Supplementary Material (ESI) for Chemical Communications

Electronic supplementary information for

Sonochemical Synthesis of MOF-5

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Power Level	**Heating rate**	**Time taken to reach 100 °C**	**Initial crystal formation observed**	**Final synthesis temperature**
(%)	(°C/min)	(min)	(min)	(°C)
10%	8.41	8.55	30.0	129
20%	14.3	5.15	16.5	141
30%	17.8	4.17	8.10	155
50%	25.0	2.87	4.80	164

Table S1. SEM images of S-MOF-5 at different power levels: molar ratio = 1($Zn(NO_3)_2 \cdot 6H_2O$) : 0.33(terephthalic acid) : 90(NMP). (P=power %, M= sustained sonication time after observing the initial formation of white crystals)

Samples	Surface area	Pore Volume
	(Langmuir, m^2/g)	(cm^3/g)
C-MOF-5	3200	1.21
S-MOF-5_P30_M10	3208	1.26
S-MOF-5_P30_M20	1742	-
S-MOF-5_P30_M30	854	-
S-MOF-5_P50_M10	3197	1.2
S-MOF-5_P50_M20	846	-
S-MOF-5_P50_M30	761	-

Table S2. Textural properties of S-MOF-5 (P=power %, M= sustained sonication time after observing the initial formation of white crystals)

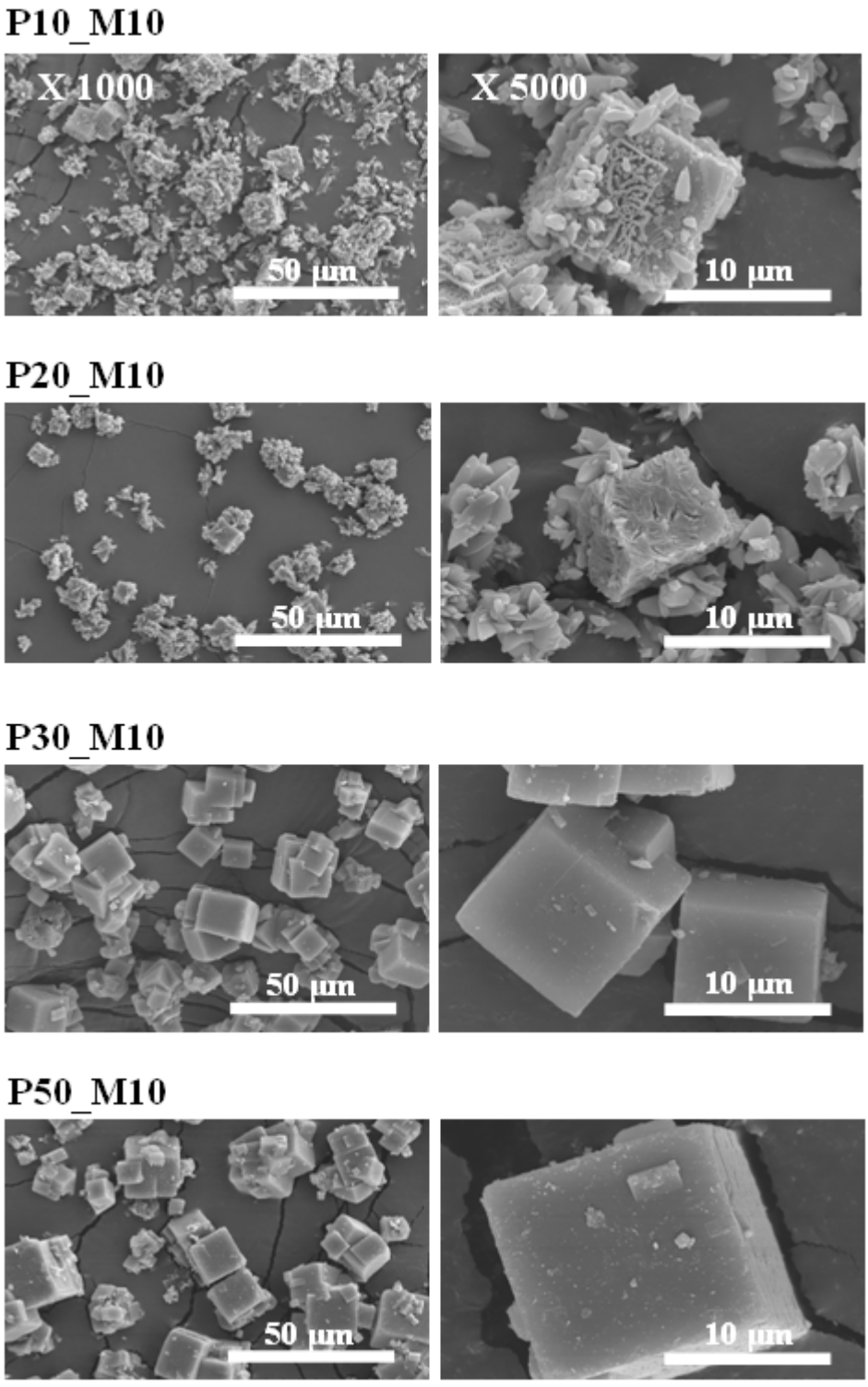

Fig. S1 SEM images of S-MOF-5 at different power levels: molar ratio = 1($Zn(NO_3)_2 \cdot 6H_2O$) : 0.33(terephthalic acid) : 90(NMP). (P=power %, M= sustained sonication time after observing the initial formation of white crystals)

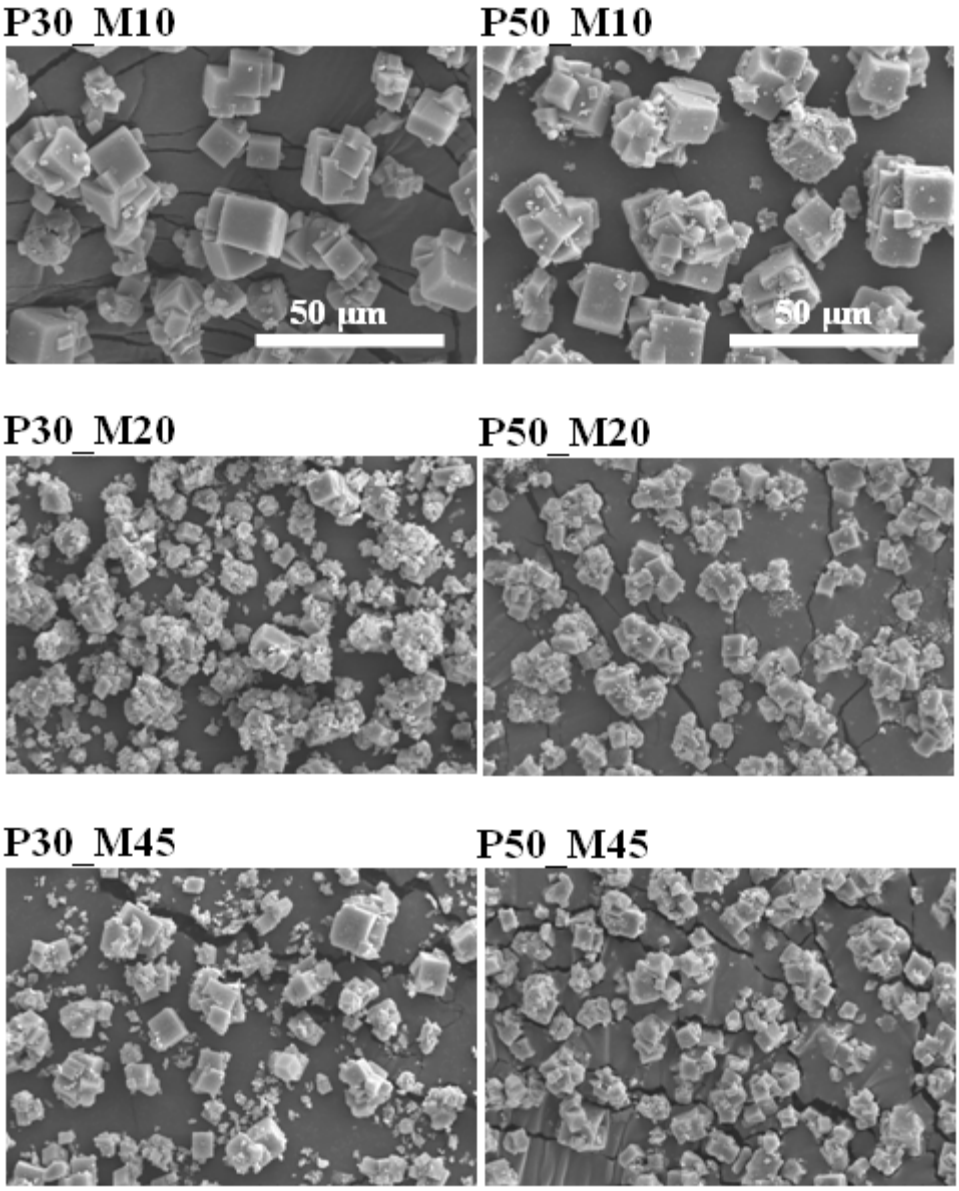

Fig. S2 SEM images of S-MOF-5: molar ratio = 1($Zn(NO_3)_2 \cdot 6H_2O$) : 0.33(terephthalic acid) : 90(NMP), sustained sonication time(M) : 10, 20, 45 min.

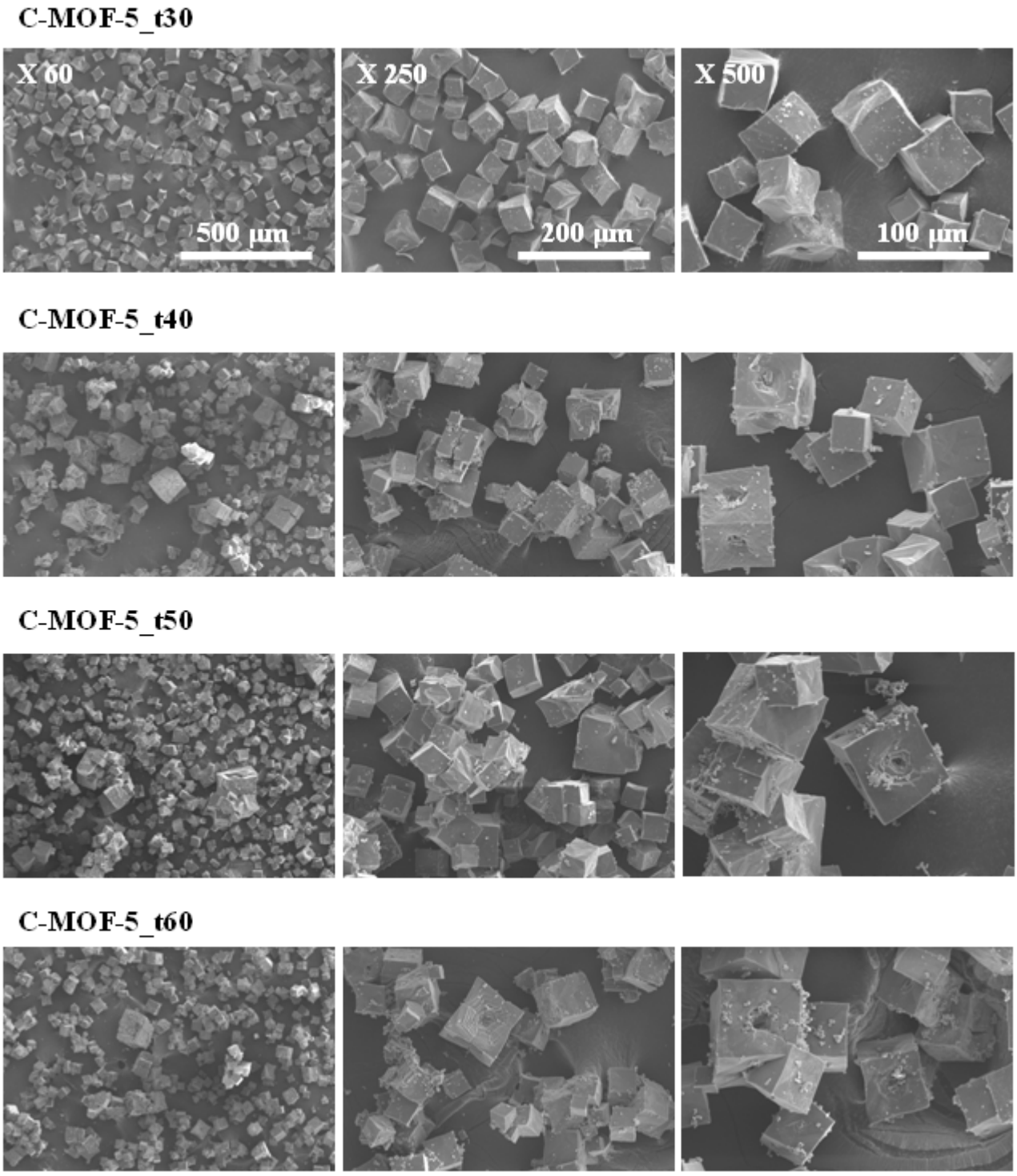

Fig. S3 SEM images of C-MOF-5 at different reaction times (NMP) in a convection oven at 155 ^{o}C: molar ratio=1($Zn(NO_3)_2 \cdot 6H_2O$) : 0.33(terephthalic acid) : 90(NMP). (t= reaction time)

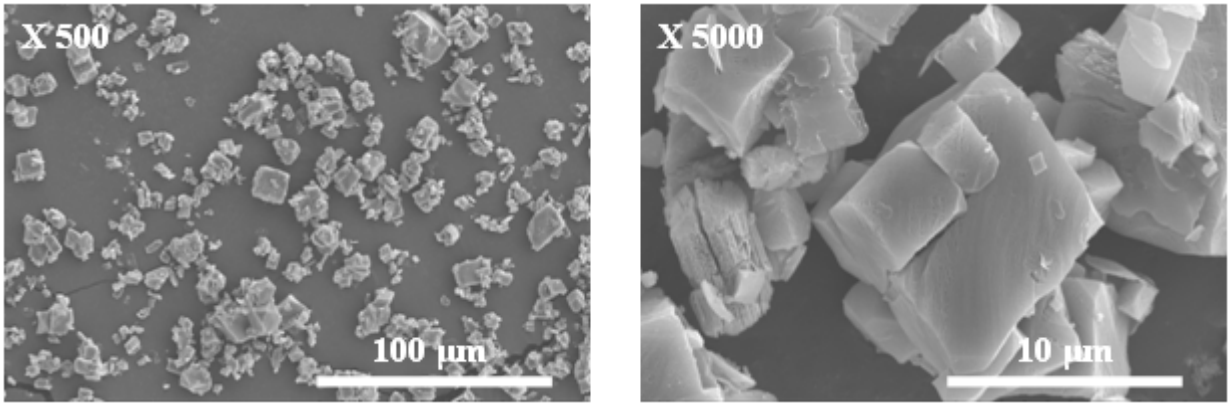

Fig. S4 SEM images of S-MOF-5 prepared using DEF as the solvent: molar ratio = 1($Zn(NO_3)_2 \cdot 6H_2O$) : 0.33(terephthalic acid) : 90(DEF).

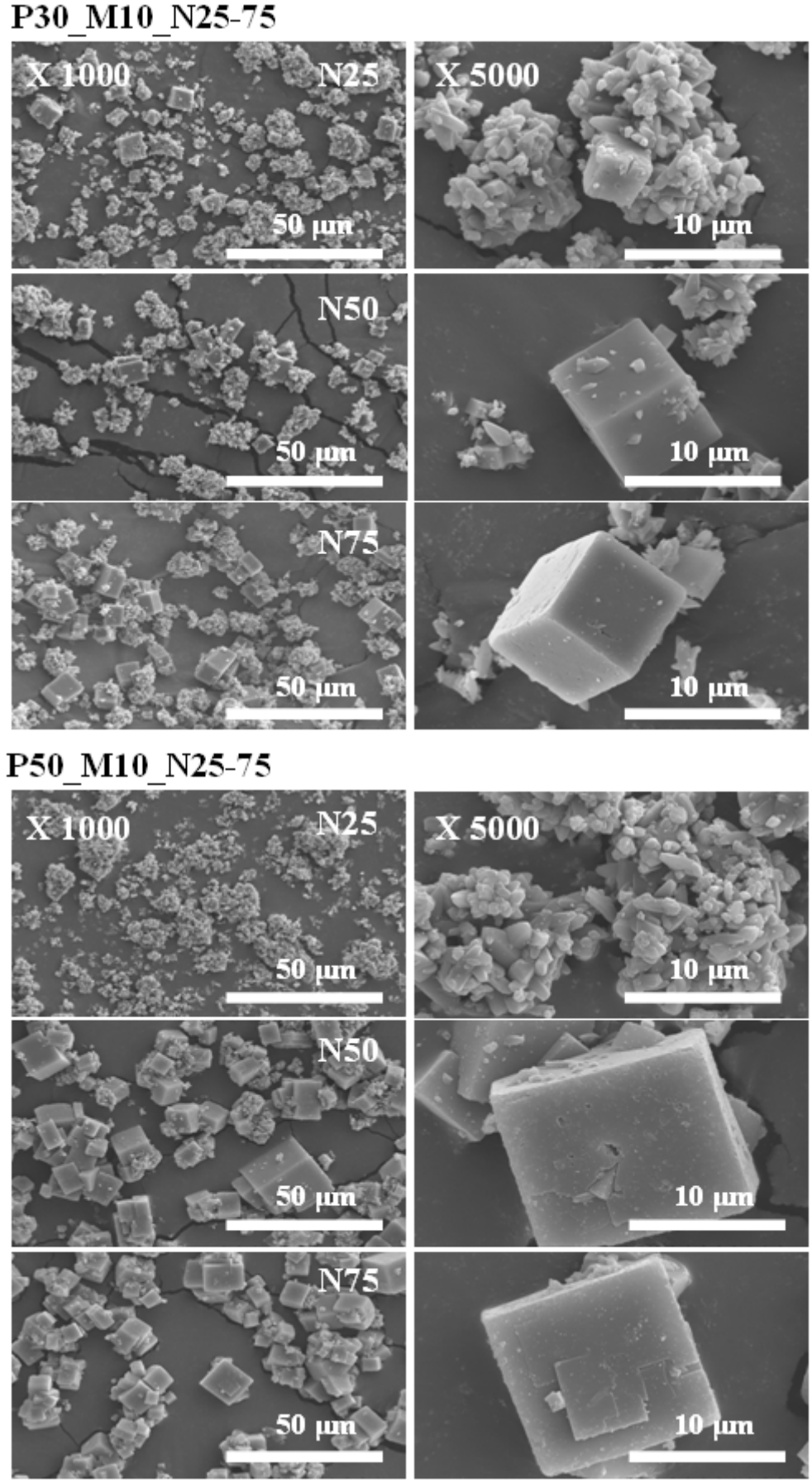

Fig. S5 SEM images of S-MOF-5 prepared using different amounts of solvent (NMP); molar ratio=1($Zn(NO_3)_2 \cdot 6H_2O$) : 0.33(terephthalic acid) : 25-75(NMP).