Crystal and Molecular Structure of the Copper(I)-thiolate-selenide Complex $[Ph_4P][Cu(SeS_2CNC_4H_8)(S_2CN_2C_4H_8)]$ with an Unusual Se-S Bond

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Reaction of a DMF solution of $Cu(S_2CNC_4H_8)$ with $[Ph_4P]_2[WSe_4]$ affords $[Ph_4P]_2[WSe_4\text{-}(CuS_2CNC_4H_8)_3]$ (**1**) and $[Ph_4P][Cu(SeS_2CNC_4H_8)(S_2CN_2C_4H_8)]$ (**2**) in which a Se atom from the decomposition of the WSe_4^{2-} anion has reacted with the pyrrolidyldithiocarbamate (C_4H_8dtc) ligand anion to form the new ligand anion $SeS_2CNC_4H_8^{\ominus}$. Complex **2** crystallizes with four formula units in the monoclinic space group $P2_1/c$ in a cell of dimensions a = 10.5824(2), b = 18.7575(3), c = 18.3268(4) Å and β = 109.0980(10)°. 6055 independent reflections above background were measured with a diffractometer and the structure was refined anisotropically to R =0.073. The anion contains a three-coordinated copper(I) atom. The $C_4H_8dtc^{\ominus}$ ligand is bonded to the Cu^+ cation in a terminal fashion, while $SeS_2CNC_4H_8^{\ominus}$ chelates the Cu^+ cation. The Se-S bond length is 2.231(4) Å.