

SUPPLEMENTARY INFORMATION

SI-Table 1. Textural properties of calcined mesoporous silica products assembled using oleyl-NH₂ as the templating porogen in water:ethanol media at 25, 45, and 60 °C.

Product Designation	d-spacing, nm	Average Pore Diameter, nm	BET Surface Area, m ² /g	Framework Pore Volume, mL/g
Assembly Temperature 25°C				
A-10-25	3.4	1.2	1000	0.53
A-20-25	3.8	2.1	1180	0.69
A-30-25	6.7	3.8	666	0.845
A-40-25	5.2	3.0	868	0.98
A-50-25	4.7	2.9	683	1.49
A-60-25	4.7	3.4	910	1.13
A-70-25	4.7	3.0	1050	1.11
A-80-25	4.6	2.9	1180	1.06
A-90-25	4.5	3.2	1175	1.27
A-100-25	5.0	3.2	1506	1.64
Assembly Temperature 45°C				
A-10-45	4.6	(broad)	795	0.68
A-20-45	3.7	1.6	860	0.46
A-30-45	5.2	2.1	902	0.587
A-40-45	5.3	2.7	820	0.73
A-50-45	5.0	3.1	820	0.91
A-60-45	5.3	3.5	853	1.12
A-70-45	5.3	3.5	900	1.19
A-80-45	6.1	3.6	832	1.10
A-90-45	6.1	3.5	908	1.12
A-100-45	6.0	3.4	896	1.13
Assembly Temperature 60°C				
A-10-60	-	(v. broad)	500	1.19
A-20-60	4.0	1.0	587	0.32
A-30-60	4.7	1.8	698	0.41
A-40-60	5.1	2.3	784	0.52
A-50-60	5.1	3.3	730	0.87
A-60-60	5.7	3.5	768	1.19
A-70-60	6.0	3.6	762	1.04
A-80-60	6.2	3.7	770	1.07
A-90-60	-	3.9	803	1.05
A-100-60	5.8	3.9	805	1.02

SI-Table 2. Textural properties of calcined mesoporous silica products assembled from oleyl-NH(CH₂)₃NH₂ as the templating porogen in water:ethanol media at 25, 45, and 60 °C.

Material	Calcined d-spacing, nm	Average Pore Diameter, nm	Wall Thickness, nm	BET Surface Area, m ² /g	Framework Pore Volume, mL/g (taken @ P/Po = 0.75)
Assembly Temperature 25°C					
D-10-25	3.9	2.0	1.9	1260	0.69
D-20-25	4.4	2.7	2.0	924	0.89
D-30-25	4.7	3.0	1.7	872	0.86
D-40-25	4.5	3.2	1.3	855	0.77
D-50-25	4.6	3.4	1.2	786	0.72
D-60-25	4.7	3.7	1.0	892	1.12
D-70-25	4.9	3.8	1.1	928	1.24
D-80-25	4.6	4.2	0.4	941	1.20
D-90-25	5.4	3.7	1.7	872	0.87
D-100-25	-	3.4	-	802	0.70
Assembly Temperature 45°C					
D-10-45	3.9	1.6	1.4	991	0.52
D-20-45	4.2	1.9	2.3	1100	0.61
D-30-45	4.6	2.5	2.1	863	0.67
D-40-45	4.6	2.7	1.9	865	0.76
D-50-45	4.8	2.8	2.0	884	0.88
D-60-45	4.7	3.1	1.6	884	0.94
D-70-45	4.8	3.3	1.5	986	1.17
D-80-45	4.3	3.0	1.5	1106	1.15
D-90-45	4.5	3.1	1.4	1110	1.09
D-100-45	4.5	3.0	1.5	1050	0.93
Assembly Temperature 60°C					
D-10-60	4.2	1.4	2.8	738	0.39
D-20-60	4.2	2.0	2.3	910	0.51
D-30-60	4.6	2.4	2.2	880	0.66
D-40-60	4.9	2.8	2.1	826	0.82
D-50-60	5.0	3.2	1.9	834	0.93
D-60-60	5.0	3.3	1.7	785	0.85
D-70-60	5.1	3.4	1.7	877	1.14
D-80-60	4.9	3.8	1.1	884	1.21
D-90-60	5.1	3.5	1.6	968	1.49
D-100-60	5.1	3.7	1.4	970	1.19