

Publication

6-(Thien-2-yl)-2,2'-bipyridine: Presenting an (NN)-N-boolean AND or (NNS)-N-boolean AND-S-boolean AND donor set to silver(I)

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Reaction of two equivalents of 6-(thien-2-yl)-2,2''-bipyridine (1) with AgPF₆ in CH₂Cl₂ produces the mononuclear complex [Ag(1)₂][PF₆] in which the Ag⁺ ion is in a flattened-tetrahedral Ag(N[^]N)₂-environment in the solid state; the thiophenyl substituents are not coordinated. When equal equivalents of AgPF₆ and 1 react in CH₂Cl₂, a mixture of [Ag(1)₂][PF₆] and {2[Ag₃(1)₄][PF₆]₃·3H₂O}_n is formed. Single crystal X-ray diffraction confirms that {2[Ag₃(1)₄][PF₆]₃·3H₂O}_n is a coordination polymer, with a helical arrangement of ligands enveloping a chain of silver(I) ions. Distances between adjacent pairs of Ag atoms are 3.087(1), 3.884(1) and 4.763(1) Å, with only one in three pairs exhibiting argentophilic interaction.

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