

## SYNTHESIS AND X-RAY CHARACTERISATION OF A NEW MIXED-VALENCE TRINUCLEAR IRON CLUSTER

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**Abstract.** This paper reports on the synthesis of a new trinuclear homometalic mixed-valence iron carboxylate cluster with furan-2-carboxylic acid. The complex with the formula  $[\text{Fe}_2^{\text{III}}\text{Fe}^{\text{II}}\text{O}(\text{C}_4\text{H}_3\text{OCOO})_6(\text{H}_2\text{O})_3] \cdot 0.5\text{CH}_3\text{CN} \cdot 2.25\text{H}_2\text{O}$  was characterized by X-ray analysis that revealed that the compound crystallizes in the triclinic centrosymmetric group *P*-1, with the following unit cell parameters:  $a = 10.2758(6)$  Å,  $b = 11.5991(9)$  Å,  $c = 19.7349(15)$  Å,  $\alpha = 105.060(7)^\circ$ ,  $\beta = 94.216(6)^\circ$ ,  $\gamma = 101.662(6)^\circ$ .

**Keywords:** iron cluster, mixed valence, X-ray analysis,  $\mu_3$ -oxo, crystal structure, hydrogen bond.

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