

## Kinetics and mechanistics studies of glycerol hydrogenolysis over bifunctional catalysts

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Glycerol is a common by-product of the chemical industry (transesterification of vegetable oils – biofuels production), and it plays an important role in the context of renewable resources and sustainable chemistry. Its conversion through hydrogenolysis increases the options to produce important value-added chemicals [1]. In this work, we provide an extended overview of this reaction – focusing both on products of interest and by-products – and highlight the characteristics of the catalyst before and after the reaction. Different reaction conditions lead to different modifications of the catalyst in terms of structural and physico-chemical properties that have been investigated via X-Ray Diffraction (crystallinity), IR-pyridine adsorption (availability and nature of acid sites), physisorption (BET – surface area), Thermogravimetric Analysis (coke deposition), X-Ray Photoelectron Spectroscopy and X-Ray Fluorescence (elemental distribution).

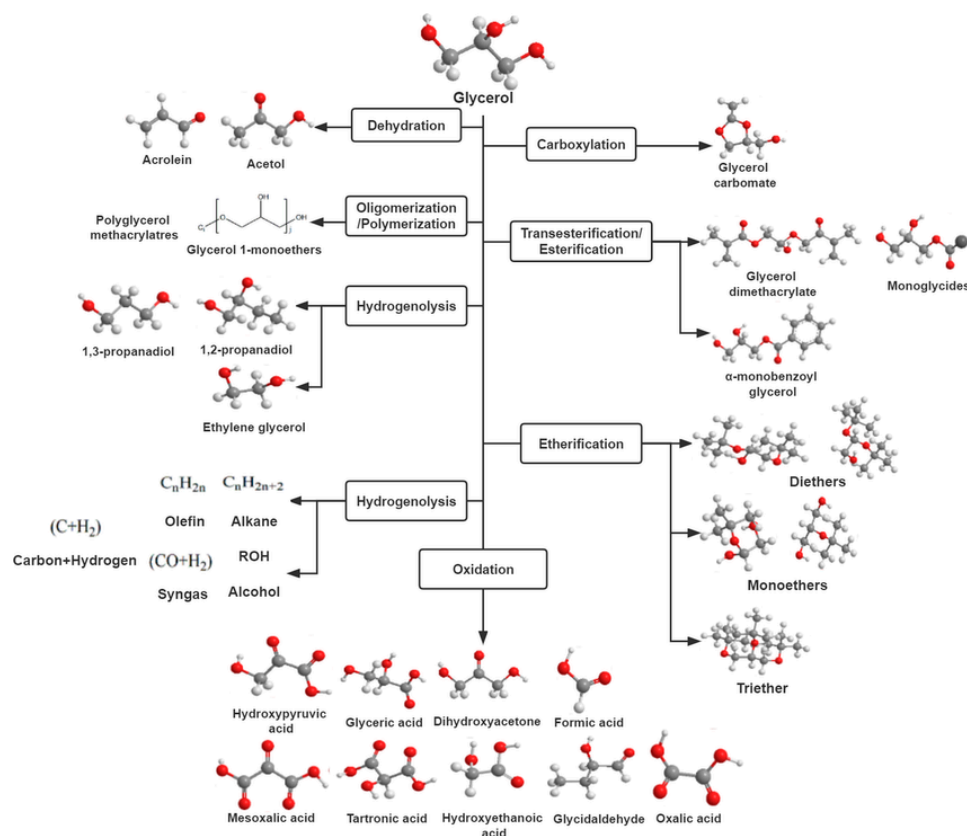


Figure 1: Reactions scheme for Glycerol conversion into value-added chemicals.