

CAS SCIENTIFIC PATENT EXPLORER™

# QUICK START GUIDE



CAS SCIENTIFIC PATENT EXPLORER™

**BETWEEN IDEAS  
AND INNOVATION  
THERE IS EXPLORATION**

Find the connections that matter  
with an easy-to-use IP solution



## Beyond world-renowned CAS chemistry

CAS Scientific Patent Explorer offers a unique combination of a much broader scientific exploration space, exhaustive patent coverage, and powerful visualization

- More than 140 million records from 122 patent jurisdictions
- Over 75 million CAS human-indexed substances
- An efficient experience, combining patent and chemical searching
- An easy-to-use tool for both patent professionals and scientists alike

## Gain foresight into the rapidly changing world of IP

- Leverage proprietary search and relevance algorithms for better results
- Visualize and analyze chemical patent content to gain insight into IP trends
- Review full text patents side-by-side with abstracts, claims, and descriptions texts for a complete and efficient review

# How to log in to CAS Scientific Patent Explorer

Log in at [cas.org/cas-solutions-login](https://cas.org/cas-solutions-login)

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



By using CAS Scientific Patent Explorer, you agree to the [License Agreements and Policies](#)



# 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

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

## Text search

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



# 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 or as a 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.

The screenshot displays the CAS Scientific Patent Explorer interface. At the top, there is a search bar with the text "Enter a CAS RN, SMILES or InChI". Below the search bar is a toolbar with various icons for drawing and editing. The main workspace shows a chemical structure of a substituted benzimidazole derivative. On the right side, there is a "Search for:" section with three tabs: "Substances", "Patents", and "Markush". The "Substances" tab is selected. Below this, there is a "Search this structure as:" section with three radio button options: "As Drawn" (selected), "As Substructure", and "As Similarity".





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

Enter a CAS RN, SMILES or InChI

Draw or change atoms or bonds. [Shortcut Keys](#)

**Search for:**  
Substances Patents Markush

**Search this structure as:**  
 As Drawn  
 As Substructure  
 As Similarity

**Search**

CC(=O)C1=CC=C2C(=C1)OC(=N2)C3=CC=C(C=C3)Cl


# Substance search by text

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. Click the **Text Search** tab.

Structure Search **Text Search**

Search by Text

CAS Registry Numbers ▼ Enter up to 1000 characters

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** ▼ Enter up to 1000 characters

Structure Search **Text Search**

Search by Text

CAS Registry Numbers ▲ Enter up to 1000 characters

- 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 labeled "Substance Name" is open, showing the search term "benoxaprofen" with a red underline. A list of suggestions is displayed below the input field, enclosed in a yellow box. The suggestions are: "Benoxaprofen", "Benoxaprofen glucuronide", "(R)-Benoxaprofen", "(±)-Benoxaprofen", and "dl-Benoxaprofen". To the right of the input field is a blue "Search" button with a magnifying glass icon.

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 shows the same search interface as the previous one, but the search term "benoxaprofen" is now fully entered in the input field. The dropdown menu is closed. The blue "Search" button is highlighted with a yellow box, indicating it should be clicked to submit the query.

# Patent search

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

## Simple

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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

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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 as specific as you need it to be. It allows for the most control over exactly what comes back in your search.

## Chemical

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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

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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...

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

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

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

The screenshot shows the search interface with a search field containing the text "Moderna AND OR". A yellow box highlights the search field and the field code shortcuts table below it.

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

Search Helper >

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

The screenshot shows the search interface with the search field containing the text "Moderna AND OR". A yellow box highlights the search field and the field code shortcuts table below it.

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

Search Helper >



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.

The screenshot shows the 'Select Databases' dialog box. At the top left, the 'All Databases' button is highlighted with a yellow box. The dialog contains several sections: 'Patent type' with checkboxes for 'Application', 'Patent', and 'Utility' (the latter is highlighted in yellow); 'All databases (115/115)' which is checked; 'IP 5' with a dropdown arrow; and 'Major jurisdictions' with a dropdown arrow. Under 'Major jurisdictions', various countries are listed with checkboxes, all of which are checked. At the bottom right of the dialog, the 'Save' button is highlighted with a yellow box, and the 'Cancel' button is visible to its left.

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

The screenshot shows the search bar with the 'All Databases' button. A small red dot is visible to the left of the button, indicating that not all databases are selected.

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

The screenshot shows the search bar with the query 'Moderna AND RNA'. The 'All Databases' button is highlighted in yellow. To the right of the search bar, the result number preview '≈ 1,516' is displayed, and the 'Search' button 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.

The screenshot shows the 'Field search' interface. At the top right, there are 'Search Helper' and a settings gear icon. Below this is a search input field with the placeholder 'Enter keyword, company name, or patent number'. Underneath are three rows of search criteria, each with an 'AND' dropdown, a field type dropdown, and an example text box:

- Row 1: 'Title/Abstract' dropdown, example 'car AND seat'
- Row 2: 'Current Assignee' dropdown, example 'Apple OR Samsung'
- Row 3: 'IPC' dropdown, example 'A61K OR C07H7/06', with an 'IPC Helper' button to the right.

Below these rows is a '+ Add Field' button. A large yellow-bordered box highlights a preview area containing the text 'Enter search terms in the fields above to preview your query here'. At the bottom left of this box are 'Edit search' and 'Combine searches' links. At the bottom of the interface, there is a 'Preview patent results' label, a toggle for 'Includes Machine Translations for Title or Abstract', and 'Clear' and 'Search' buttons.

And 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.

The screenshot shows a refinement tool with two sections. The first section is 'Patent type' with four checked items: Application, Patent, and Utility. The second section is 'All databases (115/115)' with a sub-section 'IP 5' containing several checked items: United States (US), China (CN), EPO (EP), Japan (JP), and Korea (KR). Below this are 'Major jurisdictions' and 'Other jurisdictions' sections, both with checked items: United Arab E... (AE), Armenia (AM), ARIPO (AP), Argentina (AR), and Bosnia and H... (BA).



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

The screenshot shows the 'Advanced' search tab with several sections and annotations:

- Patent type selection:** A list of checkboxes for 'Patent type' (Patent, Application, Utility) and 'All databases' (IP 5, United States (US), China (CN), EPO (EP), Japan (JP), Korea (KR), WIPO (WO), Austria (AT)).
- Field search section:** A series of dropdown menus for 'Main Fields', 'Title/Abstract', 'Current Assignee', and 'IPC', each with a corresponding text input box for keywords.
- Search Helper:** A button labeled 'Search Helper' with a gear icon.
- IPC Helper:** A button labeled 'IPC Helper' next to the IPC field.
- Command search:** A section titled 'Use command search to help build your query' with an 'Edit search' button.

Annotations with arrows point to these sections:

- 'Fill in the search fields you want to refine by' points to the patent type and database checkboxes.
- 'Locate patents based on any features of patent documents' points to the database checkboxes.
- 'Select the jurisdictions you want to search in' points to the country checkboxes.
- 'Use the Search Helper to familiarize yourself with Boolean logic' points to the Search Helper button.
- 'Use the IPC and the CPC Helper to identify and refine by technology classification' points to the IPC Helper button.

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

This view shows a detailed look at the 'Field search' section. The dropdown menu for the 'IPC' field is open, showing a list of search terms:

Field	Search Term
Title/Abstract	Title/Abstract
Current Assignee	Title
IPC	Title/Abstract/Claims
Main Fields	Title/Abstract/Claims/Description
	Abstract
	Claims
	Description

At the bottom of the interface, 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

Enter a CAS RN, SMILES or InChI

Draw or change atoms or bonds. Shortcut Keys

Search for: Substance **Patents** Markush

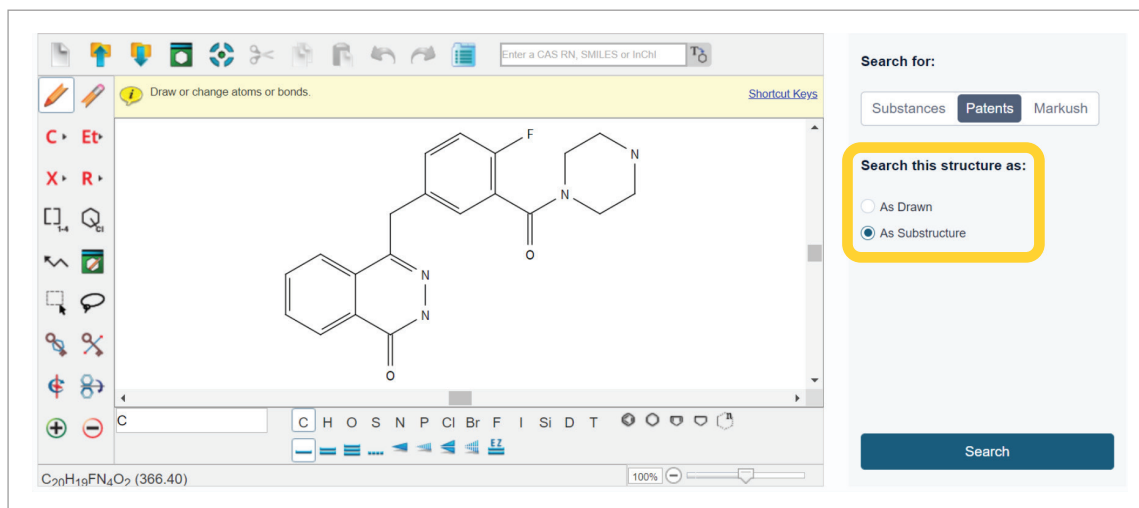
Search this structure as:  
 As Drawn  
 As Substructure

Search

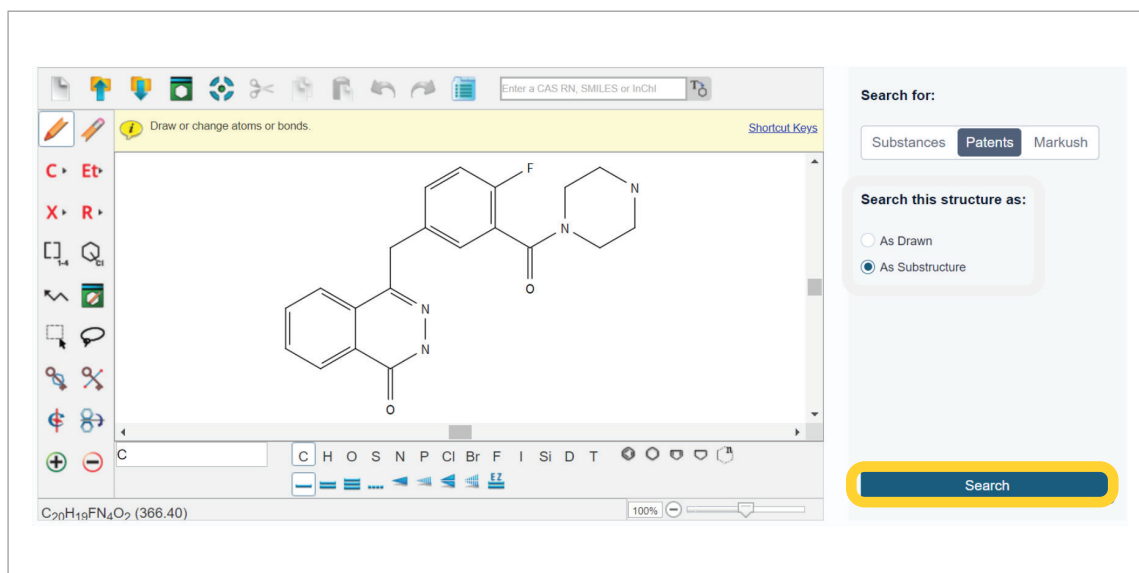




4. Draw a new structure or import an existing file.
5. Select whether to search the structure **As Drawn** or **As a Substructure** within a molecule.



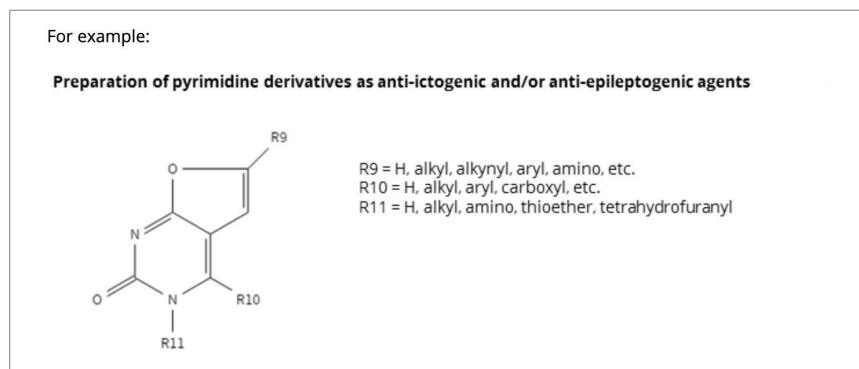
6. Click the **Search** button to view the results.



**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.



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.

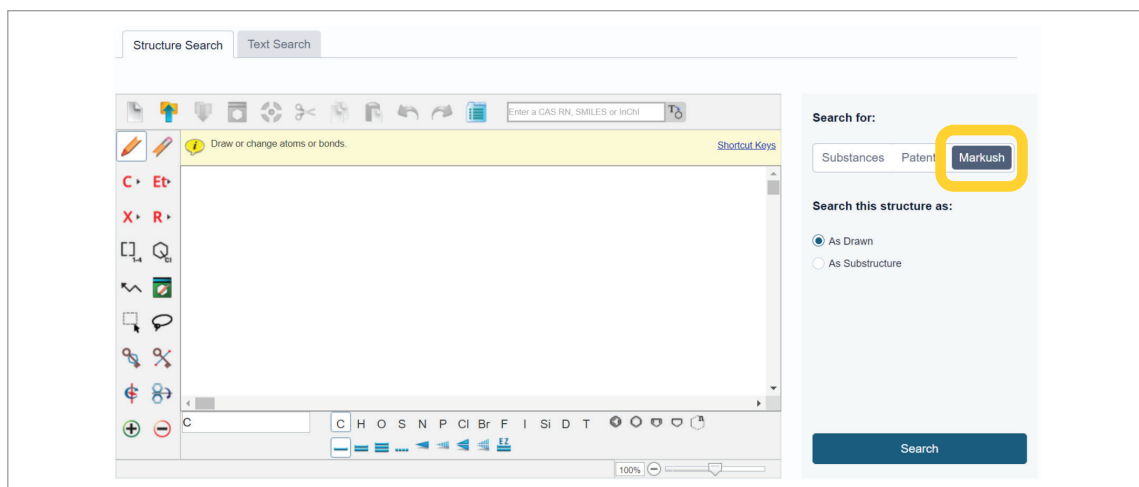
2. Click the **Chemical** tab.

Simple Advanced **Chemical**

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

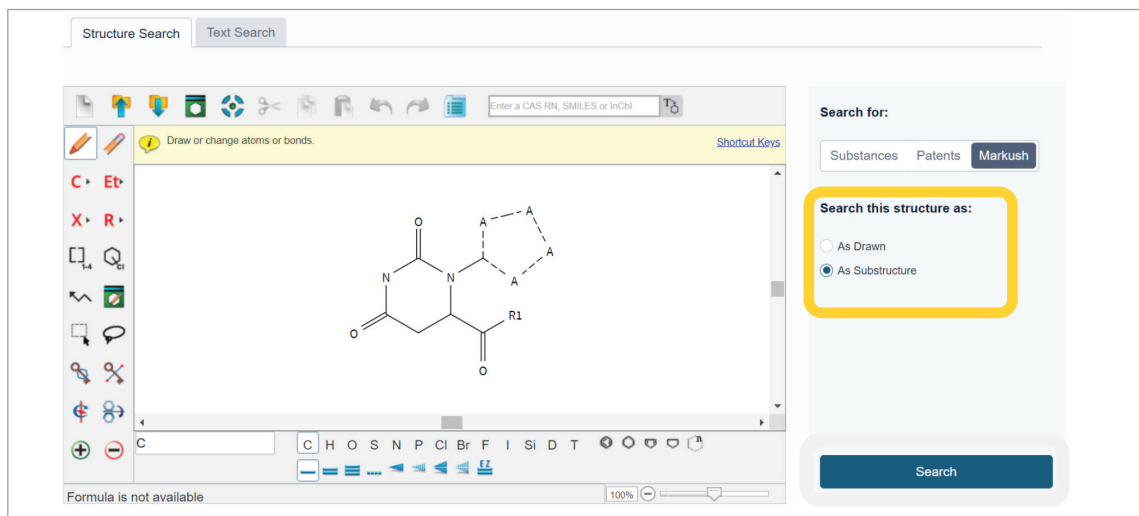


3. Click **Markush** under **Search for**.

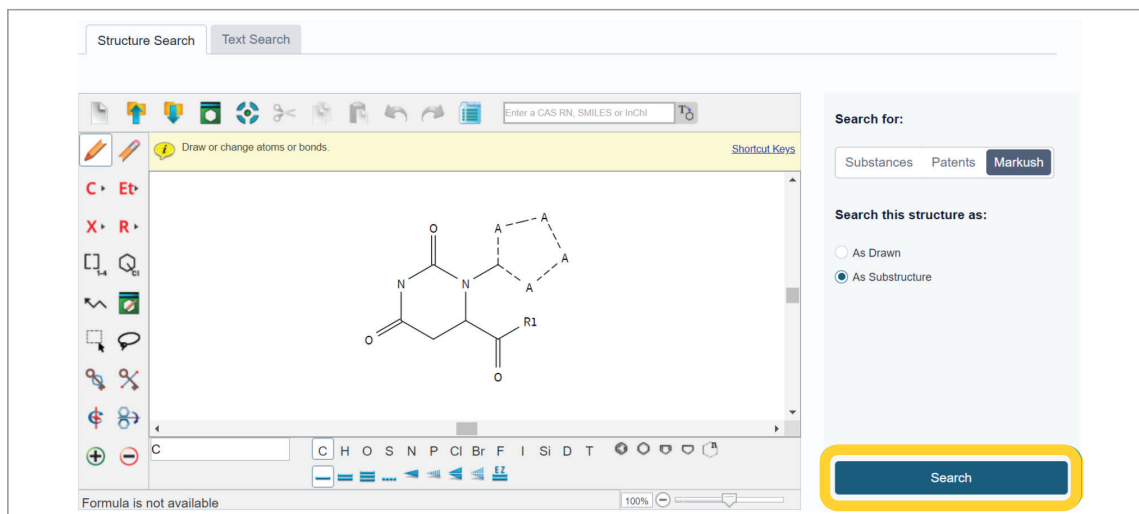


4. Draw a new structure or import an existing file.

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



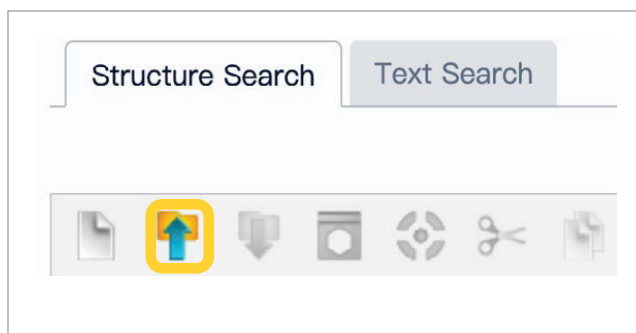
6. Click the **Search** button to view the results.



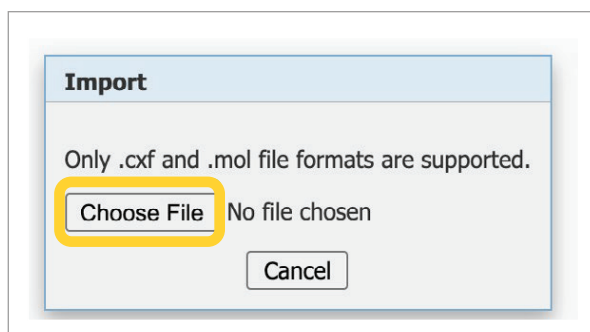
# Import a structure

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

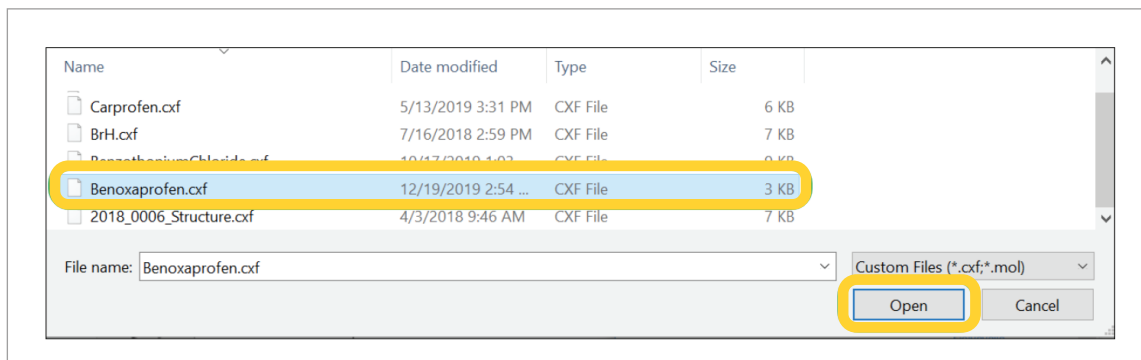
1. Click the **Import** icon.



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



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





# Explore results

## 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.

### View selected patents

---

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



**Edit structure**

**Analyze results**

**View substance detail**

**Filter results**

**View Patents**

**View substance information**

**Select result**

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# 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.

## 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 change result ordering**

**Select result**

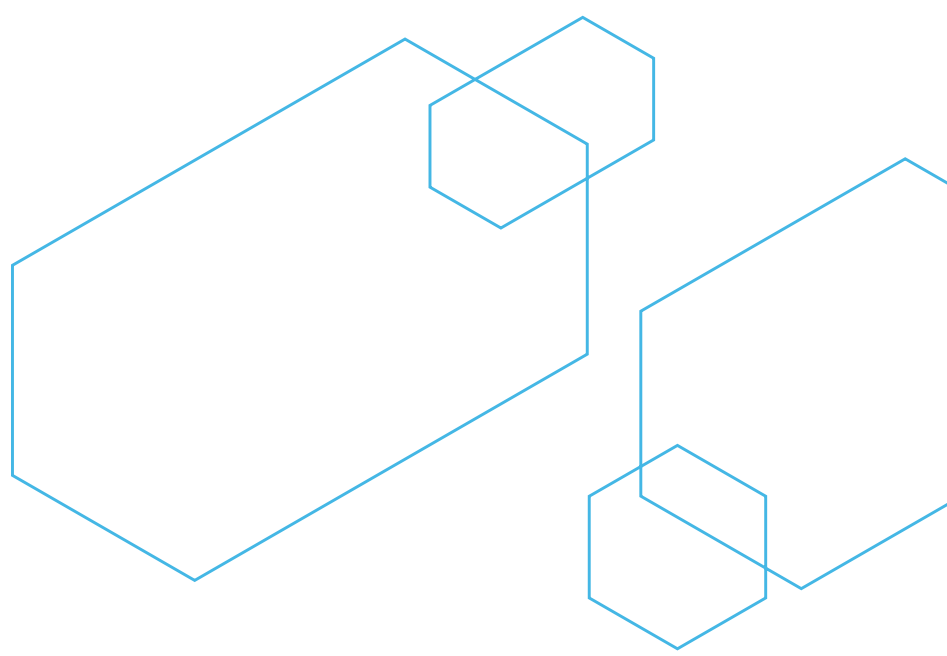
**View patent detail**

**Filter results**

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Publication Number	Title	Legal Status & Events	Publication Date	Application Numt
1 US20170306335A1	RNA-targeting system	Examining Transfer	26 Oct 2017	US15/632067
2 WO2014152027A1	Manufacturing methods for production of RNA transcripts		25 Sep 2014	PCT/US2014/026
3 US20210108252A1	Label-free analysis of RNA capping efficiency using mase h, probes and liquid chromatography/mass spectrometry	Examining Transfer	15 Apr 2021	US15/780771



# 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.





[Edit Query](#) **Edit structure**
[Feedback](#) 

[Return to Search](#) > Searched a Structure

**FILTERS**

Patent Office

- European Patent Organization 1
- Federal Republic of Germany 1
- United States 2
- World Intellectual Property Organization 11

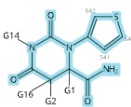
**Filter results**

**15 Structures in Total**

Select this page

1 **View patent detail**

WO1989010701A1

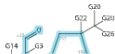


Patent claim 1

541,542,544: opt. substd.

2 **Select result**

WO2020132561A1



Patent claim 16

183: opt. substd.

190: opt. substd.

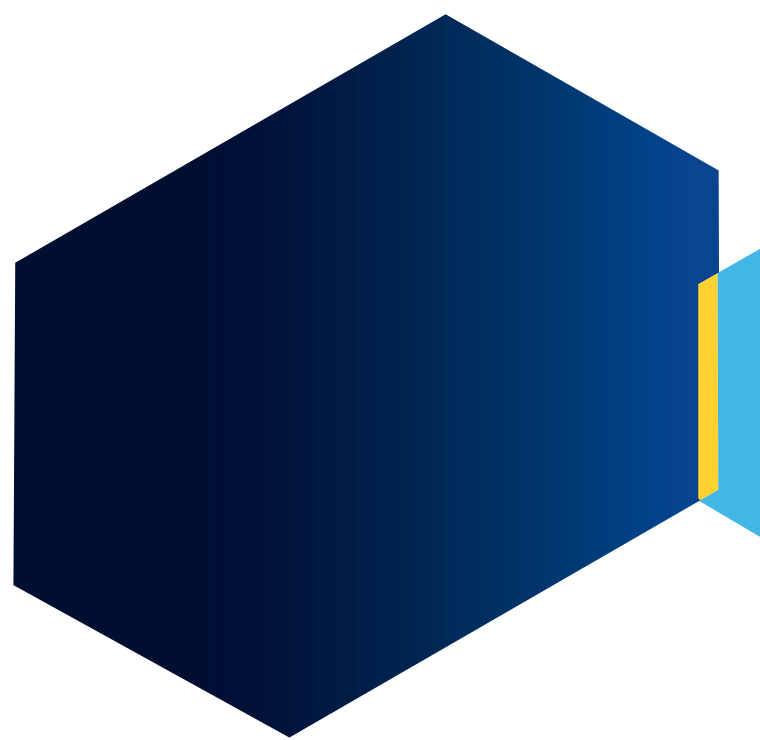
620: opt. substd.

**View substance information**

[View Patents](#)

**View patents**

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