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RESEARCH ARTICLE

Resonant four-photon photoemission from $SnSe_2$ (001)

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Supporting information

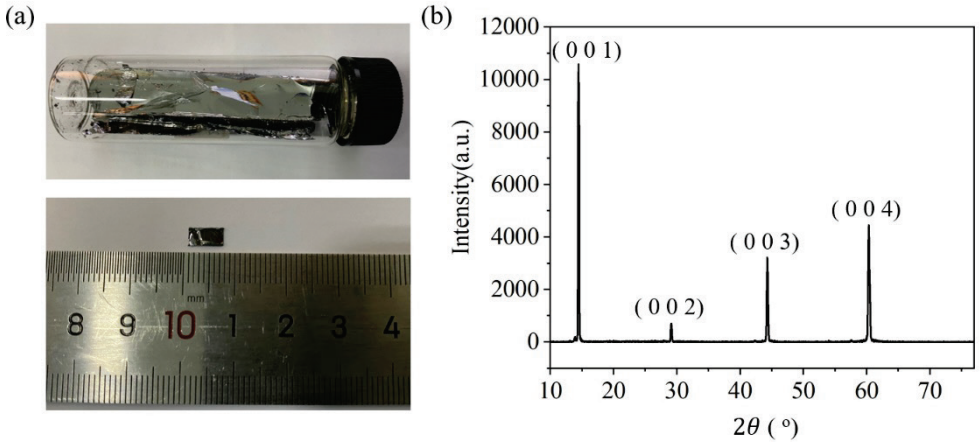

Fig. S1 (a) Optical image of the as-synthesized $SnSe_2$ single crystals. **(b)** XRD patterns of single crystals measured along the (001) atomic planes of $SnSe_2$.

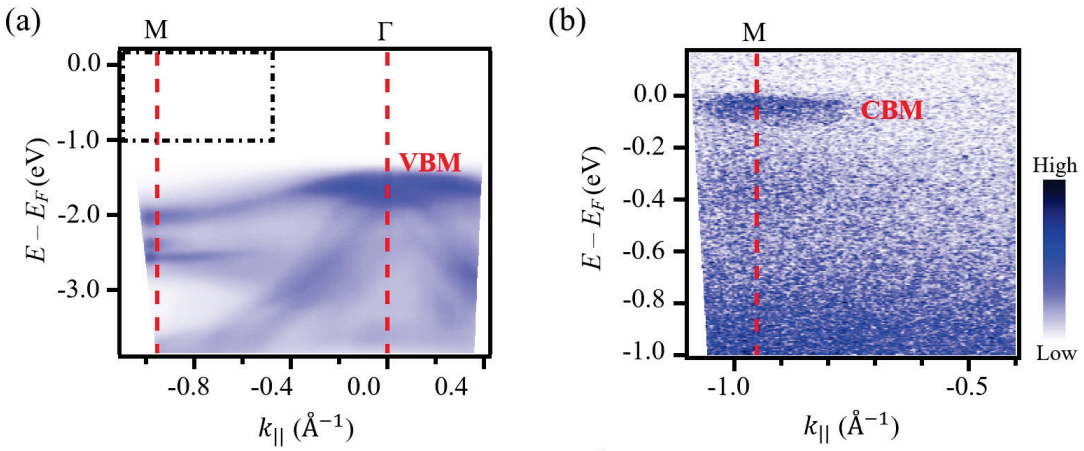

Fig. S2 (a) ARPES spectra obtained on $SnSe_2$ surfaces along the Γ–M direction. The valence band maximum (VBM) at Γ point is1.35 eV below E_F. **(b)** The ARPES spectra, magnified from the dash-dotted rectangle in (a), reveals the weak signal of the conduction band minimum (CBM) located at the M point and positioned –0.05 eV below E_F.

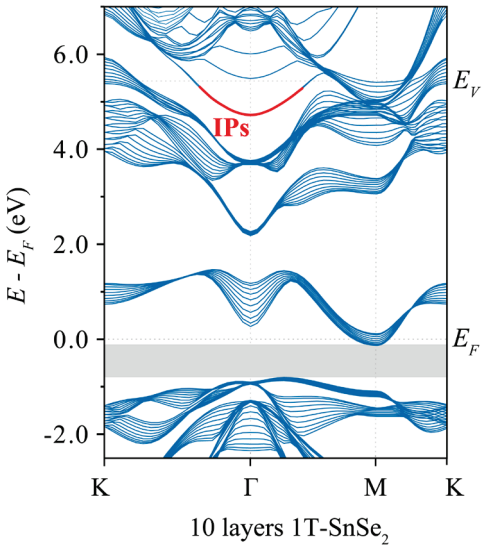

Fig. S3 Calculated band-structure along M–Γ–K for a 10-layer $SnSe_2$. The n = 1 IPs on the surfaces is marked in red.