

High Nuclearity Metal Cyanide Clusters Synthesis

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Directed Assembly of Metal Cyanide Cluster Magnets

Nickel(II) Molybdenum(III) Cyanide Clusters: Synthesis and ...

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Metal Cyanide

ClustersThe complexes

[(tach)M(CN)₃] (tach =
1,3,5-

triaminocyclohexane; M =

Cr, Fe, Co) are utilized in

the synthesis of a range

of new metal-cyanide

cage assemblies,

including the cubic cluster

[(tach)₄(H₂O)₁₂Ni₄Fe₄(C
N)₁₂]⁸⁺ and the face-

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[(tach)₈Cr₈Ni₆(CN)₂₄]¹²

+ .High-Nuclearity

Metal-Cyanide Clusters:

Synthesis ...Abstract: The
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Metal-Cyanide Clusters:
Assembly of a Cr ...High-
Nuclearity Metal-Cyanide
Clusters: Synthesis,
Magnetic Properties, and
Inclusion Behavior of
Open-Cage Species

Incorporating
[(tach)M(CN)₃](M) Cr, Fe,
Co) Complexes Jenny Y.
Yang, Matthew P. Shores,
Jennifer J. Sokol, and
Jeffrey R. Long*
Department of Chemistry,
UniVersity of California,
Berkeley, California
94720-1460 Received
September 27, 2002High-
Nuclearity Metal Cyanide
Clusters: Synthesis
...Unprecedented
geometries are displayed
by two
chromium-nickel-cyanide
clusters that have
recently been
synthesized.
[(Me₃tach)₈Cr₈Ni₅(CN)₂₄]¹⁰⁺ exhibits a face-
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of an extended solid and direct the structure of the product. For example, the reaction between [(tacn)Co(CN)₃] (tacn)Nickel(II) Molybdenum(III) Cyanide Clusters: Synthesis and ...12]12+, wherein the carbon ends of the cyanide ligands are still bound to the Cr(III) centers, and the Ni(II) centers retain an octahedral coordination geometry by virtue of two axial water ligands. The magnetic properties of the green solid are consistent with this hypothesis. 2) and high-spin Ni(II) (S = 1). 2 + 6 1) 18). Directed Assembly of Metal Cyanide Cluster Magnets Metal carbonyl clusters. Although the nuclearity of binary metal carbonyl clusters is usually six or fewer, carbonyl clusters often have higher nuclearities. Metal carbonyls of the iron and cobalt triads are well known to form carbonyl derivatives. Examples include [Rh₆C(CO)₁₅]²⁻ and [Ru₆C(CO)₁₆]²⁻. Metal carbonyl cluster - Wikipedia In metal-cyanide clusters, however, this axial zero-field splitting parameter can also be manipulated by selecting appropriate transition metal ions. 2p cluster exhibits S = 1/4

13=2 with D_{3h} 20:33 cm⁻¹ [30]. eff = 1/4 10 cm⁻¹; as determined from the frequency dependence of the AC magnetic susceptibility [30]. High-spin metal-cyanide clusters: species incorporating ...High-spin metal-cyanide clusters: species incorporating [Mn(salen)]⁺ complexes as a source of anisotropy. Abstract. The use of N,N'-ethylenebis(salicylideneiminato) (salen) complexes of Mn(III) in assembling high-spin metal-cyanide coordination clusters with significant magnetic anisotropy is demonstrated. High-spin metal-cyanide clusters: species incorporating ...High-Nuclearity Chromium–Nickel–Cyanide Clusters: An Open Cr₈Ni₅(CN)₂₄ Cage and a C₃-Symmetric Cr₁₀Ni₉(CN)₄₂ Cluster Incorporating Three Forms of Cyanonickelate High-Nuclearity Chromium–Nickel–Cyanide Clusters: An Open ...High-Nuclearity Metal–Cyanide Clusters: Synthesis, Magnetic Properties, and Inclusion Behavior of Open-Cage Species Incorporating [(tach)M(CN)₃] (M = Cr, Fe, Co) Complexes High-Nuclearity Metal–Cyanide Clusters: Synthesis

...High-nuclearity Metal-Cyanide Cluster [Mo₆Cu₁₄] with Photomagnetic Properties Nathalie Bridonneau, Lise-Marie Chamoreau, Geoffroy Gontarda, Jean-Louis Cantin,^b Jurgen von Bardeleben,^b and Valérie Marvada*.

Supplementary Information [Mo₆(Cu-tacn)₁₄], noted (1) [Mo₃(Cu-Me₃tacn)₄], noted (2) 1. Experimental section p 2-3 Figure S1-S20DWHULDO (6, IRU'DOWRQ7UDQVDFWLR QV 7KLV Photomagnetic ...A high-nuclearity metal-cyanide cluster [Mo₆Cu₁₄] has been prepared and its photomagnetic properties investigated. The photoswitchable magnetic phenomenon observed is thermally reversible (T ... A high-nuclearity metal-cyanide cluster [Mo₆Cu₁₄] has been prepared and its photomagnetic properties investigated. The photoswitchable magnetic phenomenon observed is thermally reversible (T ≈ 230 K). In the field of photomagnetism, [Mo₆Cu₁₄] represents a unique example of a nanocage and the highest nucleari Jump to main content

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[Directed Assembly of Metal Cyanide Cluster Magnets](#)

The synthesis of high-nuclearity metal-cyanide clusters presents a possible means of controlling magnetic properties in the design of new single-molecule magnets.

Nickel(II) Molybdenum(III) Cyanide Clusters: Synthesis and ...

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High-Nuclearity Metal Cyanide Clusters: Synthesis ...

The complexes [(tach)M(CN)₃]₃ (tach = 1,3,5-triaminocyclohexane; M =

Cr, Fe, Co) are utilized in the synthesis of a range of new metal–cyanide cage assemblies, including the cubic cluster $[(\text{tach})_4(\text{H}_2\text{O})_{12}\text{Ni}_4\text{Fe}_4(\text{C N})_{12}]^{8+}$ and the face-centered cubic cluster $[(\text{tach})_8\text{Cr}_8\text{Ni}_6(\text{CN})_{24}]^{12+}$.

High-Nuclearity Metal-Cyanide Clusters:

Assembly of a ...

High-nuclearity Metal-Cyanide Cluster $[\text{Mo}_6\text{Cu}_{14}]$ with Photomagnetic Properties Nathalie Bridonneau, Lise-Marie Chamoreau, Goeffrey Gontarda, Jean-Louis Cantin,^b Jurgen von Bardeleben,^b and Valérie Marvada*.

Supplementary Information $[\text{Mo}_6(\text{Cu-tacn})_{14}]$, noted (1) $[\text{Mo}_3(\text{Cu-Me}_3\text{tacn})_4]$, noted (2) 1. Experimental section p 2-3 Figure S1-S2

ODWHULDO (6, IRU'DOWRQ7UDQVDFW LRQV 7KLV

Photomagnetic ...

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High-Nuclearity

Metal–Cyanide

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Metal carbido clusters. Although the nuclearity of binary metal carbonyl clusters is usually six or fewer, carbido clusters often have higher nuclearities. Metal carbonyls of the iron and cobalt triads are well known to form carbido derivatives. Examples include $[\text{Rh}_6\text{C}(\text{CO})_{15}]^{2-}$ and $[\text{Ru}_6\text{C}(\text{CO})_{16}]^{2-}$.

High-Nuclearity Metal-Cyanide Clusters:

Assembly of a Cr ...

High-Nuclearity Metal–Cyanide Clusters: Synthesis, Magnetic Properties, and Inclusion Behavior of Open-Cage Species Incorporating $[(\text{tach})_M(\text{CN})_3]^{3-}$ ($M = \text{Cr, Fe, Co}$) Complexes Unprecedented geometries are displayed by two chromium–nickel–cyanide clusters that have recently been synthesized. $[(\text{Me}_3\text{tacn})_8\text{Cr}_8\text{Ni}_5(\text{CN})_{24}]^{10+}$ exhibits a face-centered cubic structure with a Ni^{2+} ...

High-spin metal-cyanide clusters: species incorporating ...

High-Nuclearity

Metal–Cyanide Clusters: Synthesis, Magnetic Properties, and Inclusion Behavior of Open-Cage Species Incorporating $[(\text{tach})_M(\text{CN})_3]^{3-}$ ($M = \text{Cr, Fe, Co}$) Complexes Jenny Y. Yang, Matthew P. Shores, Jennifer J. Sokol, and Jeffrey R. Long*

Department of Chemistry, University of California, Berkeley, California 94720-1460 Received September 27, 2002

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