

Contents

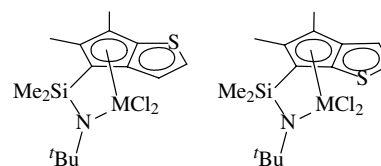
Regular papers

Alexey N. Ryabov,
Alexander Z. Voskoboinikov

J. Organomet. Chem. 690 (2005) 4213

Constrained geometry complexes of titanium (IV) and zirconium (IV) involving cyclopentadienyl fused to thiophene ring

Constrained geometry complexes (CGCs) of Ti(IV) and Zr(IV) containing isomeric cyclopentadienyls fused to thiophene fragment, i.e., 4,5-dimethylcyclopenta[*b*]thienyl and 5,6-dimethylcyclopenta[*b*]thienyl, have been prepared and unambiguously characterized. Preliminary studies showed that the studied CGCs/MAO are active olefin polymerization catalysts.

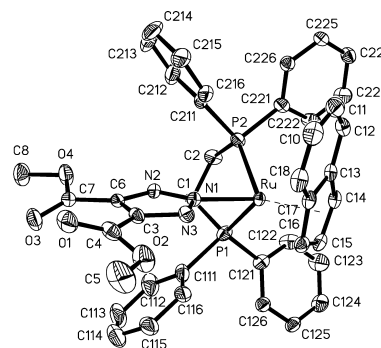


Keisham Sarjit Singh, Carsten Thöne,
Mohan Rao Kollipara

J. Organomet. Chem. 690 (2005) 4222

Part I: 1,3-Dipolar addition of activated alkyne towards coordinated azido group in ruthenium(II) complexes containing η^5 -cyclichydrocarbons

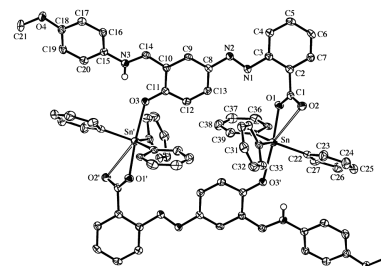
The indenyl and pentamethyl-cyclopentadienyl ruthenium(II) triazole complexes can be prepared by 3 + 2 cycloaddition reaction of activated alkyne to azido ruthenium complexes of indenyl and pentamethylcyclopentadienyl systems.



Tushar S. Basu Baul, Keisham Surjit Singh,
Michal Holčapek, Robert Jirásko,
Eleonora Rivarola, Anthony Linden

J. Organomet. Chem. 690 (2005) 4232

Synthesis, characterization and crystal structures of polymeric and dimeric triphenyltin(IV) complexes of 4-[(*E*)-1-{2-hydroxy-5-[(*E*)-2-(2-carboxyphenyl)-1-diazenyl]phenyl}methylidene)amino]aryls (aryls = 4-CH₃ (1), 4-Br (2), 4-Cl (3) 4-OCH₃ (4)) have been synthesized and characterized by ¹H-, ¹³C-, ¹¹⁹Sn-NMR, ESI-mass spectrometry, IR and ^{119m}Sn Mössbauer spectroscopic techniques in combination with elemental analysis. X-ray crystallography reveals that complexes 1 and 2 adopt a polymeric form, while complex 4 is a cyclic dinuclear complex. The coordination environment in each complex is trigonal bipyramidal *trans*-Ph₃SnO₂. A single zwitterionic carboxylate ligand bridges adjacent Sn atoms via the carboxylate and phenoxide O atoms.

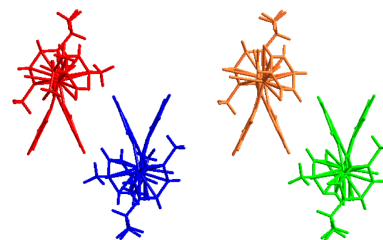


Anupam Singh, Sanjay K. Singh,
Manoj Trivedi, Daya S. Pandey

J. Organomet. Chem. 690 (2005) 4243

Synthetic, spectral and structural studies of some homo and hetero binuclear arene ruthenium (II) polypyridyl complexes

Homo-hetero binuclear cationic complexes with the general formulation $[(\eta^6\text{-arene})\text{-RuCl}(\mu\text{-bppz})(\text{L})]^+$ ($\eta^6\text{-arene}$ = benzene; L = PdCl₂, **1a**; PtCl₂, **1b**, and $\eta^6\text{-arene}$ = *p*-cymene; L = PdCl₂, **2a**; PtCl₂, **2b**), $[(\eta^6\text{-arene})\text{-RuCl}(\mu\text{-bppz})(\text{L})]^{2+}$ ($\eta^6\text{-arene}$ = *p*-cymene; L = $[(\eta^6\text{-C}_6\text{H}_6)\text{RuCl}]$, **2c**, and $[(\eta^6\text{-C}_{10}\text{H}_{14})\text{-RuCl}]$, **2d**) have been isolated and the complex **2d** has been structurally characterized.

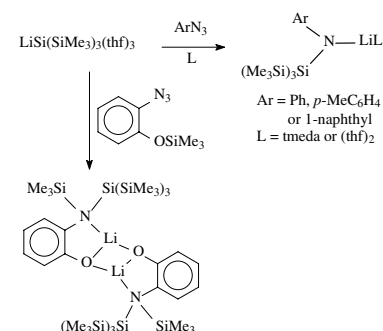


Zhong-Xia Wang, Zuo-Yun Chai, Ye-Xin Li

J. Organomet. Chem. 690 (2005) 4252

Reaction of aryl azides with tris(trimethylsilyl)silyllithium: Synthesis of tmeda or thf adducts of $[\text{Li}\{\text{N}(\text{Ar})\text{Si}(\text{SiMe}_3)_3\}]$ and 1,4-trimethylsilyl migration from oxygen to nitrogen

Aryl azides (ArN_3 , Ar = Ph, *p*-MeC₆H₄ or 1-naphthyl) or *o*-phenylene diazide react with $[\text{Li}\{\text{Si}(\text{SiMe}_3)_3\}(\text{thf})_3]$ to give lithium amides $[\text{Li}\{\text{N}(\text{Ar})\text{Si}(\text{SiMe}_3)_3\}\text{L}]$ [L = tmeda or (thf)₂] or dilithium diamide $\{[\text{Li}(\text{thf})_2]\}_2\{1,2\text{-}(\mu\text{-NSi}(\text{SiMe}_3)_2)_2\text{C}_6\text{H}_4\}$. Reaction of *o*-Me₃-SiOC₆H₄N₃ with $[\text{Li}\{\text{Si}(\text{SiMe}_3)_3\}(\text{thf})_3]$ affords, via 1,4-trimethylsilyl migration from oxygen to nitrogen $[\text{Li}\{\text{OC}_6\text{H}_4\{\text{N}(\text{SiMe}_3)_3\}\text{Si}(\text{SiMe}_3)_3\}\text{-2}]_2$.

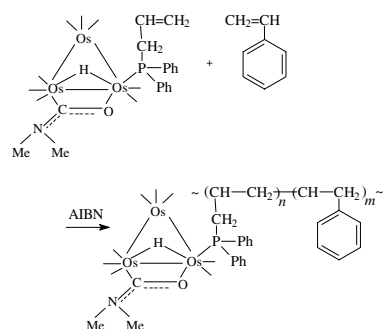


Svetlana I. Pomogailo, Gennady V. Shilov,
Victoria A. Ershova, Alexander V. Virovets,
Vladimir M. Pogrebnyak,
Nina V. Podbereskaya, Anatoly V. Golovin,
Gulzhian I. Dzhardimalieva,
Anatolii D. Pomogailo

J. Organomet. Chem. 690 (2005) 4258

Preparation, X-ray structure, copolymerization with styrene of $[(\mu\text{-H})\text{Os}_3(\mu\text{-OCNMe}_2)(\text{CO})_9\{\text{P}(\text{CH}_2\text{CH}=\text{CH}_2)\text{Ph}_2\}]$ and catalytic properties of the cluster/styrene copolymer

The complex $[(\mu\text{-H})\text{Os}_3(\mu\text{-OCNMe}_2)(\text{CO})_9\{\text{P}(\text{CH}_2\text{CH}=\text{CH}_2)\text{Ph}_2\}]$ derived from the replacement of a lightly-stabilizing NMe₃ ligand in $[(\mu\text{-H})\text{Os}_3(\mu\text{-OCNMe}_2)(\text{CO})_9(\text{NMe}_3)]$ by allyldiphenylphosphine molecule was physico-chemically and X-ray structurally characterized and served further as a metal cluster monomer to be immobilized on a polymer surface.

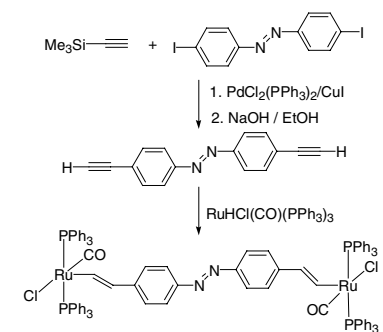


Jun Yin, Guang-Ao Yu, Jintao Guan,
Fusheng Mei, Sheng Hua Liu

J. Organomet. Chem. 690 (2005) 4265

Synthesis and properties of conjugated bimetallic ruthenium complexes with σ,σ -bridging azobenzene chains

Several conjugated bimetallic ruthenium complexes with σ,σ -bridging azobenzene chains were synthesized and characterized. These bimetallic complexes showed a remarkable absorption in the visible region, and undergo *trans*-to-*cis* isomerization under UV light irradiation for short time. Electrochemical study showed that the metals linked through the $\text{CH}=\text{CH}-\text{C}_6\text{H}_4\text{N}=\text{NC}_6\text{H}_4-\text{CH}=\text{CH}$ bridge interact with each other.

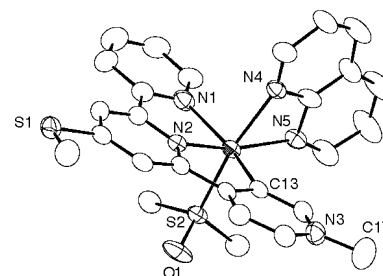


**Take-aki Koizumi, Takashi Tomon,
Koji Tanaka**

J. Organomet. Chem. 690 (2005) 4272

Synthesis, structures and electrochemical properties of ruthenium (II) complexes bearing bidentate 1,8-naphthyridine and terpyridine analogous (N,N,C)-tridentate ligands

1,8-Naphthyridine (napy) and (N,N,C) tridentate ligands coordinated ruthenium (II) complexes, [RuL(napy- κ^2N,N')(dmsO)]-(PF₆)₂ (**1**: L = *N''*-methyl-4'-methylthio-2,2':6',4''-terpyridinium, **2**: L = *N''*-methyl-4'-methylthio-2,2':6',3''-terpyridinium) were prepared and their electrochemical properties were characterized. The generation of CO from CO₂ was observed by IR spectra of **1** in CO₂-saturated CH₃CN solution under controlled potential reduction conditions.

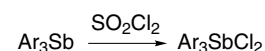


**A.F.M. Mustafizur Rahman,
Toshihiro Murafuji, Motoko Ishibashi,
Youhei Miyoshi, Yoshikazu Sugihara**

J. Organomet. Chem. 690 (2005) 4280

Chlorination of *p*-substituted triaryl-pnictogens by sulfonyl chloride: Difference in the reactivity and spectroscopic characteristics between bismuth and antimony

Oxidative chlorination of *p*-substituted triarylstibines was carried out and the effect of the *p*-substituents on the chlorination was compared with that of the bismuth congeners. The spectroscopic characteristics of the stibines and their dichlorides were studied by ¹³C NMR spectrum.



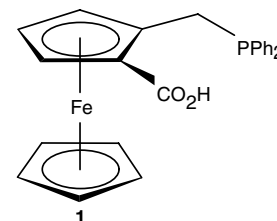
Ar = *p*-XC₆H₄; X = OMe, H, Cl, CO₂Et, CF₃, CN, NO₂

**Martin Lamač, Ivana Čisářová,
Petr Štěpnička**

J. Organomet. Chem. 690 (2005) 4285

Synthesis and structural characterization of *rac*-2-[(diphenylphosphino)methyl]ferrocenecarboxylic acid, its selected derivatives and some rhodium complexes

A novel ferrocene carboxyphosphine, *rac*-2-[(diphenylphosphino)methyl]ferrocenecarboxylic acid (**1**), has been synthesized and further converted to the respective methyl ester, phosphine oxide and phosphine sulfide. The acid and the corresponding methyl ester were studied as ligands in rhodium complexes.

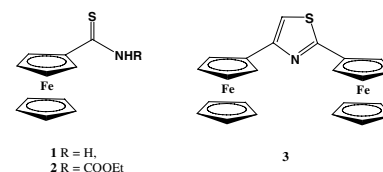


**Damian Płażuk, Janusz Zakrzewski,
Agnieszka Rybarczyk-Pirek,
Sławomir Domagała**

J. Organomet. Chem. 690 (2005) 4302

Ferrocenecarbothioamide and *N*-ethoxycarbonylferrocenecarbothioamide: Synthesis, structure and application in synthesis of 2,4-diferrocenylthiazole

The complexes **1** and **2** were synthesized by a Friedel-Crafts type reaction of ferrocene with potassium thiocyanide and ethoxycarbonyl isothiocyanate. **1** reacts with chloroacetylferrocene to afford **3**. X-ray structures of **1** and **3** were determined. Redox properties of **3** were studied by means of cyclic voltammetry.

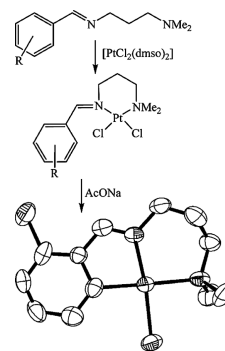


**Alejandro Capapé, Margarita Crespo,
Jaume Granell, Mercè Font-Bardía,
Xavier Solans**

J. Organomet. Chem. 690 (2005) 4309

Synthesis and reactivity of cyclometallated platinum (II) compounds containing [C,N,N'] terdentate ligands: Crystal structures of [PtCl{(CH₃)₂N(CH₂)₃NCH(4-ClC₆H₃)}], [Pt-Cl{(CH₃)₂N(CH₂)₃NCH(2-ClC₆H₃)}] and [Pt-Cl{(CH₃)₂N(CH₂)₃NCH(3-(CH₃)C₆H₃)}]

The reaction of compound *cis*-[PtCl₂(dmsO)₂] with ligands RCHN(CH₂)₃NMe₂ produced compounds [PtCl₂{(CH₃)₂N(CH₂)₃NCHR}], which are precursors of cyclometallated platinum compounds containing a terdentate [C,N,N'] ligand.

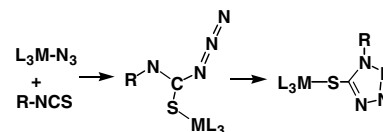


**Kunhye Lee, Yong-Joo Kim,
Kyoung Koo Baeck**

J. Organomet. Chem. 690 (2005) 4319

A quantum chemical study on the mechanism of S-coordinated tetrazole-thiolato formation by the reaction of organic isothiocyanates with metal azido complexes of Pt(II), Pd(II), and Sn

The mechanism of the reaction of isothiocyanates with metal-azido complexes of Pt(II), Pd(II), and Sn is studied using the density functional theory method. The first step is the approach of the S-atom of the organic isothiocyanate to the central metal atom followed by the nucleophilic attack of the coordinated N-atom of the azido group to the C-atom of the isothiocyanate. The activation barrier of this step is 22–24 kcal mol⁻¹, and the resulting intermediate has the imidoyl azide form. The electrophilic attack of the terminal N-atom of the azide to the N-atom of the isothiocyanate transforms the intermediate to the S-coordinated tetrazole-thiolato product in the second step with a barrier of about 11 kcal mol⁻¹.

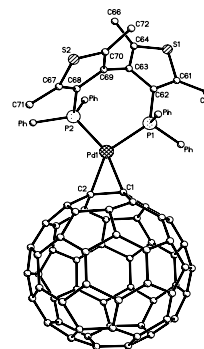


**Vasily V. Bashilov, Feodor M. Dolgushin,
Pavel V. Petrovskii, Viatcheslav I. Sokolov,
Mara Sada, Tiziana Benincori, Gianni Zotti**

J. Organomet. Chem. 690 (2005) 4330

Synthesis and structure of the chiral palladium–fullerene C₆₀ and C₇₀ complexes with enantiomeric ligand 2,2',5,5'-tetramethyl-4,4'-bis(diphenylphosphino)-3,3'-bi-thiophene [(–)-tetraMe-BITIOP]

η²-Fullerene (C₆₀ and C₇₀) palladium optically active complexes with the axially chiral enantiomeric ligand of bithienyl series, tetraMe-BITIOP, have been synthesized and investigated by ³¹P-¹H} NMR, electronic spectroscopy, CD spectroscopy, cyclic voltammetry and by single crystal X-ray diffraction.

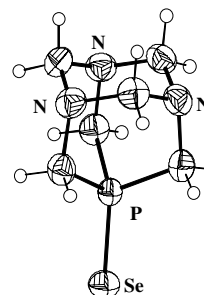


**Stefanus Otto, Adriana Ionescu,
Andreas Roodt**

J. Organomet. Chem. 690 (2005) 4337

Tertiary phosphine abstraction from a platinum(II) coordination complex with SeCN⁻: Crystal and molecular structures of Se=PTA and [Se=PTA-Me]I · CH₃OH

Reacting [PtCl(PTA)₃]Cl (PTA = 1,3,5-triaza-7-phosphatricyclo[3.3.1.1^{3,7}]decane) with KSeCN in water or MeOH results in abstraction of PTA to yield Se=PTA. The reaction also proceeds by reaction of PTA or the methylated PTA ligand, [PTA-Me]I with KSeCN in water or methanol. The crystal structures of Se=PTA and [Se=PTA-Me]I · CH₃OH are reported.

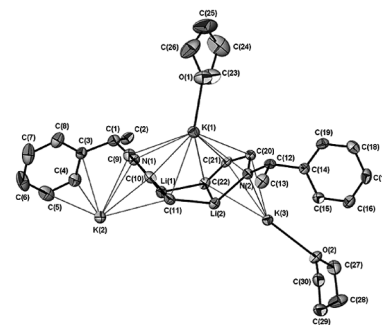


Philip C. Andrews, Simone M. Calleja, Melissa Maguire

J. Organomet. Chem. 690 (2005) 4343

π (Arene) versus donor ligand complexation in the formation of the heterobimetallic lithium–potassium dianion of (*S*)-*N*-(α -methylbenzyl)allylamine

Reaction of the chiral amine (*S*)-*N*-(α -methylbenzyl)allylamine with *n*-BuLi and *n*-BuK in the presence of thf produces crystals of the N and C metallated heterobimetallic tetramer, $\{[(S)\text{-}\alpha\text{-(PhC(H)Me)(CH}_2\text{CH=CHK)N]Li}\cdot(\text{thf})\}_4$. The three different K⁺ cations in the asymmetric unit show differing coordination environments dependent on preferential binding with either thf molecules or available π electron density.

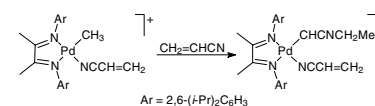


Goran Stojcevic, Ernest M. Prokopchuk, Michael C. Baird

J. Organomet. Chem. 690 (2005) 4349

Coordination insertion reactions of acrylonitrile into Pd–H and Pd–methyl bonds in a diimine-palladium(II) system

Acrylonitrile (AN) coordinates to a cationic diiminemethylpalladium(II) complex to form the N-bonded complex $[\text{Pd}(\text{N-N})\text{Me}(\text{AN})]^+$ which on standing or heating undergoes 2,1-insertion to give the complex $[\text{Pd}(\text{N-N})(\text{CH}(\text{CN})\text{CH}_2\text{Me})(\text{AN})]^+$; the latter also undergoes β -hydrogen elimination to give a hydride, $[\text{Pd}(\text{N-N})\text{H}(\text{AN})]^+$, which reacts further with AN to give the cyanoethyl complex $[\text{Pd}(\text{N-N})(\text{CH}(\text{CN})\text{Me})]^+$.

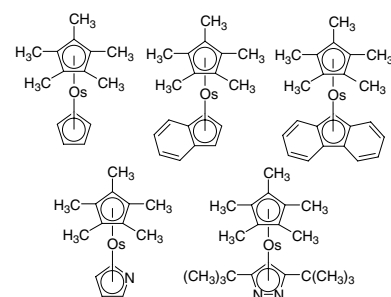


Shamindri M. Arachchige, Mary Jane Heeg, Charles H. Winter

J. Organomet. Chem. 690 (2005) 4356

Synthesis and structural characterization of unsymmetrical osmocenes containing the pentamethylcyclopentadienyl ligand

Treatment of dibromo(pentamethylcyclopentadienyl)osmium(III) dimer with alkali metal salts of a variety of cyclopentadienyl derivatives provides a simple approach to pentamethyl-osmocene, (η^5 -pentamethylcyclopentadienyl)(η^5 -indenyl)osmium, (η^5 -pentamethylcyclopentadienyl)(η^5 -fluorenyl)osmium, (η^5 -pyrrolyl)(η^5 -pentamethylcyclopentadienyl)osmium, and (η^5 -3,5-di-*tert*-butylpyrazolato)(η^5 -pentamethylcyclopentadienyl)osmium. The molecular structures have been determined by X-ray crystal structure analyses.



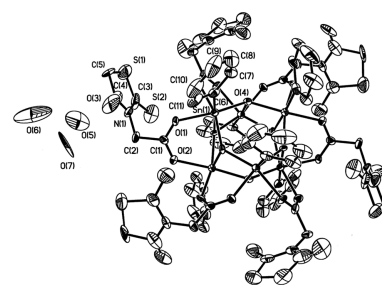
Notes

Rufen Zhang, Jiafeng Sun, Chunlin Ma

J. Organomet. Chem. 690 (2005) 4366

Structural chemistry of mononuclear, tetranuclear and hexanuclear organotin(IV) carboxylates from the reaction of di-*n*-butyltin oxide or diphenyltin oxide with rhodanine-*N*-acetic acid

Three new organotin(IV) carboxylates, $\{[n\text{-Bu}_2\text{-Sn}(\text{O}_2\text{CC}_4\text{H}_4\text{NOS}_2)_2\text{O}\}_2$ (**1**), $n\text{-Bu}_2\text{Sn}(\text{O}_2\text{CC}_4\text{H}_4\text{NOS}_2)_2$ (**2**) and $[\text{PhSn}(\text{O})\text{O}_2\text{CC}_4\text{H}_4\text{NOS}_2]_6 \cdot 3\text{H}_2\text{O}$ (**3**) were synthesized by the reaction of di-*n*-butyltin/diphenyltin oxide and rhodanine-*N*-acetic acid. The complexes **1–3** are characterized by elemental, IR, ¹H, ¹³C and ¹¹⁹Sn NMR and X-ray crystallography diffraction analyses. The complex **1** has a tetranuclear structure based on a planar four-membered Sn₂O₂ ring, while complex **2** is a hexa-coordinated monomer. As for complex **3**, it adopts the hexameric drum-shaped structure.

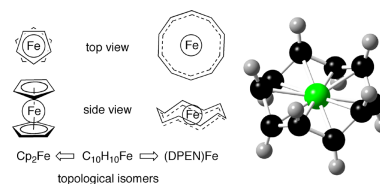


**Akira Nakamura, Takashi Ohshima,
Kazushi Mashima**

J. Organomet. Chem. 690 (2005) 4373

A topological isomer of ferrocene: Theoretical approach for transition metal complexes with conjugated all *trans* cyclodecapentaene

We demonstrate the ability of all-*trans* DPEN as a suitable ligand for transition metals by DFT computation [B3LYP/6-311+G(2d,p) and BP86 level]. The iron complex schematically shown below is a unique topological isomer of ferrocene.

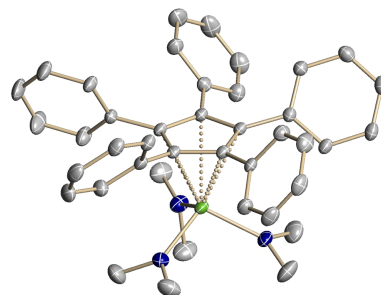


**Jin An, Luis Urrieta, Rayshonda Williams,
Wayne Tikkanen, Robert Bau,
Muhammed Yousufuddin**

J. Organomet. Chem. 690 (2005) 4376

Piano stool complexes containing the bulky pentaphenylcyclopentadienyl(C₅Ph₅) ligand: Preparation, characterization and X-ray structure of C₅Ph₅Zr(N(CH₃)₂)₃ (**I**)

Tris(dimethylamido) pentaphenylcyclopentadienyl zirconium (**I**) has been prepared and its structure reflects strong amido π donation. **I** reacts rapidly with (*R*)-(+)-sephenethyl alcohol to give the trisubstituted complex.



The Publisher encourages the submission of articles in electronic form thus saving time and avoiding rekeying errors. Please refer to the online version of the Guide for Authors at <http://www.elsevier.com/locate/jorganchem>



Full text of this journal is available, on-line from **ScienceDirect**. Visit www.sciencedirect.com for more information.

CONTENTS
direct

This journal is part of **ContentsDirect**, the *free* alerting service which sends tables of contents by e-mail for Elsevier books and journals. You can register for **ContentsDirect** online at: www.elsevier.com/locate/contentsdirect