Bioinspired Thermal Conductive Cellulose Nanofibers/Boron Nitride Coating Enabled by Co-Exfoliation and Interfacial Engineering

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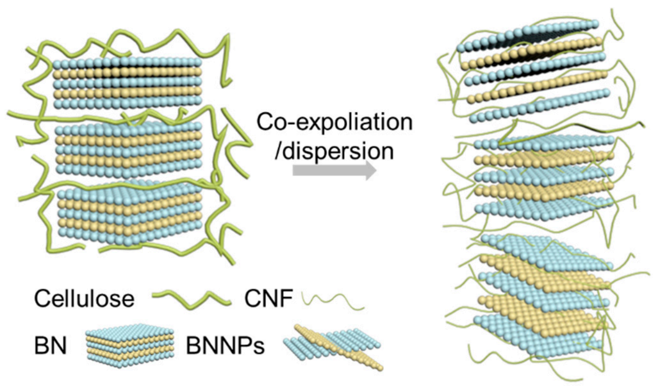

Figure S1. The mechanism of Co-exfoliation/dispersion of BN nanoplate and CNFs.

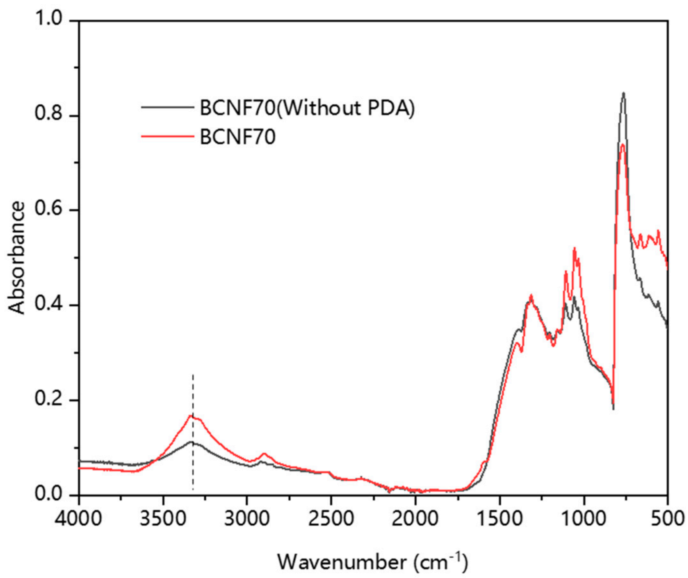

Figure S2. FTIR spectra of BCNF70 and BCNF70 without PDA.

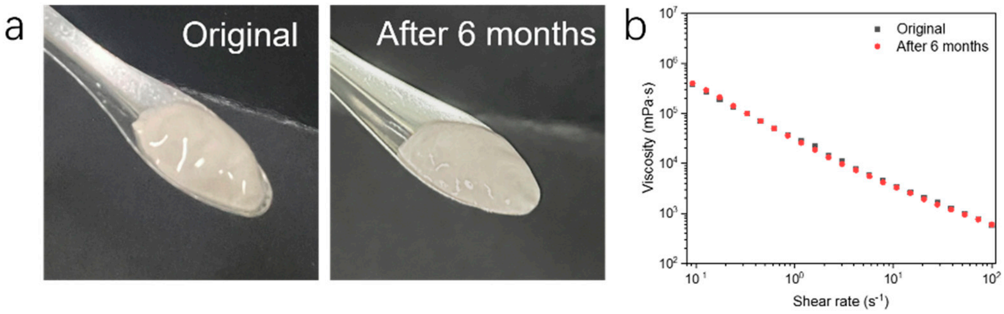

Figure S3. (a) The photos of CNFs/BN/PDA slurry. (b) Viscosities of CNFs/BN/PDA slurries.

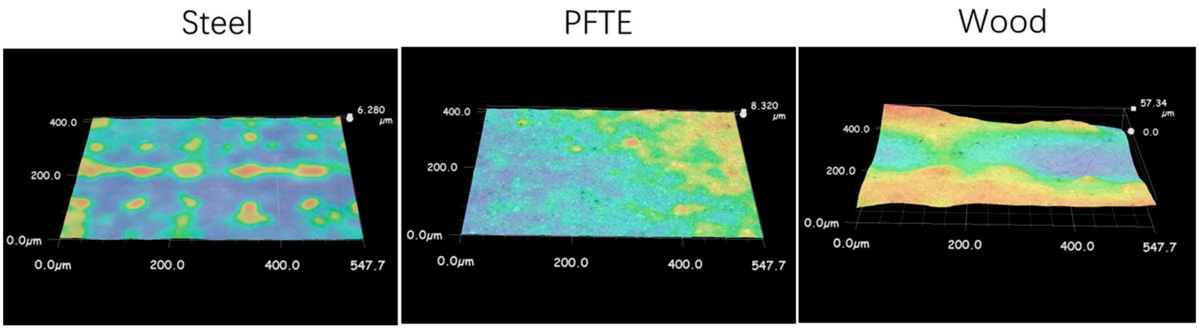

Figure S4. 3D topographic images of BCNF70 on steel, PTFE and wood.

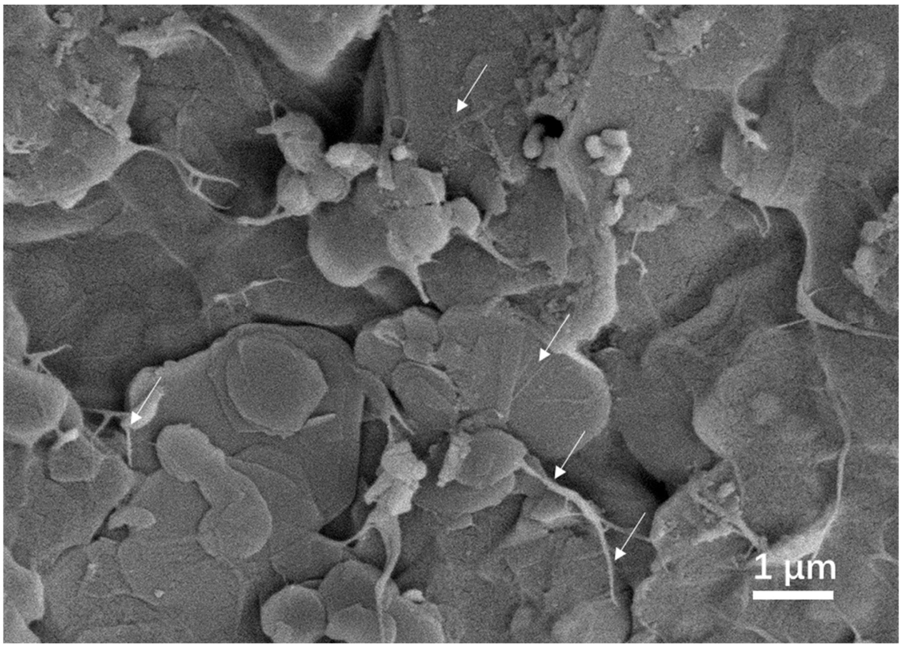

Figure S5. SEM image of BCNF70 coating where CNFs (arrows) wrap around BN.

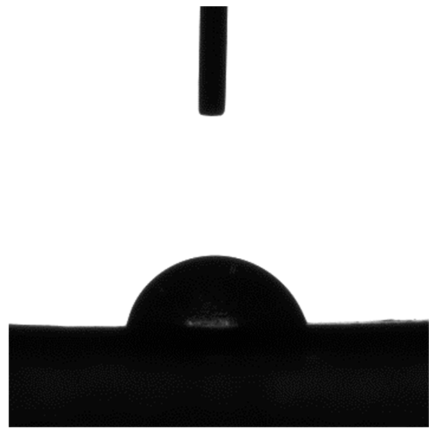

Figure S6. Water contact angle of the CNFs/BN/PDA coating.

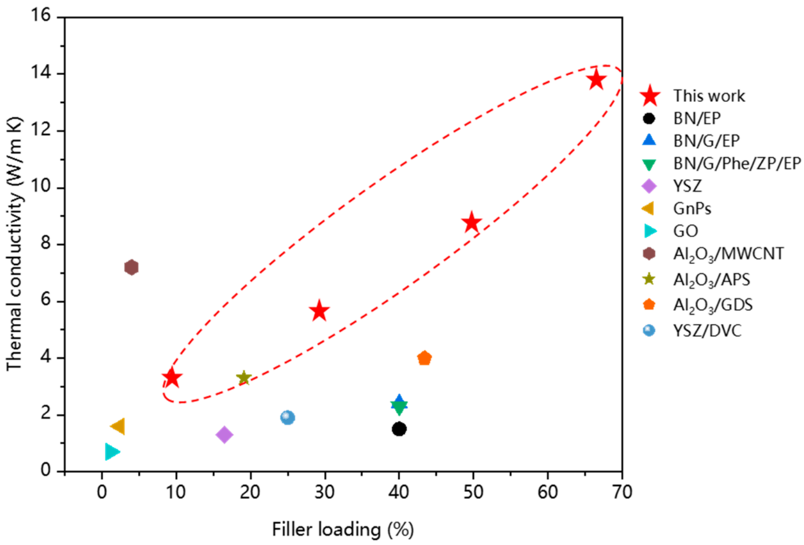

Figure S7. Thermal conductivity comparison as a function of the mass fraction of thermal conductive nanofillers.

Table S1. Comparison of thermal conductivity of reported composites coating.

Materials	Method	Thermal conductivity (W/m K)	Refernces
BN/CNF	TPS	13.8	This work
BN/EP	TPS	1.5	[1]
BN/G/EP	TPS	2.4	[1]
BN/G/Phe/ZP/EP	TPS	2.3	[1]
YSZ	DSC	1.3	[2]
GnPs	TPS	1.6	[3]
GO	TPS	0.7	[3]
Al_2O_3/MWCNT	LFA	7.2	[4]
Al_2O_3/APS	steady-state	3.3	[5]
Al_2O_3/GDS	steady-state	4	[5]
YSZ/DVC	LFA	1.9	[6]

References

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