

Supplementary Material (ESI)

**Highly conductive polymer composites incorporated with
electrochemically exfoliated graphene fillers ****

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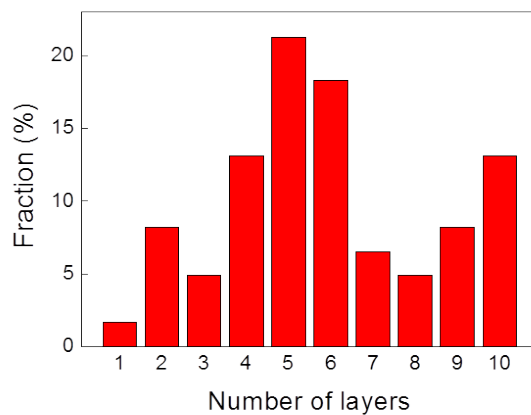


Fig. S1 Statistical thickness analysis of EGs using AFM measurement

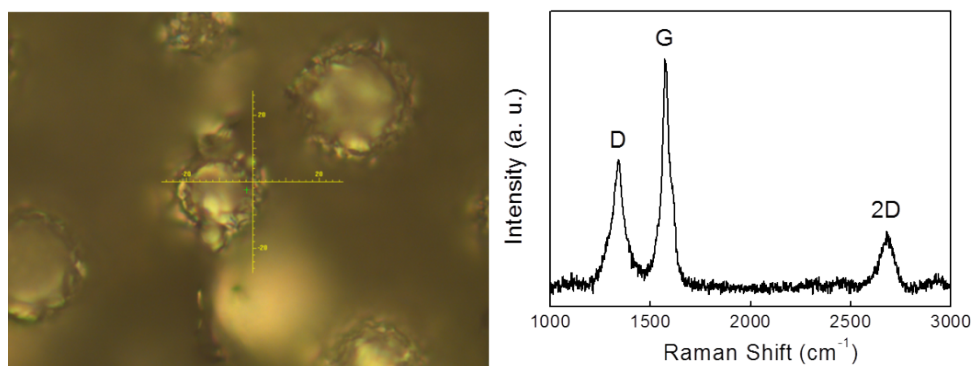


Fig. S2 (a) Optical image of unpressed EGs/PMMA particles. The area for Raman spectrum is pointed by a cross. (b) Raman spectra obtained from the area pointed by a cross in Fig. S1a. The Raman excitation laser wavelength is 532 nm.

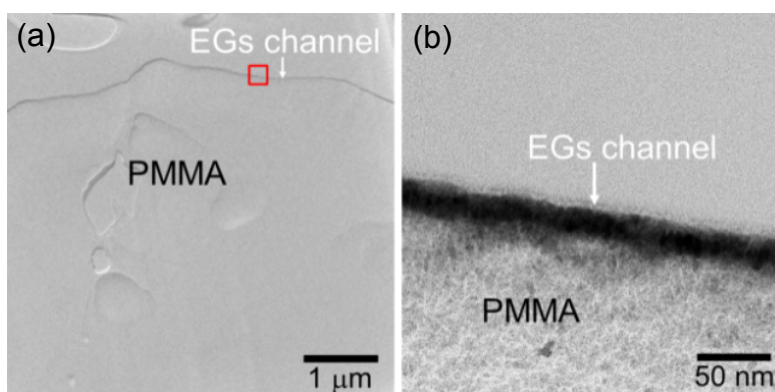


Fig. S3 (a) Low- and (b) high-magnification cross-sectional TEM images of the EG-based conducting channel with the width of ~23 nm. The high-magnification image was obtained from the area marked in a red square of (a). The cross-sectional TEM sample was prepared using a focused ion beam technique.