Supplementary data

for

Mg-modified ultra-stable Y type zeolite for the rapidly catalytic copyrolysis of low-rank coal and biomass

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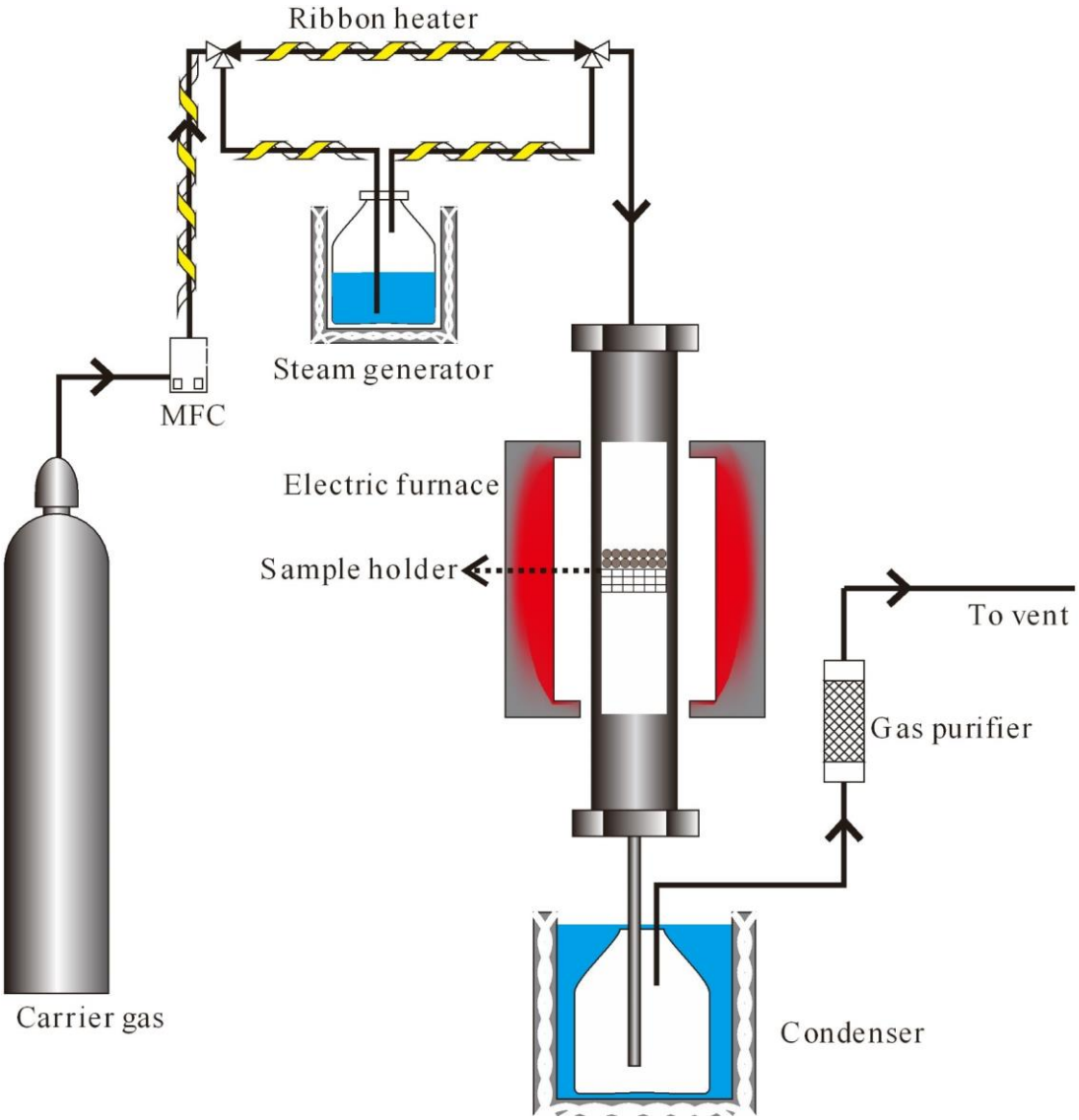

Fig.S1 Schematic diagram of a fixed bed reactor for steaming process.

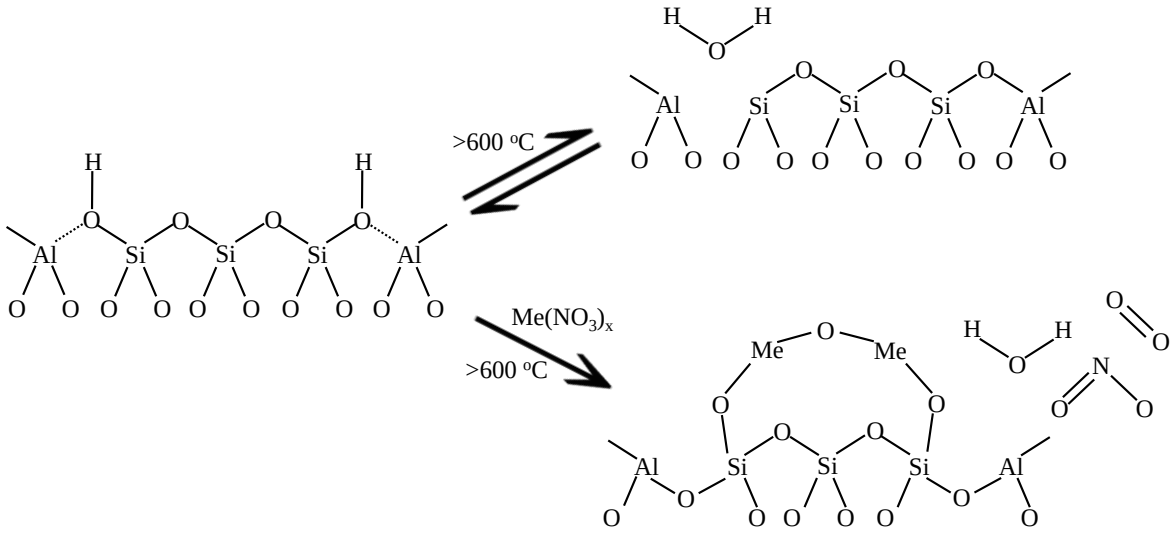

Fig.S2 The change of zeolite structure due to calcination with and without the presence of metal nitrate.

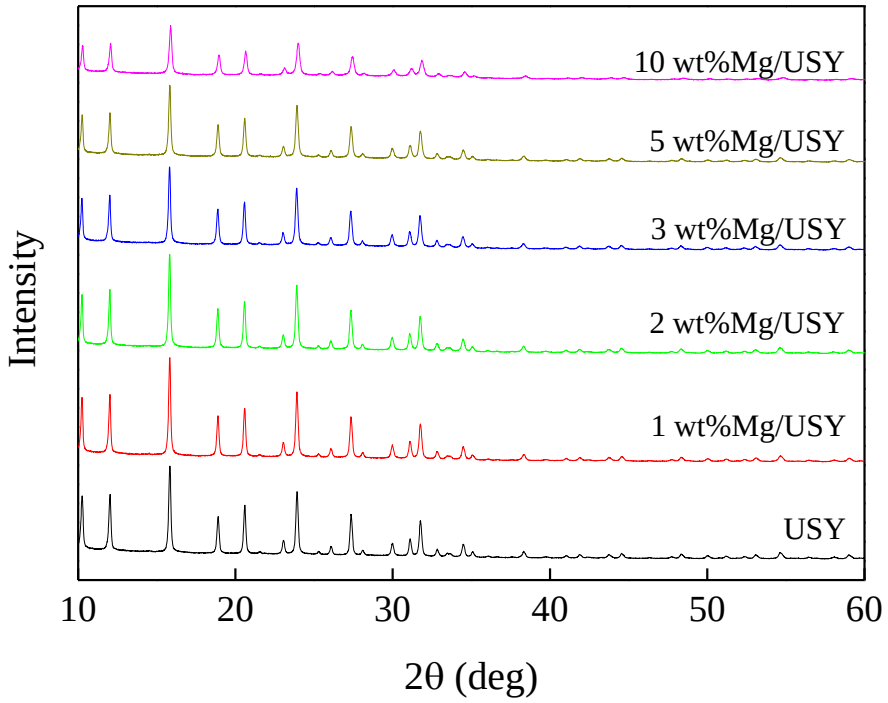

Fig.S3 XRD spectra of Mg/USY zeolites with various Mg loading amounts.

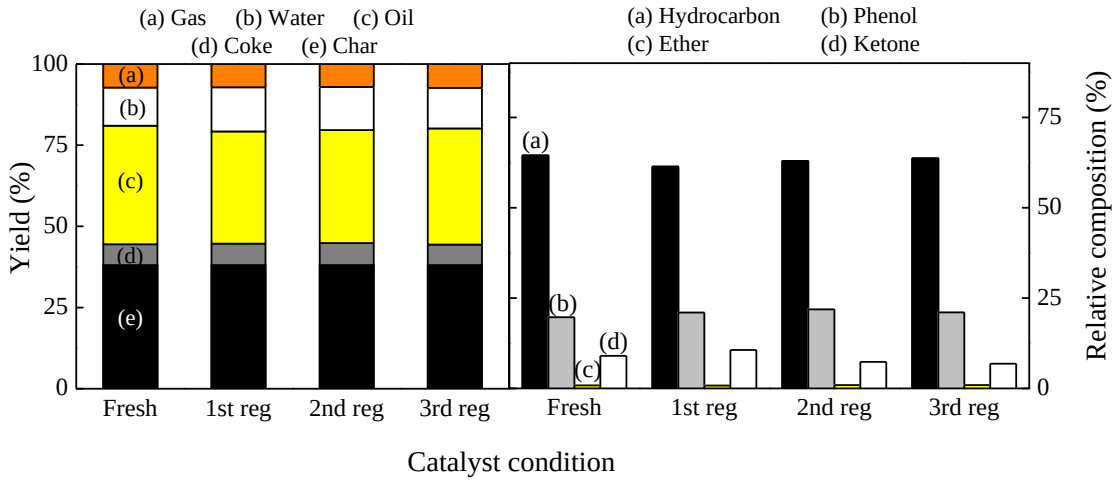

Fig.S4 Catalytic performance of regenerated Cu/USY zeolite.

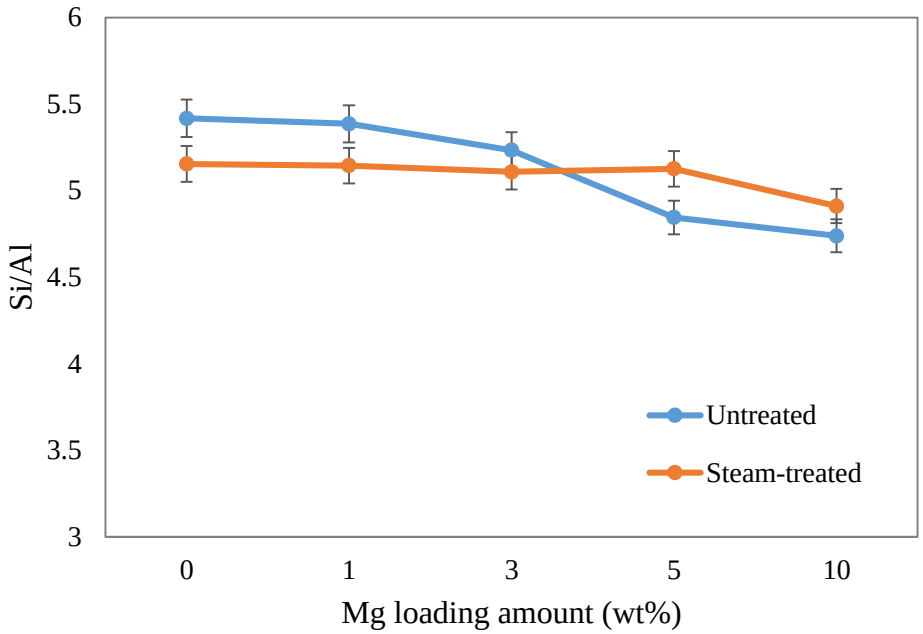

Fig.S5 Si/Al ratio on the surface of Mg loaded zeolite before and after treatment by steaming process.

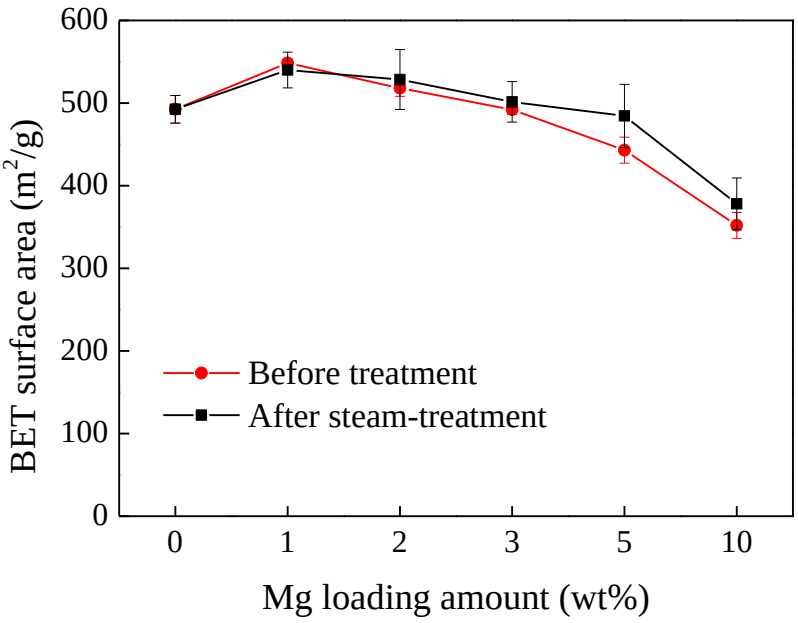

Fig.S6 The BET surface areas of Mg modified USY zeolite before and after steaming process.