

Supporting information

Development of mesopore-containing CON-type zeolite with unique acidic and catalytic properties

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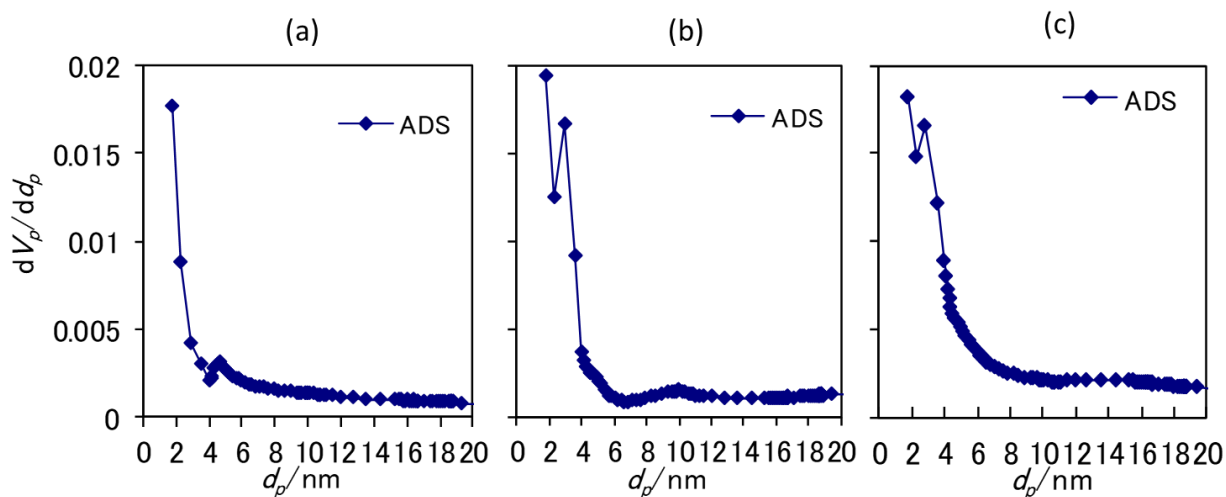


Figure S1. BJH pore size distributions of (a) [Al,B]-CON, (b) [Al,B]-CON_1.1 and (c) [Al,B]-CON_2.2.

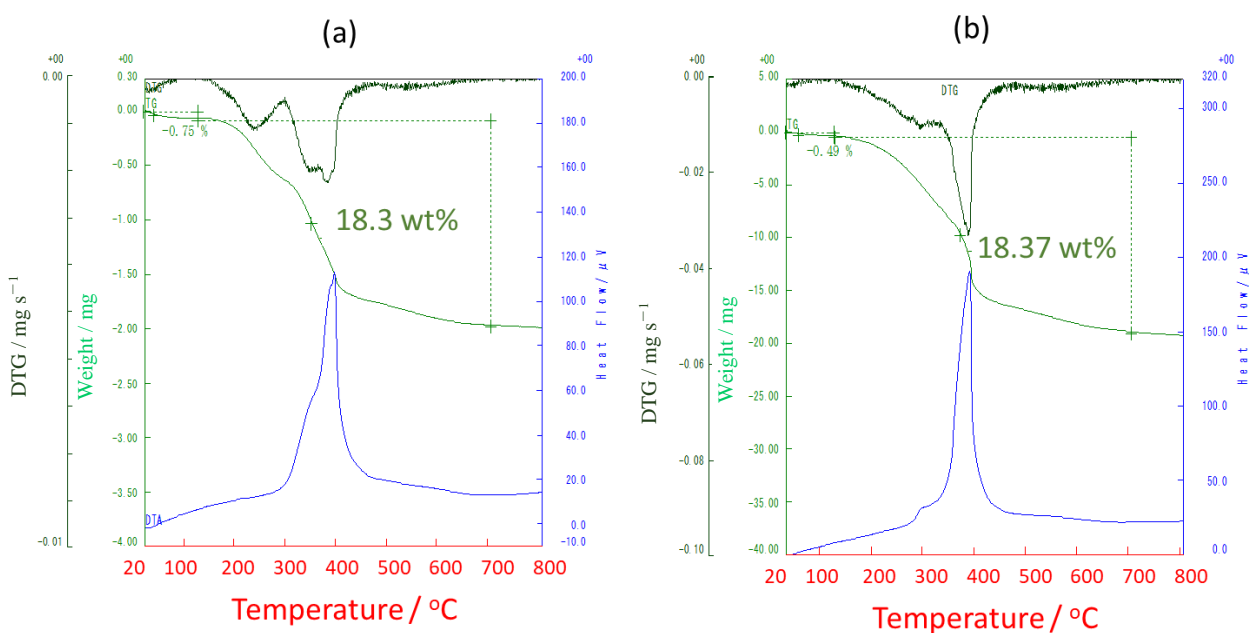


Figure S2. TG-DTA profiles of (a) [Al,B]-CON_1.1 and (b) [Al,B]-CON_2.2.

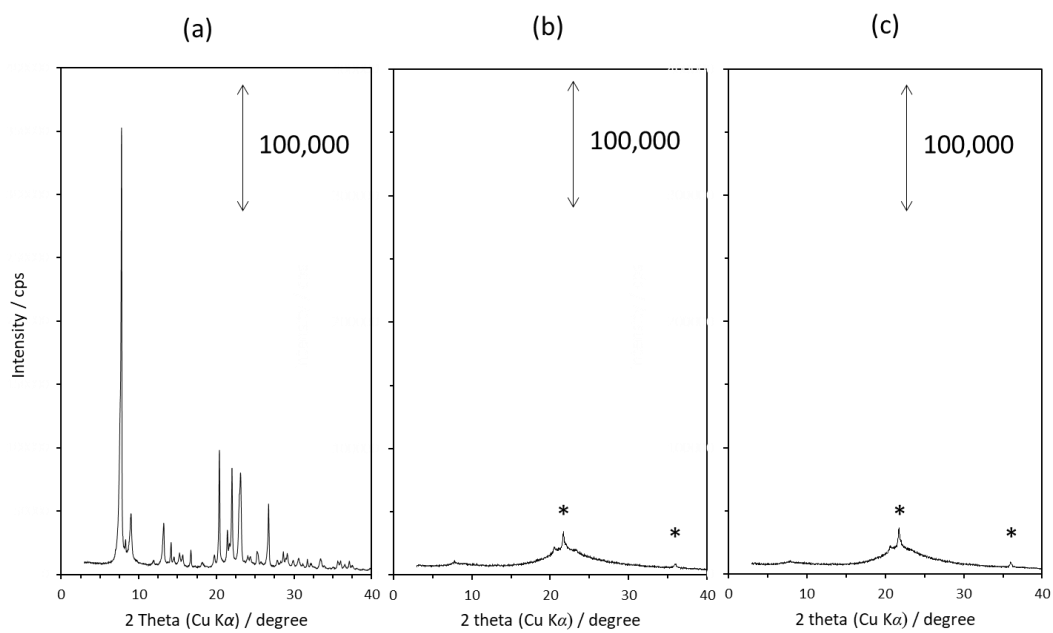


Figure S3. XRD patterns of (a) [Al,B]-CON, (b) [Al,B]-CON_NH₄OH_1.1 and (c) [Al,B]-CON_NH₄OH_2.2.

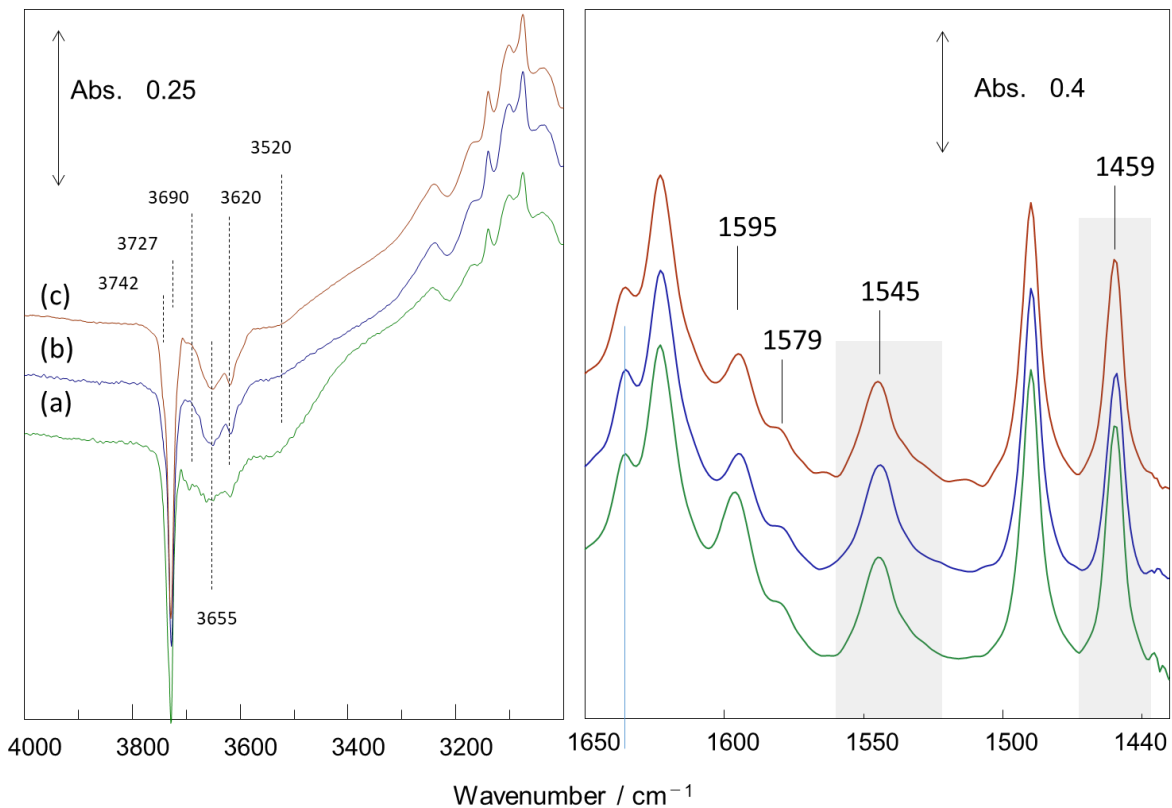


Figure S4. FTIR subtracted spectra after adsorption of pyridine over (a) [Al,B]-CON, (b) [Al,B]-CON_1.1 and (c) [Al,B]-CON_2.2.

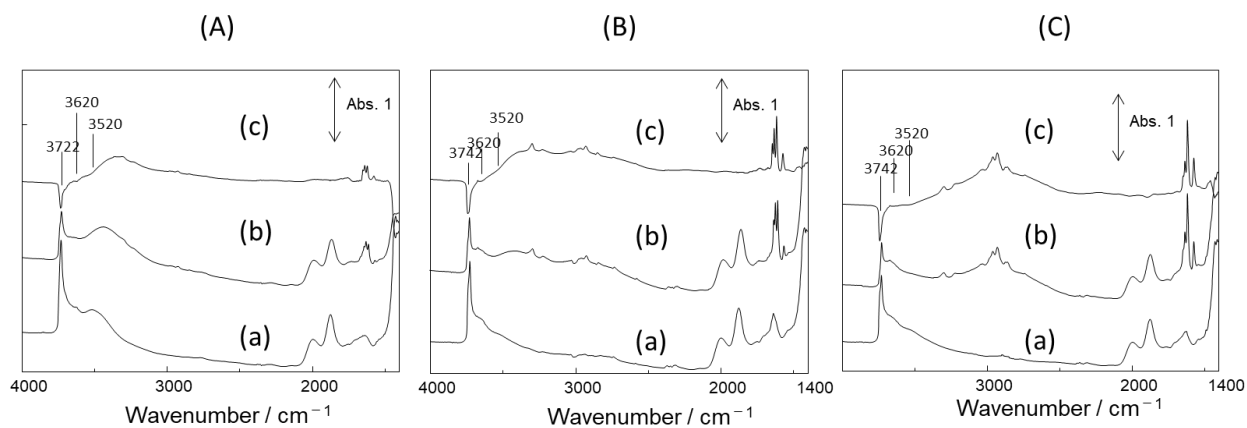


Figure S5. FTIR spectra (a) before and (b) after adsorption of 2,4,6-trimethylpyridine over (A) parent [Al,B]-CON, (B) [Al,B]-CON_{1.1} and (C) [Al,B]-CON_{2.2} at 30 °C.

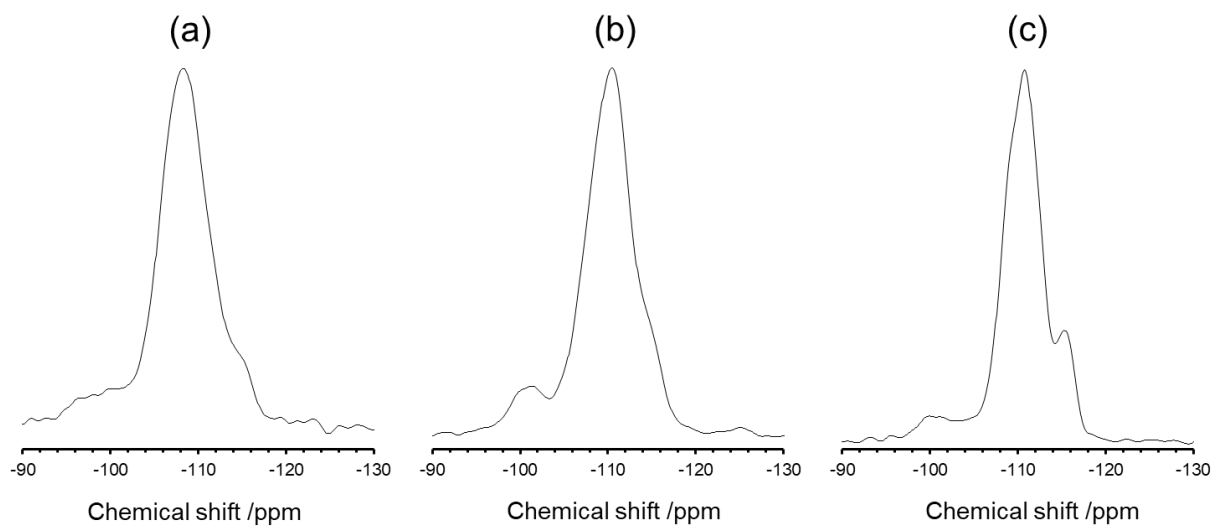


Figure S6. ^{29}Si MAS NMR spectra of (a) as-made, (b) calcined, and (c) proton-form [Al,B]-CON.

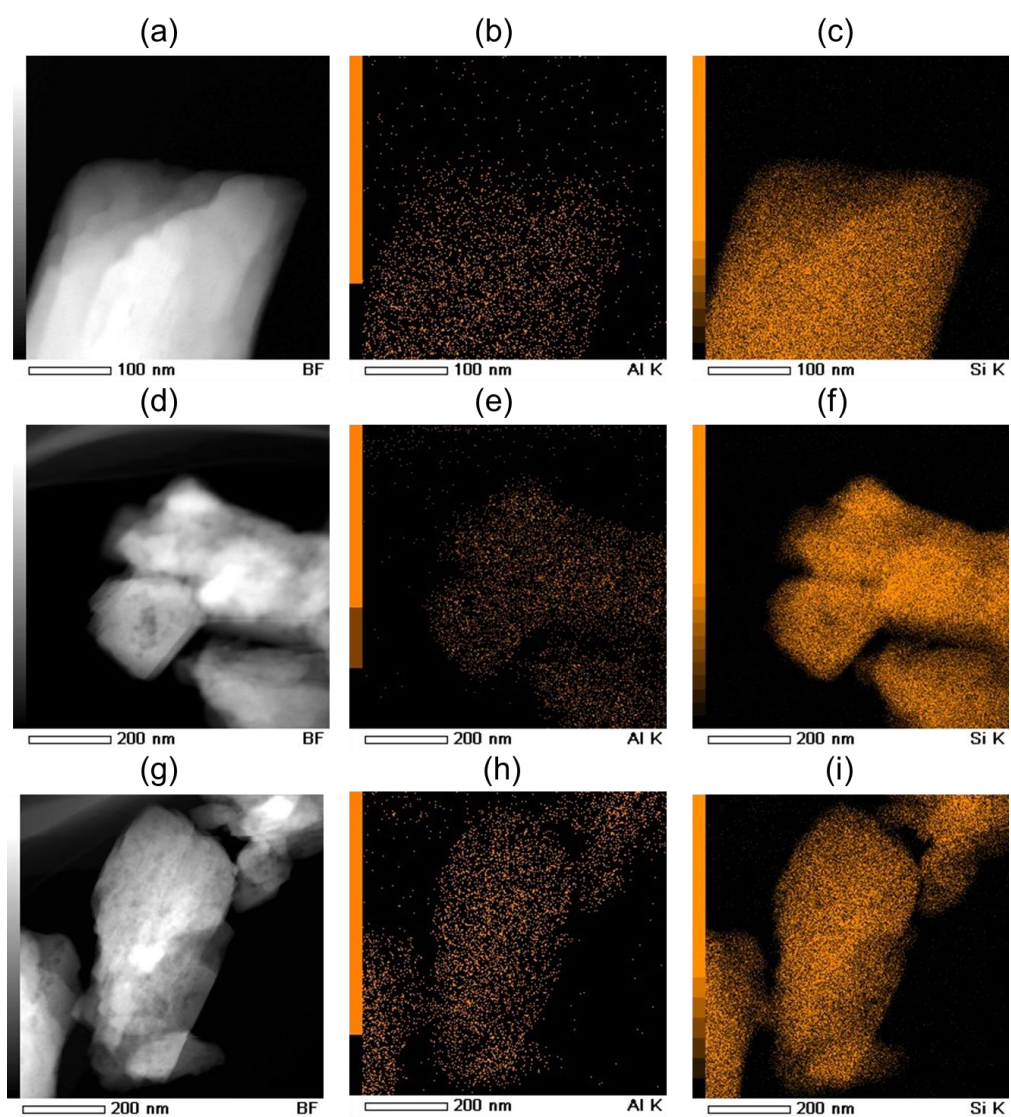


Figure S7. TEM-EDS image of (a-c) [Al,B]-CON, (d-f) [Al,B]-CON_{1.1}, and (g-i) [Al,B]-CON_{2.2}. (b), (e) and (h) for Al atom, and (c), (f) and (i) for Si atoms EDS images.

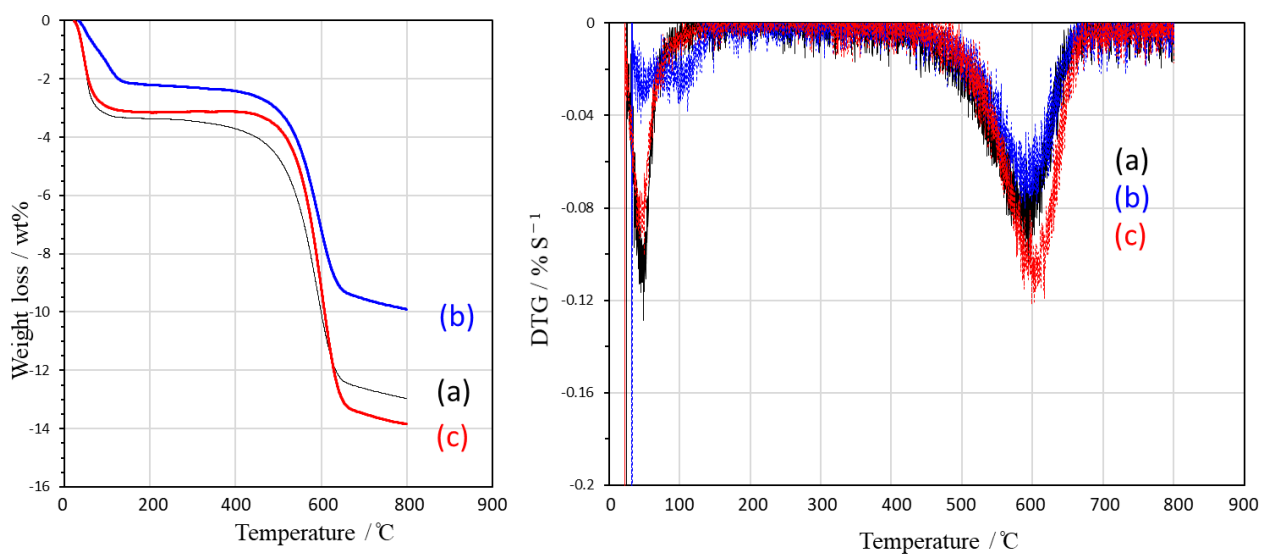


Figure S8. TG (left) and DTG (right) profiles of the used samples in MTO reaction: (a) parent [Al,B]-CON, (b) [Al,B]-CON_{1.1} and (c) [Al,B]-CON_{2.2}.