

Release: SOS 4.8, July 2017



What's
New?

Software

- 1. Name-to-Structure Functionality:** The Name-to-Structure functionality comprises systematic nomenclature (IUPAC and inverted names, i.e. CAS index names) as well as trade, trivial, and semi-systematic names. A dictionary-based and a morphology-based (algorithmic) approach are combined to create the chemical structures from names. InfoChem's dictionary contains more than 28 million chemical names, mainly in English and German - plus several other languages for common chemicals. These names correspond to more than 13 million unique structures. This feature helps the user create correct structures from names quickly and easily.
- 2. Hit List Select/Deselect Options:** Multiple options are now available for selecting and deselecting hits in the hit list making list refinement and hit selection much easier for the user. MySOS users can also save their refined lists for use again later.

Content

New: Science of Synthesis Knowledge Updates

SOS is continuously updated with high-quality content using clearly defined criteria for method selection as well as established editorial processes. The Editorial Board, in conjunction with the volume editors and authors, reviews the whole field of synthetic organic chemistry as presented in SOS and evaluate significant developments in synthetic methodology.

A list of strict criteria for method selection guides the updating process in order to guarantee that only the best and most reliable synthetic methods are included in SOS. Authors, who are renowned specialists in their respective fields, add new methods and add new (or completely revise existing) product (sub)classes.

The updating procedure is continuous and new content will continually be added to the electronic version. SOS continues to be the most up-to-date evaluated electronic reference work available, emphasizing the most significant developments in synthetic methodology.

This release will see the addition of **2 new update volumes** comprising approx. **1,000 printed pages**.

SOS Knowledge Updates 2017/1 and 2017/2, highlights:

- A new chapter on **gold-catalyzed cycloaddition reactions** (D. Qian and J. Zhang), an area that has attracted a tremendous amount of interest in recent years.
- Several chapters on the synthesis of various important silicon-based reagents including a major review of **silylboron reagents** (L. B. Delvos and M. Oestreich), updates on **silyllithiums and other silyl alkali metal reagents** (C. Kleeberg), **silyl sulfides and selenides** (A. Baker and T. Wirth), and **silyl cyanides** (Y. Nishimoto, M. Yasuda, and A. Baba), as well as a new chapter on **silanols** (A. M. Hardman-Baldwin and A. E. Mattson).
- Several new chapters on **azaindole derivatives** (J.-Y. Mérourand B. Joseph) that complement the recent major review of azaindoles by the same authors.
- A new chapter on the synthesis of **amides in continuous-flow reactors** (S. Ramesh, P. Cherkupally, T. Govender, H. G. Kruger, B. G. de la Torre, and F. Albericio).
- An update on the synthesis of **azomethine imines** (I. Atodiresei and M. Rueping).
- Updates on the synthesis of **heteroatom-functionalized chloroalkanes** (T. Wirth and F. V. Singh), **bromoalkanes, allylic bromides, benzylic bromides, and propargylic bromides** (M. Braun).
- A major update on the synthesis of **phthalocyanines and related compounds** (M. S. Rodríguez Morgade and T. Torres). These synthetic analogues of porphyrins have interesting optical and photophysical properties, which have lead to their use as colorants and pigments and more recently their investigation in the context of new areas of technology such as organic solar cells, organic light-emitting diodes, optical recording media, nonlinear optics, and photodynamic therapy.

- Several chapters on the synthesis of **C(sp³)–F compounds**, which have been the focus of intense research in recent years due to their biological and pharmacological properties, including updates on the synthesis of **fluoroalkanes by substitution of hydrogen** (M. Rueda-Becerril and G. M. Sammis), **halogens, oxygen and sulfur functionalities** (T. P. Lequeux), and **synthesis from other fluoroalkanes** (T. Yamazaki).
- Updates on specific classes of **fluorinated molecules** including **fluorocyclopropanes, (fluoromethyl) cyclopropanes, and fluorocyclobutanes** (P. Jubault, T. Poisson, and X. Pannecoucke), **allylic fluorides** (C. R. Pitts and T. Lectka), **β-fluoro alcohols** (K. Shibatomi), and **β-fluoroamines** (L. Hunter).
- An update of the synthesis of **azetidines** (F. Couty). These small-ring nitrogen heterocycles are also of great current interest, again mainly because of their potential in medicinal and pharmaceutical chemistry.

Overview of Content Availability in SOS 4.8, July 2017

Work	Text and Graphics Available?	Structure/Reaction Search Available?
Houben-Weyl Series	Yes, scanned PDFs available for browsing and download	No, not structure searchable
Science of Synthesis Original Series Vols. 1–48	Yes, text searching available and chapter PDFs available for download	Yes, reactions and structures indexed and searchable
Science of Synthesis Knowledge Updates 2010, 2011, 2012, 2013 and 2014 (Vols. 1–4)	Yes, text searching available and chapter PDFs available for download	Yes, reactions and structures indexed and searchable
Science of Synthesis Knowledge Updates 2015 (Vol. 1 and 2), 2016 (Vol. 1–3), 2017 (Vol. 1 and 2)	Yes, text searching available and chapter PDFs available for download	Yes, reactions and structures indexed and searchable
Science of Synthesis Reference Library: Stereoselective Synthesis (Vols. 1–3)	Yes, text searching available and chapter PDFs available for download	Yes, reactions and structures indexed and searchable
Science of Synthesis Reference Library: Asymmetric Organocatalysis (Vols. 1 and 2)	Yes, text searching available and chapter PDFs available for download	Yes, reactions and structures indexed and searchable
Science of Synthesis Reference Library: Water in Organic Synthesis	Yes, text searching available and chapter PDFs available for download	Yes, reactions and structures indexed and searchable
Science of Synthesis Reference Library: Cross Coupling and Heck-Type Reactions (Vols. 1–3)	Yes, text searching available and chapter PDFs available for download	Yes, reactions and structures indexed and searchable
Science of Synthesis Reference Library: Multicomponent Reactions (Vols. 1 and 2)	Yes, text searching available and chapter PDFs available for download	Yes, reactions and structures indexed and searchable
Science of Synthesis Reference Library: C–1 Building Blocks in Organic Synthesis (Vols. 1 and 2)	Yes, text searching available and chapter PDFs available for download	Yes, reactions and structures indexed and searchable
Science of Synthesis Reference Library: Biocatalysis in Organic Synthesis (Vols. 1–3)	Yes, text searching available and chapter PDFs available for download	Yes, reactions and structures indexed and searchable
Science of Synthesis Reference Library: Catalytic Transformations via C–H Activation (Vols. 1 and 2)	Yes, text searching available and chapter PDFs available for download	Yes, reactions and structures indexed and searchable
Science of Synthesis Reference Library: Applications of Domino Transformations in Organic Synthesis (Vols. 1 and 2)	Yes, text searching available and chapter PDFs available for download	Yes, reactions and structures indexed and searchable
Science of Synthesis Reference Library: Metal-Catalyzed Cyclization Reactions (Vols. 1 and 2)	Yes, text searching available and chapter PDFs available for download	Yes, reactions and structures indexed and searchable
Science of Synthesis Reference Library: N-Heterocyclic Carbenes in Catalytic Organic Synthesis (Vols. 1 and 2)	Yes, text searching available and chapter PDFs available for download	Yes, reactions and structures indexed and searchable