

NEW HOMOMETALLIC OCTANUCLEAR CHROMIUM(III) RINGS

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Abstract. Four new {Cr₈} rings have been synthesized and characterized; they are all based on the classic [CrF(O₂C'Bu)₂]₈ ring **1**. Three routes have been studied. The first is direct synthesis, by reacting hydrated chromium(III) fluorides with the acid; this has been used to produce [CrF(O₂CEt)₂]₈ **3**. The second route uses **3** as a precursor and substitute with an incoming carboxylate. This has been used to make [CrF(O₂CCCl₃)₂]₈ **4** and [CrF(O₂CC₆F₅)₂]₈ **5**. The third route uses *N*-ethyl-*D*-glucamine (H₅Etglu) as a template and produces chiral rings [Cr₈F₄(Etglu)(O₂C'Bu)₁₅] **6**. The single crystal X-ray structures of these new compounds are reported.

Keywords: chromium, carboxylate, polymetallic ring, crystallography.

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