“Surface Organometallic Chemistry on MOFs, POPs and inorganic oxides for CO_2 and N_2 reduction: en route to renewable energies storage”

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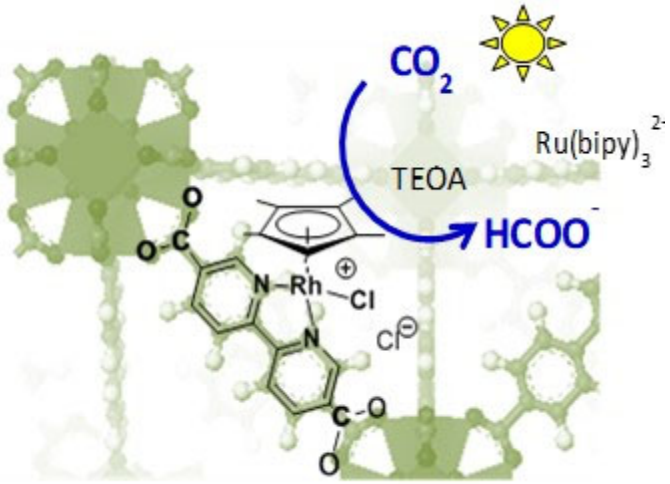
CO_2, N_2 can be key vector molecules to renewable energy insertion in the value chain of process industry [1]. A frontier in catalysis connected with this challenge is the development robust and stable solid catalysts which can be integrated in 3D devices capable of harvesting renewable energy (be it a “green electron”[1b] or photon). Some recent research results around N_2 activation, CO_2 catalytic reduction and HER developed by surface organometallic chemistry to which I contributed will be presented here.[2]



1. [a] Themed issue “Harvesting renewable energy with Chemistry” *Green Chemistry*, 19 (10), pages 2299-2464 (2017). [b] Quadrelli, E.A. *Green Chemistry*, 2016, 18, 328.

2 [a] “*Molecular Porous Photosystems Tailored for Long-Term Photocatalytic CO2 Reduction*” F. M. Wisser,* et al. **Angew. Chem. Int. Ed.** 2020, 59,5116 [b] “*Electrocatalytic Performance of Titania Nanotube Arrays Coated with MoS2 by ALD toward the Hydrogen Evolution Reaction*” [c] Y. Cao, Y. Wu, C. Badie, S. Cadot, C. Camp, E. A. Quadrelli, and J.Bachmann* **ACS Omega** 2019, 4, 5, 8816 Marepally et al. ***ChemSusChem*** 10, 4442 (2017).