Improvement of Thermal Conductivities for Epoxy Composites via Incorporating Poly (vinyl benzal) Coated h-BN Fillers and Solvent Assisted Dispersion

Fanghong Yang, ^{†,‡} Xiaopeng Sun, ^{†,‡} Qiyang Guo, [†] Zhanhai Yao*,^{†,‡}

[†]State Key Laboratory of Polymer Physics and Chemistry, Changchun Institute of Applied Chemistry, Chinese Academy of Sciences, Changchun 130022, PR China [‡]University of Science and Technology of China, Hefei, Anhui 230026, PR China

Corresponding authors: Tel./Fax: +86 431 85262145 E-mail addresses: <u>yaozh@ciac.ac.cn</u> (Z. H. Yao)

			DW or		PVB content in
PVA	Benzaldehyde	p-TsOH	DMSO	h-BN	h-BN@PVB
(g)	(mL)	(g)	(mL)	(g)	(wt%) ^a
0.10	0.2	0.5	DW:100	5.0	2
0.25	0.8	0.5	DW:100	5.0	6
0.50	1.0	0.5	DW:100	5.0	10
0.50	1.5	0.5	DW:100	5.0	15
0.80	1.8	0.5	DW:100	5.0	18
0.50	1.0	0.5	DMSO:100	5.0	11

Table S1. Preparation of h-BN@PVB by Different Reactant Ratios and Conditions

^a The PVB content in h-BN@PVB were verified by TGA, and the PVB in h-BN@PVB is the partially reacted PVA.

Apart from the reaction time, temperature and pH, the concentration of reaction medium and the ratio of PVA, benzaldehyde and h-BN will also affect PVB content.



Figure S1. EDS analyses of h-BN@PVB.