

Supporting Information for

Design and synthesis of periodic mesoporous organosilica materials with a multi-compartment structure

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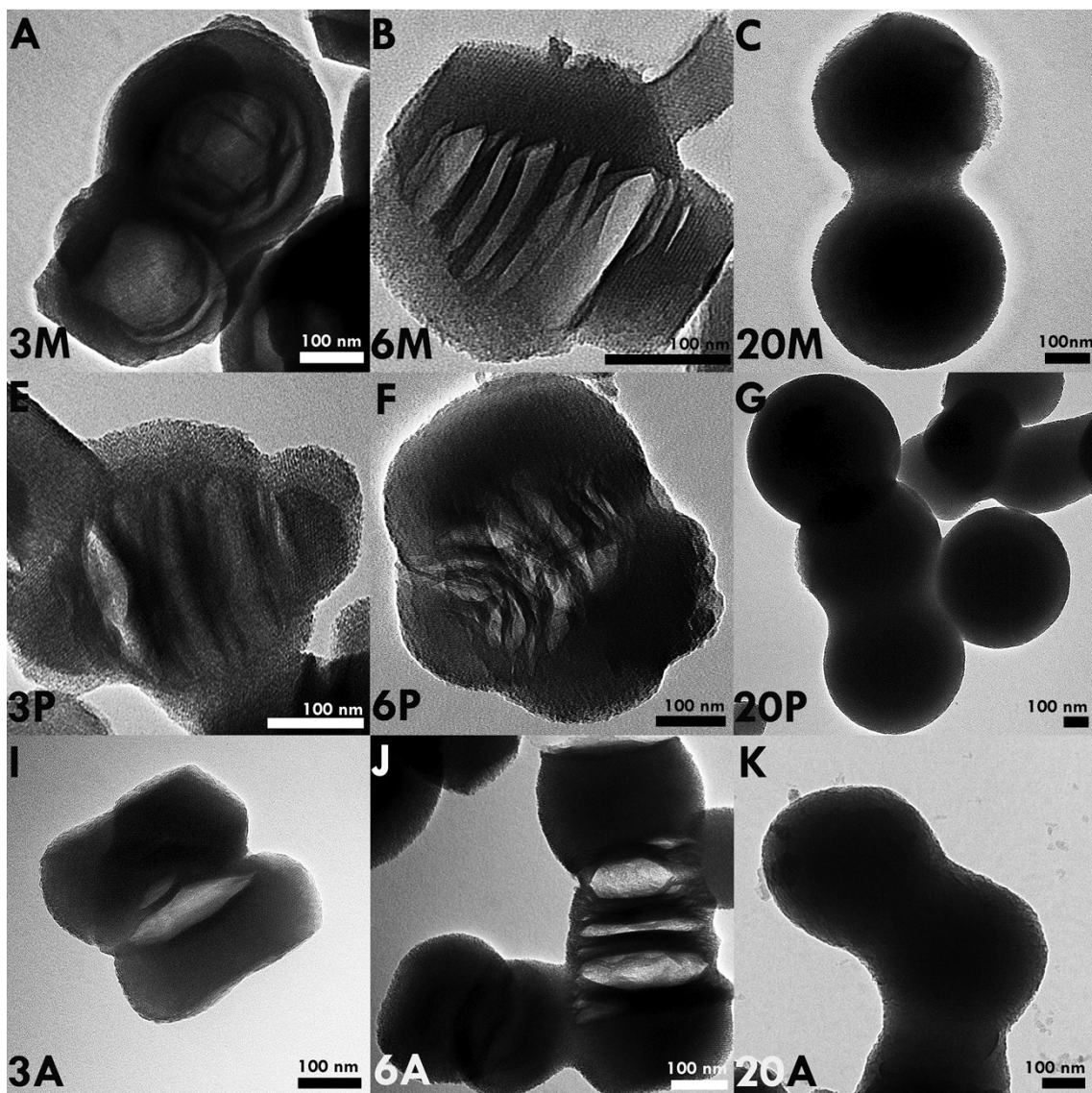


Figure S1. TEM images of MCPMO samples with co-solvents methanol (A. 3M - B. 6M - C. 20M), propanol (E. 3P - F. 6P - G. 20P), and acetone (I. 3A - J. 6A - K. 20A)

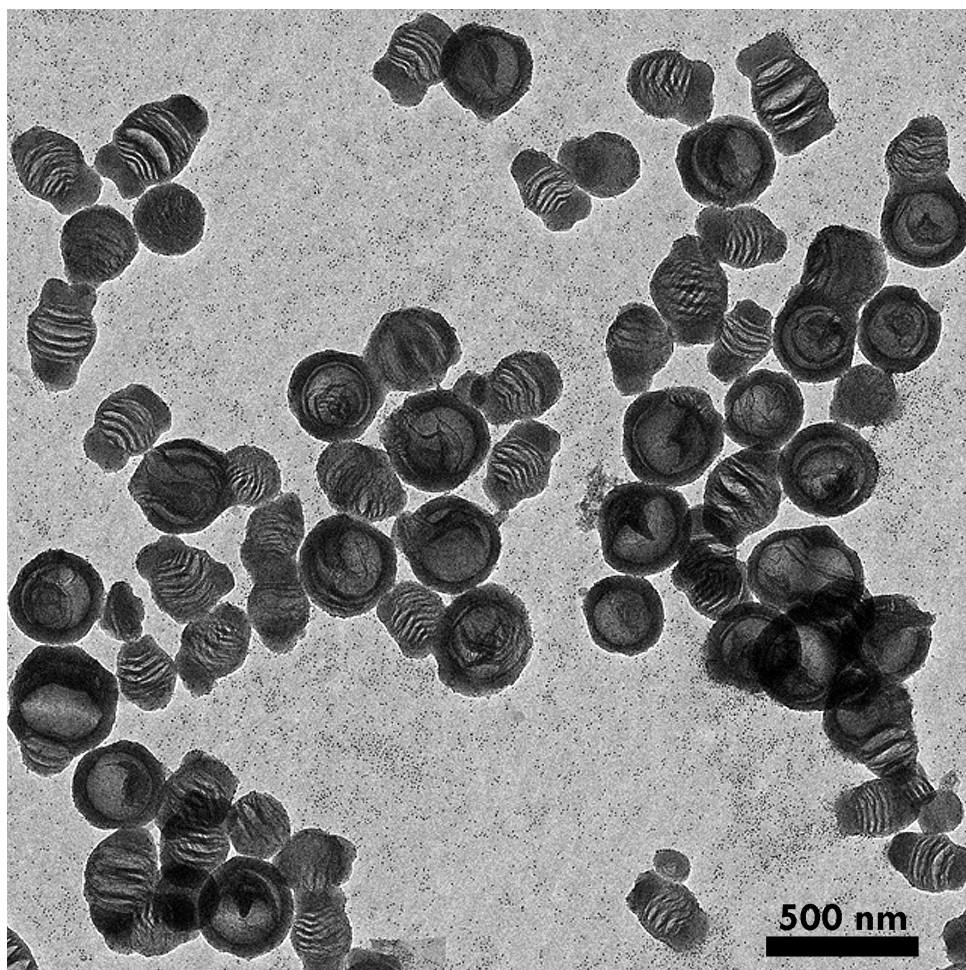


Figure S2. Low magnification TEM image of multi-compartment periodic mesoporous organosilica material

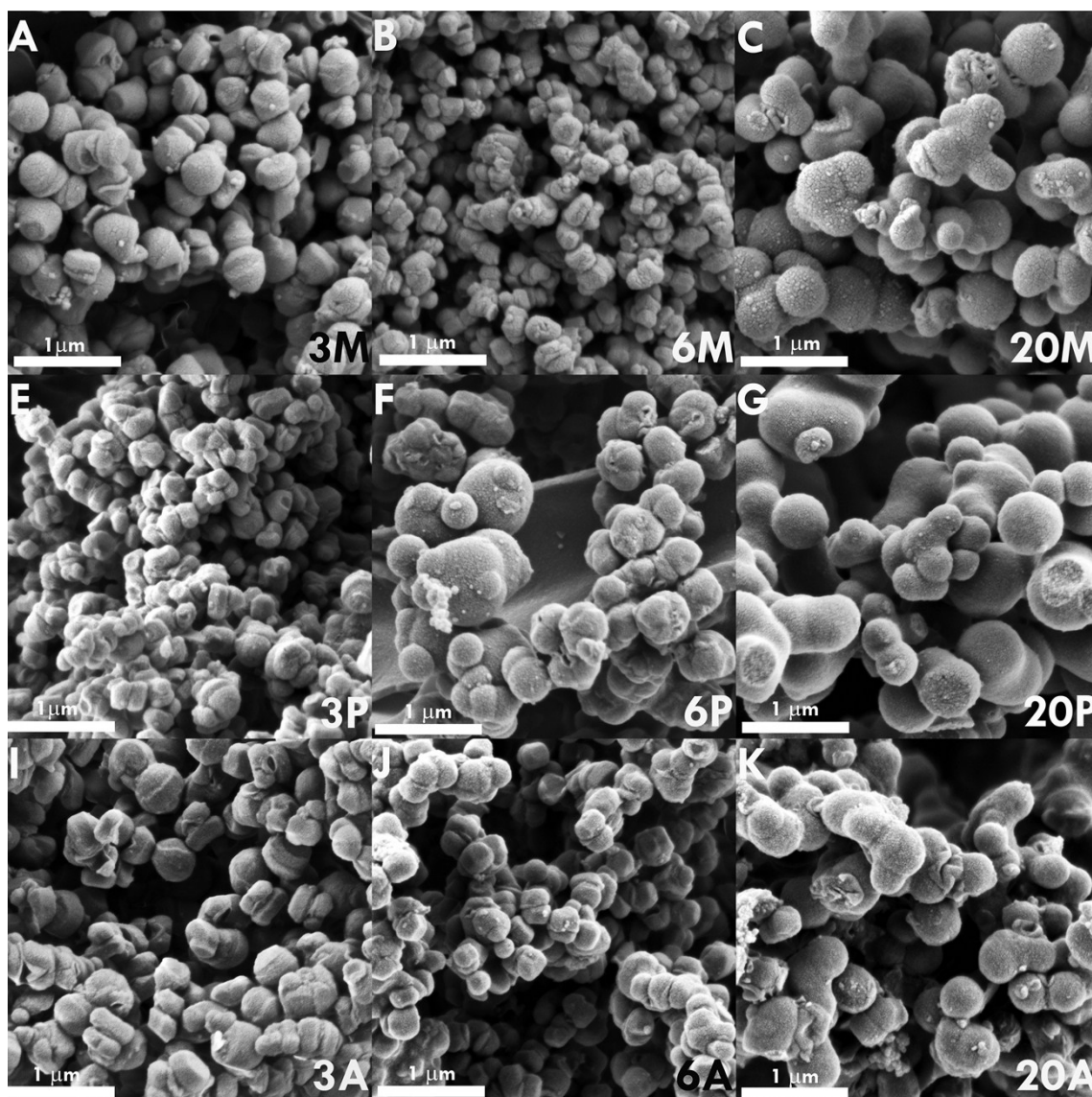


Figure S3. SEM images of MCPMO samples with co-solvents methanol (A. 3M - B. 6M - C. 20M), propanol (E. 3P - F. 6P - G. 20P, and acetone (I. 3A - J. 6A - K. 20A)

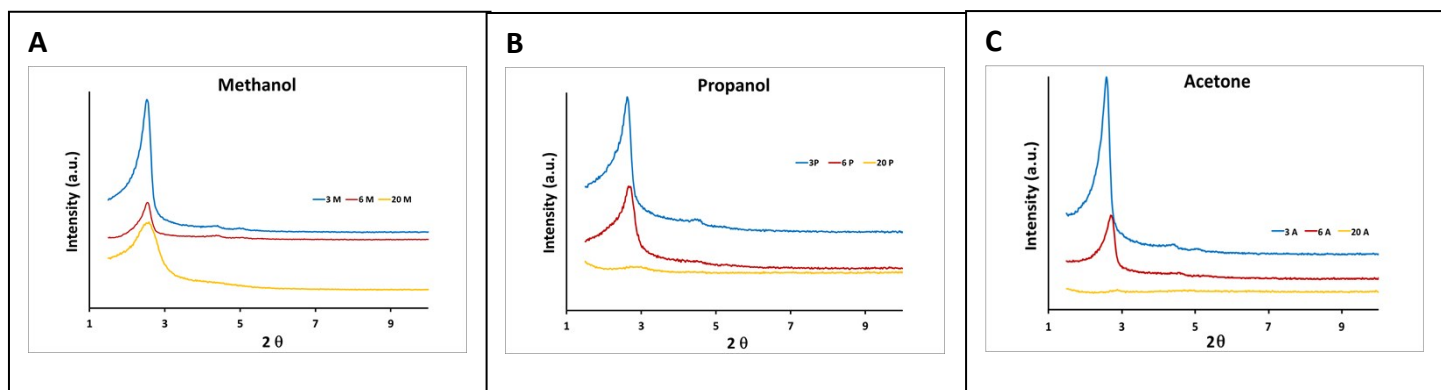


Figure S4. XRD patterns of MCPMO samples with different concentrations (3%, 6%, and 20%) of added co-solvents A) Methanol, B) Propanol, and C) Acetone.

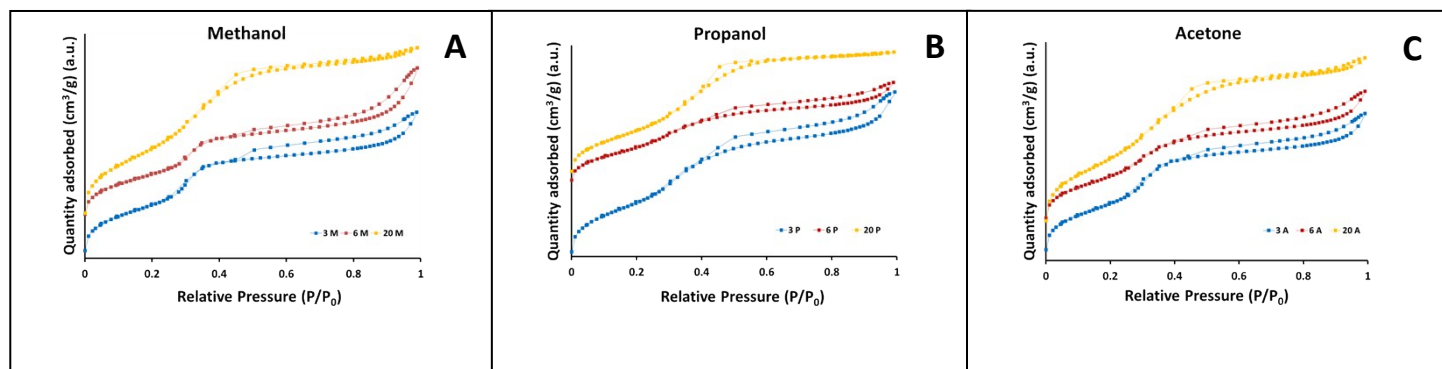


Figure S5. Nitrogen sorption isotherm of MCPMO samples with different concentrations (3%, 6%, and 20%) of added co-solvents A) Methanol, B) Propanol, and C) Acetone.

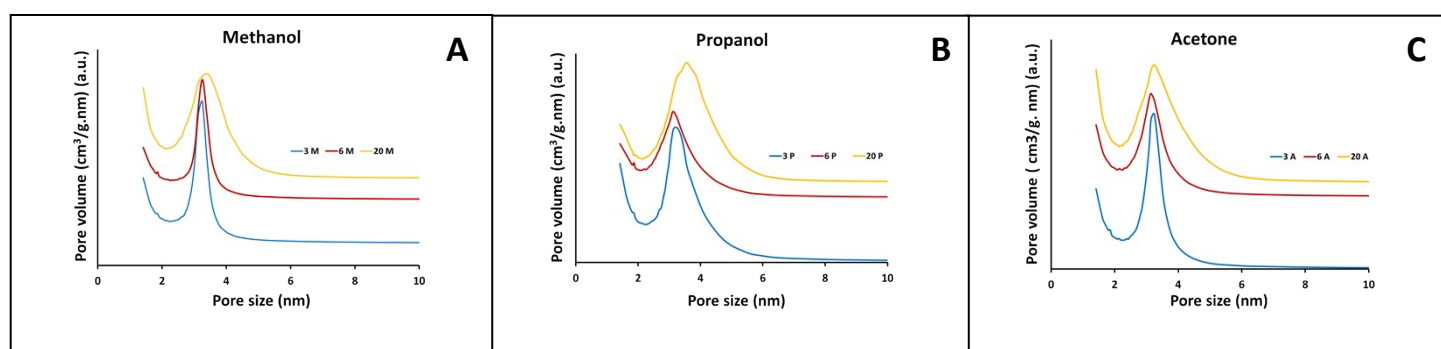


Figure S6. Pore size distribution of MCPMO samples with different concentrations (3%, 6%, and 20%) of added co-solvents A) Methanol, B) Propanol, and C) Acetone.

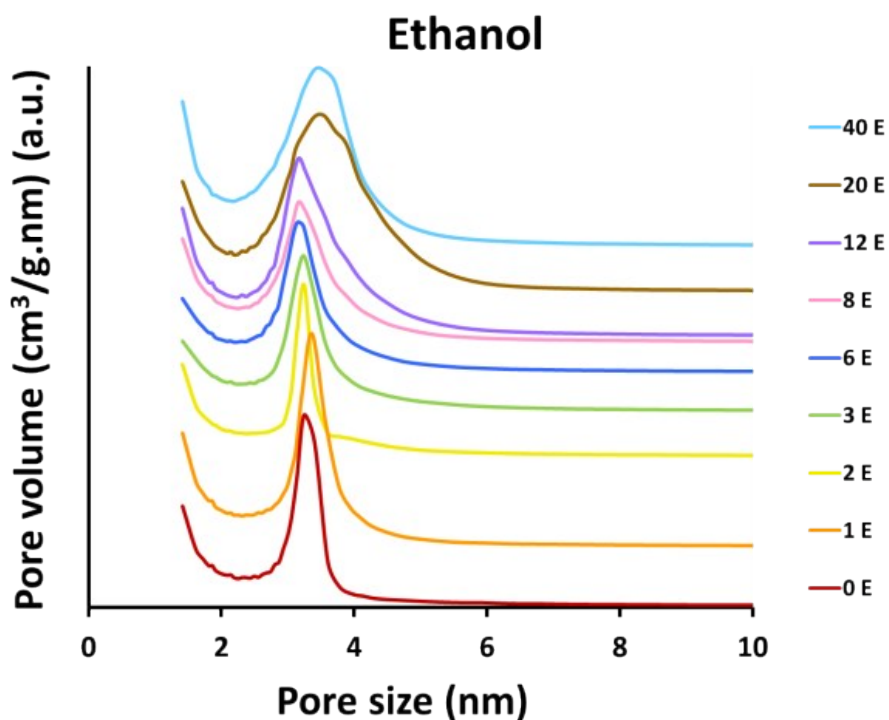
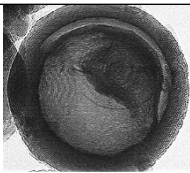
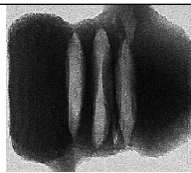
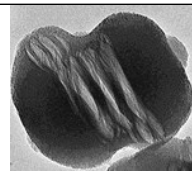


Figure S7. Pore size distribution of MCPMO samples (0E, 1E, 2E, 3E, 6E, 8E, 12E, 20E, and 40E)

Table S1. Physicochemical properties of MCPMO samples with varied concentrations of methanol, propanol, and acetone at (3%, 6%, and 20%)

Sample	BET surface area (m ² /g)	Pore volume (cm ³ /g)	Pore size (nm)	Particle size (nm) ^{SEM}	Vesicle size (nm) ^{TEM}
3M	734.6	0.72	3.30	350 - 400	225x 225
6 M	642.9	0.76	3.26	300 - 400	30 x 125
20 M	995.3	0.86	3.40	500 – 750	n/a
3 P	842.3	0.89	3.27	350 - 450	45 x 200
6 P	573.6	0.54	3.12	300 - 800	40 x 230
20 P	693.9	0.66	3.54	600 - > 1000	n/a
3 A	706.6	0.68	3.25	400 - 450	50 x 200
6 A	640.6	0.62	3.14	200 - 500	30-60 x 220
20 A	932.2	0.82	3.25	400 - 750	n/a

Table S2. Physical properties and drug loading amount of selected MCPMO samples

Sample	0E	3 E	6 E
TEM			
Pore size (nm)	3.24	3.25	3.15
After loading	2.56	2.43	2.48
Pore vol (cm ³ /g)	0.82	0.78	0.70
After loading	0.49	0.36	0.37
Surf Area (m ² /g)	698.3	699.5	743.7
After loading	542.4	309.8	415.6
% drug loading	35.14	47.01	43.3