PUBLICATION LIST - Prof. Cameron Jones (May 2017)

Review Articles

Book Chapters


Refereed Articles


40. Transition Metal Mediated Functionalisation of a Phosphaalkyne: Crystal Structure of
[Re{=C(Bu\text{t})POBF\text{3}}Br(PPh\text{3})(C\text{5}H\text{3})], N. Carr, M. Green, M.F. Mahon, C. Jones,

41. Arsaalkyne Coupling Reactions: Synthesis, Crystal and Molecular Structures of the
First 1,3-Diarsacyclobutadiene and 1,2-Diarsetane Complexes, M.D. Francis, D.E.

42. Alane and Gallane-Sulfur Donor Chemistry: Synthesis of H\text{3}Al(N-methylthiomorpholine),
[H\text{2}Al{\mu-N(CH\text{2}CH\text{2})\text{2}S}]_{2} and [HM(SCH\text{2}CH\text{2}NE\text{t}\text{2})_{2}], M =

43. Phosphaalkyne Hydrometallation: Synthesis of [Ru(P=CH\text{Bu\text{t}})Cl(CO)(PPh\text{3})_{2}],

44. Synthesis, NMR Spectroscopic Studies, and X-Ray Structures of Platinum(II)
Coordination Complexes of the Organophosphorus Cage Compounds P\text{4}C_{4}Bu\text{t} \text{4} andP\text{5}C_{5}Bu\text{t} \text{5}, V. Caliman, P.B. Hitchcock, C. Jones, J.F. Nixon,

45. Synthesis and Characterisation of Dichloro(8-quinolylamido)antimony(III) and 8-
Aminoquinolininium Catena-poly{[dichloroantimonate(III)]-\mu-dichloro}, C. Jones,

46. The First Structural Characterisation of a Five Coordinate Aluminium Trichloride -
Bidentate Tertiary Amine Adduct, Trichloro(1,4-dimethylpiperazine)aluminium(III),

47. Monomeric N-Functionalised Amido Complexes of Aluminium: Synthesis of
[AlCl{NR(8-C\text{9}H\text{6}N)}_{2}], R = H, SiMe\text{3}, and [Al[N(2-C_{3}H_{4}N)(2-C_{3}H_{4}N)}_{3}], L.M.

48. Complete Metal Mediated Reduction of the Triple Bond of a Phosphaalkyne: X-ray
Structure of [Ru(PHFCH\text{2}Bu\text{t})Cl(CO)(CNC\text{6}H\text{3}Me\text{2}-2,6)(PPh\text{3})_{2}]BF\text{4}.CH\text{2}Cl\text{2},

49. The First Diphosphastibolyl Complexes: Synthesis and Characterisation of [Ru(\eta\text{5}-
C\text{5}R\text{5})(\eta\text{5}-C\text{2}Bu\text{t}_\text{2}P_{2}Sb)]; R = H or Me, Matthew D. Francis, David E. Hibbs,

50. Low Coordination Arsenic and Antimony Compounds: Synthesis and Characterisation
of 2-Arsa- and 2-Stiba-1,3-dionatolithium(I) Complexes, [Li{OC(R)EC(R)O}(L)],
E = As or Sb; R = Bu\text{t}, C\text{6}H\text{2}Pr\text{3}-2,4,6 or C\text{6}H\text{2}Bu\text{t}_\text{3}-2,4,6; L = Et_{2}O, 1/2 DME or
DME, J. Durkin, D.E. Hibbs, P.B. Hitchcock, M.B. Hursthouse, C. Jones, J. Jones,


77. First Structural Characterisation of 1,2,4-Selenadiphosphole and 1,2,4-Telluradiphosphole Ring Systems. Crystal and Molecular Structures of the $\eta^1$-Complexes $[\text{M(CO)}_5(\text{P}_2\text{SeC}_2\text{Bu}_2)]$, $\text{M} = \text{Cr, W}$ and $[\text{W(CO)}_5(\text{P}_2\text{TeC}_2\text{Bu}_2)]$, M.D. Francis, D.E. Hibbs, P.B. Hitchcock, M.B. Hursthouse, C. Jones, T. Mackewitz, J.F. Nixon, L. Nyulaszi, M. Regitz and N. Sakarya, *J. Organomet. Chem.*, 1999, **580**, 156.


79. Reactions of an Antimony Containing Cage Compound with Metal Carbonyls: Synthesis and Structural Characterisation of $\{\text{M(CO)}_5\}_{2}(\eta^1-\text{Sb}_2\text{P}_4\text{C}_4\text{Bu}_4)$, M = Cr, Mo or W, and $\{\text{Fe(CO)}_4\}_{2}\{\text{Fe(CO)}_3(\eta^3,\lambda^1-\text{Sb}_2\text{P}_4\text{C}_4\text{Bu}_4)\}$, D.E. Hibbs, M.B. Hursthouse, C. Jones and R.C. Thomas, *J. Chem. Soc., Dalton Trans.*, 1999, 2627.


82. Facile, Metal Promoted, Oxidation of $\eta^4$-1,3-diphosphacyclobutadiene by Water or Methanol: Synthesis and Structures of $[\text{MoCl(CO)}(\eta^4-1,3-\text{P}_2\text{C}_2\text{Bu}_2)(\eta^5-\text{L})]$ [L = C$_5$H$_5$, C$_5$Me$_5$] and $[\text{MoCl(CO)}(\eta^3,\lambda^3,\lambda^5-\text{PC}_2\text{Bu}_2\text{PH(OR)}(\eta^5-\text{L}))][\text{L} = \text{C}_5\text{H}_5$, R = H, Me], A.S. Weller, C.D. Andrews, A.D. Burrows, M. Green, J.M. Lynam, M.F. Mahon, C. Jones, *Chem. Commun.*, 1999, 2147.


92. The Preparation, Characterization and Reactivity of the Stable Indium Trihydride Complex, \([\text{InH}_3\{\text{CN(Mes)}\text{C}_2\text{H}_2\text{N(Mes)}\}]\), C.D. Abernethy, M.L. Cole and C. Jones, *Organometallics*, 2000, 19, 4852.


105. The Molecular Structure of $[\{\text{C}_5\text{H}_3\text{MeNH-2}\}_2\text{Li}(\mu-\text{Br})_2\text{Li}(\text{C}_5\text{H}_3\text{MeNH-2})_2]$, C. Jones, P.C. Junk and N.A. Smithies, *Main Group Metal Chemistry*, 2001, 24, 801-802.


108. Reactions of Bulky Alkyl Lithium Reagents with a Phosphaalkyne (P$^+$CBu$^-$): Synthesis and Structural Characterisation of a Mixed Valent Phosphorus Cage Compound, P$^{III}\{\mu-\text{C}((\text{Bu})^2-\text{P}((\text{Cy})^-))\}_2\{\mu-\text{C}((\text{SiMe}_3)\text{Si}((\text{Me})_2\text{C}(\text{H})_2)^2\text{P}((\text{SiMe}_3)_2)$, and a Phosphaalkeny1 Substituted $\eta^3$-Azaallyl-lithium Complex, $[\text{Li}(\text{tmeda})((\text{SiMe}_3)(2-\text{NC} \text{C}_6\text{H}_4\text{Me}-6)][\text{P}((\text{Bu})^2((\text{SiMe}_3^3))]$, C. Jones and A.F. Richards, *J. Organomet. Chem.*, 2002, 645, 256-261.

109. Lithium and Magnesium Complexes of ortho-Dimethylarsinoaniline and a Novel Insertion of Dimethylsilanone into a Mg-N Bond - Molecular Structures of $[\text{Li}(\mu-\eta^1-1-\text{NHC}_6\text{H}_4\text{AsMe}_2)(\text{thf})_2]_2$ and the Insertion Product $[\{\text{Mg}_2(\mu-\eta^{1-1-}\text{NHC}_6\text{H}_4\text{AsMe}_2)_2(\mu-\eta^3-\text{OSiMe}_2\text{NC}_6\text{H}_4\text{AsMe}_2)(\text{thf})\}_2]$, M.L. Cole, C. Jones and P.C. Junk, *New. J. Chem.*, 2002, 89 - 93.


135. The Molecular Structure of [InBr₂{N(SiMe₃)₂}][Li(DME)₃], C. Jones, P.C. Junk and N.A. Smithies, *Main Group Metal Chemistry*, 2003, 26, 35-37.
The Molecular Structure of $[\text{Fe}_2(\mu-\text{SeC}_5\text{H}_5)\text{CO}_6]$, M.D. Francis and C. Jones, *Main Group Metal Chemistry*, 2003, **26**, 49-51.


The Synthesis and Structural Characterisation of $[\text{IrCl(COD)}(\text{PEt}_3)_n]$, n = 1 or 2, and Orthometallated Vaska’s Compound, $[\text{IrHCl(CO)}(\text{PPh}_3)\{\eta^2-\text{PPh}_2(\text{C}_6\text{H}_4)\}]$, M. Brym and C. Jones, *Transition Metal Chemistry*, 2003, **28**, 595 – 599.


149. The Molecular Structure of \([\{\mu-\text{Ga(Ar-DAB)}\}_2\{\mu-\text{K(tmeda)}\}_2\{\mu-\text{C}_5\text{H}_5\}\{\mu-\text{K(tmeda)}\}_2\},(\text{C}_7\text{H}_8)_{1,5}, \text{Ar-DAB} = \{\text{C}_6\text{H}_3\text{Pr}^2-2,6\text{NC(H)=}\}_2\], R.J. Baker and C. Jones, *Main Group Metal Chemistry*, 2003, 26, 267 - 268.


158. \([\eta^5-C_5\text{H}_5]\text{Fe(CO)}_2\text{Ga}_3\text{Cl}_2(\text{OSiMe}_2\text{OSiMe}_2\text{O})_2]:\) a diiron complex of a tetracyclic trigallasioloxane, N.R. Bunn, S. Aldridge and C. Jones, *Appl. Organomet. Chem.*, 2004, 18, 425-426.


174. \( \eta^6 \)-Triphosphabenzenes, \( \eta^5 \)-Triphosphacyclohexadienyl and \( \eta^5 \)-Diphosphacyclopentadienyl Complexes of Group 8 and 9 Metals: Heterocycle Transformations at the Metal Center, M.D. Francis, C. Holtel, C. Jones and R.P. Rose, *Organometallics*, 2005, 24, 4216 - 4225.

175. [\( \text{Ga}_2\text{Ph}(\text{SbPh}_3) \)]: A Rare Tertiary Stibane-Gallium Complex Formed via a Reductive Sb-C Bond Cleavage Reaction, C. Jones, C. Schulten and A. Stasch, *Main Group Metal Chem.*, 2005, 28, 89-91.


189. An X-ray Crystallographic Study of the Diphosphacyclobutenyl Gallium Complex, \([\text{Ga}I_2\{\text{C(Bu}^t\text{)P(H)C(Bu}^t\text{)=P}\}]_2\), M.D. Francis, C. Jones and D.P. Mills, *Main Group Metal Chemistry*, 2006, **29**, 117 – 118.

190. Rare examples of mononuclear, homoleptic antimony(III) and bismuth(III) aryloxides, M. Brym, C. Jones and P.C. Junk, *Main Group Chemistry*, 2006, **5**, 13 - 19.


197. An X-ray Crystallographic Study of an Unusual Lithium Silanolate Hexamer, \([\text{LiOSi(Me}^t\text{)OC(H)}_2\text{SiMe}_3]_6\), C. Jones and A.F. Richards, *Main Group Metal Chem.*, 2006, **29**, 173 - 174.

199. Homoleptic Lanthanide(II)-Bis(Guanidinate) Complexes, [Ln(Giso)₂] (Giso = [(ArN)₂CN(C₆H₁₂)₂], Ar = C₆H₃Pr₂-2,6): Planar 4-Coordinate (Ln = Sm or Eu) vs Distorted Tetrahedral (Ln = Yb) Geometries, D. Heitmann, C. Jones, P.C. Junk, K.-A. Lippert and A. Stasch, Dalton Trans., 2007, 187 - 189.


213. Synthesis and Structural Characterization of a Terphenyl Substituted Phosphaalkyne, \(\text{P} \equiv \text{C}\{\text{C}_6\text{H}_3(\text{C}_6\text{H}_2\text{Me}_3-2,4,6)2-2,6\}\), C. Jones and M. Waugh, \textit{J. Organomet. Chem.}, 2007, 692, 5086-5090.


222. Crystal Structure of a 1,4-Diphosphabutadiene Gallium Iodide Complex, \([\text{I}_3\text{Ga}]_2[\text{P}(\text{C}_6\text{H}_2\text{Bu}^t_3-2,4,6)\text{CH}_2]_2\](\text{C}_7\text{H}_8)\), T. Gans-Eichler, C. Jones, S. Aldridge and A. Stasch, \textit{Anal. Sci: X-Ray Structr. Anal. Online}, 2008, 24, x109-x110.


252. Groups 2 and 12 Metal Gallyl Complexes Containing Unsupported Ga-M Covalent Bonds (M = Mg, Ca, Sr, Ba, Zn or Cd), O. Bonello, C. Jones, A. Stasch and W.D. Woodul, Organometallics, 2010, 29, 4914-4922.


Comparative study of phosphine and NHC stabilized group-13 adducts [L(EH$_3$)] and [L$_2$(E$_2$H$_6$)] (E = B – In; L = PMe$_3$, NHC; n = 4, 2, 0; NHC = N-heterocyclic carbene), N. Holzmann, A. Stasch, C. Jones and G. Frenking, *Chem. Eur. J.*, 2013, **19**, 6467-6479.


Nature of M-Ge Bonds in Metallo-Germylene Complexes of Chromium, Molybdenum and Tungsten [(η$_5$-C$_5$H$_5$)(CO)$_3$M(GeN(SiMe$_3$)R)] and [(η$_5$-C$_5$H$_5$)(CO)$_3$M(GeN(Ph)R)] (R = Ph, Mesityl (Mes)): A Theoretical Study, K.K. Pandey and C. Jones, *Organometallics*, 2013, **32**, 3395-3403.


**Invited Lectures**

1. "New Directions in Low Coordination Group 15 Chemistry", Chemistry Department, Tohoku University, Sendai, Japan, April 1995.
2. "New Directions in Low Coordination Group 15 Chemistry", Chemistry Department, University of Leeds, February, 1996.
3. "New Directions in Low Coordination Group 15 Chemistry", Chemistry Department, Imperial College of Science, Medicine and Technology, April, 1996.

4. "New Directions in Low Coordination Group 15 Chemistry", Chemistry Department Monash University, Australia, July, 1996

5. "New Directions in Low Coordination Group 15 Chemistry", Chemistry Department University of Western Australia, August 1996.

6. "New Directions in Low Coordination Group 15 Chemistry", Chemistry Department University of Waterloo, Canada, April 1997.

7. RSC Sponsored Lecture - "The Low Coordination Chemistry of Arsenic and Antimony" Chemistry Department, University of Wales, Cardiff, October 1997.


10. "The Low Coordination Chemistry of Arsenic and Antimony", Chemistry Department, University of Ohio, Athens, USA, April, 1998.


20. "The Stabilisation and Reactivity of Indium Hydride Complexes"
Chemistry Department, University of Western Australia, July, 2000.

21. "The Stabilisation and Reactivity of Indium Hydride Complexes"
Chemistry Department, James Cook University, Townsville, Australia, July, 2000.

22. "The Synthetic Versatility of Phosphavinyl Grignard Reagents"
Chemistry Department, University of Münster, Germany, February, 2001.

23. "The Synthetic Versatility of Phosphavinyl Grignard Reagents"
Chemistry Department, University of Leipzig, Germany, February, 2001.

24. "The Synthetic Versatility of Phosphavinyl Grignard Reagents"
Chemistry Department, UMIST, November, 2001.

25. RSC sponsored lecture - "The Synthetic Versatility of Phosphavinyl Grignard Reagents"
Chemistry Department, Cardiff University, December, 2001.

26. "The Synthetic Versatility of Phosphavinyl Grignard Reagents"
Chemistry Department, Cambridge University, January, 2002.

27. "The Synthetic Versatility of Phosphavinyl Grignard Reagents"
Chemistry Department, Sheffield University, January, 2002.

28. "The Synthetic Versatility of Phosphavinyl Grignard Reagents"
Chemistry Department, Leeds University, January, 2002.

29. "The Synthetic Versatility of Phosphavinyl Grignard Reagents"
Chemistry Department, Newcastle University, May, 2002.

30. "The Synthetic Versatility of Phosphavinyl Grignard Reagents"
Chemistry Department, Monash University, Australia, July, 2002.

31. "Developments in Low Oxidation State Gallium and Indium Chemistry"
invited lecture at the RSC meeting on New Strategies in Metal Chemistry.
Chemistry Department, Nottingham University, February, 2003.

32. "The Stabilisation and Coordination Chemistry of a Gallium(I) Carbohydride Analogue"
Chemistry Department, Imperial College, March, 2003.

33. "The Stabilisation and Unusual Reactivity of a Gallium(I) N-Heterocyclic Carbene Analogue"
invited lecture of the German Chemical Society, Chemistry Department,
Leipzig University, Germany, December, 2003.

34. "The Stabilisation and Unusual Reactivity of a Gallium(I) N-Heterocyclic Carbene Analogue"
Chemical Engineering Department, University of Applied Sciences,
Münster, Germany, December, 2003.

35. RSC sponsored lecture – "Anionic Gallium(I) Heterocycles: Analogies with N-
Heterocyclic Carbenes" Chemistry Department, Warwick University, February, 2004.

36. Invited Key Note Speaker at the 16th International Conference on Phosphorus


44. "Anionic Gallium(I) Heterocycles: Analogies with N-Heterocyclic Carbenes?" Chemistry Department, Oxford University, February, 2005.


54. "Group 13 Metal(I) Heterocycles: Metal Donor Lewis Bases and N-heterocyclic Carben Analogues", Bochum University, Germany, November, 2006


64. "Low Oxidation State Metallocycles: Stabilization and Reactivity Studies", Invited Lecture, Main Group Chemistry Symposium, Nottingham University, October, 2007.


68. "Bulky Guanidinates: New Ligands for the Stabilisation of Very Low Oxidation State Metallacycles" School of Chemistry, Southern Methodist University, Texas, March,


75. Group 2 Metal(I) Heterocycles: Stabilisation, Verification and Application. Department of Chemistry, University of Sydney, April, 2009.

76. "Bulky Guanidinates: Analogues of β-Diketiminates for the Stabilisation of low Oxidation State Metallacycles", Department of Chemistry, La Trobe University, June, 2009.

77. "Bulky Guanidinates: Analogues of β-Diketiminates for the Stabilisation of low Oxidation State Metallacycles", Department of Chemistry, University of Western Australia, June, 2009.


80. "Bulky Guanidinates and Related Ligands for the Stabilisation of Metal(I) Heterocycles", Department of Chemistry, Oxford University, September, 2009.

81. "Bulky Guanidinates and Related Ligands for the Stabilisation of Metal(I) Heterocycles", Invited Humboldt Prize Lecture, Department of Chemistry, Technische Universität, Berlin, Germany, September, 2009.

82. "Bulky Guanidinates and Related Ligands for the Stabilisation of Metal(I)


87. "Molecular Magnesium(I) Compounds: From Chemical Landmarks to Versatile Reagents", Invited lecture of the German Chemical Society, Department of Chemistry, Münster University, Germany, April, 2010.

88. "Molecular Magnesium(I) Compounds: From Chemical Landmarks to Versatile Reagents", Invited lecture of the German Chemical Society, Department of Chemistry, Marburg University, Germany, April, 2010.


100. "Molecular Magnesium(I) Compounds: "Bespoke" Reducing Agents for the Synthetic Chemist", Department of Chemistry, Heidelberg University, Germany, October, 2011.

101. "Modern Main Group Chemistry: From Fundamental Advances to Functional Molecules" RACI Burrows Award Lecture, IC11, University of Western Australia, December, 2011.


125. "The Stabilization and Transition Metal-Like Reactivity of Low Oxidation State/Low Coordination Number p-Block Complexes", Invited Session Lecture, Pacifichem, Honolulu, USA, December 2015.


130. "The Stabilization and Transition Metal-Like Reactivity of Low Oxidation State/Low Coordination Main Group Complexes", RSC Australasian Lectureship, University of Melbourne, August, 2016.


133. "The Stabilization and Transition Metal-Like Reactivity of Low Oxidation State/Low Coordination Main Group Complexes", Oxford University, UK, September, 2016.

134. "The Stabilization and Transition Metal-Like Reactivity of Low Oxidation State/Low Coordination Main Group Complexes", RSC Australasian Lectureship, University of Tasmania, October, 2016.


