



Research Doctorate (Ph.D.) in Chemical Sciences
32nd Cycle – Academic Year 2016/2017

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Project Information

1 - Title

Catalysis and kinetics of levulinic acid esterification for the production of chemicals.

2 - Key words

Heterogeneous catalysis, Kinetics, Succinic Acid, Levulinic Acid

3 - Abstract

Different kind of chemical and biotechnological transformations were developed in order to obtain commercial products. Recently on the market several carboxylic acids derived from biomass have been proposed. One of the most important is levulinic acid (obtained by chemical acid hydrolysis of biomass). The esterification of carboxylic acids with alcohols is a hot topic of the modern bio-refinery, to produce, for example, solvents, plasticizers. Depending on the desired final product, it is possible to modulate both the choice of the alcohol as a raw material, and the catalyst.

The main purpose of the presented project is to perform an intensive screening on the alcohol/catalyst system with the aim of individuate the main factors that influence the reaction for optimizing the synthesis process.