

Hydrogen production of APR over perovskite catalysts

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Glycerol as a promising source is a by-product of biodiesel production. Aqueous phase reforming (APR) have many advantages, ie., lower reaction temperature (200 – 250C), it is reducing the cost of the process. In addition at low temperature WGS (water gas shift) reaction generate hydrogen and carbon dioxide in a single step with low levels of carbon monoxide. In this work, hydrogen production from a glycerol by aqueous phase reforming process is studying by using metal loaded perovskite catalysts over supported Ni catalysts, which are frequently modified by the addition of promoters such as Ni, Pt, Fe, Cu and Zn, in order to improve their stability and selectivity. The structure of the perovskite – supported Ni, Pt, Fe, Cu and Zn catalysts is characterizing by XRD analysis. The surface area, morphology of the Ni, Pt, Fe, Cu and Zn on supports is examined by BET, and SEM respectively. The aqueous phase reforming of glycerol (APR) over metal loaded perovskite catalysts is investigating by using optimized reaction parameters.