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Electronic Supplementary Information

Stretchable conductive nanocomposites of low electrical percolation threshold for washable high-performance-interconnects

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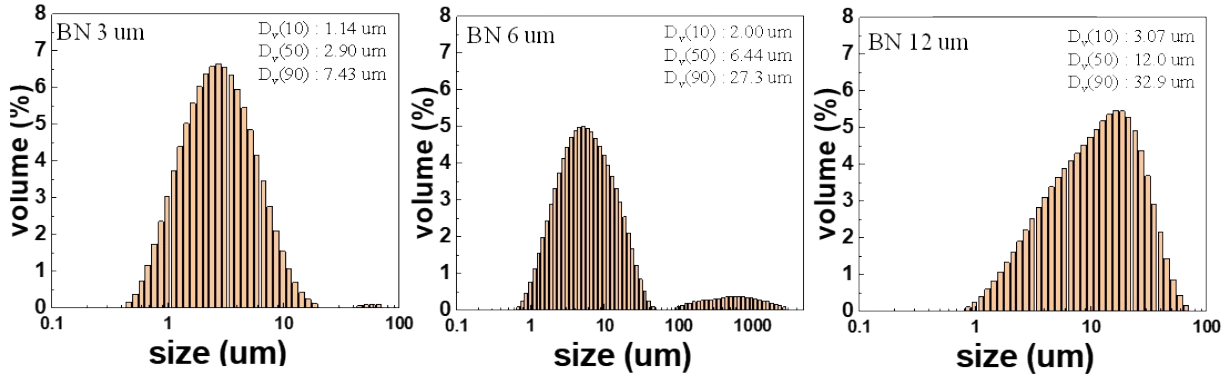

Fig. S1. Particle size distribution of h-BN platelets obtained by using a laser diffraction particle size analyzer.

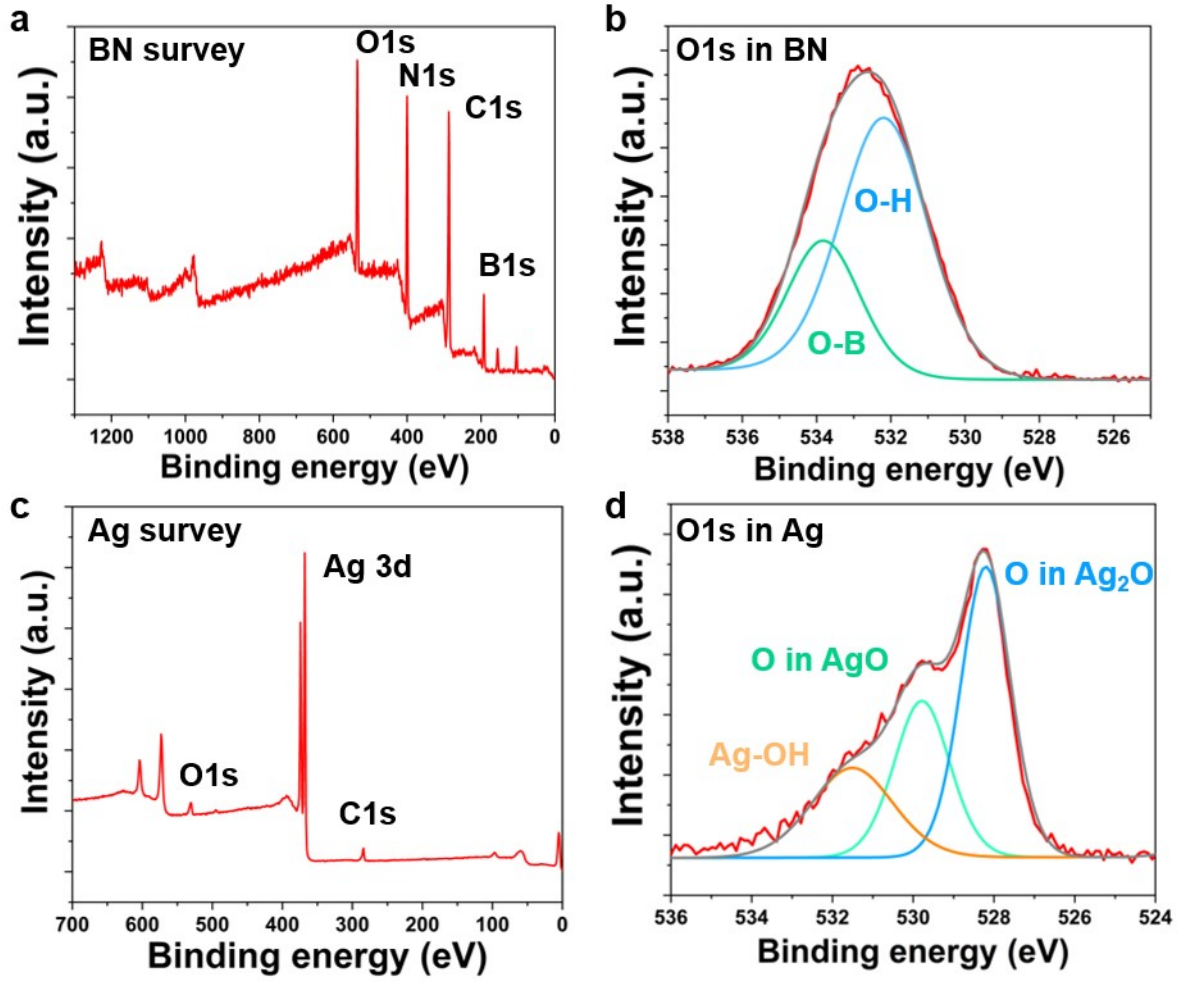

Fig. S2. XPS survey spectra and high-resolution O(1s) peaks of **(a, b)** *h*-BN platelets and **(c, d)** Ag particles.

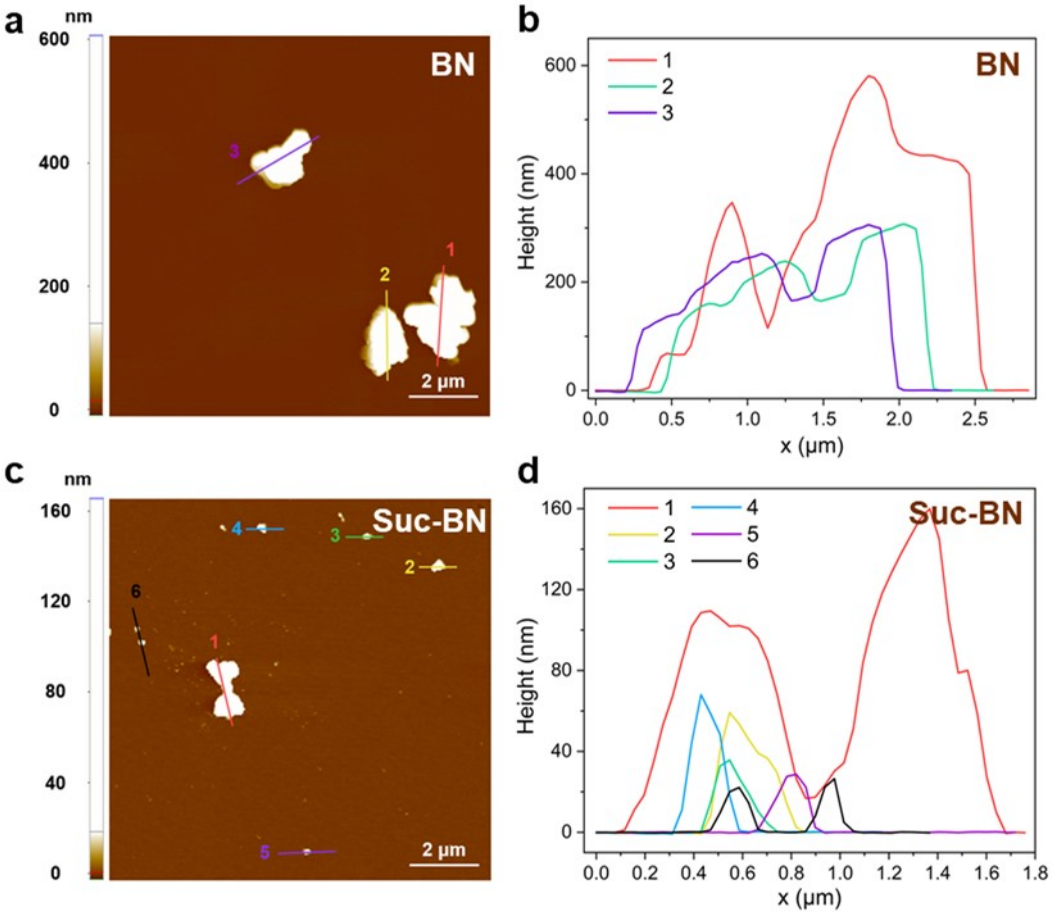

Fig. S3. AFM images and height profiles of **(a, b)** pristine *h*-BNs with a diameter of 3 μm and **(c, d)** sucrose-assisted *h*-BNs exfoliated from 3-μm *h*-BNs.

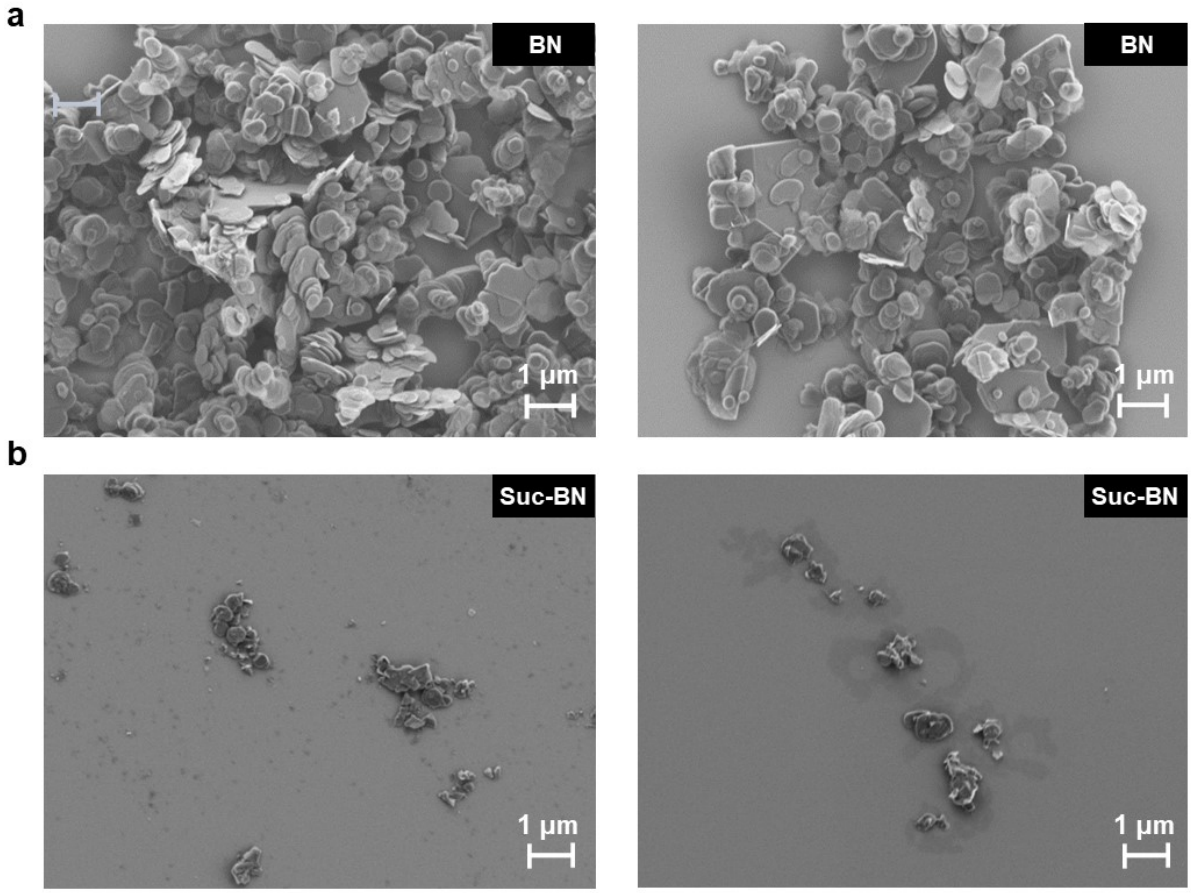

Fig. S4. SEM images of **(a)** pristine *h*-BNs with a diameter of 3 μm and **(b)** sucrose-assisted *h*-BNs exfoliated from 3-μm *h*-BNs.

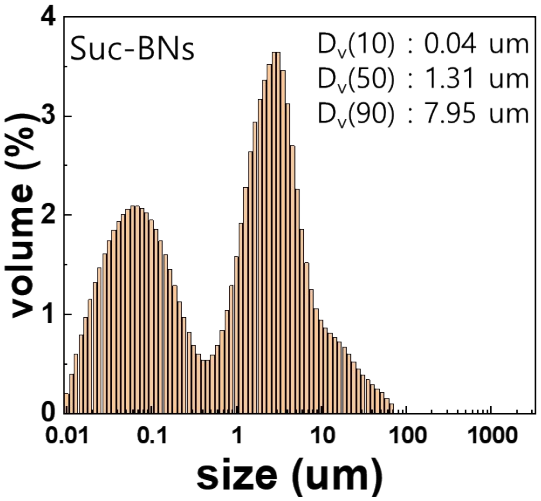

Fig. S5. Particle size distribution of suc-BN platelets obtained by using a laser diffraction particle size analyzer.

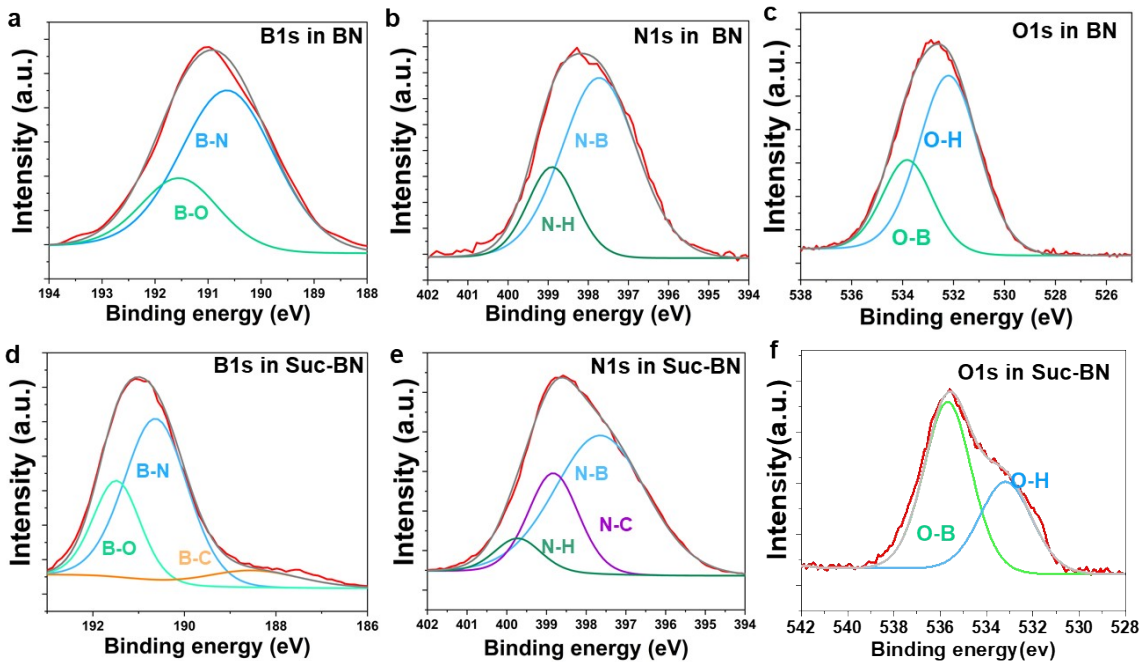

Fig. S6. High resolution XPS B(1s) peaks, N(1s) peaks, and O(1s) peaks of **(a-c)** pristine *h*-BN platelets and **(d-f)** sucrose-assisted *h*-BNs.

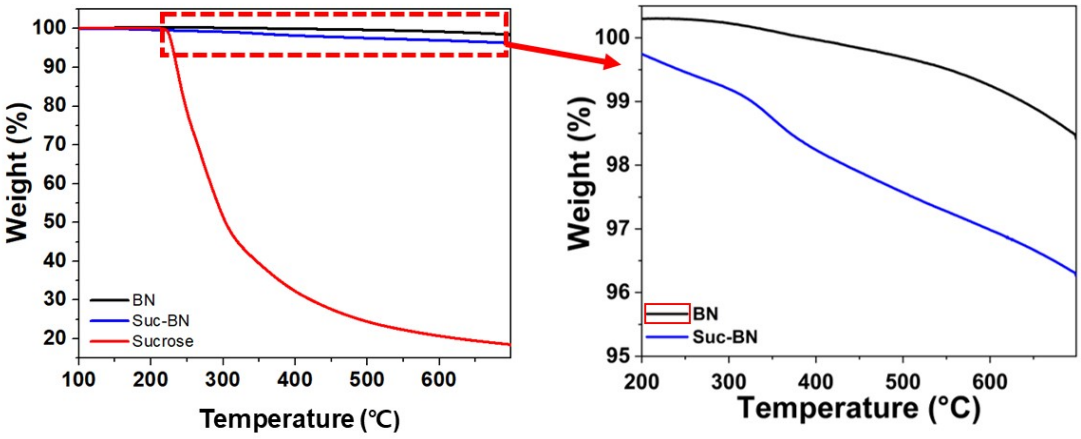

Fig. S7. TGA spectra of the pristine BNs, suc-BNs, and sucrose.

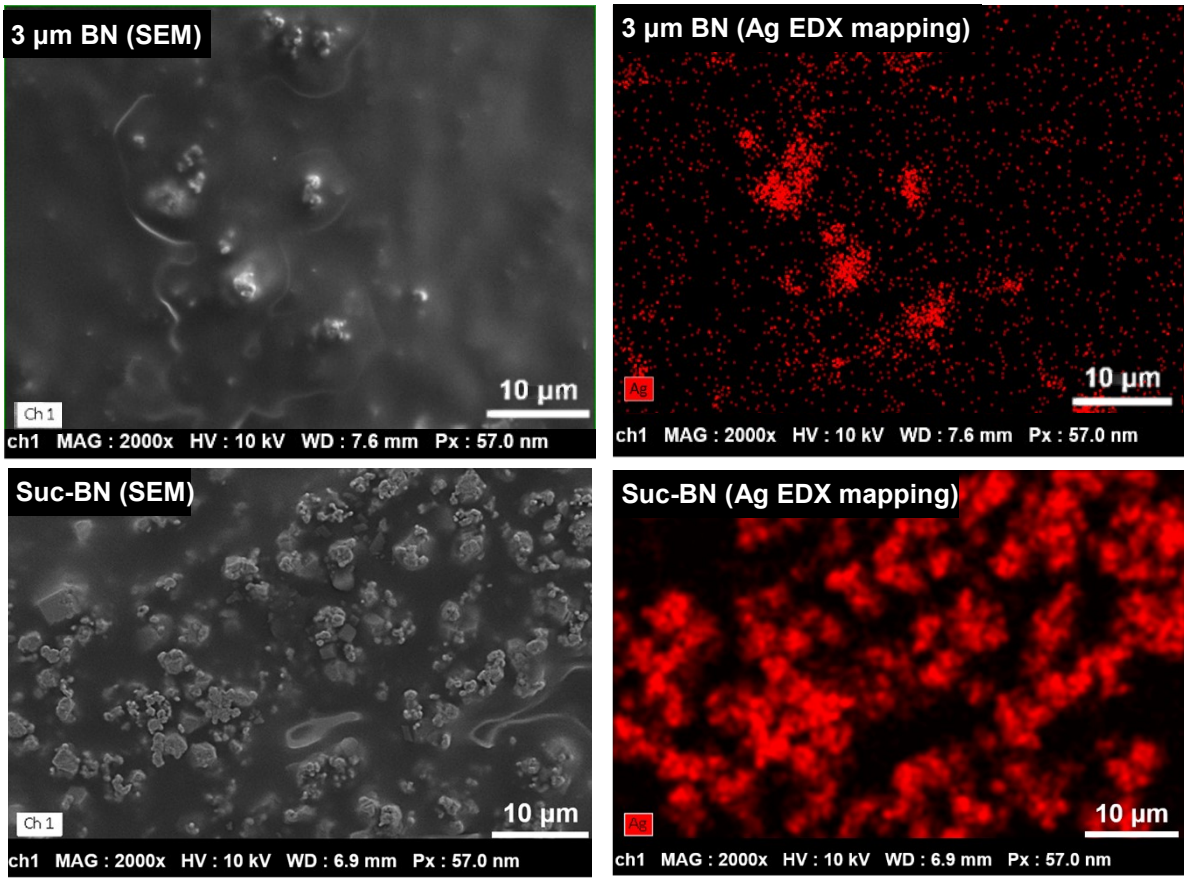

Fig. S8. SEM images and EDX Ag mapping of the Ag/silicone adhesives with 60 wt% Ag content: **(a, c)** pristine 3-µm BNs (7 phr) and **(b, d)** suc-BNs (3 phr). All scale bars indicate 10 µm.

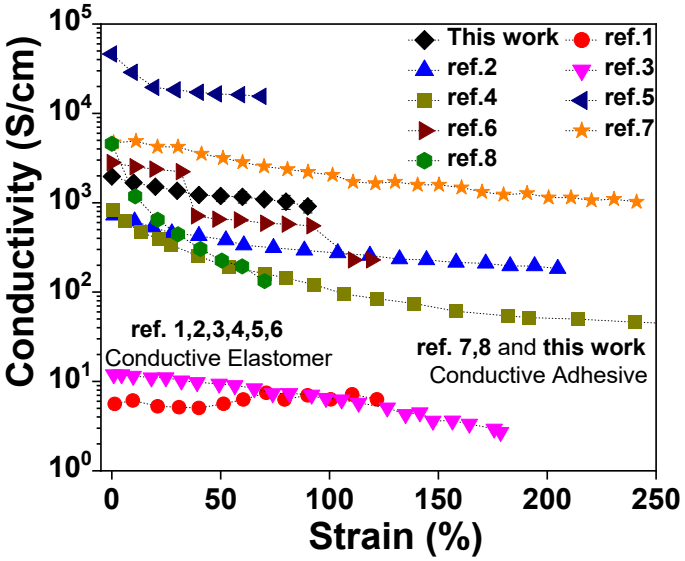

Fig. S9. Comparison of this work to recent works on conductive elastomers and conductive adhesives.

<Figure S7 References>

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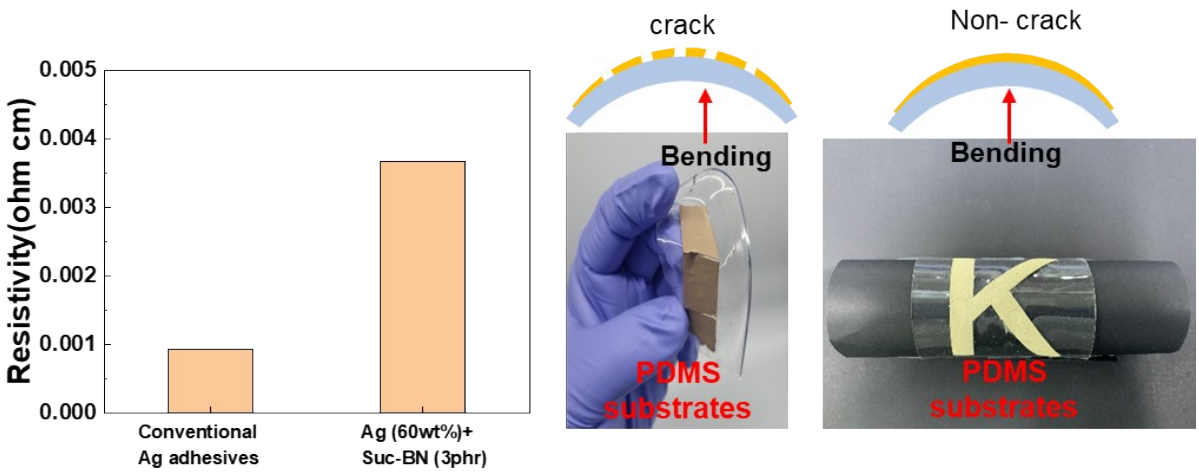

Fig. S10. Comparison of the stretchable conductive adhesives to conventional epoxy-based Ag adhesives.