

Literature Searching

Reaxys is one of the largest document repositories in chemical science and provides various different means to find literature on chemistry related topics. This document showcases two examples for searching documents and chemical information in Reaxys.

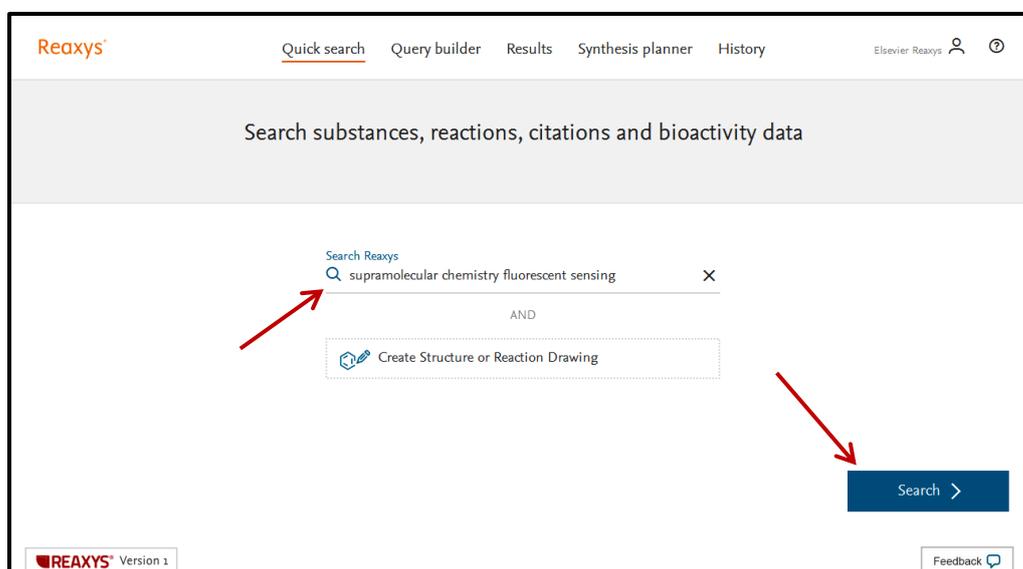
In the workflows we show examples that include:

- How to use the quick search feature
- How to work with and interpret the results preview
- How to narrow initial answers using various filter options
- How to get to citing articles via Scopus

❖ Finding documents discussing fluorescent sensors

Fluorescent molecular sensors can be applied in many disciplines, including medical diagnostics, physiological imaging, biochemical and chemical analysis or monitoring systems. In this case I would like to know more about published literature on the topic “supramolecular chemistry fluorescent sensing” and to see whether there is a review article of interest to me.

1. On the Reaxys home page click the **Search Reaxys** field and type **supramolecular chemistry fluorescent sensing**
 - a. Click **Search**



Reaxys analyzes the query input and returns three result sets in a Results Preview:

- The first set is the result of a query that considers all query terms, while the second and third sets search for parts of the query.
- From the list of result sets you can now select the one which best fits your needs, without reformulating your query.

The screenshot shows the Reaxys search results preview interface. At the top, there is a navigation bar with the Reaxys logo, a search bar, and menu items: Quick search, Query builder, Results, Synthesis planner, and History. A user profile icon and a help icon are also present. Below the navigation bar, there is a "Back to Quick Search" button and a heading: "Choose a result for supramolecular chemistry fluorescent sensing". The main content area displays three result sets, each with a document count, a "Documents" label, a "Titles, Abstract, Keywords" field, and "Preview Results" and "View Results" buttons. The first set has 82 documents and keywords: "supramolecular chemistry, fluorescent sensing". The second set has 7972 documents and keywords: "fluorescent sensing". The third set has 18656 documents and keywords: "supramolecular chemistry". A "Feedback" button is located at the bottom right of the interface.

2. Click **View Results** for the first set of results to retrieve the 82 documents:

This screenshot is identical to the one above, showing the Reaxys search results preview interface. A red arrow points to the "View Results" button for the first result set, which has 82 documents and keywords: "supramolecular chemistry, fluorescent sensing".

3. In the Filters and Analysis Panel, collapse **Index Terms (List)** and **Publication Year**

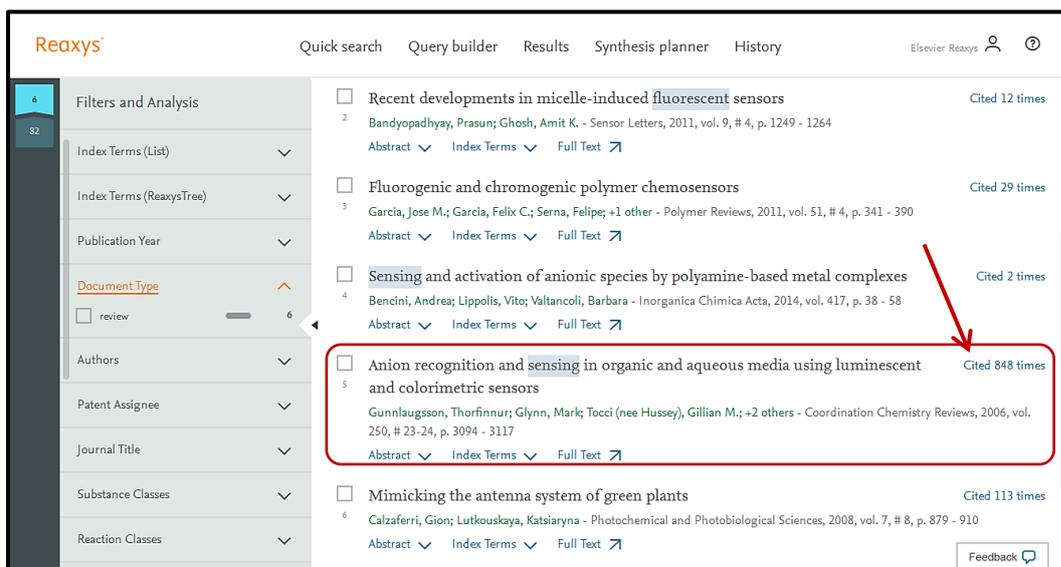
4. In the Document Type filter, notice there are 6 *review* articles

- a. Check the box for **review**
- b. Click **Apply**

One of the reviews is cited many times and looks interesting to me.

- Click 'Cited # times' to open Scopus with the documents that cite this article.
- Click 'Abstract' to view the document's abstract.
- Click 'Index Terms' to view the index terms that were assigned to this article.
- Click 'Full Text' will direct you to the publisher's website for viewing the full text article.

Please Note: depending on the article or patent, further options may be presented: Substances, Reactions, Front Page Information



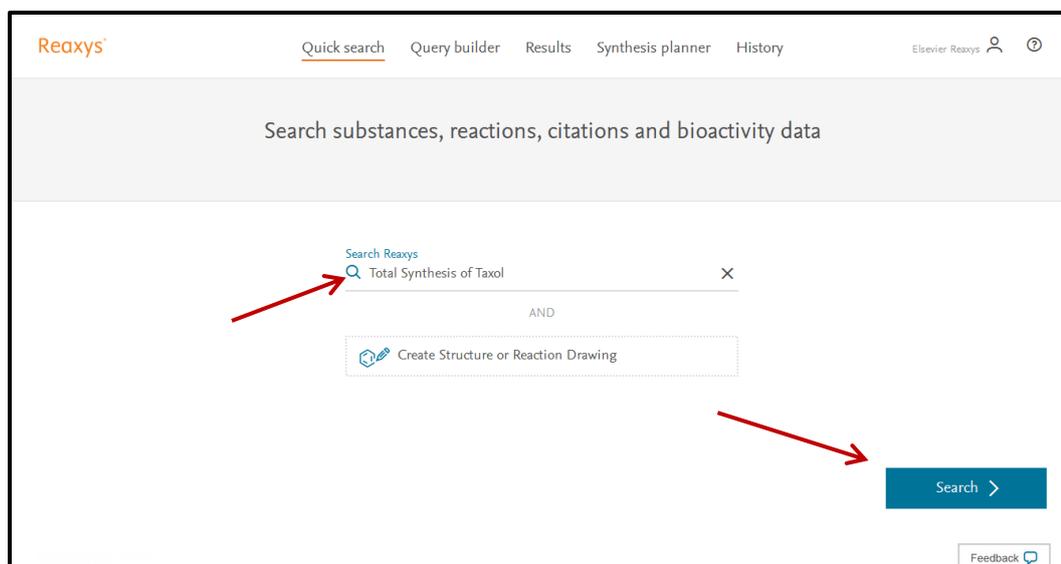
The screenshot displays the Reaxys search results page. On the left, there is a sidebar with filters and analysis options, including 'Index Terms (List)', 'Index Terms (ReaxysTree)', 'Publication Year', 'Document Type' (with a 'review' filter selected), 'Authors', 'Patent Assignee', 'Journal Title', 'Substance Classes', and 'Reaction Classes'. The main content area shows a list of search results. The fourth result, 'Anion recognition and sensing in organic and aqueous media using luminescent and colorimetric sensors' by Gunnlaugsson, Thorfinnur; Glynn, Mark; Tocci (nee Hussey), Gillian M.; +2 others, is highlighted with a red box. A red arrow points to the 'Cited 848 times' link next to the title. Other results include 'Recent developments in micelle-induced fluorescent sensors' (Cited 12 times), 'Fluorogenic and chromogenic polymer chemosensors' (Cited 29 times), 'Sensing and activation of anionic species by polyamine-based metal complexes' (Cited 2 times), and 'Mimicking the antenna system of green plants' (Cited 113 times). The top navigation bar includes 'Quick search', 'Query builder', 'Results', 'Synthesis planner', and 'History'. The user profile 'Elsevier Reaxys' is visible in the top right corner.

❖ Total Synthesis of Taxol

Taxol is a complex molecule used as a drug to treat ovarian, breast, lung, pancreatic and other cancers. Its total synthesis is challenging, but nevertheless very interesting to learn. What is known about the total synthesis of taxol and who worked on it and when?

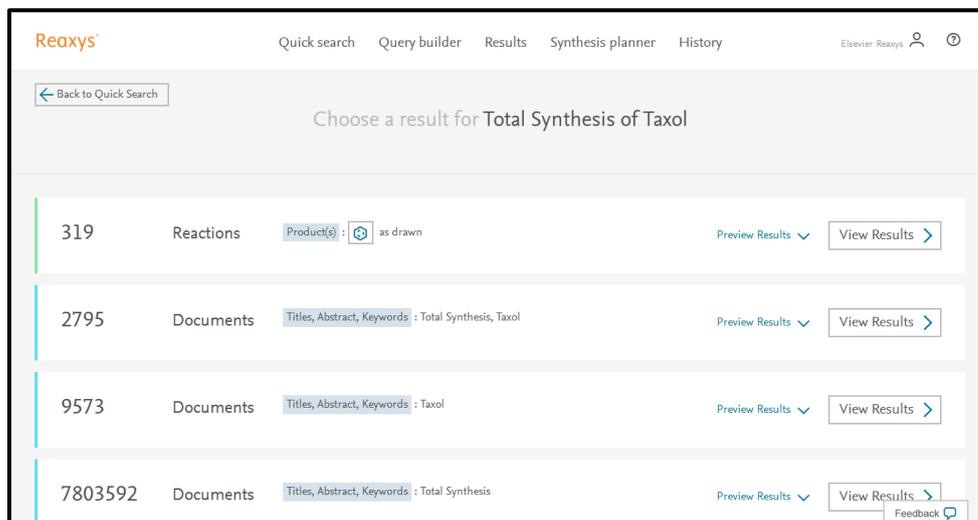
You can start to answer questions like this in Reaxys either through Reaction Records (draw the structure of taxol and specify the substance be a product), or through Substance Records (find the Substance Record for taxol and browse through the preparations listed), or through Document Records (where simple keyword searches relating to substances/reactions can directly give important records). In this case, we shall illustrate how to approach this question through Document Records.

1. On the Reaxys home page click the **Search Reaxys** field and type **total synthesis of taxol**
 - a. Click **Search**



Reaxys analyzes the query input and returns four result sets in a Results Preview:

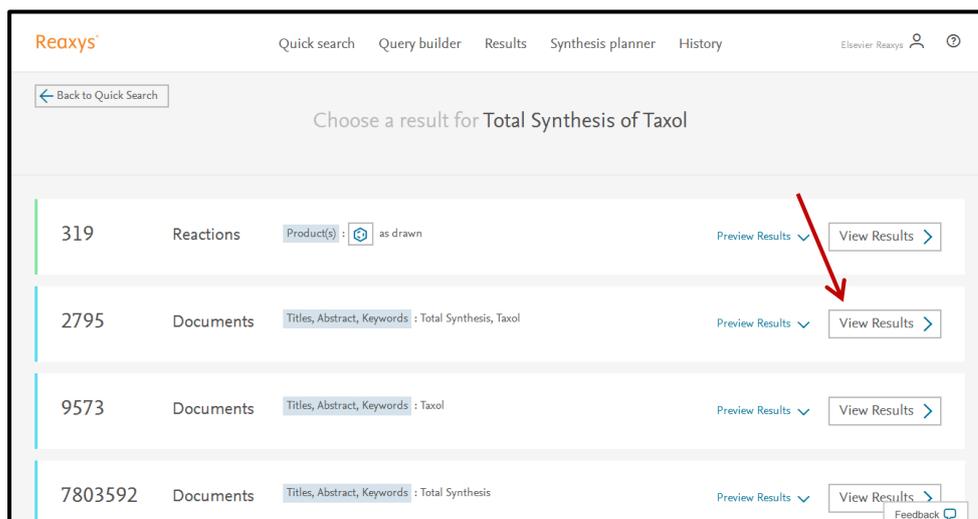
- The 319 Reactions set is the result of looking at reaction records.
- The three Documents sets are results of looking at document records with a different combination of the original search terms.



The screenshot shows the Reaxys interface with the search query 'Total Synthesis of Taxol'. The results are displayed in a list format with the following data:

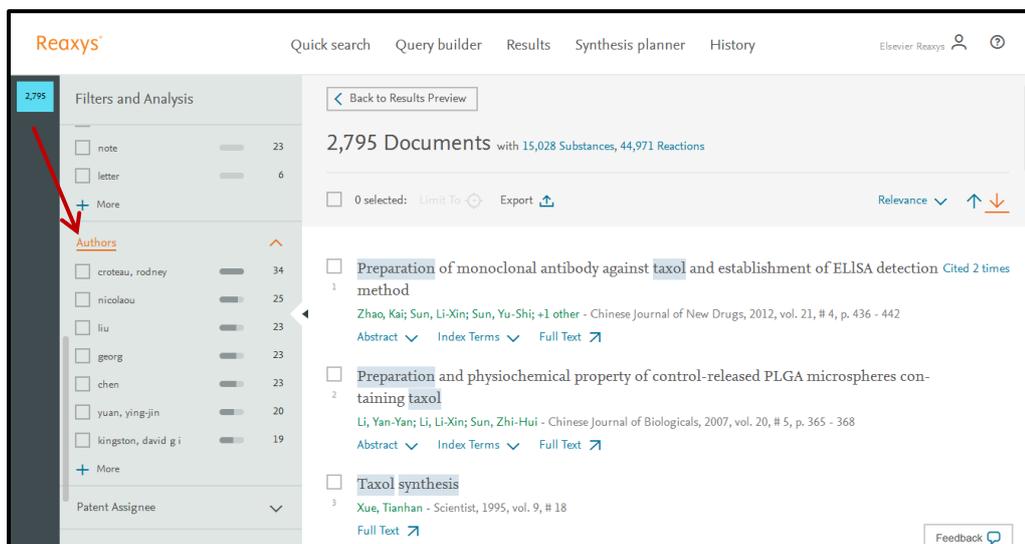
Count	Category	Search Criteria	Preview Results	View Results
319	Reactions	Product(s) : as drawn	Preview Results	View Results
2795	Documents	Titles, Abstract, Keywords : Total Synthesis, Taxol	Preview Results	View Results
9573	Documents	Titles, Abstract, Keywords : Taxol	Preview Results	View Results
7803592	Documents	Titles, Abstract, Keywords : Total Synthesis	Preview Results	View Results

2. Click **View Results** for the second set of results which will display documents that discuss total synthesis of taxol.



This screenshot is identical to the previous one, but a red arrow points to the 'View Results' button for the second result set (2795 Documents), indicating the next step in the process.

3. In the Filters and Analysis Panel, scroll down to the **Authors** field and **expand** it
 - By looking at the author filter I see that Nicolaou is one of the top publishing authors on this topic.



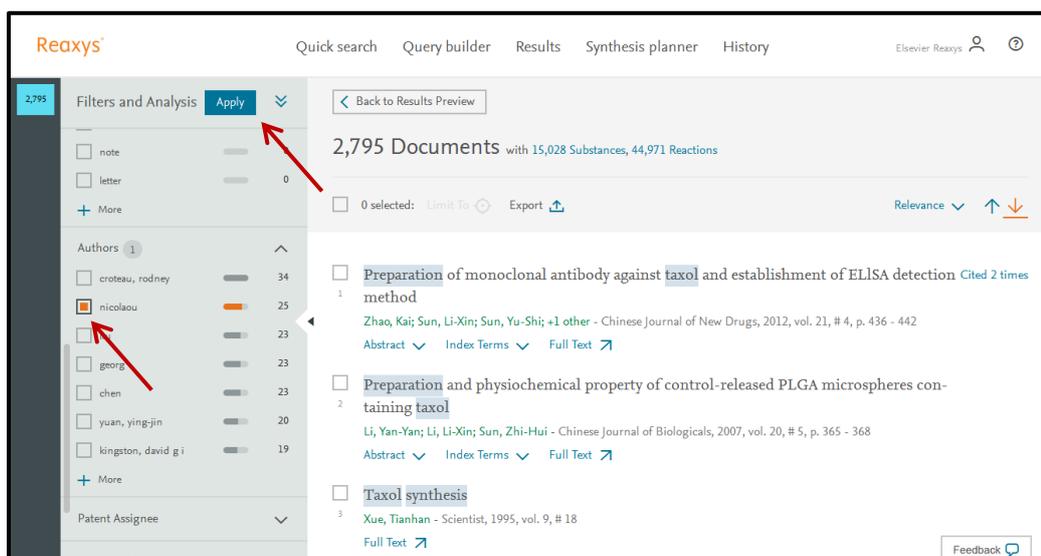
The screenshot shows the Reaxys interface with 2,795 documents. The 'Filters and Analysis' panel on the left has the 'Authors' section expanded, showing a list of authors with their respective document counts. A red arrow points to the 'Authors' section header.

Author	Count
croteau, rodney	34
nicolaou	25
liu	23
georg	23
chen	23
yuan, ying-jin	20
kingston, david g i	19

The main results area shows three document entries related to taxol synthesis:

- Preparation of monoclonal antibody against taxol and establishment of ELISA detection method. Cited 2 times. Zhao, Kai; Sun, Li-Xin; Sun, Yu-Shi; +1 other - Chinese Journal of New Drugs, 2012, vol. 21, # 4, p. 436 - 442.
- Preparation and physicochemical property of control-released PLGA microspheres containing taxol. Li, Yan-Yan; Li, Li-Xin; Sun, Zhi-Hui - Chinese Journal of Biologicals, 2007, vol. 20, # 5, p. 365 - 368.
- Taxol synthesis. Xue, Tianhan - Scientist, 1995, vol. 9, # 18.

4. Check the box for **nicolaou**
 - a. Click **Apply**

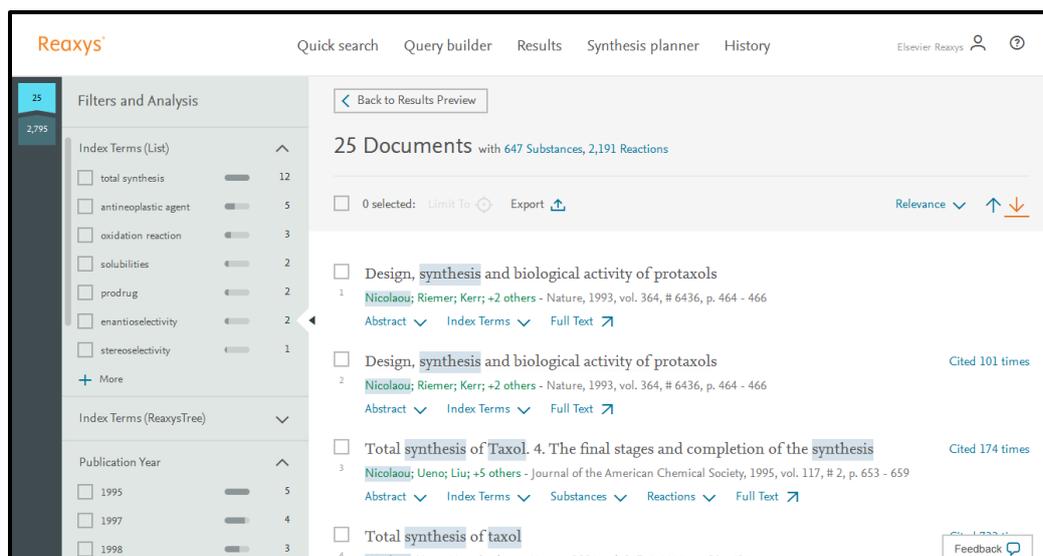


The screenshot shows the Reaxys interface with the 'nicolaou' author filter selected in the 'Filters and Analysis' panel. The 'Apply' button is highlighted with a red arrow. The document count in the main results area remains at 2,795.

Author	Count
croteau, rodney	34
<input checked="" type="checkbox"/> nicolaou	25
liu	23
georg	23
chen	23
yuan, ying-jin	20
kingston, david g i	19

The main results area shows the same three document entries as in the previous screenshot.

The Results list is now filtered to the 25 Documents by **Nicolaou**



Reaxys® Quick search Query builder Results Synthesis planner History Elsevier Reaxys

25 Filters and Analysis 2,795

Index Terms (List)

- total synthesis 12
- antineoplastic agent 5
- oxidation reaction 3
- solubilities 2
- prodrug 2
- enantioselectivity 2
- stereoselectivity 1
- + More

Index Terms (ReaxysTree)

Publication Year

- 1995 5
- 1997 4
- 1998 3

25 Documents with 647 Substances, 2,191 Reactions

0 selected: Limit To Export

Relevance

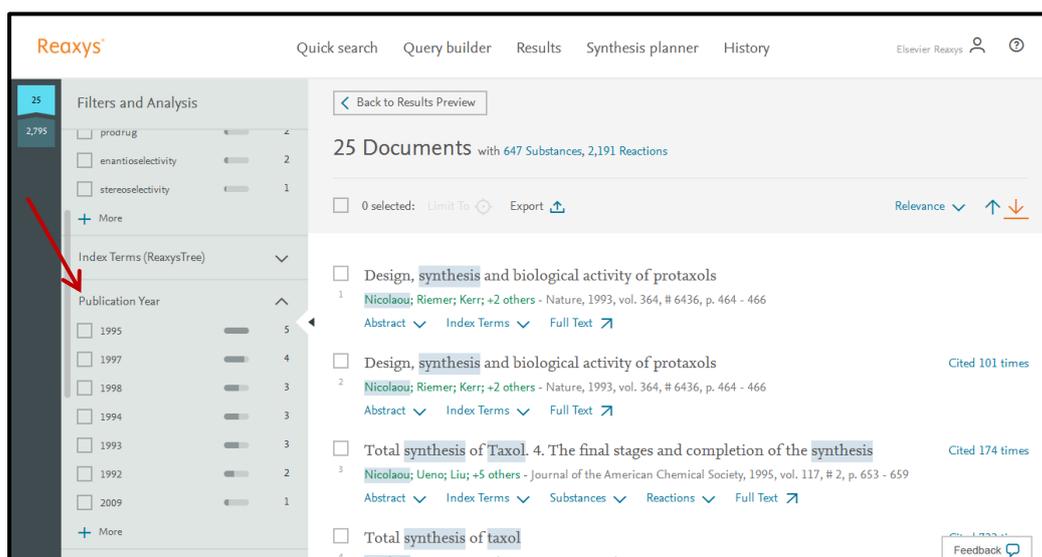
Design, synthesis and biological activity of protaxols
1 Nicolaou; Riemer; Kerr; +2 others - Nature, 1993, vol. 364, # 6436, p. 464 - 466
Abstract Index Terms Full Text

Design, synthesis and biological activity of protaxols Cited 101 times
2 Nicolaou; Riemer; Kerr; +2 others - Nature, 1993, vol. 364, # 6436, p. 464 - 466
Abstract Index Terms Full Text

Total synthesis of Taxol. 4. The final stages and completion of the synthesis Cited 174 times
3 Nicolaou; Ueno; Liu; +5 others - Journal of the American Chemical Society, 1995, vol. 117, # 2, p. 653 - 659
Abstract Index Terms Substances Reactions Full Text

Total synthesis of taxol
4 Nicolaou; Ueno; Liu; +5 others - Journal of the American Chemical Society, 1995, vol. 117, # 2, p. 653 - 659

5. **Scroll** down to **Publication Year**, which shows that most of the work was done between 1993-1998:



Reaxys® Quick search Query builder Results Synthesis planner History Elsevier Reaxys

25 Filters and Analysis 2,795

Index Terms (List)

- prodrug 2
- enantioselectivity 2
- stereoselectivity 1
- + More

Index Terms (ReaxysTree)

Publication Year

- 1995 5
- 1997 4
- 1998 3
- 1994 3
- 1993 3
- 1992 2
- 2009 1
- + More

25 Documents with 647 Substances, 2,191 Reactions

0 selected: Limit To Export

Relevance

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Total synthesis of taxol
4 Nicolaou; Ueno; Liu; +5 others - Journal of the American Chemical Society, 1995, vol. 117, # 2, p. 653 - 659

Viewing the filtered list of 25 documents, there is one which is cited 733 times. This is a good starting document to evaluate the **total synthesis of taxol**:

- Click 'Cited # times' to open Scopus with the documents that cite this article.
- Click 'Abstract' to view the document's abstract.
- Click 'Index Terms' to view the index terms that were assigned to this article.
- Click 'Full Text' will direct you to the publisher's website for viewing the full text article.

Please Note: depending on the article or patent, further options may be presented: Substances, Reactions, Front Page Information

The screenshot displays the Reaxys search results interface. On the left, there is a sidebar with filters and analysis options, including 'stereoselectivity' (1), 'Index Terms (ReaxysTree)', 'Publication Year' (1995-2009), and 'Document Type' (article, 20). The main area shows '25 Documents with 647 Substances, 2,191 Reactions'. A list of documents is displayed, with the following entries:

- 1. Design, synthesis and biological activity of protaxols. Nicolau; Riemer; Kerr; +2 others - Nature, 1993, vol. 364, # 6436, p. 464 - 466. Cited 101 times.
- 2. Design, synthesis and biological activity of protaxols. Nicolau; Riemer; Kerr; +2 others - Nature, 1993, vol. 364, # 6436, p. 464 - 466. Cited 174 times.
- 3. Total synthesis of Taxol. 4. The final stages and completion of the synthesis. Nicolau; Ueno; Liu; +5 others - Journal of the American Chemical Society, 1995, vol. 117, # 2, p. 653 - 659. Cited 733 times.
- 4. Total synthesis of taxol. Nicolau; Yang; Liu; +8 others - Nature, 1994, vol. 367, # 6464, p. 630 - 634. Cited 733 times.

The fourth document is highlighted with a red box, and a red arrow points to the 'Cited 733 times' text.