



Einladung zum Vortrag von

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**„Photochemical CO₂ Reduction Catalyzed By Mono-
And Dinuclear Phenanthroline-Extended Tetrame-
sityl Porphyrin Complexes”**

The catalytic reduction of CO₂ to CO or into liquid fuels represents a crucial challenge due to the global warming problem and the fossil fuel scarceness. This energy demanding process is favorably driven using sunlight as energy source.[1,2]

Fujita and Neta could show that iron and cobalt porphyrins are suitable for photochemical CO₂ reduction.[3] We like to develop their system further and use mono- and dinuclear complexes with a phenanthroline-extended tetramesityl porphyrin ligand (H₂-1).[4] This ligand can selectively coordinate a second metal fragment in the phenanthroline coordination sphere while any other metal can reside in the porphyrin cavity. This allowed the construction of multiple heterodinuclear compounds and the influence of any metal center on the lightdriven CO₂ reduction activity could be tested.

Thorough catalytic investigations on M-1 compounds (M = 2H, Cu, Pd, Co, FeCl) with or without a second metal fragment attached (i.e. a Ru(tbbpy)₂ or Re(CO)₃Cl fragment) were done in DMF saturated with CO₂ and in the presence of triethylamine (TEA) as sacrificial electron donor.

Donnerstag, 19. November 2015, 15:00 Uhr

Institut für Theoretische Chemie
Seminarraum 415-417, 4. Stock
Währinger Straße 17, 1090 Wien

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