

Abstract Submitted  
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**Experimental determination of the Weiss temperature of several variants of Mn12-ac**<sup>1</sup> SHIQI LI, CCNY & GC-CUNY, LIN BO, BO WEN, CCNY, P. SUBEDI, NYU, Y. YESHURUN, Bar-Ilan U., Israel, A.D. KENT, NYU, M.P. SARACHIK, CCNY, A.J. MILLIS, Columbia U., C. LAMPROPOULOS, S. MUKHERJEE, G. CHRISTOU, U. of Florida — We report measurements of the susceptibility in the temperature range from 3.5 K to 6.0 K of a series of Mn12-ac and Mn12-ac-MeOH samples in the shape of rectangular prisms. The susceptibility obeys a Curie-Weiss Law, where the temperature intercept varies systematically with sample aspect ratio. Using published demagnetization factors, we obtain the Curie-Weiss intercept for an infinitely long sample corresponding to intrinsic ordering temperatures  $T_c \sim 0.85$  K and  $\sim 0.74$  K for Mn12-ac and Mn12-ac-MeOH, respectively [1]. The difference in  $T_c$  for the two materials suggests an additional non-dipolar (exchange) contribution to the Weiss temperature that differs in the two materials because of the difference in ligand molecules. A similar comparison will also be reported for Mn12-toluate.

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