Synthese und Kristallstrukturbestimmung von Cs([18]Krone-6)Au · $8NH_3$

Synthesis and Crystal Structure Determination of Cs([18]crown-6)Au · $8NH_3$

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Cs([18]crown-6)Au · $8NH_3$ was synthesized from CsAu and [18]crown-6 in liquid ammonia. The extremely air- and temperature-sensitive colorless, block-shaped crystals were analyzed by single crystal X-ray diffractometry. The compound forms triclinic crystals of space group $P1$ (no. 1) with $a = 8.765(2)$, $b = 11.186(2)$, $c = 13.997(3)$ Å, $\alpha = 86.180(6)$, $\beta = 89.669(6)$, $\gamma = 83.774(6)^\circ$, $V = 1361.2(4)$ Å^3. The crystal structure consists of ammonia nets extending perpendicular to [110] in which the Cs([18]crown-6) fragments and the auride anions are embedded.

Key words: Aurides, Hydrogen Bonds, Crown Ether, Ammonia Nets, Low-Temperature Crystal Structure Analysis