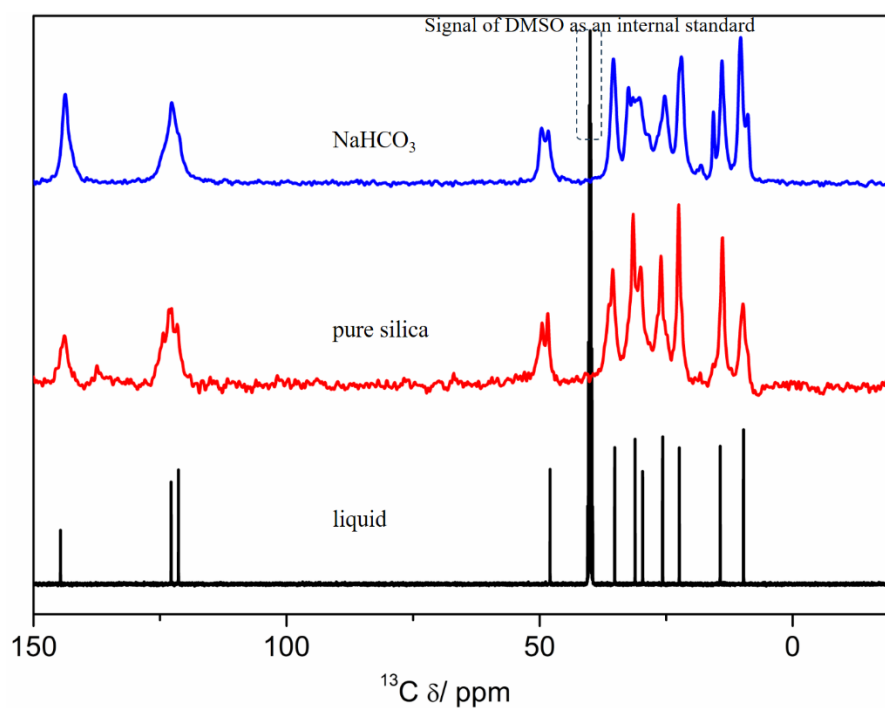
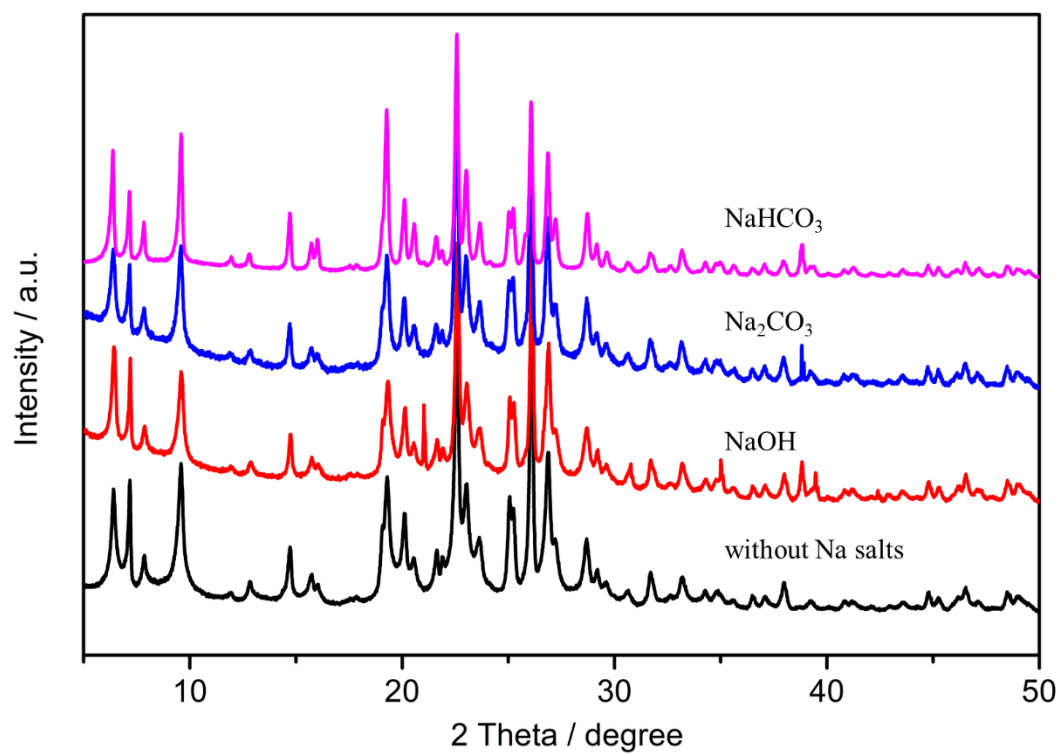


# Morphology Regulation of Zeolite MWW via Classical/Nonclassical Crystallization Pathways

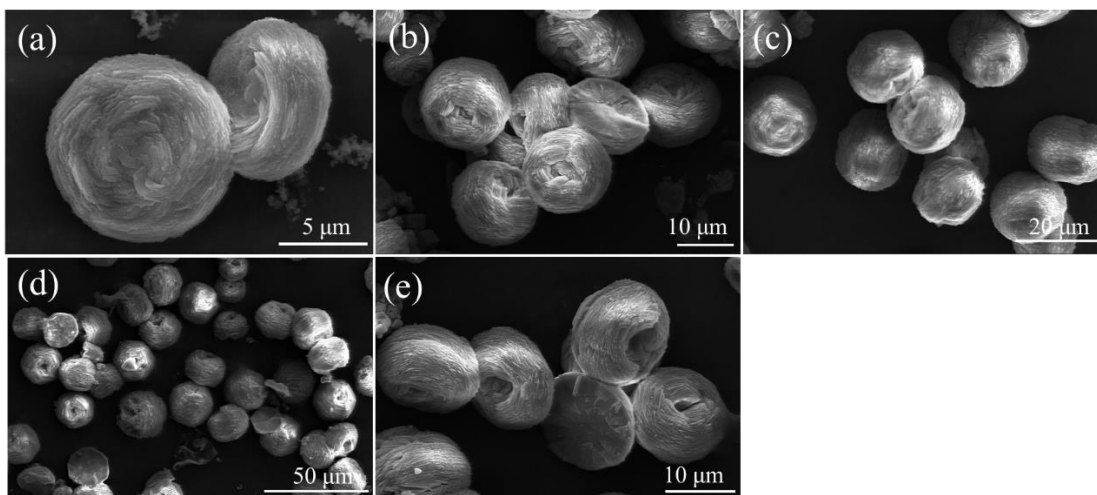
Wenwen Zi <sup>1,\*</sup>, Zejing Hu <sup>1</sup>, Xiangyu Jiang <sup>1</sup>, Junjun Zhang <sup>2</sup>, Chengzhi Guo <sup>1</sup>, Konggang Qu <sup>1</sup>, Shuo Tao <sup>1</sup>, Dengran Tan <sup>1</sup> and Fangling Liu <sup>1</sup>



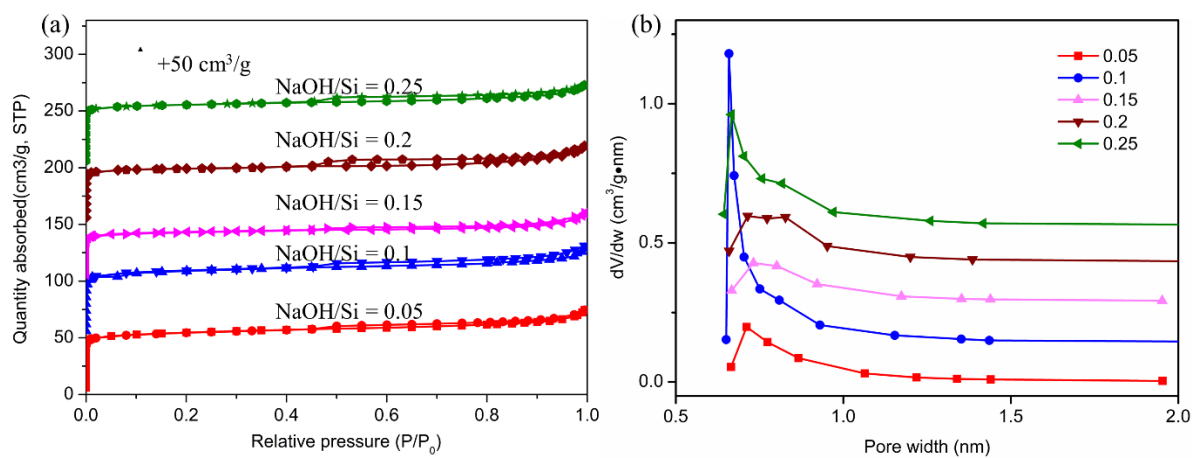
**Figure S1.** Comparison of  $^{13}\text{C}$  NMR spectra of the synthesized sample and the liquid NMR in  $\text{D}_2\text{O}$ .



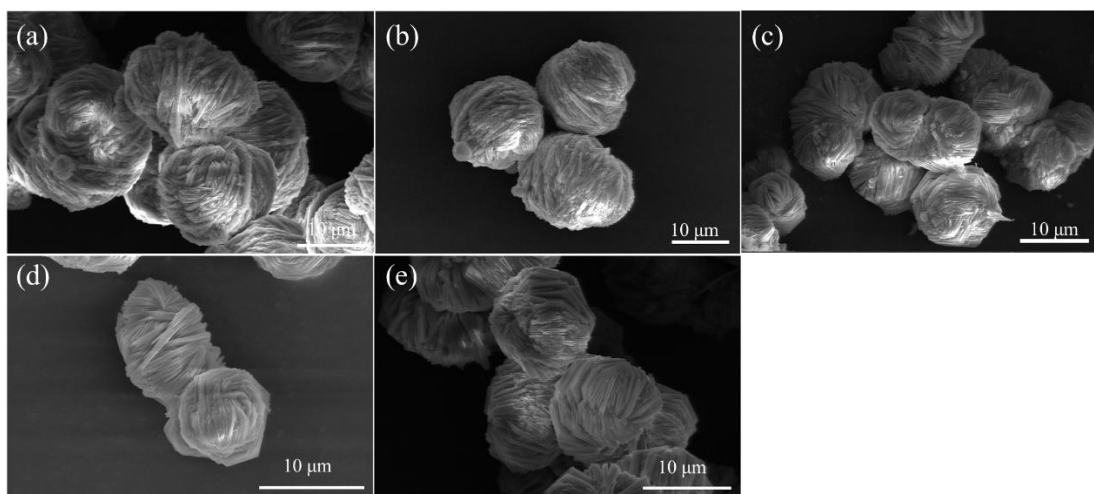
**Figure S2.** PXRD patterns of the samples with  $\text{NaOH}$ ,  $\text{Na}_2\text{CO}_3$ ,  $\text{NaHCO}_3$ .



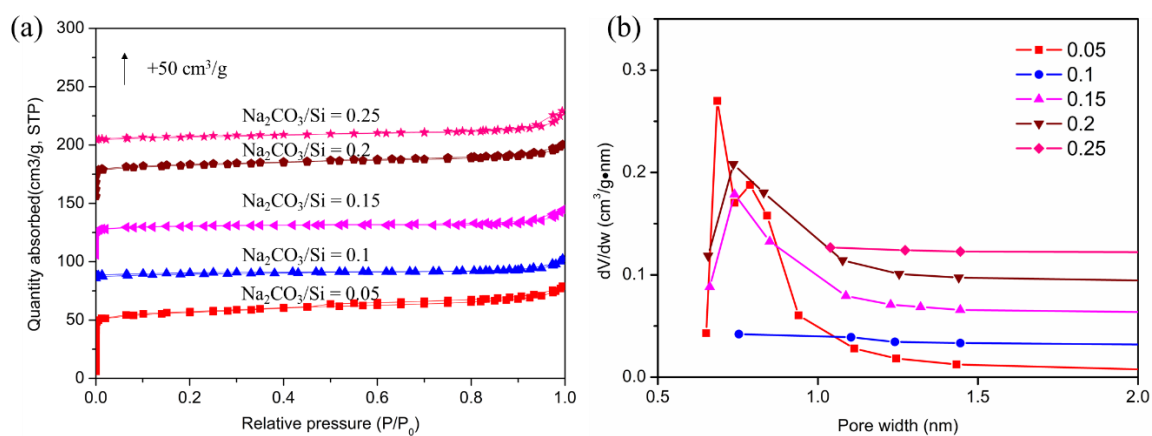
**Figure S3.** SEM images of the samples with different ratio of NaOH/Si (a: 0.05, b: 0.1, c: 0.15, d: 0.2, e: 0.25).



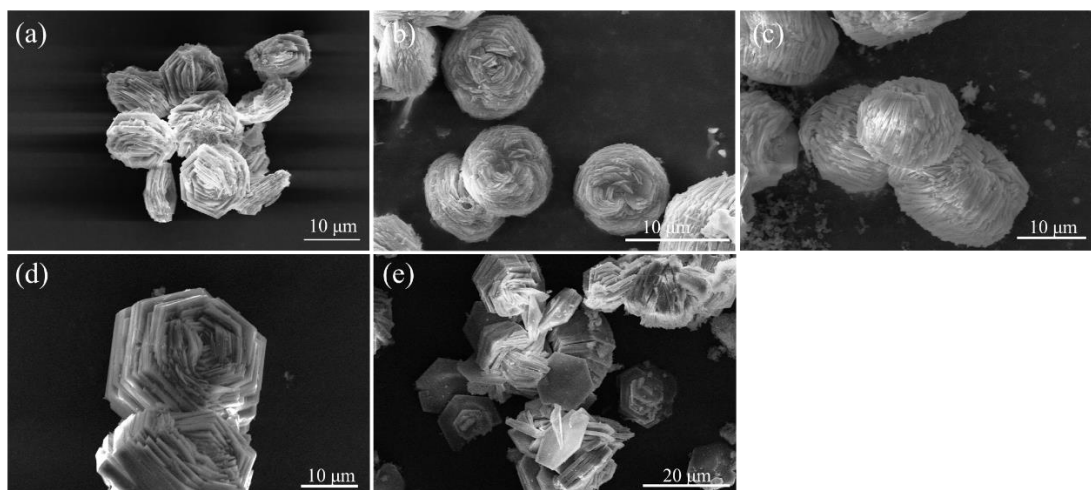
**Figure S4.** N<sub>2</sub> adsorption/desorption isotherms and pore size distribution of NaOH/Si.



**Figure S5.** SEM images of the samples with different ratio of  $\text{Na}_2\text{CO}_3/\text{Si}$  (a: 0.05, b: 0.25, c: 0.1, d: 0.15, e: 0.2).

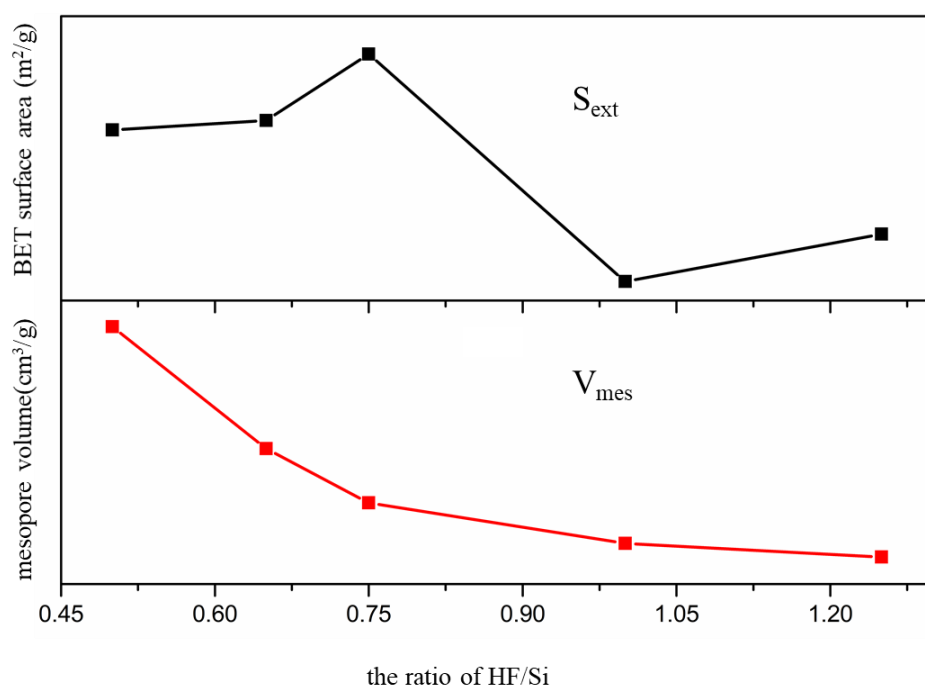


**Figure S6.**  $\text{N}_2$  adsorption/desorption isotherms and pore size distribution of  $\text{Na}_2\text{CO}_3/\text{Si}$ .

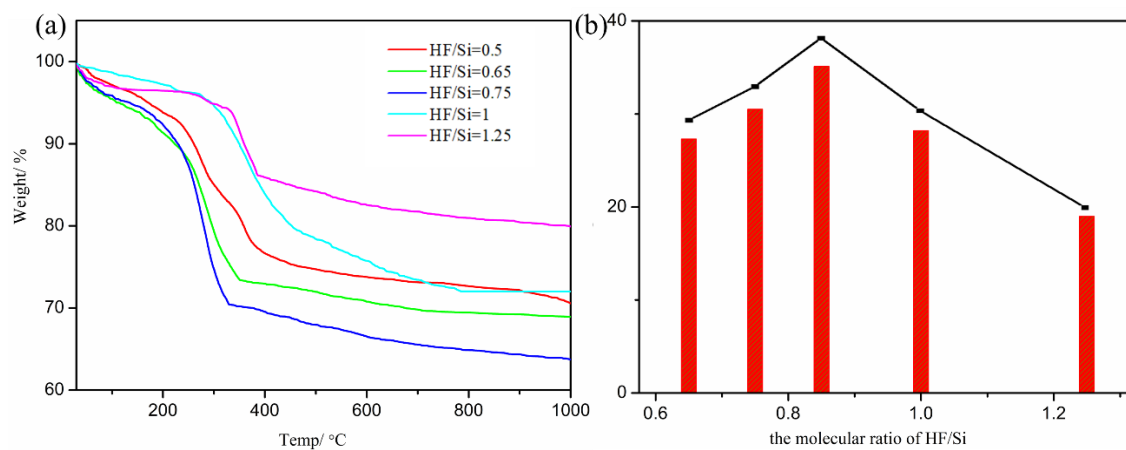


**Figure S7.** SEM images of the samples with the addition of  $\text{NaHCO}_3$  under different ratio of

$\text{HF/Si}$  (a: 0.5, b: 0.65, c: 0.75, d: 1, e: 1.25).

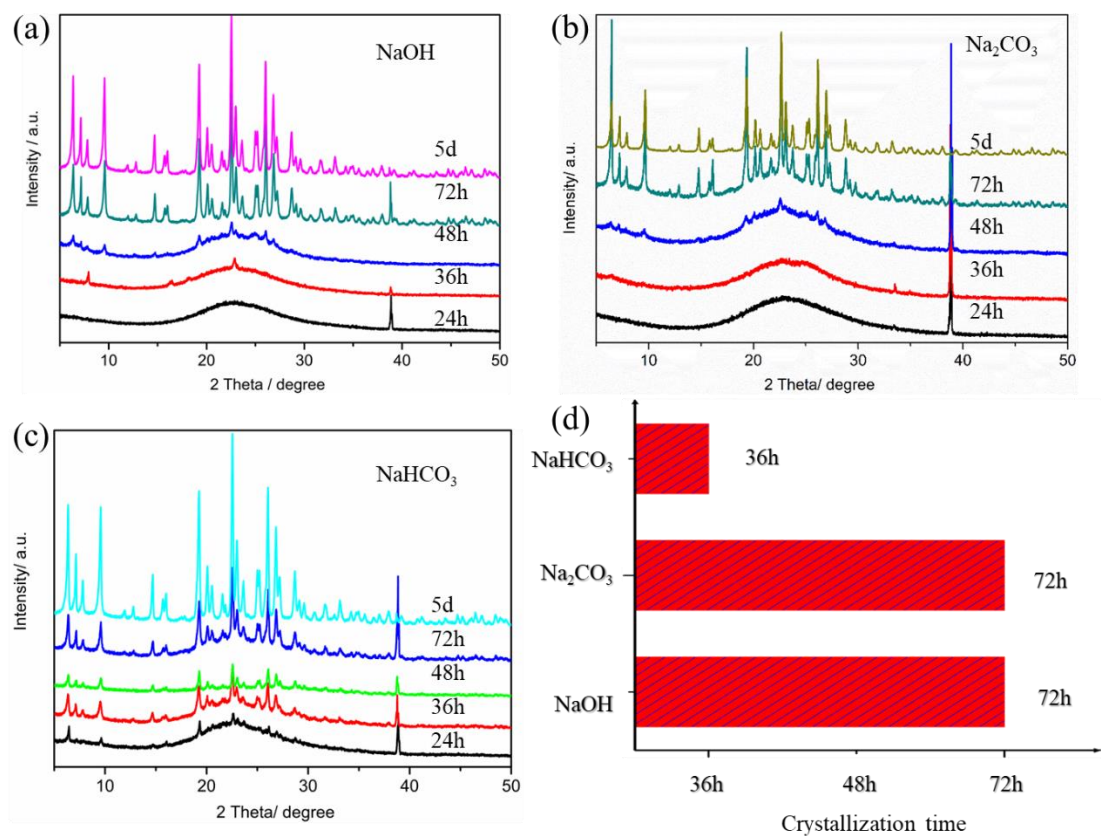


**Figure S8.** The effect of HF on the  $S_{\text{ext}}$  and  $V_{\text{mes}}$  in the  $\text{NaHCO}_3$ -MWW samples.



**Figure S9.** (a) TG analysis of the samples with the addition of  $\text{NaHCO}_3$  under different ratio of

HF/Si (a: 0.5, b: 0.65, c: 0.75, d: 1, e: 1.25) and (b) the mass loss comparison.



**Figure S10.** PXRD patterns of samples with different kinds of Na salts subjected to the crystallization time and the comparison of the nucleation time.

**Table S1.** EDS data for the samples with the addition of different ratio of NaOH/Si.

Run	NaOH/Si	Si(wt%)	O(wt%)	C(wt%)	N(wt%)	F(wt%)	Na(wt%)
1	0.05	50.17	30.46	16.32	2.02	0.67	0.36
2	0.1	39.21	40.95	15.21	3.02	1.31	0.30
3	0.15	49.84	30.15	19.66	1.33	0	0.02
4	0.2	48.90	34.74	13.71	2.36	0.29	0
5	0.25	41.00	41.77	13.81	2.72	0.62	0.08

**Table S2.** EDS data for the samples with the addition of different ratio of Na<sub>2</sub>CO<sub>3</sub>/Si.

Run	Na <sub>2</sub> CO <sub>3</sub> /Si	Si(wt%)	O(wt%)	C(wt%)	N(wt%)	F(wt%)	Na(wt%)
1	0.05	40.71	41.00	14.40	2.98	0.84	0.08
2	0.1	51.66	33.51	13.60	1.11	0	0.11
3	0.15	46.86	36.88	13.55	2.37	0.22	0.13
4	0.2	46.65	36.40	14.34	2.36	0.25	0
5	0.25	47.07	35.35	14.79	2.44	0.31	0.05

**Table S3.** EDS data for the samples with the addition of NaHCO<sub>3</sub> under different ratio of HF/Si.

Run	HF/Si	Si(wt%)	O(wt%)	C(wt%)	N(wt%)	F(wt%)	Na(wt%)
1	0.5	58.98	24.45	15.25	0.91	0.29	0.11
2	0.65	70.19	19.47	10.22	0	0.11	0.02
3	0.75	39.11	43.60	13.73	2.82	0.61	0.12
4	1	35.63	40.28	18.83	3.94	1.21	0.12
5	1.25	43.69	37.87	14.92	2.58	0.68	0.26