

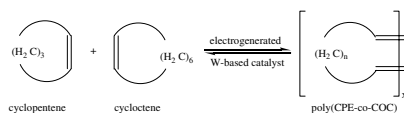
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Volume 19 Number 9

Papers published online September 2005

Section: Materials, Nanoscience and Catalysis

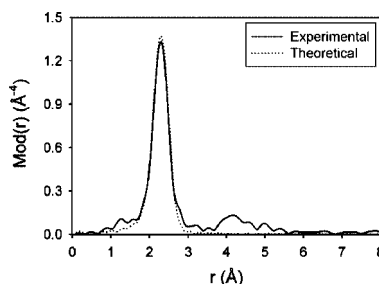
The ring-opened metathesis copolymerization of cyclopentene with cyclooctene by an electrochemically generated WCl_6 -based catalyst has been prepared and ^{13}C NMR spectroscopy used to analyse in detail the nature of the homo- and hetero-dyad units.



Solmaz Karabulut, Sevil Çetinkaya and Yavuz İmamoğlu* 997–1001

Electrochemically reduced tungsten-based active species as catalysts for metathesis-related reactions: Ring-opening metathesis copolymerization of cyclopentene with cyclooctene

$\text{Zn}(\text{O}^i\text{PrXan})_2$ was synthesized and characterized by extended X-ray absorption fine structure, Raman, FT-IR, UV-Vis optical absorption, ^1H and ^{13}C NMR, thermogravimetric analysis, differential scanning calorimetry and mass spectrometry. The results obtained allow assessment of its suitability as a single-source precursor for the chemical vapor deposition of ZnS thin films by its clean decomposition pattern and the similarity of its core architecture to that of crystalline ZnS.

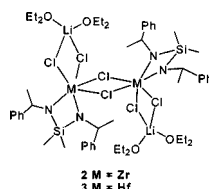


Fourier transforms of EXAFS functions for $\text{Zn}(\text{O}^i\text{PrXan})_2$ measured at Zn K-edge.

D. Barreca*, A. Gasparotto, C. Maragno, R. Seraglia, E. Tondello, A. Venzo, V. Krishnan and H. Bertagnolli 1002–1009

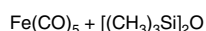
Synthesis and characterization of zinc bis(O-isopropylxanthate) as a single-source chemical vapor deposition precursor for ZnS

Three chelating diamide lithium, zirconium and hafnium complexes, $[\text{Me}_2\text{Si}\{\text{N}(\text{LiCH}(\text{Me})\text{Ph})_2\}_2]$ (1), $[\{\text{Me}_2\text{Si}\{\text{NCH}(\text{CH}_3)\text{Ph}\}_2\}\text{ZrCl}_2\text{LiCl}(\text{OEt}_2)_2]$ (2) and $[\{\text{Me}_2\text{Si}\{\text{NCH}(\text{CH}_3)\text{Ph}\}_2\}\text{HfCl}_2\text{LiCl}(\text{OEt}_2)_2]$ (3), were synthesized and their multinuclear magnetic resonance spectra measured and X-ray structures determined. All three complexes are dimeric in the solid state.



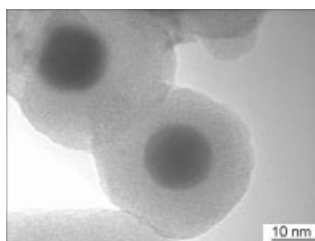
J. Hao, X. Wei, S. Huang, J. Guo and D. Liu* 1010–1014

Synthesis and structures of the chelating diamido zirconium and hafnium compounds



CO₂ laser
C₂H₄ sensitizer

Fe-based (core)-
polyoxocarbosilane (shell)
magnetic nanocomposites



J. Pola*, M. Maryško, V. Vorlíček, Z. Bastl, A. Galíková, K. Vacek, R. Alexandrescu*, F. Dumitrache, I. Morjan, L. Albu and G. Prodan 1015–1021

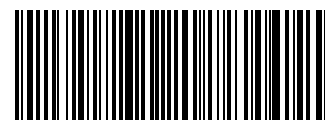
Infrared laser synthesis and properties of magnetic nano-iron-polyoxocarbosilane composites

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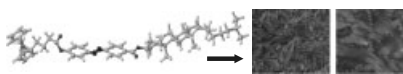
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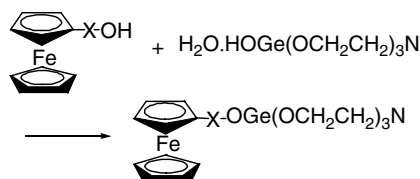
The synthesis and structural characterization of new liquid-crystalline compounds containing ferrocene, azo-aromatic and cholesteryl groups are reported.



Daniela Apreutesei, Gabriela Lisa, Hiroki Akutsu, Nicolae Hurduc, Shin'ichi Nakatsuji and Dan Scutaru* 1022–1037

Thermotropic properties of ferrocene derivatives bearing a cholesteryl unit: structure–properties correlations

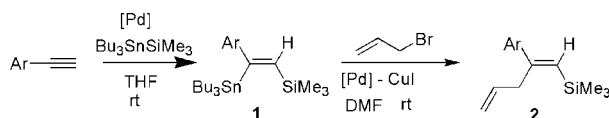
Germatranes bearing a ferrocenylalkoxy moiety have been obtained by the reaction of $\text{HOGe}(\text{OCH}_2\text{CH}_2)_3\text{N}$ with various ferrocenyl alcohol. The crystal structure and antitumor activities of the new compounds was determined.



LiChen, JianXin Chen, Lijuan Sun* and Qinglan Xie 1038–1042

Synthesis and characterization of ferrocenylalkoxygermatranes and crystal structures of $\text{FcCH}_2\text{OGe}(\text{OCH}_2\text{CH}_2)_3\text{N}$ and $\text{FcCH}(\text{CH}_3)\text{OGe}(\text{OCH}_2\text{CH}_2)_3\text{N}$

The $\text{Pd}(\text{dba})_2$ -catalyzed reaction of *Z*-1-aryl-1-(tributylstannyl)-2-(trimethylsilyl)ethenes

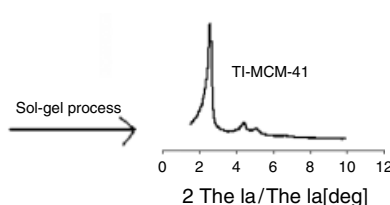
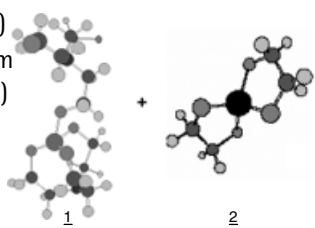


T. Nakano*, K. Kawai, T. Endoh, S. Osada and T. Miyamoto 1043–1046

*An alternative and effective catalyst in the stereospecific reaction of *Z*-1-aryl-1-stannyl-2-silylethenes with allyl bromide*

with allyl bromide in the presence of copper(I) iodide is reported for the first time. The reaction in the presence of 0.5 mol% $\text{Pd}(\text{dba})_2$ and 8 mol% CuI in dimethylformamide takes place at room temperature to give *E*-2-aryl-1-(trimethylsilyl)penta-1,4-dienes exclusively in isolated yields of 62–99%. A putative reaction mechanism is proposed.

Silatrane (1) and titanium glycolate (2) synthesized from the oxide one-pot synthe-



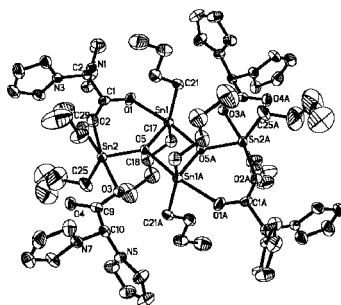
sis process are used as the precursors to prepare Ti-MCM-41 via sol–gel process using cetyltrimethylammonium bromide as a template.

N. Thanabodeekij, W. Tanglumlert, E. Gulari and S. Wongkasemjit* 1047–1054

Synthesis of Ti-MCM-41 directly from silatrane and titanium glycolate and its catalytic activity

Section: Main Group Metal Compounds

Reaction of bis(pyrazol-1-yl)acetic acid with $n\text{-Bu}_2\text{SnO}$ in a 1:1 molar ratio gives dimeric bis[dicarboxylatotetraorganodistannoxanes]. These organotin derivatives display low fungicidal, insecticidal and miticidal activities, but they have certain cytotoxicities for Hela cells *in vitro*.



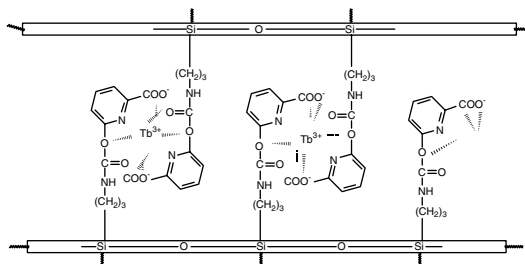
Z.-K. Wen, H.-B. Song, M. Du, Y.-P. Zhai and L.-F. Tang* 1055–1059

Synthesis, structural characterization and bioassay screening of dimeric bis[dicarboxylatotetraorganodistannoxanes]

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Section: Materials, Nanoscience and Catalysis

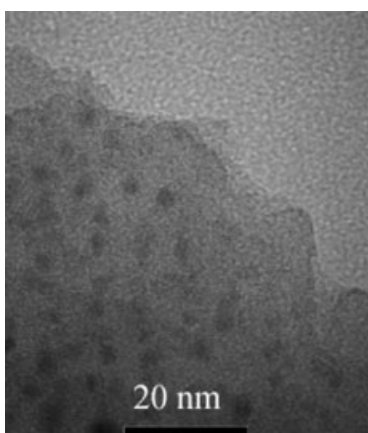
A novel path was put forward to modify the hydroxyl group of 6-hydroxynicotinic acid by 3-(triethoxysilyl)-propyl isocyanate to achieve the bridging unit, which is utilized to coordinate to Tb^{3+} via hydrolysis and polycondensation processes, resulting in the corresponding organic-inorganic molecular-based hybrid material with the two components connected by covalent bonds.



L. M. Zhao and B. Yan* 1060–1064

A novel path to luminescent hybrid molecular materials: modifying the hydroxyl group of 6-hydroxynicotinic acid by grafting to a silica network

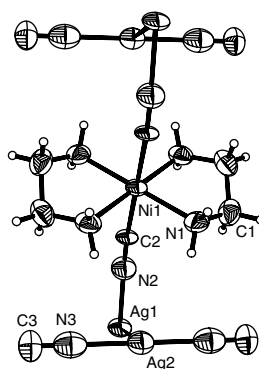
Bis(1,5-cyclooctadiene) nickel ($\text{Ni}(\text{COD})_2$) was employed as a nickel precursor to prepare nickel oxide nanoparticles upon mesoporous silica. Structural characterization clearly shows that NiO nanoparticles of <5 nm are evenly distributed inside the silica SBA-15 matrix and mesoporosity is well preserved upon calcination and NiO formation. The surface reaction between $\text{Ni}(\text{COD})_2$ and surface silanols was found for the first time, and the described method may be extended conveniently to prepare other metal oxide nanoparticles upon high-surface-area supports.



K. Zhu, L. D'Souza and R. M. Richards* 1065–1069

Planting of bis(1,5-cyclooctadiene) nickel upon silica to harvest NiO (<5 nm) nanoparticles in a silica matrix

[catena-Bis(1,2-diaminoethane)nickel(II)- μ -dicyanoargentate]-dicyanoargentate, $[\text{Ni}(\text{en})_2\text{Ag}_2(\text{CN})_4]$, was synthesized and its chain-like crystal structure was determined by X-ray crystal analysis.



Y.-P. Ren, L.-S. Long, R.-B. Huang* and L.-S. Zheng 1070–1071

Crystallographic report: Chain-like crystal structure of $[\text{Ni}(\text{en})_2\text{Ag}(\text{CN})_2][\text{Ag}(\text{CN})_2]$

Book Review

Denis Hamilton and Stephen Crossley 1072

Pesticide residues in food and drinking water: human exposure and risks