

Science of Synthesis as a Teaching Resource: Useful Links

Science of Synthesis (SOS) is your online tool for comprehensive and quality organic synthesis reviews for the most reliable chemical transformations available. It is the only resource available containing methods with full-text reviews by experts, experimental procedures and accurate and detailed reaction schemes. For more information about Science of Synthesis [click here](#).

sos.thieme.com

In addition to its application as a tool to aid synthetic chemistry research, we would like to highlight how the authored content of Science of Synthesis can also be useful in an educational context. We have collected together some direct links to Science of Synthesis chapters that are useful as a resource for the preparation and teaching of advanced organic chemistry courses. The articles by expert chemists on particular topics (e.g., types of transformation, named reactions) can be used as a reference resource when preparing course material. They also serve as an excellent starting point for students for further reading around a topic. Furthermore, Science of Synthesis is a useful resource to students who are assigned coursework such as compiling a literature review on an area of synthetic organic chemistry, or when writing an introduction to a thesis.

- The chapters denoted with a * are those which the editorial office feel might be particularly useful from a teaching perspective. This generally means that there is a broad coverage of the topic in question, and this is often supplemented in the discussion text with significant details of aspects such as mechanisms, selectivity, scope/limitations, practical examples, etc.
- A significant advantage of Science of Synthesis is the ability to put a particular method in context with related methods/approaches to the one being viewed. Clicking on the “**Explore Contents**” tab at any time will show the location of the article you are reading in the unique organized hierarchy of Science of Synthesis, and this can help students put a particular process in context. e.g., Which metals other than manganese (Jacobsen epoxidation) have been used to catalyze alkene epoxidations.
- The content serves as a quick and easy resource for both tutors and students to organize and access the key original articles from the literature on a particular topic. The reference list at the bottom of each section of content links directly through to the original literature.
- We are often complimented on the clarity of the schemes and figures in Science of Synthesis; although there is currently no tool for downloading these, if you would like to be supplied with the original drawings for any particular chapter to aid with the preparation of course materials, then please just get in touch with the editorial office (SOS_techsupport@thieme.com).
- Note that it is possible to download and save entire chapters by clicking on the “Download PDF” icon found at the top right of any content page.

You can also save/print the “page” currently being viewed using the neighboring printer icon.

The screenshot shows the Science of Synthesis website interface. At the top, there are navigation tabs for "Explore Contents" and "Training & Support". On the right side, there is a "MySOS" user profile icon and a "Download PDF" button. Below the navigation, the main content area displays the title "3.7.1 The Claisen Rearrangement" in blue. Underneath the title, the DOI is listed as "10.1055/sos-SD-203-00213". There are navigation arrows (back and forward) to the right of the DOI. The main text of the article begins with "Zeh, J.; Hiersemann, M., *Science of Synthesis: Stereoselective Synthesis*, (2011) 3, 347." followed by a paragraph: "The [3,3]-sigmatropic rearrangement of allyl vinyl ethers to form γ,δ -unsaturated carbonyl compounds is known as the Claisen rearrangement. This reaction was named after its discoverer Ludwig Claisen (1851–1930), who".

NOTE: If you think your institution subscribes to SOS but you do not have full access through to these links (e.g., because of accessing remotely), please try using your institution's VPN or contact your librarian for further assistance. If you want to test SOS, sign up for a free [personal trial](#), or contact science-of-synthesis@thieme.de for a trial for the whole institution.

A

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[Alder-ene reactions](#) (2)*
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[aldol condensation](#) *
[Appel reaction \(alkyl bromides\)](#)
[Appel reaction \(alkyl chlorides\)](#)
[Arbuzov reaction](#)
[Arndt–Eistert reaction](#) *
[aza-Cope Mannich rearrangement](#)
[aza-Henry reaction](#) (1)
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[aza-Morita–Baylis–Hillman reaction](#) (1)*
[aza-Morita–Baylis–Hillman reaction](#) (2)*
[aza-oxa-Cope rearrangement](#)
[azide–alkyne Huisgen cycloaddition](#)
[aziridination of alkenes](#) (1)*
[aziridination of alkenes](#) (2)*

B

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[Baeyer–Villiger oxidation](#) (stereoselective)*
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[Bamford–Stevens reaction](#) *
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[Barton–McCombie reaction](#) *
[Baylis–Hillman reaction](#) (1)*
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[benzoin condensation](#) (asymmetric)*
[benzoin condensation](#) (using NHCs)
[Bergman cyclization](#)
[Bestmann–Ohira reagent](#)
[Betti reaction](#)
[Biginelli reaction](#) *
[Birch reduction](#) (of arenes)*
[Birch reduction](#) (of hetarenes)

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[Blaise reaction](#)
[Blanc reaction](#)
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[Brook rearrangement](#) (applied in domino reactions)
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[Buchwald–Hartwig cross-coupling reaction](#) (3)*

C

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[Chan–Lam–Evans coupling](#) (of arylamines)
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[Claisen condensation](#)
[Claisen rearrangement](#) (1)*
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[Collins reagent](#)
[Conia-ene reaction](#)
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[Cope rearrangement](#) (1)*
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[Corey–Chaykovsky aziridination](#) *
[Corey–Chaykovsky cyclopropanation](#)
[Corey–Chaykovsky epoxidation](#) *
[Corey–Fuchs reaction](#)
[Corey–Kim oxidation](#)
[Corey–Winter alkene synthesis](#)
[cross metathesis](#)
[cross-coupling reactions](#)

[cross-enyne metathesis](#)

[CuAAC click reactions](#)*

[Curtius rearrangement](#) (1)*

[Curtius rearrangement](#) (2)*

[cyclopropanations](#)

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[Darzens reaction](#) (2)

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[Dess–Martin oxidation](#) (ketones)

[Dieckmann condensation](#)

[Diels–Alder reaction](#)*

[Diels–Alder reaction](#)*

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