Electronica Supplementary Material (ESM)

Discussing the performance of beta zeolites in aqueous-phase valorization of xylose

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Fig. SM1. FTIR of hydrated SiAl12 catalyst under different time of evacuation (from 0 to 240 min).

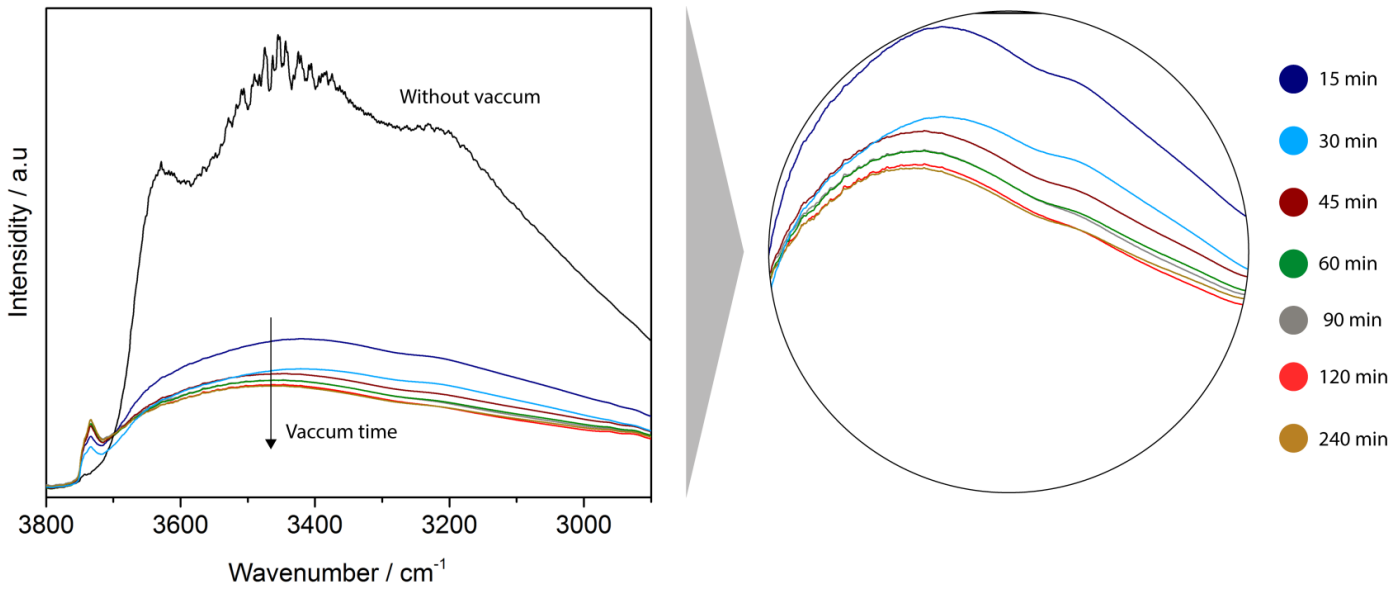

Figure SM2. X-ray diffractograms of fresh zeolites SiAl8, SiAl12 and SiAl19.

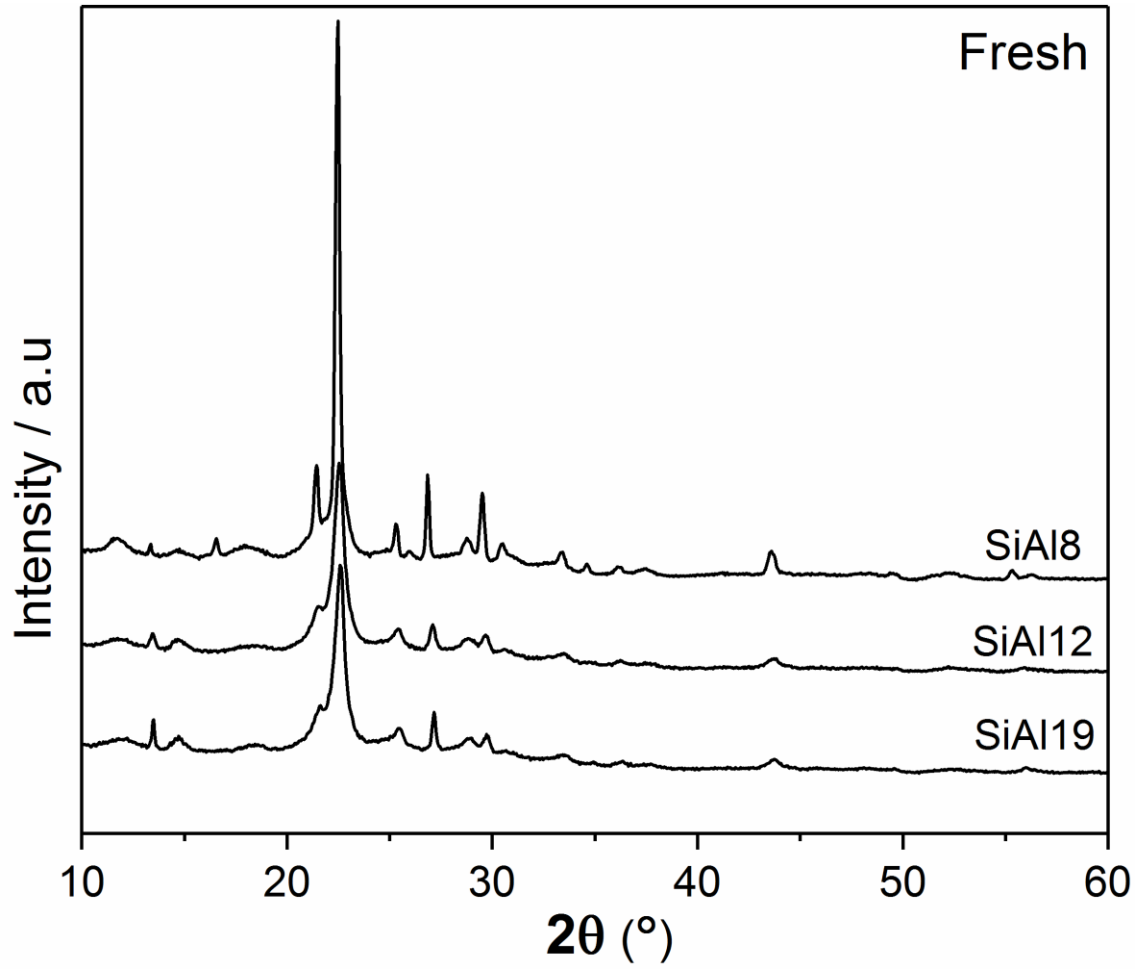

Figure SM3. ^{29}Si NMR spectra for SiAl8 and SiAl12 zeolites. (a) experimental and deconvoluted spectra for (b) SiAl8 and (c) SiAl12.

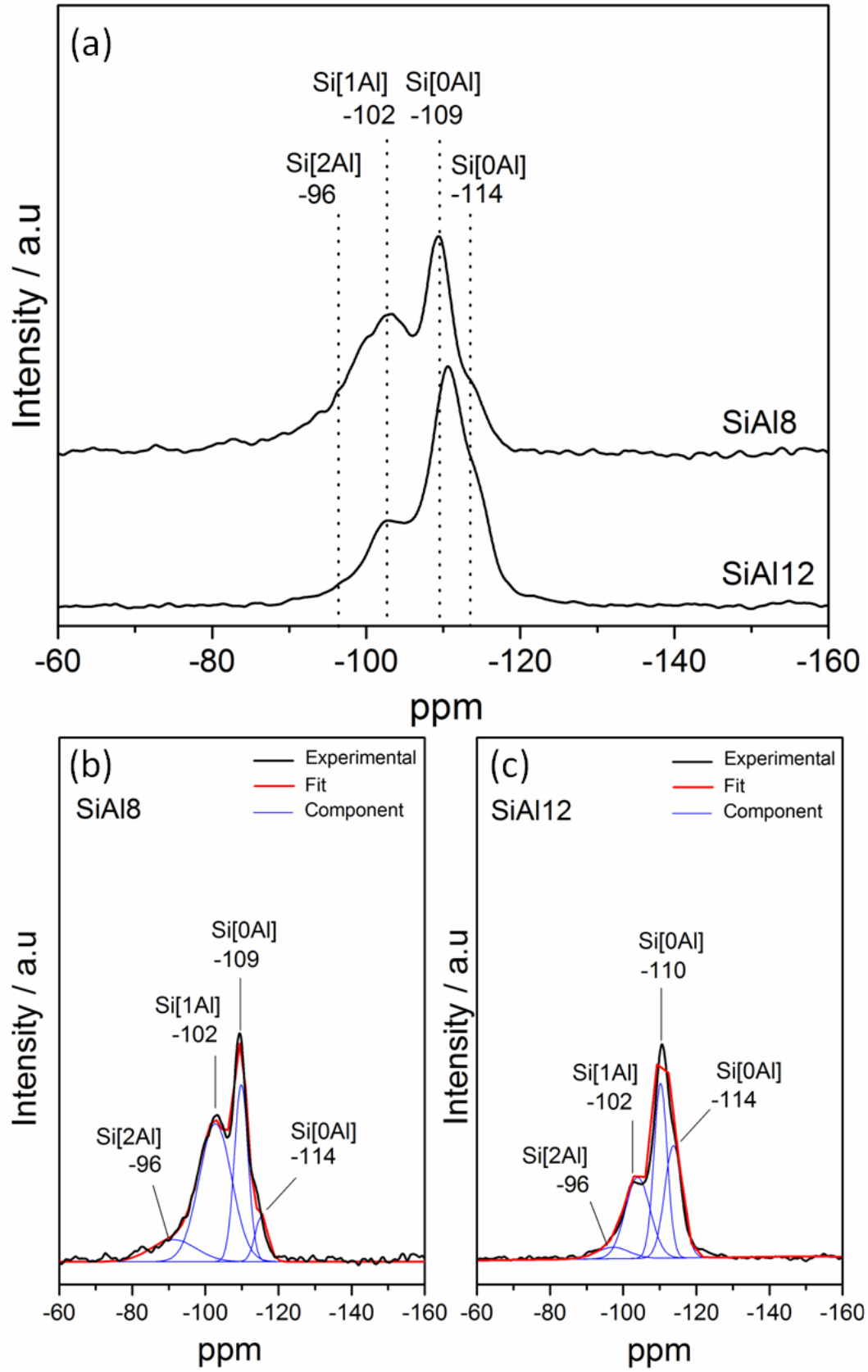

Figure SM4. ^{27}Al NMR spectra for fresh zeolites.

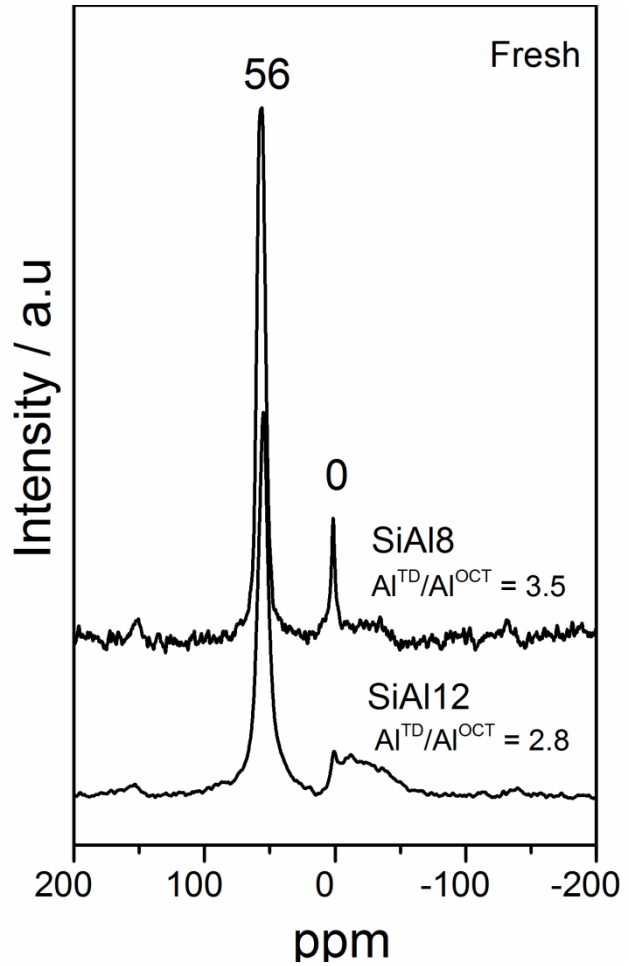

Figure SM5. ^{27}Al NMR spectra for SiAl8, SiAl12 and SiAl19 dehydrated zeolites.

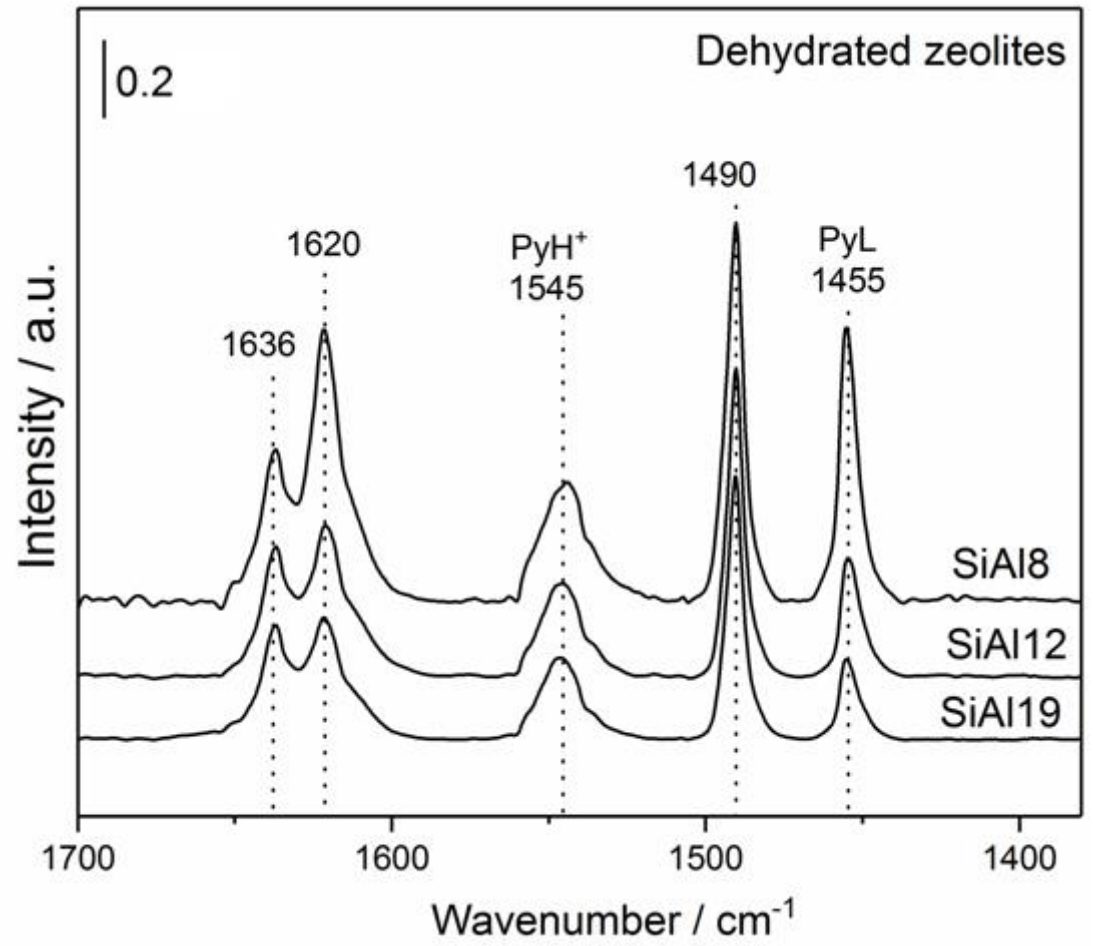

Table SM1. Concentration of Brønsted and Lewis acid sites calculated by IR of adsorbed pyridine for dehydrated zeolites.

Catalysts	Brønsted acid sites ($\mu mol\ g^{-1}$)	Lewis acid sites ($\mu mol\ g^{-1}$)	Lewis /Brønsted	Total acid sites ($\mu mol\ g^{-1}$)
SiAl8	340	600	1.76	940
SiAl12	230	285	1.24	515
SiAl19	190	165	0.87	355

Figure SM6. X-ray diffraction of spent zeolites.

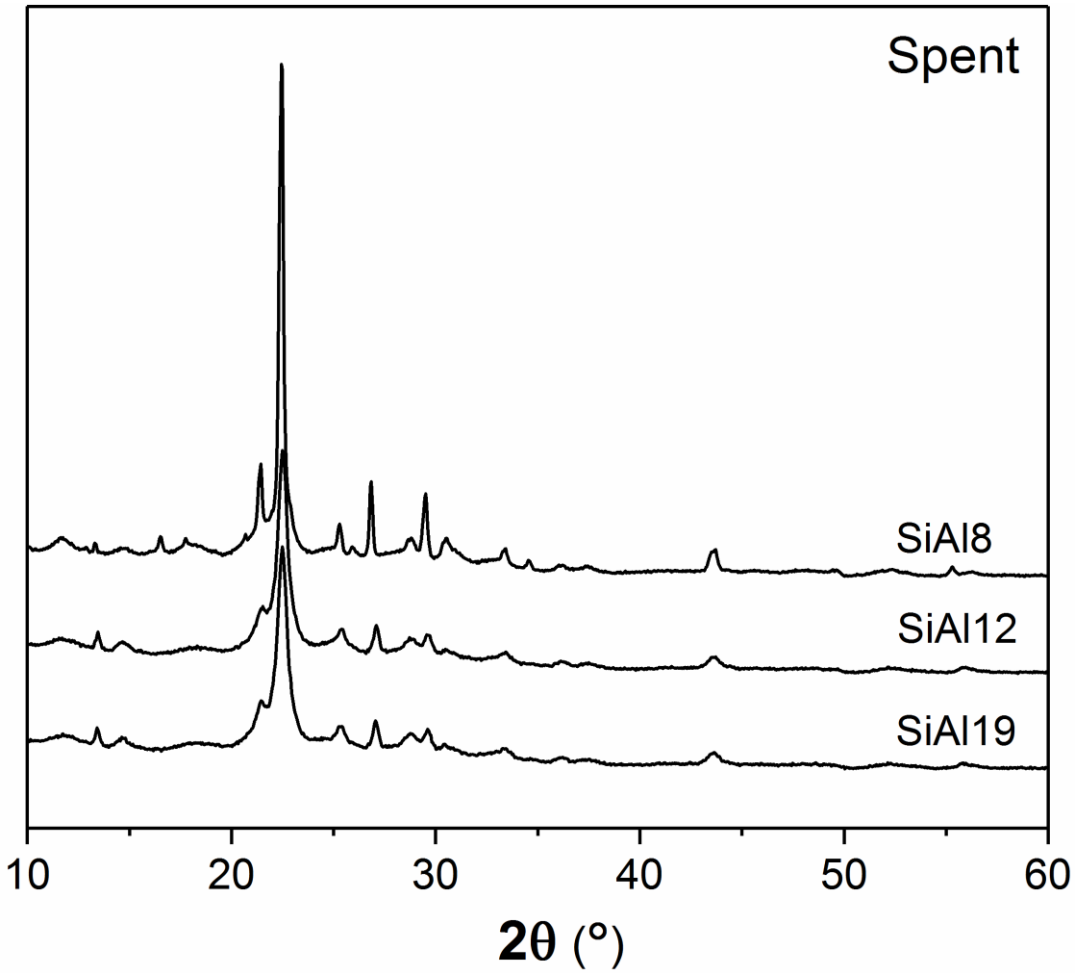

Figure SM7. ^{29}Si NMR spectra for spent SiAl8 and SiAl12 zeolites.

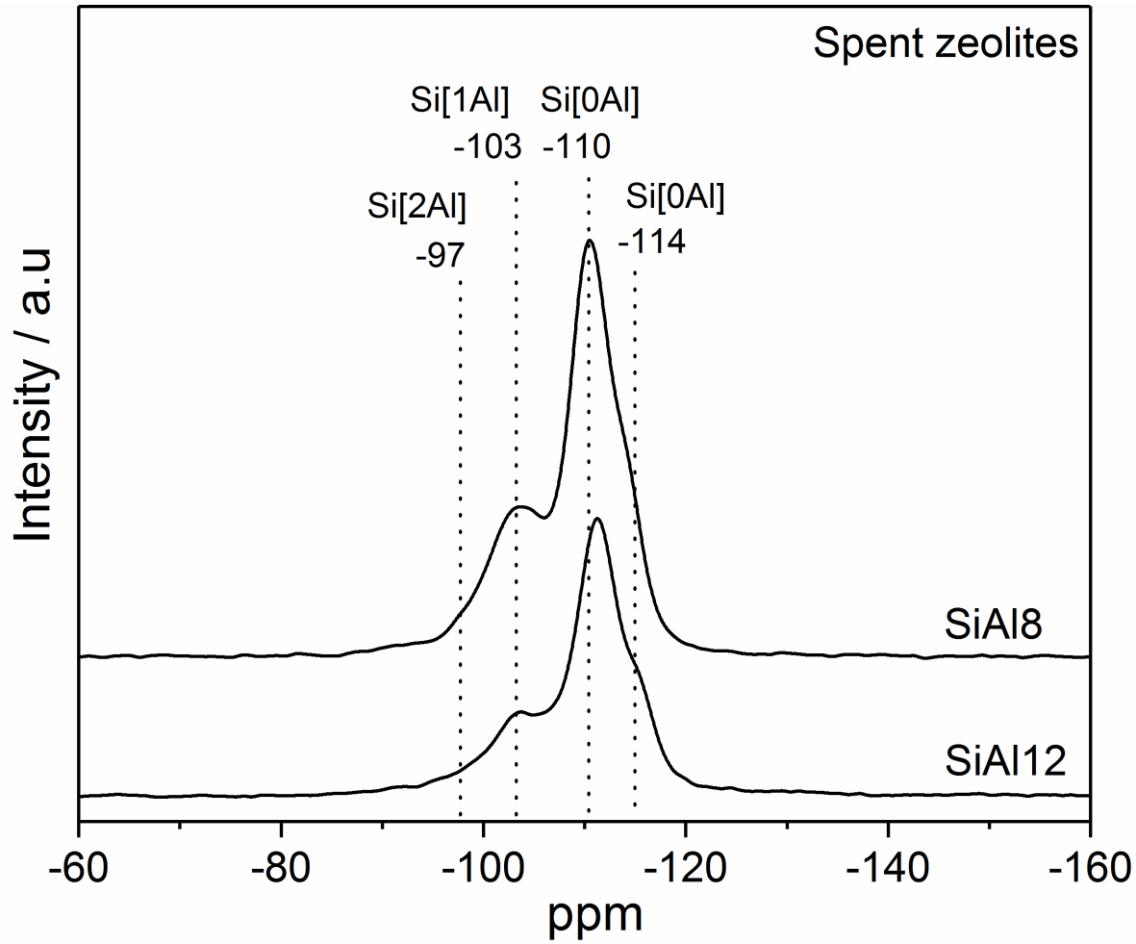

Figure SM8. ^{27}Al NMR spectra for spent zeolites.

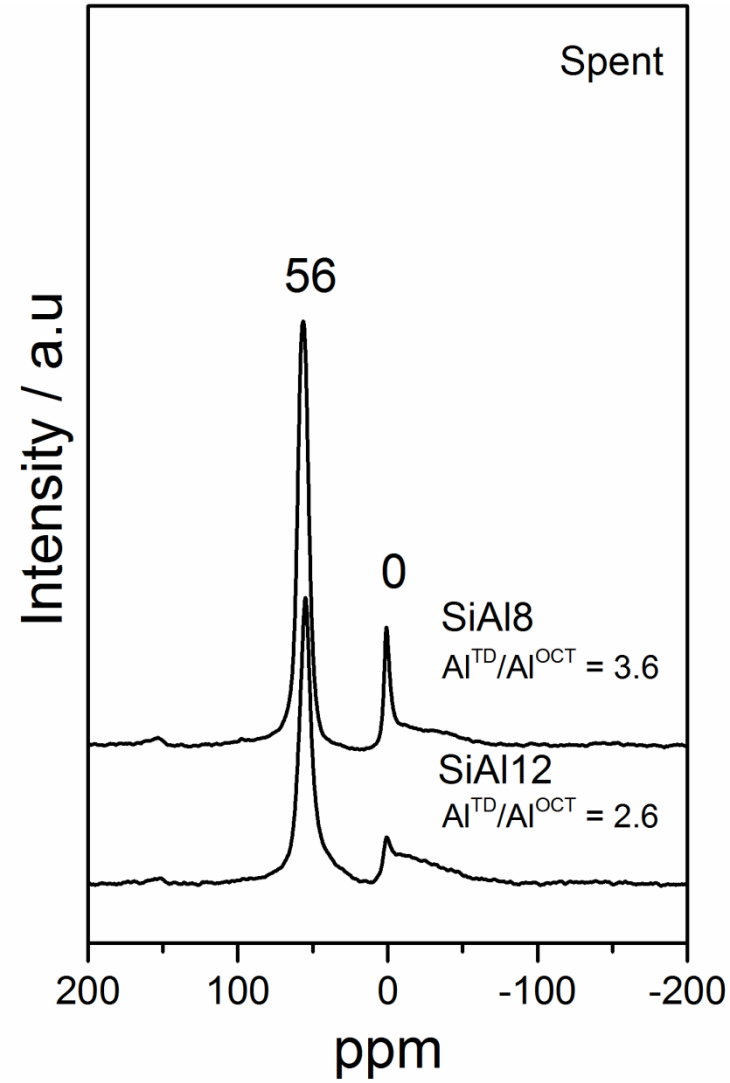

Figure SM9. Correlations between initial rate and acid sites in all three dehydrated zeolites catalysts.

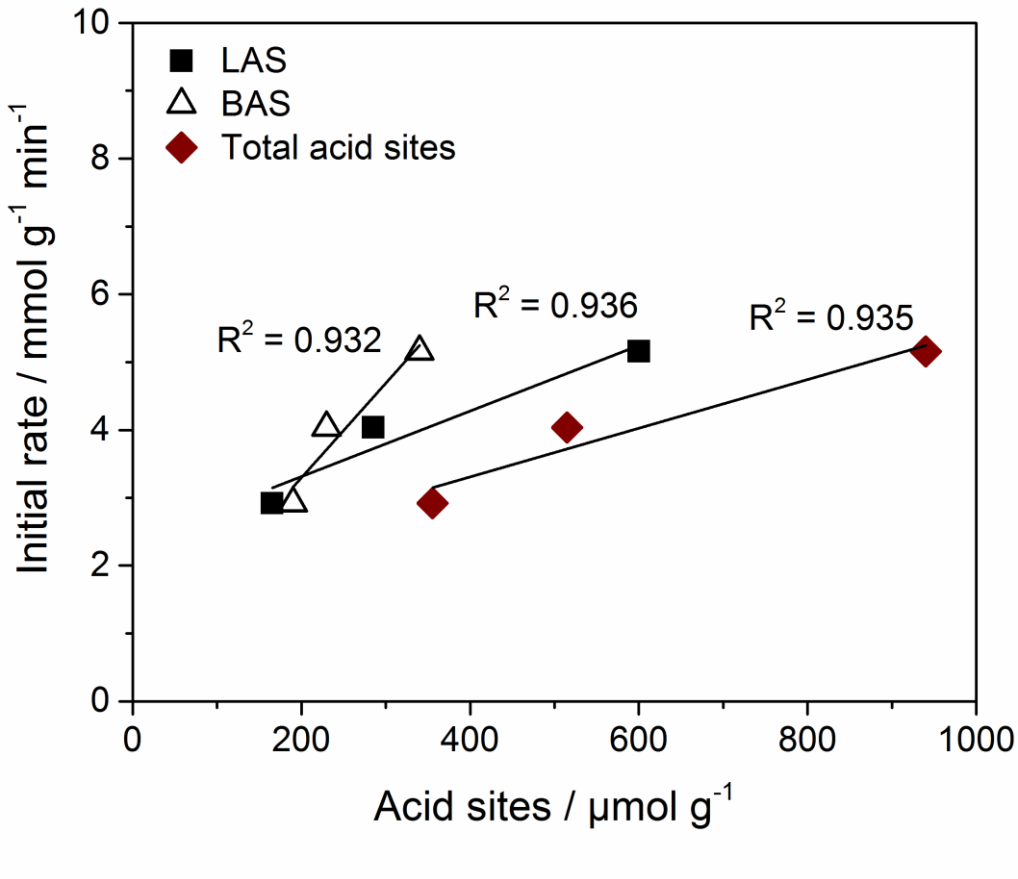

Figure SM10. Time-resolved xylose conversions for all three zeolite catalysts in the early reaction time region.

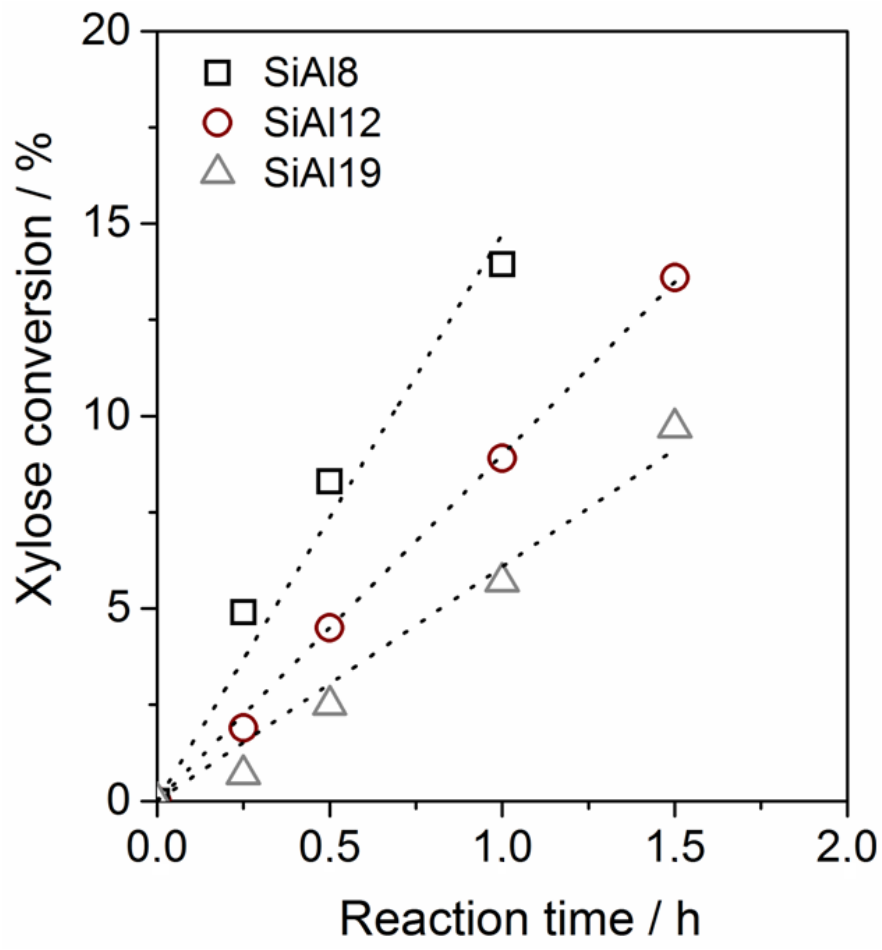

Figure SM11. Photo of aliquots and SiAl12 sample after 6 h of reaction at 130, 150 and 170 °C.