Hexa(ammine)cobalt(III)-Carbonate Complex, Vibrational Spectroscopy, Thermal Analysis

\[ \text{[Co(NH}_3\text{)_6]}\text{ClCO}_3 \text{ crystallizes in the cubic space group } P_2\text{1}_3 \text{ (No. 198) with } a = 1000,5(2) \text{ pm, } V_{\text{EZ}} = 1001,4(3) \cdot 10^6 \text{ pm}^3, Z = 4. \text{ Structural features are discrete } [\text{Co(NH}_3\text{)_6}]^{3+}, \text{CO}_3^{2-} \text{ and Cl}^- \text{ ions, connected by N-H...O and N-H...Cl bonds. The site symmetry of the carbonate group is } C_3, \text{ but vibrational spectroscopy shows that the CO}_3^{2-} \text{ group is planar with local symmetry } D_{3h}. \]