Coordination of the Hetero(N,S)-bidentate Ligand 1-Methyl-2-(methylthiomethyl)-1*H*-benzimidazole to $[(Ph_3P)Au)]^+$ Exclusively through the Imine Nitrogen Donor

Markus Albrecht, Klaus Hübler, and Wolfgang Kaim

Institut für Anorganische Chemie, Universität Stuttgart, Pfaffenwaldring 55, D-70550 Stuttgart, Germany

Reprint requests to Prof. Dr. W. Kaim.
Fax: (+49) 711685-4165.
E-mail: kaim@iac.uni-stuttgart.de

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Gold(I) Complex, Benzimidazole Ligand, Thioether

1-Methyl-2-(methylthiomethyl)-1*H*-benzimidazole (mmb, N^S) was reacted with $Ph_3PAuCl/AgPF_6$ in THF to yield $[(Ph_3P)Au(mmb)](PF_6)$ which could be crystallographically characterized. The Au^+ ion is almost linearly coordinated by the triphenylphosphine P and the imine N atom of a monodentate N^S ligand. There is no gold(I)-sulfur bonding as the distance of *ca.* 3.02 Å indicates. Similarly, close intermetallic contacts between the gold centers are absent. Both effects are attributed to the positive charge on the metal.