



**CAS SCIENTIFIC
PATENT EXPLORER™**

QUICK START GUIDE

How to log in to CAS Scientific Patent Explorer

Log in at cas.org/cas-solutions-login

If you have access to CAS SciFinder[®] or CAS Chemical Compliance Index[™], you can use the same username and password for CAS Scientific Patent Explorer. Otherwise, a new username will be provided.



Search

Substance search

Search for substances and then view relevant patents for the results.

There are two types of substance searches available in CAS Scientific Patent Explorer, each with different advantages in various scenarios.

Structure search

Retrieve substances that match, include, or are similar to the structure you draw/import.

Text search

Find substances that match your query, which can include substance names, CAS Registry Numbers[®], and document identifiers.



Substance search by structure

1. Click the **Substances** tile.

CAS Scientific Patent Explorer

CAS Scientific Patent Explorer offers a unique combination of patent analysis and breadth of patent content with world-renowned CAS chemical capabilities and content to provide a powerful solution for patent professionals and scientists in an easy-to-use tool.

Select a search type to begin...

Substances

Search by chemical structure, chemical name, CAS RN, etc.

Patents

Search by keywords, claims, Patent Number, Assignee, etc.

2. Draw a new structure or import an existing file.
3. Select the option to retrieve substances that include the structure you draw as a complete structure, substructure, or that are similar to your structure.

Note: You can apply **substructure query features** to narrow or broaden the search for the substructures embedded in the substances matched.

Search for: Substances Patents Markush

Search this structure as:

- As Drawn
- As Substructure
- As Similarity

4. Click the Search button to submit the query and view the results.

Molecular Formula: C₁₆H₁₂ClNO₃ (301.73)

Zoom: 100%

Search


Substance search by text

1. Click the **Substances** tile.


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Select a search type to begin...



Substances
Search by chemical structure, chemical name, CAS RN, etc.



Patents
Search by keywords, claims, Patent Number, Assignee, etc.

2. Click the **Text Search** tab.

Structure Search **Text Search**

Search by Text

CAS Registry Numbers

3. Click under **Search by Text** to expand the menu and then select the search text type.

Structure Search **Text Search**

Search by Text

CAS Registry Numbers

Structure Search **Text Search**

Search by Text

CAS Registry Numbers

- CAS Registry Numbers
- Substance Name**
- SMILES
- InChi
- MolFile (.mol)



The screenshot shows a search interface with two tabs: "Structure Search" and "Text Search". Under "Text Search", there is a "Search by Text" section. A dropdown menu is set to "Substance Name". The search input field contains the text "benoxaprofen". A dark blue "Search" button with a magnifying glass icon is to the right. A yellow box highlights the search input field and a list of suggestions below it: "Benoxaprofen", "Benoxaprofen glucuronide", "(RS)-Benoxaprofen", "(±)-Benoxaprofen", and "dl-Benoxaprofen".

4. Enter your search term. As you enter the text, auto suggestions may appear. You can select from the list of suggestions or continue typing.

Note: You may enter multiple search terms separated by a space, as well as Boolean logic. The search field has a 1,000-character limit.

5. Click the **Search** button to submit the query and view the results.

This screenshot is identical to the one above, but the search input field now contains the full text "Benoxaprofen" and the list of suggestions is no longer visible. The dark blue "Search" button is highlighted with a yellow border.

Patent search

There are multiple types of patent searches available in CAS Scientific Patent Explorer, each with different advantages in various scenarios.

Simple

Contrary to its name, Simple search tends to be used by our most advanced users. It consists of a search bar for text searches with Boolean logic.

Advanced

With Advanced search, you can define exactly what you want to find. It is possible to create a query piece by piece, selecting the different fields that your keywords are going to be searched in and the operators that will help you make your query specific. It allows for the most control over exactly what comes back in your search.

Bulk

With bulk patent search, you can search up to 5,000 patent publication numbers (PN field), application numbers (APNO field), or a combination of both.

Chemical

Chemical search enables you to jump from structure searches to related patents and back again in one seamless workflow. You may also search by Markush structure.

Markush

Use a Markush search to find patents that contain structures (including generic structures) matching the structure query. The inventory may not have tested or prepared all members of the family, but can make a chemically plausible claim of equivalence via a Markush structure.





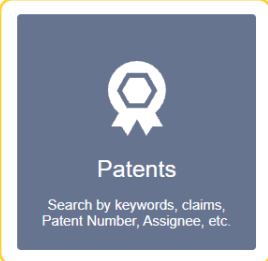
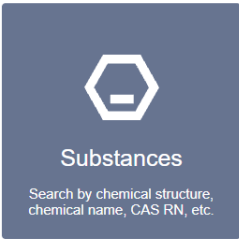
Simple patent search

1. Click the **Patents** tile.

CAS Scientific Patent Explorer

CAS Scientific Patent Explorer offers a unique combination of patent analysis and breadth of patent content with world-renowned CAS chemical capabilities and content to provide a powerful solution for patent professionals and scientists in an easy-to-use tool.

Select a search type to begin...



2. Click the search field to reveal field code shortcuts.

Simple Advanced Bulk Chemical

All Databases | Search

Keywords Fields		Assignee Fields	
TA	Title/Abstract	ANC	Current Assignee
TAC	Title/Abstract/Cla...	Other Fields	
TTL	Title	IN	Inventor Name
ABST	Abstract	PBD	Publication Date
Classification Number Fields		APD	Application Date
IPC	IPC	PN	Publication Number
CPC	CPC		

[Search Helper >](#)

Enter your search terms, which may be keywords, company names, patent information, or inventors.

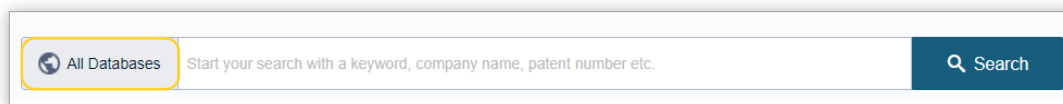
Note: You may enter multiple search terms separated by a space, as well as Boolean logic. The search field has a 1,500-character limit. As you enter text, CAS Scientific Patent Explorer validates query syntax and errors appear in red.

Simple Advanced Bulk Chemical

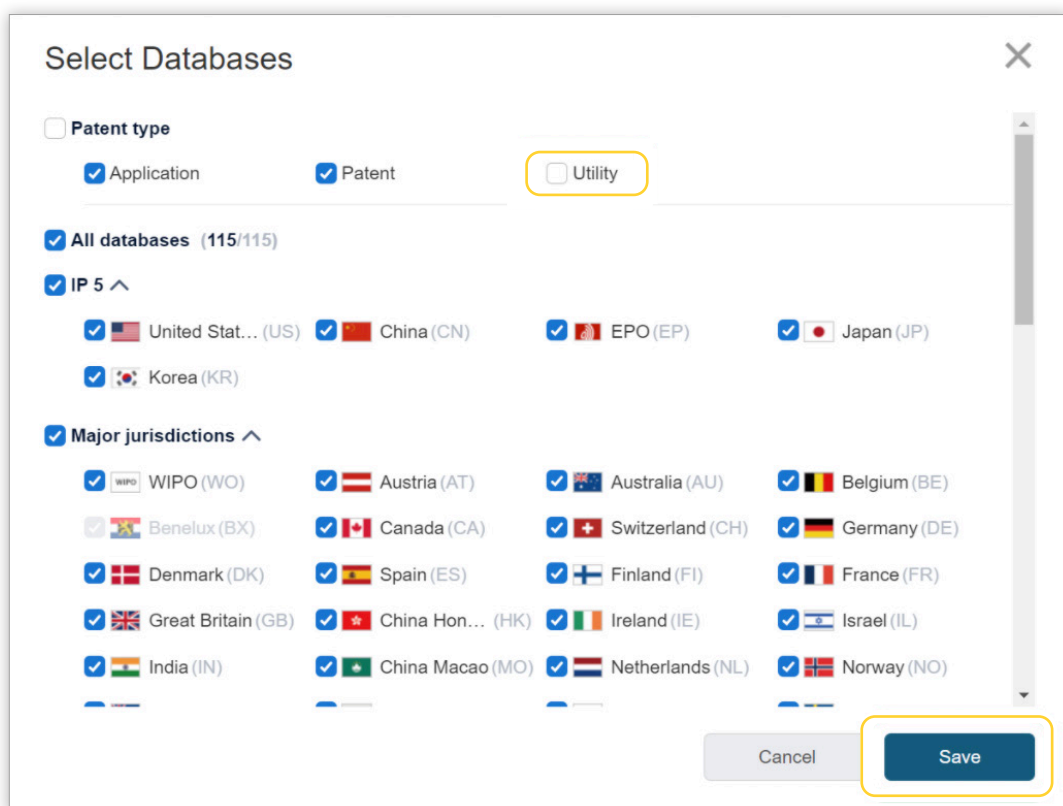
All Databases | Moderna AND OR = 0 Search



All patent types, databases, and major jurisdictions are selected by default. To edit, click the **All Databases** button, uncheck the appropriate box(es), and then click the **Save** button.

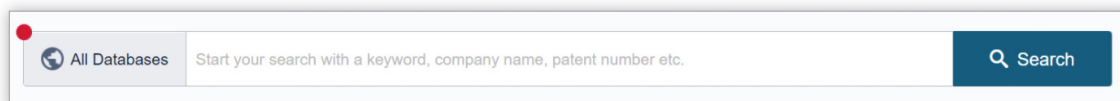


Search bar interface showing the 'All Databases' button highlighted in yellow. The search input field contains the placeholder text 'Start your search with a keyword, company name, patent number etc.' and a 'Search' button.



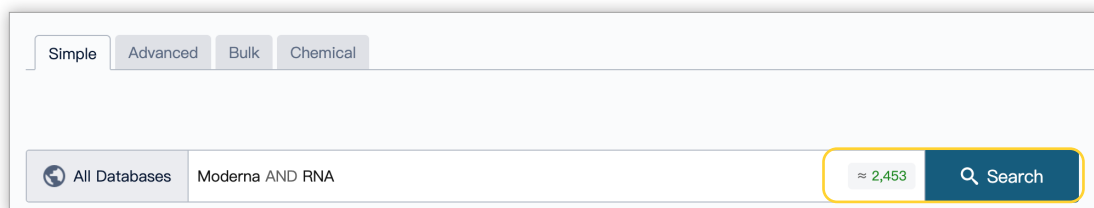
Select Databases dialog box. The 'Patent type' section has 'Application' and 'Patent' checked, and 'Utility' unchecked (highlighted in yellow). The 'All databases (115/115)' and 'IP 5' sections are checked. The 'Major jurisdictions' section lists various countries with checkboxes, all of which are checked. The 'Save' button is highlighted in yellow.

If you deselect any databases and save, a red dot appears next to **All Databases** as a reminder that not all are selected.



Search bar interface showing a red dot next to the 'All Databases' button, indicating that not all databases are selected. The search input field contains the placeholder text 'Start your search with a keyword, company name, patent number etc.' and a 'Search' button.

3. After you've finished crafting your query, a result number preview appears. Click the **Search** button to view the results.



Search bar interface showing the 'Simple' tab selected. The search input field contains the query 'Moderna AND RNA'. A result number preview of '≈ 2,453' is displayed next to the 'Search' button, which is highlighted in yellow.

Advanced patent search

At the bottom, you'll find a text box in which you can see how your query is coming along.

Field search Search Helper ⚙️

Main Fields ▼

AND ▼ Title/Abstract ▼

AND ▼ Current Assignee ▼

AND ▼ IPC ▼ IPC Helper

+ Add Field

Enter search terms in the fields above to preview your query here

[✏️ Edit search](#) [🔗 Combine searches](#)

Preview patent results Includes Machine Translations for Title, Abstract, or Claims Clear Search

On the left side of the screen, there is a refinement tool that will allow you to select the patent types and jurisdictions that you want to include in your search.

Patent type

- Application
- Patent
- Utility

All databases (115/115)

IP 5 ^

- United States (US)
- China (CN)
- EPO (EP)
- Japan (JP)
- Korea (KR)

Major jurisdictions ▼

Other jurisdictions ^

- United Arab E... (AE)
- Armenia (AM)
- ARIPO (AP)
- Argentina (AR)
- Bosnia and H... (BA)

You'll notice that Advanced search is made up of different sections.

The screenshot shows the 'Advanced' search tab in the 'Chemical' section. On the left, there are three callout boxes with blue arrows pointing to specific parts of the interface:

- Fill in the search fields you want to refine by:** Points to the 'Patent type' section where 'Patent type', 'Application', 'Patent', and 'Utility' are checked.
- Locate patents based on any features of patent documents:** Points to the 'All databases' section where 'All databases (115/115)', 'IP 5', 'United Sta... (US)', 'China (CN)', 'EPO (EP)', 'Japan (JP)', 'Korea (KR)', 'Major Jurisdictions', and 'Austria (AT)' are checked.
- Select the jurisdictions you want to search in:** Points to the 'Major Jurisdictions' section.

The main search area is titled 'Field search' and includes a 'Search Helper' button. It features three rows of search criteria:

- Row 1: 'Main Fields' dropdown, text input 'Enter keyword, company name, or patent number'.
- Row 2: 'AND' operator, 'Title/Abstract' dropdown, text input 'Example: car AND seat'.
- Row 3: 'AND' operator, 'Current Assignee' dropdown, text input 'Example: Apple OR Samsung'.
- Row 4: 'AND' operator, 'IPC' dropdown, text input 'Example: A61K OR C07H7/06', and an 'IPC Helper' button.

Below these rows is an '+ Add Field' button and a section titled 'Use the IPC and the CPC Helper to identify and refine by technology classification'. This section contains a text input 'Enter search terms in the fields above to preview your query here' and a 'Use command search to help build your query' button. At the bottom, there are 'Edit search' and 'Combine searches' links, a 'Preview patent results' section with a toggle for 'Includes Machine Translations for Title, Abstract, or Claims', and 'Clear' and 'Search' buttons.

Refine your query by choosing fields and operators from the drop-down menus and by adding keywords in the text boxes.

This screenshot provides a detailed view of the 'Field search' section. It shows the following elements:

- Search Helper:** A button with a gear icon.
- Main Fields:** A dropdown menu.
- Text Input:** 'Enter keyword, company name, or patent number'.
- Operator and Field Selection:** Three rows, each with an 'AND' operator dropdown, a field dropdown, and a text input box. The first row shows 'Title/Abstract' with the example 'car AND seat'. The second row shows 'Current Assignee' with the example 'Apple OR Samsung'. The third row shows 'IPC' with the example 'A61K OR C07H7/06' and an 'IPC Helper' button.
- Field Selection Menu:** A dropdown menu is open, showing a search bar and a list of fields: 'Text', 'Classification Number', 'Company/People', 'Date', 'Number', 'Address', and 'Family'. Each field has a right-pointing arrow and a corresponding label in the adjacent column: 'Title/Abstract', 'Title', 'Title/Abstract/Claims', 'Title/Abstract/Claims/Description', 'Abstract', 'Claims', and 'Description'.
- Preview and Action:** At the bottom, there is a 'Preview patent results' section with a toggle for 'Includes Machine Translations for Title or Abstract', and 'Clear' and 'Search' buttons.


Chemical structure patent search

1. Click the **Patents** tile.

CAS Scientific Patent Explorer


CAS Scientific Patent Explorer offers a unique combination of patent analysis and breadth of patent content with world-renowned CAS chemical capabilities and content to provide a powerful solution for patent professionals and scientists in an easy-to-use tool.

Select a search type to begin...



Substances

Search by chemical structure, chemical name, CAS RN, etc.



Patents

Search by keywords, claims, Patent Number, Assignee, etc.

2. Click the **Chemical** tab.

Simple Advanced **Chemical**

All Databases Start your search with a keyword, company name, patent number etc. Search

3. Click **Patents** under **Search for**.

Structure Search Text Search

The structure editor has been updated with a new look and feel. [Learn more](#)

Enter a CAS Registry Number, SMILES, or InChI

Search for: Substances **Patents** Markush

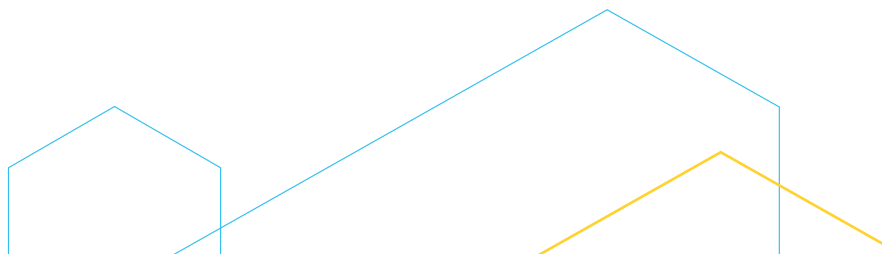
Search this structure as:

As Drawn
 As Substructure

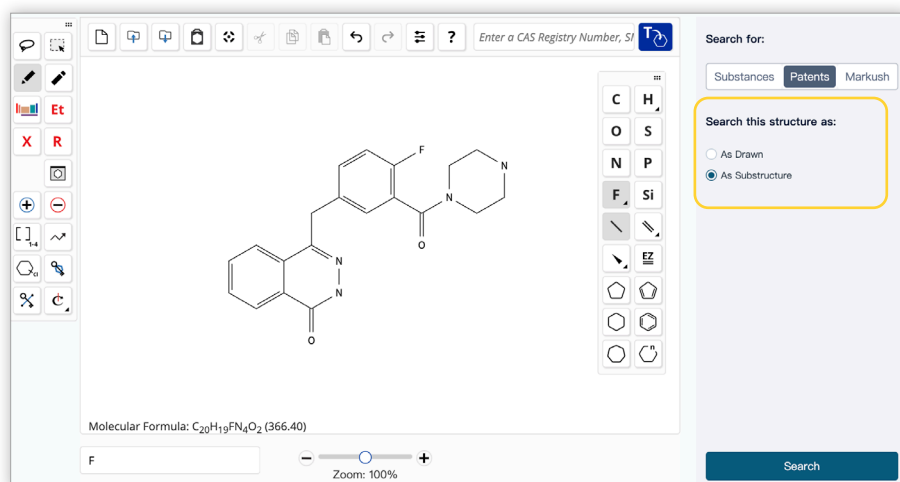
Molecular Formula: Cl

Zoom: 100%

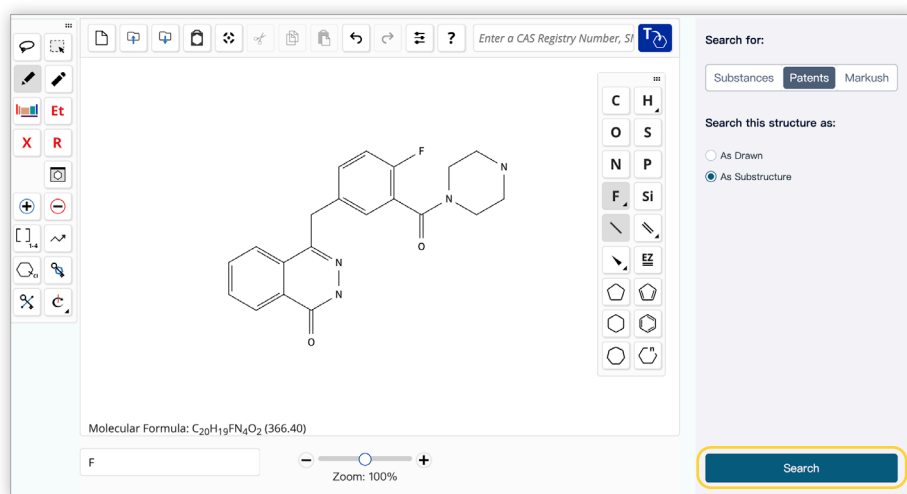
Search



4. Draw a new structure or import an existing file.
5. Select whether to search the structure **As Drawn** or **As a Substructure** within a molecule.



6. Click the **Search** button to view the results.



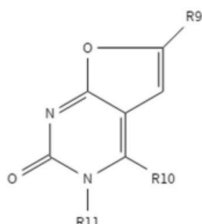
Note: To conduct a Markush search for patents that contain generic structures that match the structure query, select **Markush** under **Search for**.

Markush structure patent search

Use a Markush search to find patents that contain structures (including generic structures) matching the structure query.

For example:

Preparation of pyrimidine derivatives as anti-ictogenic and/or anti-epileptogenic agents



R9 = H, alkyl, alkynyl, aryl, amino, etc.
R10 = H, alkyl, aryl, carboxyl, etc.
R11 = H, alkyl, amino, thioether, tetrahydrofuranyl

The inventor may not have tested or prepared all members of the family, but can make a chemically plausible claim of equivalence via a Markush structure.

To conduct a Markush structure patent search:

1. Click the **Patents** tile.

CAS Scientific Patent Explorer

CAS Scientific Patent Explorer offers a unique combination of patent analysis and breadth of patent content with world-renowned CAS chemical capabilities and content to provide a powerful solution for patent professionals and scientists in an easy-to-use tool.

Select a search type to begin...



Substances

Search by chemical structure, chemical name, CAS RN, etc.



Patents

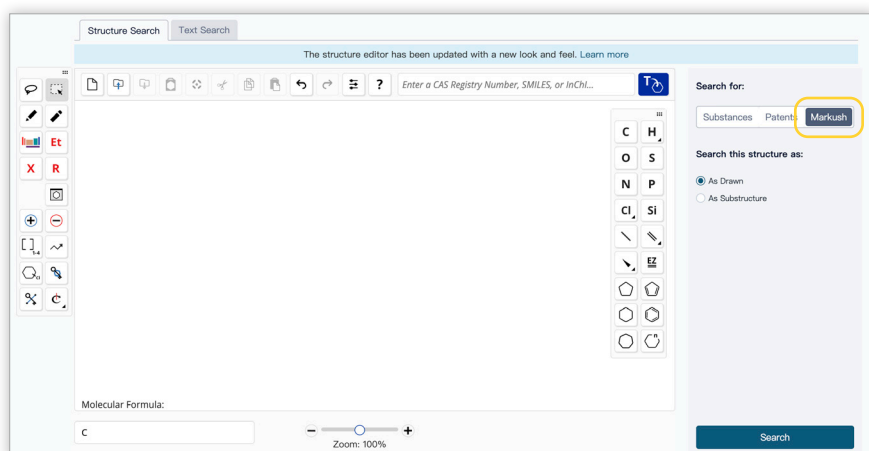
Search by keywords, claims, Patent Number, Assignee, etc.

2. Click the **Chemical** tab.

The screenshot shows the search interface of the CAS Scientific Patent Explorer. At the top, there are three tabs: 'Simple', 'Advanced', and 'Chemical'. The 'Chemical' tab is selected and highlighted with a yellow border. Below the tabs is a search bar with a dropdown menu set to 'All Databases'. The search bar contains the text 'Start your search with a keyword, company name, patent number etc.' and a 'Search' button with a magnifying glass icon.



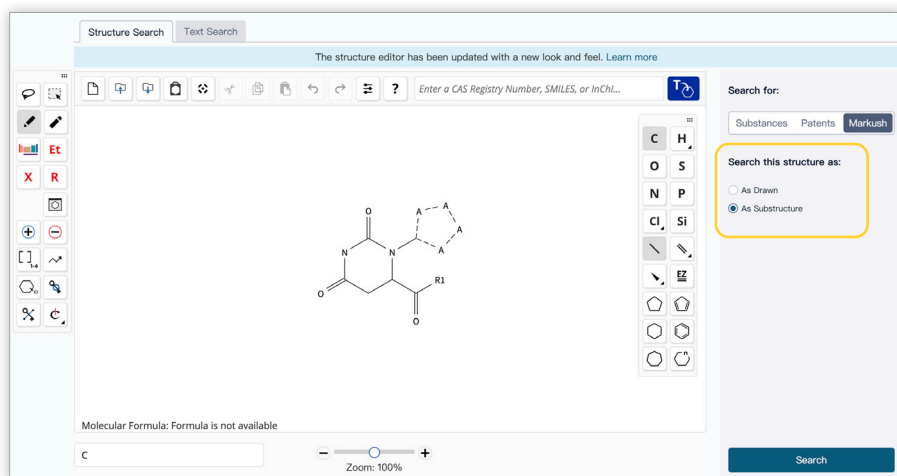
3. Click **Markush** under **Search for**.



The screenshot shows the 'Structure Search' interface. At the top, there are tabs for 'Structure Search' and 'Text Search'. Below the tabs is a toolbar with various icons and a search input field labeled 'Enter a CAS Registry Number, SMILES, or InChI...'. On the right side, there is a 'Search for:' section with three buttons: 'Substances', 'Patents', and 'Markush'. The 'Markush' button is highlighted with a yellow box. Below this, there is a 'Search this structure as:' section with two radio buttons: 'As Drawn' (selected) and 'As Substructure'. At the bottom right, there is a 'Search' button.

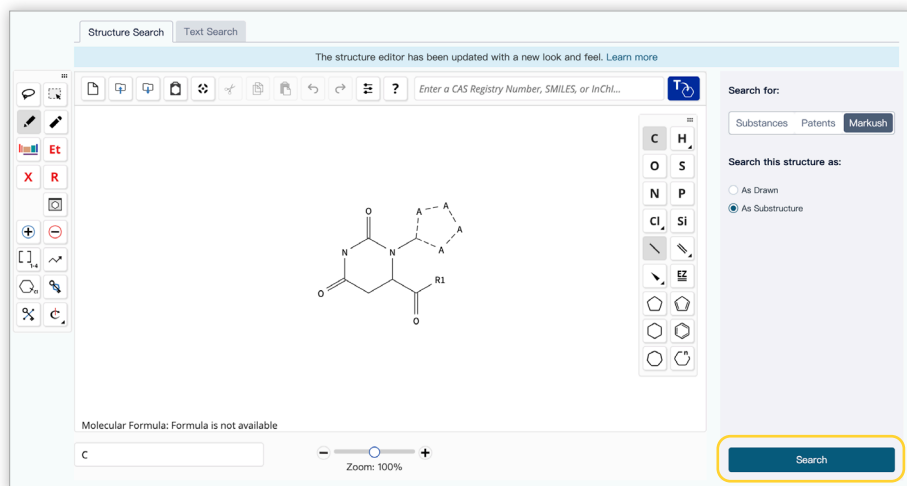
4. Draw a new structure or import an existing file.

5. Select whether to search the structure **As Drawn** or **As a Substructure** within a molecule.



The screenshot shows the 'Structure Search' interface with a chemical structure drawn in the main workspace. The structure is a 6-membered ring with two nitrogen atoms, one carbonyl group, and a substituent 'R1'. The 'Search for:' section has 'Markush' selected. The 'Search this structure as:' section has 'As Substructure' selected, which is highlighted with a yellow box. The 'Search' button is at the bottom right.

6. Click the **Search** button to view the results.

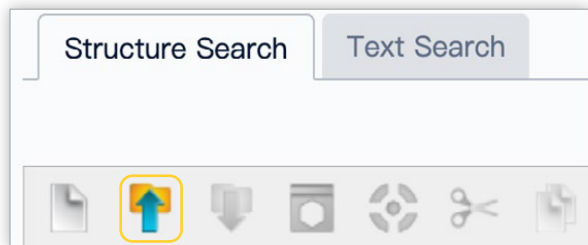


The screenshot shows the 'Structure Search' interface with the same chemical structure as in the previous step. The 'Search' button at the bottom right is highlighted with a yellow box.

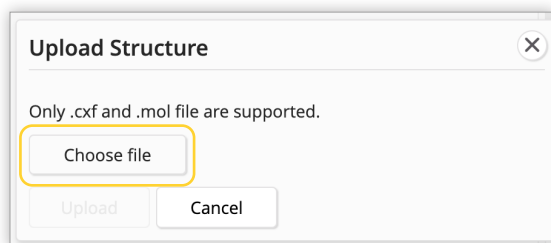
Import a structure

Note: You may also import a .mol file from ChemDraw.

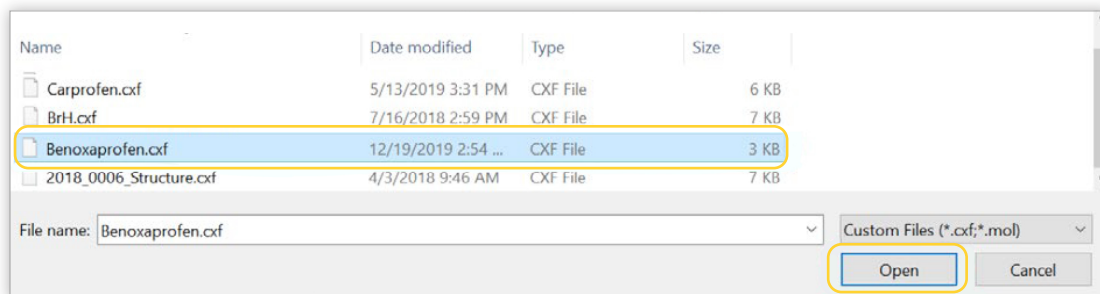
1. Click the **Import** icon.



2. Click the **Choose File** button.



3. Select the structure file to import, and then click the **Open** button.





Substance results

Edit structure

Click **Edit Query** to go back to the drawing tool and edit the query structure.

Analyze results

Click **Analyze** to view data graphs based on the patents using the substances.

View ChemScape

Click **ChemScape** to view a three-dimensional, graphic model of the results in relation to the queried substance.

View patents

Click the **View Patents** button with no results selected to view all patent results associated with the result set.

View substance detail

Click the **CAS Registry Number** to view more information on the substance's detail page.

View substance information

Click the structure image to open the substance window.

Filter results

Select **filters** to refine the result set.

Select result

Check one or more result's box to select it for viewing relevant patents.

Save search

Click **Save Search** to save the substance search parameters that produced the result set and add an optional alarm to be notified of new results matching those parameters.

Receive alerts

Select the **Receive Alerts** box to be notified of new results matching your search. Alert results are accessed via the Saved & Alerts page.

View selected patents

Click **View Relevant Patents** to view the patents for the selected results only.



The screenshot displays the CAS Scientific Patent Explorer interface. At the top left is the CAS logo and a chemical structure icon with an "Edit Query" button. To the right are buttons for "Saved & Alerts", "History", and "Feedback". Below the header, a navigation bar includes "Return to Search", "Searched a Structure", "Analyze", "ChemScape", "Save Search", and "View Patents".

On the left, a "FILTERS" sidebar is visible with sections for "Commercial Availability", "Substance Patents", "Reaction Role", "Stereochemistry", and "Number of Components".

The main content area shows "13 Structures in Total" and a "View ChemScape" button. Below this, three substance detail cards are displayed:

- Card 1: 51234-28-7, Benoxaprofen, $C_{16}H_{12}ClNO_3$, "View 340 Relevant Patents".
- Card 2: 70280-67-0, (-)-Benoxaprofen, $C_{16}H_{12}ClNO_3$, "View 11 Relevant Patents".
- Card 3: 66934-19-8, (+)-Benoxaprofen, $C_{16}H_{12}ClNO_3$, "View 4 Relevant Patents".

Annotations with blue arrows point to various elements: "Edit structure" points to the chemical structure icon; "Analyze results" points to the "Analyze" button; "Filter results" points to the "FILTERS" sidebar; "View substance detail" points to the top of the first card; "View Patents" points to the "View Patents" button in the top right; "Select result" points to the first card; and "View substance information" points to the chemical structure within the first card.



Patent results

Filter results

Select filters and enter keywords to refine the result set.

Change result view

Select **Table** or **Flip-it**.

Analyze results

Click **analyze** to view data graphs based on the patents.

Export results

Export results in .xls, .pdf, Word (.doc), .xml, or .csv format.

Change result ordering

Order results by application date, application number, publication date, or publication number.

Edit view settings

Customize your search results display.

Select result

Hover your mouse over the number and then check the box that appears to select a result.

Select result

Check the result box to select it for viewing relevant patents.

Save search

Click **Save Search** to save the search parameters that produced the result set and add an optional alarm to be notified of new results matching those parameters.

Receive alerts

Select the **Receive Alerts** box to be notified of new results matching your search. Alert results are accessed via the Saved & Alerts page.

View patent detail

Click **View Relevant Patents** to view the patents for the selected results only.



Change result view

Edit view settings

Export results

Analyze results

Select result

View patent detail

Filter results

Publication Number	Title	Legal Status & Events	Publication Date
1 US20170306335A1	Rna-targeting system	Examining	26 Oct 2017
2 WO2014152027A1	Manufacturing methods for production of RNA transcripts		25 Sep 2014
3 US20220349006A1	Cap guides and methods of use thereof for RNA mapping	Examining	03 Nov 2022
4 US20210108252A1	Label-free analysis of RNA capping efficiency using mase h, probes and liquid chromatography/mass spectrometry	Withdrawn Transfer	15 Apr 2021

CAS substance content indicator

Look for a CAS icon highlighting patent records containing CAS-indexed substances. When your display shows patents ungrouped, look for the icon to see patent records that contain CAS substance content. When your display shows patents grouped by family, all members of the family have the indicator. To identify which records specifically have CAS substance content, use the Family tab within the patent detail.

Publication Number	Title	Legal Status & Events	Publication Date	Application Number
1 US20170306335A1	Rna-targeting system	Examining	26 Oct 2017	US15/632067
2 WO2014152027A1	Manufacturing methods for production of RNA transcripts		25 Sep 2014	PCT/US2014/026835

WO2014152027A1 Manufacturing methods for production of RNA transcripts

Overview | Dual View | Citation | Family | Concepts | Substances | Formulations | Reactions

Abstract

Claims

Description

[Translation] Title: Manufacturing methods for production of RNA transcripts

Described are methods for production of RNA transcripts using a non-amplified, linearized DNA template in an in vitro transcription reaction. Enzymatic 5' capping and oligo dT purification can also be included in the methods.

[Translation]

Described are methods for production of RNA transcripts using a non-amplified, linearized DNA template in an in vitro transcription reaction. Enzymatic 5' capping and oligo dT purification can also be included in the methods.

637 Patents

Search Results

- 1 US20170306335A1 Rna-targeting system
- 2 WO2014152027A1 Manufacturing methods for production of RNA transcripts
- 3 US20220349006A1 Cap guides and methods of use thereof for RNA mapping
- 4 US20210108252A1 Label-free analysis of RNA

Markush results

Edit structure

Click **Edit Query** to go back to the drawing tool and edit the query structure.

View patents

Click the **View Patents** button with no results selected to view all patent results associated with the result set.

View patent detail

Click the patent number to view the associated patent's detail.

Filter results

Select a Patent Office to refine the result set.

Select result

Check one or more result's box to select it for viewing relevant patents.

View substance information

Click the structure image to open the substance window.

View selected patents

Click **View Relevant Patents** to view the patents for the selected results only.

The screenshot displays the CAS Scientific Patent Explorer interface. At the top, there is a navigation bar with the CAS logo, a search bar containing "Searched a Structure", and buttons for "Edit Query", "Edit structure", "Saved & Alerts", "History", and "Feedback". Below the navigation bar, a sidebar on the left contains "FILTERS" for "Patent Office", with checkboxes for "European Patent Organization" and "World Intellectual Property Organization". The main content area shows two search results. The first result, "1", is selected and displays a chemical structure with labels G16, G1, G2, and G14, along with patent claim 1: "541,542,544; opt. substd.". The second result, "2", is also selected and displays a chemical structure with labels G8 and G9, along with patent claim 13. A "View patent detail" button is visible above the first result, and a "View substance information" button is visible below the second result. A "View Patents" button is located in the top right corner of the results area. Blue arrows point from the text labels in the surrounding document to these specific UI elements.

Utilize CAS PatentPak™

Navigate to a patent and download the PDF or PDF+ version of the full-text patent using our CAS PatentPak integration.

On the Dual View page for a patent with CAS PatentPak content, the best content is embedded to the right of the abstract and claims.

The screenshot shows the CAS PatentPak interface for patent WO2014152027A1. The 'Key Substances in Patent' panel on the left lists several substances with their respective analyst markup locations. The main content area displays the patent's abstract and claims. The right sidebar provides detailed information about the international application, including the WIPO/PCT logo and various classification codes.

On the CAS PatentPak Viewer page, clicking the location link within the substance panel will direct you to the specified page/location of the substance within the patent. Similarly, when clicking the location marker in the marked patent, the key substance panel scrolls to the substance and highlights it.

The screenshot shows the CAS PatentPak Viewer interface for patent WO2014152027A1. The 'Key Substances in Patent' panel on the left lists several substances with their respective analyst markup locations. The main content area displays the patent's abstract and claims. The right sidebar provides detailed information about the international application, including the WIPO/PCT logo and various classification codes.

CAS is a leader in scientific information solutions, partnering with innovators around the world to accelerate scientific breakthroughs. CAS employs over 1,400 experts who curate, connect, and analyze scientific knowledge to reveal unseen connections. For over 100 years, scientists, patent professionals, and business leaders have relied on CAS solutions and expertise to provide the hindsight, insight, and foresight they need so they can build upon the learnings of the past to discover a better future. CAS is a division of the American Chemical Society.

Connect with us at cas.org

For more information about CAS Scientific Patent Explorer, please contact the CAS Customer Center: help@cas.org

CAS is a leader in scientific information solutions, partnering with innovators around the world to accelerate scientific breakthroughs. CAS employs over 1,400 experts who curate, connect, and analyze scientific knowledge to reveal unseen connections. For over 100 years, scientists, patent professionals, and business leaders have relied on CAS solutions and expertise to provide the hindsight, insight, and foresight they need so they can build upon the learnings of the past to discover a better future. CAS is a division of the American Chemical Society.

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