

Post-Synthetic Modifications of As-Made Zeolite Frameworks Near The Structure Directing Agents

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Supporting Information

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Table S1: unit cell parameters of calcined samples after exchange reaction at 448 K

time / d	a / Å	c / Å
0	12,25	26,15
1	12,36	26,21
2	12,41	26,25
3	12,40	26,28
4	12,43	26,28
5	12,45	26,35
6	12,46	26,32
7	12,38	26,22

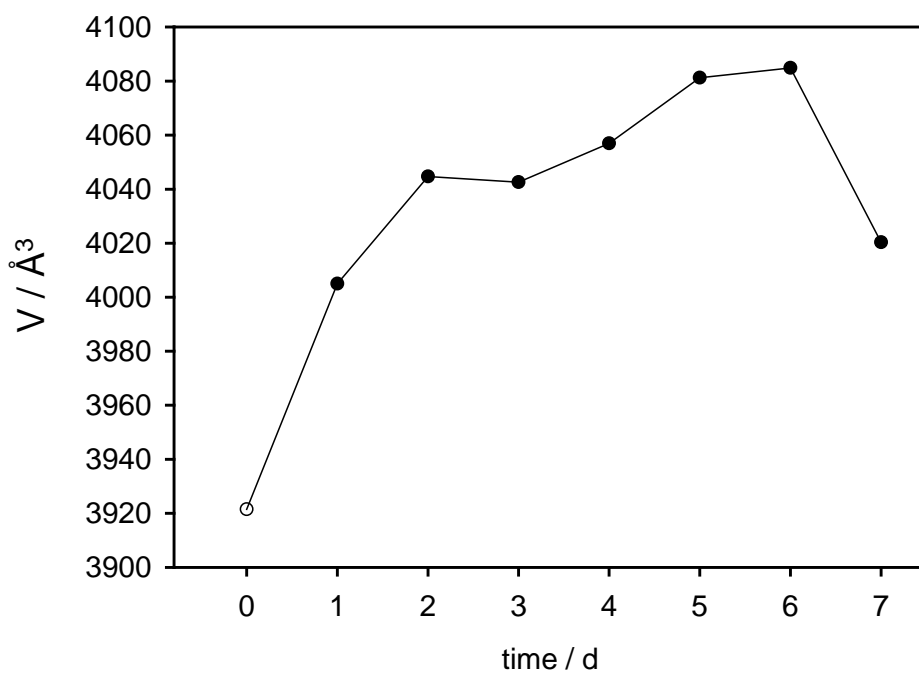


Fig. S1: unit cell volume of calcined samples after exchange reaction at 448 K

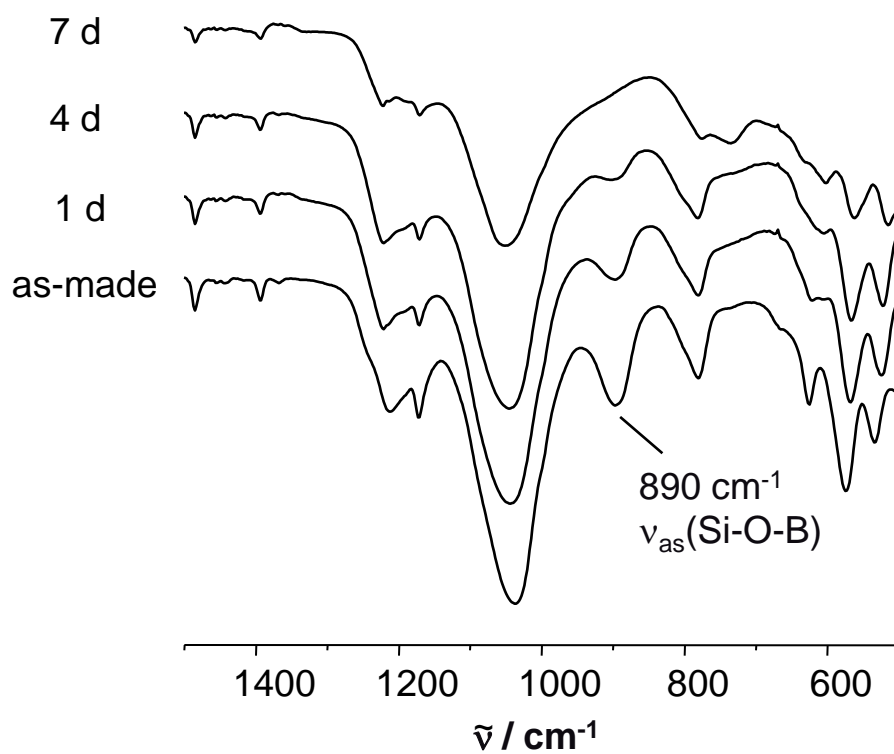


Fig. S2: IR spectra of as-made zeolite B-Beta and of the sample treated for various days at 448 K in 1M $\text{Al}(\text{NO}_3)_3$

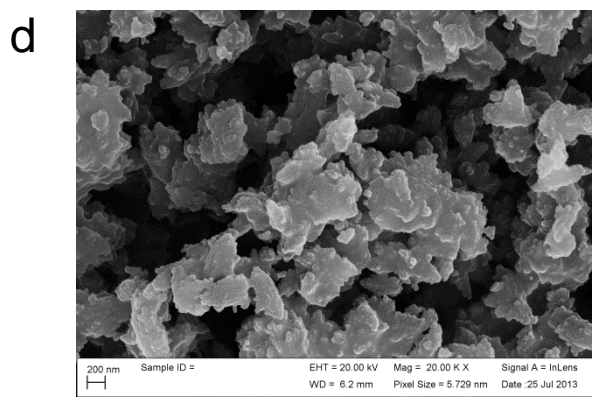
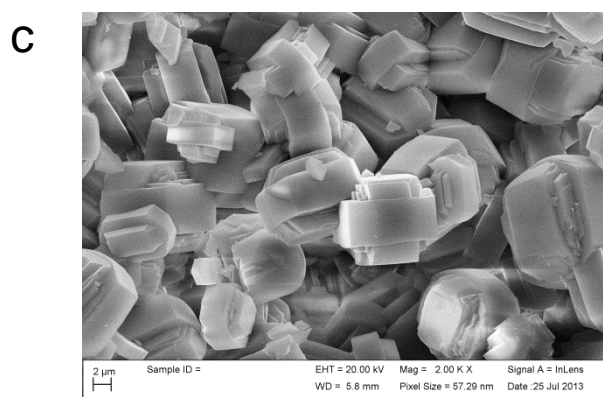
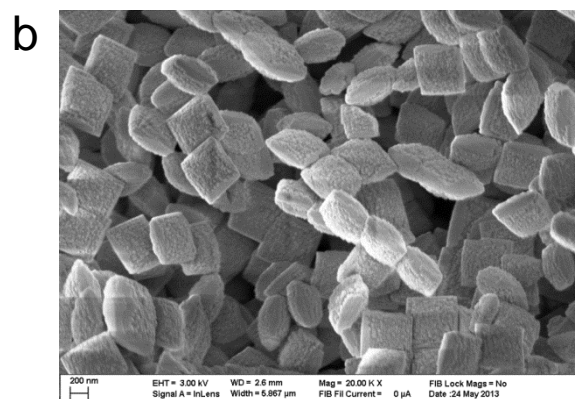
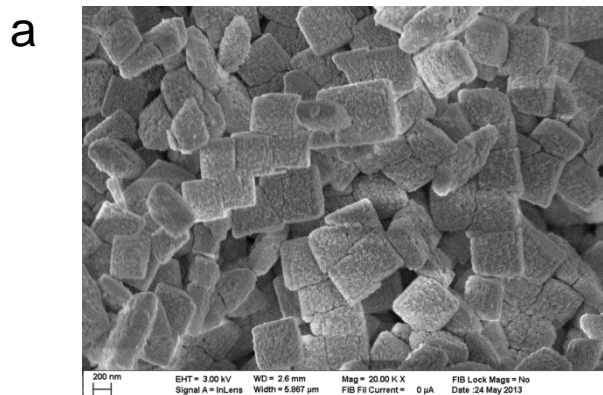


Fig. S3: SEM data of (a) as-made B-Beta and (b) the sample after 7 days of treatment in $\text{Al}(\text{NO}_3)_3$ solution; (c) $\text{TPA}^+\text{-B-ZSM-5}$; (d) DDB-B-ZSM-12

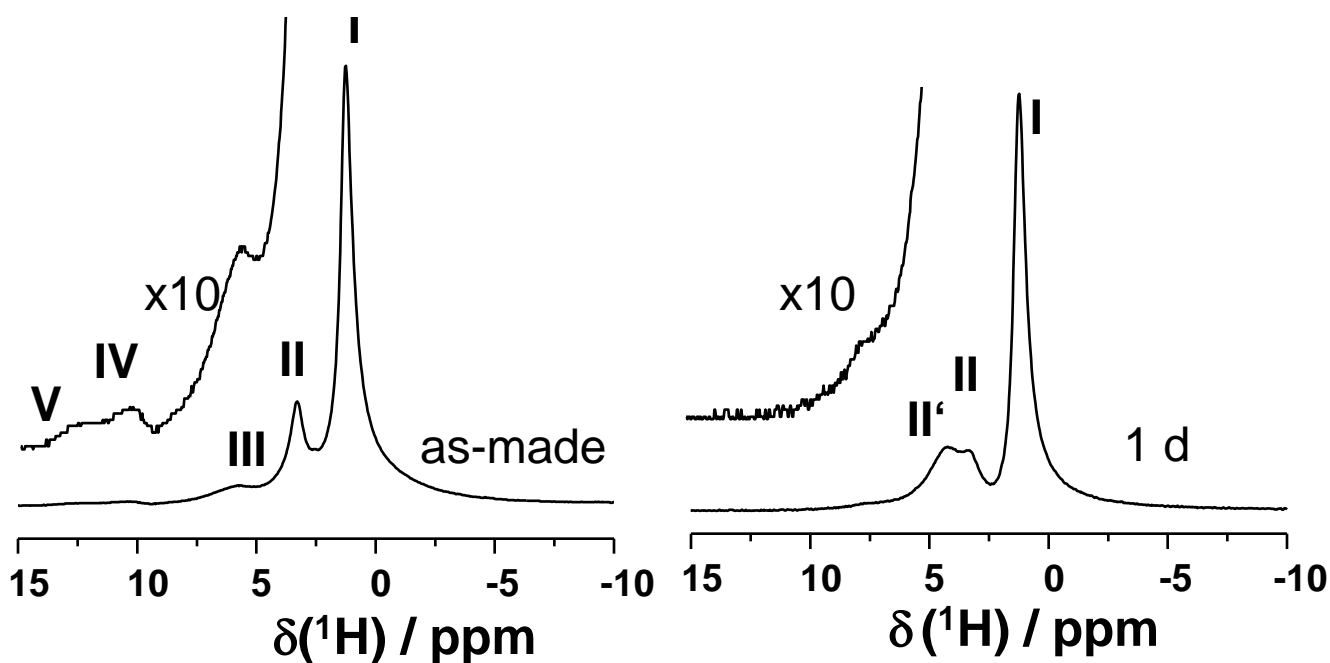


Fig. S4: ^1H MAS NMR spectra of as-made B-Beta and the sample after 1 days of treatment in $\text{Al}(\text{NO}_3)_3$ solution; lines I (CH_3) and II (CH_2 near B) and II' (CH_2 near Al) are from TEA^+ cations, line II is from water and/or weakly hydrogen-bonded defect silanol groups; lines IV and V are the well-known ^1H signals in hydrogen-bonded defect silanol groups in charge-compensating defect sites

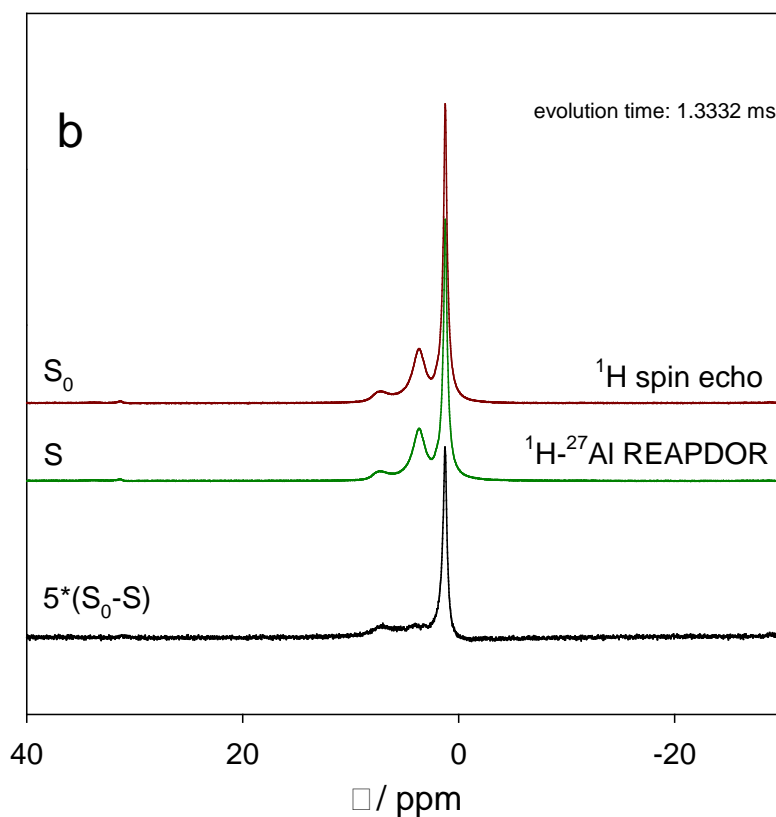
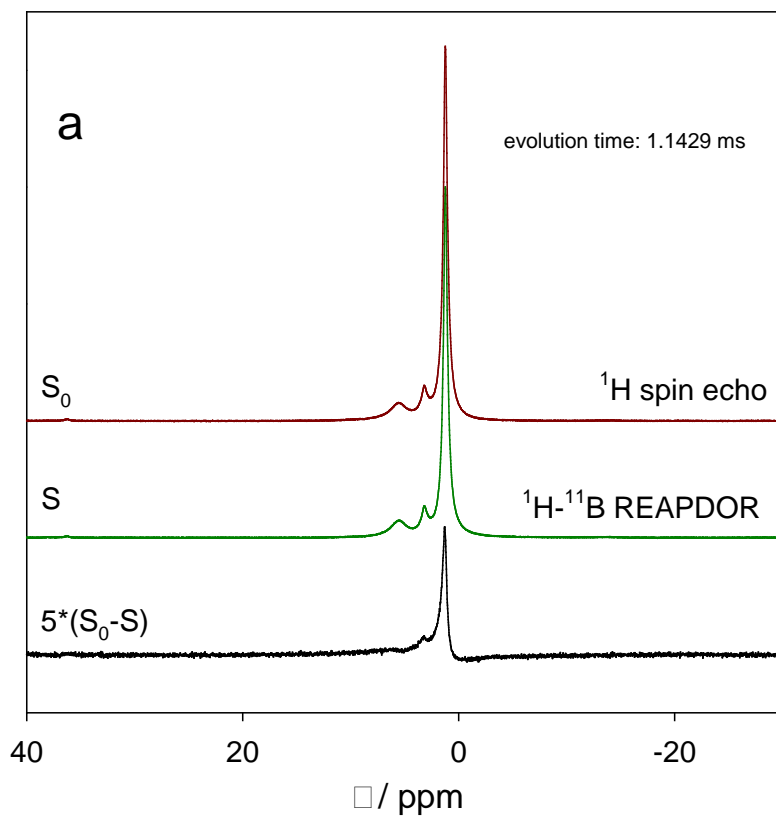


Fig. S5: (a) ^1H - ^{11}B REAPDOR experimental spectra of $\text{TEA}^+\text{-B-Beta}$, and (b) ^1H - ^{27}Al REAPDOR of the sample treated for 6 d in $\text{Al}(\text{NO}_3)_3$ solution at 448 K

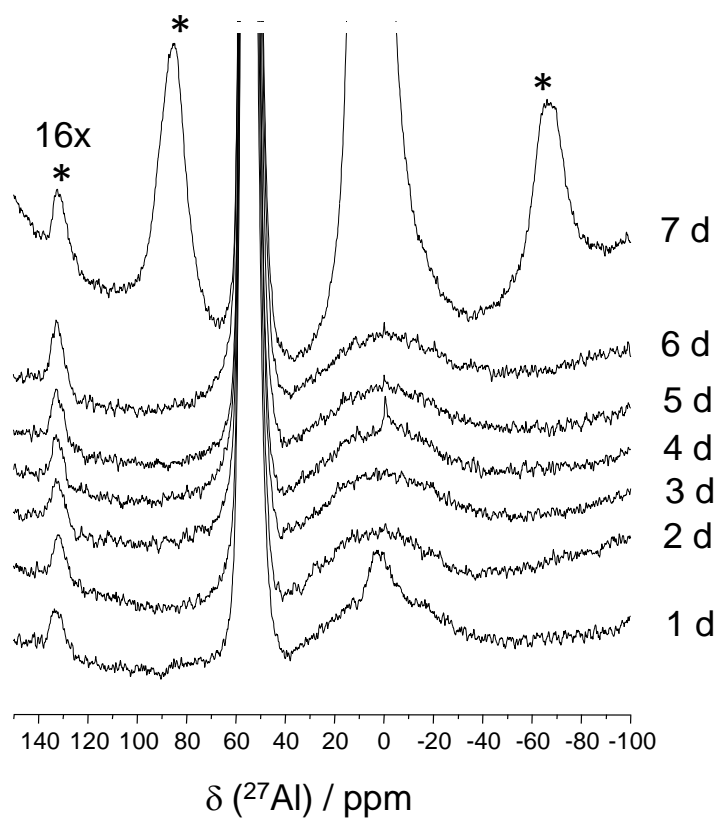


Fig. S6: ^{27}Al MAS NMR of zeolite B-Beta samples treated for various days at 448 K in $1\text{M Al}(\text{NO}_3)_3$ (* are spinning sidebands); intensity scales are increased by a factor of 16 compared to Fig. 3

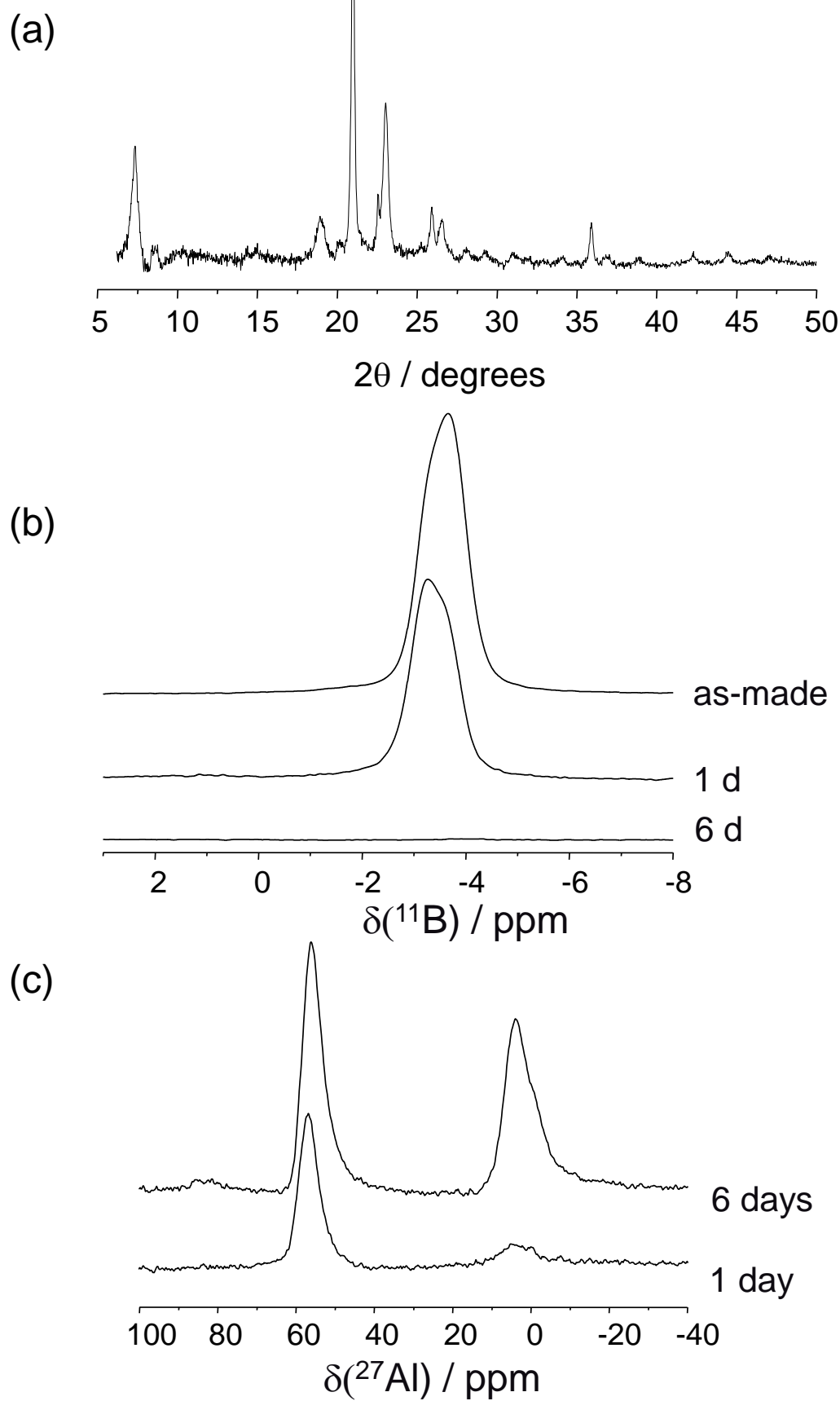


Fig. S7: (a) XRD powder pattern of as-made B-ZSM-12; (b) ^{11}B MAS NMR of as-made sample and samples treated for 1d and 6d; (c) ^{27}Al MAS NMR of samples treated for 1d and 6d