

Supplementary information

Tough and thermally resistant cyanate ester resin with significantly reduced curing temperature and low dielectric loss based on developing an efficient graphene oxide/Mn ion metal-organic framework hybrid

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Table S1 Compositions of various resins

Resin	Weight ratio			
	CE	GO/MnMOF	GO	MnMOF
0.25GO/MnMOF/CE	100	0.25	-	-
0.5GO/MnMOF/CE	100	0.5	-	-
0.75GO/MnMOF/CE	100	0.75	-	-
1GO/MnMOF/CE	100	1	-	-
2GO/MnMOF/CE	100	2	-	-
4GO/MnMOF/CE	100	4	-	-
0.025GO/CE	100	-	0.025	-
0.475MnMOF/CE	100	-	-	0.475
(0.025GO+0.475MnMOF)/CE	100	-	0.025	0.475

Table S2 DSC characteristic data of all prepolymers

Resin	T_i (°C)	T_p (°C)		T_f (°C)
		T_{p1} (°C)	T_{p2} (°C)	
CE	267.8	312.8	—	343.2
0.5GO/MnMOF/CE	246.0	288.2	—	336.6
1GO/MnMOF/CE	233.8	282.4	—	330.4
2GO/MnMOF/CE	176.1	200.0	250.7	325.3
4GO/MnMOF/CE	165.2	207.6	—	258.8
6GO/MnMOF/CE	167.6	207.6	—	250.0
0.2GO/CE	262.0	311.8	—	339.3
3.8MnMOF/CE	182.6	204.4	242.0	314.8
(0.2GO+3.8MnMOF)/CE	176.5	206.0	225.3	285.0