

Supplementary Data

Enhanced Thermoelectric Properties of WS₂/Single-Walled Carbon Nanohorn Nanocomposites

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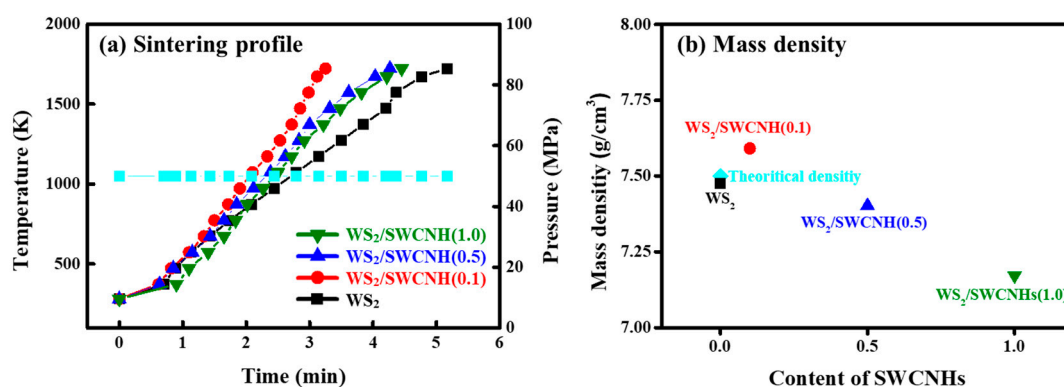


Figure S1. (a) Sintering profiles; (b) mass densities of the sintered WS₂ and WS₂/SWCNH nanocomposites.

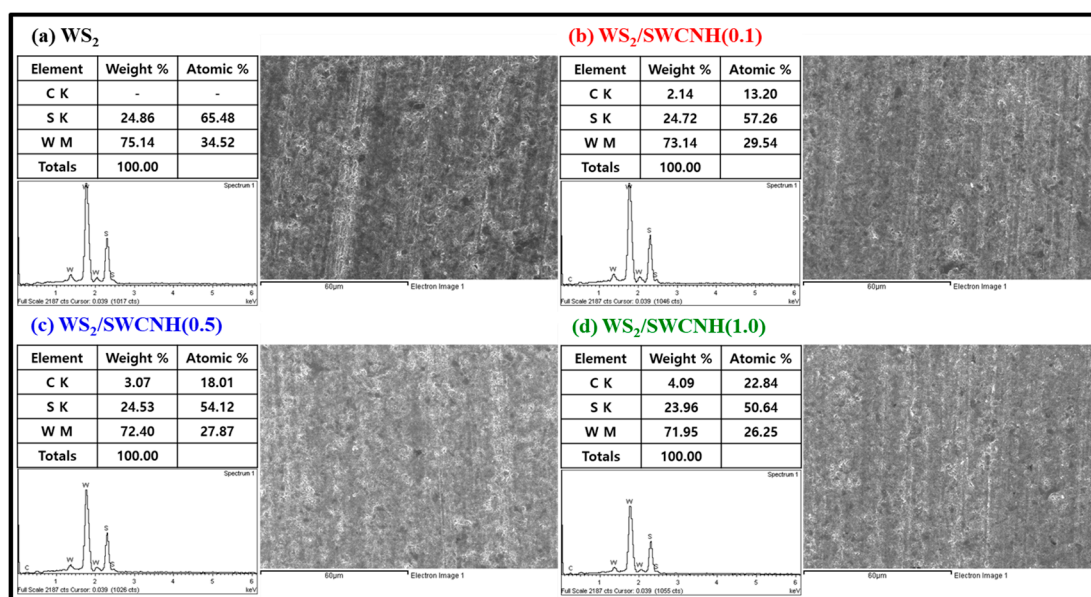


Figure S2. FE-SEM-EDX of the sintered WS₂ and WS₂/SWCNH nanocomposites: (a) WS₂, (b) WS₂/SWCNH(0.1), (c) WS₂/SWCNH(0.5), and (d) WS₂/SWCNH(1.0).

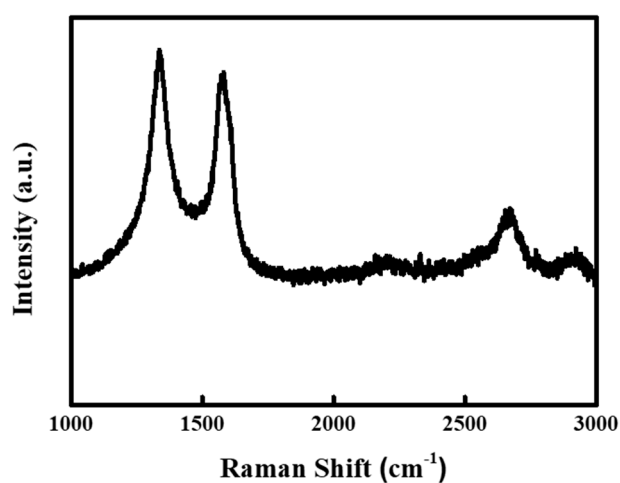


Figure S3. Raman spectrum of the SWCNH powder.

Table S1. Raman factors of the SWCNH powder.

Sample	355 peak	420 peak	D-band	G-band	2D-band	I _D /I _G
SWCNH Powder	-	-	1335.30	1580.21	2669.21	1.04

Table S2. Raman factors of the sintered WS₂ and WS₂/SWCNH nanocomposites.

Sample	355 peak	420 peak	D-band	G-band	2D-band	I _D /I _G
WS ₂	350.54	420.12				
WS ₂ /SWCNH(0.1)	350.54	415.88	1328.14	1581.76	2686.91	1.23
WS ₂ /SWCNH(0.5)	349.12	418.71	1336.91	1601.09	2656.15	1.35
WS ₂ /SWCNH(1.0)	351.97	417.29	1339.41	1587.81	2666.42	1.44

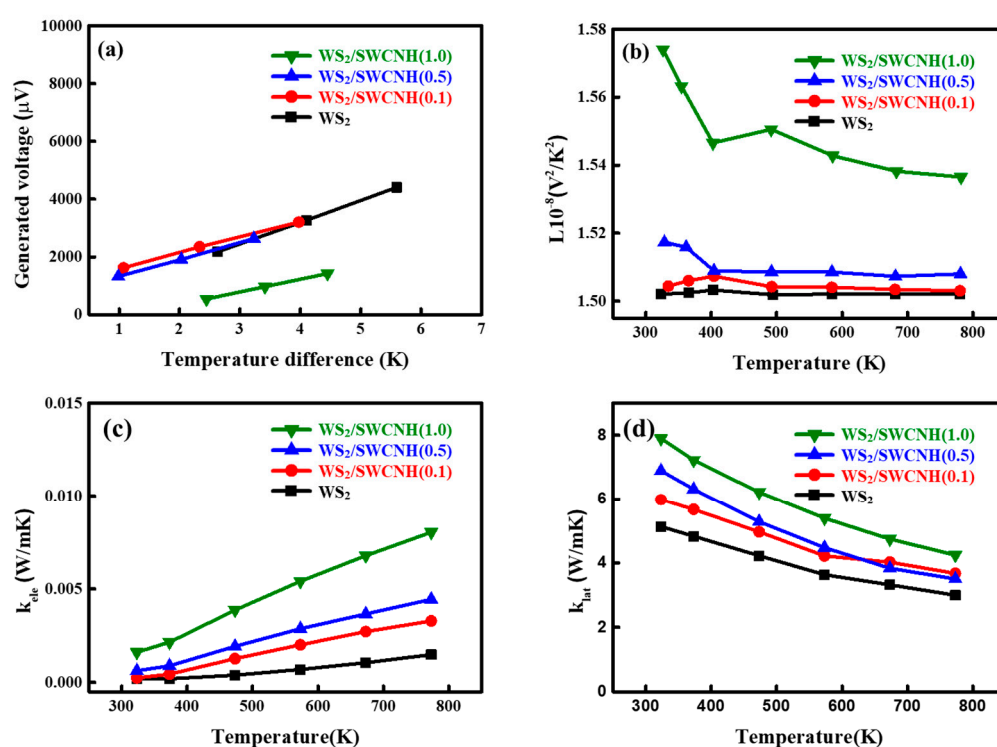


Figure S4. Thermoelectric characteristics of the sintered WS₂ and WS₂/SWCNH nanocomposites. (a) The thermoelectric voltages as a function of temperature difference in He atmosphere at ~300 K, (b) Lorenz number, (c) electric thermal conductivity (k_e), and (d) phonon thermal conductivity (k_l) as a function of temperature.