FA4-MS02-P04

Manganese(III)-Schiff-Base-Hexacyanoferrate Polymeric Compound. Synthesis, Structure, and Magnetic Properties. Elif Gungor[a], Hulya Kara[a], Raif Kurtaran[b], Akın Azizoglu[b], Yasemin Yahsi[a,c], Lorenzo Sorace[c]. [a]*Department of Physics,Balikesir University, Balikesir ,Turkey.* [b]*Department of Chemistry,Balikesir University,Balikesir,Turkey.* [c]*Dipartimento di Chimica and UdR INSTM, Universita` di Firenze, Firenze, Italy.*
E-mail: elifonly@gmail.com

A cyano-bridged Mn(III)–Fe(III) complex, $[Mn(L)(H_2O)]_2Fe(CN)_6](NEt_4)$ (**1**) (L = N,N′-bis(5-chlorosalicylidene)-1,2-diaminopropane) have been prepared and structurally and magnetically characterized. The compound **1** crystallizes in monoclinic space group *P2(1)/c* with *a*= 12.396, *b*= 14.145, *c*= 14.872 Å, beta= 99.37 degree. Single crystal X-ray analysis reveals that the complex assumes a cyano-bridged Mn_2Fe unit. The two CN in equatorial plane of the $[Fe(CN)_6]^{-3}$ moiety bridge two Mn ions, each trans position, which results in a 1D linear hydrogen bonded structure giving a [Mn–NC–Fe–CN–Mn] linkage. The Fe ion assumes an octahedral geometry, in which the equatorial sites are occupied by N_2O_2 donor atoms of the Schiff base ligand, the two axial positions are filled by two cyanide ion of $[Fe(CN)_6]^{-3}$. The magnetic measurement showed this complex exhibiting ferromagnetic behavior.

Keywords: cyanide complexes; molecular magnets; crystal engineering

FA4-MS02-P05

The Cyano-bridged Pentanuclear $Mn(III)_4Fe(III)$ Cluster. Structure and Magnetic Properties. Ayse Karaoglu[a], Hulya Kara[a], Raif Kurtaran[b], Akın Azizoglu[b], Yasemin Yahsi[a,c], Lorenzo Sorace[c], Robert Hughes[d], Mairi F. Haddow[d]. [a]*Department of Physics, Balikesir University, Balikesir, Turkey.* [b]*Department of Chemistry, Balikesir University, Balikesir, Turkey.* [c]*Dipartimento di Chimica and UdR INSTM, Universita` di Firenze, Firenze, Italy.* [d]*School of Chemistry, University of Bristol. Department of Chemistry, Bristol University, Bristol, UK.*
E-mail: ayse_karaoglu84@hotmail.com

A cyano-bridged Mn(III)–Fe(III) complex, $[Mn(L)]_2Fe(CN)_6](NEt_4)(MeOH)_2$ (1) (L=N,N′-bis(5-chlorosalicylidene)-2,2-dimethyl-1,3-diaminopropane) was prepared and characterized. The compound **1** crystallizes in Trigonal space group *P3(2)21* with *a*= 16.2948, *b*= 16.2948, *c*= 19.3671 Å, γ= 120.00°. Single crystal X-ray analysis reveals that the complex assumes a cyano-bridged Mn_4Fe unit. The four CN in the equatorial plane of the $[Fe(CN)_6]^{-3}$ moiety bridge four Mn ions, each in the *trans* position, which results in a 3D neutral layered structure giving a [–Mn–NC–Fe–CN–Mn–] linkage. The Mn ion assumes an elongated octahedral geometry, in which the equatorial sites are occupied by N_2O_2 donor atoms of the Schiff base ligand, and the two axial positions are filled by two cyanide ion of $[Fe(CN)_6]^{-3}$. The magnetic measurement showed this complex to exhibit ferromagnetic behaviour.

Keywords: cyanide complexes; molecular magnets; crystal engineering

FA4-MS02-P06

Cyanide-Bridged Mn(III)-Fe(III) Bimetallic Complex. Structure and Magnetic Characterization. Ahmet Karahan[a], Hulya Kara[b], Raif Kurtaran[a], Akın Azizoğlu[a], Yasemin Yahsi[b,c], Lorenzo Sorace[c]. [a]*Department of Chemistry, Balikesir University, Balikesir, Turkey.* [b]*Department of Physics, Balikesir University, Balikesir , Turkey.* [c]*Dipartimento di Chimica and UdR INSTM, Universita` di Firenze, Firenze, Italy.*
E-mail: ahmet_karahan10@hotmail.com

A cyano-bridged Mn(III)–Fe(III) complex, $[Mn(L)(MeOH)]_2Fe(CN)_6](NEt_4)$ (**1**) (L = N,N′-bis(3,5-chlorosalicylidene)-1,2-diaminopropane) have been prepared and structurally and magnetically characterized. The compound **1** crystallizes in monoclinic space group *P2(1)/n* with *a*= 12.350, *b*= 15.762, *c*= 15.614 Å, β= 110.39°. Single crystal X-ray analysis reveals that the complex assumes a cyano-bridged Mn_2Fe unit. The two CN in the equatorial plane of the $[Fe(CN)_6]^{-3}$ moiety bridge two Mn ions, each in the *trans* position, which results in a 2D hydrogen bonded structure giving a [Mn–NC–Fe–CN–Mn] linkage. The Fe ion assumes an octahedral geometry, in which the equatorial sites are occupied by N_2O_2 donor atoms of the Schiff base ligand, and the two axial positions are filled by two cyanide ion of $[Fe(CN)_6]^{-3}$. The magnetic measurement showed this complex to exhibit ferromagnetic behavior

Keywords: cyanide complexes; molecular magnets; crystal engineering

FA4-MS02-P07

Polyether Adducts of d-block Metal Compounds as Starting Materials for New Cluster Compound. Aurélien Crochet[a], Katharina M. Fromm[a]. [a]*Department of Chemistry, University of Fribourg, Switzerland.*
E-mail: aurelien.crochet@unifr.ch

We are interested in molecular compounds, especially oxygen donor adducts of metal halides, because they are used as starting materials in the synthesis of low-dimensional polymeric compounds, i. e. clusters, and polymers or metal organic frameworks.[1-4] Indeed, since more than two decades, metal aggregates are used in the low-cost synthesis of superconductors and other oxide materials by the sol-gel technique, or as volatile precursors in the MOCVD (Metal Organic Chemical Vapor Deposition) process if they present the required properties, namely solubility and volatility. One of the major problems