

Supporting Information

Fabrication and Catalytic Properties of Three-Dimensional Ordered Zeolite Arrays with Interconnected Micro-Meso-Macroporous Structure

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Table S1 Textural parameters of AAO, SiO₂-NTAs and MFI zeolites.

Type	Theoretical Si/Al atomic ratio	Si/Al atomic ratio ^a	S _{BET} (m ² /g)	V _t ^b (cm ³ /g)	V _{mic} ^b (cm ³ /g)	V _{meso} ^b (cm ³ /g)
AAO-1	-	-	95.4	1.12	0.00	0.10
AAO-2	-	-	32.1	0.02	0.00	0.02
SiO ₂ -NTAs	-	-	40.6	0.13	0.00	0.03
	8	8.8	501.1	0.89	0.14	0.66
MFI NRAs	15	17.2	479.1	0.98	0.14	0.71
	30	32.4	557.1	1.09	0.11	0.90
MFI NRAs						
without P123	30	32.1	431.6	0.64	0.12	0.45
MFI NPs	30	33.5	452.2	0.81	0.18	0.51

^a Si/Al atomic ratios measured by ICP-OES.

^b Pore volume determined via the NLDFIT method.

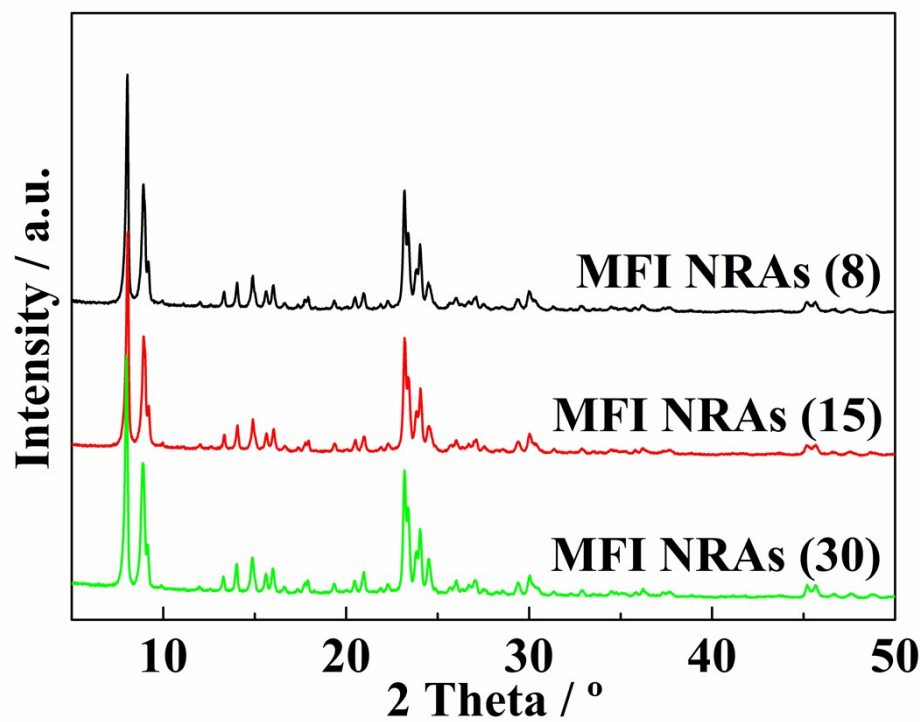


Fig. S1 XRD patterns of MFI NRAs with various Si/Al molar ratios.

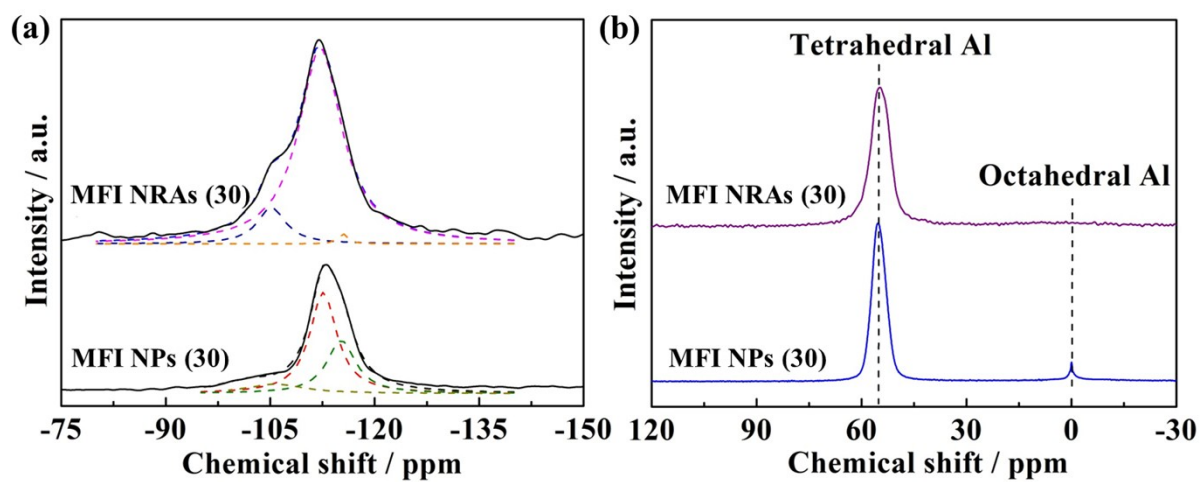


Fig. S2 (a) ^{29}Si NMR and (b) ^{27}Al NMR of the MFI NRAs (30) and the MFI NPs (30).

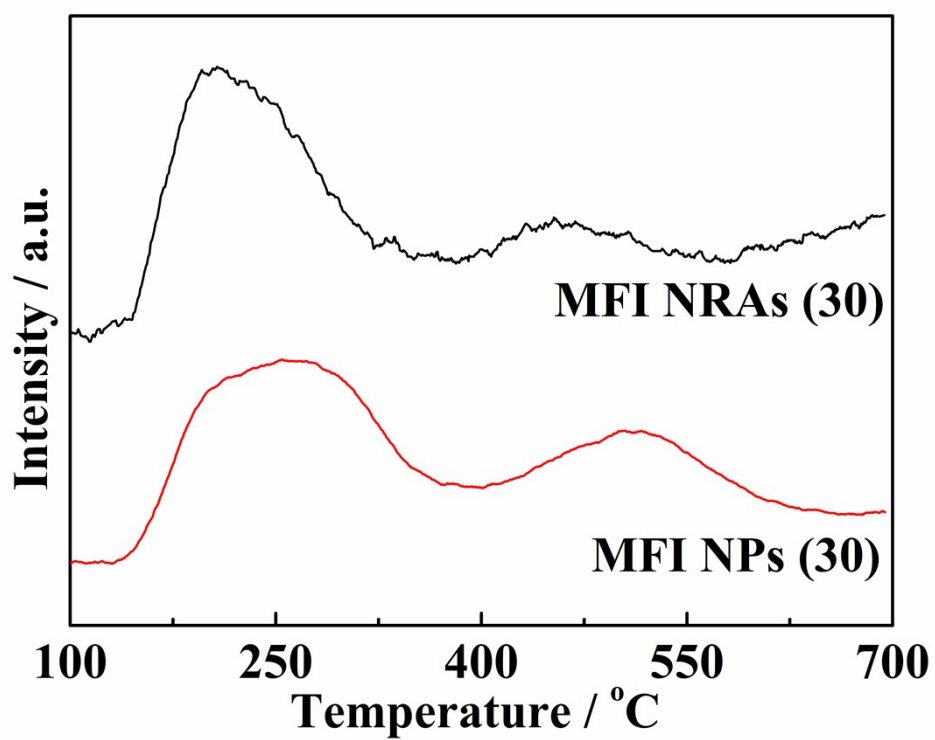


Fig. S3 NH₃ temperature-programmed desorption profiles for MFI NRAs (30) and MFI NPs (30).

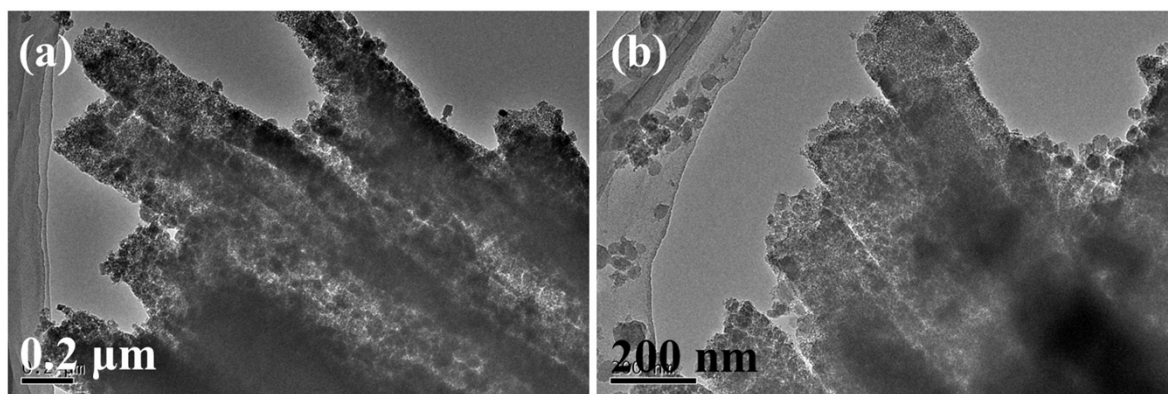


Fig. S4 MFI NRAs (30) after (a) calcination (in air, 1000 °C, 2h) and (b) sonication treatment (high frequency (HF) = 50kHz, 100W, 1h).

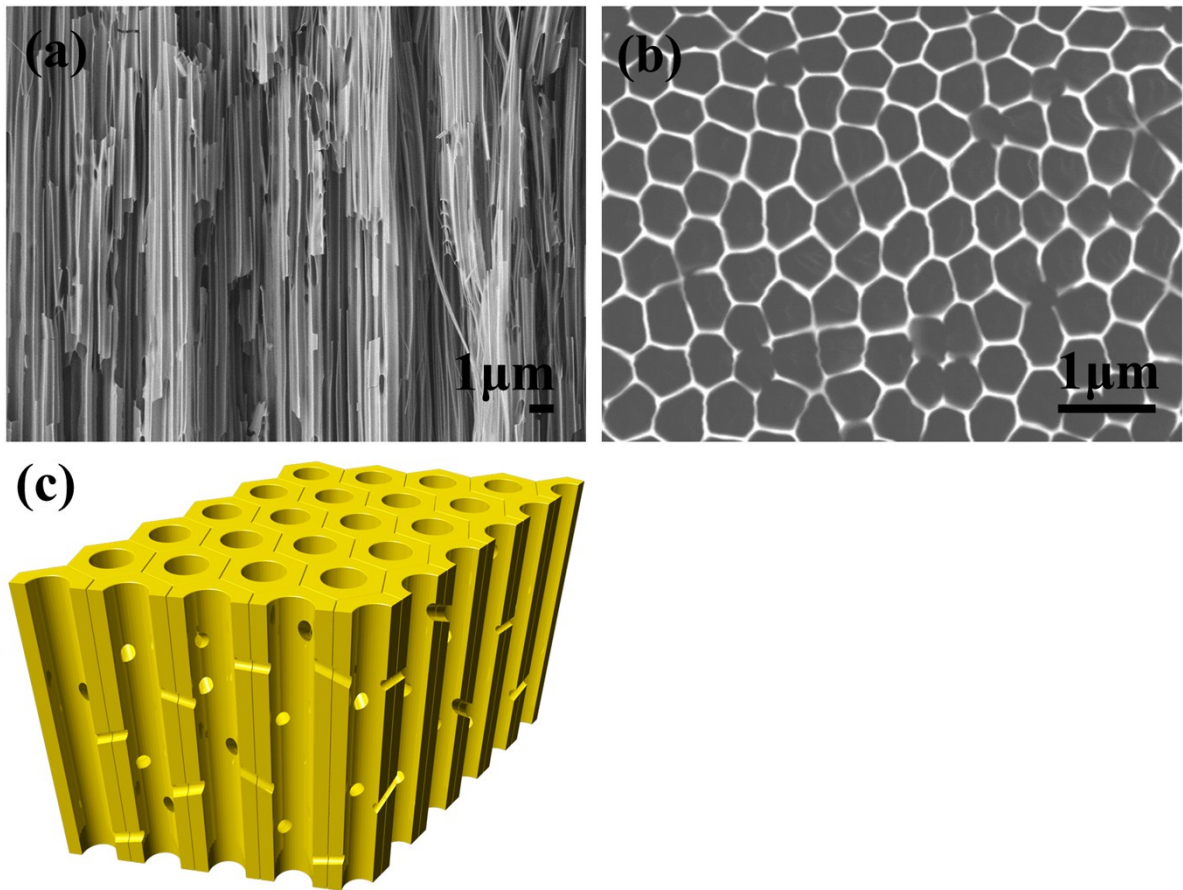


Fig. S5 SEM images of the AAO-1: (a) cross-sectional view, (b) top view. (c) Schematic illustration of AAO-1.

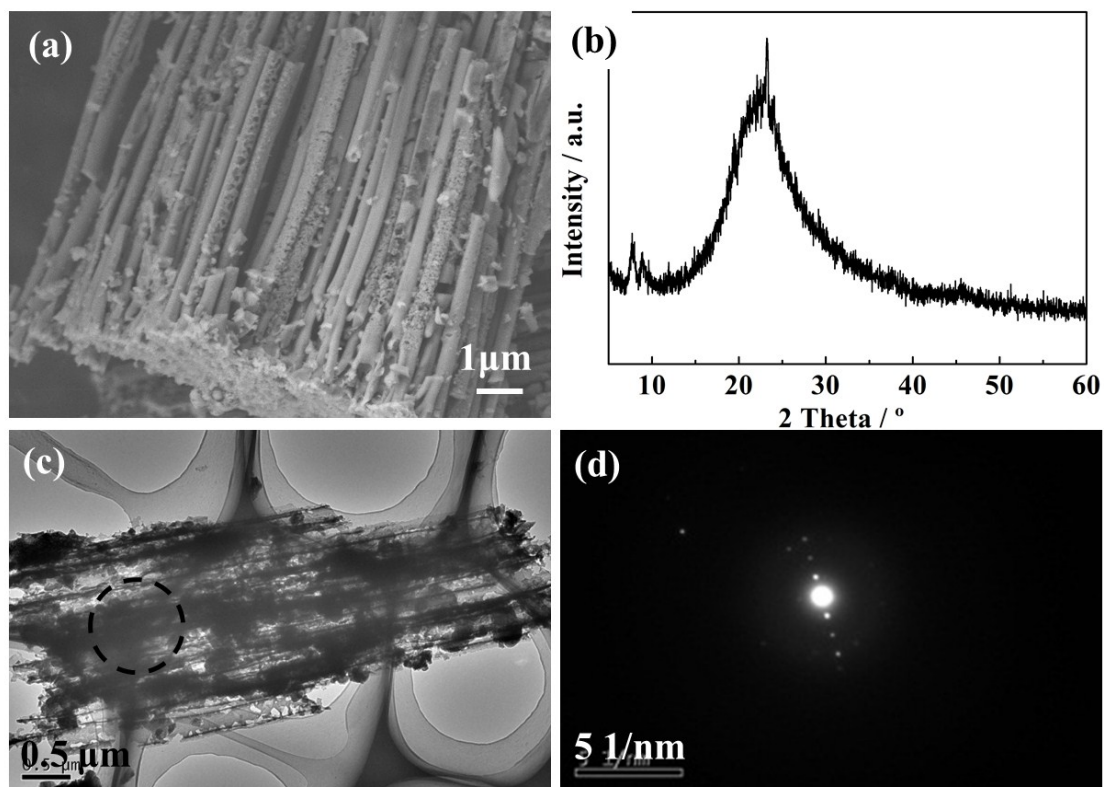


Fig. S6 The obtained products using impregnation of zeolite seeds instead of in-situ formation of zeolite seeds: (a) SEM images, (b) XRD patterns, (c) TEM images and (d) the corresponding SAED patterns taken from the circled areas of (c).

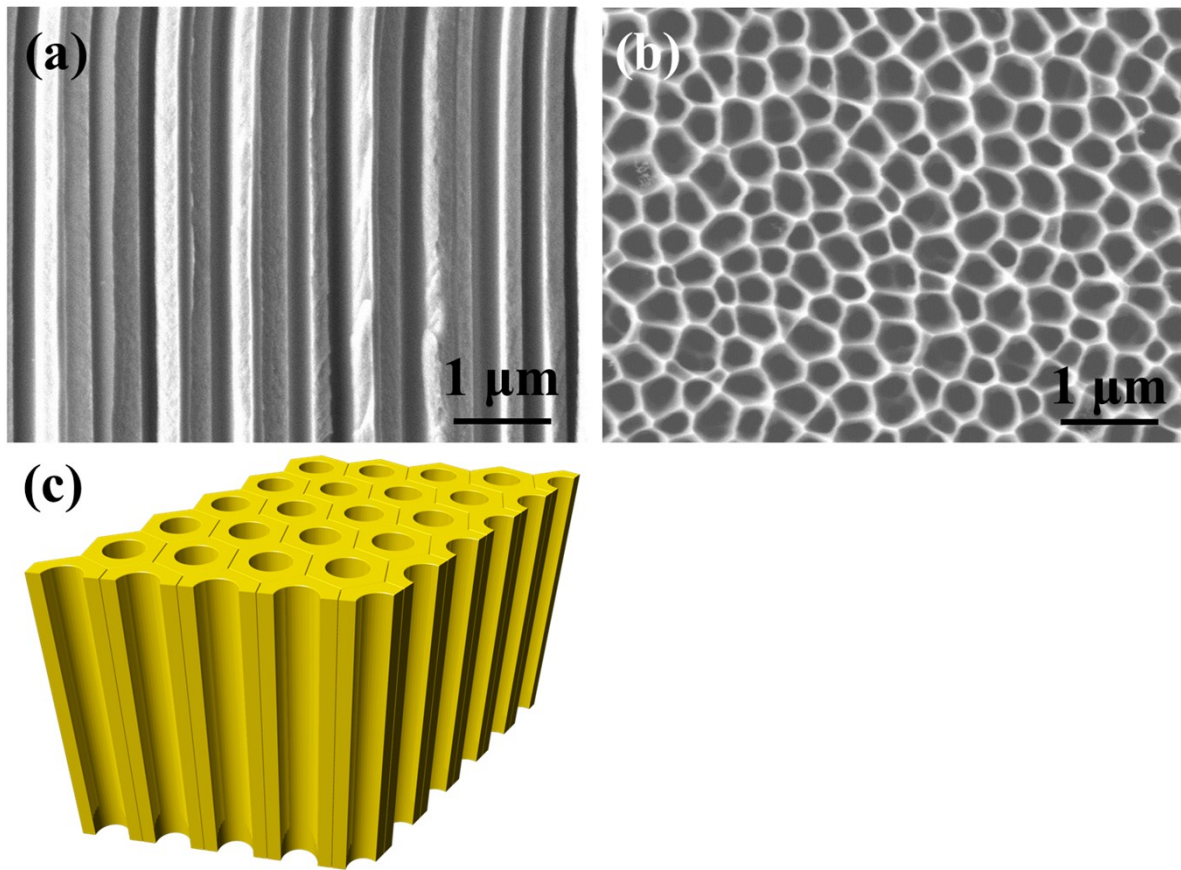


Fig. S7 SEM images of the AAO-2: (a) cross-sectional view, (b) top view. (c) Schematic illustration of AAO-2.

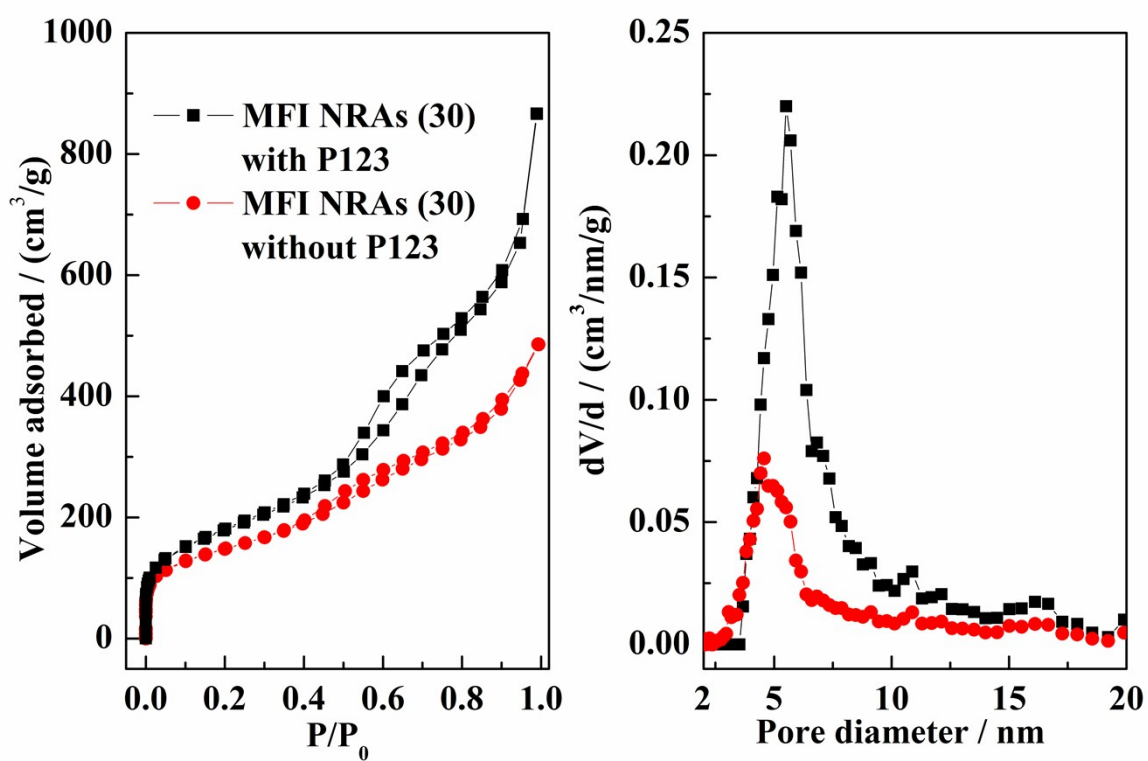


Fig. S8 (a) Ar adsorption/desorption isotherms and (b) their pore size distribution of MFI NRAs (30) with and without P123.