

## Hydrogen production by Autothermal reforming of propane over Ni impregnated perovskite catalysts

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Perovskite catalysts with a general formula of  $ABO_3$  exhibit high thermal stability and high oxygen storage capacity. A site metal in perovskite structure has a strong effect on thermal stability, while B site metal in perovskite structure acts active site. And it is well known that Ni metal is important active phase of Hydrogen reaction. So, to find optimum ratio of Ni, various ratio of Ni impregnated perovskite catalysts were tested. In this study, Ni impregnated perovskite catalysts were prepared by citric acid method of Sol-gel method. Ni (Xwt%)/ $LaFe_{0.5}Ni_{0.5}O_3$  perovskite catalysts (X=1, 5, 10, 15) were tested in constant pressure flow reactor with the reactant ratio of  $H_2O/C_3H_8/O_2=8.96/1.0/1.1$ . XRD, TGA, TEM and SEM were used to investigate morphologic construction, dispersion of metal, carbon deposition analysis, respectively.