

Neue Chalkogenometallate mit binuklearen Anionen, I: Darstellung und Kristallstruktur von $\text{Rb}_6\text{Sn}_2\text{S}_7$

New Chalcogenometallates with Binuclear Anions, I:
Preparation and Crystal Structure of $\text{Rb}_6\text{Sn}_2\text{S}_7$

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Colorless crystals of the new thiostannate $\text{Rb}_6\text{Sn}_2\text{S}_7$ were obtained by reacting a stoichiometric melt of Rb_2S , Sn and S at 700°C . The compound is orthorhombic, *oP60*, s.g. $P2_12_12_1$ (No.19) with $a = 9.982(4)$, $b = 13.45(1)$, $c = 15.20(1)$ Å; $Z = 4$. The crystal structure was determined from diffractometer data and refined to a conventional R of 0.043 (1380 Fo's, 137 variables). The crystal structure contains dimeric anions, $[\text{Sn}_2\text{S}_7]^{2-}$, which are built up by slightly distorted SnS_4 tetrahedra sharing a common sulfur atom. The mean Sn-S bond length calculates as 2.384 Å, the bond angle on the bridging S is 110.4° . The structure contains six independent Rb-cations which are coordinated to 5-6 sulfur atoms in irregular configurations.