ADVANCED GUIDELINE FOR SPECIFIC PATENT SEARCHES

Specific Tutorial 1 – Chemical Compounds

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Rio de Janeiro, July 30, 2018.





WARNING:

As a continuation of the Basic Guideline, this guideline requires previous knowledge.

If you have not yet read the Basic Guideline, please access it <u>here</u>before proceeding.



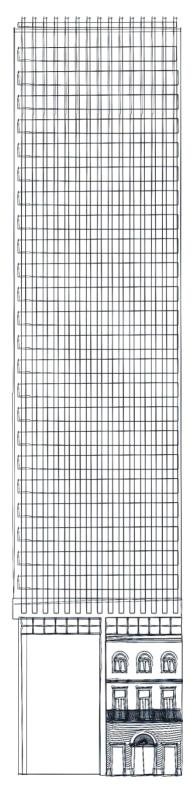


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Initial considerations

Specific search in patent documents related to chemical compounds:

- Should not be focused only on trade names.
- It is important to use the names of chemical substances and its synonyms.
- •Therefore, before starting the search, the several synonyms of the compound should be surveyed.



First step: search for synonyms



Search for synonyms

There are several commercial and free databases that can be consulted to find synonyms.

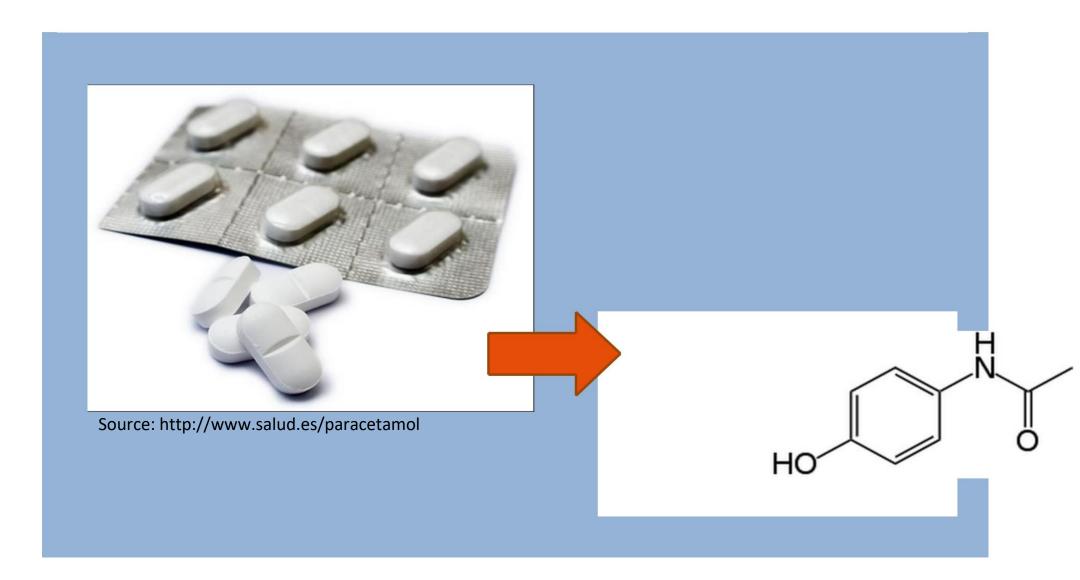
Examples of free databases are:







For example, synonyms for paracetamol will be searched in two free databases.





Search for synonyms in the PubChem database



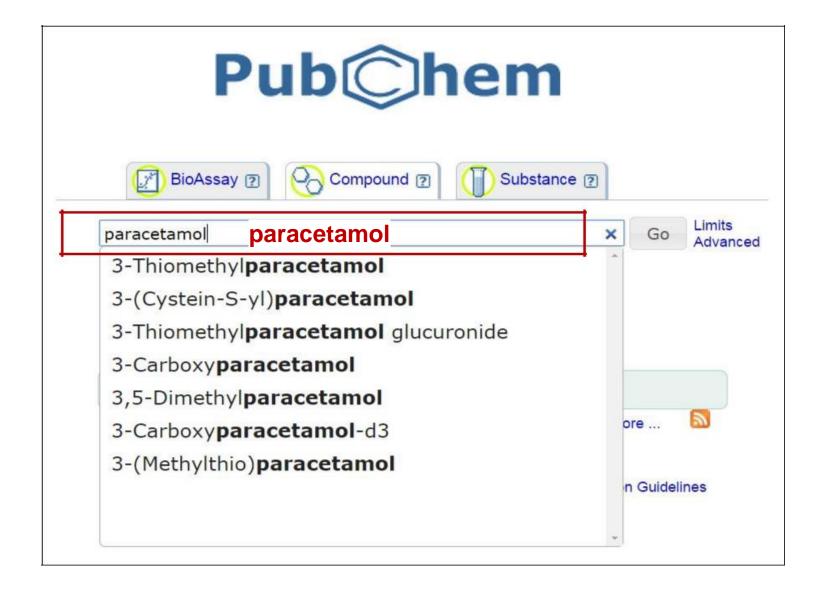


Access https://pubchem.ncbi.nlm.nih.gov/





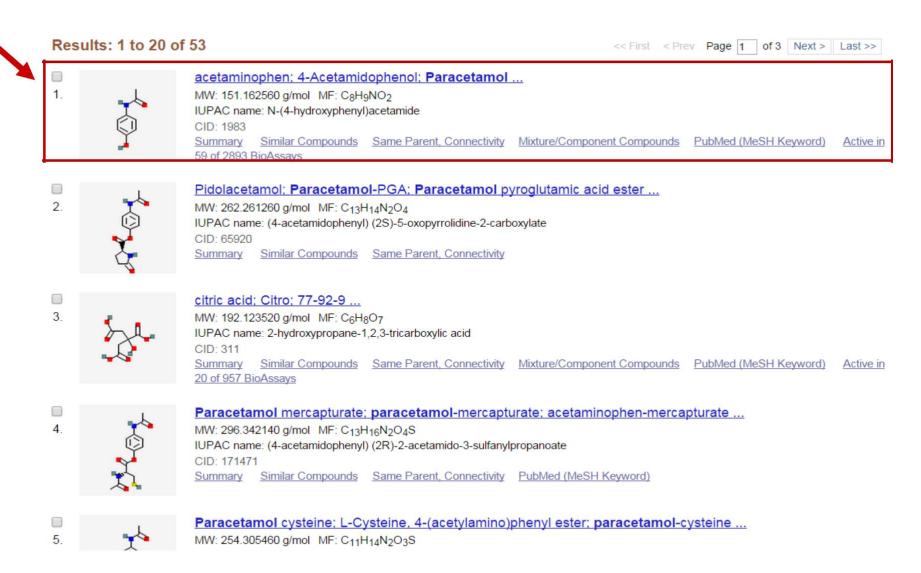
Use the "Compound" tab to conduct the search using the name of the substance (as the example below) or the trade name.





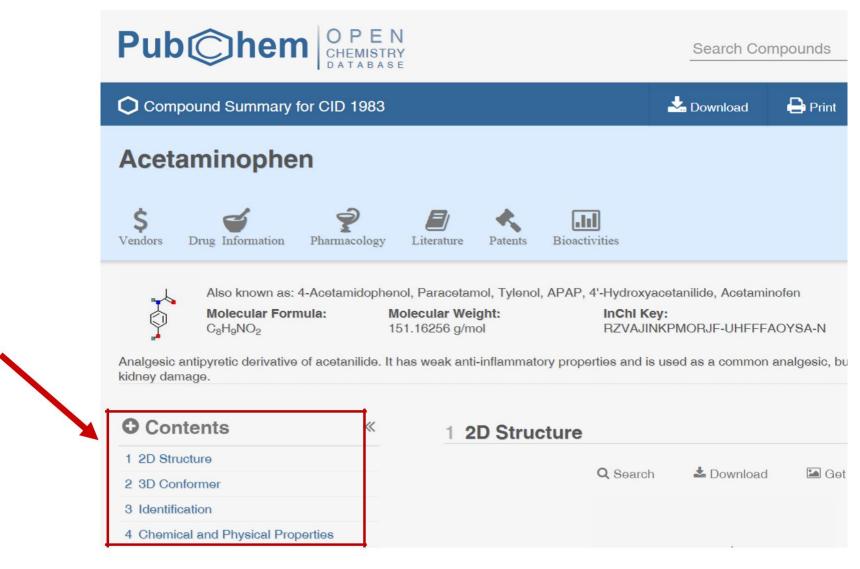
The results are ordered by relevance. Please note that the paracetamol compound appears first, followed by its by-products.

To access the compound file, click on the name of interest:



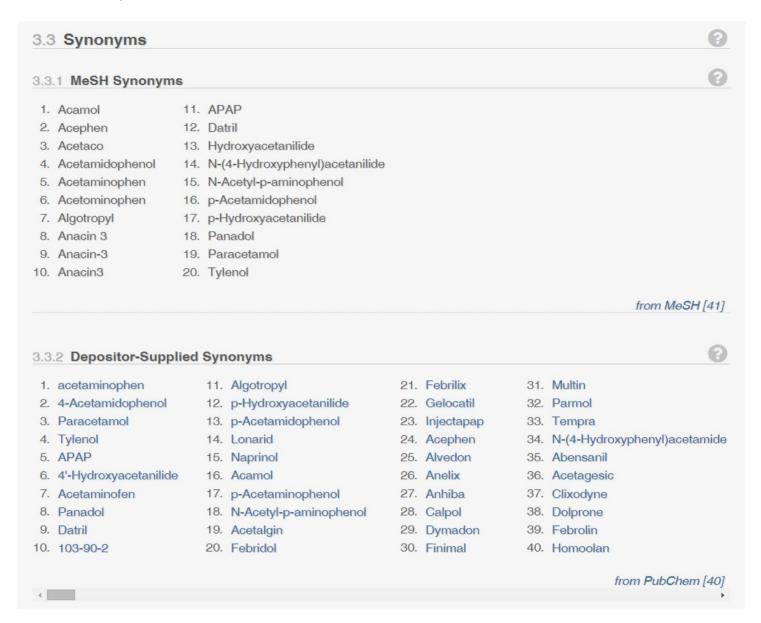


The acetaminophen (synonym with paracetamol) compound file has several information such as: structure, 3D conformer, synonyms, chemical and physical properties, and even patent documents.





In "Identification", in sub-item 3.3, the synonyms and other descriptors are listed for the compound of interest.



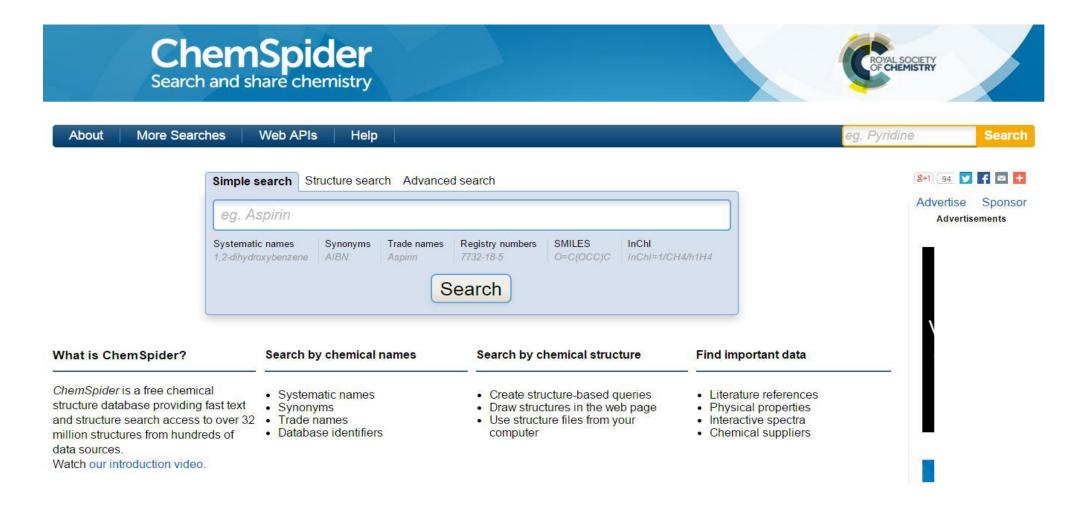


Search for synonyms in the ChemSpider database



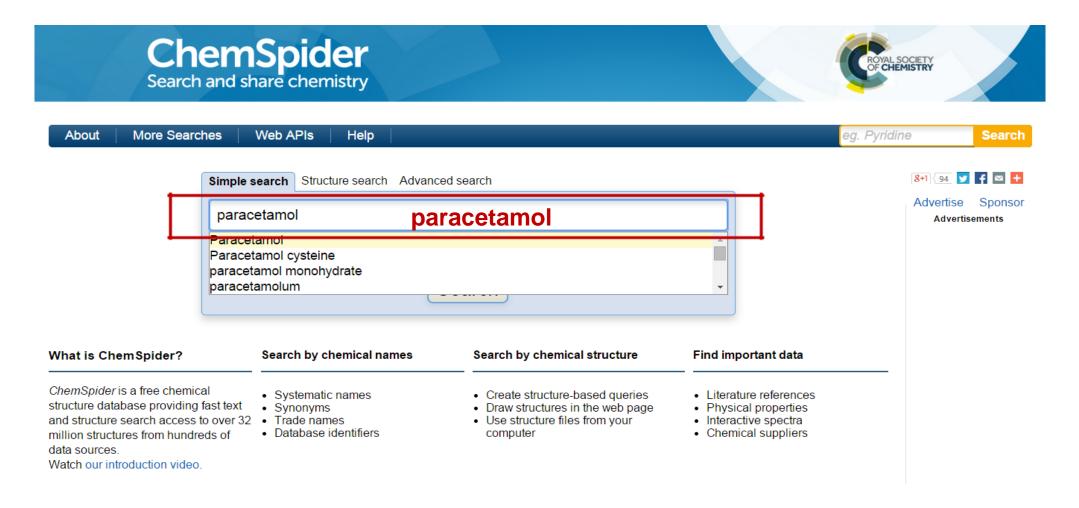


Access http://www.chemspider.com/



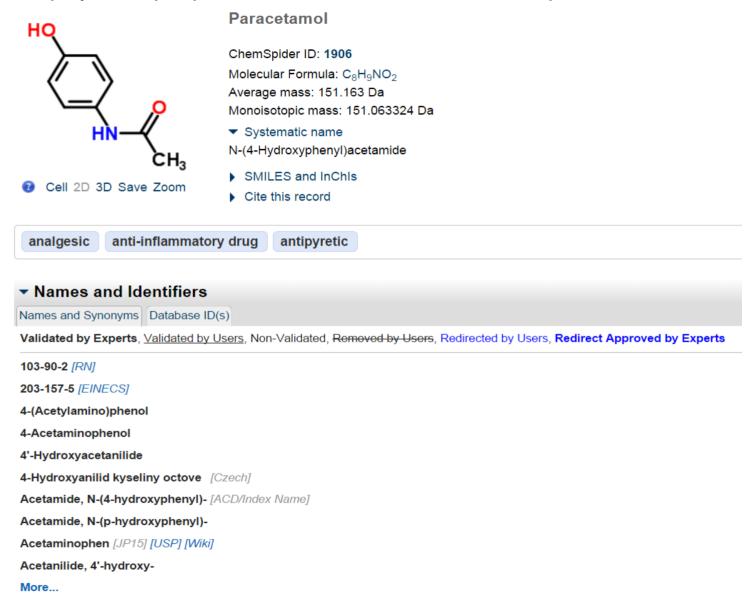


Search using the "Simple search" tab by adding the name of the substance, as shown below, or the trade name.





The compound file has several information, such as: structure, synonyms, chemical and physical properties, and even articles and patent documents.





Examples of synonyms extracted from the PubChem and Chemspider databases:

- Paracetamol
- Tylenol
- Febrolin
- Dolgesic
- IUPAC Nomenclature: N-(4-hydroxyphenyl)acetamide
- Acetamidophenol
- Acetaminophen
- Hydroxyacetanilide
- 4-(Acetylamino)phenol



Second step: search for patent documents



Search for patent documents

There are several commercial and free databases for searching patent documents.

Examples of free databases:







Search for patent documents in the database Espacenet





Access http://worldwide.espacenet.com/ and select "Advanced search".





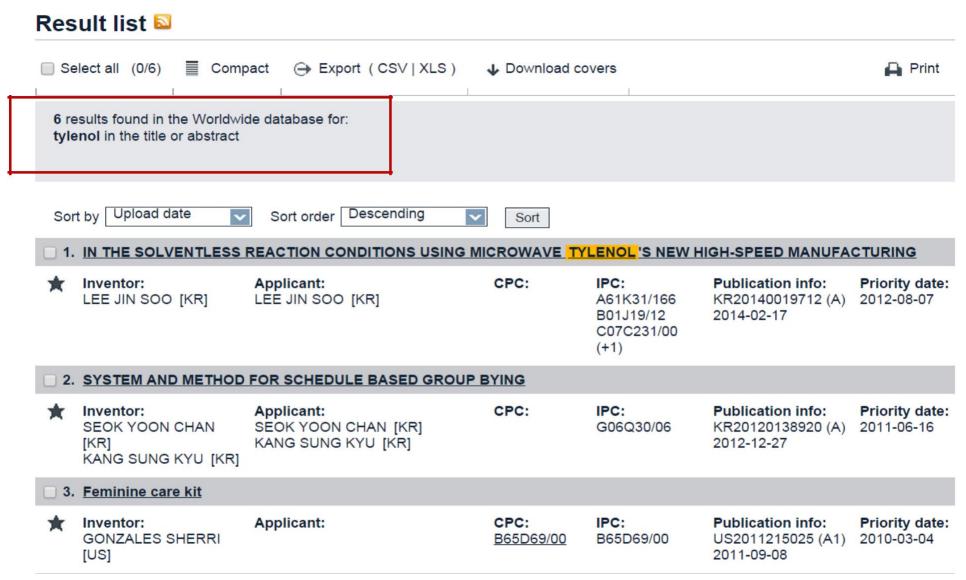
Make the search by filling the fields of interest with the keywords previously selected in the synonyms databases.

Example: trade name tylenol in "title or abstract"

Advanced search Select the collection you want to search in Worldwide - collection of published applications from 90+ countries Enter your search terms - CTRL-ENTER expands the field you are in Enter keywords in English Title: i plastic and bicycle Title or abstract: i hair tylenol tylenol



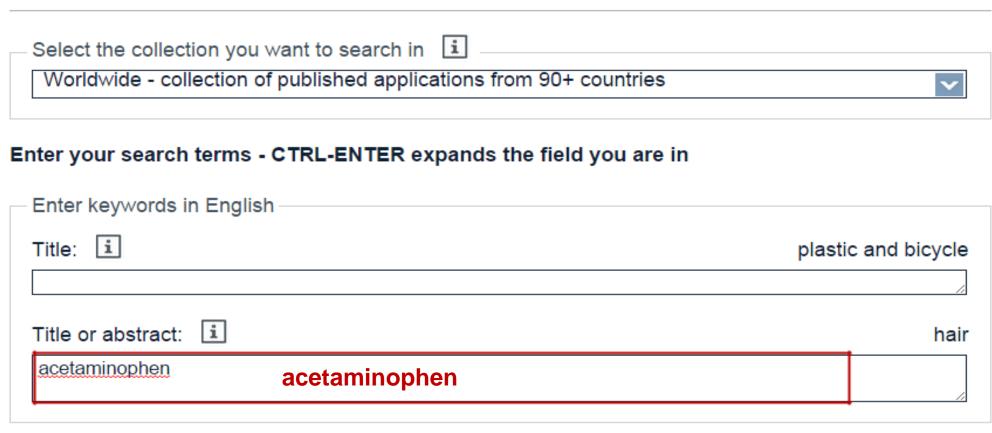
Please note that only 6 results were found using the term "tylenol".





Therefore, new searches shall be made using chemical names of the substance; for example, <u>acetaminophen</u>:

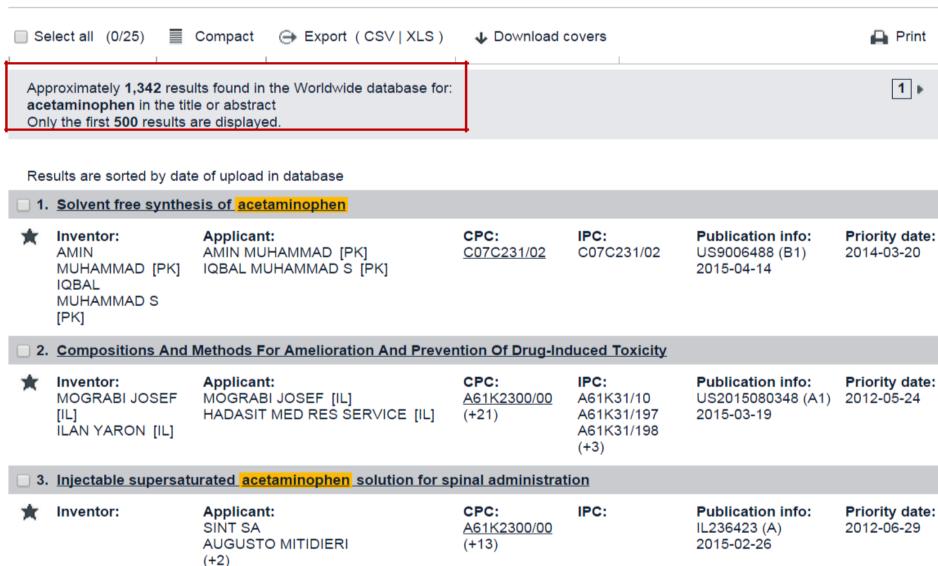
Advanced search





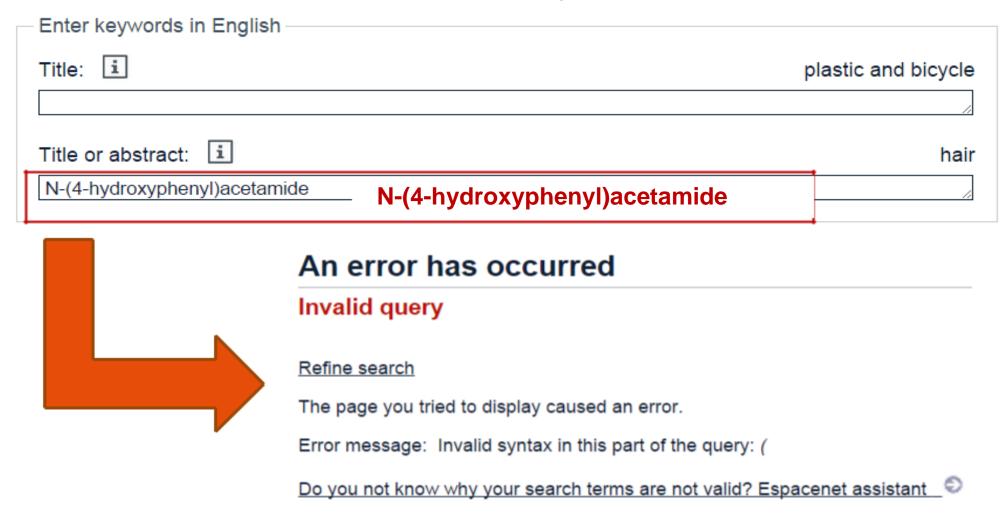
Please note that, this time, 1,342 results were found by using one of the chemical names of the substance.

Result list





The search in the Espacenet database using the IUPAC nomenclature N-(4-hydroxyphenyl) acetamide is considered invalid, as the system does not recognize parenthesis.





In the attempt to search for the IUPAC nomenclature in Espacenet, a possible alternative is to use the terms of the chemical name combined with the Boolean operator "AND".

IUPAC: N-(4-hydroxyphenyl)acetamide

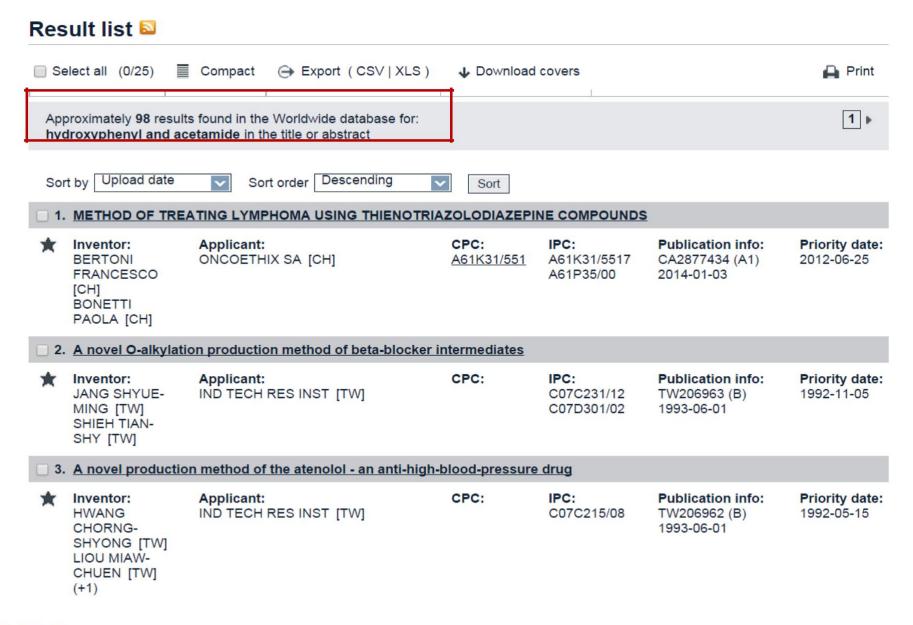
Example: <u>hydroxyphenyl AND acetamide</u> in the "title or abstract".

Advanced search

Select the collection you want to search in	
Worldwide - collection of published applications from 90+ countries	~
Enter your search terms - CTRL-ENTER expands the field you are in	
Enter keywords in English	
Title: i pl	astic and bicycle
Title or abstract: i	hair
hydroxyphenyl AND acetamide hydroxyphenyl AND acetamide	



Please note that 98 results were found using the "hydroxyphenyl AND acetamide" combination.





It is important to note that the results found may be non-specific.

In the examples below, even with the words in the abstract, the substance of interest was not found.

Abstract of US2014018353 (A1)
Translate this text into Albanian patenttranslate powered by EPO and Google
A method of treating B-cell malignant cancers or T-cell malignant cancers in a mammal by administering to a patient a pharmaceutically acceptable amount of a composition comprising (S)-2-[4-(4-chlorophenyl)-2,3,9-trimethyl-6H-thieno[3,2-f][1,2,4]triazolo-[4,3-a][1,4]diazepin-6-yl]-N-(4-hydroxyphenyl) acetamide. The B-cell malignant cancers include diffuse large B-cell lymphoma and splenic marginal zone lymphoma. The T-cell malignant cancers include anaplastic large T-cell lymphoma.

Abstract of RU24	48694	I (C2)	
Translate this text into	i		
Albanian	•	⇒ patenttranslate	powered by EPO and Geogle

Al-4--4 - F DUO440004 (00)

FIELD: medicine, pharmaceutics. ^ SUBSTANCE: group of inventions refers to medical chemistry and concerns using non-peptide compounds for inhibiting the oligomerisarion of monomer peptides A1-42. There are offered methods for counteracting formation of neurotoxic proteins ADDL from monomer peptides A1-42, as well as methods for suppressing, regulating and/or modulating neuronal dysfunction or neurotoxicity caused by the proteins ADDL in nerve cells or nerve tissue due to suppressing formation of the proteins ADDL, involving the contact of monomer A1-42 and a compound specified in a group consisting of:; (Z)-N-(2-Methoxy-phenyl)-2-oxo-2-{N'-[3-oxo-3-thiophen-2-yl-1-trifluoromethyl-propylidene]-hydrazino}-acetamide, ethyl ether of (E)-2-{[1-(2-hydroxy-3-methoxy-phenyl)-methylidene-hydrazinooxalyl]-amino}-6-metyl-4,5,6,7-tetrahydro-benzo[b]thiophene-3-carboxylic acid, ethyl ether of (E)-2-{[1-(2-hydroxynaphthalen-1-yl)-methylidene-hydrazinooxalyl]-amino}-6-metyl-4,5,6,7-tetrahydro-benzo[b]thiophene-3-carboxylic acid, ethyl ether of (E)-2-{[1-(2-hydroxynaphthalen-1-yl)-methylidene-hydrazinooxalyl]-amino}-6-metyl-4,5,6,7-



To make the previous search more specific, in addition to the keywords, the International Patent Classification (IPC) related to preparations for medical purposes can be used:

A61K Preparations for medical, dental, or toilet purposes.

Enter keywords in English		
Title: i		plastic and bicycle
Title or abstract:		hair
hydroxyphenyl AND acetamide	hydroxyphenyl AND acetamide	
Enter one or more classification s	symbols	
CPC i		
IPC i		H03M1/12
a61k	a61k	



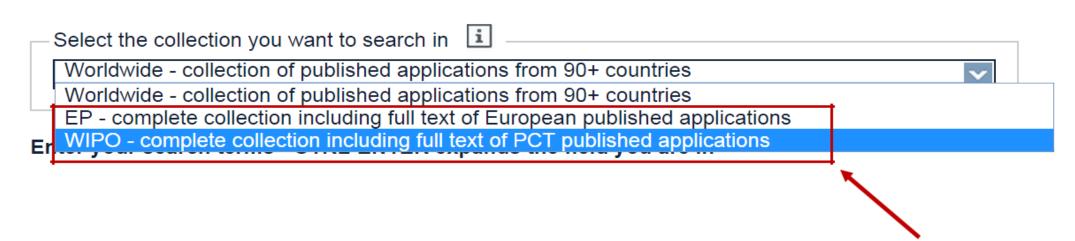
As a result, approximately 47 documents related to the substance of interest were found:

1 ▶ Approximately 47 results found in the Worldwide database for: hydroxyphenyl AND acetamide in the title or abstract AND a61k as the IPC classification Upload date Descending Sort order Sort Sort by 1. METHOD OF TREATING LYMPHOMA USING THIENOTRIAZOLODIAZEPINE COMPOUNDS Priority date: Inventor: Applicant: CPC: IPC: Publication info: BERTONI FRANCESCO ONCOETHIX SA [CH] A61K 31/5517 A61K31/551 CA2877434 (A1) 2012-06-25 [CH] A61P35/00 2014-01-03 BONETTI PAOLA [CH] 2. ANTITUMOR AGENT Applicant: CPC: IPC: Priority date: Inventor: Publication info: MIYOSHI SHINJI [JP] MITSUBISHI TANABE A61K31/551 A61K 31/551 US2013261109 (A1) 2007-12-28 OOIKE SHINSUKE [JP] PHARMA CORP [JP] C07D495/14 2013-10-03 (+3)3. TRIAZOLOPYRIDAZINES AS PAR1 INHIBITORS, PRODUCTION THEREOF, AND USE AS MEDICAMENTS Applicant: Inventor: CPC: IPC: Publication info: Priority date: A61K 31/5025 HEINELT UWE SANOFI AVENTIS A61K31/5025 NZ587141 (A) 2008-02-05 WEHNER VOLKMAR C07D487/04 A61P7/02 2012-04-27 (+4)C07D487/04 4. ACETAMIDE STEREOISOMER Applicant: CPC: IPC: Publication info: Priority date: Inventor: ABOLIN CRAIG R SEPRACOR INC A61K31/167 A61K 31/167 NZ583462 (A) 2007-08-28 A61K31/4015 WILKINSON H A61P11/08 2012-03-30



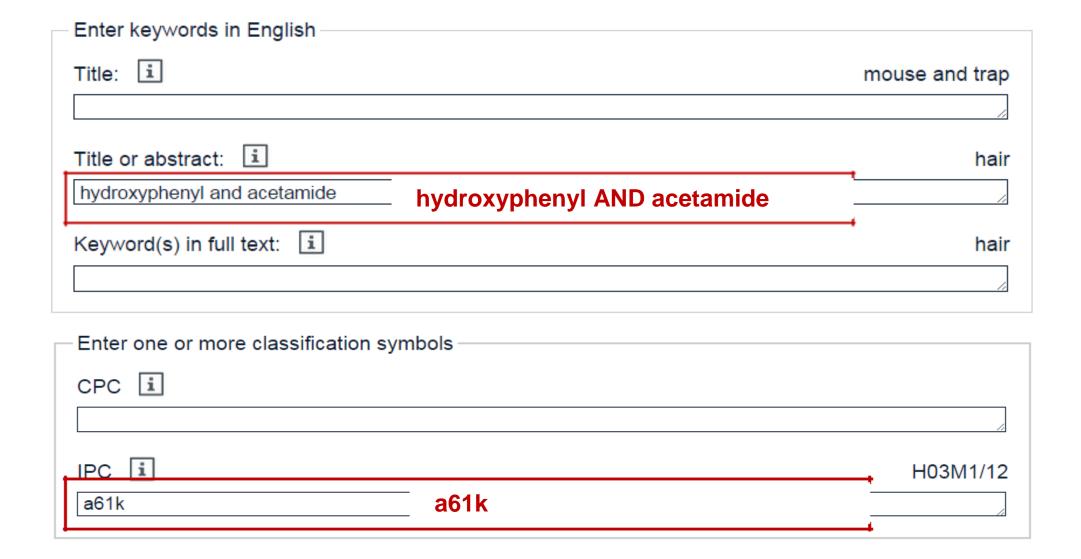
The name of the chemical compound is not frequently found in the title or abstract, but only in the description. In Espacenet, the search in full text can be made in EP (filed at the European Patent Office) and WO (PCT fillings) documents. The selection can be made in the Advanced Search:

Advanced search





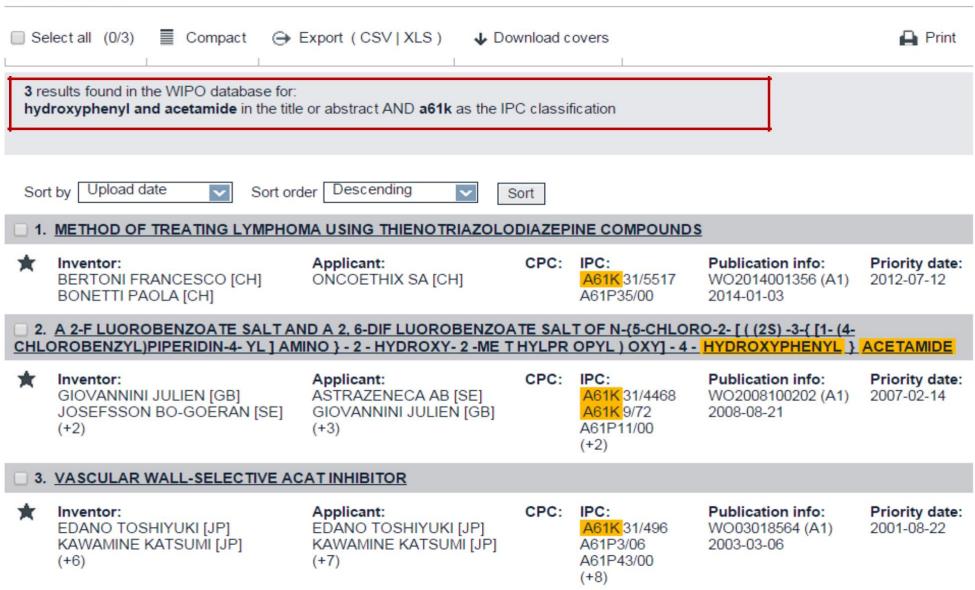
The keywords, now in the field regarding the full text, will be combined again with the A61K classification:





3 documents were found, which shall be read and analyzed.

Result list





Attention

The specific classification of a compound can be used in place of the name of the compound in case of searches focused on finding different dosages or combinations of substances, such as:

A61K 31/167 (specific to paracetamol) and ibuprofen

The possibility of adding new combinations of keywords and classifications to the strategy should also be considered, such as:

- A61P (therapeutic activity) and paracetamol
- C07 (synthesis methods) and A61P (therapeutic activity)
 - Dolgesic or Hydroxyacetanilide



Search for patent documents in the database

Google Patents





Access https://www.google.com.br/?tbm=pts

In Google Patents, there is an automatic search in the title, abstract, and full text.

The search also includes an automatic truncation of the terms used.





The search below uses the IUPAC nomenclature of paracetamol in quotation marks: "N-(4-hydroxyphenyl)acetamide"

Approximately 89,500 results were found with the exact expression in the title, abstract, and/or full text.



Miyoshi - Mitsubishi Tanabe Pharma Corporation

Visão geral - Relacionados - Discussão

... -6H-thieno[3,2-f][1,2,4]triazolo[4,3-a][1,4]diazepin-6-yl]-**N-(4-hydroxyphenyl)acetamide** or a dihydrate thereof to the mammal.

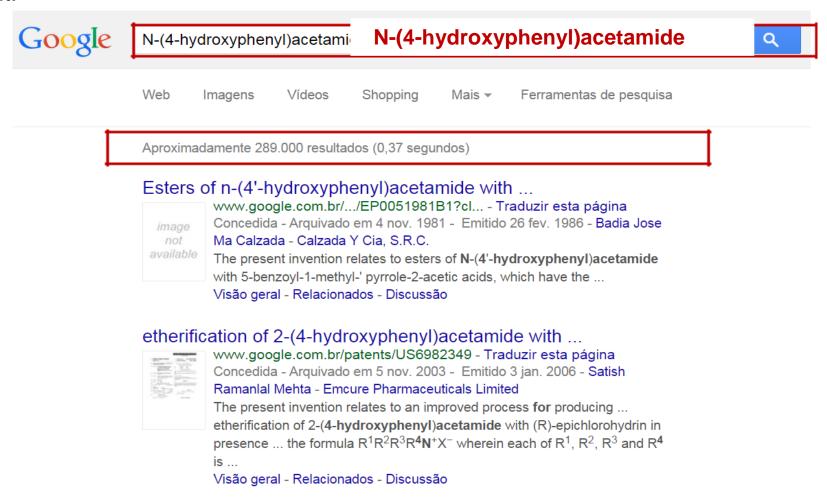
not



Below, the term is used without quotation marks: N-(4 hydroxyphenyl)acetamide.

In this case, approximately 289,000 results were found, as the terms of the expression were found in the title, abstract, and/or full text.

However, this large number of documents does not necessarily indicate that all results are relevant.





Please note that, although the search has been performed combining the terms, the automatic truncation of the database also yields results with the terms separately.

Preparation of benzofurans and use thereof as synthetic ...



www.google.com.br/.../US20130046103 - Traduzir esta página

Pedida - Arquivado em 10 fev. 2011 - Publicado em 21 fev. 2013 - Ehud Marom - Mapi Pharma Limited

N-(3-formyl-4-hydroxyphenyl)-N-(methylsulfonyl) (b) reaction of the N-(4-methoxyphenyl)acetamide with 2-bromohexanoyl chloride or ...

Visão geral - Relacionados - Discussão

Quinoline derivatives



www.google.com.br/.../WO2008014602... - Traduzir esta página

Pedida - Arquivado em 25 jul. 2007 - Publicado em 7 fev. 2008 - Daniel

Dumas - Chronogen Inc

N-((5-chloro-8-hydroxyquinolin-7-yl)(4-hydroxyphenyl)methy!)acetamide

26, N-((5-chloro-8-hydroxyquinolin-7-yl)(3-hydroxyphenyl) ...

Visão geral - Relacionados - Discussão



Conclusion

As shown, the search for chemical substances should be made using different strategies and databases.

Several attempts may be necessary to find the expected result using chemical names, their variations, and classifications iteratively.

NOTE: The searches shown in the examples were made in July 2015.





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http://faleconosco.inpi.gov.br/faleconosco/