

# PARAPIERROTITE FROM THE VORONTSOVSKOE GOLD DEPOSIT, NORTHERN URALS, RUSSIA: CRYSTAL STRUCTURE AND CHEMICAL COMPOSITION

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We report data on the chemical composition and crystal structure of parapierrrotite,  $\text{TlSb}_5\text{S}_8$ , recently found at the Vorontsovskoe gold deposit (Sverdlovskaya Oblast', Northern Urals, Russia). It forms there short prismatic crystals up to 1 mm across embedded in a calcite-quartz matrix in association with orpiment, prehnite and baryte. Electron microprobe analysis yields the empirical formula (calculated on the basis of sum of 14 atoms)  $\text{Tl}_{1.01}(\text{Sb}_{4.75}\text{As}_{0.28})_{\Sigma 5.03}\text{S}_{7.95}$ . Crystal structure of parapierrrotite was solved at the first time. It is determined from single-crystal X-ray diffraction data and refined to  $R = 0.0536$  for 4643 observed reflections with  $I > 3(\sigma)$ . Parapierrrotite is monoclinic, space group  $Pn$ , with unit-cell parameters  $a = 8.0832(5)$ ,  $b = 19.4057(11)$ ,  $c = 9.0465(5)$  Å,  $\beta = 91.908(6)^\circ$ ,  $V = 1418.25(1)$  Å<sup>3</sup> and  $Z = 4$ . The structure of parapierrrotite is identical to previously reported structure of synthetic  $\text{TlSb}_5\text{S}_8$ .

*Key words:* parapierrrotite, synthetic  $\text{TlSb}_5\text{S}_8$ , As admixture, Vorontsovskoe gold ore deposit, the Urals.