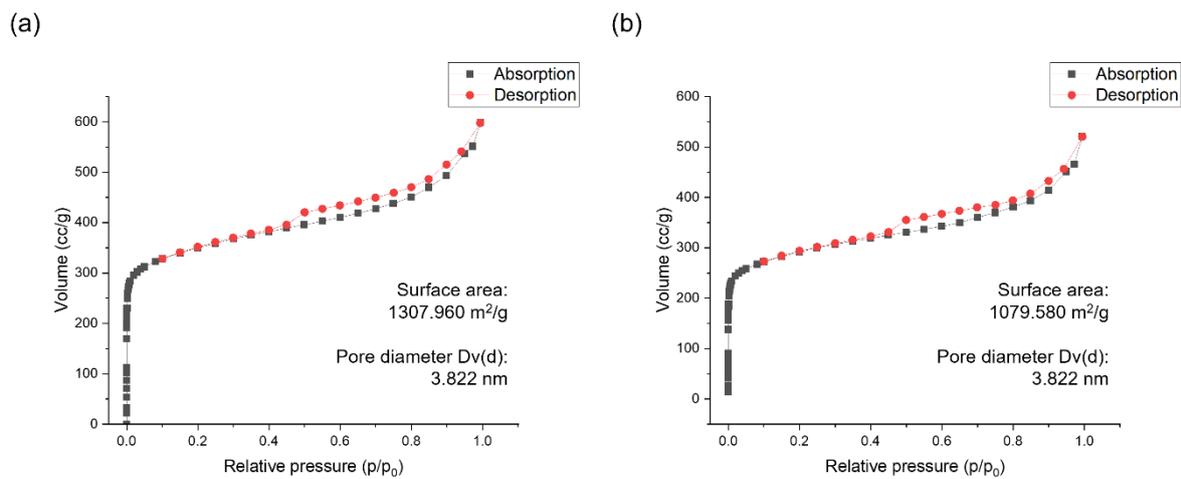
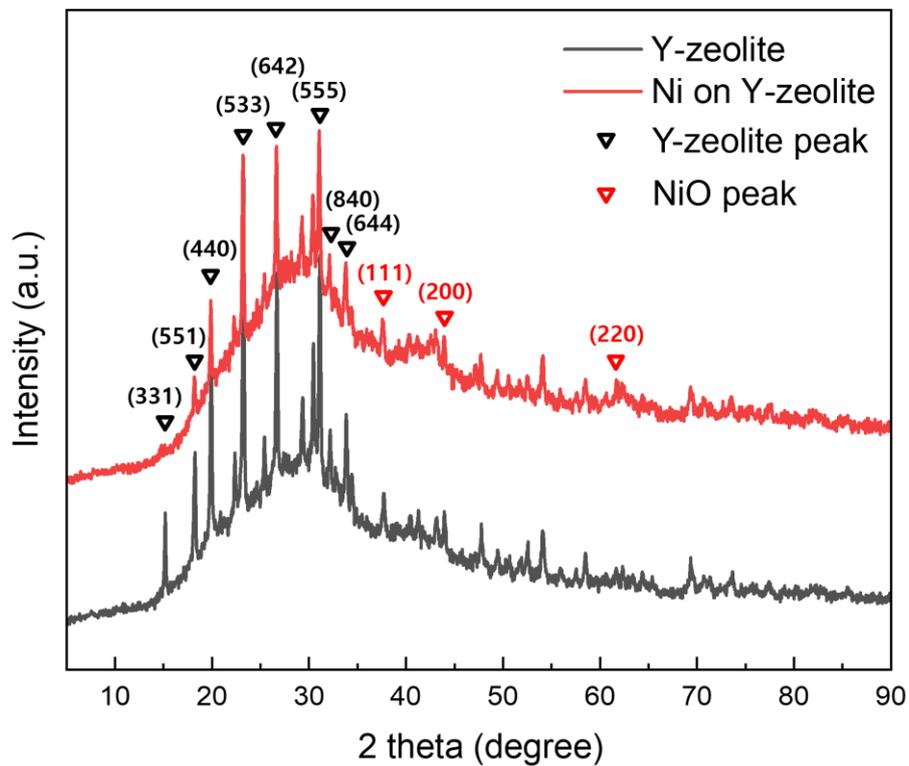


**Supplementary materials for:**

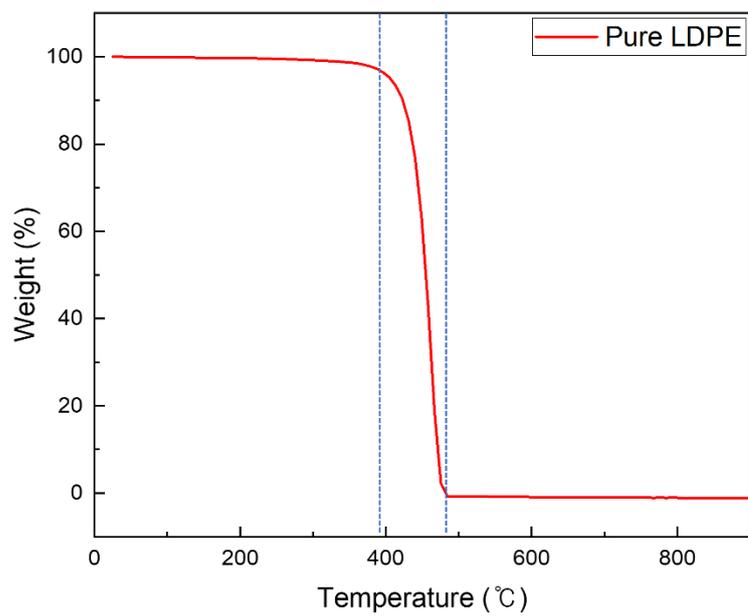
Conversion of Polyethylene to Low-Molecular-Weight Oil  
Products at Moderate Temperatures Using  
Nickel/Zeolite Nanocatalysts



**Figure S1.** Absorption(black)-desorption(red) nitrogen isotherms of the (a) Pure Y-zeolite (surface area 1307.960  $\text{m}^2/\text{g}$ ), (b) Nickel on Y-zeolite (surface area 1079.580  $\text{m}^2/\text{g}$ ).



**Figure S2.** X-ray diffraction spectra of nickel on Y-zeolite (red) and Y-zeolite (black). Due to nickel's polycrystalline structure, its XRD peak appears smaller and less prominent compared to that of zeolite, which forms a crystalline structure.



**Figure S3.** Thermogravimetric curve of pure LDPE at a heating rate of 10 °C/min under N<sub>2</sub> atmosphere.