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University of Utah

SYNTHESIS of MOLECULE/POLYMER-BASED MAGNETIC MATERIALS

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No consortium/teaming members

No distribution limitation

We have synthesized and characterized several families of organic-based magnets, a new area showing that organic species can exhibit the technologically important property of magnetic ordering. Thin film magnets with ordering temperatures exceeding room temperature have been exceeded. Hence, organic-based magnets represent a new class of materials that exhibit magnetic ordering and do not require energy-intensive metallurgical processing and are based upon Earth-abundant elements.

We set out to make organic-based magnets and this was achieved.

We set out to make organic-based magnets and this was achieved. The details can be found in the numerous scientific publications as well as reviews I have written on the subject (vide infra). In addition two key award for our discoveries, namely, the American Physical Society's *James C. McGroddy Prize for New Materials* (2007) and the American Chemical Society Award for *Chemistry of Materials* (2000), among other awards have been received.

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None

None

None

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None

Computer modeling was not involved.