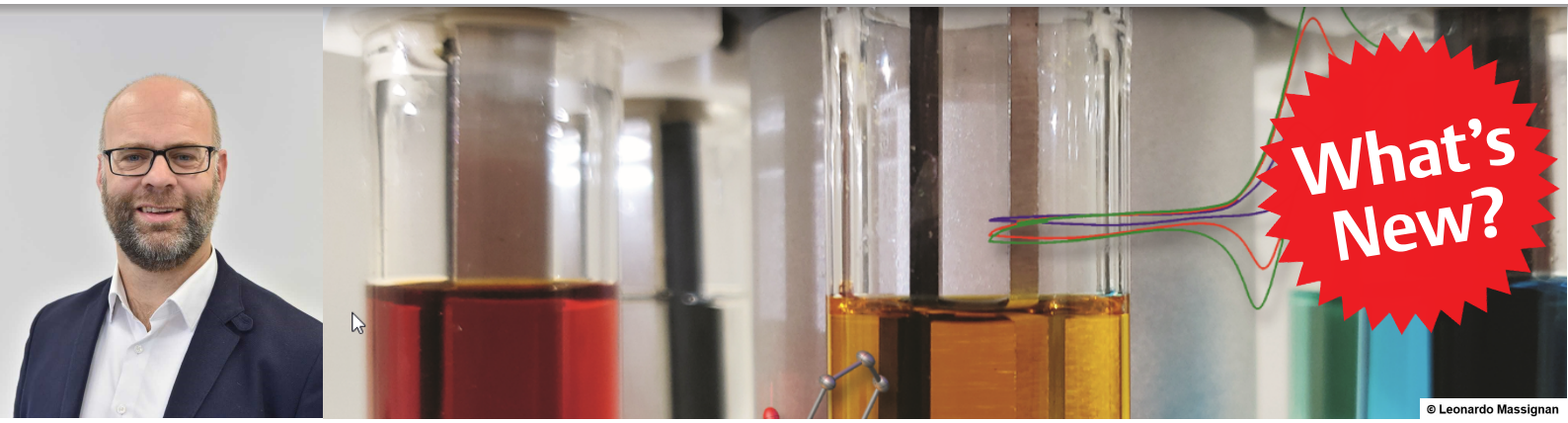

Prof. Lutz Ackermann

Release: SOS 4.24, March 2022

Content

New: Electrochemistry in Organic Synthesis

Electrosynthesis represents an increasingly viable platform for molecular synthesis that is currently undergoing a remarkable renaissance. The use of electricity can, for instance, avoid chemical redox reagents as well as the generation of byproducts derived therefrom, setting the stage for improved resource economy. Edited by **Lutz Ackermann**, this volume is the defining reference work for this rapidly evolving research arena. It features a collection of the most practical and robust methods of organic electrosynthesis. It introduces the key concepts of electrochemistry and provides all relevant laboratory set-ups, enabling newcomers to the field the effective application of these powerful new tools to molecular syntheses. Innovative strategies that successfully realize topical challenging transformations by the art of electrosynthesis are presented. Pioneers and leaders in the field discuss both the practical and conceptual aspects of this rapidly evolving research field.

Topics covered include:

- **Fundamental Principles of Organic Electrochemistry**
  A. Scheremetjew, T. H. Meyer, Z. Lin, L. Massignan, and L. Ackermann
- **Methods and Materials Applied in Electrosynthesis**
  P. Enders and R. Francke
- **Electroreductive Reactions**
  P. Schiltz and C. Gosmini
- **Metal-Catalyzed C-H Activation**
  Y.-K. Xing, P. Fang, Z.-H. Wang, and T.-S. Mei
- **Bipolar Electrochemistry for Synthesis**
  E. Villani and S. Inagi
- **Electrochemically Generated Nitrogen-Centered Radicals**
  Z.-W. Hou and H.-C. Xu
- **Electrochemical Fluoroalkylation**
  Z. Ruan, Z. Huang, K. Kucinski, and L. Ackermann
- **Anodic Arylation Reactions**
  M. Selt and S. R. Waldvogel
- **Redox Mediators in Organic Electrochemistry**
  R. Francke, A. Prudlik, and R. D. Little
- **Electrophotocatalysis**
  J. Galczynski, H. Huang, and T. H. Lambert
- **Asymmetric Electrosynthesis**
  K. Yamamoto, M. Kuriyama, and O. Onomura
- **Electrochemistry in Laboratory Flow Systems**
  A. A. Folgueiras-Amador, J. W. Hodgson, and R. C. D. Brown
- **Electrochemistry in Natural Product Synthesis**
  K. Lam, M. C. Leech, and A. J. J. Lennox
- **Paired Electrolysis**
  T. Wu and K. D. Moeller

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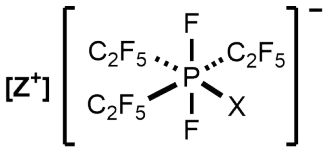
Content

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 expert authors, reviews the whole field of synthetic organic chemistry as presented in SOS and evaluates significant developments in synthetic methodology.

This release will see the addition of **one new update volume** comprising approx. **490** printed pages.

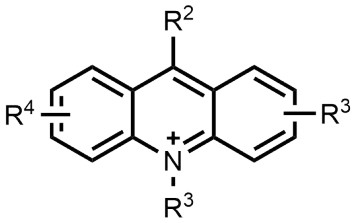
SOS Knowledge Updates 2022/1 highlights:



An update on the synthesis and applications of **acridinium salts** (*V. Hutskalova and C. Sparr*), which covers recent progress in methods for their preparation, as well as an overview of their uses, most notably as photocatalysts.

A series of updates on **porphyrins** and related molecules including **chlorins (dihydroporphyrins), bacteriochlorins** and **isobacteriochlorins (tetrahydroporphyrins)**, and **hexahydroporphyrins**, and **contracted, isomeric, and expanded porphyrins and carba and hetero analogues** (*N. Jux, F.-P. Montforts, and E. Haake*).

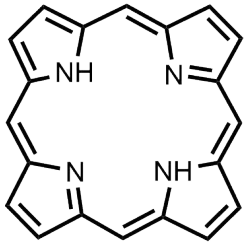
An update on the **synthesis of ketones by oxidation of alkanes** (*V. C. S. Santana, L. S. Munaretto, and E. C. de Lucca, Jr.*), which includes metal-catalyzed, photochemical, and metal-free approaches.

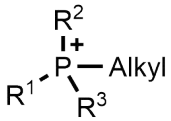


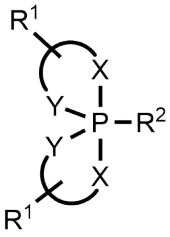
Updates on **alkylphosphonium salts** (*T. Ayad, J.-L. Pirat, and D. Virieux)* including fluorinated and chiral phosphonium salts, phosphonium-based frustrated Lewis pairs (FLPs), and applications in phase-transfer catalysis.

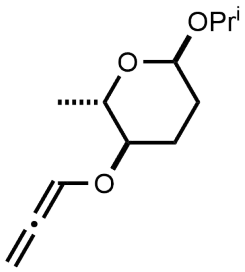
Updates on **pentacoordinated phosphoranes** and **hexacoordinated phosphates** (*R. Pajkert and G.-V. Röschenthaler*).

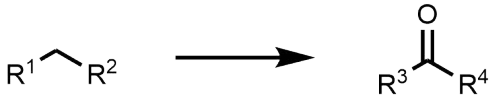
An update on the **applications of allenes in organic synthesis** (*M. A. Tius*).







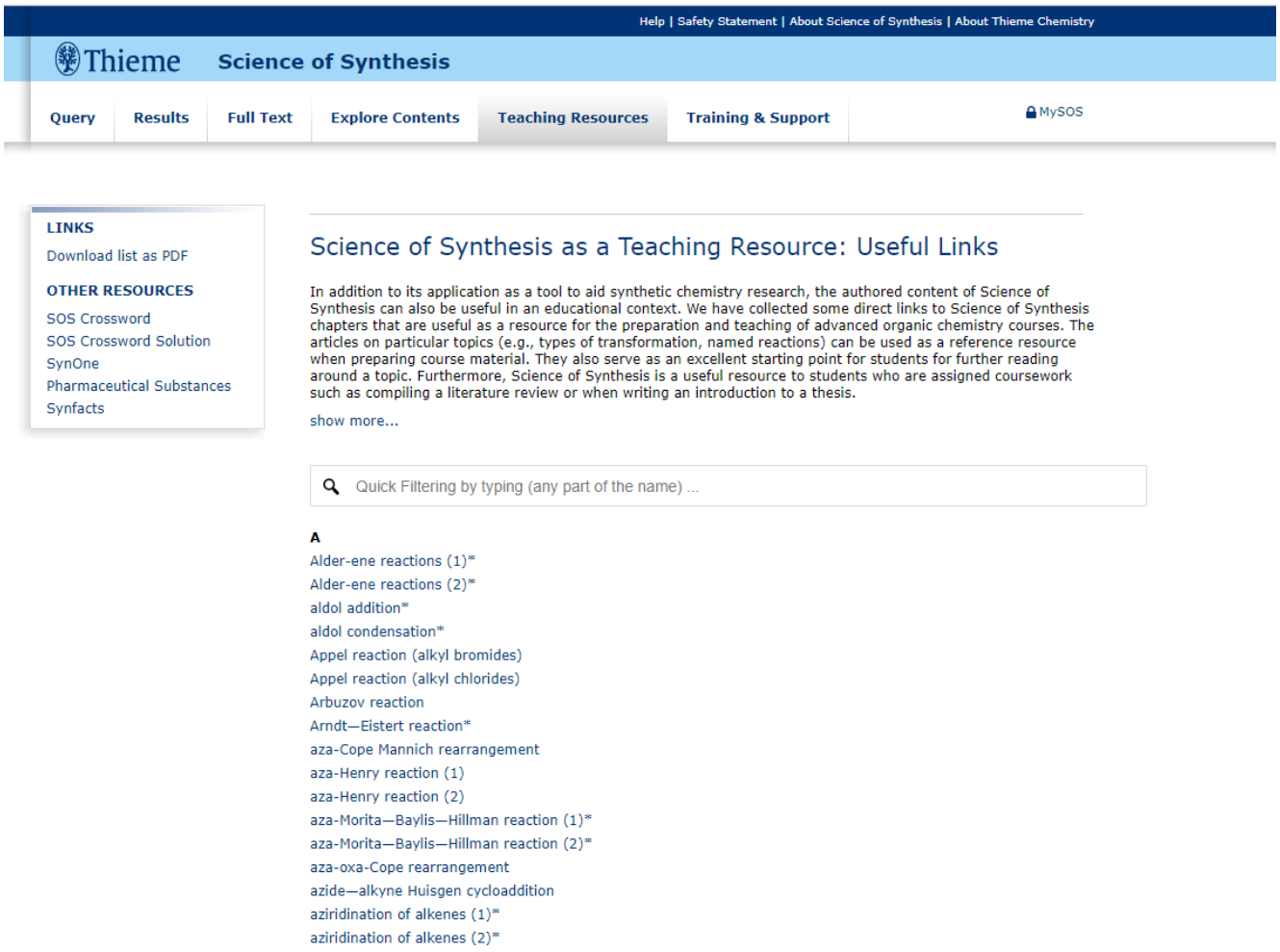




Software:

Additional links added to Teaching Resources

The **Teaching Resources** page of SOS has been updated with over 60 new entries to reflect new content added as well as inclusion of some additional named reactions.



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