Design of vanadium based catalysts on mesoporous supports for the oxidative dehydrogenation of propane

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Oxidative Dehydrogenation (ODH) possesses a great deal of beneficial characteristics and is a promising route toward selective olefin production. ODH is more attractive than other processes such as steam cracking, FCC and catalytic dehydrogenation due to its exothermic characteristic and the lack of thermodynamic limitations.

The focus of this research lies on vanadium based catalysts. Vanadium containing catalyst are widely used for several dehydrogenation due to its exothermic characteristic and the lack of thermodynamic limitations.

In this project VOx has been deposited on mesoporous silica, with and without the addition of tungsten oxide, and hybrid mesoporous silica/titania materials.

For future work, VOx will be deposited on mesoporous titania with and without the addition of WOx.

Future work: vanadium and/or tungsten oxide deposition on mesoporous titania and pending catalytic testing.