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Metal-Organometallic Frameworks Derived from Facially Metalated Arylcarboxylates. S.A. Kumalah, K.T. Holman, Dept. of Chemistry, Georgetown Univ., Washington, DC, 20057, USA.

In recent years, remarkable progress has been made in the use of coordination chemistry to design materials, commonly known as metal organic frameworks or coordination polymers, via the use of various transition metals and organic bridging ligands. In this context, the use of *organometallic* bridging ligands, which have the obvious potential to introduce unique functionality, have been relatively unexplored. The synthesis and characterization of a series of metal-organometallic framework (MOMF) materials, derived from simple [CpFe-(η^6 -arenecarboxylate)] bridging ligands, will be presented. For example, the reaction of $\text{Co}(\text{NO}_3)_2 \cdot 6\text{H}_2\text{O}$ with [CpFe]⁺-metalated 1,4-benzenedicarboxylic acid results in $[\text{Co}_3(1\text{-H})_4(\text{H}_2\text{O})_2(\mu\text{-H}_2\text{O})_2][\text{NO}_3]_2$ (2), a 3D framework material constructed of square grid cobalt-carboxylate networks that are interconnected in the third dimension through additional cobalt ions.

