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Tetrakis[diamminesilver(I)] bis(2-hydroxy-5-methylbenzene-1,3-disulfonate) monohydrate

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Abstract: In the crystal structure of the title salt, $[\text{Ag}(\text{NH}_3)_2]_4(\text{C}_7\text{H}_6\text{O}_7\text{S}_2)_2 \cdot \text{H}_2\text{O}$, the four independent Ag^{I} complex cations all lie on special positions of m site symmetry, as do the two independent 2-hydroxy-5-methylbenzene-1,3-disulfonate anions. The Ag^{I} cations exist in an almost linear coordination geometry [N-Ag-N = 175.2 (2), 178.08 (16), 175.8 (2) and 178.20 (19)°]. The water molecule is disordered about a mirror plane. Two independent complex cations are linked by an Ag...Ag interaction of 3.3151 (1) Å, furnishing a linear $[\text{Ag}(\text{NH}_3)_2]_n$ polycationic chain running along b . The free complex cations, polycationic chain and 2-hydroxy-5-methylbenzene-1,3-disulfonate anions interact *via* N-H...O and O-H...O hydrogen bonds, forming a three-dimensional network.