catalysts

Supporting Information: Ni-Pd/γ-Al_2O_3 catalysts in the hydrogenation of levulinic acid and hydroxymethylfurfural towards value added chemicals

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Figure S1 shows the XRD patterns of mono- and bi-metallic catalysts. Whatever the catalysts, the three characteristic values of angle 2θ at 37.54° (311), 45.67° (400) and 66.60° (440) corresponding to γ-Al_2O_3 were observed. For monometallic Ni catalysts, the signals at 2θ values of 44.09°, 51.70° and 76.09° associated with metallic Ni were identified. In the case of monometallic Pd and bimetallic catalysts, no clear reflexes corresponding to Pd were observed at ca. 40°. This resulted from the low amount and small size of the crystallites, as well as from the low crystallinity of the alumina support.

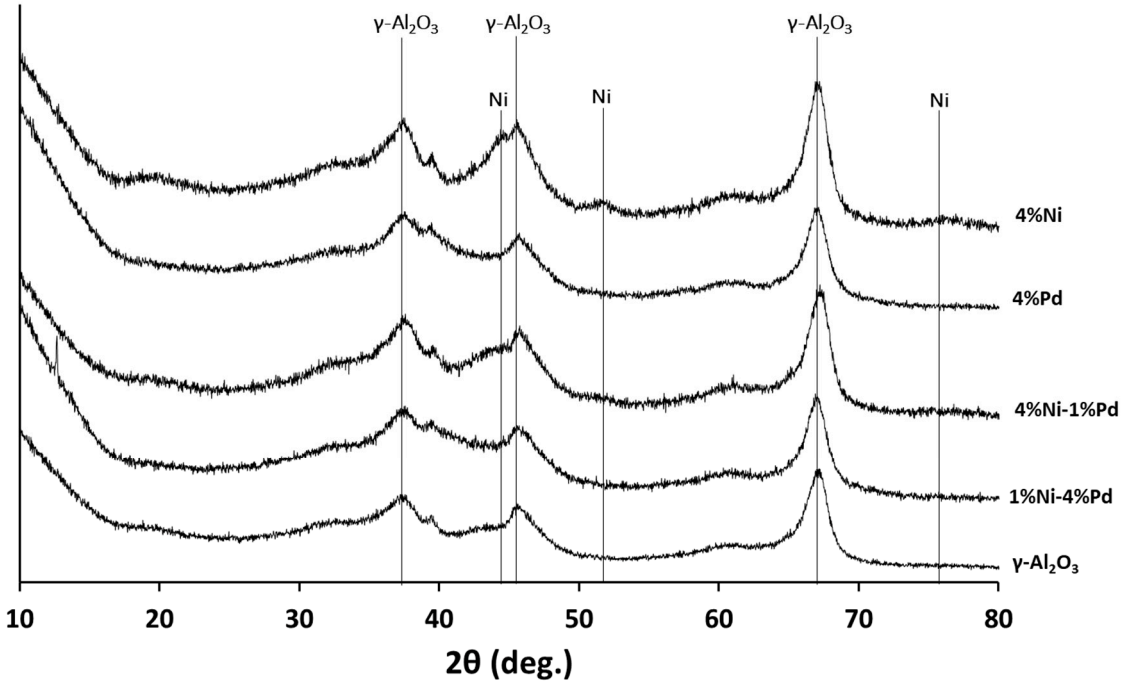


Figure S1. XRD patterns of mono- and bi-metallic catalysts.

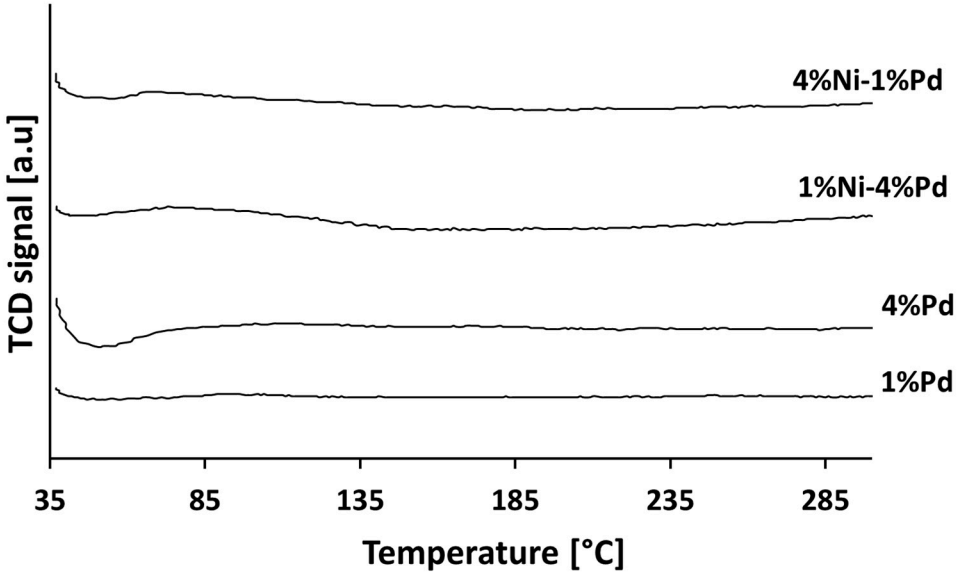


Figure S2. TPR profiles of the mono- and bi-metallic catalysts after the reduction step.

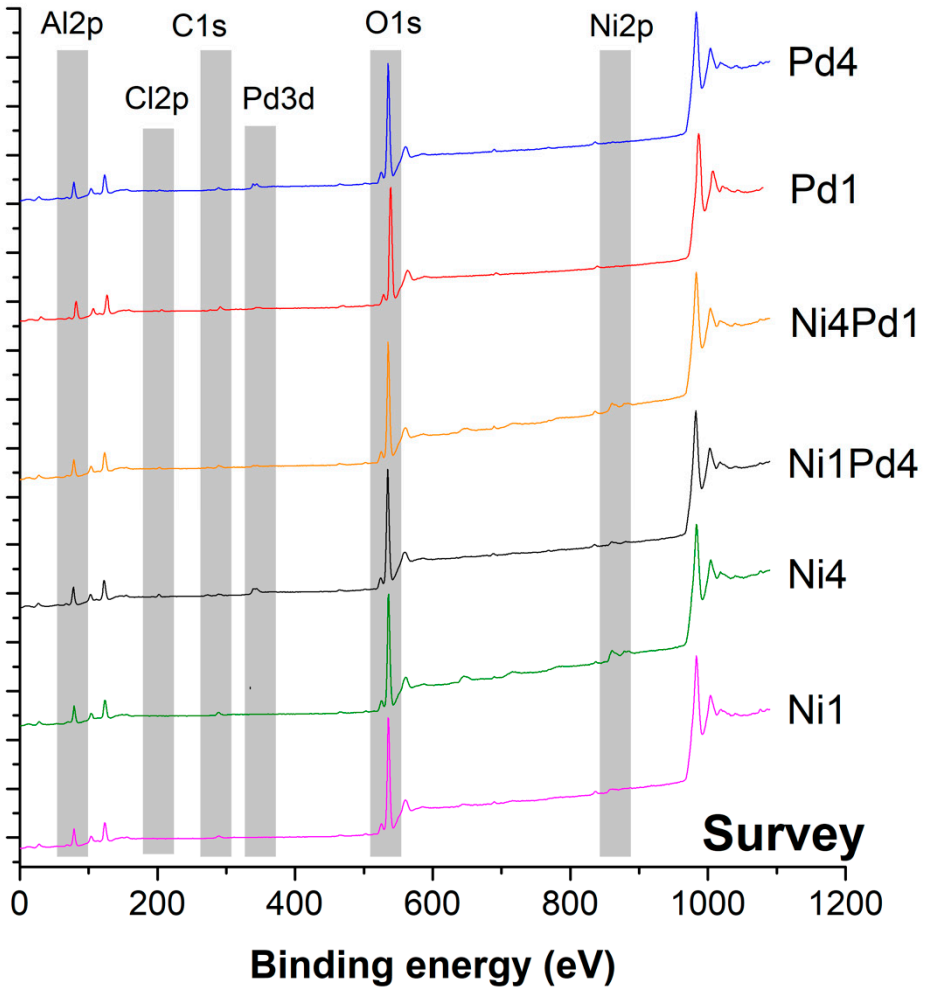
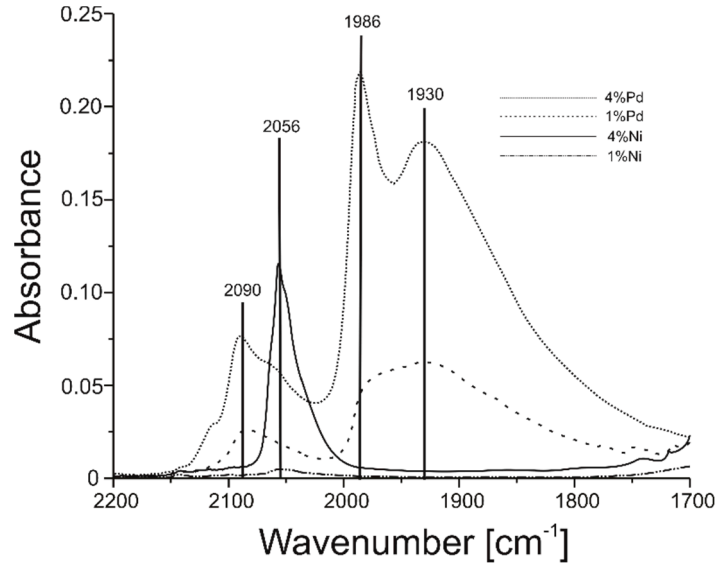
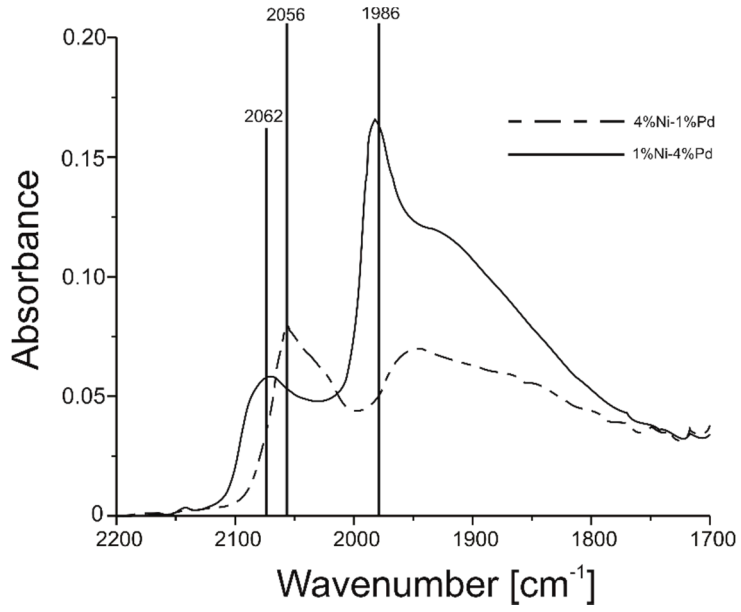


Figure S3. Wide scan survey XPS spectra of the mono and bimetallic catalysts.



(**a**)



(**b**)

Figure S4. FTIR spectra of CO adsorbed on the surface of (**a**) the monometallic and (**b**) the bimetallic catalysts recorded after CO evacuation.