

Supplementary Materials for
Pressure-induced superconductivity in van der Waals layered
semiconductor SnPSe₃

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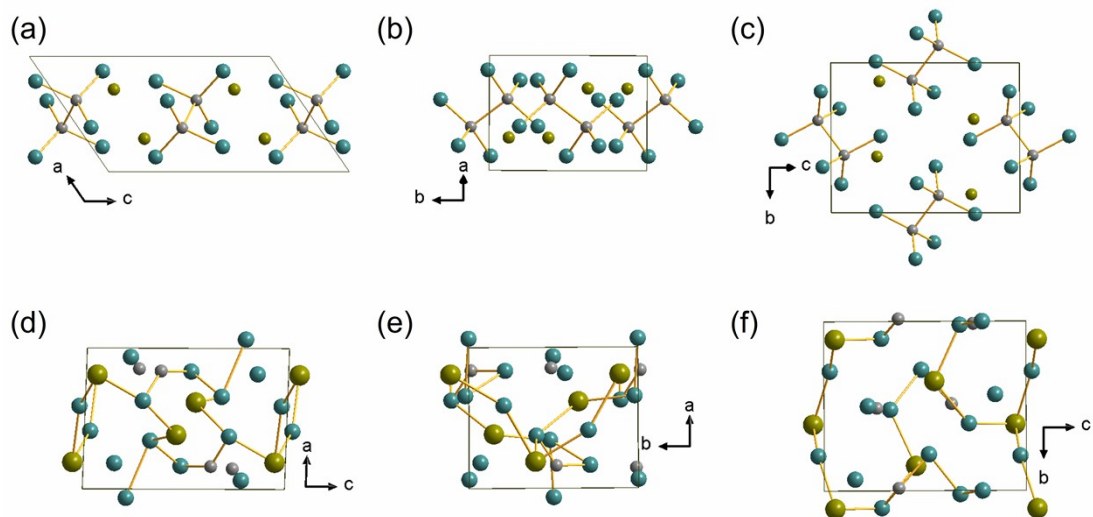


Fig. S1. Schematic crystal structures of SnPSe_3 . (a-c): low-pressure phase (S.G. $P2_1/c$). (d-f): high-pressure phase (S.G. $P2_1$). Sn, P, and Se are represented by yellow, gray, and blue spheres, respectively.

Table S1. Crystal data of SnPSe₃ at 20.5 GPa:

	Low-pressure phase	High-pressure phase
Crystal system	Monoclinic	Monoclinic
Space group	<i>P2₁/c</i>	<i>P2₁</i>
<i>a</i> , Å	6.228(1)	6.209(4)
<i>b</i> , Å	7.168(4)	7.448(5)
<i>c</i> , Å	11.01(4)	8.899(7)
β , (°)	122.82(4)	88.12(4)
<i>V</i> , Å ³	413.06(3)	411.31(4)
<i>Z</i>	4	4

Table S2. Unit-cell parameters of SnPSe₃ at various pressures:

<i>P</i> (GPa)	Low-pressure phase				High-pressure phase			
	<i>a</i> (Å)	<i>b</i> (Å)	<i>c</i> (Å)	<i>V</i> (Å ³)	<i>a</i> (Å)	<i>b</i> (Å)	<i>c</i> (Å)	<i>V</i> (Å ³)
0.1	6.83(1)	7.68(9)	11.73(3)	507.88(9)				
2.0	6.76(3)	7.59(5)	11.65(0)	494.00(9)				
4.6	6.69(0)	7.53(9)	11.57(5)	482.07(2)				
5.8	6.65(5)	7.51(5)	11.52(3)	474.50(1)				
7.4	6.62(1)	7.47(7)	11.48(3)	469.62(0)				
9.1	6.56(5)	7.41(5)	11.45(0)	460.39(7)				
11.0	6.51(6)	7.38(6)	11.39(8)	453.96(5)				
13.6	6.45(2)	7.32 (1)	11.26(2)	440.90(0)	6.31(0)	7.58(6)	9.10(5)	435.60(9)
15.7	6.38(1)	7.26 (4)	11.15(1)	431.45(7)	6.28(9)	7.51(9)	8.98(6)	424.73(2)
17.1	6.33(4)	7.20 (6)	11.11(5)	424.32(1)	6.24(8)	7.48(1)	8.95(9)	418.58(1)
20.5	6.22(8)	7.16 (8)	11.01(3)	413.06(3)	6.20 (9)	7.44 (8)	8.89 (9)	411.27(1)
22.5	6.17(6)	7.11 (3)	10.92(9)	404.80(0)	6.16(0)	7.42(9)	8.82(5)	403.63(4)
25.4	6.13(9)	7.06 (7)	10.83(7)	397.26(2)	6.10(5)	7.41(2)	8.71(1)	393.97(0)
28.5	5.95(1)	7.01 (6)	10.65(9)	379.88(5)	6.03(8)	7.40(9)	8.68(8)	388.61(1)