Research Project for Master Students

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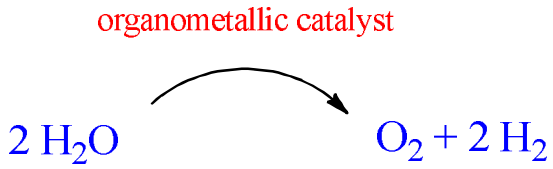
Catalytic Water Oxidation: splitting water to produce H_2

Nature utilizes solar energy to extract electrons and release protons from water, a process called photosynthetic water oxidation. Inspired by this natural process, chemists are intensely interested in using sunlight to split water and form O_2 and H_2. This process will allow to covert and store solar energy into chemical energy. The critical challenge to practical water splitting schemes is the development of water oxidation catalysts (WOCs).

The aim of this project is to develop WOCs by preparing robust organometallic complexes.



Students enrolled in this project will gain expertise in synthetic organometallic chemistry and in characterization techniques.

Area: Chemistry, Synthetic organometallic chemistry, Homogeneous catalysis.

Institution: Instituto de Tecnologia Química e Biológica (ITQB)– Homogeneous Catalysis Lab