

The first tribridged complex with a (μ -oxo)*bis*(μ -carboxylato) dimetal core containing L-histidine as terminal ligands

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Hemerythrins are the oxygen transport proteins of marine invertebrates. X-ray crystal structure of azidomethemerythrins has two iron atoms bridged by an oxygen atom and two bidentate carboxylate groups from glutamate and aspartate amino acid residues. The $[\text{Fe}_2\text{O}(\text{O}_2\text{CR})_2]^{2+}$ core is further anchored to the protein by five histidine residues. The sixth octahedral site on one iron atom is occupied by the azide nitrogen atom. Although several low-molecular weight *3d-5d* complexes modelling the metHr active centre have been reported, the isolation of any tribridged complex containing L-histidine as terminal ligands is previously unknown in the literature. Herein, we report the isolation and characterization of a novel diruthenium (III) complex, $[\text{Ru}_2\text{O}(\text{O}_2\text{CMe})_2(\text{L-histidine})_6](\text{ClO}_4)_2$, containing six terminal L-histidine ligands bonded to the diruthenium core through the imidazole binding sites. The complex has been characterized from the ^1H NMR spectral data showing MeCO_2^- : L-histidine ratio as 1:3. The L-histidine complex is believed to have a structure similar to that of $[\text{Ru}_2\text{O}(\text{O}_2\text{CMe})_2(1\text{-Melm})_6](\text{ClO}_4)_2$ whose structure has been confirmed by single crystal X-ray crystallography.

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