Session Agenda

- Prior Art
- Novelty Searching
- Obviousness Searching
- Techniques for Comprehensive Prior Art Searches
Can you really patent a peanut butter and jelly sandwich?

- U.S. Patent No. 6,004,596
- Granted December 21, 1999, to Menusaver, Inc., for a "sealed crustless sandwich," based on an application filed on December 8, 1997
- Smucker's® sells the patented sandwiches under the "Incredible Uncrustables®" trademark
Claim 1 of this patent reads as follows:

A sealed crustless sandwich, comprising:
- **a first bread layer** having a first perimeter surface coplanar to a contact surface;
- **at least one filling** of an edible food juxtaposed to said contact surface;
- **a second bread layer** juxtaposed to said at least one filling opposite of said first bread layer, wherein said second bread layer includes a second perimeter surface similar to said first perimeter surface;
- **a crimped edge** directly between said first perimeter surface and said second perimeter surface for sealing said at least one filling between said first bread layer and said second bread layer;
  - wherein a **crust portion** of said first bread layer and said second bread layer has been removed.
Consider various concepts when looking for prior art related to peanut butter and jelly sandwiches

- Recipes for peanut butter and jelly sandwiches
- Sealed dough envelopes
- Toaster pastries
- Using a knife or cookie cutter to remove crust from bread
- Methods of sealing sandwiches containing a filling
- A kitchen tool that has a plunger-type device to seal and crimp a filling between two slices of bread
What is prior art?

- Everything publicly known
- Any disclosure or document that describes the invention in a patent claim in whole or in part, before a particular date
- Defined by national patent laws
  - In the US: Title 35, United States Code, Section 102
What is *not* prior art?

- Information kept secret
  - Trade secrets
  - Confidential disclosures
- Mere Conversations (in some countries)
- A patentable invention
When should a prior art search be conducted?

- To invalidate existing patents during an infringement defense by showing that the patent holder is not the first inventor
- To help an inventor determine if the invention is novel before committing the resources necessary to obtain a patent
- To determine what a patent or patent application is really worth, before acquiring it or taking a license
- To assess the validity of a patent application during patent examination at a patent office
Prior art searching involves a comparison of...

- The claimed invention in either:
  - A. a patent application whose patentability is being assessed; or
  - B. a granted patent whose validity is being assessed
- A reference which describes all or part of the claimed invention
To constitute *prior* art, the date of a reference must occur...

- Prior to the effective filing date of the patent document being assessed in *first-to-file* patent systems; or

  The effective filing date of patent document =
  - Date of the filing of the earliest parent application
  - Date of filing of earliest foreign priority application

- Prior to the time when the invention was made in *first-to-invent* patent systems

  - Can be shown by laboratory notebook evidence
  - The effective filing date of the patent document being assessed may be used as a starting point for comparison
Possible dates for prior art references are found in various locations

- Book, journal article
  - Publication date
  - Date available to public
- Patent document used as a prior art reference
  - Patent grant date
  - Application publication date
  - Actual application filing date
  - Parent application filing date
  - Provisional filing date
- Historical prior art
A variety of date indexes are available in CAplus℠

<table>
<thead>
<tr>
<th>Date Index</th>
<th>Format</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application Date</td>
<td>/AD</td>
<td>AD&gt;20020900</td>
</tr>
<tr>
<td>Application Date, Basic</td>
<td>/AD.B</td>
<td>20010331/AD.B</td>
</tr>
<tr>
<td>Application Year</td>
<td>/AY</td>
<td>2000-2004/AY</td>
</tr>
<tr>
<td>Application Year, Basic</td>
<td>/AY.B</td>
<td>AY.B&gt;1999</td>
</tr>
<tr>
<td>Cited Reference Publication Year</td>
<td>/RPY</td>
<td>2001/RPY</td>
</tr>
<tr>
<td>Priority Application Date</td>
<td>/PRD</td>
<td>PRD&gt;20031211</td>
</tr>
<tr>
<td>Priority Application Date, Basic</td>
<td>/PRD.B</td>
<td>PRD.B&gt;20040630</td>
</tr>
<tr>
<td>Publication Date</td>
<td>/PD</td>
<td>PD&gt;20040106</td>
</tr>
<tr>
<td>Publication Date, Basic</td>
<td>/PD.B</td>
<td>20040923/PD.B</td>
</tr>
<tr>
<td>Publication Year</td>
<td>/PY</td>
<td>1999/PY</td>
</tr>
<tr>
<td>Publication Year, Basic</td>
<td>/PY.B</td>
<td>2003-2004/PY.B</td>
</tr>
</tbody>
</table>
USPATFULL also offers a variety of search options

- **Application Date**  
  \(/\text{AD} \Rightarrow S \text{ AD}>20020900\)
- **Application Year**  
  \(/\text{AY} \Rightarrow S \text{ 2000-2004/AY}\)
- **Priority Date**  
  \(/\text{PRD} \Rightarrow S \text{ 19981213/PRD}\)
- **Priority Year**  
  \(/\text{PRY} \Rightarrow S \text{ PRY}>1996\)
- **Publication Date**  
  \(/\text{PD} \Rightarrow S \text{ 20040923/PD}\)
- **Publication Year**  
  \(/\text{PY} \Rightarrow S \text{ PY}>2003\)
- **Reference Patent Publication Date**  
  \(/\text{RPD} \Rightarrow S \text{ DEC 1999/RPD}\)
- **Reference Patent Publication Year**  
  \(/\text{RPY} \Rightarrow S \text{ 1997/RPY}\)
- **Related Application Date**  
  \(/\text{RLD} \Rightarrow S \text{ 12 AUG 2002/RLD}\)
- **Related Application Year**  
  \(/\text{RLY} \Rightarrow S \text{ RLY}<2000\)
- **Related Patent Publication Year**  
  \(/\text{RLPY} \Rightarrow S \text{ 1998/RLPY}\)
Session Agenda

- Prior Art
- **Novelty Searching**
- Obviousness Searching
- Techniques for Comprehensive Prior Art Searches
The ABC’s of Novelty

• 35 United States Code, Section 102
• “A person shall be entitled to a patent, unless:”
  – Subparagraphs “a” through “g” set out the conditions for novelty and loss of right
  – 35 USC 102 (a): whether the prior art was in existence before the date of invention
  – 35 USC 102 (b): whether the prior art was in existence more than one year before the patent application was filed
  – 35 USC 102 (e): whether U.S. patents, and publications of US and international (PCT) applications, may be applied as prior art as of their filing dates
A person shall be entitled to a patent unless the invention was...

<table>
<thead>
<tr>
<th>35 USC 102 (a)</th>
<th>Search for</th>
</tr>
</thead>
<tbody>
<tr>
<td>“known ... by others in this country, or…”</td>
<td>References showing invention was:</td>
</tr>
<tr>
<td></td>
<td>• publicly (nonsecretly) known</td>
</tr>
<tr>
<td></td>
<td>• by someone other than the patent applicant</td>
</tr>
<tr>
<td></td>
<td>• in the US</td>
</tr>
<tr>
<td>“…before the invention thereof by the applicant for patent.”</td>
<td>Before the invention date</td>
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<th><strong>35 USC 102 (a) (cont.)</strong></th>
<th><strong>Search for</strong></th>
</tr>
</thead>
</table>
| “patented ... in this or a foreign country, or...” | • US patents claiming the invention  
• Foreign patents claiming the invention |
| “…before the invention thereof by the applicant for patent.” | Before the invention date |
A person shall be entitled to a patent unless the invention was...

<table>
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<tr>
<th>35 USC 102 (a) (cont.)</th>
<th>Search for</th>
</tr>
</thead>
<tbody>
<tr>
<td>“described in a printed publication in this or a foreign country”</td>
<td>• Publications describing the invention from anywhere in the world</td>
</tr>
<tr>
<td>“...before the invention thereof by the applicant for patent.”</td>
<td>Before the invention date</td>
</tr>
</tbody>
</table>
STN search indexes are useful for finding 102(a) prior art references

<table>
<thead>
<tr>
<th>To Find</th>
<th>Use this strategy</th>
</tr>
</thead>
<tbody>
<tr>
<td>“by others”</td>
<td>Expand author and inventor names in /AU; NOT out the names in the search query</td>
</tr>
<tr>
<td></td>
<td>=&gt; S AIDS NOT GALLO R C/AU</td>
</tr>
<tr>
<td>“in this country”</td>
<td>Search the United States as the publication country</td>
</tr>
<tr>
<td></td>
<td>=&gt; S US/PC</td>
</tr>
<tr>
<td></td>
<td>=&gt; S UNITED STATES/SO</td>
</tr>
<tr>
<td>US patents claiming the invention</td>
<td>Search patents as the document type and US as the patent country</td>
</tr>
<tr>
<td></td>
<td>=&gt; S P/DT AND US/PC</td>
</tr>
<tr>
<td>Foreign patents claiming the invention</td>
<td>Search patents as the document type and country codes for countries of interest as the patent country</td>
</tr>
<tr>
<td></td>
<td>=&gt; S P/DT AND (EP OR DE OR JP OR....)/PC</td>
</tr>
</tbody>
</table>
I found a 102(a) prior art reference – Should I stop searching?

- 102(a) prior art can be overcome if the inventor shows that:
  - The *actual date of invention* is earlier than the publication date of the reference
  - The work described in the reference is *derived* from him or her
  - The *reference does not enable* others in the technology to make and use the invention and therefore is not valid prior art
What are the characteristics of 102(b) prior art?

- Can be the inventor’s own patent or publication or action
- Must have a date more than a year before the effective filing date of the patent document being assessed
- 102(b) references are statutory bars to patentability
A person shall be entitled to a patent unless the invention was...

<table>
<thead>
<tr>
<th>35 USC 102 (b)</th>
<th>Search for</th>
</tr>
</thead>
<tbody>
<tr>
<td>“patented in this or a foreign country, or …”</td>
<td>US or foreign patents claiming the invention</td>
</tr>
<tr>
<td>“more than one year prior to the date of the application for patent in the United States”</td>
<td>Having a grant date over one year earlier than the effective filing date of the US application</td>
</tr>
</tbody>
</table>
A person shall be entitled to a patent unless the invention was...

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<tr>
<th>35 USC 102 (b) (cont.)</th>
<th>Search for</th>
</tr>
</thead>
<tbody>
<tr>
<td>“described in a printed publication in this or a foreign country, or…”</td>
<td>Non-patent literature from anywhere in the world describing the invention</td>
</tr>
<tr>
<td>“more than one year prior to the date of the application for patent in the United States”</td>
<td>Published over one year earlier than the effective filing date of the US application</td>
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<tr>
<th>35 USC 102 (b) (cont.)</th>
<th>Search for</th>
</tr>
</thead>
<tbody>
<tr>
<td>“in public use … in this country, or…”</td>
<td>References showing invention was used by the public in the US (non-secret use)</td>
</tr>
<tr>
<td>“more than one year prior to the date of the application for patent in the United States”</td>
<td>over one year earlier than the effective filing date of the US application</td>
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A person shall be entitled to a patent unless the invention was...

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<tr>
<th>35 USC 102 (b) (cont.)</th>
<th>Search for</th>
</tr>
</thead>
<tbody>
<tr>
<td>“on sale in this country”</td>
<td>References showing invention was being sold or offered for sale in the US (catalogs, brochures)</td>
</tr>
<tr>
<td>“more than one year prior to the date of the application for patent in the United States.”</td>
<td>over one year earlier than the effective filing date of the US application</td>
</tr>
</tbody>
</table>
Which STN files should I search for references showing 102(b) public use or sale?

<table>
<thead>
<tr>
<th>To Find</th>
<th>Try these clusters</th>
</tr>
</thead>
<tbody>
<tr>
<td>“the invention was … in public use … in this country..”</td>
<td>ALLBIB BUSINESS PATENTS TECHNOLOGY</td>
</tr>
<tr>
<td>“the invention was … on sale in this country…”</td>
<td>BUSINESS COMPANIES PATENTS SUPPLIERS</td>
</tr>
</tbody>
</table>

*Note: Search for a press release to say that a product is announced and available; search the technical literature files for the company in the press release to find a patent or journal article.*
I found a 102(b) prior art reference – Should I stop searching?

- 102(b) prior art can be overcome if:
  - the inventor shows that the reference does not enable others in the technology to make and use the invention and therefore is not valid prior art
Prior art unique to the US – 102(e)

• Prior art under 102(e) may be a:
  – US patent
  – Published US application
  – Statutory Invention Registration (SIR)
  – Published international (PCT) application

• Must be filed by “others” (at least one different inventor)

• US patents, published applications and SIRs can be used as prior art as of their filing dates
PCT international application can be used as prior art in the US as of its international filing date if:

- It was filed on or after November 29, 2000
- The United States was a designated state
- It was published in English
A person shall be entitled to a patent unless the invention was described in...

<table>
<thead>
<tr>
<th><strong>35 USC 102 (e)</strong></th>
<th><strong>Search for</strong></th>
</tr>
</thead>
</table>
| “(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, or...” | • US published application references, having at least one different inventor than the document to be assessed; and  
• An application filing date before the critical date of the document to be assessed |
A person shall be entitled to a patent unless the invention was described in...

<table>
<thead>
<tr>
<th>35 USC 102 (e) (cont.)</th>
<th>Search for</th>
</tr>
</thead>
</table>
| “ (2) a *patent granted* on an application for patent *by another filed* in the United States *before* the invention by the applicant for patent, or…” | • Granted US patent references, having at least one different inventor than the document to be assessed; and  
• An *application filing date before* the critical date of the document to be assessed |
A person shall be entitled to a patent except that...

<table>
<thead>
<tr>
<th>35 USC 102 (e) (cont.)</th>
<th>Search for</th>
</tr>
</thead>
</table>
| “an international application filed under the treaty defined in section 351(a) shall have the effects for the purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language” | • US or WIPO publications of an international application (PCT), filed on or after November 29, 2000, that designated the United States, was published in English, and has at least one different inventor than the document to be assessed   
• The prior art date is the international filing date (or possibly the filing date of a US or PCT parent application) |
I found a 102(e) prior art reference – Should I stop searching?

• 102(e) prior art can be overcome if the inventor shows that:
  – The actual date of invention is earlier than the filing date of the US patent reference
  – The work described in the reference is derived from him
  – The reference does not enable others in the technology to make and use the invention and therefore is not valid prior art
A patent application was filed by a competitor of your company on July 3, 2001. Claim 1 is drawn to “An orally administered sleep-inducing antacid composition comprising valerian and calcium carbonate.”

Search for prior art to this claimed invention.
Example: Prior Art Search

=> INDEX ALLBIB
INDEX '1MOBILITY, 2MOBILITY, ABI-INFORM, ADISCTI, AEROSPACE, AGRICOLA,
    ALUMINIUM, ANABSTR, ANTE, APOLLIT, AQUASCI, AQUALINE, AQUIRE,
    BABS,BIBLIODATA, BIOBUSINESS, BIOCOMMERCE, BIOENG, BIOSIS,
    BIOTECHABS,BIOTECHDS, BIOTECHNO, BLLDB, CABA, CANCERLIT, ...'
ENTERED AT 09:25:24 ON 27 SEP 2004

=> S (VALERIAN OR 8057-49-6) AND (CALCIUM CARBONATE OR 471-34-1)
18 FILES SEARCHED...
   6   FILE CAPPLUS
   1   FILE CASREACT
38 FILES SEARCHED...
   3   FILE DDFU
   4   FILE DRUGU
56 FILES SEARCHED...
   3   FILE EMBASE
21   FILE EUROPATFULL
...
17 FILES HAVE ONE OR MORE ANSWERS, 147 FILES SEARCHED IN STNINDEX

L1 QUE (VALERIAN OR 8057-49-6) AND (CALCIUM CARBONATE OR 471-34-1)
Example (cont.): Prior Art Search

=> D RANK
F1 167 USPATFULL
F2 50 PCTFULL
F3 21 EUROPATFULL
F4 18 USPAT2
F5 12 WPIDS
F6 12 WPINDEX
F7 7 IFIPAT
F8 6 CAPLUS
F9 4 DRUGU
F10 4 PROMT
F11 3 DDFU
F12 3 EMBASE
F13 1 CASREACT
F14 1 INPADOC
F15 1 NLDB
F16 1 PHIN
F17 1 TOXCENTER

The full-text patent files have the most hits, but there are also hits in the indexed patent, news, and pharmaceutical files.
Example (cont.): Prior Art Search

=> FILE HITS
=> S (VALERIAN OR 8057-49-6) AND (CALCIUM CARBONATE OR 471-34-1)

L2 167 FILE USPATFULL
L3  50 FILE PCTFULL
L4  21 FILE EUROPATFULL
L5  18 FILE USPAT2
L6  12 FILE WPIDS
L7  12 FILE WPINDEX
L8   7 FILE IFIPAT
L9   6 FILE CAPLUS
L10  4 FILE DRUGU
L11  4 FILE PROMT
L12  3 FILE DDFU
L13  3 FILE EMBASE
...
TOTAL FOR ALL FILES
L19 312 (VALERIAN OR 8057-49-6) AND (CALCIUM CARBONATE OR 471-34-1)

The FILE HITS command lets you search all files with answers to your search query.
Example (cont.): Prior Art Search

=> DUP REM L19
PROCESSING COMPLETED FOR L19
L20 257 DUP REM L21 (55 DUPLICATES REMOVED)
   ANSWERS '1-167' FROM FILE USPATFULL
   ANSWERS '168-217' FROM FILE PCTFULL
   ANSWERS '218-238' FROM FILE EUROPATFULL
   ANSWERS '239-240' FROM FILE WPIDS
   ANSWERS '241-243' FROM FILE CAPLUS
   ANSWERS '244-247' FROM FILE DRUGU
   ANSWERS '248-251' FROM FILE PROMT
   ANSWERS '252-254' FROM FILE EMBASE
   ANSWER '255' FROM FILE CASREACT
   ANSWER '256' FROM FILE NLDB
   ANSWER '257' FROM FILE PHIN

Duplicates can be removed from the multifile answer set.
Example (cont.): Prior Art Search

This US patent reference may be prior art under 102(e). Although it was published after the July 3, 2001 filing date of the application to be assessed, this reference has a filing date before the filing date of the application to be assessed.
Example (cont.): Prior Art Search

DETĐ (3) Optionally, the concentrate is mixed with an acceptable chemical base to reduce the odor of the extract. Specifically, the extract may be mixed with a chemical base, wherein the base is present in an amount sufficient to deodorize the extract. The chemical base may be any of the commonly-known or used bases, such as calcium carbonate, sodium carbonate, sodium bicarbonate, calcium hydroxide, aluminum hydroxide, magnesium hydroxide, sodium hydroxide, potassium hydroxide, or any other chemical based sufficient amount of a chemical base to eliminate the odor, and is preferably is non-toxic. Contrary to the teachings of the prior art, which teaches that valepotriates and the degradation products of valepotriates are the odor-causing agents of extracts of Valerian root, isovaleric acids, and like acid components (such as the butonic, pentanoic and hexanoic acids) of Valerian root, have been identified as the odor-causing agents. An extract of Valerian root may also be made to have a reduced odor by the step of combining the extract, or mixing the extract, with the commercially-available antacid Maalox®, or by combining the extract with calcium carbonate. Specified amounts of extract of Valerian root, 250, 500, 1000 mg, may be combined with 1000 mg of calcium carbonate.
Example (cont.): Prior Art Search

Melatonin Plus Sleep Aid Tablets are manufactured for and distributed by Las Vegas, NV-based Vita Plus Industries, Inc. The Supplement tablets are presented in 60-count tamper evident plastic bottles overboxed in cardboard for rack display. Ingredients are said to include melatonin (3mg), calcium carbonate (100mg), magnesium oxide (100mg), valerian root (100mg) and aminobutyric acid (50mg). Package copy states, "Restores body's ability to regain restful sleep. May help relieve symptoms of jet lag. Non-addictive." For sample retrieval information, please call: Marketing Intelligence Service, Ltd., (716) 374-6326.

This reference may be prior art under 102(b) since:

- It was published more than a year before the filing date of the patent document to be assessed.
- The product may have been on sale at that time.
Types of prior art in the US include:

- Reference showing invention was *publicly known or used* in the US by someone other than the applicant
- *US or foreign patent* claiming the invention
- *Publication* from anywhere in the world describing the invention
- Reference showing invention was being *sold or offered for sale* in the US more than one year before the effective filing date of the US patent document to be assessed
Types of prior art in the US include (cont.):

- US patents and published applications, having at least one different inventor than the US patent document to be assessed, and an *application filing date before* the invention date.

- PCT publications filed on or after November 29, 2000, designating the United States, published in English, and having at least one different inventor than the document to be assessed, and an *international filing date before* the invention date.
Session Agenda

- Prior Art
- Novelty Searching
- Obviousness Searching
- Techniques for Comprehensive Prior Art Searches
How does a Novelty search differ from an Obviousness search?

- **Novelty**
  - Search for a *single* reference that describes the invention as claimed

- **Obviousness**
  - A single reference only describes part, but not all of the invention as claimed. Search for *two or more references that can be combined* to describe the invention as a whole
Obviousness is not necessarily obvious

• Most prior art references describe something similar but not identical to a claimed invention

• Title 35, US Code, Section 103(a):
  – “A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which that subject matter pertains.”

• Would a hypothetical person having average skill in the technology, and knowing all the prior art, have found the claimed invention obvious at the time the invention was made?
Criteria for prior art references that may support obviousness include:

- Search for references in the inventor’s field of endeavor or that address the problem with which the inventor was concerned.
- The references, when combined, must describe all the limitations of the patent claim.
- There must be a reason to combine the references to achieve the invention as a whole.
Search Question

Your company is considering licensing a patent filed on March 30, 2001. Claim 1 of the patent is drawn to “A leave-in hair cosmetic composition comprising non-spherical Laponite™ microparticles, a water-soluble or water–swellable acrylic polymer and an aqueous carrier wherein the combination of microparticles and polymer result in a film-forming network.”

Search for prior art to this claimed invention.
Example: Obviousness search

=> FILE REGISTRY

=> S (LAPONITE XLG OR LAPONITE XLS)/CN
L1 1 (LAPONITE XLG OR LAPONITE XLS)/CN

=> SEL CHEM L1 1-
E1 THROUGH E9 ASSIGNED

=> D SELECT
E1 1 LAPONITE RD/BI
E2 1 LAPONITE RDS/BI
E3 1 LAPONITE XLG/BI
E4 1 LAPONITE XLS/BI
E5 1 LITHIUM MAGNESIUM SODIUM OXIDE SILICATE (LI0.03MG0.39NA0.07O0.15(SI2O5)0.28)/BI
E6 1 RDS (FILLER)/BI
E7 1 RDS/BI
E8 1 199015-71-9/BI
E9 1 227605-22-3/BI

Use the SELECT CHEMISTRY command to select CAS RNs and all names except for the CA Index Name for a more comprehensive search of the prior art. The selected terms of interest may be searched directly or incorporated into a L-numbered QUERY for easy crossfile searching in other files that have CAS Registry Numbers® and chemical names.

For example, to eliminate "RDS" as a search term, create the following query, which can then be searched:

=> QUE E1-E6, E8-E9
Example (cont.): Obviousness search

=> FILE HCAPLUS

=> S E1-E9
L2 1846 ("LAPONITE RD"/BI OR "LAPONITE RDS"/BI OR "LAPONITE XLG"/BI OR
"LAPONITE XLS"/BI OR "LITHIUM MAGNESIUM SODIUM OXIDE SILICATE
(LI0.03MG0.39NA0.07O0.15(SI2O5)0.28)/BI OR RDS/BI OR 199015-71-9/BI OR 227626-19-3/BI)

=> SET ABB ON

=> S L2 AND (AQUEOUS OR WATER OR H2O)
L3 406 L2 AND (AQUEOUS OR WATER OR H2O)

=> S ACRYLIC(L)?POLYMER?(L)(THICKENING OR GELLING OR "Gelation")
98368 ?POLYMD
35402 ?POLYMG
342476 ?POLYMN

L4 2052 ACRYLIC(L)?POLYMER?(L)(THICKENING OR GELLING OR "GELATION")

Use the CA Lexicon to find synonyms like "gelation" for a more comprehensive search of the prior art.

SET ABB ON captures the abbreviations for "polymerized," "polymerizing" and "polymerization," as well as "aq" for aqueous. Simultaneous left and right truncation of "polymer" also increases retrieval of related terms.
Example (cont.): Obviousness search

=> S HAIR(L) (GEL OR MOUSSE) OR (424070100 OR 424401000 OR 424070120 OR 424070130) /NCL OR (A61K007-06 OR A61K007-11 OR A61K007-00 OR A61K007-075) /IC
L5 27816 HAIR(L) (GEL OR MOUSSE) OR (424070100 OR 424401000 OR 424070120 OR 424070130) /NCL OR (A61K007-06 OR A61K007-11 OR A61K007-00 OR A61K007-075) /IC

=> S L3 AND L4 AND L5
L6 1 L2 AND L3 AND L4

One possible 102(e) reference is found (US6475496).

=> S L4 AND L5
L7 110 L3 AND L4

A reference from answer set L3 may be combined with a reference from answer set L7 to support the obviousness of the claimed invention.

Incorporating US, IPC, ECLA or F-term patent classification codes in our search query broadens our retrieval. Use the IPC thesaurus in CAplus or ANALYZE technology terms from an answer set to determine appropriate classifications.
Use the Analyze Plus Wizard in STN Express, Version 7.01, to select a primary 103(a) reference

Analyze the controlled terms in answer set L7 to identify references describing hair cosmetics containing gels or thickening agents and acrylic polymers.
Select cells containing concepts of interest to view corresponding CAnplus records

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CAS is a division of the American Chemical Society
Example (cont.): Obviousness search

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<td>Hair and skin composition containing a polysaccharide and an <strong>acrylic terpolymer</strong></td>
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<td>IN</td>
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The European patent publication may be 103(a) prior art under 102(b) since it was published more than a year before the March 30, 2001 filing date of the application to be assessed.

The US patent may be 103(a) prior art under 102(e) since it was filed before the March 30, 2001 filing date of the application to be assessed.
Example (cont.): Obviousness search

... 
AB The title compn. is disclosed. A hair gel contained a 25% dispersion of methacrylic acid-Me acrylate-ethoxylated behenyl dimethylmetaisopropenylbenzyl isocyanate terpolymer 0.5 g, hydroxypropyl guar gum 0.5, 2-amino-2-Me propanol q.s. pH = 7.5, perfume, preservative, and water q.s. 100 g. 
IT Cosmetics 
(gels; hair and skin composition containing polysaccharide and acrylic terpolymer)
IT Acrylic polymers, biological studies 
RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses) 
(hair and skin composition containing polysaccharide and acrylic terpolymer)

This primary reference describes hair gel compositions containing acrylic polymers. It does not describe the use of Laponite XLG as a standard gelling or thickening agent.
Use the Analyze Plus Wizard to select a secondary 103(a) reference

Analyze the controlled terms in answer set L3 to identify references describing compositions containing Laponite in aqueous solution.
Select cells containing concepts of interest to view corresponding CAplus records.
Example (cont.): Obviousness search

| AN       | 1993:415125 HCAPPLUS Full-text |
| DN       | 119:15125                      |
| ED       | Entered STN: 10 Jul 1993       |
| TI       | Skin cleansing compositions for removing cosmetic makeups |
| IN       | Hinks, Jane Elizabeth         |
| PA       | Boots Co. PLC, UK             |
| CODEN    | PIXXD2                        |
| DT       | Patent                        |
| LA       | English                       |
| IC       | A61K007-48                    |
| ICS      | A61K007-02                    |
| CC       | 62-4 (Essential Oils and Cosmetics) |
| FAN.CNT  | 1                             |

This secondary reference describes Laponite XLG as a standard gelling or thickening agent for cosmetics. Use the full text link to find more detailed information in the PCT source document.

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Example (cont.): Obviousness search

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</table>

AB  A non-oily skin cleansing compn. for removing makeups comprises a hectorite-type clay ≤2% and a preservative and no surfactants. A skin cleansing composition comprises Laponite XLG (a synthetic hectorite type clay) 1.63, CMC 7HF (cellulose gum) 0.43, 1,3-butylene glycol 5.42, Nipastate 0.02, 1% FD&C yellow number 6 0.00016, and water to 100mL.

ST  cleanser cosmetic hectorite clay CMC

IT  Cosmetics
    (cleansing, hectorite-like clay minerals in, for removal of makeups)

IT  Clay minerals
    RL: BIOL (Biological study)
    (hectorite-like, cosmetic cleanser containing, for removal of makeups)

IT  9004-32-4
    RL: BIOL (Biological study)
    (cosmetic cleanser containing hectorite-like clay minerals and)

IT  53320-86-8, Laponite XLG
    RL: BIOL (Biological study)
    (cosmetic cleanser containing, for removal of makeups)

These two prior art references could be combined to support an obviousness rejection.
Session Agenda

- Prior Art
- NoveltySearching
- Obviousness Searching
- Techniques for Comprehensive Prior Art Searches
A comprehensive prior art search looks for more than patent publications

- Journals distributed before their cover date
- PhD theses catalogued in a university library
- Internet publications
- School textbooks
- Handouts or posters at a technical conference
A comprehensive prior art search also looks for more than journal articles

- Transcripts of lectures and discussions
- Publicly available products and devices
- Clinical trial information
- Pictures and drawings from design patents
- Fiction that describes the invention in sufficient detail!
Which clusters should I search for the most comprehensive results?

**Search Question:**
You are asked to conduct a prior art search for a patent whose validity is being assessed. Claim 1 is drawn to a “Purified human Tumor Necrosis Factor (TNF) Binding Protein II, herein designated TBP-II, said protein having the ability to inhibit the cytotoxic effect of TNF.”

Search for prior art to this claimed invention.

**Search Query:**
=> S (TUMOR NECROSIS FACTOR BINDING PROTEIN (W) (II OR 2)) OR (TNF BINDING PROTEIN (W) (II OR 2)) OR (TBP (W) (II OR 2))
Which clusters give the most comprehensive results?

<table>
<thead>
<tr>
<th>Files in Cluster</th>
<th>ALLBIB</th>
<th>BIOSCI</th>
<th>CHEM</th>
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For more comprehensive prior art searches, make sure you...

- Use STNindex to identify relevant files
- Search in multife file files, including business (ABI/INFORM, INVESTEXT) and meetings files (CONF, CONFSCI)
- Search beyond utility patents and published utility applications -- prior art may be found in other categories of patents, e.g., design patents, plant patents, reissue patents, statutory invention registrations, etc. (USPATFULL, IFIPAT)
- Search for information about defensive publications (RD, CAplus), grant applications (PROMT, NLDB), and theses (DISSABS)
Don’t forget to consider the following items as well ...

- Search in full-text files for substance, process and device details
- Use the KWIC and D BROWSE display formats to evaluate answers (USPATFULL, PCTFULL, EUROPATFULL, PATDPAFULL, FRFULL)
- Use the US NCL, IPC, ECLA and F-term classifications to identify patent references based on their technology classifications
- Add a patent family search (FSEARCH) to patent references found by topic or substance search -- dates and disclosures may vary among patent family members
Conduct more than one type of substance search to be comprehensive!

– Use SELECT CHEM in multiple files to select both names and RNs for further searching
– Search specific structures in REGISTRY and other structure files
– Search generic structures in MARPAT®
– Search by properties (REGISTRY, BEILSTEIN)
– Search in the REGISTRY editor note (/ENTE) field
– Use SEQLINK to find related sequence records
– Use POLYLINK to find related polymers
Some additional tips for more comprehensive prior art searches include...

- Search CAS RNs in multiple bibliographic and full text files
- TRANSFER patent numbers from answer sets for searching in other files
- Use file-specific thesauri to find synonyms and alternative search terms
- Use left truncation and simultaneous left and right truncation to capture search term variations
- Use SET commands
  - SET PLURALS ON
  - SET ABB ON
Summary

• Prior art searching focuses on finding many different types of references
• Novelty searching involves looking for a single reference that describes a claimed invention
• Obviousness searching involves finding multiple references which together describe a claimed invention
• Use STN content and features in multiple files, using multiple approaches to help you conduct more comprehensive searches of the prior art
Is It Novel? Is it Obvious?
Techniques for Searching and Analyzing Prior Art

STN Patent Forum
October 2004