

## Supporting Information

### Fabrication of Stretchable Electromagnetic Interference Shielding Silver Nanoparticles /Elastomeric Polymer Composite

Eunjoo Kim,<sup>ab</sup> Dae Young Lim,<sup>a</sup> Youngjong Kang,<sup>\*b</sup> Euisang Yoo<sup>\*a</sup>

<sup>a</sup> Human and Culture Convergence Technology R&BD Group, Korea Institute of Industrial Technology, 143 Hange-gaul-ro, Sangrok-gu, Ansan-si, Gyunggi-do, 15588, Korea

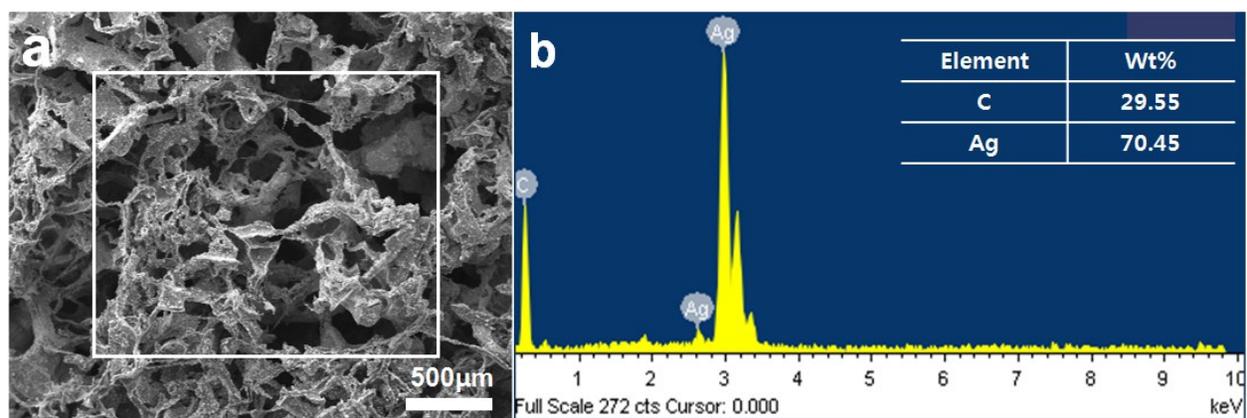
\* E-mail: esyoo@kitech.re.kr

<sup>b</sup> Department of Chemistry, Hanyang University, 222 Wangsimni-ro, Seongdong-gu, Seoul, 04763, Korea

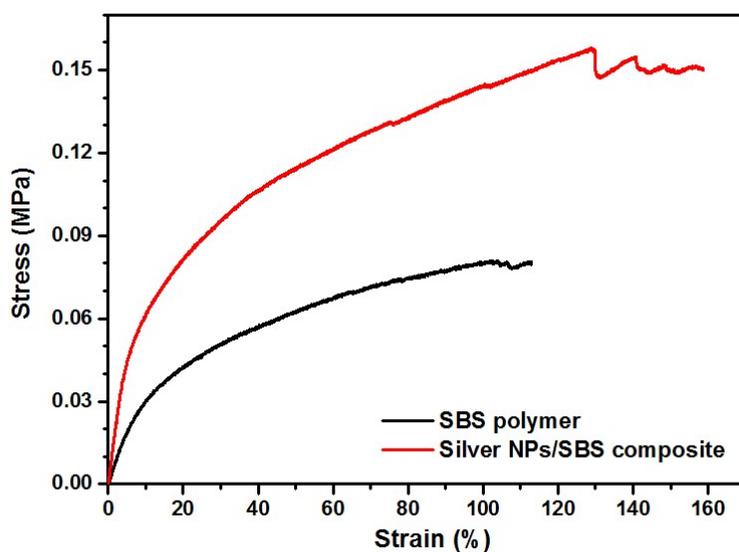
#### Experimental Section

**Materials:** Poly(styrene-*b*-butadiene-*b*-styrene) ( $M_w = 140,000 \text{ g mol}^{-1}$ , weight fraction of styrene = 30%) was purchased from Sigma Aldrich. All other chemicals were purchased from Aldrich.

**Characterization:** SEM images were taken by field-emission SEM (HITACHI SU-8100). Energy dispersive X-ray spectroscopy (EDS) was undertaken with INCA-Energy, OXFORD Internation. Silver contents of composite films were analyzed by thermogravimetric analysis (TGA Q500, TA Instruments). Conductivity was measured using a 4-probe station (Advanced Instrument Technology CMT-100S). EMI shielding characteristics of the silver NPs/SBS composites measured by Agilent Technologies E5071A with coaxial test cell, APC-7 connector. Repeated stretching was performed using Fatigue testing machine (MTS ACUMEN 3).



**Figure S1.** Energy dispersive X-ray spectroscopy (EDS) of the silver NPs/SBS composite. (a) SEM image of the silver NPs/SBS composite used for EDS analysis. The area where the EDS spectrum was taken is indicated with the white rectangular box. (b) EDS spectrum of the silver NPs/SBS composite, which is showing characteristic peaks of Ag.



**Figure S2.** Stress-strain curve of SBS polymer and silver NPs/SBS composite.