ARTICLE

Pressure-induced coupled structural-electronic transition in SnS_2 under different hydrostatic environments up to 39.7 GPa

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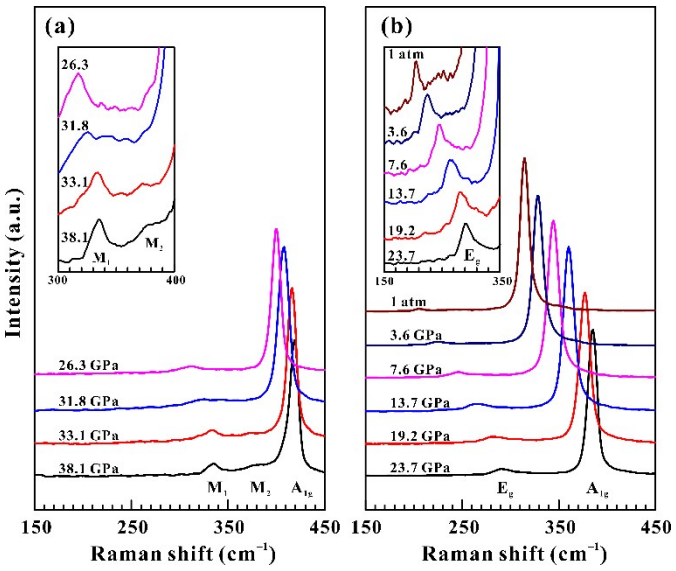
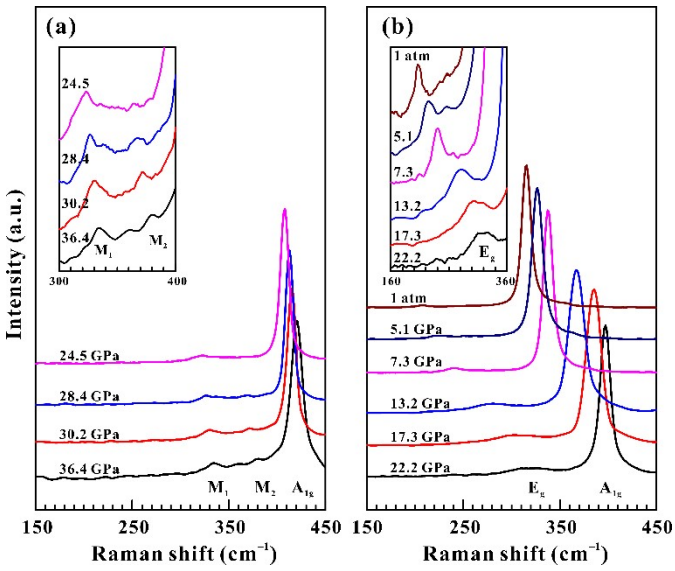
Supplementary Figures and Tables



Supplementary Figure 1. (a) and (b) Raman scattering spectra of SnS_2 at some representative pressure points in the process of decompression under non-hydrostatic condition. Inset: the corresponding enlarged pictures of the E_g, M_1 and M_2 modes.



Supplementary Figure S2. (a) and (b) Raman scattering spectra of SnS_2 at some representative pressure points in the process of decompression under hydrostatic condition. Inset: the corresponding enlarged pictures of the E_g, M_1 and M_2 modes.

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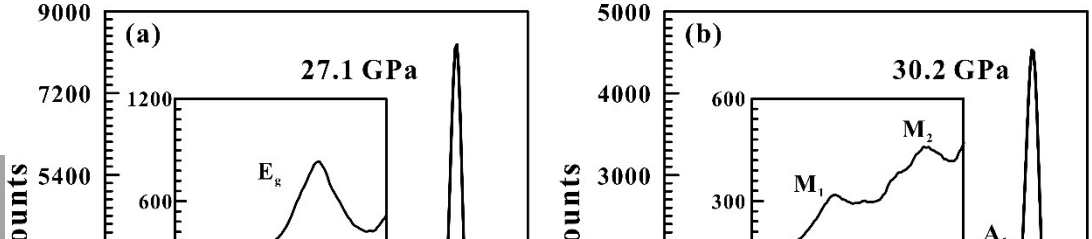

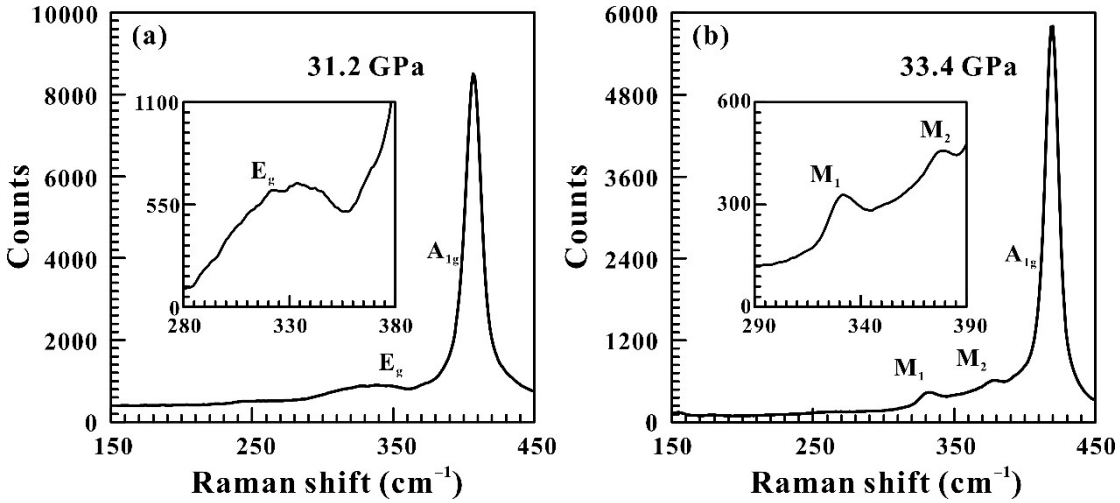

Supplementary Figure 4 Comparison of Raman intensity of the A_{1g}, E_g, M_1 and M_2 modes before and after the coupled structural-electronic transition under hydrostatic condition at the corresponding pressure point of (a) 31.2 GPa and (b) 33.4 GPa, respectively.

Supplementary Table 1: Pressure dependence of Raman shifts and Raman FWHM for SnS_2 in the process of compression under hydrostatic condition up to 39.7 GPa. ω is Raman shift, *F* is Raman FWHM and *P* is pressure.

	Mode	0.5 GPa–31.2 GPa	33.4 GPa–39.7 GPa
Raman shifts (dω/d*P*)	E_g	4.90	–
	A_{1g}	3.25	0.96
	M_1	–	1.33
	M_2	–	1.02
Raman FWHM (d*F*/d*P*)	E_g	1.59	–
	A_{1g}	0.05	0.07
	M_1	–	–0.52
	M_2	–	–4.17