

## HOMOTRINUCLEAR $\text{Fe}_3^{\text{III}}$ $\mu$ – OXO SALICYLATE CLUSTER. SYNTHESIS, STRUCTURE AND PROPERTIES

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**Abstract.** A reaction of iron and barium nitrate with ammonium salicylate in the mixture of solvents (MeOH, THF, DMAA) gave the new homotrimeric complex [hexa- $\mu$ -salicylato-(O,O')- $\mu_3$ -oxo(diaqua)(salicylato)triiron(III)]di(dimethylacetamide)(methanol)sesqui(tetrahydrofuran):2.6-hydrate,  $[\text{Fe}_3\text{O}(\text{SalH})_7(\text{H}_2\text{O})_2] \cdot (\text{DMAA})_2(\text{MeOH})(\text{THF})_{1,5}(\text{H}_2\text{O})_{2,6}$  (1). Single-crystal X-ray study has demonstrated that the titled complex  $\{\text{Fe}_3\text{O}\}$  belongs to the well-known group of  $\mu_3$ -oxo homotrimeric carboxylates. The IR, Mössbauer spectra, thermal behaviour of the complex were studied.

**Keywords:** carboxy-cluster, Iron(III), salicylate, IR, Mössbauer, TG data.