

# Dalton Discussion 11: The Renaissance of Main Group Chemistry Programme


Monday 23 June 2008

|       |                           |
|-------|---------------------------|
| 11:00 | Registration              |
| 12:30 | Welcome and Introductions |

| Session 1         | Main group multiple bonds and unusual oxidation states  |
|-------------------|---|
| 12:45<br>Paper K1 | <b>KEYNOTE - Recent developments in the chemistry of low valent group 14 hydrides</b><br>Eric Rivard and Philip P Power*<br><i>University of California, Davis, USA</i>   |
| 13:30<br>Paper D1 | <b>Synthesis and structural characterisation of Group 10 metal(II) gallyl complexes: analogies with platinum diboration catalysts?</b><br>Cameron Jones*, David P Mills, Richard P Rose and Andreas Stasch<br><i>Monash University, Australia</i>   |
| Paper D2          | <b>Synthesis and properties of stable 2-metallanaphthalenes of heavier group 14 elements</b><br>Yoshiyuki Mizuhata, Takahiro Sasamori, Noriyoshi Nagahora, Yasuaki Watanabe, Yukio Furukawa and Norihiro Tokitoh*<br><i>Kyoto University, Japan</i> |
| Paper D3          | <b>Synthesis and structure of two new (guanidinate)boron dichlorides and their attempted conversion to boron(I) derivatives</b><br>Michael Findlater, Nicholas J Hill and Alan H Cowley*<br><i>University of Texas at Austin, USA</i>               |
| 15:00             | Refreshment break   |
| 15:30<br>Paper K2 | <b>KEYNOTE - Formation, structure and bonding of metalloid Al and Ga clusters. A challenge for chemical efforts in nanosciences</b><br>Hansgeorg Schnöckel<br><i>Universität Karlsruhe, Germany</i>   |
| 16:15<br>Paper D4 | <b>Diorgano dichalcogen cations</b><br>Birgit Mueller, Helmut Poleschner and Konrad Seppelt*<br><i>Freie Universität Berlin, Germany</i>  |
| Paper D5          | <b>Effects of ligands and spin-polarization on the preferred conformation of distannynes</b><br>Westin Kurlancheek, Yousung Jung* and Martin Head-Gordon<br><i>University of California, Berkeley, USA</i>  |
| 17:15             | Flash presentations   |
| 17:45             | Close of sessions and poster/networking session and wine reception supported by the ACS<br>(Stern Large Dining Room)  |
| 19:00             | Close of poster session   |

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| Session 2         | Main group macromolecules/rings/clusters  |
|-------------------|---|
| 08:45<br>Paper K3 | <b>KEYNOTE - Polymeric materials based on main group elements: the recent development of ambient temperature and controlled routes to polyphosphazenes</b><br>Vivienne Blackstone, Alejandro Presa Soto and Ian Manners*<br><i>University of Bristol, UK</i>  |
| 09:30<br>Paper D6 | <b>[Si(SiMe<sub>3</sub>)<sub>3</sub>]<sub>6</sub>Ge<sub>18</sub>M (M = Cu, Ag, Au): Metalloid cluster compounds as unusual building blocks for a supramolecular chemistry</b><br>Christian Schenk, Florian Henke, Gustavo Santiso-Quinones, Ingo Krossing and Andreas Schnepf*<br><i>Universität Karlsruhe, Germany</i> |
| Paper D7          | <b>Fluoride ion complexation by a B<sub>2</sub>/Hg heteronuclear tridentate Lewis acid</b><br>Christopher L Dorsey, Pawel Jewula, Todd W Hudnall, James D Hoefelmeyer, Thomas J Taylor, Nicole R Honesty, Ching-Wen Chiu, Marcus Schulte and François P Gabbai*<br><i>Texas A&amp;M University, USA</i>                 |
| 10:30             | Refreshment break   |
| 11:00<br>Paper D8 | <b>Chemical functionality of poly(methylenephosphine): phosphine–borane adducts and methylphosphonium ionomers</b><br>Kevin J T Noonan, Bastian Feldscher, Joshua I Bates, Justin J Kingsley, Mandy Yam and Derek P Gates*<br><i>University of British Columbia, Canada</i>   |
| Paper D9          | <b>When triflates fail to do the job<br/>(Can the hexamethylhydrazinium dication [Me<sub>3</sub>N-NMe<sub>3</sub>]<sup>2+</sup> be prepared?)</b><br>Yun Zhang and Christopher A Reed*<br><i>University of California, Riverside, USA</i>   |
| 12:00             | Flash presentations   |
| 12:15             | Close of Session<br>Lunch and Posters/Networking Session supported by the ACS<br>(Stern Large Dining Room)<br><br>   |

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| Session 3          | Session 3: Main group elements as ligands in organometallic chemistry and coordination complexes  |
|--------------------|---|
| 13:45<br>Paper K4  | <b>KEYNOTE - The coordination chemistry of group 15 element ligand complexes – a developing area</b><br>Manfred Scheer<br><i>University of Regensburg, Germany</i>  |
| 14:30<br>Paper D10 | <b>6-coordinate tungsten(VI) tris-<i>n</i>-isopropylanilide complexes: products of terminal oxo and nitrido transformations effected by main group electrophiles</b><br>Christopher R Clough, Peter Mueller and Christopher C Cummins*<br><i>Massachusetts Institute of Technology, USA</i> |
| Paper D11          | <b>DFT survey of monoboron and diboron corroles: regio- and stereochemical preferences for a constrained, low-symmetry macrocycle</b><br>Amelia M Albrett, Jeanet Conradie, Abhik Ghosh and Penelope J Brothers*<br><i>University of Auckland, New Zealand</i>                              |
| Paper D12          | <b>Insertion reactions of <math>\beta</math>-diketiminato-stabilised calcium amides with 1,3-dialkylcarbodiimides</b><br>Anthony G M Barrett, Mark R. Crimmin, Michael S Hill,* Peter B Hitchcock and Panayiotis A Procopiou<br><i>University of Bath, UK</i>                               |
| 16:00              | Refreshment break   |
| 16:30<br>Paper D13 | <b>1,3-Diborata-2,4-diphosphoniocyclobutane-1,3-diyls communicate through a <i>para</i>-phenyl linker</b><br>Amor Rodriguez, Gad Fuks, Jean-Baptiste Bourg, Didier Bourissou, Fook S Tham and Guy Bertrand*<br><i>University of California, Riverside, USA</i>                              |
| Paper D14          | <b>Mechanistic variety in zirconium-catalyzed bond-forming reaction of arsines</b><br>Andrew J Roering, Jillian J Davidson, Samantha N MacMillan, Joseph M Tanski and Rory Waterman*<br><i>University of Vermont, USA</i>   |
| 17:30              | Close of Session  |
| 19:30              | Conference Dinner<br>(Berkeley City Club)   |

# Dalton Discussion 11: The Renaissance of Main Group Chemistry Programme

Wednesday 25 June 2008

| Session 4          | Main group materials   |
|--------------------|--|
| 09:00<br>Paper K5  | <b>KEYNOTE - Chemistry and physics of silicon nanowire</b><br>Peidong Yang<br><i>University of California, Berkeley, USA</i>   |
| 09:45<br>Paper D15 | <b>Ligand influence on the formation of P/Se semiconductor materials from metal-organic complexes</b><br>Arunkumar Panneerselvam, Chinh Q Nguyen, John Waters, Mohammad A Malik, Paul O'Brien*, James Raftery and Madeleine Helliwell<br><i>University of Manchester, UK</i>                     |
| Paper D16          | <b>Tuning the electronic structure of diboradiferrocenes</b><br>Krishnan Venkatasubbaiah, Thilagar Pakkirisamy, Roger A Lalancette and Frieder Jaekle*<br><i>Rutgers University-Newark, USA</i>  |
| 10:45              | Refreshment break  |
| 11:15<br>Paper D17 | <b>Materials for hydrogen storage: structure and dynamics of borane ammonia complex</b><br>Vencislav M Parvanov, Gregory K Schenter, Nancy J Hess, Luke L Daemen, Monika Hartl, Ashley C Stowe, Donald M Camaioni and Tom Autrey*<br><i>Pacific Northwest National Laboratory, Richland, USA</i> |
| 11:45              | Acknowledgements and Chair's comments  |
| 12:00              | Close of Meeting   |

\*Denotes presenting author to whom the affiliation applies