

Improvement of Pt/CeO₂ catalysts for single stage water-gas shift (WGS) reaction via controlling the preparation conditions

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Single stage water-gas shift (WGS) reaction has been carried out at a gas hourly space velocity (GHSV) of 45,515 h⁻¹ over Pt/CeO₂ catalysts prepared by an incipient wetness impregnation method. The amount of Pt loading was fixed as 1 wt.%. Generally, the catalytic activity depends strongly on prepared conditions. Therefore, in this study, variable parameters such as calcination temperature, support yield (g support / batch) and pH have been systematically changed to optimize Pt/CeO₂ catalysts.