CHEM 4689
POWERSEARCH REFRESHING
CHEMICAL INFORMATION SEARCHING IN DATABASES

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Intended Learning Outcomes

Gather useful information
- Search for literature using PowerSearch

Find peer-reviewed literature related to your topic
- Locate high impact journals and papers in Web of Science & SciFinder databases effectively

Stay current with the latest research using citation/search alerts
Library Research Guide
http://libguides.ust.hk/chem4689
Types of information sources

Information is available from many sources and in many forms. Below are the most useful and popular information sources which help you to begin your information research.

General information
When an event occurs, reports will first appear on internet, newspapers, or the magazine. These reports usually provide factual information only.

Scientific information
Scientific research reports might first appear in unpublished papers or be presented at conferences. It takes years for the research report to be published as an article in a journal or as a paper in the conference proceedings.
Select the right information source  
Library Homepage -> Databases -> by Subject -> Science

<table>
<thead>
<tr>
<th>Information Source</th>
<th>Content</th>
<th>Database</th>
</tr>
</thead>
<tbody>
<tr>
<td>Journal articles, conference papers, technical reports</td>
<td>Research results, analysis, statistics</td>
<td>Web of Science, SciFinder Scholar, Scopus, INSPEC and INSPEC Archive, PubChem, PubMed, BioMed Central, Google Scholar, etc.</td>
</tr>
<tr>
<td>E-books</td>
<td>In-depth coverage of a topic</td>
<td>ScienceDirect, ENGnetBASE, Knovel, SpringerLink</td>
</tr>
<tr>
<td>Patents</td>
<td>A patent is a right granted to the owner of an invention</td>
<td>Google Patent Search Patsnap</td>
</tr>
<tr>
<td>Encyclopedias</td>
<td>Broad overview of a topic or reference</td>
<td>Kirk-Othmer Encyclopedia of Chemical Technology</td>
</tr>
<tr>
<td>Standards</td>
<td>Standards are published documents setting out specifications and procedures.</td>
<td>ASTM Standards on Disc, British Standards Online (10 Modules) IEEE Xplore</td>
</tr>
<tr>
<td>Theses &amp; Dissertations</td>
<td>In-depth coverage of a topic</td>
<td>HKUST E-theses, ProQuest Dissertation &amp; Theses (A&amp;I), HKUST Scholarly Publications Database</td>
</tr>
</tbody>
</table>
Use of PowerSearch
To find holding information for books, printed journals, ...
Select the right information source
Library Homepage -> Databases, Search “Chemistry”
How to find full-text articles?
Using Library subscribed databases as an example

- Search via PowerSearch for books or printed journal articles
- Most databases contain full-text articles & some provide abstract or citation only
- Use Inter-Library loan via http://library.ust.hk/illiad for unavailable articles
- Use links resolvers (Find@HKUST) to locate full-text from other databases
## Searching strategy

With Boolean operators: AND/OR, [“ “], *, ( )

<table>
<thead>
<tr>
<th>Boolean operator</th>
<th>Meaning</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>AND</td>
<td>Narrow  search and retrieve records containing <em>all</em> of the words it separates.</td>
<td>“Renewable energy” AND “Clean power sources”</td>
</tr>
<tr>
<td>OR</td>
<td>Broaden search and retrieve records containing <em>any</em> of the words it separates</td>
<td>“Radio Frequency Identification&quot; OR RFID</td>
</tr>
<tr>
<td>NOT</td>
<td>Narrow  search and retrieve records that do not contain the term following it.</td>
<td>painting NOT sculpture</td>
</tr>
<tr>
<td>[“ “]</td>
<td>Exact phrase</td>
<td>“Renewable energy”</td>
</tr>
<tr>
<td>*</td>
<td>Use Truncation to look for variants</td>
<td>ident*: identity, identities, identify, etc.</td>
</tr>
<tr>
<td>()</td>
<td>Group words or phrases when combining Boolean phrases and to show the order in which relationships should be considered</td>
<td>(mouse or mice) and (gene or pseudogene)</td>
</tr>
</tbody>
</table>
Web of Science

For off campus access, it required your ITSC login / password
Web of Science
Basic search
Web of Science Search results

1. Synthesis of an amino-terminated hyperbranched polymer and its application in reactive dyeing on cotton as a salt-free dyeing auxiliary
   - By: Zhang, Feng; Chen, Yuyan; Lin, Hong; et al.
   - COLORATION TECHNOLOGY Volume: 123 Issue: 6 Pages: 351-357 Published: 2007
   - Times Cited: 90

2. Multifunctional properties of cotton fabric treated with chitosan and carboxymethyl chitosan
   - By: Gupta, Deepthi; Halle, Adeeb
   - CARBOHYDRATE POLYMERS Volume: 69 Issue: 1 Pages: 164-171 Published: MAY 2007
   - Times Cited: 88

3. A review on developments in dyeing cotton fabrics with reactive dyes for reducing effluent pollution
   - By: Khatri, Awais; Peerzada, Mazhar Hussain; Mohsin, Muhammad; et al.
   - JOURNAL OF CLEANER PRODUCTION Volume: 87 Pages: 50-57 Published: JAN 15 2015
   - Times Cited: 87
Carbohydrate Polymers

Volume 69, Issue 1, 1 May 2007, Pages 164–171

Multifunctional properties of cotton fabric treated with chitosan and carboxymethyl chitosan

Deepak Gupta, Abha Arora, Anjali Kharkwal

Abstract

A water soluble carboxymethyl derivative of chitosan was prepared with a view to develop a multifunctional finish on cotton. Results show that treated cotton has better dyeability with direct and reactive dyes. Treatment with modified chitosan makes it possible to dye cotton in bright shades with cotton dyes having high wash fastness. Treated samples showed good antimicrobial activity against Escherichia coli and Staphylococcus aureus at 0.1% concentration as well as improved wrinkle recovery. The effect was found to be durable for five laundering cycles.

Keywords

Antibacterial activity; Chitosan; Basic dyable cotton; Multifunctional finish
Web of Science
Inter-library loan

Fill-in the request form
Web of Science
Finding high-impact journals

1. **Cited Reference** – “13” indicates the number of articles, books or other materials listed in the reference list (or bibliography) of this research paper, i.e., these are what Gupta cited!

2. **Impact factor** – is a measure of the relative importance of a journal
Web of Science
Impact factor

Find other top journals from the same categories
Web of Science (Advanced features)
Register for a WOS account

1. From the first Web of Science screen, click on the link to 'Sign-in.'
2. Enter the information required and Submit your registration.
Web of Science (Advanced features)
Create alert / Save search history
Web of Science
Activity – 1

Using WOS “Basic Search” to find articles with the following THREE search strategies, and write down the number of articles found in each of them:

S1: micro-fibres AND propert*
S2: (micro-fibres or microfibres) AND propert*
S3: (micro-fibres or microfibres or microfibers) AND propert*

What are the implications that exist due to the varying of the search strategies?
View and sort the results in S3 to find out the most cited article. What is the article title and the times cited?

S3: (micro-fibres or microfibres or microfibers) AND propert*
Web of Science
Activity – 3

What is the impact factor of the most cited journal found in S3?

S3: (micro-fibres or microfibres or microfibers) AND propert*
SciFinder

For off campus access, it required your ITSC login / password
SciFinder Interface

**Reference Search**: Find the most up-to-date chemistry and related science information found in journals, patents, dissertations and more.

**Substance Search**: Find substance information including chemical structures, chemical names, CAS Registry Numbers®, properties, commercial availability and regulatory information.

**Reaction Search**: Find dependable and current chemical reaction information including reaction schemes, experimental procedures, conditions, yields, solvents, catalysts.
Reference Search
Research topic: Activity – 2a

1. To begin, click Research Topic.
2. Enter your search concept(s) in the query entry text box.
   • A search concept, or keyword, is a term or phrase relevant to your topic of interest.
   • Enter up to seven concepts, separated by prepositions, in English.
   • Recommendation: enter two or three concepts, separating each concept with a preposition. Use additional concepts to refine your answer set later.
   • Use “not” or “except” to exclude a term.
3. Click Search.

Tip
You can include up to three synonyms or acronyms for a concept. Place them in parentheses immediately following the concept and separate them with commas. E.g., cat (kitten, feline, felis catus)
Select All  Deselect All

1 of 11 Research Topic Candidates Selected

- 153 references were found containing all of the concepts "clean", "oil spill" and "ocean" closely associated with one another.
- 595 references were found where all of the concepts "clean", "oil spill" and "ocean" were present anywhere in the reference.
- 1180 references were found containing the two concepts "clean" and "oil spill" closely associated with one another.
- 1254 references were found where the two concepts "clean" and "oil spill" were present anywhere in the reference.
- 2499 references were found containing the two concepts "clean" and "ocean" closely associated with one another.
- 6098 references were found where the two concepts "clean" and "ocean" were present anywhere in the reference.
- 3070 references were found containing the two concepts "oil spill" and "ocean" closely associated with one another.
- 4366 references were found where the two concepts "oil spill" and "ocean" were present anywhere in the reference.
- 516964 references were found containing the concept "clean".
- 12459 references were found containing the concept "oil spill".
- 476694 references were found containing the concept "ocean".

SciFinder returns a set of Topic Candidates.

4. Select the answer set that you want to use from the list.
   - Click the box to select an option. A green checkmark indicates it has been selected.

5. Click Get References.

Tip: All concepts "present anywhere in the reference" is often a good starting point. If the number of references is too large or you find many non-relevant references, consider selecting the narrower option in which all of the concepts are "closely associated with one another."

Now what?
After you click Get References, SciFinder will retrieve the answers which meet your query requirements. To learn about working with the answers, please see the companion document titled, “How to... Work with Reference Answer Sets.”
Reference Search
Sort by Citing References
Reference Search
Access Full Text

Title: Imaging intracellular fluorescent proteins at nanometer resolution

Full text available at: Highwire Press American Association for the Advancement of Science
Available from 1880 volume: 1 issue: 1
Most recent 8 year(s) not available

Contact Library Reference (libref@ust.hk) for assistance
© HKUST Library
Reference Search
Analyze by document type

Tip: Some document types are listed in all capital letters. These subsets are unique to MEDLINE® (aka PubMed). The 30 JOURNAL ARTICLE(s) in MEDLINE are also included in the Journal subset which contains the documents from both MEDLINE and CPlus.
Tip

The *Analyze* capability is an effective way to learn more about your results because you can use *Clear Analysis* to return to the original answer set. After you have explored the answer set several ways, you can then decide how you want to narrow it, make that selection, and then click *Keep Analysis* or choose to narrow the answer set using other techniques.
Reference Search
Narrow down your research topic using “Refine”

The Answer Set is Narrowed to 236 References

Tips:
- SciFinder automatically searches for both singular and plural forms of a word (method, methods), alternate word endings and forms (clean, cleaning), and common synonyms (ocean, sea, marine) to save you time and increase comprehensiveness.
- When searching or refining by Research Topic, you can include up to three synonyms, separated by commas and enclosed in one set of parentheses.
- When you refine by Research Topic, both the old and new hit terms are highlighted in the title and are bolded in the abstract.
Reference Search
Narrow down your research topic using “Categorize”

CAS scientists identify key terms and concepts that they include in the indexing of each database record. These index terms are standardized and uniform to describe the science in the original document.

Categorize lets you find the references associated with selected indexing.

Click the Categorize button to launch the Categorize window.

1. Select a Category Heading.
2. Select a Category of interest.
3. Select one or more Index Terms by clicking the box to the left of a term.
4. In the Selected Terms summary box, click the blue circle with the white "X" to delete a term.
5. Click OK to narrow your search based on the selected index terms.

Tip
Add Index Terms to your search query. Begin with a broad research topic search. In the answer set, find a couple records that are very relevant. Look at the index terms for those documents. Then, re-run the search with these index terms added to your search query.
Do you know

Google Scholar can link to library resources?

http://scholar.google.com
1. Choose Library Links
2. Type in “Hong Kong university of science and technology”
3. Click search icon
4. Tick the box for HKUST – Find@HKUST
5. Save
Google Scholar
Google Scholar
High Impact Journals
Thank you!