Electronic Supplementary Material (ESI) for Physical Chemistry Chemical Physics.

Supporting Information

Defining Aluminum-Zoning during Synthesis of ZSM-5 Zeolites

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Supplementary Figures

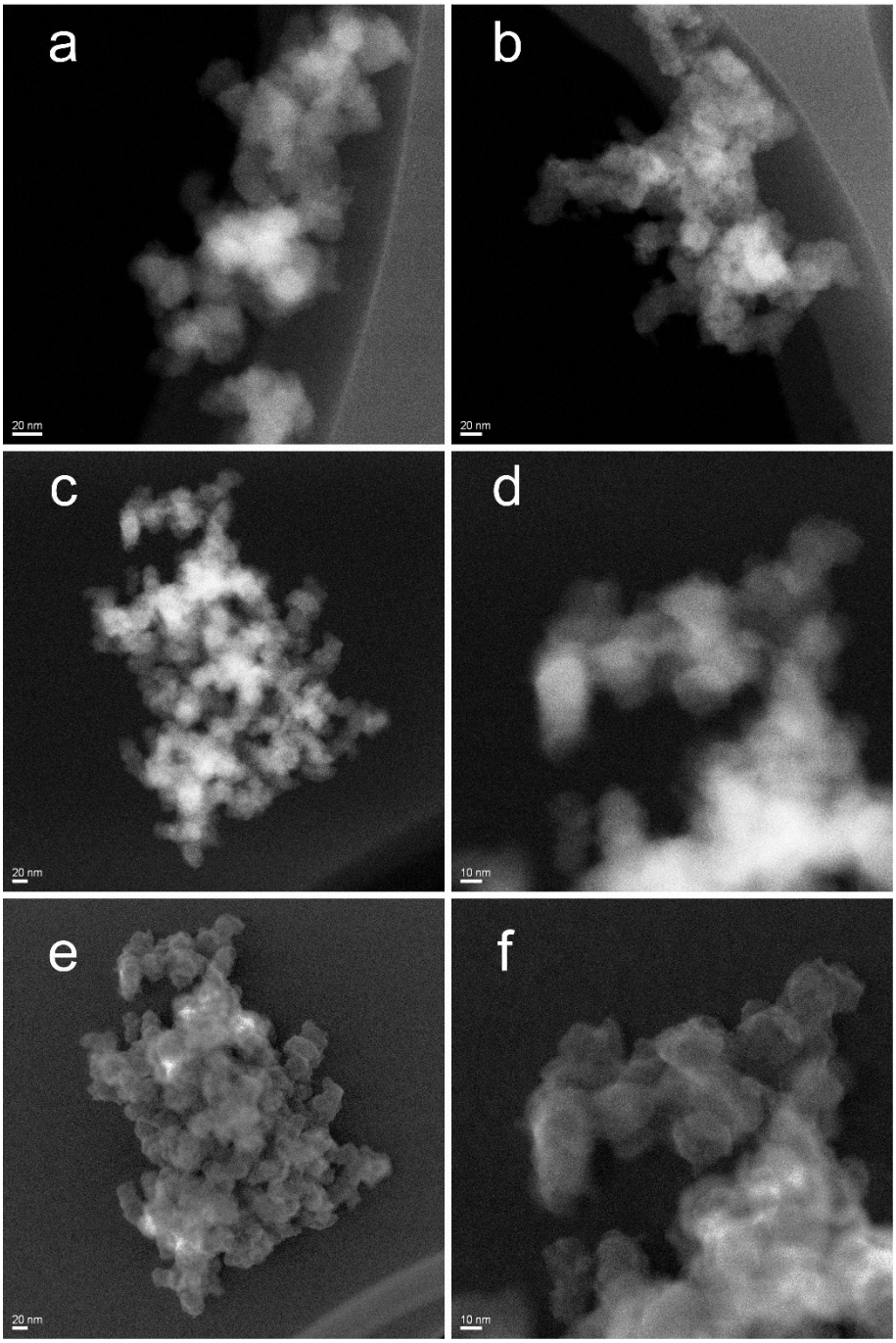

Fig. S1 STEM images of the solid sample after hydrothermal treatment for 45 mins. The images of (e, f) are operated by collecting secondary electrons.

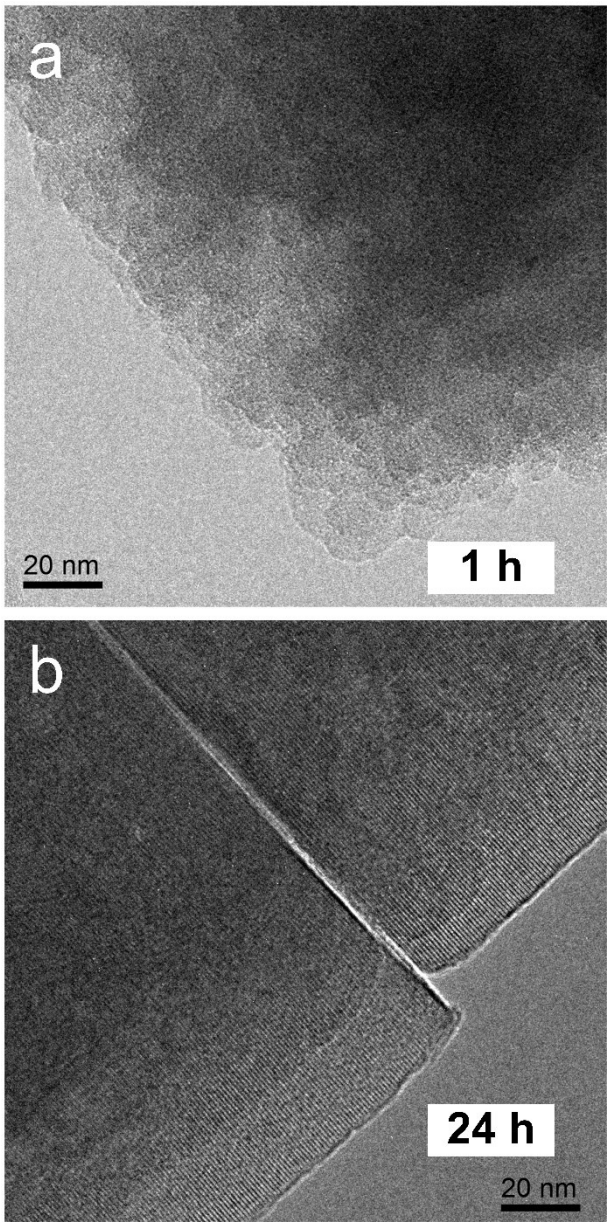

Fig. S2 The surface part of large particles obtained after (a) 1 h and (b) 24 h hydrothermal treatment.

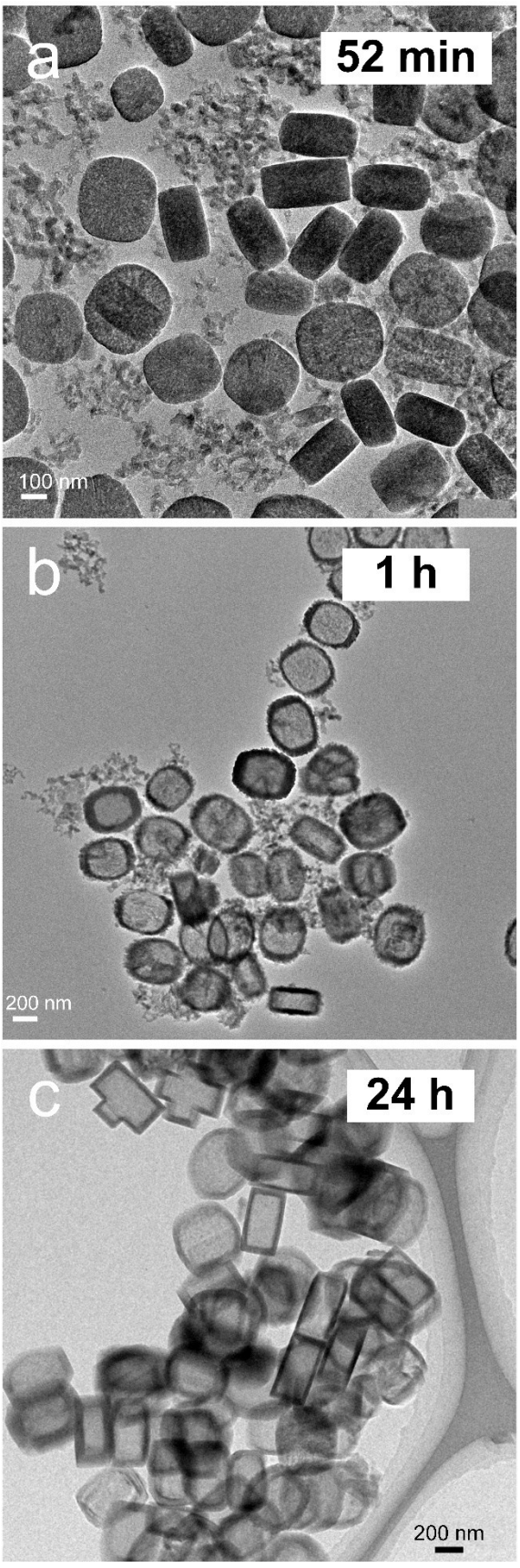

Fig. S3 TEM overview images of leached particles.

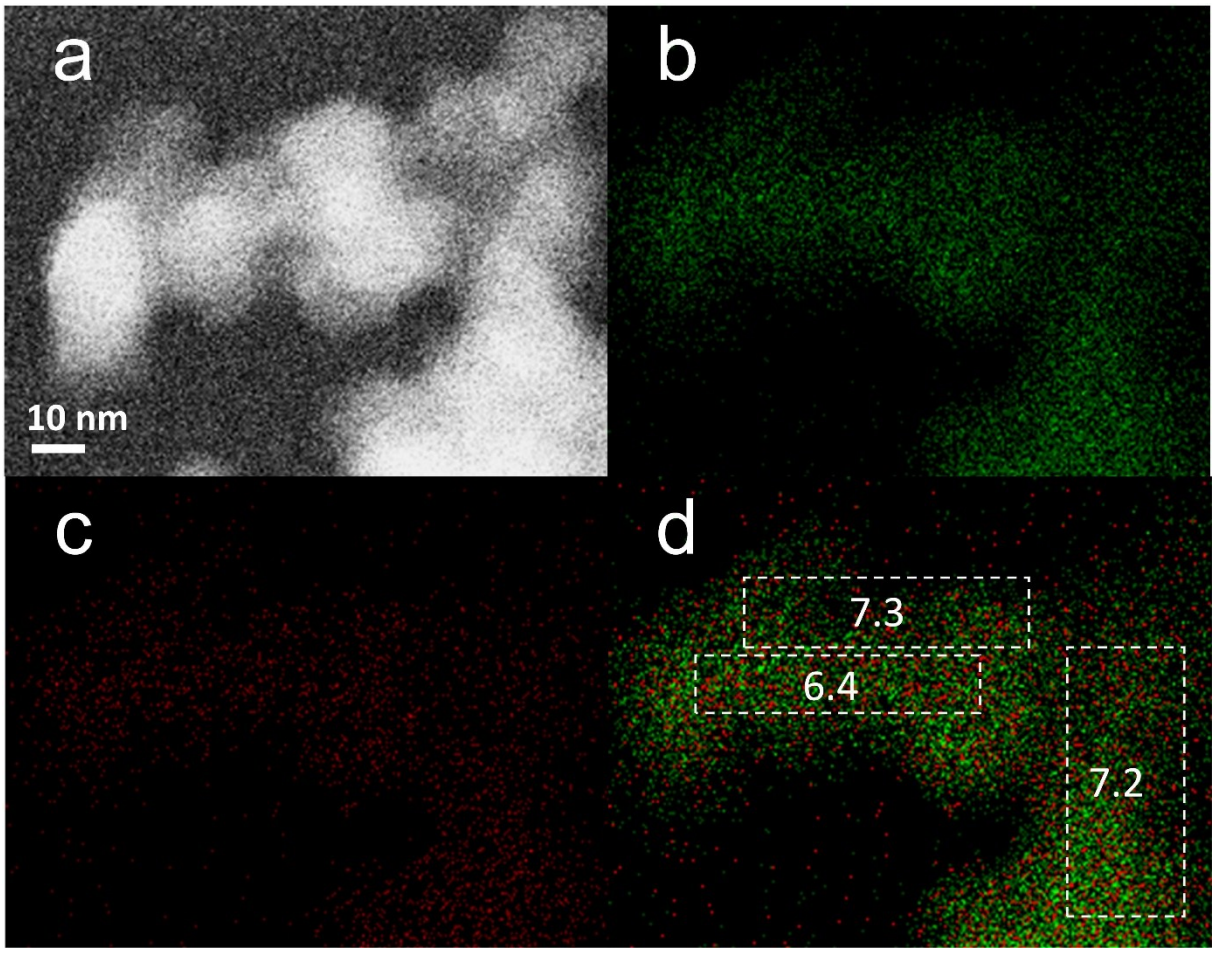

Fig. S4 STEM-EDX element mapping of the particles obtained after 45 mins of hydrothermal treatment (red, aluminum; green, silicon).

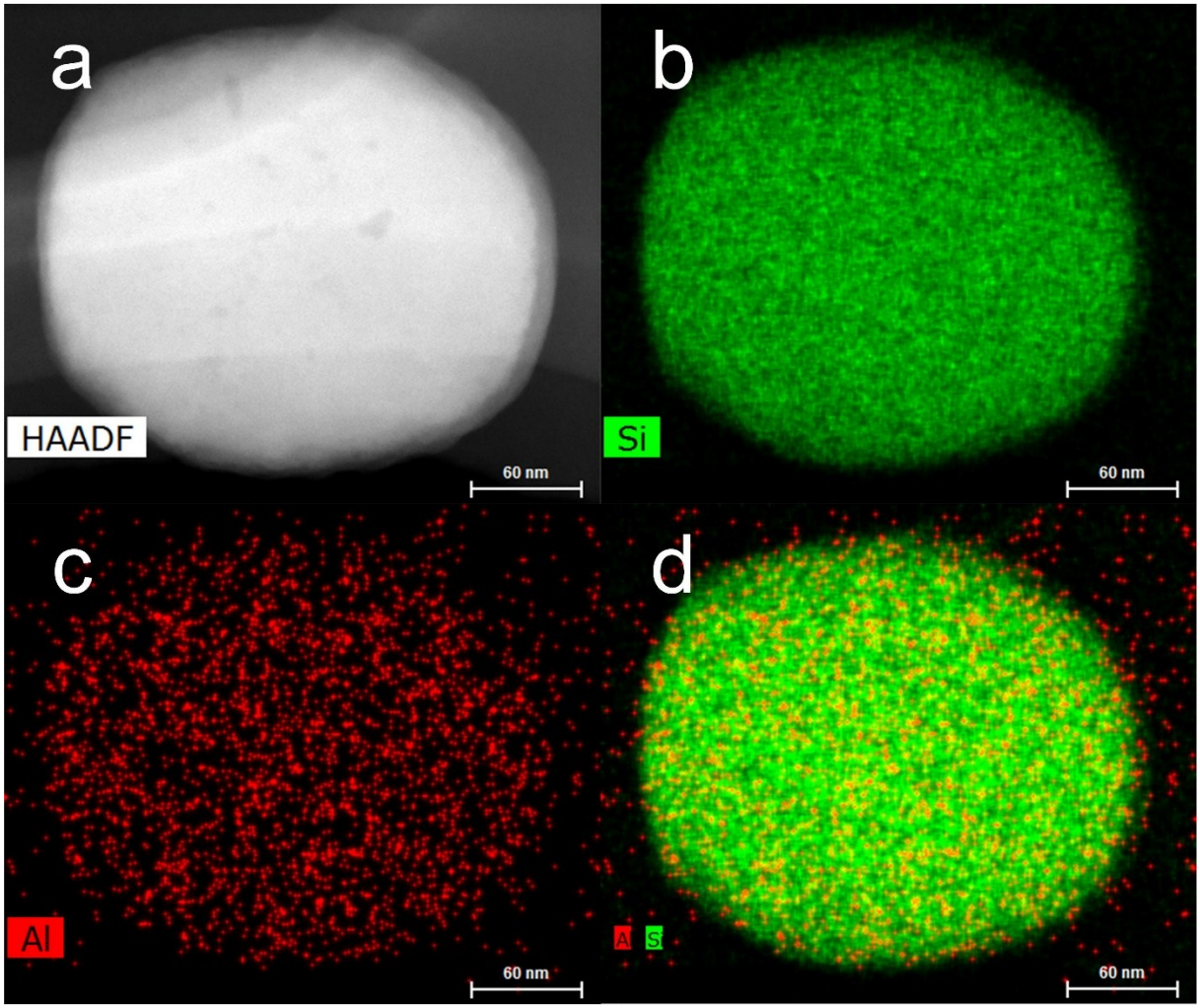

Fig. S5 STEM-EDX element mapping of the particles obtained after 52 mins of hydrothermal treatment (red, aluminum; green, silicon).

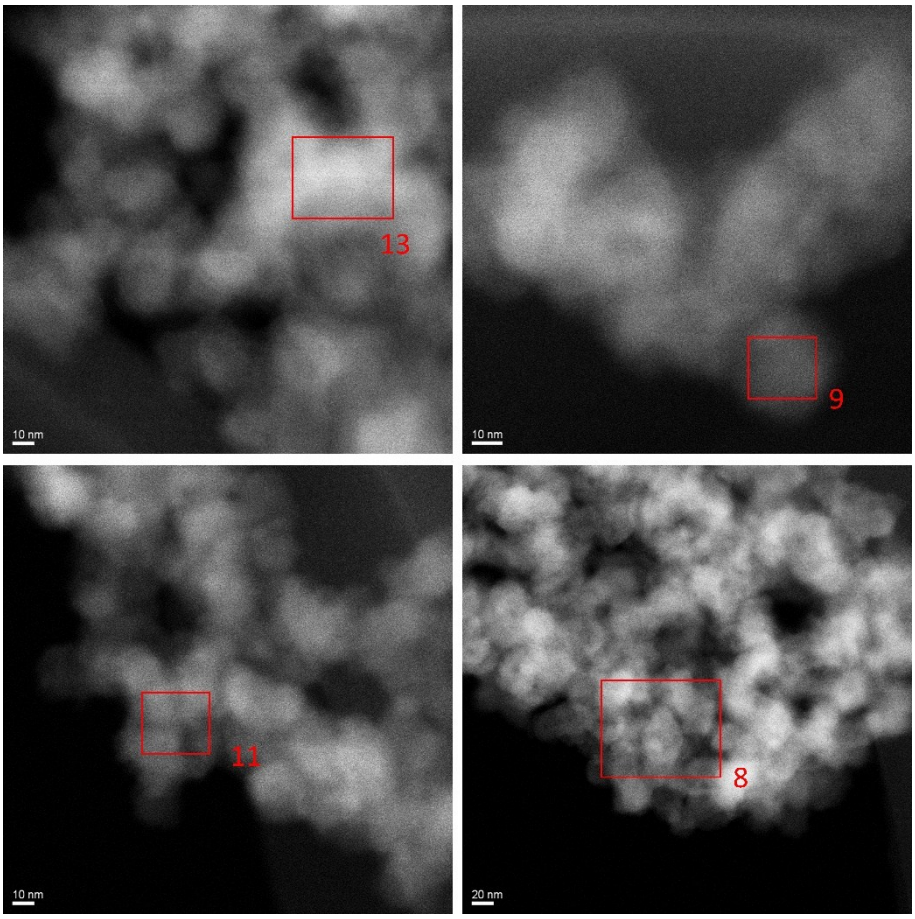

Fig. S6 STEM-EDX point analysis of the particles obtained after 45 mins of hydrothermal treatment. The areas analyzed are marked by red dashed rectangles and the silicon to aluminum ratios (SAR) are indicated nearby.

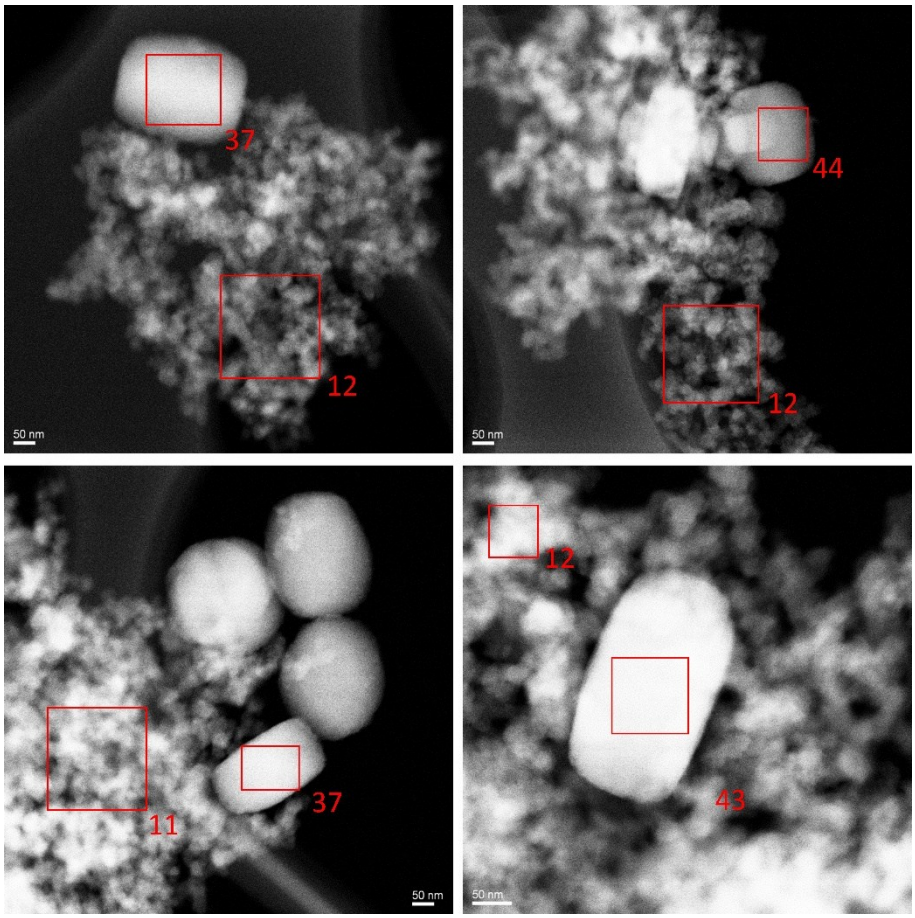

Fig. S7 STEM-EDX point analysis of the particles obtained after 52 mins of hydrothermal treatment.

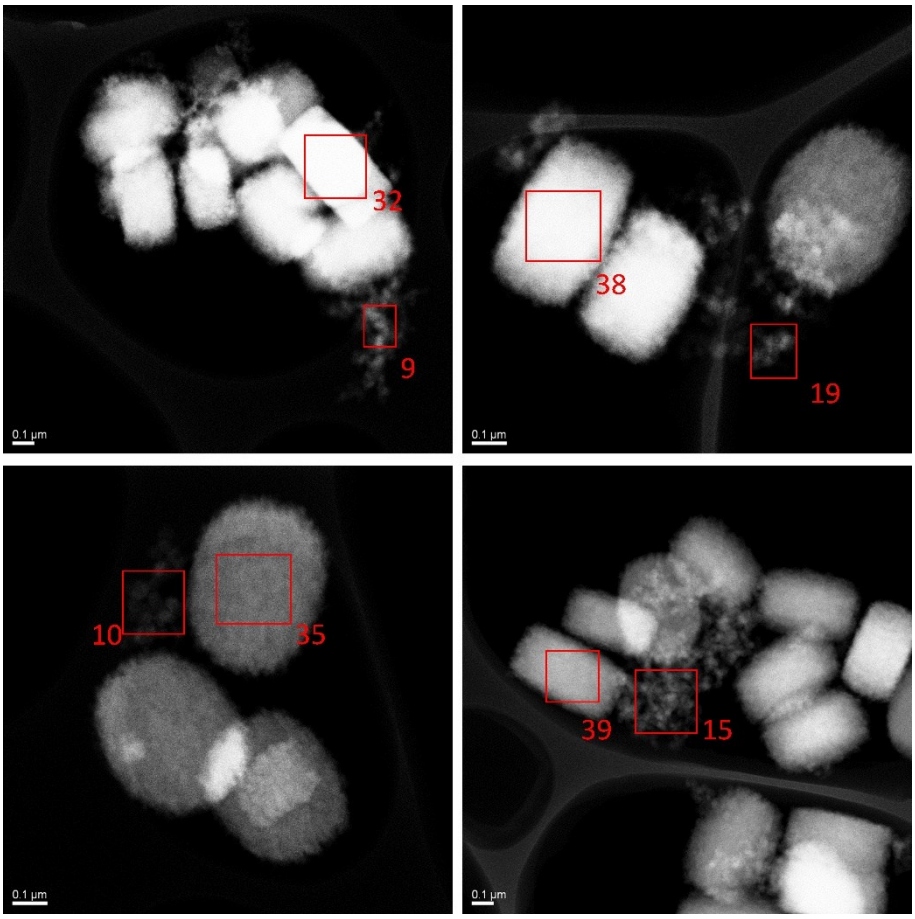

Fig. S8 STEM-EDX point analysis of the particles obtained after 1 h of hydrothermal treatment.

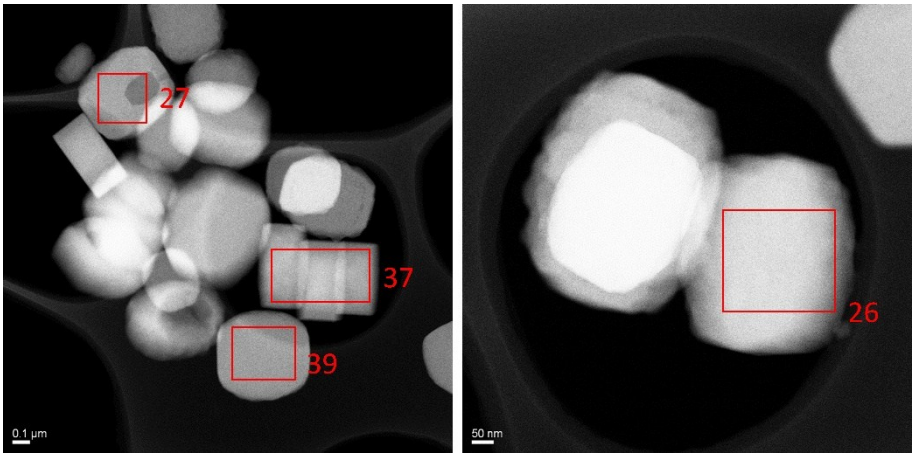

Fig. S9 STEM-EDX point analysis of the particles obtained after 24 h of hydrothermal treatment.

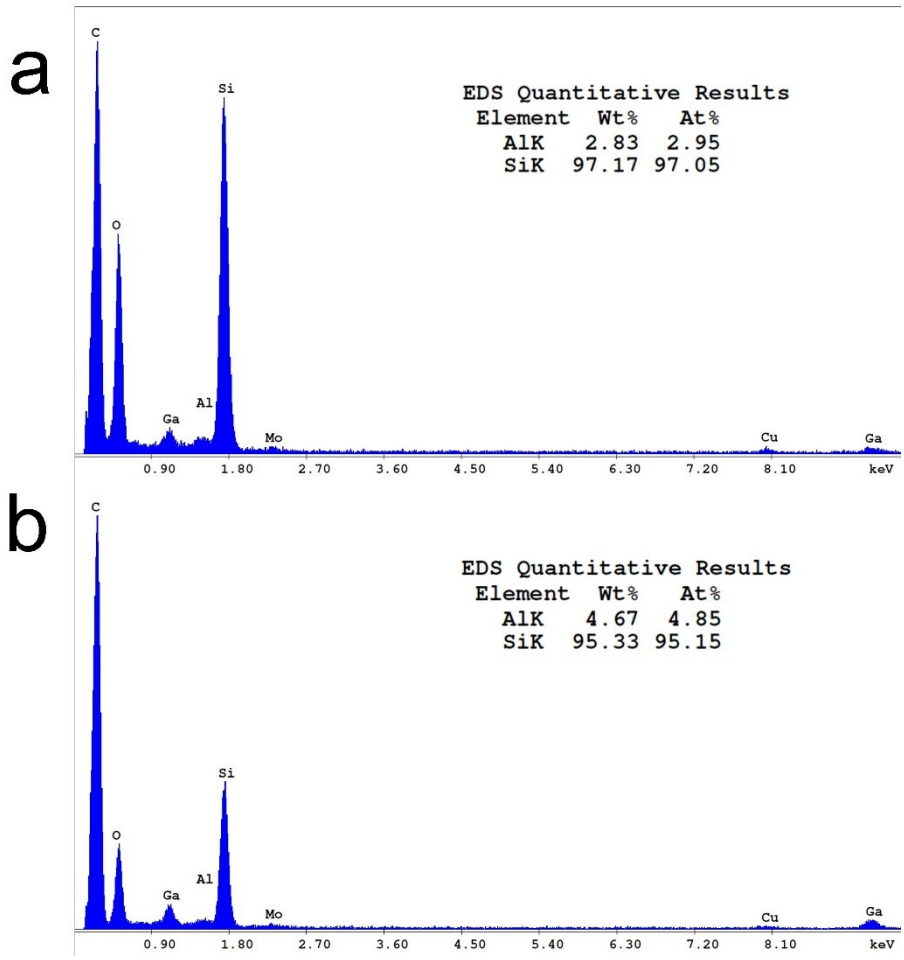

Fig. S10 STEM-EDX analysis of the FIB milled crystal of P_52m for (a) the core part and (b) the rim part. The cut crystal attached on the grid was firstly transferred to a Talos F200X microscope equipped with a X-FEG field emission gun. The instrument possesses a Super-X EDS system, deploying 4 detectors with an energy resolution better than 136 eV. The measured area of the individual zeolite crystals was chosen from the middle and the rim regions of a crystal. The integration of the signal was done by the installed software automatically and the silicon-to-aluminum ratio (SAR) was calculated by comparing the relative atomic percentage of silicon to aluminum.