

Electronic Supplementary Information

Diverting phase transition behaviour of adipic acid via mesoporous silica confinement

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Table S1 FT-IR spectra results of adipic acid and composite material (take 2MCM-41 as representative sample).

2MCM-41		Adipic acid		MCM-41	
Wave numbers (cm ⁻¹)	Type of vibrations	Wave numbers (cm ⁻¹)	Type of vibrations	Wave numbers (cm ⁻¹)	Type of vibrations
3439	-OH stretching	3419	-OH stretching	3441	-OH stretching
2962	Associated -OH stretching	2962	Associated -OH stretching		
1694	-C=O stretching	1694	-C=O stretching		
1463	C-C asymmetric bending	1462	C-C asymmetric bending		
1428	-OH in-plane deformation and C-O stretching	1428	-OH in-plane deformation and C-O stretching		
1408	-CH ₂ bending	1408	-CH ₂ bending		
1280	-OH in-plane deformation and C-O stretching	1280	-OH in-plane deformation and C-O stretching		
1238	bending vibration of -OH in isolated adipic acid				
1082	Asymmetric Si-O-Si stretching			1082	Asymmetric Si-O-Si stretching
929-960	Si-OH stretching and -OH out-of-plane deformation	928	-OH out-of-plane deformation	962	Si-OH stretching
802	Si-O-Si symmetric stretching			801	Si-O-Si symmetric stretching
736	-CH ₂ in-plane deformation	736	-CH ₂ in-plane deformation		
459	Si-O-Si bending			461	Si-O-Si bending

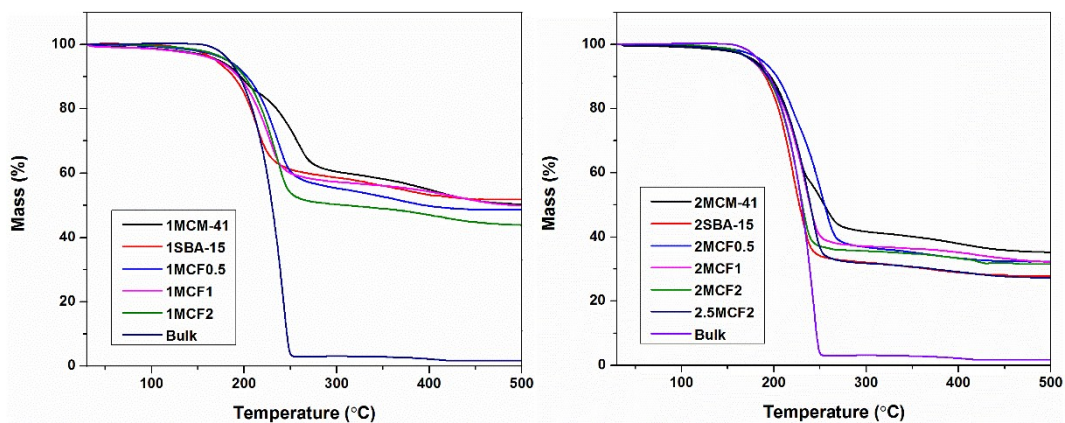


Fig.S1 TG curves of composite materials and adipic acid in bulk state.

Table S2 Remaining mass fraction of composite materials in TG curves.

Samples	Remaining mass fraction (%)	Theoretical mass fraction (%)
1MCM-41	50.2	50
2MCM-41	35.1	33.3
1SBA-15	51.7	50
2SBA-15	27.9	33.3
1MCF0.5	48.6	50
2MCF0.5	32.4	33.3
1MCF1	49.1	50
2MCF1	32.2	33.3
1MCF2	43.5	50
2MCF2	31.6	33.3
2.5MCF2	27.3	28.6

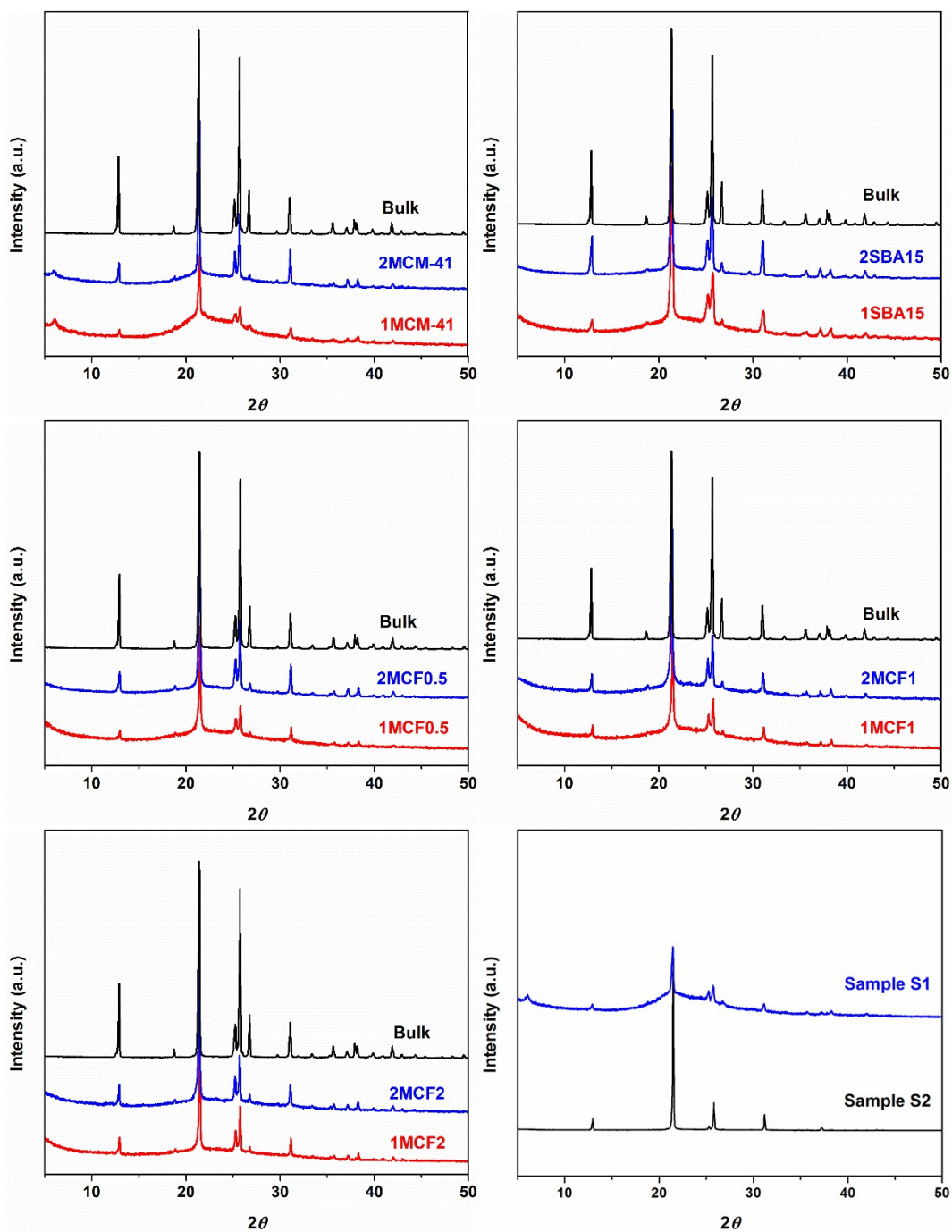


Fig. S2 Wide angle X- ray powder diffraction patterns of composite materials and adipic acid in bulk state.

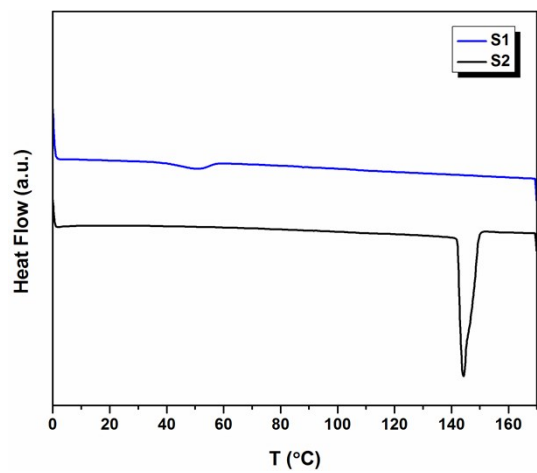


Fig. S3 DSC profiles of reference samples (S1 and S2).