

# Glycerol Hydrogenolysis to Bio-Propanol: Catalytic Activity and Kinetic Model for Ni/C Modified with $\text{Al}(\text{H}_2\text{PO}_4)_3$

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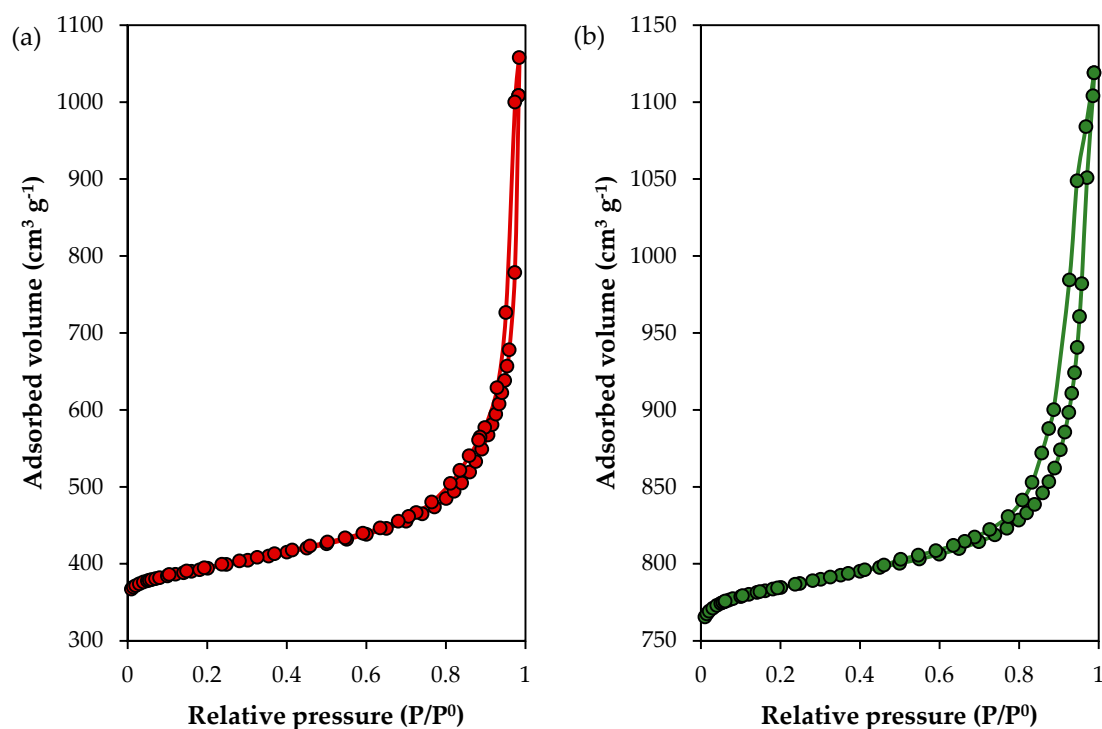


Figure S1.  $\text{N}_2$  adsorption-desorption isotherms for (a) CPAl; (b) Ni/CPAl.

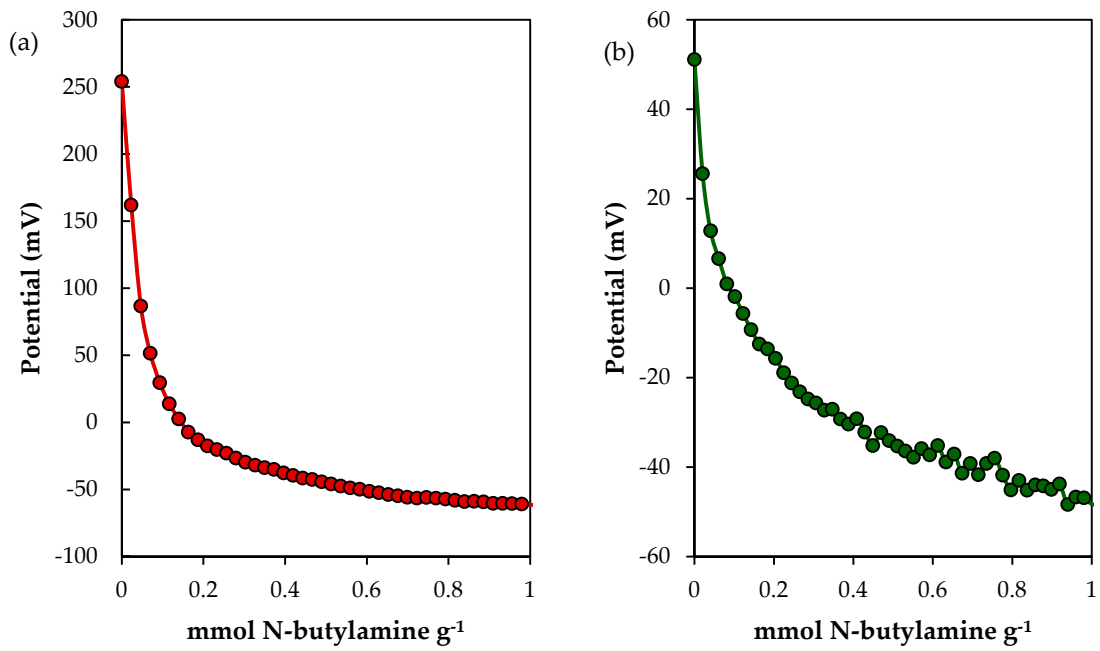


Figure S2. Potentiometric titration curves with n-butylamine in acetonitrile of (a) CPAl; (b) Ni/CPAl.

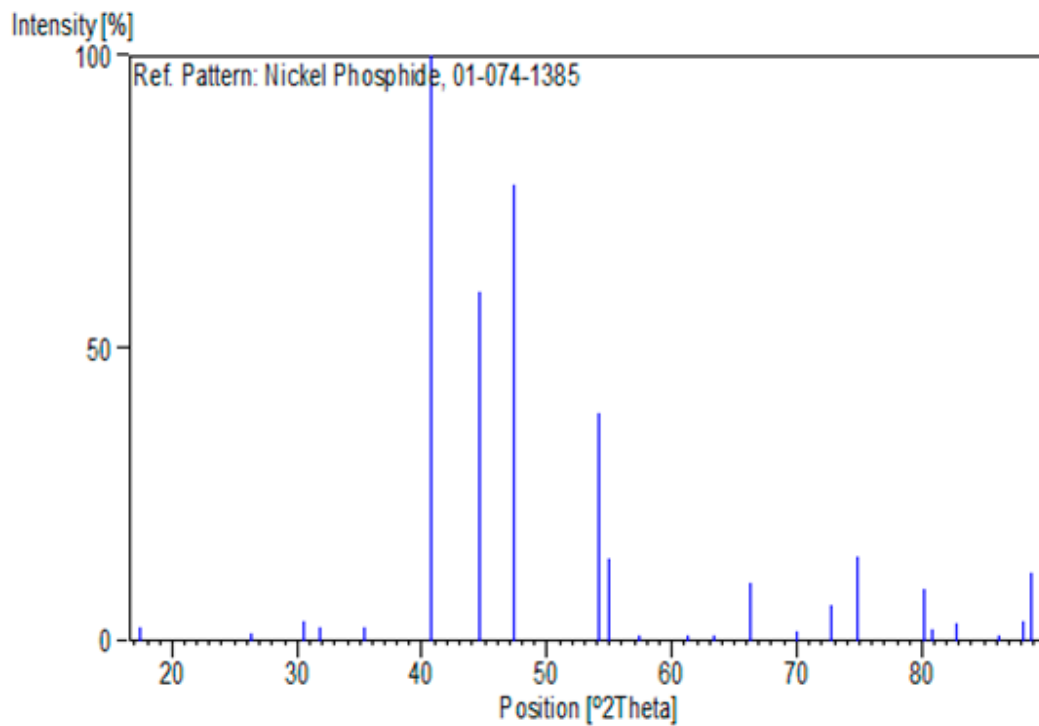
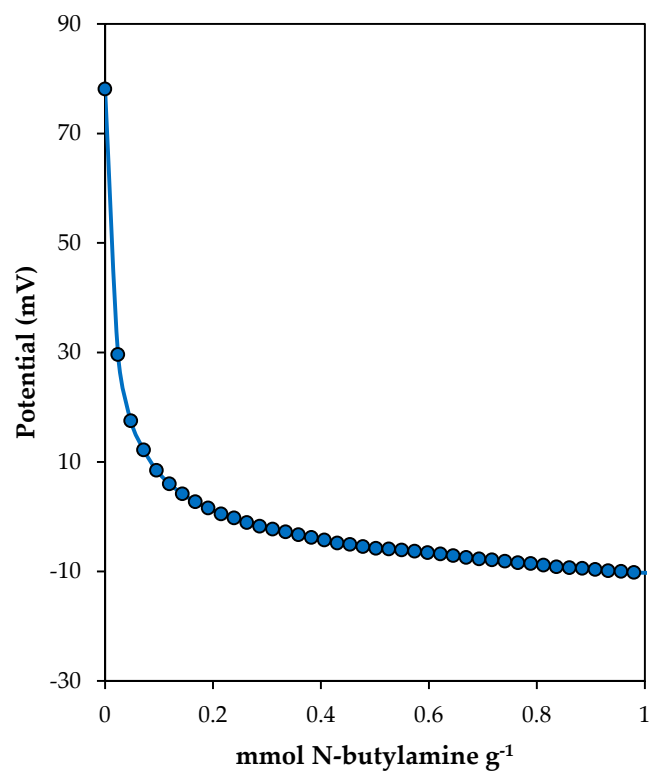
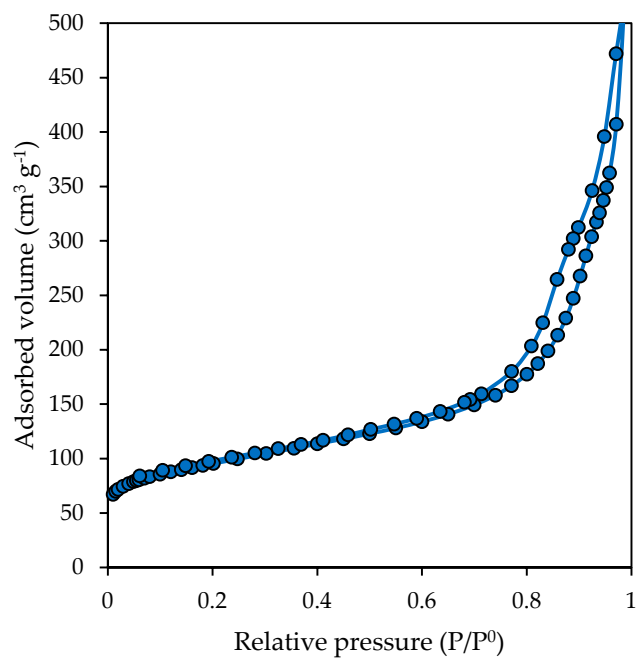


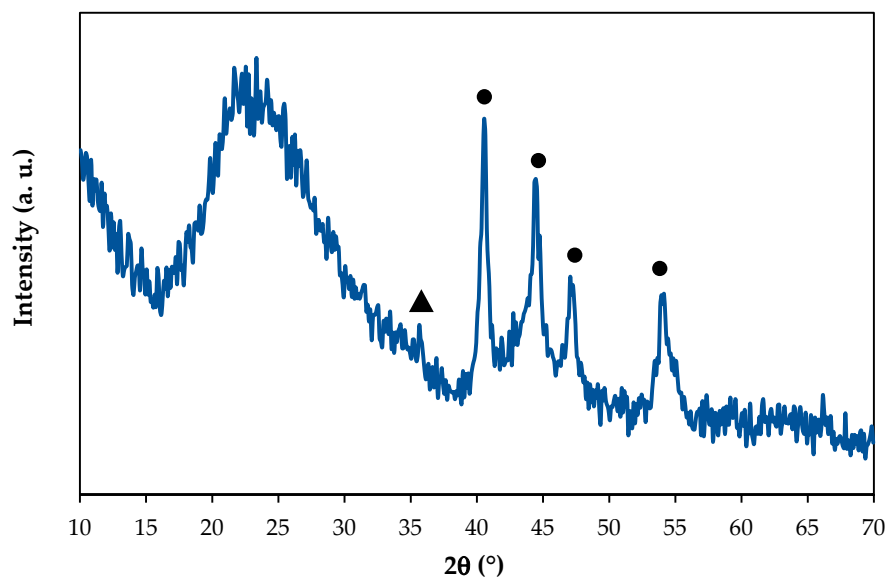
Figure S3. XRD spectra of Ni<sub>2</sub>P (JCPDS 74-1385).



**Figure S4.** Potentiometric titration of the Ni/CPAl catalyst used in a reaction cycle of 6 h at 260°C and 2 MPa of H<sub>2</sub>.



**Figure S5.** N<sub>2</sub> adsorption-desorption isotherms of the Ni/CPAl catalyst used in a reaction cycle of 6 h at 260°C and 2 MPa of H<sub>2</sub>.



**Figure S6.** XRD spectra of the Ni/CPAl catalyst used in a reaction cycle of 6 h at 260°C and 2 MPa of H<sub>2</sub>.