

A Molecular Bis(isocyanide)silver(I) Nitrate Complex

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Z. Naturforsch. **61b**, 6 – 10 (2006); received November 17, 2005

Bis(*p*-tolylsulfonylmethylisocyanide)silver nitrate is obtained from the reaction of the isocyanide ligand with silver nitrate in chloroform regardless of the applied ratio of the reactands (1:1 or 2:1). The crystal structure of the product has been determined. In the complex molecule with C₂ symmetry, the nitrate anion is attached to the silver center as an η^2 -chelating ligand. Owing to this approach of the NO₃ ligand, the RNC-Ag-CNR axis (R = 4-Me-C₆H₄-SO₂-CH₂) is bent [from 180 to 162.1(2)°], but the geometry of the nitrate is not significantly distorted, suggesting only weak coordinative bonding. The structure is thus intermediate between that of a molecular complex with a tetrahedral coordination and that of an ionic compound with linear coordination of the silver center.

Key words: Isocyanide Complex, Silver(I) Complex, Nitrate Complex