

Preparation of MAZ-Type Zeolite with High Silica

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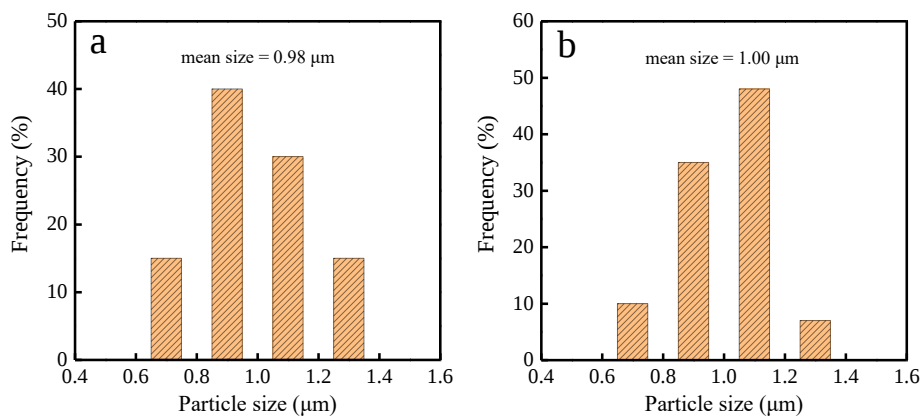


Figure S1. Particle size distribution of (a) A1-C5 and (b) A2-C3 MAZ samples.

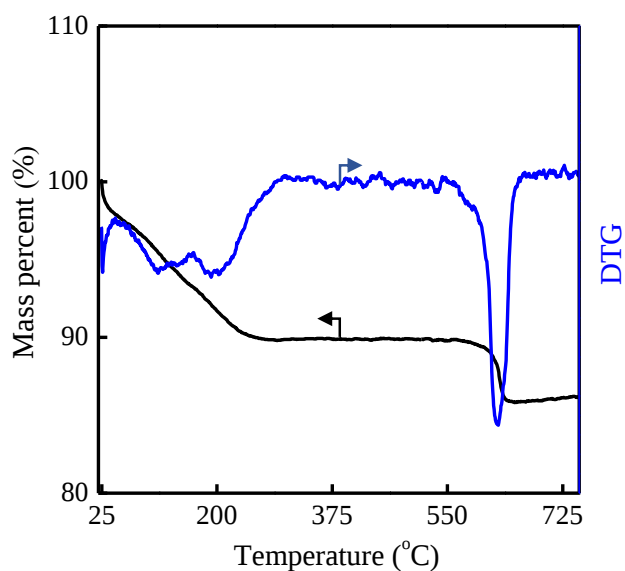


Figure S2. TG and DTG curves of as-prepared A1-C5 sample.

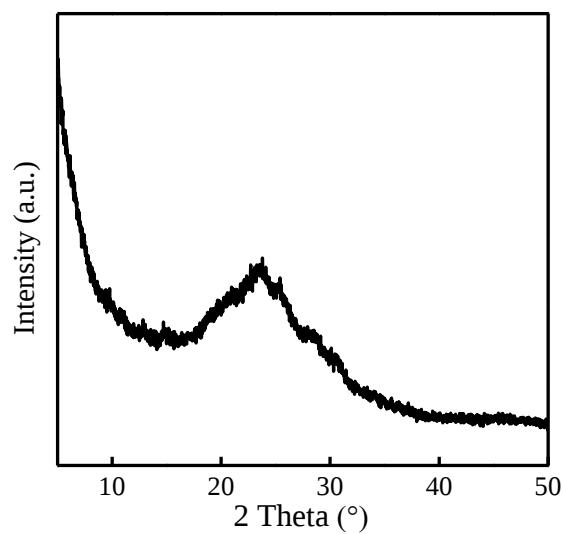


Figure S3. XRD pattern of HNO₃ treated MAZ zeolite. Treatment conditions: HNO₃, 0.2 mol L⁻¹; Solid-to-liquid, 1 g: 20 mL; temperature, 80 °C, time, 2 h.

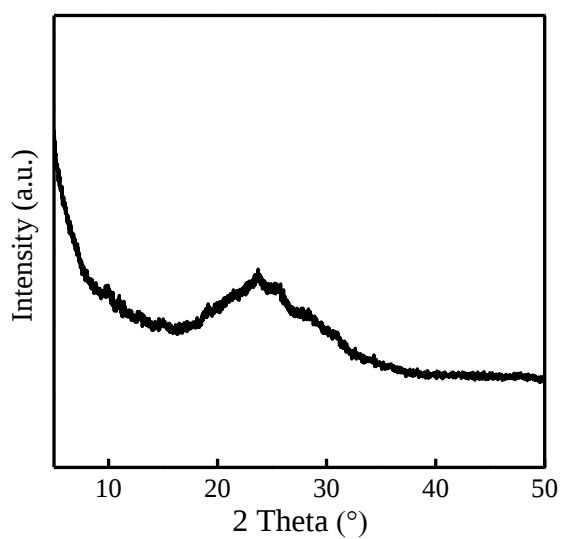


Figure S4. XRD pattern of hydrochloric acid treated MAZ zeolite. Treatment conditions: hydrochloric acid, 0.2 mol L⁻¹; Solid-to-liquid, 1 g: 20 mL; room temperature, time, 2 h.

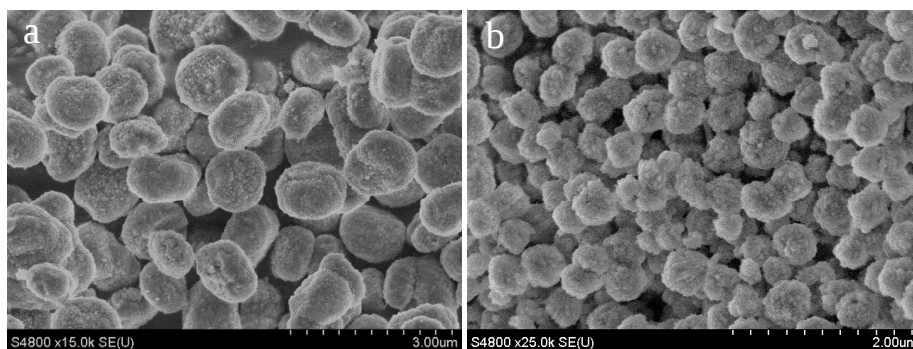


Figure S5. SEM images of MAZ zeolite with (a) Si/Al molar ratio of 7.5 obtained by acid treatment and (b) with Si/Al molar ratio of 16.9 obtained by steaming treatment.

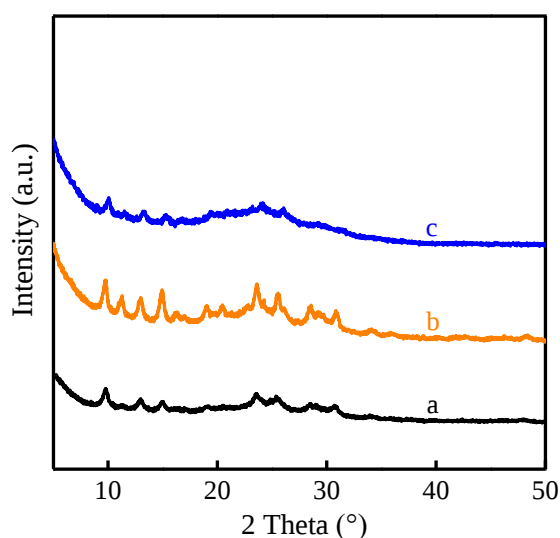


Figure S6. XRD patterns of MAZ zeolite after steaming at 750 °C for 2 h with (a) initial Si/Al molar ratio of 7.5 obtained by the combination treatment of acetic acid and hydrochloric acid, (b) with initial Si/Al molar ratio of 16.9 obtained by steaming treatment, and (c) with initial Si/Al molar ratio of 6.4 obtained by interzeolite transformation.

Table S1 Textural properties of MAZ zeolites after acid treatment and steaming.

No .	Sample	Si/Al ^a	S _{BET} ^b (m ² g ⁻¹)	Pore volume (cm ³ g ⁻¹)		
				V _{total} ^c	V _{micro} ^d	V _{meso} ^e
1	MAZ	4.0	412	0.24	0.13	0.11
2	MAZ-acid treatment	7.5	393	0.23	0.11	0.12
3	MAZ-steaming	16.9	489	0.28	0.09	0.19

^a Analyzed by ICP technique.

^b Specific surface area (S_{BET}), estimated by N₂ adsorption at -196 °C using the BET method.

^c Total pore volume (V_{total}), as calculated from the adsorption capacity at P/P₀ = 0.95.

^d Microporous volume (V_{micro}), as determined by the *t*-plot method.

^e Mesoporous volume (V_{meso}), V_{meso} = V_{total} - V_{micro}.