

## Supplementary Information

### Influence of framework Si/Al ratio and topology on electron transfers on zeolites

T. Crémoux,<sup>a</sup> I. Batailleau-Gener\*,<sup>b</sup> A. Moissette\*,<sup>a</sup> J.-L. Paillaud,<sup>c,d</sup> M. Hureau,<sup>a</sup> E. Ligner,<sup>c,d</sup>  
C. Morais,<sup>b</sup> S. Laforge,<sup>b</sup> C. Marichal,<sup>c,d</sup> Habiba Nouali,<sup>c,d</sup>

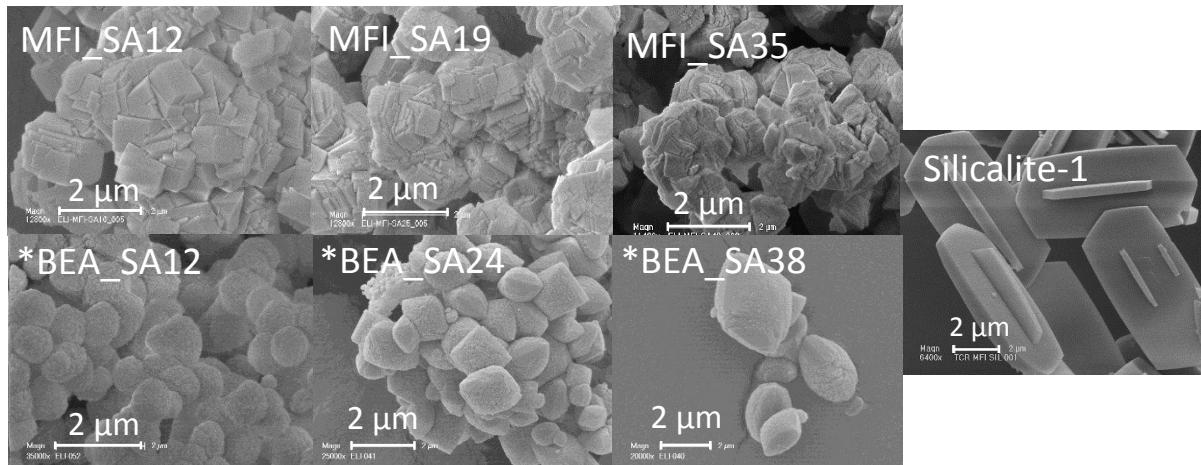
<sup>a</sup> LASIR, Université de Lille, Villeneuve d'Ascq 59655, France

<sup>b</sup> IC2MP, Université de Poitiers, Poitiers 86073, France

<sup>c</sup> Université de Haute Alsace, CNRS, IS2M UMR 7361, F-68100 Mulhouse, France

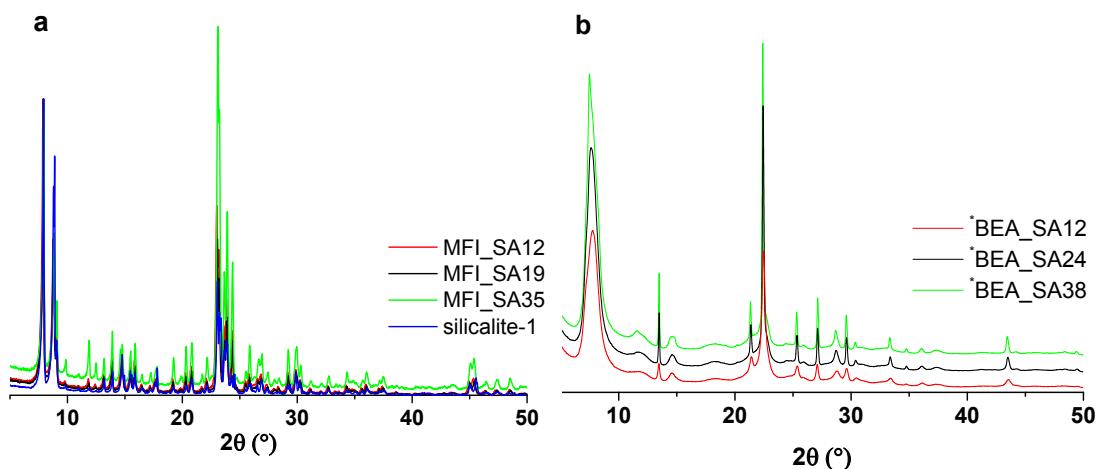
<sup>d</sup> Université de Strasbourg, F-67000 Strasbourg, France

**Figure S1**



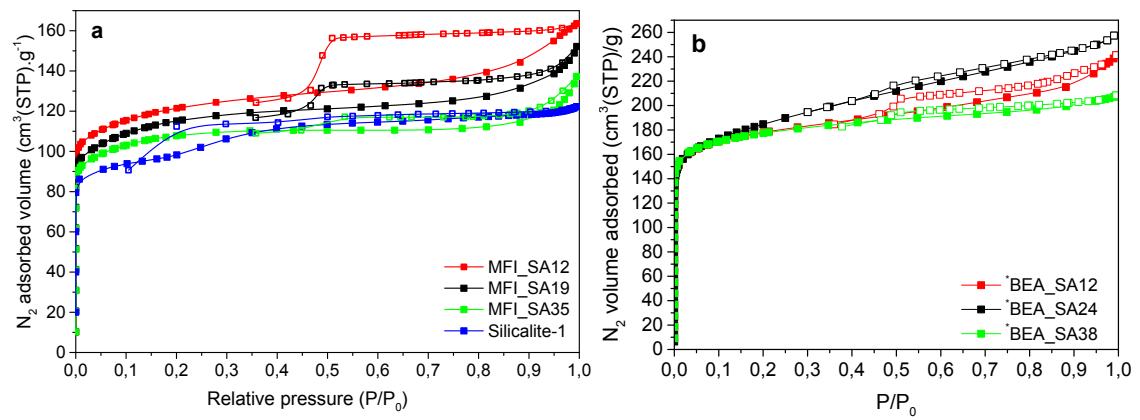
*Figure S1: SEM images of the synthesized H-ZSM-5, silicalite-1 and H-\*BEA zeolites..*

**Figure S2**



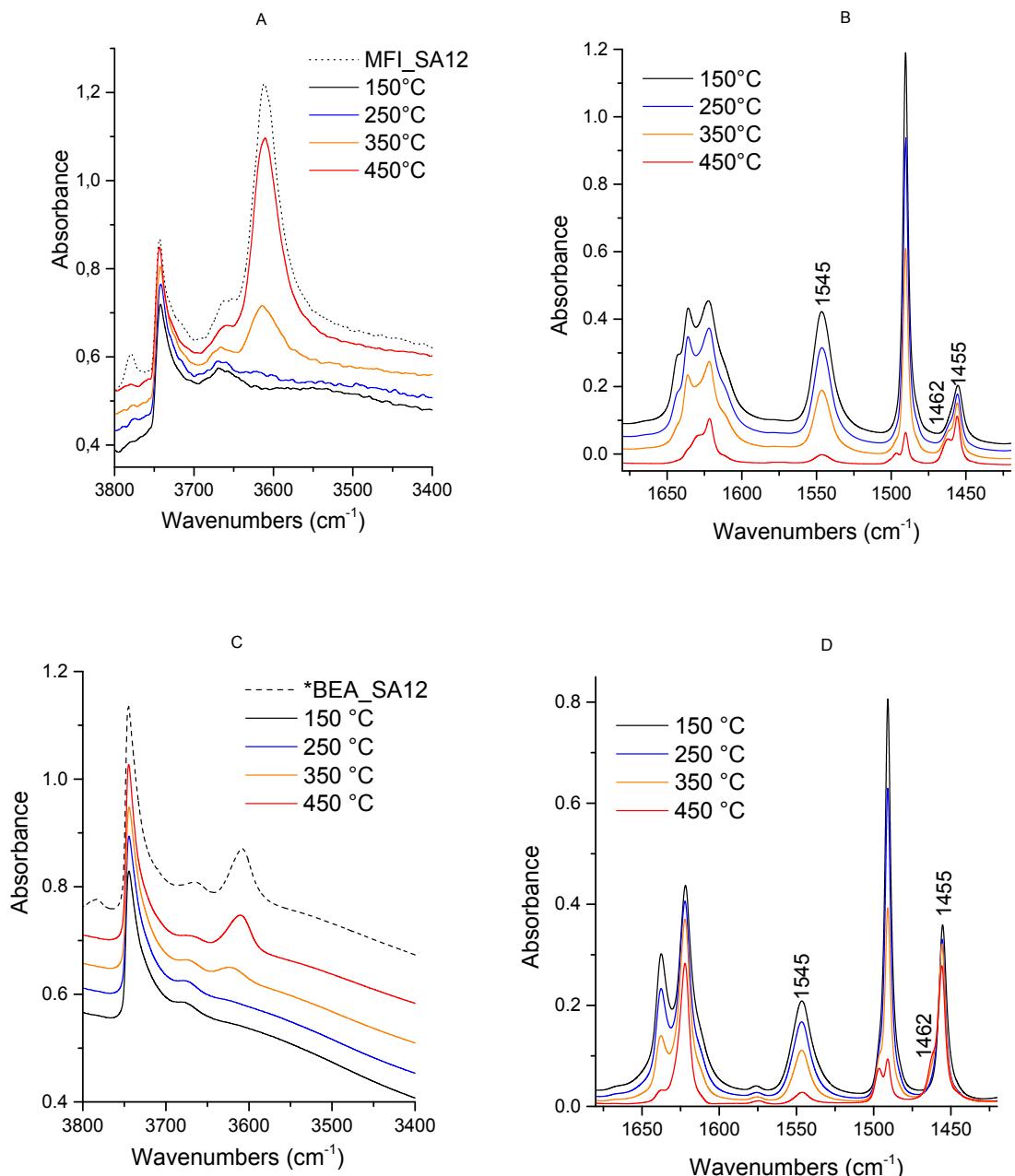
*Figure S2 : Powder XRD patterns of (a) H-ZSM-5, silicalite-1 and (b) H-\*BEA zeolites.*

**Figure S3**



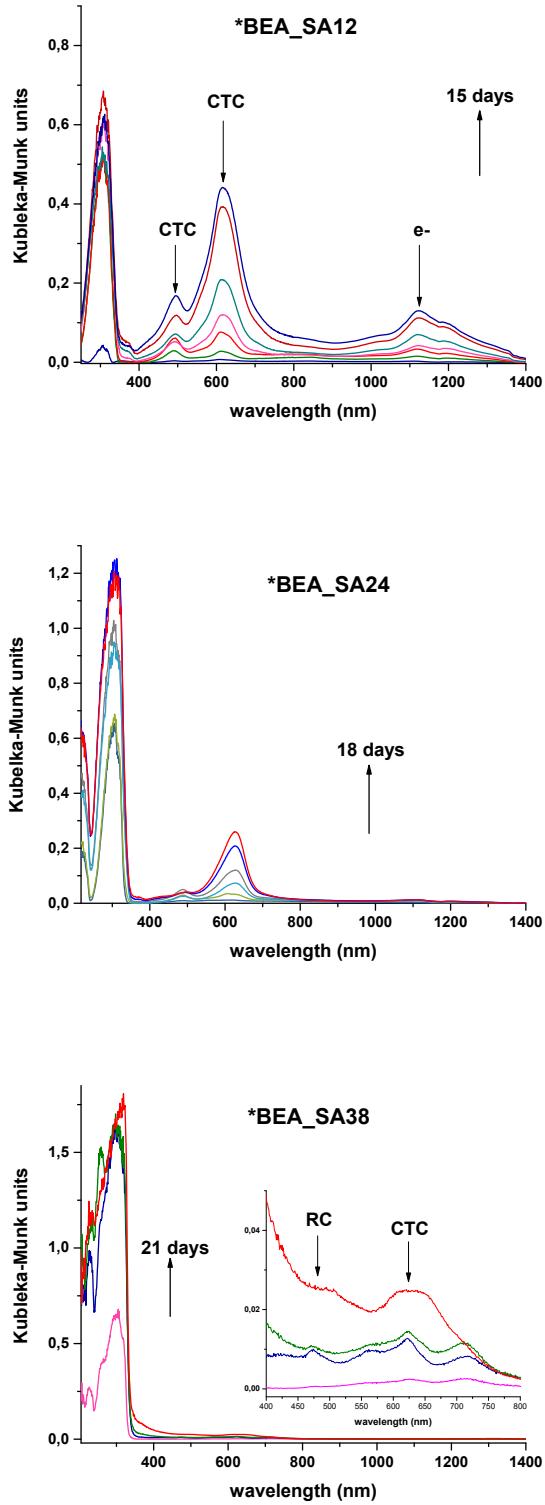
*Figure S3 :  $N_2$  physisorption isotherms at 77 K for (a) H-ZSM-5, silicalite-1 and (b) H-\*BEA zeolites.*

**Figure S4**



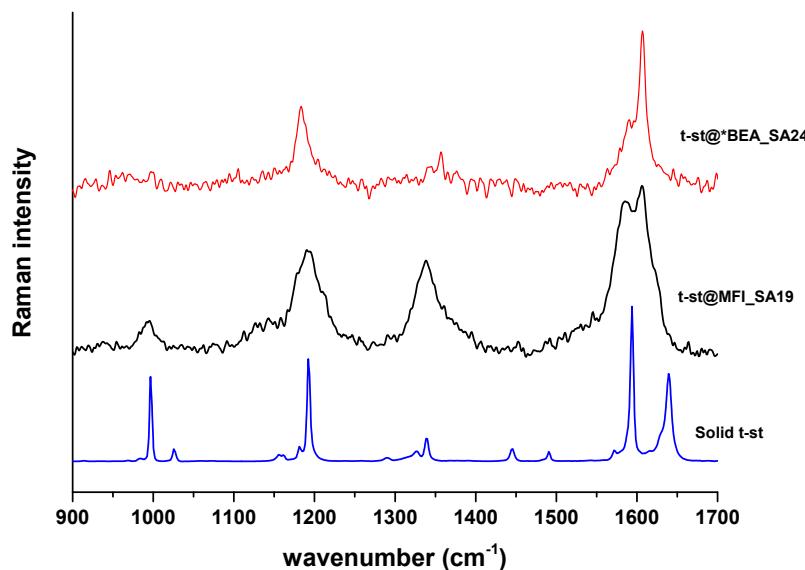
*Figure S4 : FTIR spectra recorded for several pyridine desorption temperatures for MFI\_SA12 and BEA\_SA12 samples.*

**Figure S5**



*Figure S5 : Diffuse reflectance UV-vis spectra recorded for 15, 18 et 21 days after mixing t-St and \*BEA-type zeolites with Si/Al ratios equal to 12, 24 and 38, respectively.*

**Figure S6**



*Figure S6 : FT-Raman spectra ( $\lambda_{ex} = 1064$  nm) obtained 1 month after mixing t-St with H-ZSM-5 and H-\*BEA-type zeolites with Si/Al = 19 and 24, respectively.*