Supporting Information for

Thermally Conductive and UV-EMI Shielding Electronic Textiles for Unrestricted and Multifaceted Health Monitoring

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Supplementary Figures and Tables

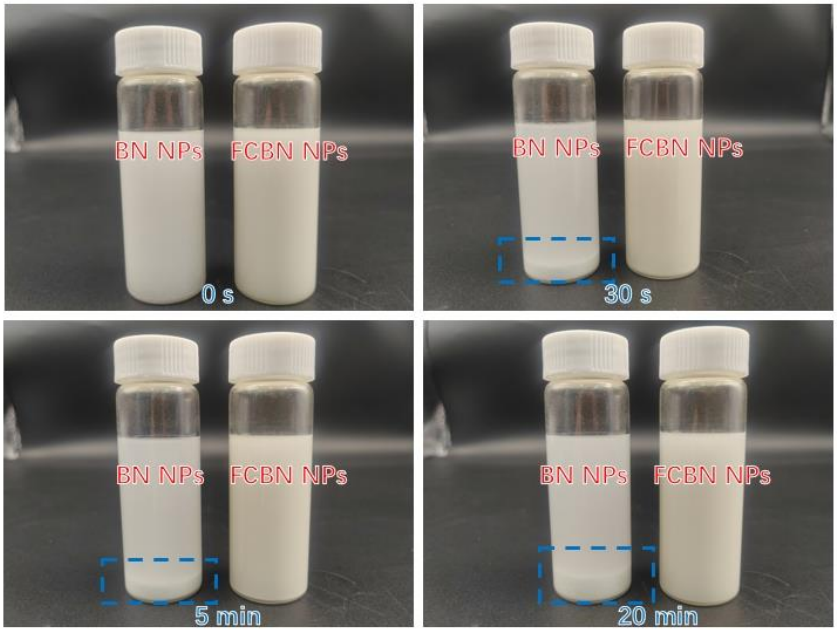

Fig. S1 Photographs of BN NPs and FCBN NPs dispersion (in trichloromethane/toluene solvent) stored for 30 s, 5 min and 20 min, respectively

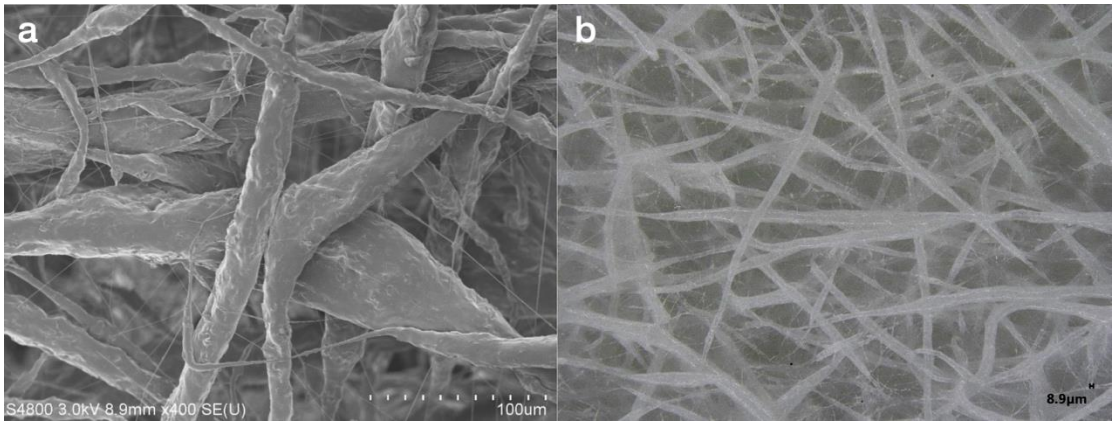

Fig. S2 (**a**) SEM image of BN-encapsulated SEBS microfibers without the addition of FC-4430. (**b**) A low magnification SEM image of FCBN/SEBS microfibers

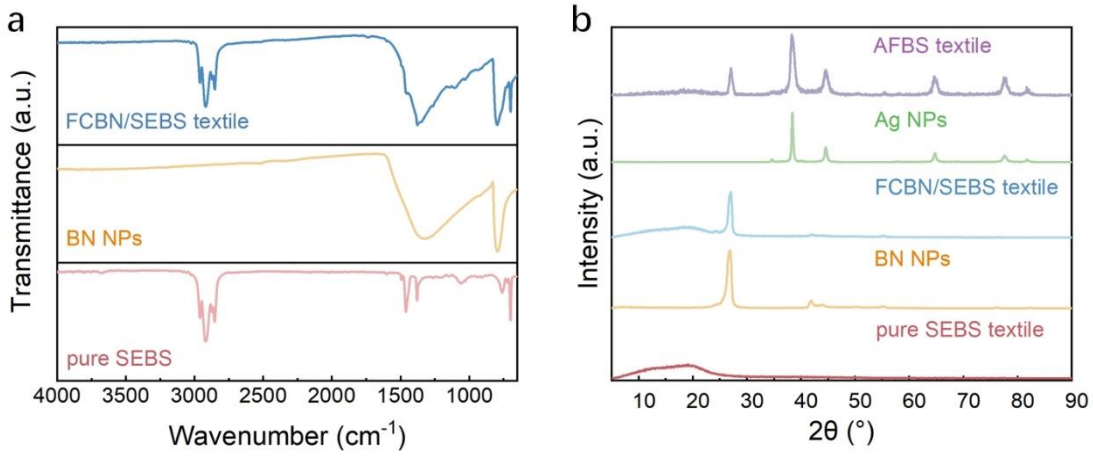

Fig. S3 (**a**) FT-IR spectra of pure SEBS, BN NPs and FCBN/SEBS. (**b**) XRD patterns of pure SEBS, BN NPs, FCBN/SEBS, Ag NPs and AFBS

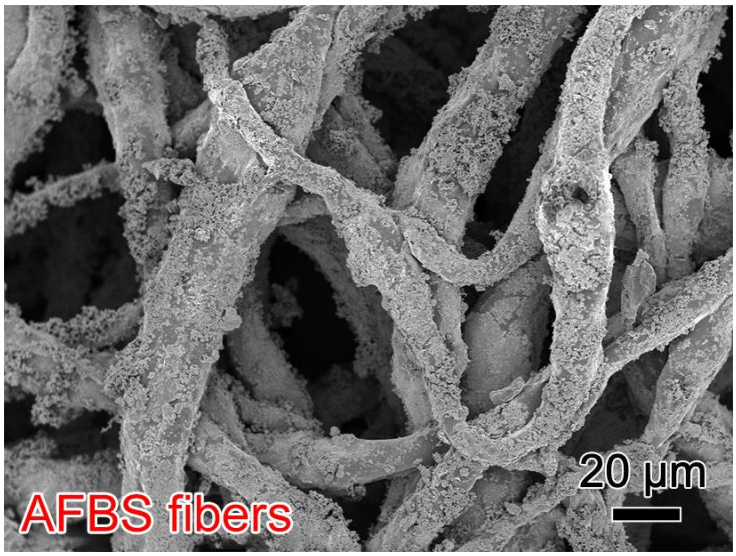

Fig. S4 SEM image of AFBS microfibers at low magnification

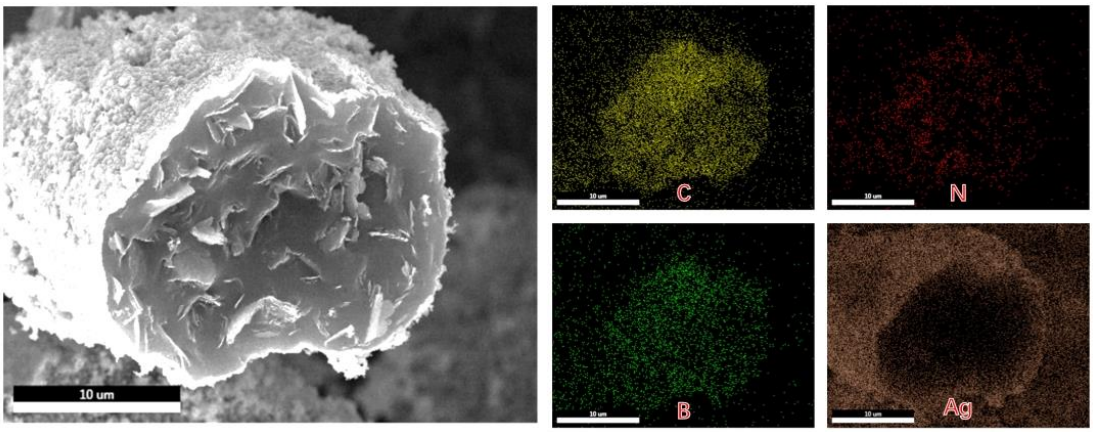

Fig. S5 EDS mapping on the cross-section of AFBS fiber, showing the distribution of the elements C, N, B, and Ag

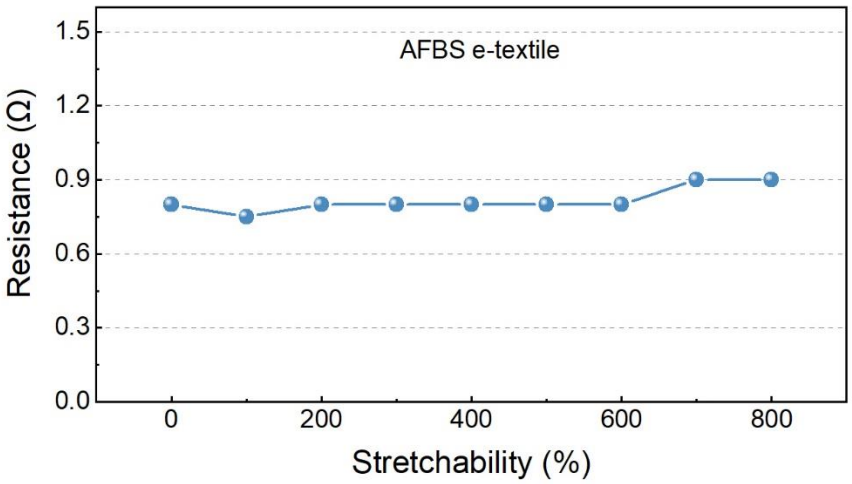

Fig. S6 The resistance change of the AFBS e-textile when stretched up to 800%

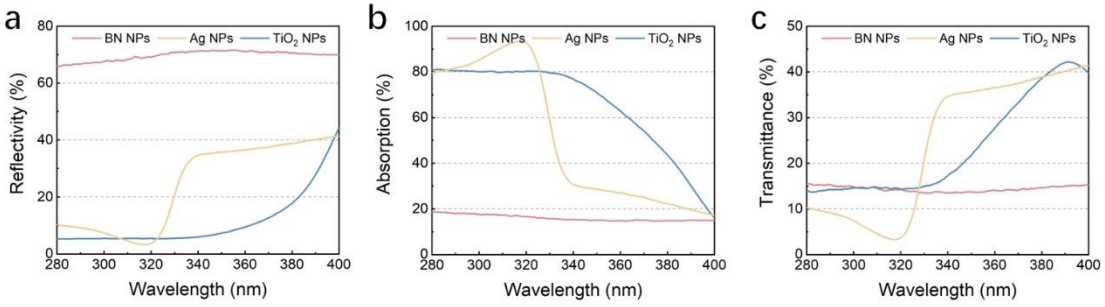

Fig. S7 (**a**) Reflectivity, (**b**) absorption and (**c**) transmittance of BN NPs, Ag NPs and TiO_2 NPs in the UV band

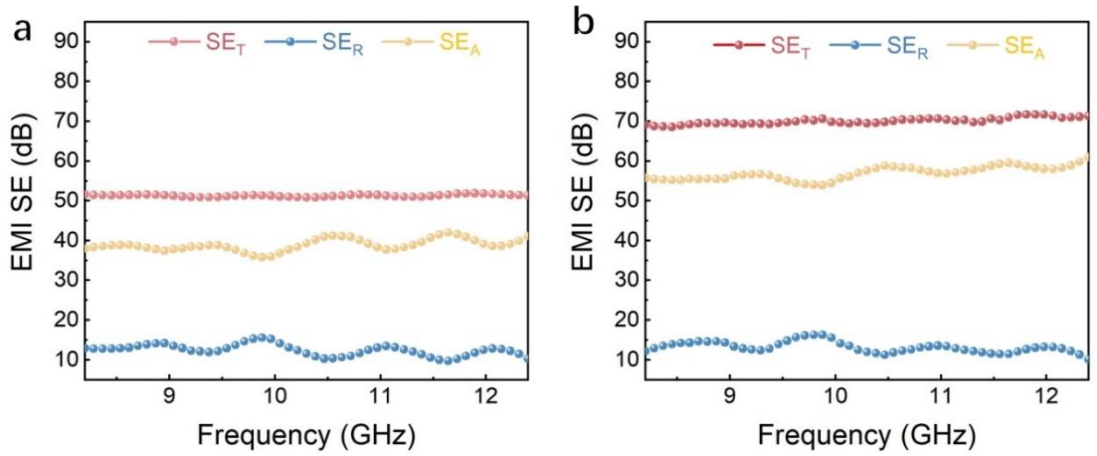

Fig. S8 Electromagnetic shielding effectiveness of the AFBS e-textiles after silver plating treatment for (**a**) 15 min and (**b**) 45 min

Fig. S9 Alternating current of 3A and 50 Hz AC generated by a fan to simulate the external electromagnetic interference

Table S1 Comparison of the UV protection performance between AFBS e-textile and previously reported textiles

Samples	UPF	References
PI-cotton textile	34.9	[S1]
Ag-doped TiO_2 hybrid textile	41.0	[S2]
TiO_2@ployester cotton	55.8	[S3]
ZnO/SiO_2@cotton textile	123.9	[S4]
CeO_x@HNTs anti-biofilm	58.5	[S5]
AFBS e-textile	**143.1**	**This work**

Table S2 Comparison of the EMI (X-band) performance between AFBS e-textile and previously reported textiles

Samples	EMI shielding effectiveness	References
AgNW@cotton textile	38.2	[S6]
MXene@GA-CF textile	35.0	[S7]
Pt/PDA@PI textile	53.0	[S8]
AgNW/MXene/TPU	41.7	[S9]
AFBS e-textile	**67.1**	**This work**

Table S3 Comparison of the thermal conductivity performance between AFBS e-textile and previously reported textiles

Samples	Thermal conductivity	References
FP-Cool (BN) textile	0.14	[S10]
BNNS@TPU textile	0.18	[S11]
BN@Flax fiber textile	0.36	[S12]
BNNS@TPU@Cellulose textile	0.31	[S13]
AFBS e-textile	**0.72**	**This work**

Supplementary References

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