

Supplementary Information

Figure S1 Scanning electron microscope image of 10% Ni/5% La₂O₃/ZrO₂ catalyst.

Figure S2 H₂ temperature-programmed reduction profiles of catalysts with different La promoters.

Figure S3 CO₂ temperature-programmed desorption profiles of catalysts with different La promoters.

Figure S4 Stability and regeneration test of 10% Ni/5% La₂O₃/ZrO₂ in sorbitol hydrogenolysis to glycols. Reaction conditions: 10% sorbitol contained in an aqueous solution of 40 ml; catalyst amount = 1 g; temperature = 220°C; initial H₂ pressure = 4 MPa; time = 4 h.

Figure S5 Thermogravimetry and derivative thermogravimetry profiles of 10% Ni/5% La₂O₃/ZrO₂ catalyst after sorbitol hydrogenolysis and drying at 100°C.

Scheme S1 Possible pathways for sorbitol hydrogenolysis.

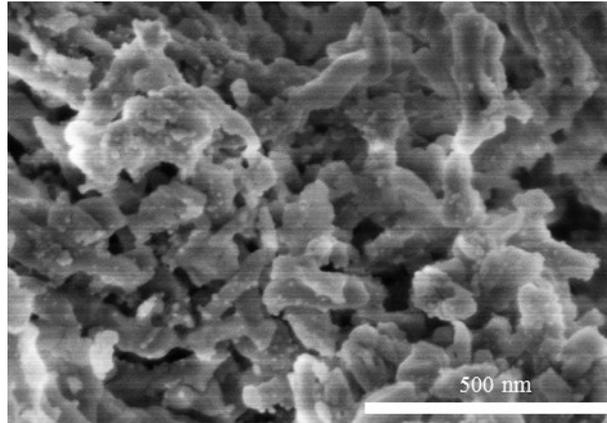


Figure S1 Scanning electron microscope image of 10%Ni/5% La₂O₃/ZrO₂ catalyst

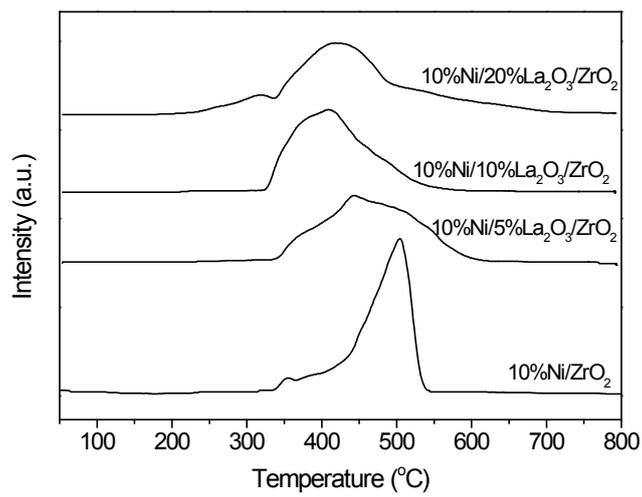


Figure S2 H₂ temperature-programmed reduction profiles of catalysts with different La promoters

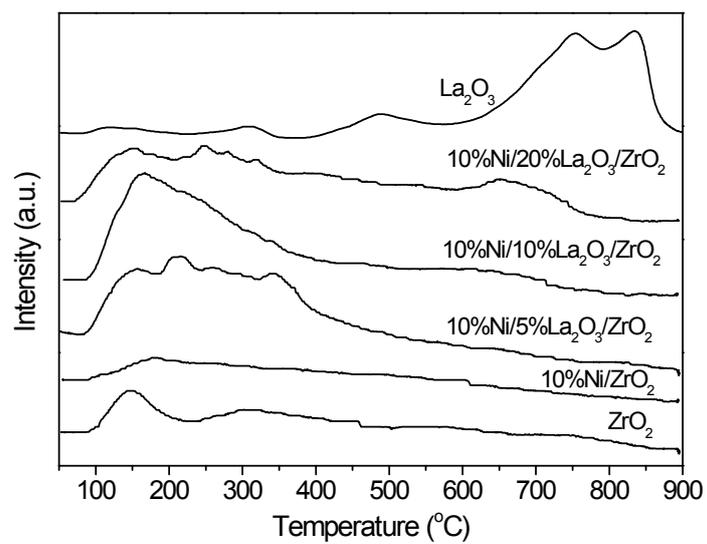


Figure S3 CO₂ temperature-programmed desorption profiles of catalysts with different La promoters

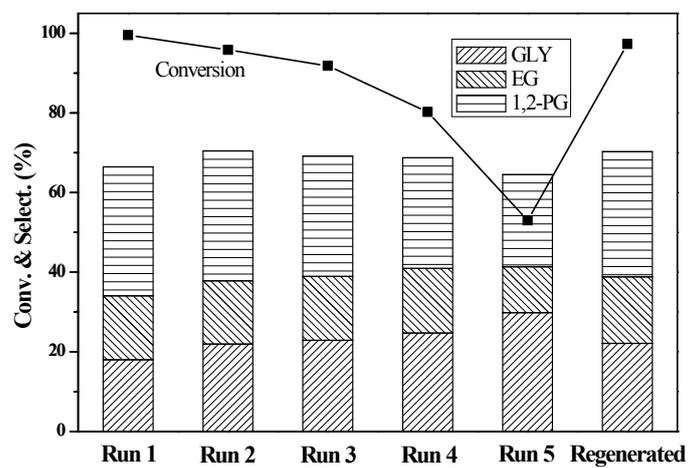


Figure S4 Stability and regeneration test of 10%Ni/5%La₂O₃/ZrO₂ in sorbitol hydrogenolysis to glycols. Reaction conditions: 10% sorbitol contained in an aqueous solution of 40 ml; catalyst amount = 1 g; temperature = 220°C; initial H₂ pressure = 4 MPa; time = 4 h.

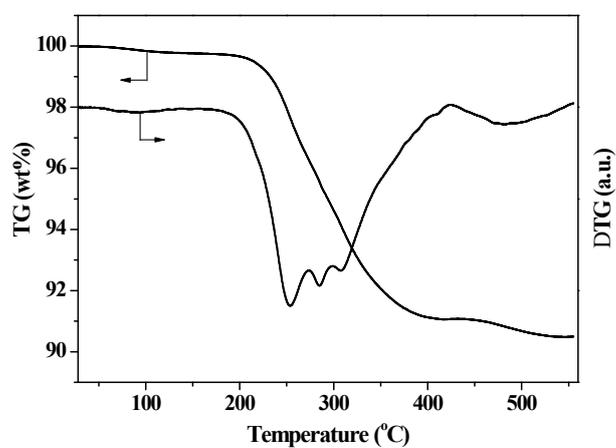
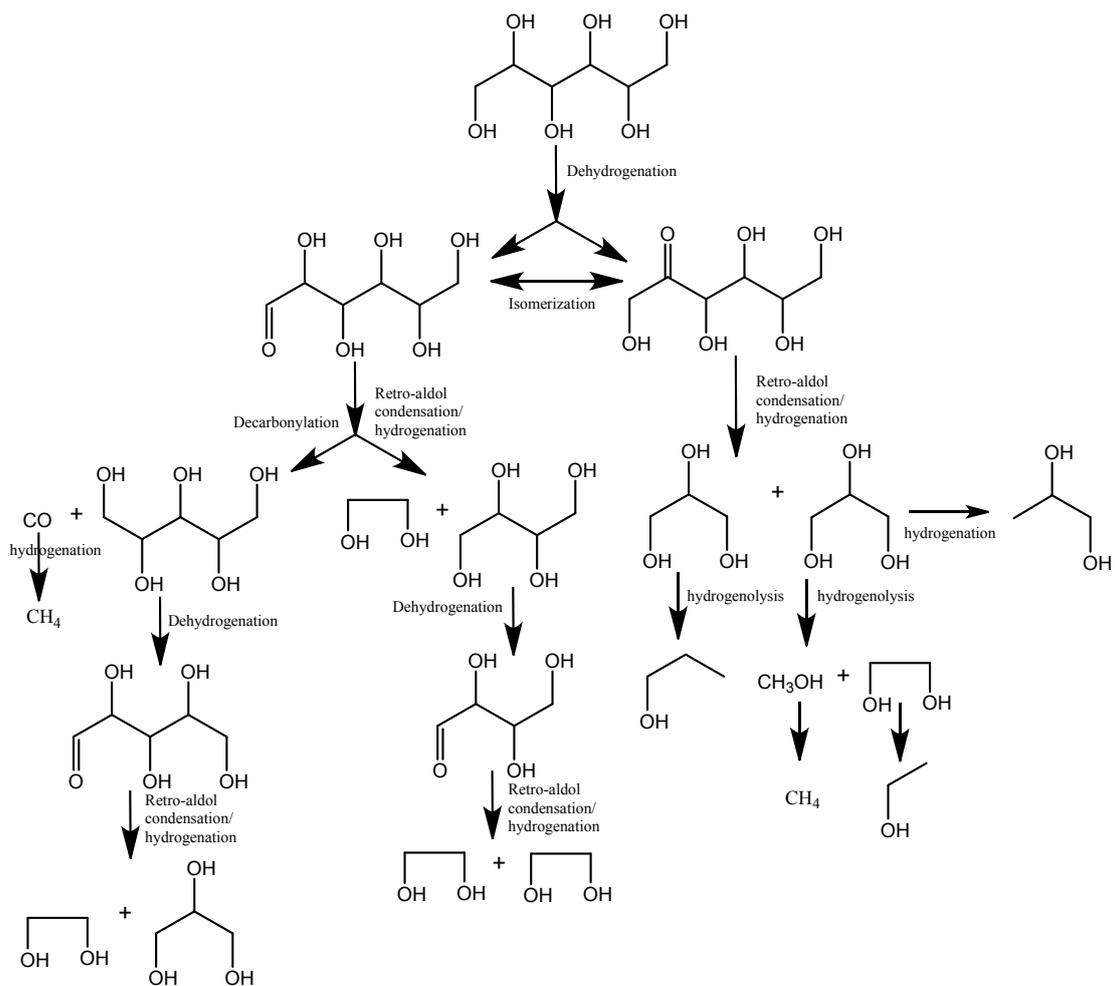


Figure S5 Thermogravimetry and derivative thermogravimetry profiles of 10%Ni/5%La₂O₃/ZrO₂ catalyst after sorbitol hydrogenolysis and drying at 100 °C.



Scheme S1 Possible pathways for sorbitol hydrogenolysis to glycols.