Preparation and Characterization of 2-Phenoxyethyl(thiophen-2-yl)tellane (C₄H₃S)TeCH₂CH₂OC₆H₅

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The synthesis and structure of (C₄H₃S)TeCH₂CH₂OC₆H₅ (1) (C₄H₃S = thiophen-2-yl) are reported and compared to those of the analogous selenium compound (C₄H₃S)SeCH₂CH₂OC₆H₅ previously synthesized by our group. The compound was characterized by ¹H, ¹³C¹H-, and ¹²⁵Te-NMR spectroscopy as well as by X-ray single crystal crystallography. 1 crystallizes in the monoclinic crystal system, space group P₂₁, with Z = 2, and unit cell dimensions a = 10.618(2) Å, b = 5.357(1) Å, c = 10.684(2) Å, β = 96.57(3)°. The lattice is composed of discrete molecules that are joined together by weak hydrogen bonds into a three-dimensional network. The thiophen-2-yl ring is disordered and shows two alternative orientations with the site occupation factors of 0.70(1) and 0.30(1). All bond parameters are quite normal. The comparison of the lattices in 1 and in its selenium anologue shows that while the closest intermolecular contacts are similar, the packing of the molecules is different.

Key words: Telluroether, 2-Phenoxyethyl(thiophen-2-yl)tellane, X-Ray Crystallography, NMR Spectroscopy