

**Di-*l*-methacrylate-*j*4O:O0-bis[aquabis(1,10-phenanthroline-*j*2N,N0)-copper(II)]
dinitrate dihydrate**

Abstract

The title complex, $[\text{Cu}_2(\text{C}_4\text{H}_5\text{O}_2)_2(\text{C}_{12}\text{H}_8\text{N}_2)_2(\text{H}_2\text{O})_2](\text{NO}_3)_2 \cdot 2\text{H}_2\text{O}$, contains a dimeric $[\text{Cu}_2(\text{C}_4\text{H}_5\text{O}_2)_2(\text{C}_{12}\text{H}_8\text{N}_2)_2(\text{H}_2\text{O})_2]^{2+}$ dication with two five-coordinated CuII ions linked by two methacrylate ions in a syn–syn bridging arrangement. The dication possesses pseudo-twofold rotational symmetry. The pentacoordination of each CuII ion has a distorted squarepyramidal geometry, with two N donors from a phenanthroline ligand and two carboxylate O atoms occupying basal sites and the apical position being occupied by a water molecule. In the crystal packing, molecules are linked to form a threedimensional framework by O—H O and C—H O hydrogen bonds and π – π interactions [centroid–centroid distances of 3.6039 (15), 3.5301 (15), 3.6015 (15), 3.6496 (15) and 3.6858 (15) Å].

Keyword: single-crystal xray, methacrylate