 [I,A]; C07K0016-18 [I,C*]; C07K0016-00 [I,C]; A61K0039-395 [I,C]; C07K0001-00 [N,C]; C07K0014-00 [N,C]; C12P0021-04 [I,C]; C12P0021-08 [I,C]; C07K0016-00 [I,A];</b><br>K0014-00 |

Bold IPC = Invention level (from the claims)

Non Bold IPC = Non-Invention (from the description)

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IPCs allow you to extend a search to international patents

**Search Question:**

Extend the Vitamin C search to include international patents.

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## Search Strategy

*To extend a search to international patents...*

- Step 1. Identify relevant IPC classifications in the CAplus IPC thesaurus
- Step 2. Use ANALYZE to check for additional codes
- Step 3. Use the IPC thesaurus to see how a classification is defined
- Step 4. Use INDEX to preview the files which have the relevant IPC subclass
- Step 5. Use keywords in IPC.KW to refine

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## Identify relevant IPC classifications in the CAPLUS IPC thesaurus

```

=> FILE CAPLUS

=> E VITAMIN C/IPC

E3          0          --> VITAMIN C/IPC
E4          0          1      VITAMIN(S)/IPC
E5          0          1      VITAMIN(S) * MEDICINAL PREPARATIONS OF
      VITAMIN(S)/IPC
E6          0          1      VITAMIN(S) * PREPARATION OF VITAMIN(S)
      BY MICROBIOLOGICAL PROCESSES/IPC
E7          0          1      VITAMIN(S) * VITAMIN(S) A/IPC
E8          0          1      VITAMIN(S) * VITAMIN(S) B/IPC
E9          0          1      VITAMIN(S) * VITAMIN(S) C/IPC
E10         0          1      VITAMIN(S) * VITAMIN(S) D/IPC
E11         0          1      VITAMIN(S) *
E12         0          1      VITAMIN(S) *

=> E E9+ALL
E13         0          --> VITAMIN(S) * VITAMIN(S) C/IPC
E14         770       KT      C07D0307-62/IPC
  
```

Vitamin C (the compound) is classified in C07D 307-62.

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## ANALYZE answers for additional codes

```

=> S C07D0307-62/IPC
L1          770 C07D0307-62/IPC

=> ANALYZE IPC
ANALYZE IS APPROXIMATELY 61% COMPLETE
L2          ANALYZE L1 1- IPC :    3120 TERMS

=> D L2 TOP 5

L5          ANALYZE L1 1- IPC :    2326 TERMS

TERM #      # OCC  # DOC  % DOC  IPC
-----
1           2914   770  100.00 C07D0307-62
2           2825   760   98.70 C07D0307-00
3           1462   221   28.70 A61K0031-375
4            587    82   10.65 A61K0031-34
5            127    80   10.39 C07D
  
```

The 770 patents are ANALYZED for additional IPC codes.

Another highly posted IPC code is A61K0031-375.

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## Use +HIE relationship code to see hierarchical definitions

```

=> E A61K0031-375+HIE/IPC
E15      0  BT8  A/IPC
          SECTION A - HUMAN NECESSITIES
E16      0  BT8  HEALTH; AMUSEMENT/IPC
E17      0  BT7  A6/IPC
E18      0  BT6  A61/IPC
          MEDICAL OR VETERINARY SCIENCE; HYGIENE
E19      477959 BT5  A61K/IPC
          PREPARATIONS FOR MEDICAL, DENTAL, OR TOILET PURPOSES
          (bringing into special physical form A61J; chemical
          aspects of, or use of, or for disinfecting, or for use in
          air, for disinfecting, or for use in articles A61L; or
          soap compositions
          C12N;
          C12N)
E20      17392 BT4  A61K0031-00/IPC
          Medicinal preparations containing organic active
          ingredients
          CORE
E24      2581  --> A61K0031-375/IPC
          ...Ascorbic acid, i.e. vitamin C; Salts thereof
          CORE VALID FROM 19740701 TO PRESENT (IPC EDITION: 2-8)
    
```

Classification code A61K 31-375 has been assigned to medicinal preparations containing ascorbic acid or its salts since IPC Version 2.

A61K0031-375/IPC  
...Ascorbic acid, i.e. vitamin C; Salts thereof

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## Use INDEX to preview the files which have the relevant IPC subclass

```

=> INDEX PATENTS

=> S A61K031-375/IPC OR C07D307-62/IPC
L3  QUE A61K0031-375/IPC OR C07D0307-62/IPC

=> D RANK
F1      6710  INPADOC
F2      3130  CAPLUS
F3      2186  WPIDS
F4      2186  WPINDEX
F5      902   JAPIO
F6      887   USPATFULL
F7      867   PATDPA
F8      523   IFIPAT
F9      424   EPFULL
F10     250   PATDPAFULL
F11     208   PCTFULL
F12     137   RUSSIAPAT
F13     87   FRANCEPAT
●      ●      ●
    
```

18 of the 41 files in the PATENTS cluster had patents classified in one or both IPC classifications for vitamin C.

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## Searching IPC classification keyword text allows refinement

```
=> FILE CAPLUS
=> S L3 (S) INVENTION/IPC.KW
L4      2293 L3 (S) INVENTION/IPC.KW
```

With IPC reform, a large amount of additional data is provided with the IPC codes from the patent offices. This additional data can be EXPANDED and searched in the IPC.KW field in any file with IPC codes.

```
=> E INVENTION/IPC.KW 5
E202    24380    INDIA/IPC.KW
E203    4633022  INITIAL/IPC.KW
E204    4247674  --> INVENTION/IPC.KW
E205    4633022  IPCI/IPC.KW
E206    3953108  IPCR/IPC.KW
```

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## IPC.TAB display shows *only* IPC classification data

```
=> D BIB IPC.TAB

L4 ANSWER 1 OF 2293 CAPLUS COPYRIGHT 2006 ACS on STN
AN 2006:1256289 CAPLUS
TI Nutraceuticals for the treatment of neuropathy
IN Vinik, Aaron I.; Jacot, Jorge L.
PA Eastern Virginia Medical School, USA
SO U.S. Pat. Appl. Publ., 8pp.
● ● ●
KIND DATE APPLICATION NO. DATE
-----
PI US 2006270625 A1 20061130 US 2006-431830 20060511
IPCI CODE VERSION POS INV LEVEL CC ASSIGNMENT DATE STAT
-----
A61K0031-714 (200601) F I Advanced US Human 20061130 O
A61K0031-7135 (200601) F I Core* RC Machine 20061130 O
A61K0031-375 (200601) L I Advanced US Human 20061130 O <--
A61K0031-4415 (200601) L I Advanced US Human 20061130 O
A61K0031-455 (200601) L I Advanced US Human 20061130 O
A61K0031-525 (200601) L I Advanced US Human 20061130 O
A61K0031-519 (200601) L I Core* RC Machine 20061130 O
● ● ●
```

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## European Patent Classification System ECLA is administered by the EPO

- Assigned to patents by EPO examiners:
  - Not limited to just EP documents
- Updated monthly
- As with US NCL, when new headings are created, material in existing headings is retrospectively re-classified so heading can cover entire search period

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## Use European Classification Codes (EPC or ECLA) codes for enhanced retrieval

- ECLA codes are assigned after patents are published and not used in selection process for CAS databases
- Added to both basic patents and family members in the /ECLA field (search aliases: /EPC and /EPCLA)
- Coverage is retroactive to 1993

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## ECLAs can be used to refine large answer sets

### **Search Question:**

Identify patents assigned to Pfizer classified as disclosing genetic engineering or cell culture inventions.

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## Search Strategy

*To use ECLA codes to refine a large answer set...*

- Step 1. Use STNGUIDE to identify the files which have ECLA search fields
- Step 2. Use European patent classifications to limit a large answer set

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## Use STNGUIDE to identify the files which have ECLA search fields

```

=> FILE STNGUIDE

=> S (EPC OR ECLA)/SFIELD
L1          7 (EPC OR ECLA)/SFIELD

=> SEL L1 1-7 DBN
E1 THROUGH E7 ASSIGNED

=> D SEL
E1          1      CA/DBN
E2          1      CAPLUS/DBN
E3          1      HCA/DBN
E4          1      HCAPLUS/DBN
E5          1      INPADOC/DBN
E6          1      ZCA/DBN
E7          1      ZCAPLUS/DBN
    
```

European patent classification is an available search field in the INPADOC file and in the CA/CAplus family of files.

However, INPADOC does **not** use standard STN formatting in its classification fields.

**Always** use EXPAND in INPADOC.

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## Use European patent classifications in CAplus to limit a large answer set

```

=> FILE CAPLUS

=> S PFIZER/PA
L2          5738      PFIZER/PA

=> E C12N005/ECLA 5
E8          13      C12N003/02/ECLA
E9          13      C12N003/02B/ECLA
E10         5181 --> C12N005/ECLA
E11         1208      C12N005/00/ECLA
E12         23      C12N005/00B/ECLA

=> S C12N005/ECLA
L3          5181 C12N005/ECLA

=> S L2 AND L3
L4          6 L2 AND L3
    
```

ECLA can be used to limit a large answer set to patents classified by the EPO as claiming particular areas of technology.

ECLA is not formatted with new IPC format – always use EXPAND to verify ECLA.

**STN**

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## Display records from the refined answer set

```
=> D TI PA ECLA  
  
L4 ANSWER 1 OF 6 CAPLUS COPYRIGHT 2006 ACS on STN  
TI Human cell assay to determine effect of sample compounds on  
Col2 enhancer  
expression  
PA Pfizer Inc., USA  
CLASS  
PATENT NO. CLASS PATENT FAMILY CLASSIFICATION CODES  
-----  
US 2004241755 ECLA C12N005/06B20; C12Q001/68P; G01N033/50D2 <-
```

In this example, we identified patents assigned to Pfizer classified as disclosing genetic engineering or cell culture inventions.

**STN**

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## F-term classification system was developed by the JPO

- “F-term” stands for file-forming term:
  - Developed by mapping the FI classification system onto ~ 2500 F-term “themes”
- FI or "File Index" is the internal classification system used by the JPO
- Advantage of F-terms is “deep indexing” from multiple viewpoints:
  - Form, function, composition

**STN**

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Japanese Patent F-Term Classification codes can be searched and displayed in the CA/CAplus files

- Available F-Terms from the Japan Patent Office have been added to many of the patent records in CA/CAplus:
  - Classification codes for basic patents and for family members are included
- Coverage of the F-Terms is retroactive to January 2004
- Search the /FTERM field for File Forming Terms from Japanese patent documents

**STN**

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Japanese patent searches in the CA/CAplus files can be augmented with F-terms

**Search Question:**

Find Japanese patents on adhesive tape.

**STN**

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## Search Strategy

*To augment a Japanese patent search with F-terms...*

- Step 1. Run a “quick and dirty” keyword search
- Step 2. Use ANALYZE to identify relevant F-term codes
- Step 3. Use F-term classification codes to augment searches of Japanese patents
- Step 4. Display answers from the augmented answer set

**STN**

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## Use ANALYZE to identify relevant F-term codes from a keyword search

```
=> FILE CAPLUS
=> S ADHESIVE TAPE AND JP/PC
L1      8878 ADHESIVE TAPE AND JP/PC
=> ANALYZE L1 1-1000 FTERM
L2      ANALYZE L1 1-1000 FTERM :    7344 TERMS
=> D TOP 5
L2      ANALYZE L1 1-1000 FTERM :    7344 TERMS
```

| TERM # | # OCC | # DOC | % DOC | FTERM      |
|--------|-------|-------|-------|------------|
| 1      | 392   | 390   | 39.00 | 4J004/AB01 |
| 2      | 382   | 381   | 38.10 | 4J040/JB09 |
| 3      | 375   | 374   | 37.40 | 4J040/JA09 |
| 4      | 315   | 314   | 31.40 | 4J004/AA10 |
| 5      | 314   | 314   | 31.40 | 4J004/CC02 |

Analysis indicates that 4J040? and 4J004? are appropriate F-terms for identifying adhesive tape related JP patent documents.

**STN**

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## Use F-term thesaurus in CPlus to identify F-term definitions

```

=> E 4J004/FTERM 4
E#  FREQUENCY  AT  TERM
--  -
E1      73      2  4J002/HA09/FTERM
E2      0        2  4J002/ZZ00/FTERM
E3     2549     16 --> 4J004/FTERM
E4      7        7  4J004/AA00/FTERM
=> E E3+ALL
E14      0      BT2  4/FTERM
      . Chemistry
E15     46916   BT1  4J/FTERM
      . . High Polymer
E16     2549   --> 4J004/FTERM
      . . . Adhesive tapes
E17      7     NT1  4J004/AA00/FTERM
      . . . . COMPOSITION OF ADHESIVES OR AN
      ADHESIVE ARTICLE
E19     233    NT2  4J004/AA02/FTERM
      . . . . . Polymer blends
  
```

4J004 is Adhesive Tapes.

**STN**

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## F-term classifications describe form and function

```

E36      1     NT1  4J004/AB00/FTERM
      . . . . ADHESIVENESS OF ADHESIVES/ADHESIVE
      ARTICLES
E37     1637   NT2  4J004/AB01/FTERM
      . . . . . Pressure-sensitive adhesion type
•       •       •
E44      1     NT1  4J004/AC00/FTERM
      . . . . TYPES OF ADHESIVES/ADHESIVE
      ARTICLES
E45     10     NT2  4J004/AC01/FTERM
      . . . . . Microcapsule types
•       •       •
E71      3     NT1  4J004/CC00/FTERM
      . . . . FORMS OR STRUCTURES OF CARRIERS
E72      1     NT2  4J004/CC01/FTERM
      . . . . . Bar-shaped or thread-like
E73     1386   NT2  4J004/CC02/FTERM
      . . . . . Foil-like or film-like and
      sheet-like
  
```

**STN**

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## Use F-term classification codes to augment searches of Japanese patents in CAPLUS

```
=> S 4J004/FTERM
L3      2549 S 4J004/FTERM
```

The FTERM search has added an additional 1775 records not identified in a keyword search.

```
=> S L3 NOT L1
L4      1775 L3 NOT L1
```

**STN**

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## Display answers from the augmented answer set

```
=> D BIB ABS CLASS
```

```
AN 2006:760418 CAPLUS
DN 145:174469
TI Adhesive bandage sheet and multilayered body
IN Shibata, Yukio
PA Shibata Kogyo K. K., Japan
SO Jpn. Kokai Tokkyo Koho, 8 pp.
   CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1
   PATENT NO.      KIND  DATE      APPLICATION NO.      DATE
   -----
PI  JP 2006198016  A2   20060803  JP 2005-10752      20050118
<--
PRAI JP 2005-10752      20050118
AB The invention relates to a sheet having plural adhesive bandage pieces on a peeling sheet, wherein the each bandage has non-adhesive part around the piece for easy removal of the bandage from the peeling sheet. A multilayered body having plural adhesive bandage layers with non-adhesive parts around the pieces is also disclosed.
```

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## Patent classification codes are displayed in the CLASS field

```

CLASS
PATENT NO.      CLASS  PATENT FAMILY CLASSIFICATION CODES
-----
JP 2006198016  IPCI  A61F0013-02 [I,A]; C09J0007-02 [I,A]; C09J0201-00
[I,A]
          FTERM  4J004/AA05; 4J004/AA06; 4J004/AA10; 4J004/AA15;
          4J004/CC03; 4J004/CD01; 4J004/CE01; 4J004/CE03;
          4J004/DB02; 4J004/EA06; 4J004/FA08; 4J004/FA09;
          4J040/CA00; 4J040/DF00; 4J040/ED00; 4J040/JA09;
          4J040/JB09; 4J040/MA09; 4J040/MA11; 4J040/MA15;
          4J040/NA02 <--
    
```

CLASS is also included in a number of predefined display formats: ALL, IALL, DALL, STD, ISTD, MAX, IMAX, and DMAX.

**STN**

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## STN provides access to patent information via all four major patent classification coding systems

|           | IPC | NCL | ECLA | F-Term |
|-----------|-----|-----|------|--------|
| CA/CAplus | Yes | Yes | Yes  | Yes    |
| INPADOC   | Yes | Yes | Yes  |        |
| WPI files | Yes | Yes |      |        |
| IFIPAT    | Yes | Yes |      |        |
| JAPIO     | Yes |     |      |        |

Always remember to EXPAND classifications to verify formatting in individual files.

**STN**

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## More information can be found at the various patent office websites

- US NCL  
<http://www.uspto.gov/web/offices/opc/>
- IPC  
[http://www.wipo.int/classifications/fulltext/new\\_ipc/ipcen.html](http://www.wipo.int/classifications/fulltext/new_ipc/ipcen.html)  
<http://www.cas.org/EO/caspat.html>
- ECLA  
<http://v3.espacenet.com/eclasrch?CY=ep&LG=en>
- JP F-terms  
[http://www.ipdl.ncipi.go.jp/homepg\\_e.ipdl](http://www.ipdl.ncipi.go.jp/homepg_e.ipdl)  
(Click on the Patent Map Guidance, then F-term)

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## Summary

- For comprehensive patent searches...
  - Take advantage of expert patent office technology indexing by searching:
    - US NCL for US patent information
    - IPC information present in many STN files
    - ECLA as an additional classification resource
    - F-terms for Japanese patent retrieval
  - Use STNGUIDE, INDEX, and ANALYZE to help you identify appropriate classifications for search

**STN**

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The logo consists of the letters 'STN' in a bold, blue, sans-serif font. The letters are three-dimensional, with a dark blue shadow on the left side and a lighter blue shadow on the right side, giving them a 3D appearance. A small registered trademark symbol (®) is located to the upper right of the letter 'N'. The logo is set against a white background with a light blue gradient at the top of the slide.

Improving Searches by Including Patent  
Classification Codes