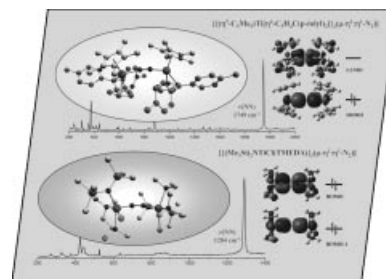


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COVER PICTURE

The cover picture shows that Raman spectroscopy can reveal drastically different N–N stretching frequencies in dinuclear, dinitrogen-bridged titanium complexes. In the article by F. Tuczek et al. on p. 291 ff., the recently synthesized complex $[\{(\eta^5\text{-C}_5\text{Me}_5)\text{Ti}(\eta^6\text{-C}_5\text{H}_4\text{C}(p\text{-tolyl})_2)\}_2(\mu\text{-}\eta^1\text{:}\eta^1\text{-N}_2)]$ (**1**; R. Beckhaus et al., *Eur. J. Inorg. Chem.* **2005**, 1003) is compared to the dinuclear (dinitrogen)titanium complex $[\{(\text{Me}_3\text{Si})_2\text{NTiCl}(\text{TMEDA})\}_2(\mu\text{-}\eta^1\text{:}\eta^1\text{-N}_2)]$ (**3**; R. Duchateau et al., *J. Am. Chem. Soc.* **1991**, 113, 8986). With respect to **3** [$\nu(\text{NN}) = 1284\text{ cm}^{-1}$], **1** exhibits an unusually high N–N stretching frequency [$\nu(\text{NN}) = 1749\text{ cm}^{-1}$]. These spectroscopic differences reflect different degrees of dinitrogen activation, which are explained by the fact that only one of the N_2 π^* -orbitals is occupied in **1**, whereas both π^* -orbitals are occupied in **3**.



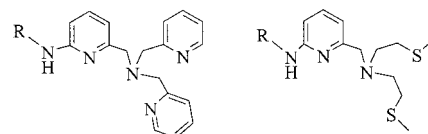
MICROREVIEW

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Bioinorganic Chemistry of Group 12 Complexes
 Supported by Tetradentate Tripodal Ligands
 Having Internal Hydrogen-Bond Donors

Keywords: Zinc / Hydrogen bonding / Hydrolysis /
 Cadmium / Group 12

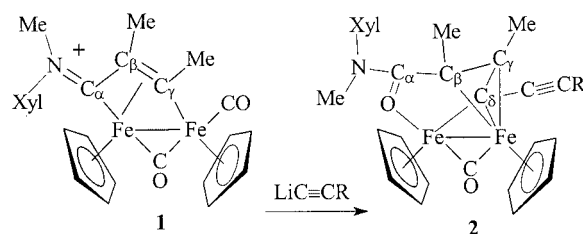


SHORT COMMUNICATION

285 L. Busetto, F. Marchetti, S. Zacchini,
V. Zanotti*

CO Cleavage Promoted by Acetylide Addition to Vinyliminium Diiron Complexes

Keywords: CO cleavage / Bridging ligands / Vinyliminium / Diiron complexes

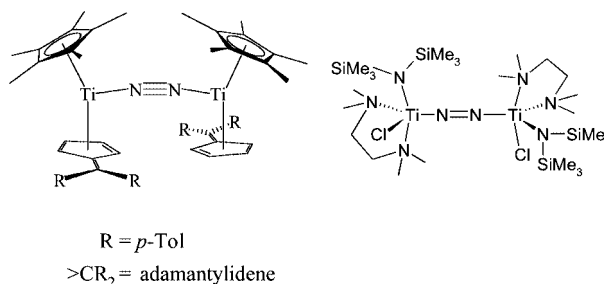


FULL PAPERS

291 F. Studt, N. Lehnert, B. E. Wiesler,
A. Scherer, R. Beckhaus, F. Tuczek*

Spectroscopic Comparison of Dinuclear Ti^+ and Ti^{2+} $\mu\text{-}\eta^1\text{:}\eta^1$ Dinitrogen Complexes with $\text{Cp}^*/$ Pentafulvene and Amine/Amide Ligation: Moderate versus Strong Activation of N_2

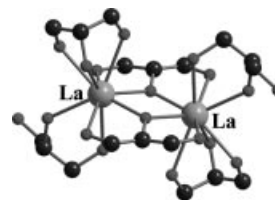
Keywords: Metallocenes / Nitrogen fixation / Titanium / Raman spectroscopy / Density functional calculations



298 N. G. Naumov,* M. S. Tarasenko,
A. V. Virovets, Y. Kim, S.-J. Kim,*
V. E. Fedorov

Glycerol as Ligand: The Synthesis, Crystal Structure, and Properties of Compounds $[\text{Ln}_2(\text{H}_2\text{L})_2(\text{H}_3\text{L})_4][\text{Re}_6\text{Q}_8(\text{CN})_6]$, $\text{Ln} = \text{La}, \text{Nd}, \text{Gd}$, $\text{Q} = \text{S}, \text{Se}$

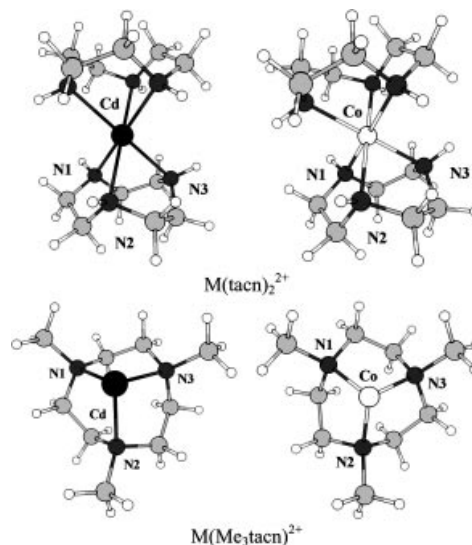
Keywords: Lanthanide(III) complexes / Glycerol / Rhenium(III) octahedral cluster / Cyanide complexes / Crystal structure



304 S. Del Piero, A. Melchior,* P. Polese,
R. Portanova, M. Tolazzi*

N-Methylation Effects on the Coordination Chemistry of Cyclic Triamines with Divalent Transition Metals and Their Co^{II} Dioxxygen Carriers

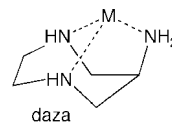
Keywords: Cadmium / Cobalt / Density functional calculations / N ligands / Thermodynamics



- 314** J. Romba, D. Kuppert, B. Morgenstern,
C. Neis, S. Steinhauser, T. Weyhermüller,
K. Hegetschweiler*

The Coordination Chemistry of 1,4-Diazepan-6-amine

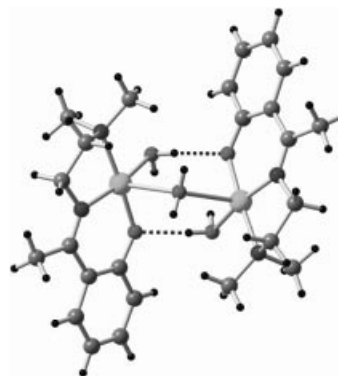
Keywords: Chelates / Cobalt / Ligand design / N ligands / Stability constants



- 329** P. Talukder, S. Sen, S. Mitra,*
L. Dahlenberg, C. Desplanches, J.-P. Sutter*

Evidence for Hydrogen-Bond-Mediated Exchange Coupling in an Aqua-Bridged Cu^{II} Dimer: Synthesis, Magnetic Study and Correlation with Density Functional Calculations

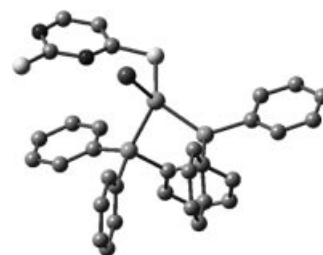
Keywords: Bridging ligands / Copper / Density functional calculations / Exchange interactions / Hydrogen bonds



- 334** P. Aslanidis,* P. J. Cox, A. Kaltzoglou,
A. C. Tsipis*

An Experimental and Theoretical (DFT) Investigation of the Coordination Mode of 2,4-Dithiouracil (2,4-dtucH₂) in Copper(I) Complexes with 1,2-Bis(diphenylphosphanyl)benzene (dppbz): The Crystal Structures of [Cu(μ-Br)(dppbz)]₂ and [CuBr(dppbz)(2,4-dtucH₂)]

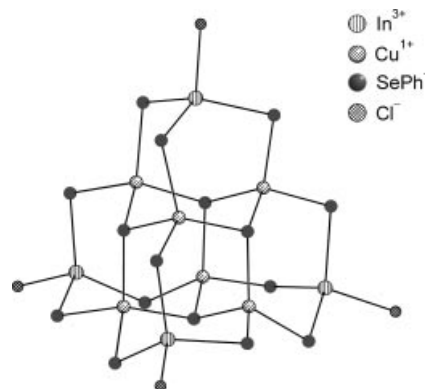
Keywords: Copper / Density functional calculations / Phosphane ligands / S ligands



- 345** R. Ahlrichs, N. R. M. Crawford,
A. Eichhöfer,* D. Fenske, O. Hampe,
M. M. Kappes, J. Olkowska-Oetzel

Synthesis and Structure of Two Ionic Copper Indium Selenolate Cluster Complexes [As(C₆H₅)₄]₂[Cu₆In₄(SeC₆H₅)₁₆Cl₄] and [As(C₆H₅)₄][Cu₇In₄(SeC₆H₅)₂₀]

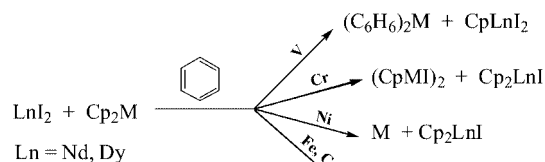
Keywords: Cluster compounds / Density functional calculations / Mass spectrometry / X-ray diffraction



351 M. E. Burin, M. V. Smirnova, G. K. Fukin,
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Neodymium(II) and Dysprosium(II) Iodides in the Reactions with Metallocenes of d-Transition Metals

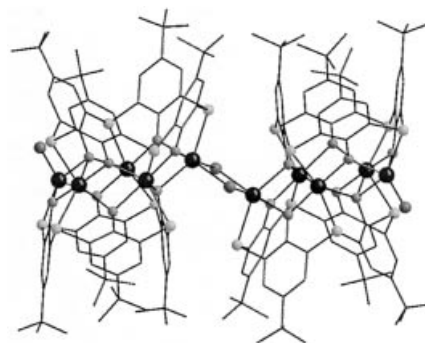
Keywords: Dysprosium / Neodymium diiodide / Metallocenes / Reduction



357 C. Desroches, G. Pilet, P. Szilágyi,
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S. Parola, D. Luneau*

Tetra- and Decanuclear Iron(II) Complexes of Thiacalixarene Macrocycles: Synthesis, Structure, Mössbauer Spectroscopy and Magnetic Properties

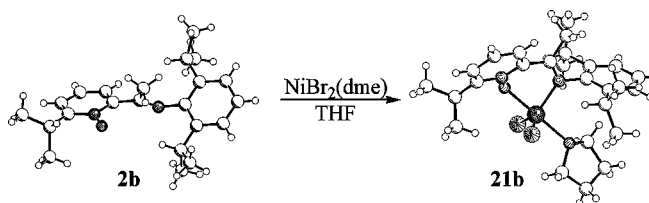
Keywords: Calixarenes / Hydrothermal synthesis / Iron / Magnetic properties / Mössbauer spectroscopy



366 K. Nienkemper, V. V. Kotov, G. Kehr,
G. Erker,* R. Fröhlich

Chelate [2-(Iminoethyl)pyridine *N*-oxide]metal Complexes – Synthesis and Structural Comparison with Their Chemically Related 2-(Iminoethyl)pyridine-Derived Systems

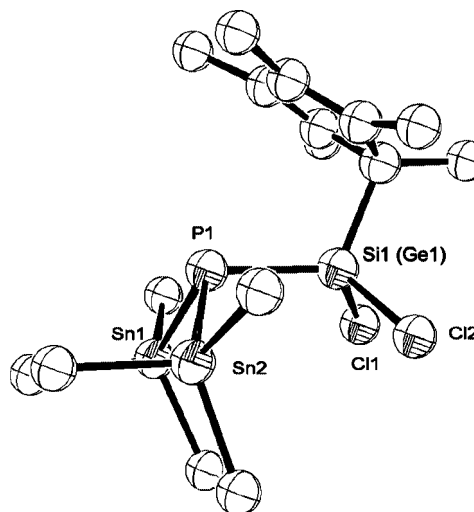
Keywords: Chelates / Coordination chemistry / N,O ligands / Transition metals



380 M. Bender, E. Niecke,* M. Nieger,
R. Pietschnig*

Bis(stannyl)phosphanyl-Substituted Dichlorosilanes/Germanes – Potential Precursors for a Novel Strategy Toward P–Si/Ge Multiple Bonds?

Keywords: Silicon / Tin / Phosphorus / Hyperconjugation

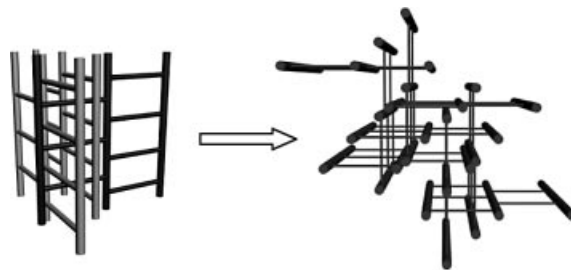


385 Z. Shi, X. Gu, J. Peng,* X. Yu, E. Wang



From Molecular Double-Ladders to an Unprecedented Polycatenation: A Parallel Catenated 3D Network Containing Bicapped Keggin Polyoxometalate Clusters

Keywords: Coordination polymers / Parallel catenation / Double ladders / Hydrothermal synthesis

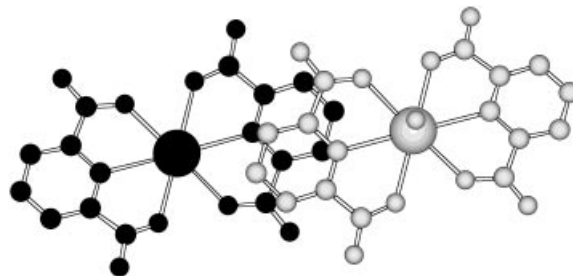


389 J. M. Harrowfield,* N. Lugan, G. H. Shahverdizadeh, A. A. Soudi, P. Thuéry



Solid-State Luminescence and π -Stacking in Crystalline Uranyl Dipicolinates

Keywords: Uranyl luminescence / Crystal structures / π -Stacking / Dipicolinates

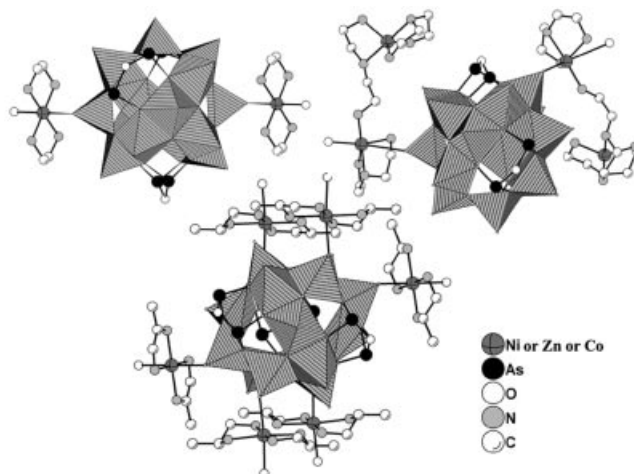


397 S.-T. Zheng, Y.-M. Chen, J. Zhang, J.-Q. Xu, G.-Y. Yang*



Hybrid Inorganic–Organic 1D and 2D Frameworks with $[\text{As}_6\text{V}_{15}\text{O}_{42}]^{6-}$ Polyoxoanions as Building Blocks

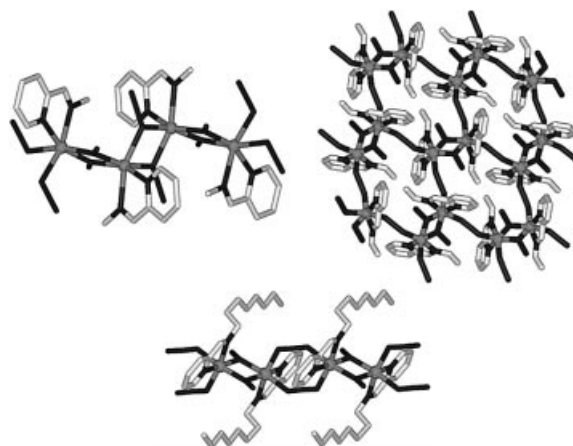
Keywords: Polyoxometalate / Vanadium / Arsenic



407 S.-Q. Bai, E.-Q. Gao, Z. He, C.-J. Fang, Y.-F. Yue, C.-H. Yan*

Manganese Azides Based on Co-Ligands with a Flexible Tail: Diverse Structural and Magnetic Properties

Keywords: Azides / Coordination polymers / Ligand design / Magnetic properties / Manganese

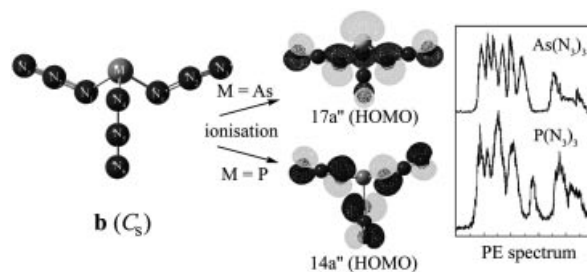


416 Z. Xiaoqing, W. Weigang, L. Fengyi,
G. Maofa,* S. Zheng, W. Dianxun*



Electronic Structure of Binary Phosphoric and Arsenic Triazides

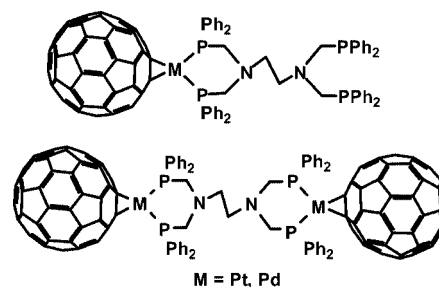
Keywords: Phosphorus / Arsenic / Triazides / Photoelectron spectroscopy / Ionization potentials



422 L.-C. Song,* F.-H. Su, Q.-M. Hu,
E. Grigiotti, P. Zanello

Synthesis, Characterization, and Electrochemical Properties of Novel Transition Metal–Fullerene Complexes Containing Di- and Tetraphosphane Ligands

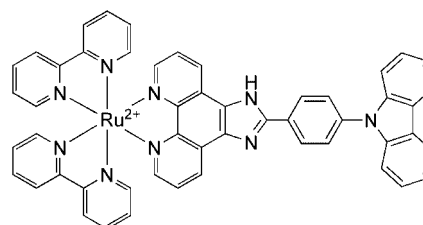
Keywords: Electrochemistry / Fullerenes / Palladium / Phosphane ligands / Platinum



430 Y.-Y. Lü, L.-H. Gao, M.-J. Han,
K.-Z. Wang*

Synthesis and the Effect of a Peripheral *N*-Aryl-carbazole Moiety on the Acid-Base and DNA Binding Properties of a Novel Ru^{II} Complex

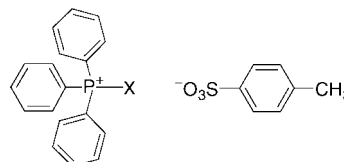
Keywords: Ruthenium / N ligands / DNA / Sensors / Luminescence / UV/Vis spectroscopy



437 L. G. Bonnet, B. M. Kariuki*

Ionic Liquids: Synthesis and Characterisation of Triphenylphosphonium Tosylates

Keywords: Structure elucidation / Ionic liquids / Solid-state structures / Melting points

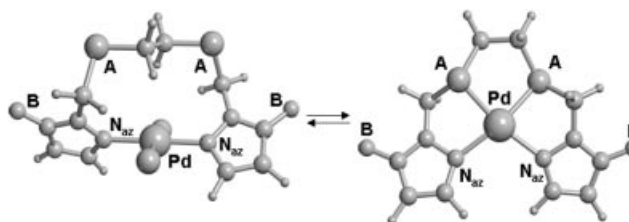


447 A. Rimola, M. Sodupe, J. Ros, J. Pons*



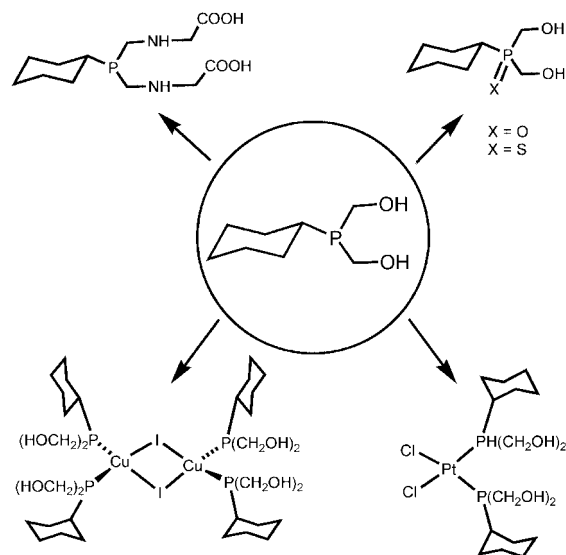
A Theoretical Study on Pd^{II} Complexes Containing Hemilabile Pyrazole-Derived Ligands

Keywords: Pd^{II} complexes / Pyrazole / Hemilabile ligands / Density functional theory



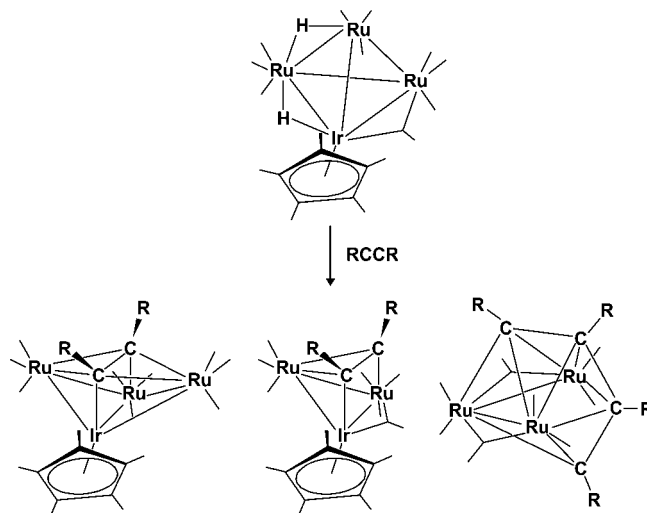
Cyclohexylbis(hydroxymethyl)phosphane: A Hydrophilic Phosphane Capable of Forming Novel Hydrogen-Bonding Networks

Keywords: (Hydroxymethyl)phosphanes / Phosphane conjugates / Phosphane sulfides / Hydrogen bonds



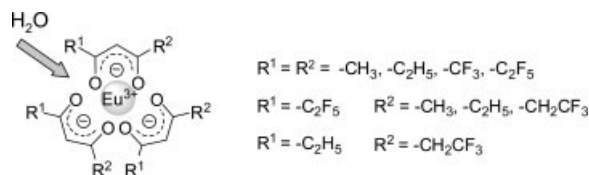
Reaction of the Heteronuclear Cluster $[\text{Cp}^*\text{IrRu}_3-(\mu\text{-H})_2(\text{CO})_{10}]$ with Alkynes: Stereoselective Binding

Keywords: Heterometallic complexes / Ruthenium / Iridium / Alkynes / Stereoselectivity



Fluorinated β -Diketones for the Extraction of Lanthanide Ions: Photophysical Properties and Hydration Numbers of Their Eu^{III} Complexes

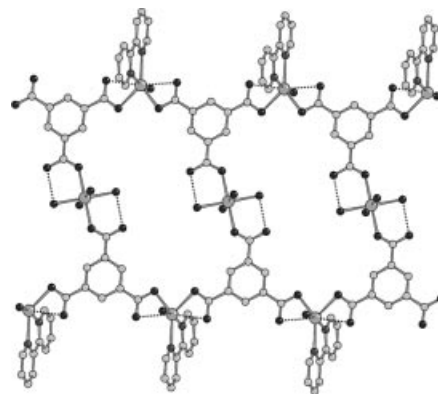
Keywords: Lanthanide / Luminescence / β -diketonate / Hydration number / Extraction





Syntheses, Crystal Structures and Magnetic Properties of Carboxylato-Bridged Polymeric Networks of Mn^{II}

Keywords: Manganese(II) / Carboxylate / Crystal structure / Magnetic behavior



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