

AUSTRALIAN JOURNAL OF CHEMISTRY

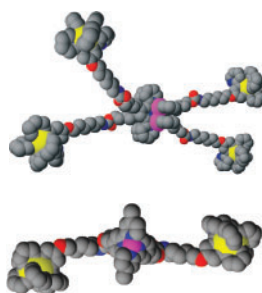
AN INTERNATIONAL JOURNAL FOR CHEMICAL SCIENCE

Full Papers

Synthesis and Copper(I) Complexation of 3,6-Di(2-pyridyl)pyridazine and 2,2'-Bipyridine Ligands Functionalized with a Dangling Iridium(III) Complex

Veronica Marin, Richard Hoogenboom,
Brian Moore, Elisabeth Holder,
Ulrich S. Schubert

Aust. J. Chem. **2007**, *60*, 229–235.

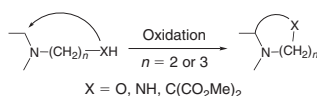


Discrete multimetallic complexes based on a central Cu^{I} complex with dangling Ir^{III} complexes were prepared and the Ir^{III} phosphorescence was quenched by Cu^{I} complex formation by photoinduced energy transfer. The quenching behaviour provides new insights in the photoinduced energy transfer process and might serve in future sensor applications.

Electrooxidative Cyclization of Hydroquinolyl Alcohols, Hydroquinolylamines, and Dimethyl Aminomalonates

Mitsuhiro Okimoto, Takashi Yoshida,
Masayuki Hoshi, Kazuyuki Hattori,
Masashi Komata, Kaori Numata,
Kenta Tomozawa

Aust. J. Chem. **2007**, *60*, 236–242.

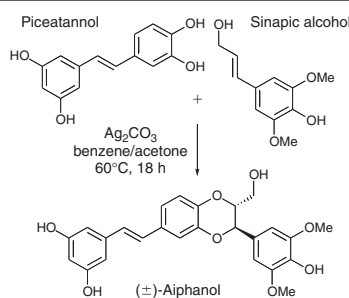


The electrochemical oxidation of organic compounds can occur under very mild conditions. Several hydroquinolyl alcohols and amines are electrochemically oxidized in methanol in the presence of sodium methoxide and KI to afford the corresponding intramolecular cyclization products. A similar reaction using amino malonates with NaCN yields heterocyclic compounds through intramolecular C–C bond formation.

Biomimetic Preparation of the Racemic Modifications of the Stilbenolignan Aiphanol and Three Congeners

Satish Chand, Martin G. Banwell

Aust. J. Chem. **2007**, *60*, 243–250.

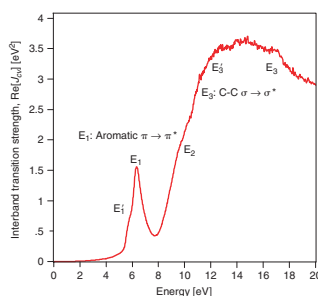


An oxidative and potentially biomimetic coupling of piceatannol and sinapic alcohol afforded the racemic modification of the stilbenolignan (–)-aiphanol and three regio- and/or stereo-isomeric systems.

Optical Properties and van der Waals–London Dispersion Interactions of Polystyrene Determined by Vacuum Ultraviolet Spectroscopy and Spectroscopic Ellipsometry

Roger H. French, Karen I. Winey,
Min K. Yang, Weiming Qiu

Aust. J. Chem. **2007**, *60*, 251–263.

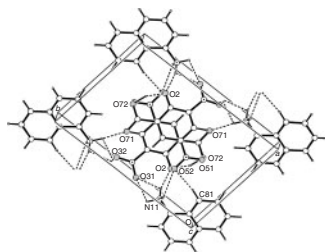


Properties of polystyrene in the vacuum ultraviolet (VUV) were investigated by spectroscopic ellipsometry and VUV spectroscopy. Optical properties exhibit electronic transitions corresponding to interband transitions of aromatic ($\pi \rightarrow \pi^*$), non-bonding ($n \rightarrow \pi^*$, $n \rightarrow \sigma^*$), and saturated ($\sigma \rightarrow \sigma^*$) orbitals. Lifshitz quantum electrodynamic theory with interband optical properties gives direct determination of the van der Waals–London dispersion interactions and surface free energy for polystyrene.

3,5-Dinitrosalicylic Acid in Molecular Assembly. III. Proton-Transfer Compounds of 3,5-Dinitrosalicylic Acid with the Polycyclic Aromatic and Heteroaromatic Amines, and Overall Series Structural Systematics

Graham Smith, Urs D. Wermuth,
Peter C. Healy, Jonathan M. White

Aust. J. Chem. **2007**, 60, 264–277.

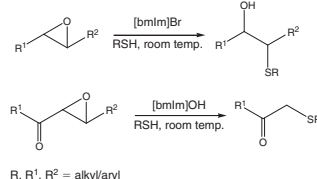


Several products from the reactions of 3,5-dinitrosalicylic acid and the analogous picric acid with Lewis bases have unusual physical properties with potential commercial applications. This paper outlines the preparation of a set of such compounds with polycyclic heteroaromatic and aromatic amines, that have great potential for additional aromatic C–H···O hydrogen-bonding interactions as well as for π – π interactive effects that enhance the molecular assembly process.

Ionic Liquid Promoted Regio- and Stereo-Selective Thiolytic of Epoxides—A Simple and Green Approach to β -Hydroxy and β -Keto Sulfides

Brindaban C. Ranu, Tanmay Mandal,
Subhash Banerjee, Suvendu S. Dey

Aust. J. Chem. **2007**, 60, 278–283.



β -Hydroxy and β -keto sulfides are of much importance in organic synthesis and, thus, a green and convenient procedure for their synthesis is in demand. This work reports a very simple and efficient methodology for their synthesis using two benign ionic liquids. This method should find suitable applications in organic synthesis because of its simplicity, high yields, and regio- and stereo-selectivity.

Two New Multi-Manganese-Substituted Polyoxometalates

Zhiming Zhang, Enbo Wang,
Weilin Chen, Huaqiao Tan

Aust. J. Chem. **2007**, 60, 284–290.

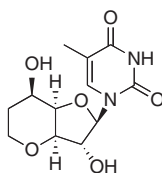


Two new multi-manganese-substituted polyoxotungstates $K_3Na_{10}H_3\{[Mn^{II}(H_2O)]_2-Mn^{III}_4(SiW_6O_{26})(SiW_9O_{34})_2\} \cdot 26H_2O$ **1** and $K_5Na_3[Mn^{III}_4(H_2O)_2(GeW_9O_{34})_2] \cdot 18H_2O$ **2** have been successfully synthesized by the reactions of $[\beta-XW_{11}O_{36}]^{8-}$ ($X = Si, Ge$) with $MnCl_2$ in the presence of potassium persulfate. The new compounds show antiferromagnetic exchange interactions, and crystal structures and electrochemical properties are reported.

Synthesis of a Novel Bicyclic Nucleoside with a 3,7-Anhydrooctofuranosyl Skeleton

Myong Jung Kim, Moon Woo Chun

Aust. J. Chem. **2007**, 60, 291–295



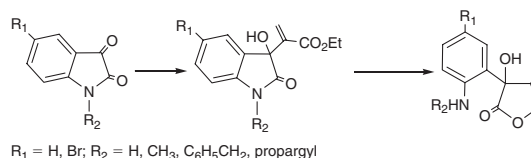
Since AZT was approved for the treatment of AIDS by the Food and Drug Administration, several nucleoside analogues with a modified sugar moiety have been synthesized and evaluated as antiviral and/or anticancer agents. This paper reports on the development of approaches to the synthesis of a new bicyclic nucleoside with the 3,7-anhydrooctofuranosyl skeleton.

A Facile and Efficient Synthesis of Functionalized γ -Butyrolactones from Baylis–Hillman Adducts of Isatin

Ponnusamy Shanmugam,
Vadivel Vaithianathan,
Baby Viswambharan

Aust. J. Chem. **2007**, 60, 296–301.

A facile and efficient stereoselective synthesis of functionalized, substituted γ -butyrolactones in excellent yield from the Baylis–Hillman adducts of isatin derivatives by reductive cyclization methodology is reported. The abundance of the skeleton of such substituted γ -butyrolactones in a variety of natural products makes these lactones attractive building blocks.

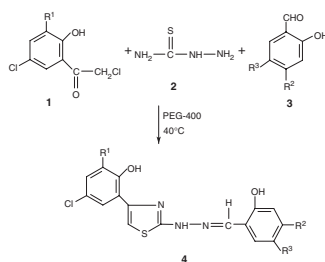


Short Communications

An Efficient and Green Procedure for the Preparation of 2-{2-[N'-(2-Hydroxybenzylidene)hydrazino]-thiazol-4-yl}phenols

Vinod T. Kamble, Bhaskar S. Davane,
Sanjay A. Chavan, Raghunath B. Bhosale

Aust. J. Chem. **2007**, 60, 302–304.



Thiazole derivatives display a wide variety of biological activities such as cardiogenic, fungicidal, sedative, and anaesthetic. This paper outlines the development of a simple, convenient, and effective method for the synthesis of such compounds by the condensation reaction shown here. This green procedure presents a valuable addition to the existing methodologies for the syntheses of such compounds.

Uncatalyzed Reactions in Aqueous Media: Three-Component, One-Pot, Clean Synthesis of Tetrahydrobenzo[b]pyran Derivatives

Sunita B. Bandgar, Babasaheb P. Bandgar,
Balaji L. Korbadi, Jalinder V. Totre,
Sachin Patil

Aust. J. Chem. **2007**, 60, 305–307

The tighter regulations surrounding the environmental impact of the chemical industries have seen a push to find 'greener' synthetic methods. Here, the synthesis of various tetrahydrobenzo[b]pyran derivatives is achieved by an uncatalyzed, three-component, one-pot, clean condensation of aromatic aldehydes, reactive methylene compounds, and dimedone in aqueous medium. The ease of purification and high yield of products make this an attractive method.

