

H-USY and H-ZSM-5 zeolites as catalysts for HDPE conversion under a hydrogen reductive atmosphere

(Supplementary information)

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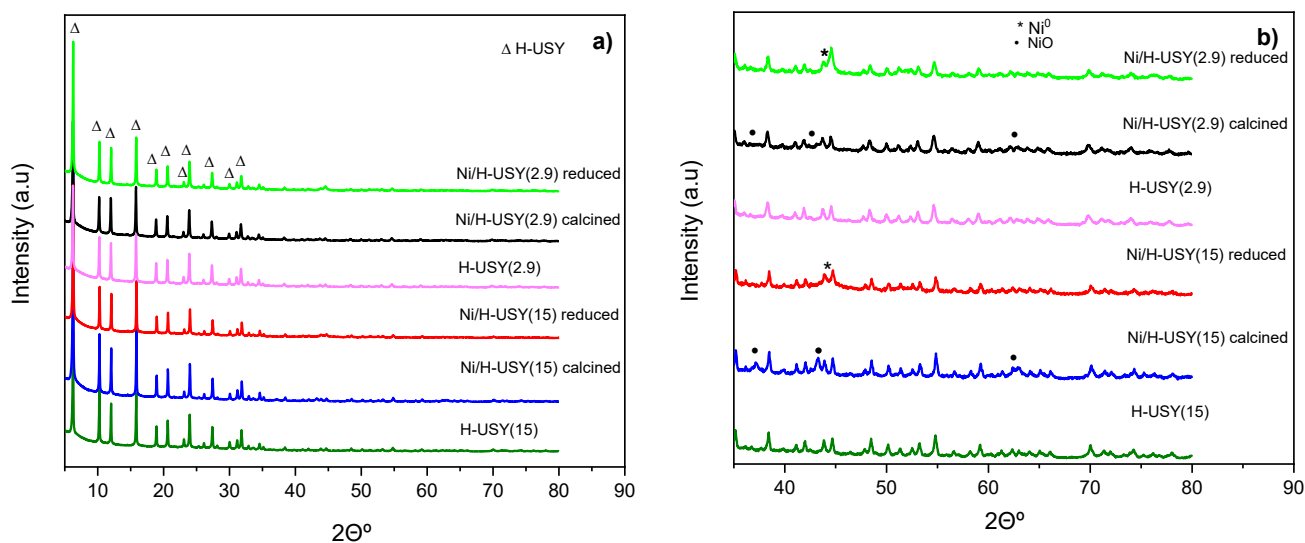


Figure S.1- PXRD diffractograms of calcined and reduced Ni/H-USY (b) Identification of NiO and Ni⁰ species on XRD diffractograms.

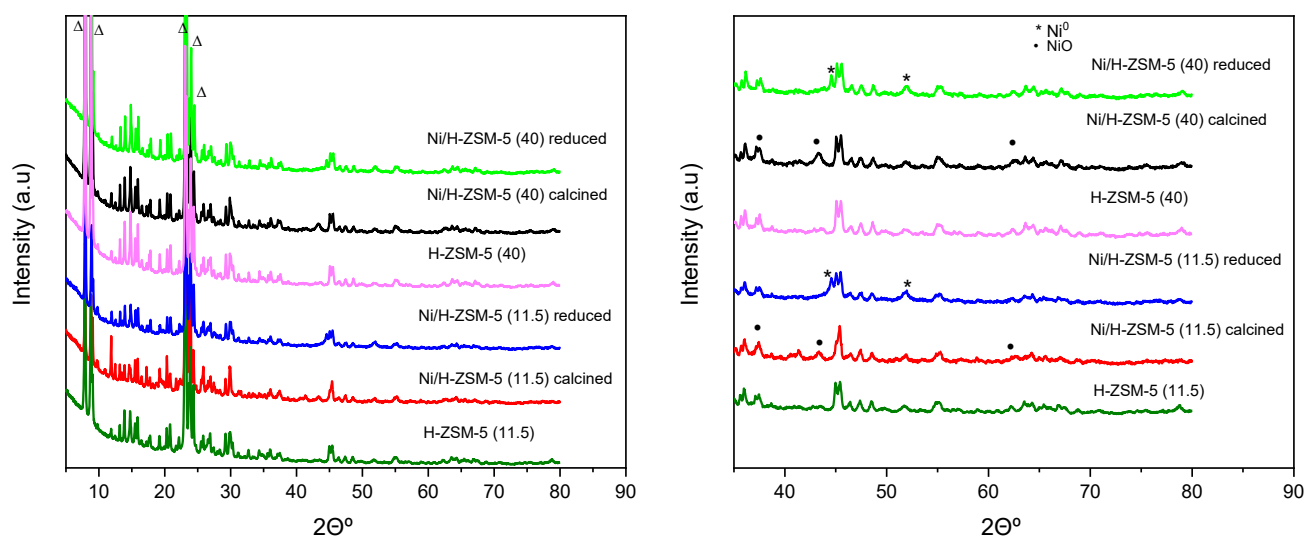


Figure S.2- PXRD diffractograms of calcined and reduced Ni/H-ZSM-5 (b) Identification of NiO and Ni⁰ species on XRD diffractograms.

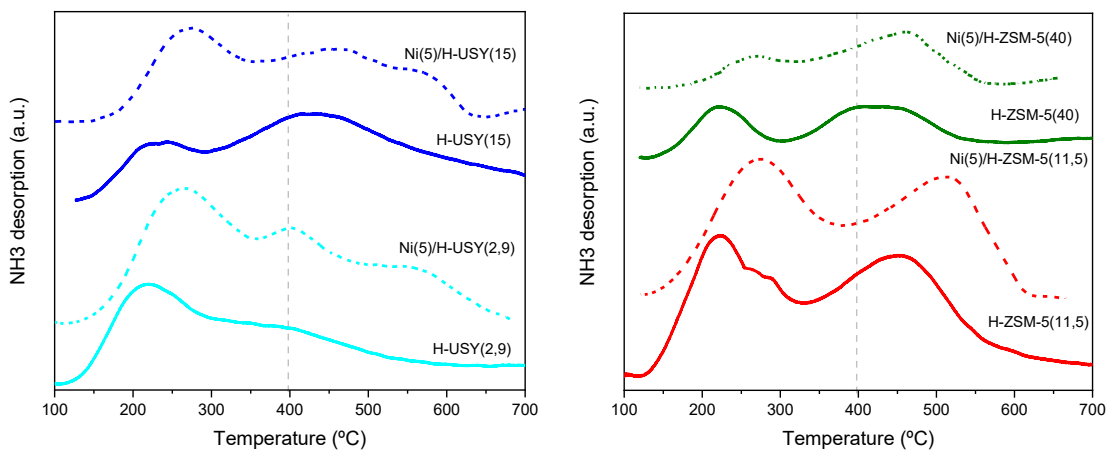


Figure S.3- NH_3 desorption patterns for parent and Ni based zeolites.

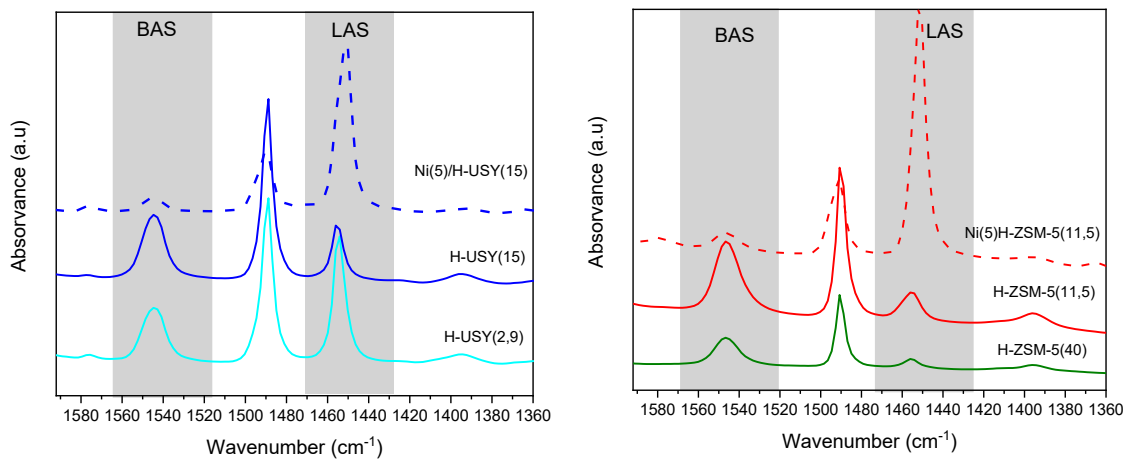


Figure S.4- FTIR spectra of adsorbed pyridine for parent and Ni based H-USY (a) and H-ZSM-5 (11.5)

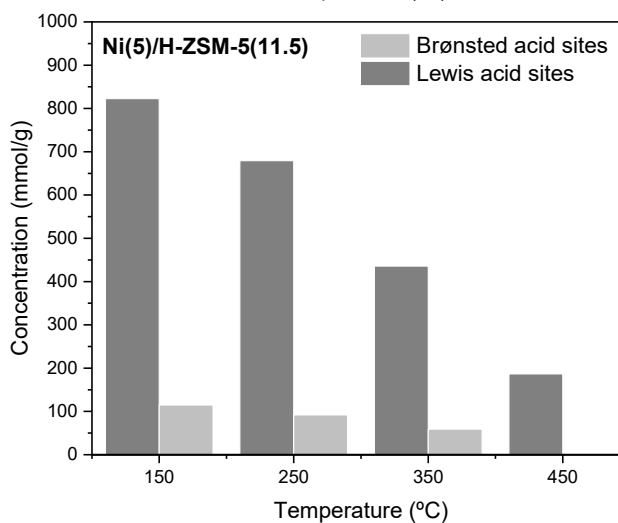
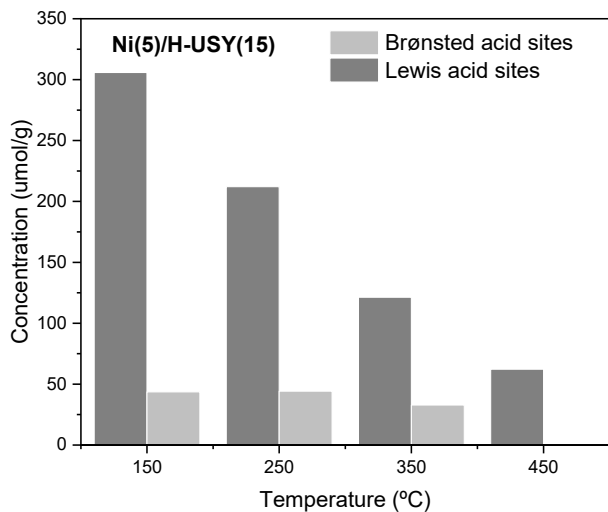
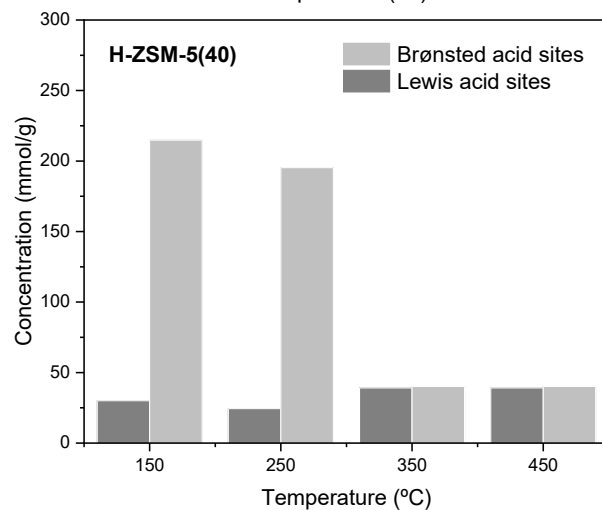
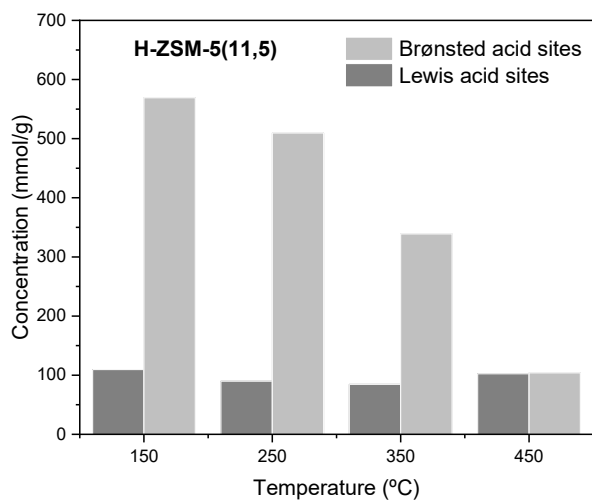
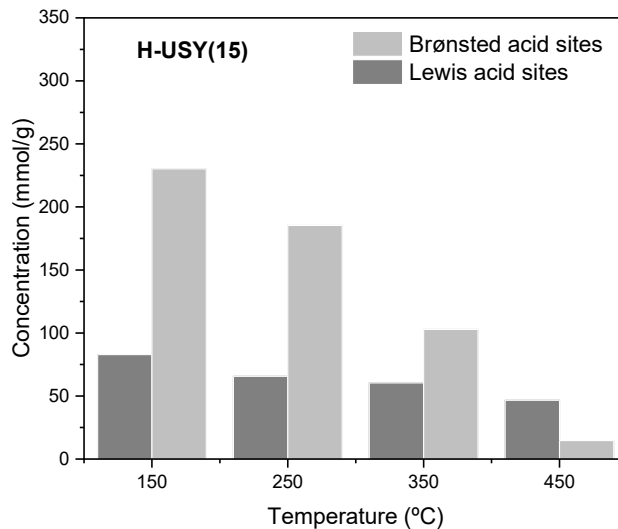
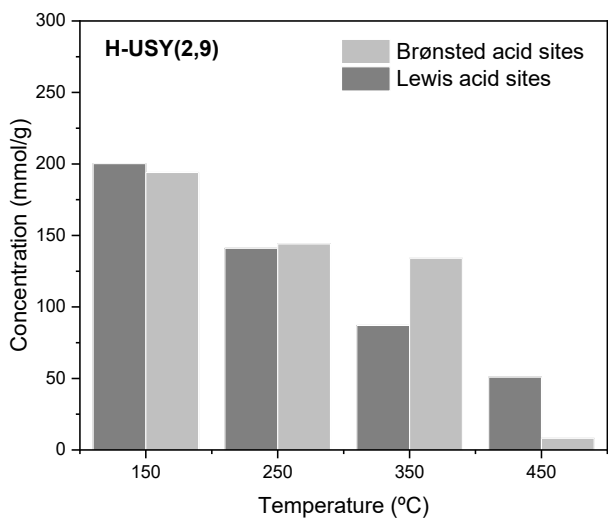


Figure S.5- Concentration of Lewis and Brønsted acid sites for distinct pyridine desorption temperatures.

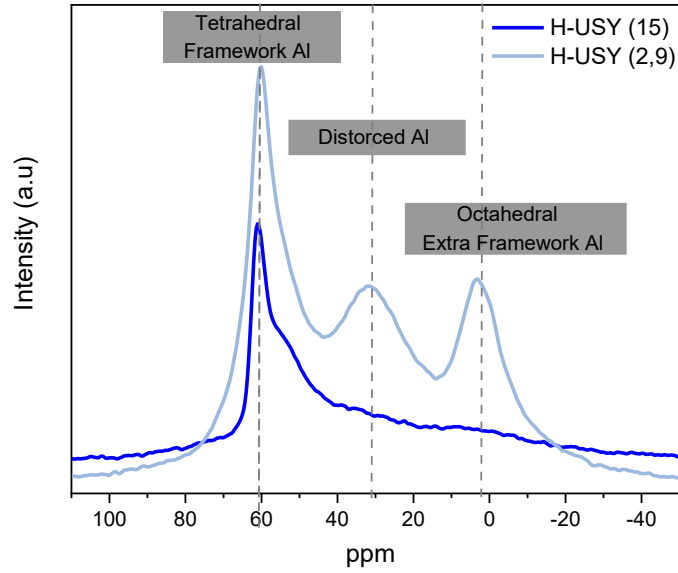


Figure S.6- ^{27}Al MAS NMR of H-USY (2,9) and H-USY (15)

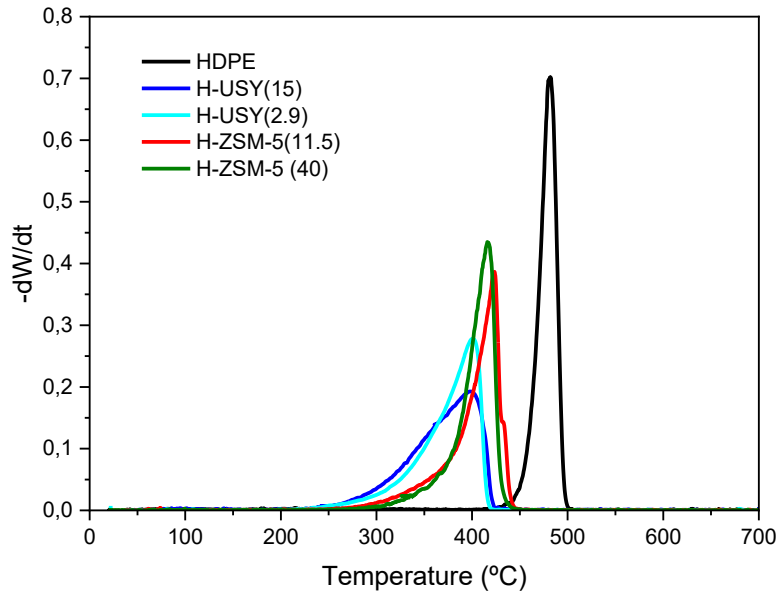


Figure S.7- DTG profiles obtained to HDPE hydrocracking in presence and absence of zeolites.