
EDITORIAL



Dear Readers of CHIMIA

You have in your hand an issue of CHIMIA dedicated to 'Hot Topics' review articles. The first article '**Artificial Metalloenzymes for Enantioselective Catalysis Based on the Biotin-Avidin Technology**' is written by Jincheng Mao and Thomas R. Ward. Artificial metalloenzymes, based on the incorporation of a biotinylated catalytically active organometallic moiety within streptavidin, represent an attractive alternative to homogeneous, heterogeneous and enzymatic catalysis. This innovative strategy for catalysis has been recently developed in the Ward's group and has led to very impressive results. In this account,

the authors outline their recent results in the developments of such artificial metalloenzymes for various asymmetric transformations, including hydrogenation, transfer hydrogenation, allylic alkylation and sulfoxidation. The second article '**Recent Developments in Arene Photocycloadditions**' by Ursula Streit and Christian G. Bochet summarizes the latest advances in the field of photocycloaddition of alkenes to aromatic systems. This fascinating reactivity of arenes, discovered more than half a century ago, offers many opportunities for the development of useful synthetic transformations that lead to an impressive enhancement of the structural complexity. This review illustrates the synthetic potential of these reactions and shows where future developments may take place. The third article '**Hexa-*peri*-hexabenzocoronenes – Controlling their Self-Assembly by Engineering the Lateral Substituents**' by Olivier F. Aebischer, Bassam Alameddine, and Titus A. Jenny describes substituted hexa-*peri*-hexabenzocoronenes, an outstanding class of polyaromatic hydrocarbons that are well known to self-organize in solution into highly ordered columnar molecular stacks. These compounds are finding increasing interest in many applied fields, especially in molecular electronics. The fourth article entitled '**Orexin Receptor Antagonism: A New Principle in Neuroscience**' by Christoph Boss, Catherine Brisbare-Roch, Francois Jenck, Hamed Aissaoui, Ralf Koberstein, Thierry Sifferlen, and Thomas Weller summarizes recent research efforts to identify and characterize orexin receptor antagonists and their therapeutic potential for normalizing sleep in insomnia patients. Orexins are hypothalamic neuropeptides that are known to play an important role in the regulation of sleep-wake cycles in mammals.

The 'Hot Topics' review articles, introduced in 2006, are becoming an important part of CHIMIA. Some of these articles are being extremely well cited. For example, the very first 'Hot Topics' article written by Alexakis *et al.* entitled 'The Copper-Catalyzed Asymmetric Allylic Substitution' (CHIMIA 2006, 60, 124–130) has already been cited 39 times. Hot Topics articles are usually written by invitation. However, we strongly encourage authors to submit spontaneously short review articles to the editor-in-chief. We also strongly believe that CHIMIA may play an important role in allowing junior scientists to publish their first review articles under the supervision of their mentors. Indeed, many PhD theses contain introduction chapters that could become highly interesting 'Hot Topics' articles after limited editorial work.

I wish you a good read of this issue of CHIMIA.

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