



Universität Leipzig Fakultät für Chemie und Mineralogie Institut für Anorganische Chemie

Einladung zum Kolloquium

Am Mittwoch, den 15. Oktober 2014, 17:00 Uhr, spricht

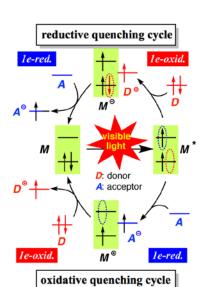
Herr Professor Dr. Munetaka AKITA

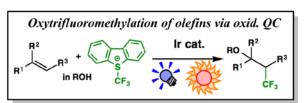
Chemical Resources Laboratory, Tokyo Institute of Technology, Japan

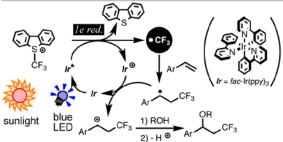
zum Thema:

Photoredox Catalysis: Inorganic-based Organic Synthesis Promoted by Visible Light

The sun provides huge and inexhaustible energy and has been regarded as a source of clean energy. While much effort has been devoted to development of transformations of small inorganic molecules (e.g. water splitting and CO₂ reduction) promoted by visible light (sunlight), little attention has been paid to application to







organic transformations. During the last decade several research groups including us have developed organic "photoredox catalysis" using the photoharnessing [Ru(bipy)₃]²⁺ and related Ir species (denoted as **M**).

Visible light irradiation of **M** generates the excited species **M*** with two SO-MOs, which can promote oxidation and reduction of external substrates via SET processes in one catalytic cycle (reductive and oxidative quenching

cycles) with no need of addition of any sacrificial reagent (redox-neutral) to generate two types of organic radical species, \mathbf{D}^+ and \mathbf{A}^- , regarded as versatile synthetic intermediates.

On the basis of this principle, we developed a series of transformations of olefinic substrates including oxyamination, C-C bond formation reactions, double functionalization, and trifluoromethylation.

Ort: Fakultät für Chemie und Mineralogie, Johannisallee 29, kl. HS 015, 04103 Leipzig

Alle Interessenten sind zu diesem Vortrag herzlich eingeladen.

Prof. Dr. B. Kersting GDCh-Ortsverband

Prof. Dr. D. Belder Dekan Die Professoren des Institutes für Anorganische Chemie

Nähere Informationen bei Frau Professor Dr. Dr. h.c. E. Hey-Hawkins, Tel.: 36151