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**Magnetic Properties of Manganese(III) in Cluster-based Coordination Polymers.**<sup>1</sup> KEVIN J. LITTLE, Dept. Physics, Taylor Univ., D.M. PAJEROWSKI, M.W. MEISEL, Dept. of Physics, Univ. Florida, D.R. TALHAM, Dept. Chemistry, Univ. Florida, H. ZHOU, A. LACHGAR, Dept. Chemistry, Wake Forest Univ. — Magnetization studies, using a SQUID magnetometer operating down to 2 K and up to 7 T, were performed on one-, two-, and three-dimensional coordination polymers built with  $[\text{Mn}(L)]^+$  complexes and  $[\text{Nb}_6\text{Cl}_{12}(\text{CN})_6]^{4-}$  clusters. All three structures exhibited paramagnetic properties and no signs of long-range ordering down to 2 K. The magnetic properties are dominated by the Mn(III) ions,  $S = 2$  and  $g \approx 2$ , per formula unit, and deviations between the samples at low temperatures are associated with the different anisotropic Mn(III) environments of each material.

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