substance: PtS
property: crystal structure, physical properties

(All references in the last column refer to all data of this document)

lattice parameters, density

a	3.469 Å	substance: tetragonal, B17, $P4_2/mmc$	65H,
c	6.109 Å		79C,
d	10.04 g cm^{-3}		83H
a	6.409 Å	B34, $C_{4h}^2 - P4_2/m$, p = 30 kbar	
c	6.596 Å		

resistivity, Seebeck coefficient, energy gap

ρ	102 Ω cm	p-type, poly-	tetragonal phase
S	50 μV K^{-1}	crystalline	diamagnetic
E_g	0.8 eV	sample	optical gap
$E_{g,th}$	0.64 eV		
ρ	10 Ω cm	polycrystalline	B34 high-pressure phase
$E_{g,th}$	0.38 eV	sample	

Figures to this document:

resistivity: Fig. 1

References:

65H Hulliger, F.: J. Phys. Chem. Solids 26 (1965) 639.
79C Collins, R., Kaner, R., Russo, P., Wold, A., Avignant, D.: Inorg. Chem. 18 (1979) 727.
83H Handbook of Chemistry and Physics, 64th ed. (ed.: R. C. Weast), CRC Press. Inc. 1983.

Fig. 1.

PtS. Resistivity of ambient (full circles) and high-pressure (open circles) (50 kbar) phases vs. reciprocal temperature [79C]. Polycrystalline sample.