Supplementary Information (SI) for Nanoscale.

Supplementary information:

Tunable resonant Raman scattering with temperature in vertically aligned 2H-SnS_2

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Raman tensors for SnS_2:

$$A_{1g} = \begin{pmatrix} a & 0 & 0 \\ 0 & a & 0 \\ 0 & 0 & b \end{pmatrix} \text{ and } E_g = \begin{pmatrix} c & 0 & 0 \\ 0 & -c & d \\ 0 & d & 0 \end{pmatrix}, \begin{pmatrix} 0 & -c & -d \\ -c & 0 & 0 \\ -d & 0 & 0 \end{pmatrix}$$

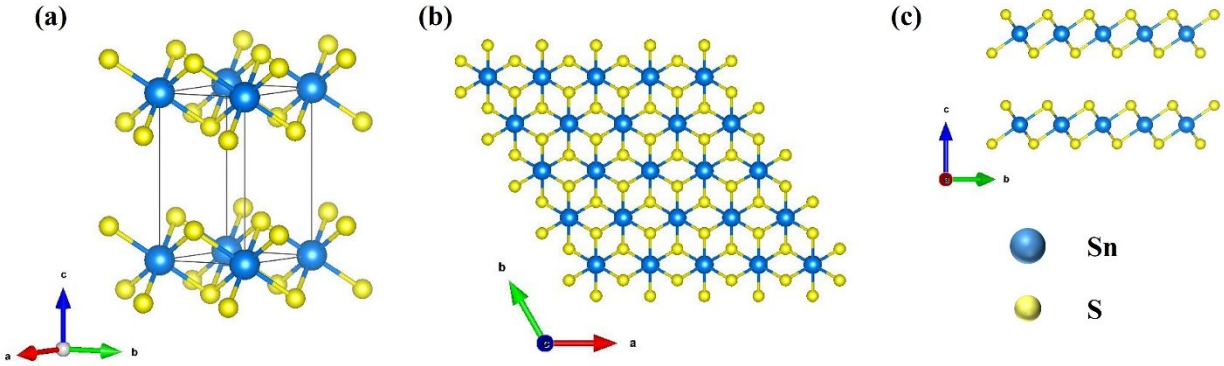

Figure S1. Shows the crystal structure of 2H SnS_2: **(a)** Shows the primitive unit cell. **(b)** and **(c)** Shows the top and side view of crystal structure.

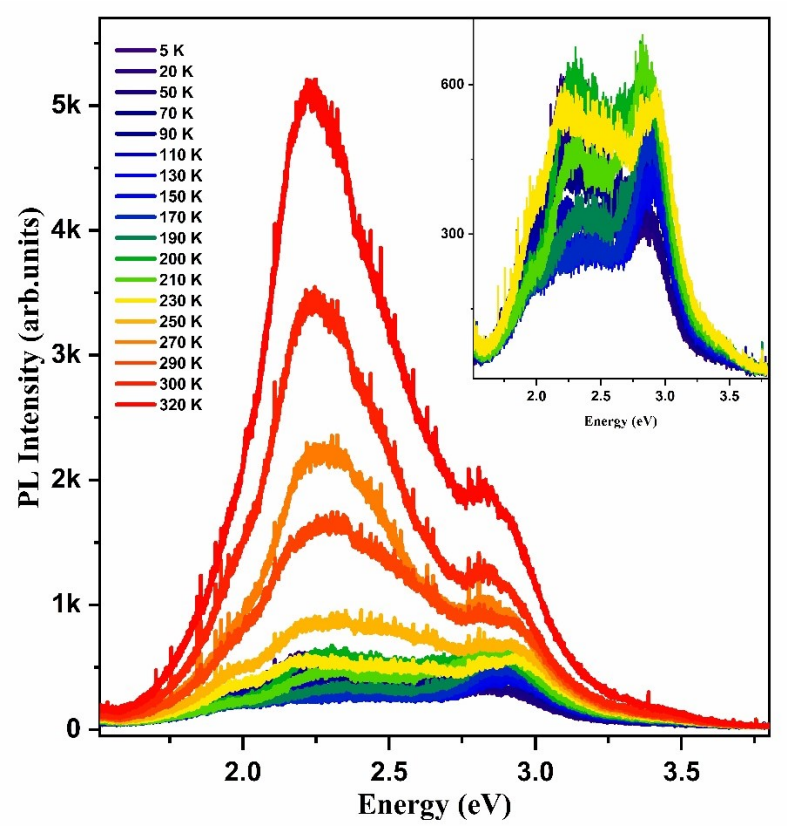

Figure S2: Shows the temperature evolution of the PL spectra for the VA 2H-SnS_2 in the temperature range of ~ 5-320 K. inset shows the evolution of the PL spectra for the low temperature range.