

AUSTRALIAN JOURNAL OF  
**CHEMISTRY**  
AN INTERNATIONAL JOURNAL FOR CHEMICAL SCIENCE

Volume 64    Number 5    2011

**CONTENTS**

**REGULAR PAPERS**

**Review**

- Single-molecule Photoswitching and Localization  
*S. van de Linde, S. Wolter, M. Sauer*    **503**

**Full Paper**

- Fluorescence Quenching of Quantum Dots by DNA Nucleotides and Amino Acids  
*D. Siegberg, D.-P. Herten*    **512**

**RESEARCH FRONT: The First International Collaborative and Cooperative Chemistry Symposium**

**Guest Editor: James De Voss**

**Foreword**

- The First International Collaborative and Cooperative Chemistry Symposium  
*J. J. De Voss*    **517**

**Review**

- Higher Order Acenes and Fused Acenes with Near-infrared Absorption and Emission  
*Z. Sun, J. Wu*    **519**

**Communications**

- One-Pot Syntheses of Diaryliodonium Salts from Aryl Iodides Using Peracetic Acid as Green Oxidant  
*T. Dohi, N. Yamaoka, I. Itani, Y. Kita*    **529**

- A Direct, Heavy Metal Free Synthesis of the  $\beta$ -1,6-Linked GlcNAc Disaccharide  
*L. G. Weaver, M. Foster, Y. Singh, P. L. Burn, J. T. Blanchfield*    **536**

**Full Papers**

- Combinatorial Solid-Phase Synthesis of 6-Aryl-1,3,5-triazines via Suzuki Coupling  
*J. W. Lee, H.-H. Ha, M. Vendrell, J. T. Bork, Y.-T. Chang*    **540**

- Steroidal Saponins Isolated from an Australian Yam *Dioscorea* sp.  
*V. L. Challinor, D. M. Smith, J. J. De Voss*    **545**

- New Square-Planar Bis(Dithiolene) Complexes: Synthesis, Crystallography, and Properties of  $[Bu_4N][M^{II}I(btdd)_2]$  ( $M = Cu, Au$ ) and  $[Bu_4N]_2[Pt^{II}(btdd)_2]$  ( $\{btdd\}^{2-} = 2,1,3$ -Benzethiadiazole-5,6-dithiolate)  
*R. Bolligarla, S. K. Das*    **550**

- Cyclometalated Ir(III) Complexes Containing Pyrazole/Pyrazine Carboxylate Ligands  
*T. Hajra, J. K. Bera, V. Chandrasekhar*    **561**

- Homo and Heterocoupling of Terminal Alkynes Using Catalytic  $CuCl_2$  and DBU  
*R. Balamurugan, N. Naveen, S. Manojveer, M. Vali Nama*    **567**

- Investigating the Avidin-Biotin Interaction on Chiral Soft Structure Platforms  
*K. Vijaya Krishna and S. Verma*    **576**

- Contrasting Reactivity of 2-Mesityl-1,8-Naphthyridine (Mes-NP) with Singly-Bonded  $[Rh^{II}-Rh^{II}]$  and  $[Ru^I-Ru^I]$  Compounds  
*B. Saha, S. M. Wahidur Rahaman, A. Sinha, J. K. Bera*    **583**

**RESEARCH FRONT: Molecular Imaging**

**Guest Editor: Brad Smith**

**Foreword**

- Standing Out in the Crowd: Signal-to-Background in Molecular Imaging  
*J. R. Johnson, D. Piwnica-Worms*    **590**

**Review**

- Molecular Imaging of Red Blood Cells by Raman Spectroscopy  
*B. R. Wood, P. R. Stoddart, D. McNaughton*    **593**

**Communication**

- Luminescent Terbium Contrast Agent for Bone Microdamage Detection  
*B. K. McMahon, P. Mauer, C. P. McCoy, T. Clive Lee, T. Gunnlaugsson*    **600**

**Full Papers**

- Singlet Oxygen Release and Cell Toxicity of a Chemiluminescent Squaraine Rotaxane Dye: Implications for Molecular Imaging  
*J.-J. Lee, A. Gonçalves, B. A. Smith, R. Palumbo, A. G. White, B. D. Smith*    **604**

- Raman Spectroscopic Imaging of Cholesterol and Docosahexaenoic Acid Distribution in the Retinal Rod Outer Segment  
*Zachary D. Schultz*    **611**

Disordered Mesoporous Gadoliniosilicate Nanoparticles Prepared Using Gadolinium Based Ionic Liquid Emulsions:  
Potential as Magnetic Resonance Imaging Contrast Agents

G. Liu, N. M. K. Tse, M. R. Hill, D. F. Kennedy, C. J. Drummond 617

Multi-wavelength Optical Imaging of Human Tumor Xenografts

W. Wang, A. G. Cameron, J. A. Wendt, M. E. Mawad, S. Ke 625

## REGULAR PAPERS

### Full Papers

Infrared Spectra and *ab initio* Calculations for Fluoride-acetylene Clusters: F<sup>-</sup>-(HCCH)<sub>n</sub>, n = 3–6

D. A. Wild, Z. M. Loh, E. J. Bieske 633

Novel Synthesis of 2-thienylcarbonyl-cyclohexane-1,3-dione as Building Block for Indazolones and Isoxazolones

G. M. Chans, E. L. Moyano, G. I. Yranzo 638

The Heck Reaction of Protected Hydroxychromones: on route to Natural Products

A. Vasas, T. Patonay, K. Konya, A. M. S. Silva, J. A. S. Cavaleiro 647

### Focus

Modification of Aryldiazonium Salts on Electrodes towards Designing Stable and Versatile Sensing Interfaces

G. Liu 658