



SINCHEM PhD subject
Upgrading of oleochemicals from biorefineries by selective oxidation
catalysis

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Fatty acids are valuable platform chemicals issued from biomass, whose catalytic upgrading plays a pivotal role in the production of important industrial products (detergent, plasticizers, lubricants, bioplastics,...).

The selective oxidation of double bonds present in unsaturated fatty acids necessitates the development of performing well-defined heterogeneous catalysts, capable of using mild oxidants such as H_2O_2 , $t\text{BuOOH}$ or even benign O_2 . This thesis will develop single-site molecularly precise heterogeneous catalysts, inspired by the active silica-supported deperoxidation Ta(V) catalyst reported in the figure below and apply them to the selective oxidation of oleochemicals issued from biomass.

