

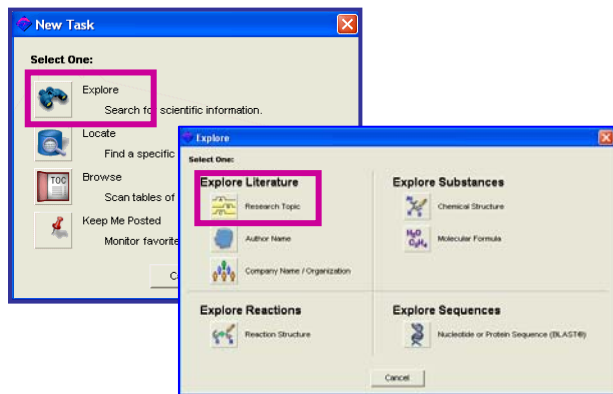
HOW TO

Exploring Reactions: Beginning with Research Topic

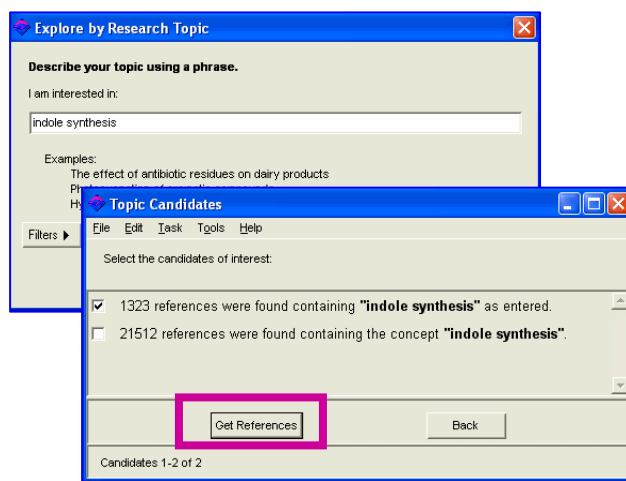


CASREACT® offers more than 14 million single- and multi-step reactions making it the largest collection of reaction information in the world. Updated once a week with an average of 950 reactions, CASREACT provides information on synthetic organic research, including organometallics, natural products, and biocatalyzed reactions. Most people who search CASREACT begin by drawing a structure query, but SciFinder has so many built-in links to reaction information that you can start almost anywhere and quickly find the information you need. You can even begin with a Research Topic.

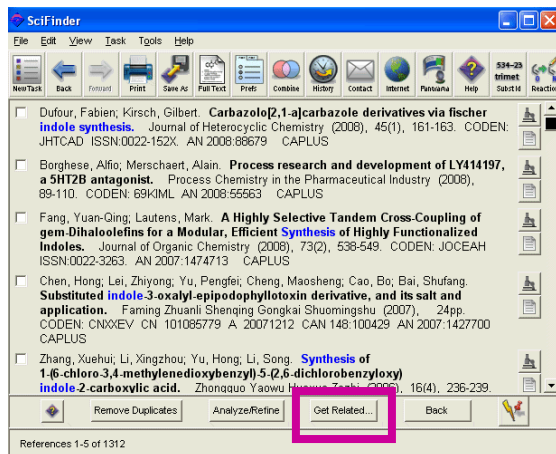
1. The aromatic heterocycle indole is involved in many types of reactions. Substituted indoles appear as substructures within different types of compounds from pigments and dyes to alkaloids, amino acids, and proteins. Suppose you are interested in reactions involving *synthetic indole alkaloids*. You can start by exploring a Research Topic in the published literature.



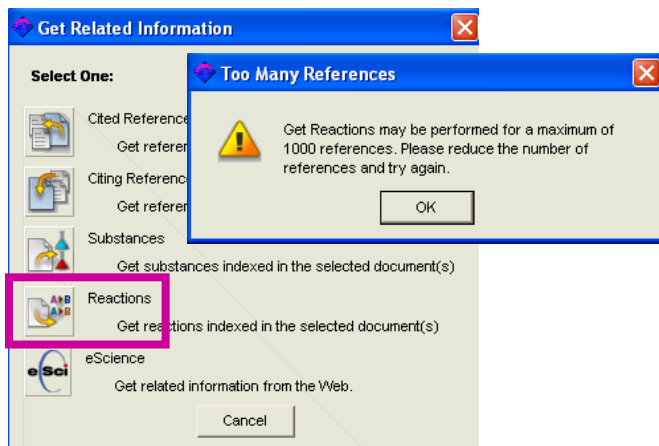
2. When you enter the topic *indole synthesis*, SciFinder locates 1323 references. Click Get References to see a list of candidate references.



3. To view reaction information linked to these 1323 references, click Get Related.



4. Then click Reactions. SciFinder warns you there are more than 1,000 reactions—too many for the Reactions tool to process at any one time.



5. To avoid retrieving “Too-Many-References,” you can divide your document references into smaller groups by using the Analyze tool before requesting reaction information. SciFinder offers many ways of analyzing your answers. Let’s choose CA Section Titles and then *Biomolecules and Their Synthetic Analogs*. Click Get References.

Analyze References

Analyze By:

- Author Name
- Index Term
- CAS Registry Number
- Journal Name
- CA Section Title
- Language
- Company/Organization
- Publication Year
- Database
- Supplementary Term
- Document Type

CA Section Title Analysis

Select the candidates of interest:

<input type="checkbox"/> Heterocyclic Compounds (One Hetero Atom)	493
<input type="checkbox"/> Alkaloids	210
<input type="checkbox"/> Heterocyclic Compounds (More Than One Hetero Atom)	193
<input type="checkbox"/> Organic Chemistry	87
<input type="checkbox"/> Physical Organic Chemistry	76
<input type="checkbox"/> References not containing information for this analysis	25
<input checked="" type="checkbox"/> Biomolecules and Their Synthetic Analogs	24
<input type="checkbox"/> Industrial Organic Chemicals,	16

Get References

6. Now you have a focused list of only 24 references from which to Get Related Reactions.

Get Related Information

Select One:

- Cited References
Get references cited in the selected document(s)
- Citing References
Get references that cite the selected document(s)
- Substances
Get substances indexed in the selected document(s)
- Reactions
Get reactions indexed in the selected document(s)
- eScience
Get related information from the Web.

Cancel

7. This time SciFinder locates 14 reactions within the 24 references associated with *Biomolecules and Their Synthetic Analogs*. Let’s look closely at reaction reference 3 of 14. Click the journal title to view the abstract.

NOTE: chemoselective, Reactants: 2, Reagents: 1, Solvents: 1, Steps: 1, Stages: 3

Synthetic Communications, 33(20), 3631-3641, 2003

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One reaction from reference 3 of 14

8. This abstract reports that the hormone melatonin has been prepared using radical cyclization of the indole nucleus—thus fitting our Research Topic *indole synthesis* and the CA Section Title *Biomolecules and Their Synthetic Analogs*.

Detail of Reference for Reaction 3

Bibliographic Information


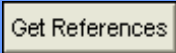
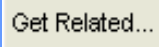

Efficient Route to the Pineal Hormone Melatonin by Radical-Based Indole Synthesis.
Thomson, Douglas W.; Commeureuc, Aurelien G. J.; Berlin, Stefan; Murphy, John A. Department of Pure and Applied Chemistry, University of Strathclyde, Glasgow, UK. Synthetic Communications (2003), 33(20), 3631-3641. Publisher: Marcel Dekker, Inc., CODEN: SYNCAV ISSN: 0039-7911. Journal written in English. CAN 139:395731 AN 2003:732939 CAPLUS

Abstract

The hormone melatonin (I), which is known to have a range of important biol. effects, has been prepd. in a high-yielding route that features formation of the indole nucleus by radical cyclization. Mediation of the radical cyclization by tris(trimethylsilyl)silane (TTMSS) is more efficient than by N-ethylpiperidine hypophosphite.

I

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