

Production of hydrogen through aqueous phase reforming of ethylene glycol over ordered mesoporous carbon supported Pt bimetallic catalysts

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Catalytic activities of various Pt bimetallic catalysts for hydrogen production by aqueous phase reforming (APR) of 10wt% ethylene glycol (EG) solution were studied. Catalysts were characterized by X-ray powder diffraction (XRD), transmission electron microscopy (TEM), N₂-sorption, and CO chemisorption techniques. Pt bimetallic catalysts showed the better activities for the carbon conversion to gas, hydrogen yield and hydrogen production rate than Pt monometallic catalyst. In particular, among various catalysts tested in this study, the ordered mesoporous carbon (OMC) supported Pt-Re bimetallic catalyst exhibited the best catalytic activity.