

Supporting Information

Tin(II) Sulfide (SnS) Nanosheets by Liquid-Phase Exfoliation of Herzenbergite: IV-VI Main Group 2-Dimensional Atomic Crystals

Jack R. Brent,¹ David J. Lewis,^{1,2,*} Tommy Lorenz,³ Edward A. Lewis,¹ Nicky Savjani,²
Sarah J. Haigh,¹ Gotthard Seifert,^{3,*} Brian Derby^{1,*} and Paul O'Brien^{1,2,*}

¹*School of Materials, University of Manchester, Oxford Road, M13 9PL, United Kingdom.*

²*School of Chemistry, University of Manchester, Oxford Road, M13 9PL, United Kingdom.*

³*Theoretische Chemie, Technische Universität, Dresden, 01069, Dresden, Germany*

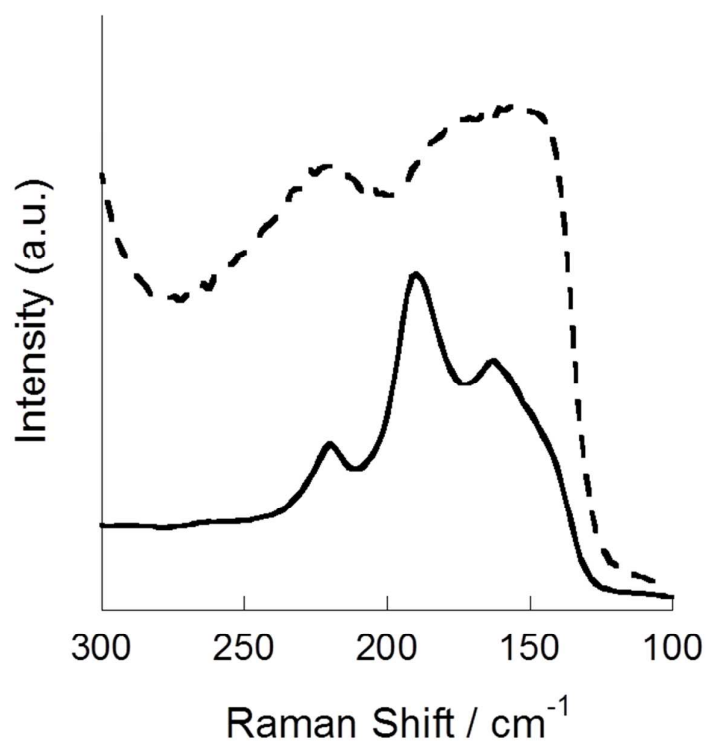


Figure S1. Raman spectrum of bulk Herzenbergite SnS powder (dotted line) and SnS Sol A from ultrasonic liquid-phase exfoliation of bulk Herzenbergite in NMP solution (solid line) on 300 nm Si@SiO₂ substrates.

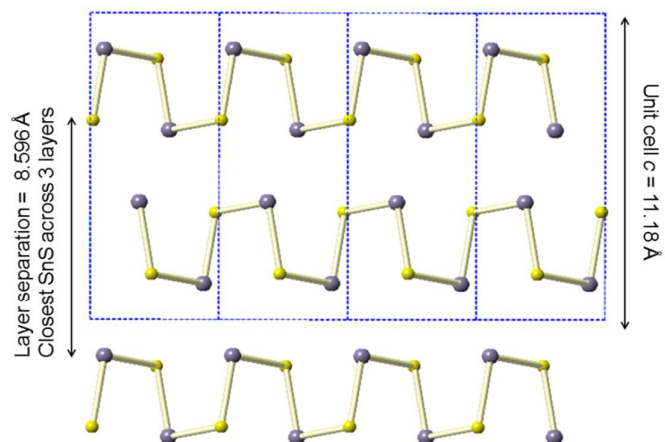


Figure S2. Interlayer separation in SnS. The structure was generated from the orthorhombic unit cell of Herzbergite, tin(II) sulfide ($a = 3.98 \text{ \AA}$; $b = 4.33 \text{ \AA}$; $c = 11.18 \text{ \AA}$; $\alpha = \beta = \gamma = 90^\circ$; space group $P m c n$; Crystallography Open Database ID: 1011253).

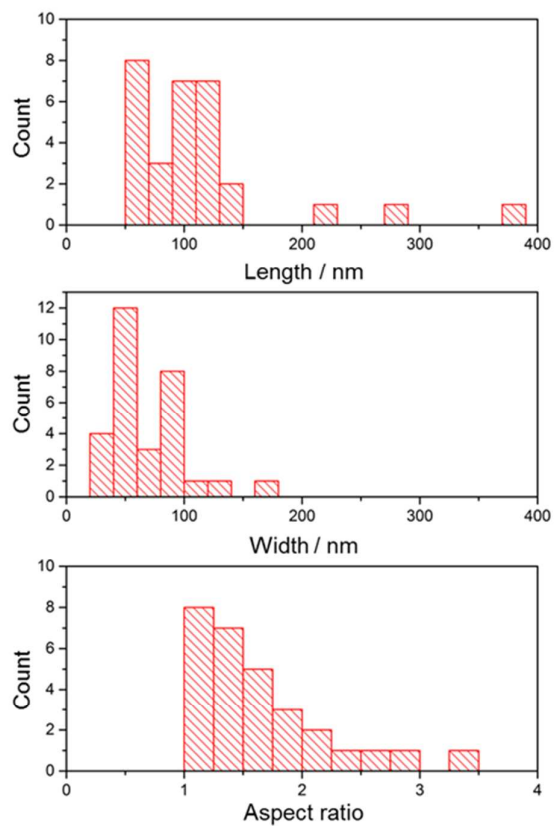


Figure S3. Lengths, widths and aspect ratios of SnS nanosheets imaged by HAADF STEM ($N = 30$).