Observation of self-assembled Mn$_{12}$-ac Molecules on Highly Ordered Pyrolytic Graphite\textsuperscript{1} DONGMIN SEO, WINFRIED TEIZER, Department of Physics, Texas A&M University, College Station, TX 77843-4242 — Thin films of the single molecule magnet Mn$_{12}$-ac have been deposited on Highly Ordered Pyrolytic Graphite (HOPG) by a solution evaporation method \cite{1-3}. Mn$_{12}$-ac molecules in a well-ordered self-assembled triangular lattice were subsequently observed in these films by Scanning Tunneling Microscopy (STM) at room temperature under ambient conditions. STM images show typical center to center intermolecular separations of $\sim$ 5 nm. X-ray photoelectron spectroscopy shows that the self-assembled compound on the HOPG surface is consistent with Mn$_{12}$-ac and a control experiment demonstrated that it cannot be another species that may be present in the solvent.

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