

(Phosphine)silver(I) Sulfonate Complexes

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(Phosphine)silver(I) organosulfonate complexes of the type $(R_3P)AgOS(O)_2R'$ have been prepared in good yields from the corresponding silver sulfonates and tertiary phosphines in dichloromethane solution [$R_3 = Ph_3, Ph_2(2-Py), Me_2Ph$, with $R' = 4-Me-C_6H_4$; $R = Ph, R' = Et$ and $2,5-Me_2-C_6H_4$]. If ethanol is present in the reaction mixture, the products contain one equivalent of ethanol. The crystal structures of $(Ph_3P)AgOS(O)_2(C_6H_4-4-Me)(EtOH)$ (**1**), and $(Me_2PhP)AgOS(O)_2(C_6H_4-4-Me)$ (**5**) have been determined. Complex **1** is present as a dimer in which the monomeric units feature intermolecular Ag-O donor/acceptor bonding in a four-membered ring. The coordination sphere of the silver atoms is further complemented by an ethanol molecule which is also engaged in hydrogen bonding with one of the sulfonate oxygen atoms. The solvent-free complex **5** is associated into helical chains *via* Ag-O coordinative bonds which provide the silver atoms with a distorted planar T-shaped coordination.

Key words: Silver Complexes, Sulfonate Complexes, Phosphine Complexes, Ethanol Adduct