

Science of Synthesis

Full-text resource for methods in
synthetic organic chemistry

Best methods. Best results.



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Science of Synthesis

Science of Synthesis provides a critical review of the synthetic methodology developed from the early 1800s to-date for the entire field of organic and organometallic chemistry.

Authoritative full-text descriptions and experimental procedures

As the only resource providing full-text descriptions of organic transformations and synthetic methods as well as experimental procedures, Science of Synthesis is a unique chemical information tool. Its insightful, didactic reviews by experts add real value to your online reference collection.

Easily accessible and searchable

Science of Synthesis is easily accessible via a modern Web interface at sos.thieme.com. The intuitive search function allows rapid lead generation and route optimization. Search results are illustrated with detailed reaction schemes and can be saved in a MySoS account [MySoS](#), as well as personal settings and search queries. All chapters can be printed and downloaded as PDFs.

Methods selected, reviewed and continually updated by 1,750 experts

World-renowned experts have chosen the most important molecular transformations for a class of organic compounds and elaborated on their scope and limitations. They update the content regularly with new information and special topics of particular interest to the synthetic chemist.

Logically organized by functional group

The systematic, logical and consistent organization of the synthetic methods for each functional group enables users to quickly find out which methods are useful for a particular synthesis and which are not.

Immediately applicable in the lab

Effective and practical experimental procedures can also be implemented quickly and easily in the lab. This enables the chemist to get started immediately with the design and planning of a synthesis.

Highlighting special fields – the Reference Library

The Reference Library features the best methods in special fields of importance in organic synthesis. All special topics are part of the Science of Synthesis series. The content is fully integrated with the main series and included in the license fee without further costs.

Topics	Volume Editor
Stereoselective Synthesis <ul style="list-style-type: none">Stereoselective Reactions of Carbon–Carbon Double BondsStereoselective Reactions of Carbonyl and Imino GroupsStereoselective Pericyclic Reactions, Cross Coupling, C–H and C–X Activation	Johannes G. de Vries Gary A. Molander P. Andrew Evans
Water in Organic Synthesis	Shū Kobayashi
Asymmetric Organocatalysis <ul style="list-style-type: none">Lewis Base and Acid CatalystsBrønsted Base and Acid Catalysts, and Additional Topics	Benjamin List Keiji Maruoka
Cross-Coupling and Heck-Type Reactions <ul style="list-style-type: none">C–C Cross Coupling Using Organometallic PartnersCarbon–Heteroatom Cross Coupling and C–C Cross Coupling of Acidic C–H NucleophilesMetal-Catalyzed Heck-Type Reactions and C–C Cross Coupling via C–H Activation	Gary A. Molander John P. Wolfe Mats Larhed
Multicomponent Reactions <ul style="list-style-type: none">General Discussion and Reactions Involving a Carbonyl Compound as Electrophilic ComponentReactions Involving an α,β-Unsaturated Carbonyl Compound	Thomas J. J. Müller
Biocatalysis in Organic Synthesis 1-3	Kurt Faber Wolf-Dieter Fessner Nicholas Turner
Catalytic Transformations via C–H Activation (C–C, C–N, C–O, C–Hal, and C–B Bond Formation)	Jin-Quan Yu
Applications of Domino Transformations in Organic Synthesis	Scott Snyder
Metal-Catalyzed Cyclization Reactions	Shengming Ma Shuanhu Gao

Including the Houben-Weyl archive

In addition, Science of Synthesis includes a backfile with the complete Houben-Weyl series, published between 1909 and 2003 and including reference citations back to the 1800s. The backfile documents are available in PDF format and their tables of contents are text searchable.

Each chapter begins with a general introduction to a certain compound class. The rest of the chapter goes on to illustrate the best methods (including variations) of synthesis for the specified class.

The screenshot displays the Science of Synthesis website. At the top, there's a navigation bar with 'Home', 'Query', 'Results', 'Full text', and 'Explore contents'. Below this, a sidebar on the left contains 'NAVIGATION' and 'Previous / Next' links. The main content area shows the title '3.6.13.1 Gold-Catalyzed Coupling Reactions' with a DOI: 10.1055/sos-SD-103-00039. The text begins with a citation: 'Hopkinson, M. N.; Gouverneur, V., *Science of Synthesis Knowledge Updates*, (2011) 2, 101.' followed by a 'General Introduction' section. The introduction discusses the importance of carbon-carbon and carbon-heteroatom bond-forming processes catalyzed by transition metals, specifically focusing on gold complexes. It mentions the 2010 Nobel Prize in Chemistry and the development of gold-catalyzed coupling reactions. The text is dense and technical, typical of a scientific review.

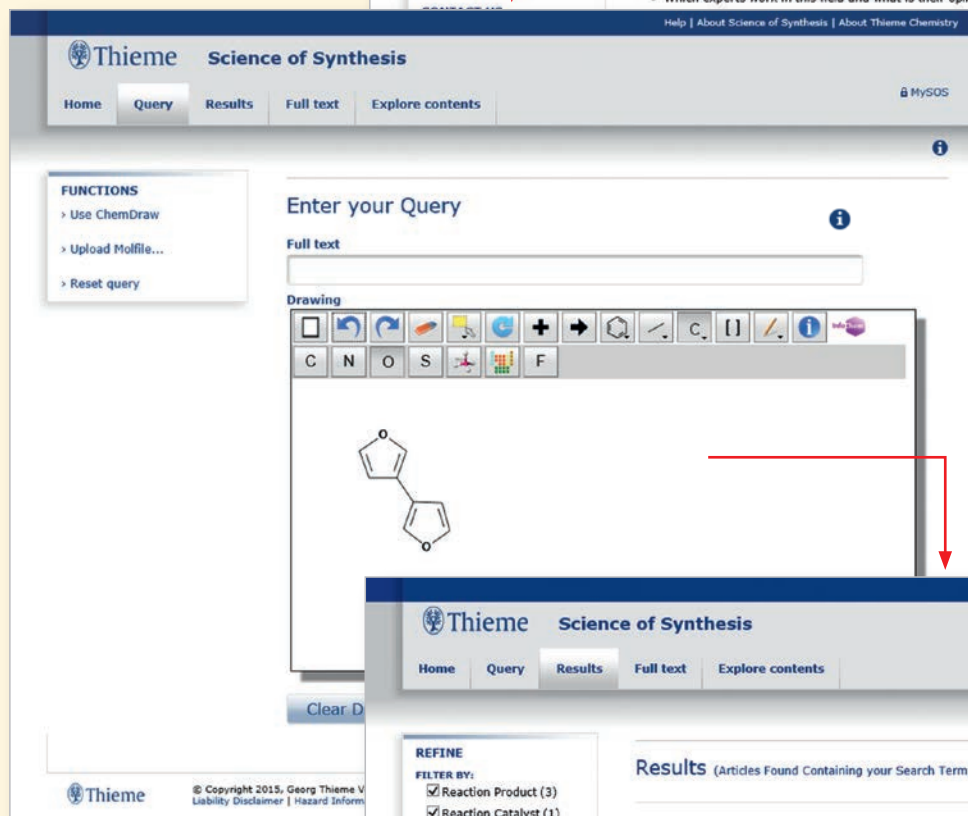
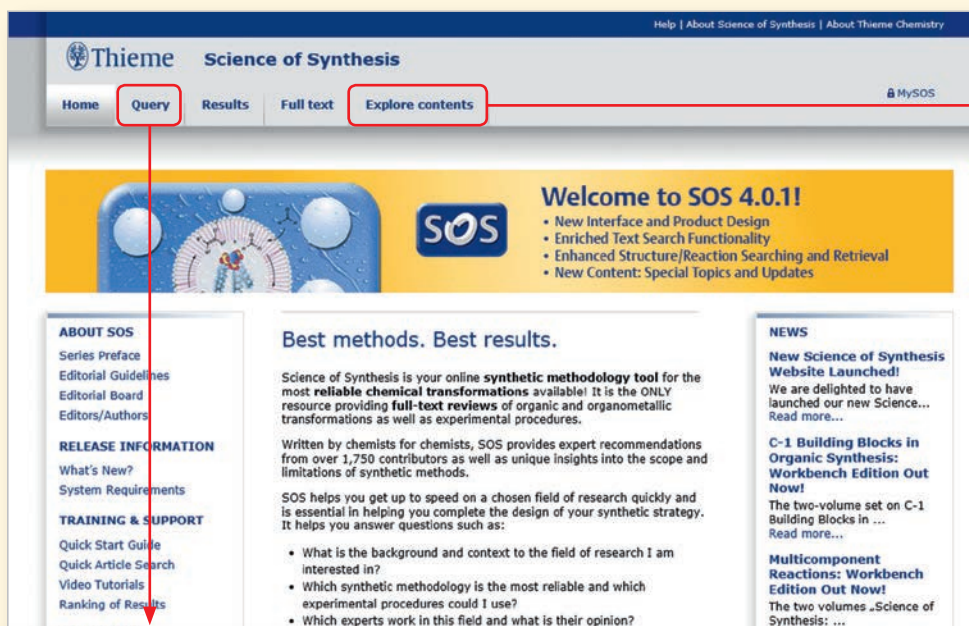
The login to MySoS enables you to save personal settings, search queries and manually revised hitlists of results.

The modern interface

A clear, browser-based interface gives easy access to the methods and experimental procedures in Science of Synthesis.

The intuitive search functionality allows you to quickly enter a structure or term and provides a comprehensive hitlist including illustrating schemes.

The powerful and user-friendly structure search has been developed in cooperation with InfoChem.



Query

To start a search simply enter a text search term and/or structure with the HTML5 drawing tool or ChemDraw. You can also upload Molfiles.

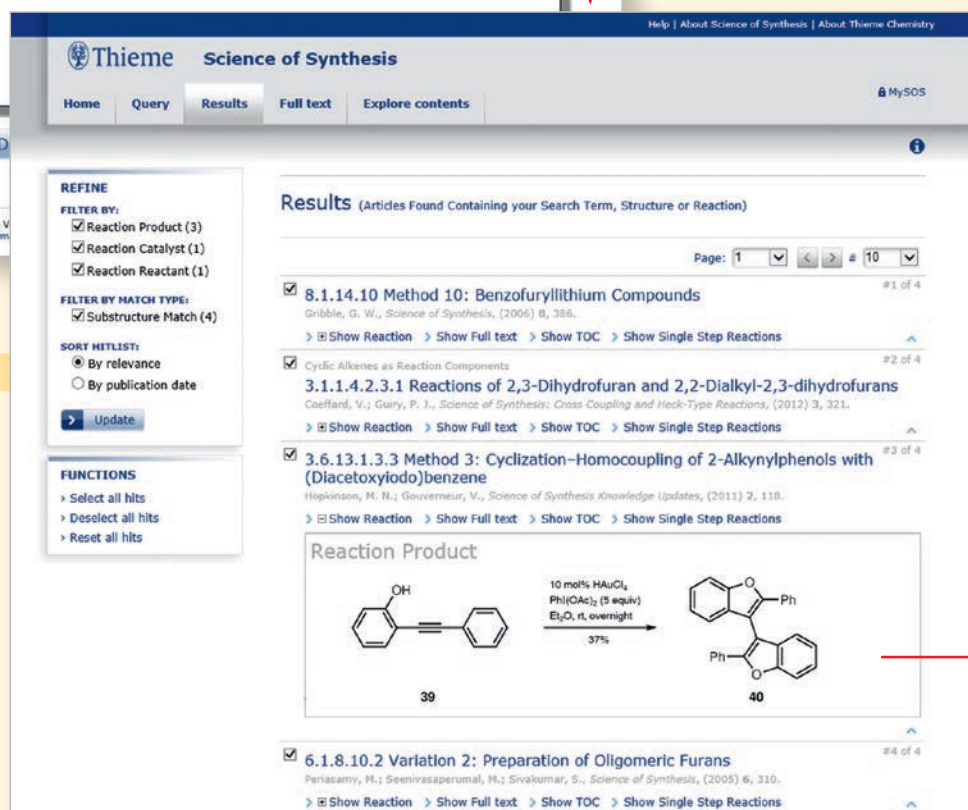
By clicking on the info button **i** you get further information on how to carry out advanced text searches.

Results

The hitlist of results is ranked by relevance or can alternatively be sorted by publication date. It shows the title, bibliographic data and optionally the reaction scheme.

Each hit is linked to the full text, to the context of a method and to the single-step reactions.

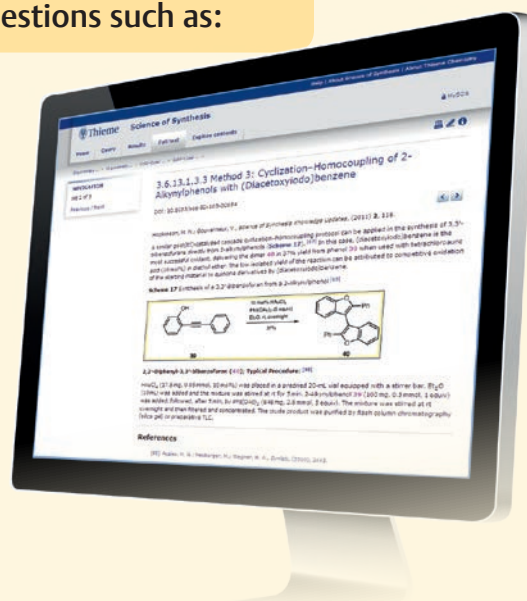
Filtering options include: Reactant, Catalyst, Product (for structure search), Title, Content, References (for text search)



Why use Science of Synthesis?

Science of Synthesis is essential in helping you complete the design of your synthetic strategy after you have collected together relevant citations, patent and property information. It helps you answer questions such as:

- What is the best synthetic strategy to use?
- Which experts work in this field?
- What is the background and context to the field of research I am interested in?
- Which experimental procedures should I use?
- What should I avoid based on the experience of other chemists working in the field?



Recommended by leading experts



"Science of Synthesis is an indispensable tome of chemical information organized in an intuitive and logical way. It contains information on nearly every aspect of chemical reactivity and, for me, is the "go-to" resource for rapidly learning about a new area. I use it regularly in preparation for classes and for consulting visits – it simply gives me the information I need far more easily than any search engine is capable of – and very often contains references and insight that cannot be found anywhere else."

Prof. Phil S. Baran

*The Scripps Research Institute
La Jolla, CA, USA*



"Today's scientific community must struggle to find ways to effectively distill massive floods of information into real knowledge. Science of Synthesis does this superbly well with carefully selected content on synthetic organic chemistry that has been written and edited by leading authorities from around the world. Science of Synthesis is a must-have for all universities and research institutions involved in material synthesis."

Prof. Ryoji Noyori

*RIKEN
Japan*



"As a past author and current volume editor, I completely appreciate the scientific and editorial rigor to put together the Science of Synthesis. It has the most authoritative and updated reviews and compilation of experimental procedures. Science of Synthesis is the first place I would look before embarking on a synthesis."

Prof. Jie Jack Li

*University of San Francisco
San Francisco, CA, USA*



"The phenomenal success of organic chemists in devising new reactions has made it increasingly difficult to find the best procedures and protocols. Science of Synthesis gives leading scientists the opportunity to bring clarity to their respective fields and provides state of the art protocols to the most important organic reactions."

Prof. Jeffrey Bode

*ETH Zurich
Switzerland*

Best methods. Best results.



The community of 1,750 authors

Under the guidance of an international Editorial Board composed of distinguished chemists, over 1,750 authors have contributed to Science of Synthesis. They follow the latest developments in organic synthesis in their daily work, review all the literature of relevance and include the most reliable and effective methods in organic synthesis.

All authors are listed at
www.thieme-chemistry.com

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System Requirements:

Internet connection, up-to-date version of any standard browser and hardware, Adobe Reader. For details see www.thieme-chemistry.com.

Contact:

The Americas

Thieme Institutional Sales
E-mail: esales@thieme.com
Phone: +1-212-584-4695

Europe, Africa, Asia, Australia (except India and Japan)

Thieme Institutional Sales
E-mail: eproducts@thieme.de
Phone: +49-711-8931-407

India

Thieme Medical and Scientific
Publishers Private Ltd.
eproducts@thieme.in
Phone +91-120-455-6600

Japan

Bureau Hosoya
E-mail: brhosoya@poplar.ocn.ne.jp
Phone: +81-3-3358-0692