

Supplementary Information:

**Fabrication of conductive polymer/inorganic nanoparticles composite
films: using PEDOT:PSS with Ag₂Se nanowire for polymer-based
thermoelectric applications**

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1. Figures

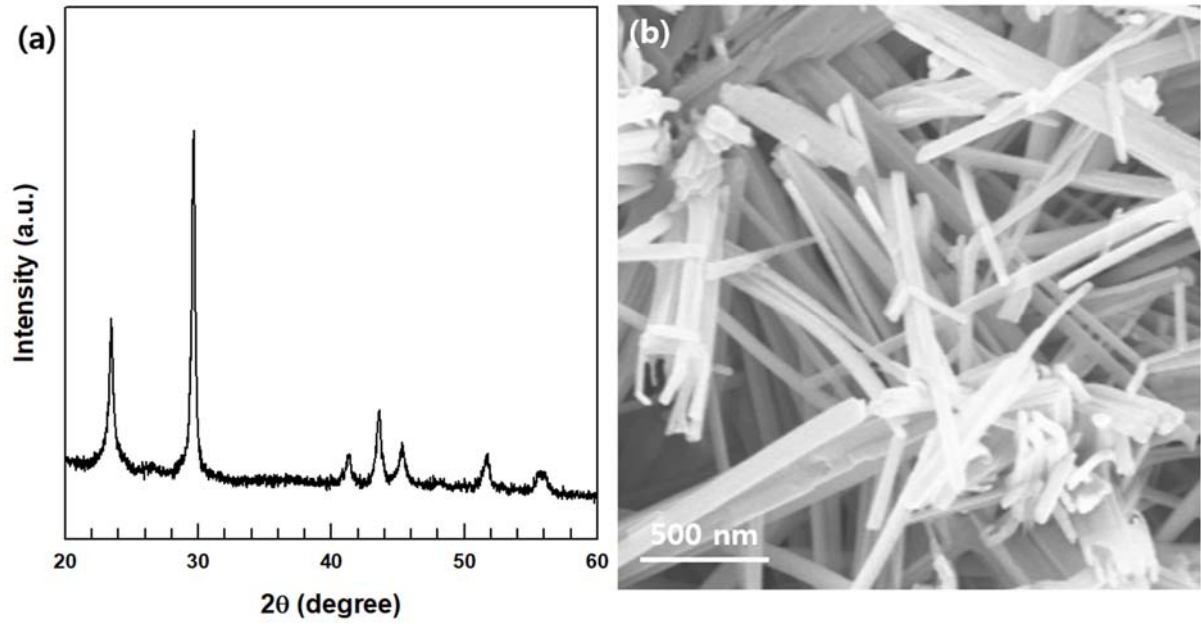


Figure S1. (a) XRD pattern and (b) FE-SEM images of synthesized Se NWs

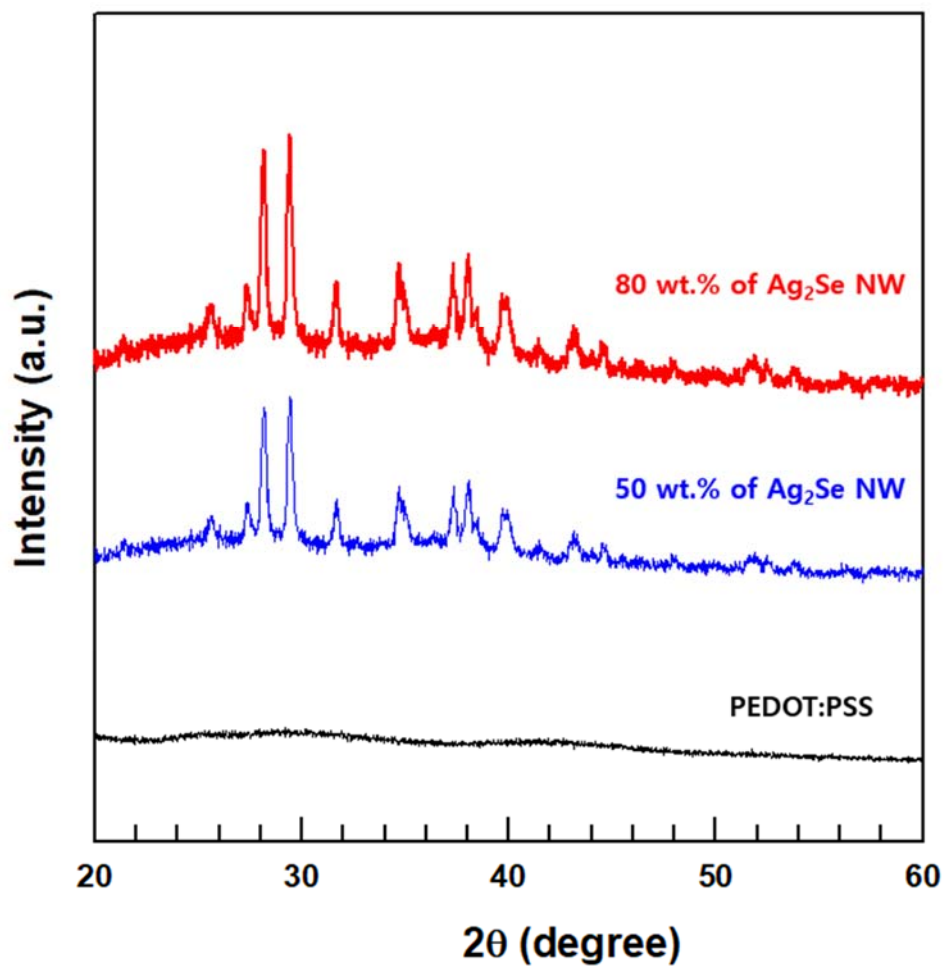


Figure S2. XRD pattern and Pristine PEDOT:PSS, Ag₂Se NW/PEDOT:PSS with 50 and 80 wt.% of Ag₂Se NWs

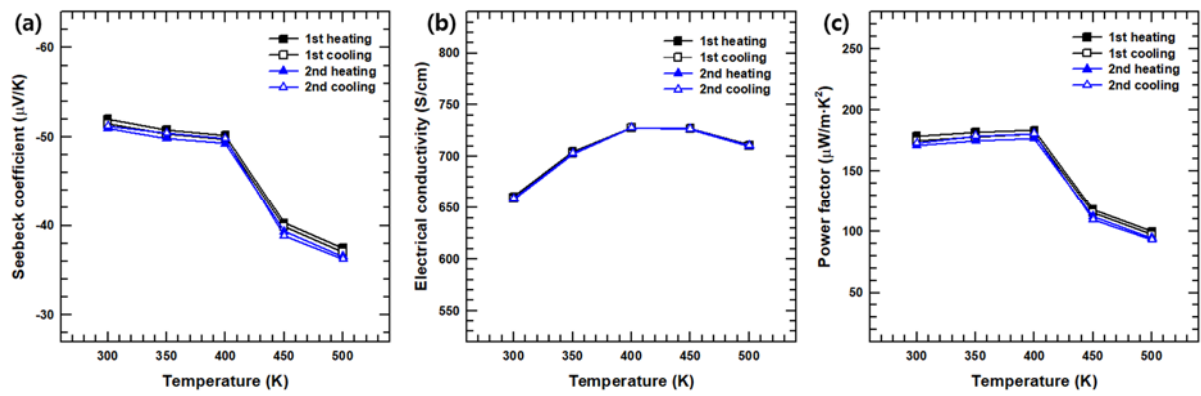


Figure S3. Temperature-dependent (a) Seebeck coefficient, (b) electrical conductivity, and (c) power factor values of PEDOT:PSS composite films with 80 wt.% of Ag_2Se during multiple heating and cooling cycles.

2. Tables

	σ_s (S/cm)	σ_p (S/cm)	S_s ($\mu\text{V}/\text{K}$)	S_p ($\mu\text{V}/\text{K}$)	κ_s (W/m \cdot K)	κ_p (W/m \cdot K)
In this study	581	788.6	-145	12.8	0.53	0.22
Previously reported	~ 497	~ 700	~ -140	~ 16	~ 0.6	~ 0.29
References	Ding <i>et al.</i> ³⁴	Luo <i>et al.</i> ²⁵	Ding <i>et al.</i> ³⁴	Luo <i>et al.</i> ²⁵	Zhao <i>et al.</i> ¹⁸	Kim <i>et al.</i> ²⁴

Table S1. Measured electrical conductivity, Seebeck coefficient, and thermal conductivity for

the calculation of the series- and parallel-connected models.