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Gold and Silver Complexes with the Ligands N-[Bis(isopropoxy)-thiophosphoryl]thiobenzamide and N-[Bis(isopropoxy)thiophosphoryl]-N'-phenylthiourea

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Abstract

Gold and silver complexes with the N-[bis(isopropoxy)-thiophosphoryl]thiobenzamide (HL1) and N-[bis(isopropoxy)-thiophosphoryl]-N'-phenylthiourea (HL2) ligands are reported. The compounds $[M(HL)(PPh_3)]TfO$, $[Ag(HL)(TfO)]$ and $[Ag(HL)(PPh_3)_2]TfO$ were obtained by the reaction of both ligands with the corresponding trifluoromethanesulfonate salts. The (acetylacetonato)gold and -silver materials $[M(acac)(PPh_3)]$ or $[Au(acac)(C_6F_5)_2]$ cause deprotonation of the ligands and afford $[ML(PPh_3)]$ or $[AuL(C_6F_5)_2]$, whereas the reaction of $[Au(TfO)(PPh_3)]$ with HL1 in a 2:1 molar ratio in KOH/MeOH affords $[Au_2(L1)(PPh_3)_2]TfO$. The first homoleptic anionic metal compounds $[AuL_2]^-$ are also reported. © Wiley-VCH Verlag GmbH & Co. KGaA, 69451 Weinheim, Germany, 2004.

Keywords

Gold, Silver, Sulfur, Thioamide, Thiourea