

## Supporting Information

Facile preparation of highly electrically conductive films of silver nanoparticles finely dispersed in polyisobutylene-*b*-poly(oxyethylene)-*b*-polyisobutylene triblock copolymers and graphene oxide hybrid surfactants

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**Fig. S3** TEM micrographs of colloidal AgNPs in an  $\text{AgNO}_3/\text{PIB-POE-PIB/GO-50\%}$  complex reduction with weight ratios of (a) 5:5:1, (b) 10:10:1, and (c) 20:20:1.

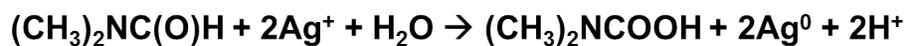
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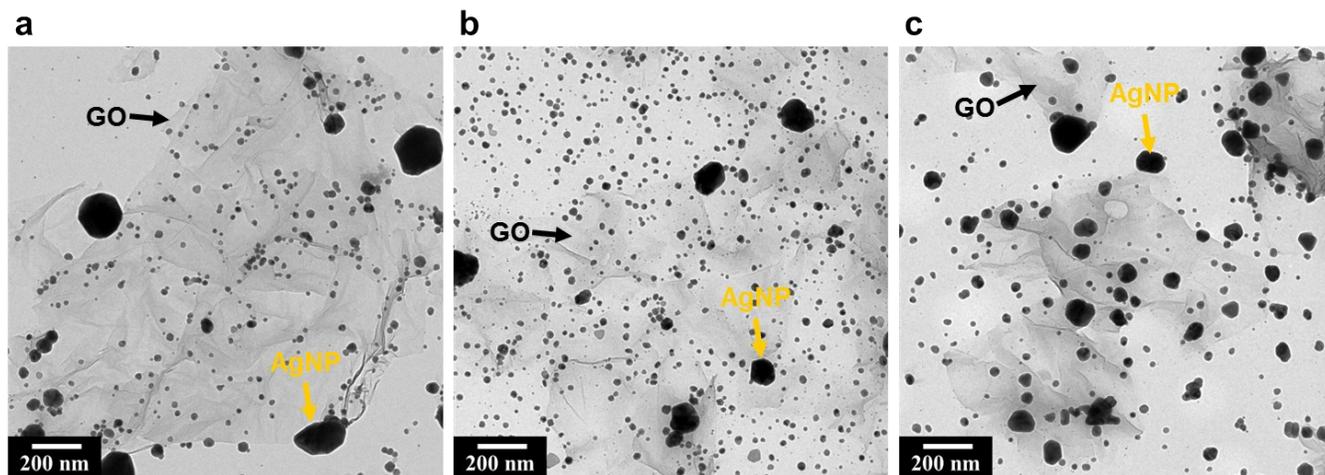
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**Table S2.** Sheet resistance of the AgNP/PIB-POE-PIB/GO-50% nanohybrid film with a weight ratio of 20:20:1 and heat-treated at 350 °C.

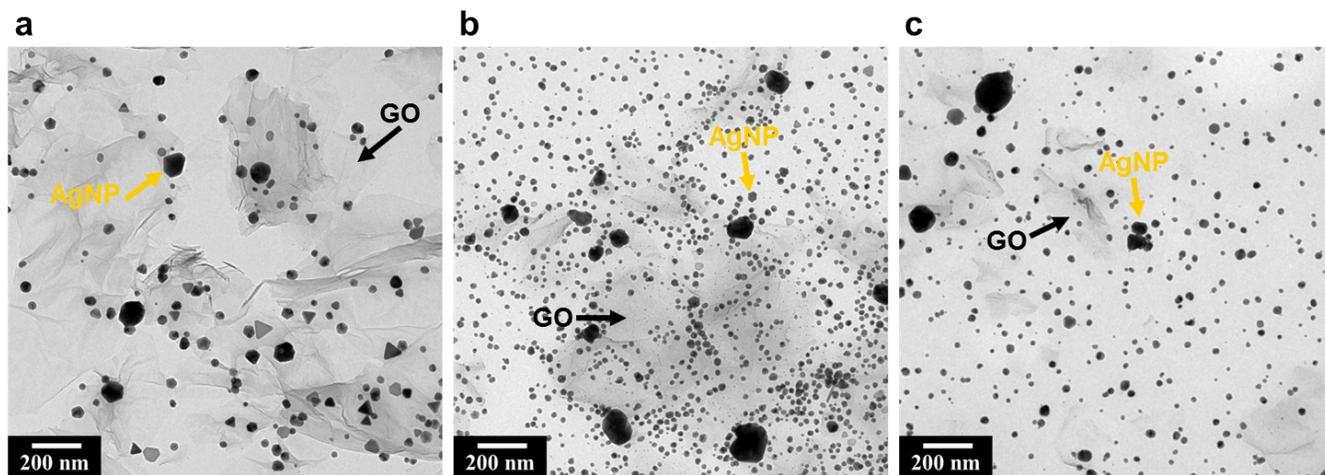
**Video S1.** A movie showing a demonstration of LED bulbs illuminated using the electrical conductivity of the nanohybrid films is provided.



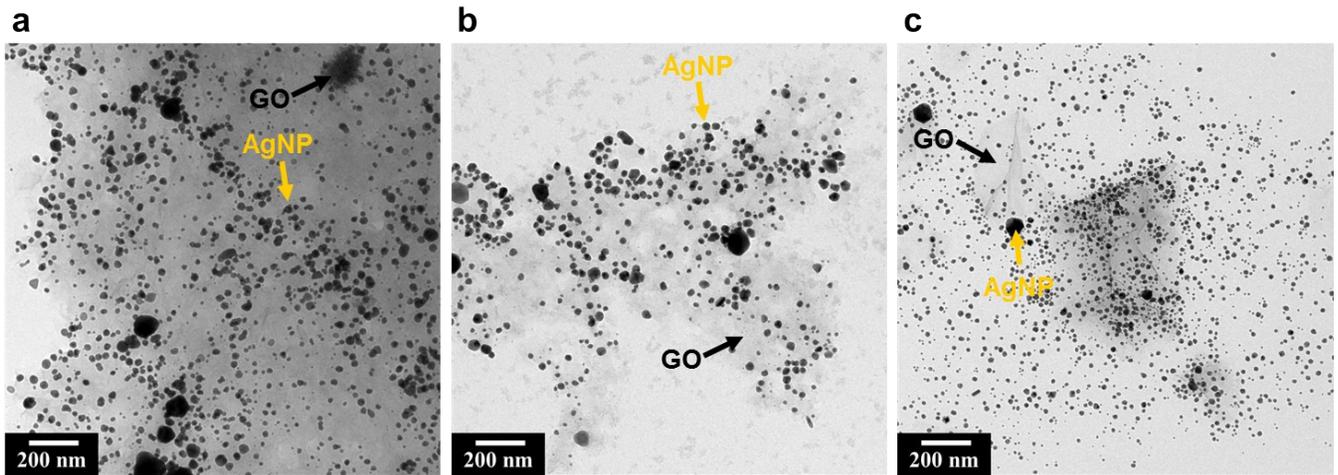
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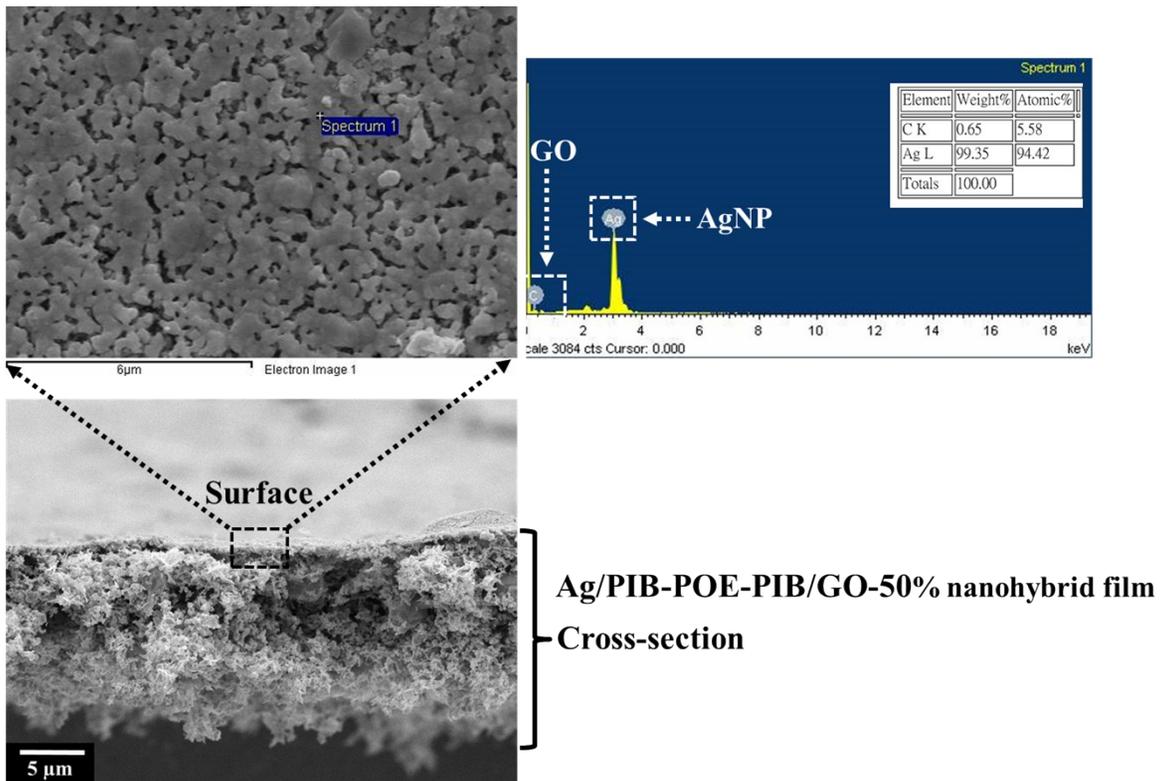
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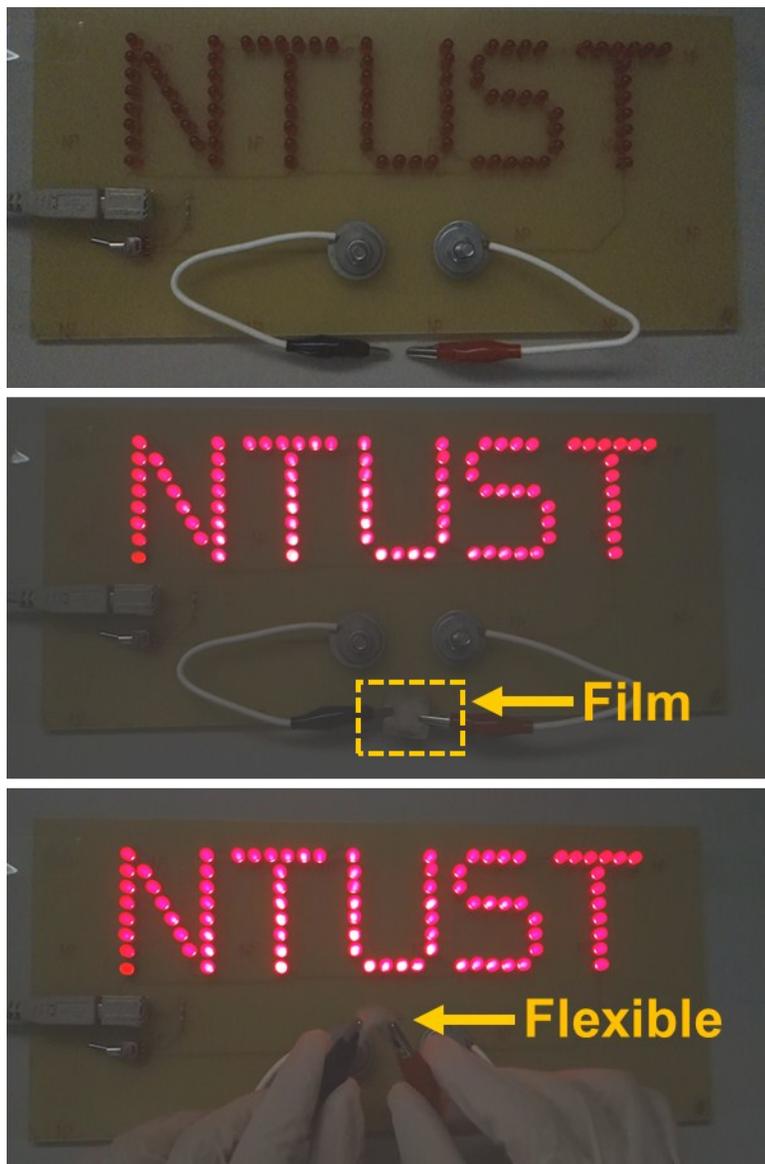
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**Fig. S5** Demonstration of conductive and flexible properties of the AgNP/PIB-POE-PIB/GO-50% hybrid films at 350 °C on the polyimide (PI) substrate.

**Table S1.** Sheet resistance of GO and AgNP/PIB-POE-PIB/GO nanohybrid films with 350 °C heat treatment.

Sample <sup>a</sup>	Weight ratio (w/w/w)	Sheet resistance ( $\Omega/\text{sq}$ ) <sup>b</sup>
GO-4%	--	$5.8 \times 10^1$
GO-20%	--	$2.1 \times 10^1$
GO-50%	--	$8.6 \times 10^6$
AgNP/PIB-POE-PIB/GO-50%	40:40:1	$1.4 \times 10^{-1}$

<sup>a</sup> Solution coating on a glass substrate.

<sup>b</sup> Solution coating on 60  $\mu\text{m}$ -thick films and the resulting sheet resistance measured using a four-point probe.

**Table S2.** Sheet resistance of the AgNP/PIB-POE-PIB/GO-50% nanohybrid film with a weight ratio of 20:20:1 and heat-treated at 350 °C.

Sample <sup>a</sup>	Thickness ( $\mu\text{m}$ )	Sheet Resistance ( $\Omega/\text{sq}$ ) <sup>b</sup>
AgNP/PIB-POE-PIB/GO-50%	30	$7.8 \times 10^{-2}$
	60	$5.2 \times 10^{-2}$

<sup>a</sup> Solution coated on a glass substrate.

<sup>b</sup> Sheet resistance measured using a four-point probe.