

F.G.N. Cloke - Publications

1. G.C. Barker, G. Bottura, F.G.N. Cloke, A.W. Gardner, and M.J. Williams, 'Influence of the Plane of Polarisation on the Photoemission of Electrons', *J. Electroanal. Chem. and Interfacial Electrochem.*, 1974, **50**, 323.
2. G.C. Barker, and F.G.N. Cloke, 'Electrical Double Layer Perturbation by Light Absorption at the Interface', *J. Electroanal. Chem. and Interfacial Electrochem.*, 1974, **52**, 468.
3. F.G.N. Cloke, 'Catalysis Using Metal Vapours', Part II Thesis, Oxford, 1975.
4. F.G.N. Cloke, M.L.H. Green, and G.E. Morris, 'Arene-tungsten Chemistry: Cocondensation of Tungsten Atoms from an Electron Gun Source with Aromatic Hydrocarbons', *J. Chem. Soc. Chem. Commun.*, 1978, 72.
5. F.G.N. Cloke, M.L.H. Green, and D.H. Price, 'Preparation of Zerovalent Bis(η -arene)niobium Compounds Using Niobium Vapour', *J. Chem. Soc. Chem. Commun.*, 1978, 431.
6. F.G.N. Cloke, 'The Reactions of Metal Vapours and Related Species', D.Phil. Thesis, Oxford, 1978.
7. F.G.N. Cloke, and M.L.H. Green, 'Synthesis of Zerovalent Bis(η -arene)(triethylphosphine)-hafnium and -zirconium Compounds Using the Metal Vapours', *J. Chem. Soc. Chem. Commun.*, 1979, 127.
8. F.G.N. Cloke, M.L.H. Green, and P.J. Lennon, 'Synthesis of d^2 (η -cycloheptatrienyl)(η -cycloheptadienyl)-zirconium and -hafnium Using the Metal Vapours', *J. Organomet. Chem.*, 1980, **188**, C25.
9. P.R. Brown, F.G.N. Cloke, and M.L.H. Green, 'Synthesis of (η -metallyl)bis(η -butadiene)-niobium and -tantalum Using the Metal Vapours', *J. Chem. Soc. Chem. Commun.*, 1980, 1126.
10. F.G.N. Cloke, P.J. Fyne, M.L.H. Green, M.J. Ledoux, A. Gourdon, and C.K. Prout, 'Synthesis of Zerovalent Tris(bis{1,2-dimethylphosphino}ethane) Compounds of Chromium Molybdenum, Tungsten, Vanadium, Niobium and Tantalum Using the Metal Vapours', *J. Organomet. Chem.*, 1980, **198**, C69.
11. F.G.N. Cloke, K.P. Cox, M.L.H. Green, J.K. Bashkin, and C K. Prout, 'Synthesis of Bis(η -toluene)bis(trimethyltin)M, where M= Zr, or Hf; X-ray Crystal Structure of the Hafnium Compound', *J. Chem. Soc. Chem. Commun.*, 1981, 117.
12. A. Baretta, F.G.N. Cloke, A. Feigenbaum, M.L.H. Green, A. Gourdon, and C.K. Prout, 'Synthesis of the Ring-functionalism Bis(η -cyclopentadienyl)molybdenum Compound, [Mo(-C₅H₄CH₂I)₂I₂]', *J. Chem. Soc. Chem. Commun.*, 1981, 347.
13. F.G.N. Cloke and M.L.H. Green, 'Synthesis of Zerovalent Bis(η -arene) Derivatives of Zirconium, Hafnium, Niobium, Tantalum, and Tungsten Using the Metal Vapours', *J. Chem. Soc. Dalton Trans.*, 1981, 1938.

14. F.G.N. Cloke, K.P. Cox, M.L.H. Green, J.K. Bashkin, and C.K. Prout, 'Synthesis of Hexakis(trimethylphosphine)molybdenum Using Molybdenum Atoms and Its X-ray Crystal Structure', *J.Chem. Soc. Chem. Commun.*, 1982, 393.
15. P.R. Brown, F.G.N. Cloke, M.L.H. Green, and R.C. Tovey, 'Synthesis of Binuclear and Trinuclear Cluster Halides of Molybdenum and Rhenium, and of Carbonyl Halides of Rhenium, Iridium, Ruthenium, and Platinum Using Metal Atoms', *J.Chem. Soc. Chem. Commun.*, 1982, 512.
16. P.A. Belmonte, F.G.N. Cloke, and R.R. Schrock, 'Reduction of Carbon Monoxide by Binuclear Tantalum Hydride Complexes', *J.Am. Chem. Soc.*, 1983, **105**, 2643.
17. P.R. Brown, F.G.N. Cloke, N.J. Hazel, and M.L.H. Green, 'Arene-tungsten Chemistry; Allyl, Butadiene, and Phosphine Derivatives', *J. Chem. Soc. Dalton Trans.*, 1983, 1075.
18. A. Baretta, F.G.N. Cloke, A. Feignbaum, K.S. Chong, and M.L.H. Green, 'Synthesis and Reactivity of Ring-functionalised Cyclopentadienyl Derivatives of Molybdenum', *J. Chem. Soc. Dalton Trans.*, 1983, 861.
19. F.G.N. Cloke, A.N. Dix, J.C. Green, R.N. Perutz, and E.A. Seddon, 'Electron Spin Resonance and Photoelectron Studies of Neutral Bis(η -arene)metal Compounds (metal= Ti, V, Ta, Mo, and W)', *Organometallics*, 1983, **9**, 1150.
20. F.G.N. Cloke, M.L.H. Green, and D. O'Hare, 'Activation of sp^3 Carbon-Hydrogen Bonds of Alkylbenzenes by Rhenium Forming Binuclear μ -Arylidene Derivatives', *J. Chem. Soc. Chem. Commun.*, 1983, 1312.
21. J.A. Bandy, F.G.N. Cloke, M.L.H. Green, D. O'Hare, and C.K. Prout, 'Activation of Linear and Cyclic Saturated Hydrocarbons involving Arene-Rhenium Compounds; Crystal Structure of μ -Dihydrido- μ -neopentylidene-bis(η -benzene)dirhenium', *J. Chem. Soc. Chem. Commun.*, 1984, 240.
22. F.G.N. Cloke, P J. Fyne, V.C. Gibson, M.L.H. Green, M.J. Ledoux, and R.N. Perutz, 'Synthesis, Crystal Structures and Some Reactions of Zerovalent Tris(bis{1,2-dimethylphosphino}ethane) Derivatives of Cr, Mo, W, V, Nb, and Ta', *J. Organomet. Chem.*, 1984, **277**, 61.
23. P.A. Belmonte, F.G.N. Cloke, K.H. Theopold, and R.R. Schrock, 'Preparation of $[\text{Nb}(-\text{C}_5\text{Me}_5)\text{Cl}_2]_2$ and $[\text{Nb}(-\text{C}_5\text{Me}_5)(3\text{-hexyne})\text{Cl}_2]$ ', *Inorg. Chem.*, 1984, **23**, 2365.
24. M. Brookhart, F.G.N. Cloke, K.P. Cox, J. Bashkin, A.E. Derome, P.D. Grebenik, J.C. Green, M.L.H. Green, and P.M. Hare, 'Hexakis(trimethylphosphine)molybdenum Chemistry: Dinitrogen, Ethylene, Butadiene, η -Cyclopentadienyl and Related Derivatives', *J.Chem. Soc. Dalton Trans.*, 1985, 423.
25. D. O'Hare, M.L.H. Green, and F.G.N. Cloke, 'Synthesis of Hetero-binuclear Derivatives of Tetrathiolato Complexes $[\text{Mo}(\eta\text{-C}_5\text{H}_4\text{CH}_2\text{CH}_2\text{SR})_2(\text{SR})_2]$, R= Pr^n and Ph, with Platinum, Palladium, and Rhodium', *J. Organomet. Chem.*, 1985, **282**, 225.
26. P.R. Brown, F.G.N. Cloke, M.L.H. Green, 'Synthesis of Chloro-carbonyl Derivatives of Re, Ru, Rh, Ir, and Pt via Reaction of the Metal Atoms with Oxalyl Chloride', *Polyhedron*, 1985, **4**, 869.

27. F.G.N. Cloke, J.C. Green, M.H.L. Green, and C.P. Morley, 'Metal Atom Synthesis and Photochemistry of Bis(η -pentamethylcyclopentadienyl)tungsten Dihydride', *J. Chem. Soc. Chem. Commun.*, 1985, 945.
28. F.G.N. Cloke, and J.P. Day 'Synthesis of Bis(η -pentamethylcyclopentadienyl)-rhenium Hydride and Its Photochemical Conversion into Decamethylrhencene', *J. Chem. Soc. Chem. Commun.*, 1985, 967.
29. F.G.N. Cloke, H.C. de Lemos, and A.A. Sameh, 'Homoleptic Diazadiene Complexes of Titanium, Yttrium, and Some Lanthanoid Elements', *J. Chem. Soc. Chem. Commun.*, 1986, 1344.
30. J.G. Brennan, F.G.N. Cloke, A.A. Sameh, and A. Zalkin, 'Synthesis of Bis(η -1,3,5-tri-*t*-butylbenzene) Sandwich Complexes of Yttrium (0) and Gadolinium (0); The X-ray Crystal Structure of the First Authentic Lanthanide (0) Complex, $[\text{Gd}(\eta\text{-C}_6\text{H}_3\text{ }^t\text{Bu}_3)_2]$ ', *J. Chem. Soc. Chem. Commun.*, 1987, 1668.
31. F.G.N. Cloke, M.F. Lappert, G.A. Lawless, and A.C. Swain, 'Synthesis of Bis(η -1,3,5-tri-*t*-butylbenzene) Sandwich Complexes of Titanium, Zirconium, and Hafnium, and of the Hafnium (0) Carbonyl Complex $[\text{Hf}(\eta\text{-C}_6\text{H}_3\text{ }^t\text{Bu}_3)_2\text{CO}]$ ', *J. Chem. Soc. Chem. Commun.*, 1987, 1667.
32. J. Bandy F.G.N. Cloke, H.C. de Lemos, C.K. Prout and J.M. Wallis, 'Oxidation and Reduction Chemistry of Bis(η -arene)niobium Complexes; X-ray Crystal Structure of $\{(\eta\text{-C}_6\text{H}_5\text{Me})_2\text{Nb}(\text{PMe}_3)\}\text{BF}_4$ ', *J. Chem. Soc. Dalton Trans.*, 1988, 1475.
33. J. Bandy, F.G.N. Cloke, G. Cooper, J.P. Day, R.N. Girling, R.G. Graham, J.C. Green, R Grinter, and R N Perutz, 'Decamethylrhencene', *J. Am. Chem. Soc.*, 1988, **110**, 5039.
34. A.G. Avent, F.G.N. Cloke, J.P. Day, E.A. Seddon, K.R. Seddon, and S.M. Smedley, 'Tetrakis(trimethylphosphine)nickel', *J. Organomet. Chem.*, 1988, **341**, 535.
35. F.G.N. Cloke, V.C. Gibson, M.L.H. Green, V.S.B. Mteywa, and K. Prout, 'Cocondensation of Molybdenum Atoms with the Bulky Phosphine 1,2-Bis(di-isopropylphosphino) ethane: the Molecular Structure of $[\text{MoH}_4(\text{Pr}^i_2\text{PCH}_2\text{CH}_2\text{PPr}^i_2)_2]$ ', *J. Chem. Soc. Dalton Trans.*, 1988, 2227.
36. P. Calvert, A. Broad, and F.G.N. Cloke, 'Magnetic Particles in Polymers', *Polym. Prepr. (Am. Chem. Soc. Div. Polym. Chem.)*, 1988, **29**, 246.
37. D. Anderson, F.G.N. Cloke, P.A. Cox, N. Edelstein, J.C. Green, T. Pang, A.A. Sameh, and G. Shalimoff, 'On the Stability and Bonding in Bis(η -arene)lanthanide Complexes', *J. Chem. Soc. Chem. Commun.*, 1989, 53.
38. N.C. Burton, F.G.N. Cloke, P.B. Hitchcock, H.C. de Lemos, and A.A. Sameh, 'Scandium, Yttrium, Uranium, and Thorium Derivatives of the 1,4-Bis(trimethylsilyl)cyclooctatetraene Dianion; the X-ray Crystal Structure of $\{[\text{Sc}(\eta\text{-C}_8\text{H}_6(\text{SiMe}_3)_2)(\mu\text{-C1})]_2\{\mu\text{-THF}\}\}$ ', *J. Chem. Soc. Chem. Commun.*, 1989, 1462.
39. F.G.N. Cloke, P.B. Hitchcock, M. Henderson, and C.L. Raston, 'Synthesis and X-Ray Crystal Structure of Bis(η -N,N'-1,3-di-*t*-butyl-1,3-diaza-but-1,3-diene)gallium', *J. Chem. Soc. Chem. Commun.*, 1989, 1002.

40. F.G.N. Cloke, J.P. Day, A.M. Greenway, K.R. Seddon, A.A. Shimran, and A.C. Swain, 'Mass Spectrometric Studies of some Pentamethylcyclopentadienyl Metal Complexes' *J. Organomet. Chem.*, 1989, **372**, 231.
41. F.G.N. Cloke, K.Courtney, A.A. Sameh, and A.C. Swain, 'Bis(η -arene) Complexes of the Early Transition Metals Derived from the Bulky 1,3,5-tri-*t*-butylbenzene Ligand', *Polyhedron*, 1989, **8**, 1641.
42. F.G.N. Cloke, C.I. Dalby, M.J. Henderson, P.B. Hitchcock, C.H. Kennard, R.N. Lamb and C.L. Raston, 'Paramagnetic Aluminium-1,4-Di-*t*-butyl-1,4-diazabutadiene (dbdab) Complexes Derived from Metal Vapours and/or Metal Hydrides: Crystal Structures of $[Al(dbdab)_2]$ and $[Al(dbdab)\{N(Bu^t)CH_2\}_2]$ ', *J. Chem. Soc. Chem. Commun.*, 1990, 1394.
43. F.G.N. Cloke, P.B. Hitchcock, M.F. Lappert, G.A. Lawless, and B.A. Royo, 'Lipophilic Strontium and Calcium Alkyls, Amides and Phenoxides; X-Ray Structures of the Crystalline Square-planar $[\{trans-Sr(NR'_2)_2(\mu-1,4-dioxane)\}_\infty]$ and Tetrahedral $[CaR_2(1,4-dioxane)_2]$, $R' = SiMe_3$, $R = CH(SiMe_3)_2$ ', *J. Chem. Soc. Chem. Commun.*, 1990, 724,
44. F.G.N. Cloke, J.P. Day, J.C. Green, C.P. Morley, and A.C. Swain, 'Bis(η -pentamethylcyclopentadienyl) Complexes of Molybdenum, Tungsten and Rhenium via Metal Vapour Synthesis', *J. Chem. Soc. Dalton Trans.*, 1991, 789.
45. F.G.N. Cloke, C.I. Dalby, P.J. Daff, and J.C. Green, 'Electronic Structure and Photoelectron Spectroscopy of $[Al(Me_3CNCHCHNCMe_3)_2]$ and $[Ga(Me_3CNCHCHNCMe_3)_2]$ ', *J. Chem. Soc. Dalton Trans.*, 1991, 181.
46. F.G.N. Cloke, C.I. Dalby, P.B. Hitchcock, H. Karamallakis and G.A. Lawless, 'The First Structurally Authenticated Divalent Lanthanide Stannyl Derivative', *J. Chem. Soc. Chem. Commun.*, 1991, 779.
47. F.G.N. Cloke, K. Khan, and R.N. Perutz, ' η -Arene Complexes of Scandium (0) and Scandium (II)', *J. Chem. Soc. Chem. Commun.*, 1991, 1372.
48. F.G.N. Cloke and A. McCamley, 'Butadiene Sandwich Compounds; Synthesis of Bis(η -1,4-di-*tert*-butylbuta-1,3-diene) Complexes of Titanium and Vanadium', *J. Chem. Soc. Chem. Commun.*, 1991, 1470.
49. D.M. Anderson, F.G.N. Cloke, D.J. Duncalf, and T.J. Marks, 'Organo-f-Element Bonding Energetics; Large Magnitude of Metal-Arene Bond Enthalpies in Zerovalent Lanthanide Sandwich Complexes', *J. Am. Chem. Soc.*, 1992, **114**, 9221.
50. F.G.N. Cloke, 'Zero Oxidation State Complexes of Scandium, Yttrium and the Lanthanides', *Chem. Soc. Rev.*, 1993, 17.
51. F.G.N. Cloke, P.B. Hitchcock, and A. McCamley, 'Synthesis and Reactivity of Bis(η -1,4-di-*tert*-butylbuta-1,3-diene)cobalt; the X-ray Crystal Structure of the Anionic Butadiene Sandwich Complex $[\{Co(\eta-C_4H_4^tBu)_2\}\{K(18-crown-6)(thf)\}]$ ', *J. Chem. Soc. Chem. Commun.*, 751, 1993.

52. F.G.N. Cloke, M.L.H. Green, W.D. McGhee, C. Mehnert, D. O'Hare, and A. Sella, 'Synthesis and Structure of the First η^6 -pyrazine Complex $[V(\eta^6\text{-Me}_4\text{pyrazine})_2]$ and Related Studies', *J. Organomet. Chem.*, 1993, **459**, 125.
53. N.C. Burton, F.G.N. Cloke, H. Karamallakis, S.C. Joseph, and A.A. Sameh, 'Trimethylsilyl Derivatives of Cyclooctatetraene', *J. Organomet. Chem.*, 1993, **462**, 39.
54. F.G.N. Cloke, K.R. Flower, P.B. Hitchcock, and J.F. Nixon, 'Synthesis and Molecular Structure of $\text{Tris}(\eta^4\text{-1,3-diphosphacyclobutadiene})\text{molybdenum (0)}$ ', *J. Chem. Soc. Chem. Commun.*, 1994, 489.
55. F.G.N. Cloke, P.B. Hitchcock and S.C.P. Joseph, 'Facile Formation of a Bridging Cyclooctatrieneyne Ligand; Synthesis and Molecular Structure of $[(\eta\text{-C}_8\text{H}_6\{\text{SiMe}_3\}_2)\text{Zr}(\text{CH}\{\text{SiMe}_3\}_2)(\mu\text{-}\eta^8;\eta^2\text{-C}_8\text{H}_4\{\text{SiMe}_3\}_2)\text{Zr}(\text{CH}\{\text{SiMe}_3\}_2)]$ ', *J. Chem. Soc. Chem. Commun.*, 1994, 1207.
56. F.G.N. Cloke, S.A. Hawkes, P.B. Hitchcock, and P. Scott, 'Steric versus Electronic Effects in Actinide Chemistry: Synthesis and Molecular Structure of $[\text{UC1}(\text{-C}_5\text{Me}_4\text{H})_3]$; Restricted Rotation of the Cyclopentadienyl Groups', *Organometallics*, 1994, **13**, 2895
57. R.P. Blunden, F.G.N. Cloke, P.B. Hitchcock and P. Scott, ' $[(\text{C}_3\text{tBu}_3)\text{V}(\text{CO})_4]$: Partial Insertion of Vanadium into the Cyclopropenyl Ring', *Organometallics*, 1994, **13**, 2917.
58. F.G.N. Cloke, J.C. Green, P.B. Hitchcock, N. Kaltsoyannis, P. Mountford and S.C.P. Joseph, 'Synthesis and Molecular Structure of Sandwich Compounds of Ti, Zr and Hf Derived from 1,4-Bis(trimethylsilyl)cyclooctatetraene', *J. Chem. Soc. Dalton Trans.*, 1994, 2867.
59. M.N. Bochkarev, A.A. Trifonov, F.G.N. Cloke, C.I. Dalby, P.T. Matsunaga, R.A. Anderson, H. Schumann, J. Loebel and H. Hemling, 'Synthesis, magnetic susceptibility and X-ray crystal structure of $(\text{tBuNCHCHNtBu})_3\text{Yb}$ ', *J. Organomet. Chem.*, 1995, **486**, 177.
60. F.G.N. Cloke, 'Cyclooctatetraene Complexes of Titanium, Zirconium and Hafnium', *Comprehensive Organometallic Chemistry (2nd. Edn.)*, Pergamon.
61. F.G.N. Cloke, 'Low Oxidation State Complexes of Titanium, Zirconium and Hafnium', *Comprehensive Organometallic Chemistry (2nd. Edn.)*, Pergamon.
62. F.G.N. Cloke, 'Low Oxidation State Complexes of Scandium, Yttrium and the Lanthanide Elements', *Comprehensive Organometallic Chemistry (2nd. Edn.)*, Pergamon.
63. F.G.N. Cloke, P.B. Hitchcock and J.B. Love, 'Zirconium Complexes incorporating the New Tridentate Diamido Ligand $[(\text{SiMe}_3)\text{N}\{\text{CH}_2\text{CH}_2\text{N}(\text{SiMe}_3)\}_2]^{2-}$ ($\text{N}'\text{N}_2$); the X-ray Crystal Structures of $[\text{Zr}(\text{BH}_4)_2(\text{N}'\text{N}_2)]$ and $[\text{ZrCl}\{\text{CH}(\text{SiMe}_3)_2\}(\text{N}'\text{N}_2)]$ ', *J. Chem. Soc. Dalton Trans.*, 1995, 25
64. A.G. Avent, F.G.N. Cloke, K.R. Flower, P.B. Hitchcock, J.F. Nixon, and D.M. Vickers, 'Synthesis and Characterisation of the First Compounds Containing a Stable Phosphirenyl Cation: Crystal and Molecular Structure of $[\text{Ni}(\eta^3\text{-PC}_2\text{tBu}_2)(\eta^5\text{-P}_3\text{C}_2\text{tBu}_2)\text{W}(\text{CO})_5]$ ', *Angew. Chem., Int. Ed. Eng.*, 1994, **33**, 2330.

65. F.G.N. Cloke, K.R. Flower, C. Jones, R.M. Matos and J.F. Nixon, 'Synthesis, Characterisation and Fluxional Behaviour of $[\text{Ni}(\eta^5\text{-P}_2\text{C}_3\text{tBu}_3)(\eta^3\text{-P}_2\text{C}_3\text{tBu}_3)]$ ', *J. Organomet. Chem.*, 1995, **487**, C21.
66. F. G.N. Cloke, C.J. Cardin, P.B. Hitchcock, and S.C. P. Joseph, 'Novel Zirconium Borohydride Complexes: Syntheses and Molecular Structures of $[\text{Zr}(\eta\text{-C}_8\text{H}_6(\text{SiMe}_3)_2)(\eta^3\text{-BH}_4)(\eta^2\text{-BH}_4)]$ and $[(\eta\text{-C}_8\text{H}_6(\text{SiMe}_3)_2)\text{Zr}(\mu\text{-}\eta^6\text{:}\eta^4\text{-C}_8\text{H}_6(\text{SiMe}_3)_2)(\mu\text{-H})\text{Zr}(\eta^3\text{-BH}_4)]$ ', *Organometallics*, 1995, **14**, 3566.
67. N. C. Burton, F.G.N.Cloke, P.B.Hitchcock, G.O. Mepsted, C.Newton and H.Patel, 'Preparation of Bis(η^6 -2-R-Benzo[b]thiophene)-chromium and -Molybdenum (R = H, Me, SiMe₃) Sandwich Complexes via Metal Vapour Synthesis; the X-Ray Crystal Structure of $[\text{Cr}(\eta^6\text{-2-Me-C}_8\text{H}_5\text{S})_2]$ ', *J.Organomet Chem.*, 1995, **494**, 241.
- 68 F.G.N.Cloke, M.G.Gardiner, P.B.Hitchcock and C.L.Raston, '1,4-Bis(trimethylsilyl)but-2-en-1,4-diyl Complexes of Lithium, Magnesium, Aluminium and Gallium', *Organometallics*, 1995, **14**, 1339.
69. F.G.N.Cloke, P.B.Hitchcock, M.F.Lappert, C.McBeath and G.O.Mepsted, 'Synthesis, Effectively by Alkene Metathesis, and Characterisation of a Novel Macrocyclic Vinylsiloxane-based Tris(alkene)Nickel(0) Complex', *J. Chem Soc. Chem.Comm.*, 1995, 87
70. H.C.S.Clark, F.G.N.Cloke, P.B.Hitchcock and J.B.Love, 'Titanium(IV) Complexes Incorporating the Aminodiamide Ligand $[(\text{SiMe}_3)\text{N}\{\text{CH}_2\text{CH}_2\text{N}(\text{SiMe}_3)\}_2]^{2-}$ (L); the X-ray Crystal Structures of $[\text{TiMe}_2(\text{L})]$ and $[\text{TiCl}\{\text{CH}(\text{SiMe}_3)_2\}(\text{L})]$ ', *J.Organomet.Chem.*, 1995, **501**, 333.
- 71 F.G.N.Cloke, M.G.Gardiner, C.L.Raston and S.J.Simpson, 'Bis{1,4-bis(trimethylsilyl)buta-1,3-diene}cobalt: Synthesis and Molecular Structure', *J.Organomet.Chem.*, 1996, **507**, 245.
72. F. G. N. Cloke, K.R. Flower, P. B. Hitchcock, and J. F.Nixon, 'Synthesis, Spectroscopic Properties and Molecular Structure of the Paramagnetic Complex $[(\eta^5\text{-3,5-di-tert-butyl-1,2,4-triphosphacyclopentadienyl})(\eta^5\text{-2,4,5-tri-tert-butyl-1,3-diphosphacyclopentadienyl})\text{vanadium(II)}$ ', *J. Chem Soc. Chem.Comm.*, 1995, 1659.
73. F.G.N. Cloke, T.J. Geldbach, P.B. Hitchcock and J.B. Love, 'Olefin Polymerisation Catalysts of Zirconium Derived from C_2 -Symmetric Diamide Ligands ; the X-ray Crystal Structure of $[\text{Zr}(\eta^1\text{-CH}_2\text{Ph})(\eta^2\text{-CH}_2\text{Ph})\{(C_6H_3)_2\text{-2,2'-(NCH}_2\text{C}_6\text{H}_4\text{Ph-4)}_2\text{-6,6'-Me}_2\}]$ ', *J.Organomet.Chem.*, 1996, **506**, 343.
74. W.A.King, S. Di Bella, G.Lanza, K.Khan, D.J.Duncalf, F.G.N.Cloke, I.L.Fragala, and T.J.Marks, 'Metal-Ligand Bonding and Bonding Energetics in Zerovalent Lanthanide, Group 3, and Group 4 Bisarene Sandwich Complexes. A Combine Solution, Thermochemical and Ab Initio Quantum Chemical Investigation', *J.Am.Chem.Soc.*, 1996. **118**, 627.
75. P. L. Arnold, F. G. N. Cloke, P. B. Hitchcock and J. F. Nixon, 'The First Example of a Scandium(I) Complex: Synthesis and Molecular Structure of a 22-Electron Scandium Tripledecker Incorporating the Novel 1,3,5-Triphosphenzene Ring', *J.Am.Chem.Soc.*, 1996, **118**, 7630.
76. P. L. Arnold, F. G. N. Cloke, K. Khan, and P. Scott, 'Bis(η -heteroarene)titanium Complexes Derived from 2,4,6-tri-tert-butylpyridine and 2,4,6-tri-tert-butylphosphorin: Conformational Preference in Solution and Redox Activity', *J.Organomet.Chem.*, 1997, **528**, 77.

77. P. L. Arnold, F. G. N. Cloke and Peter B. Hitchcock, 'The First Structurally Authenticated Zerovalent Heteroarene Complex of a Lanthanide; Synthesis and X-ray Structure of Bis(2,4,6-*tert*-butylphosphorin)holmium(0)', *J. Chem Soc. Chem. Commun.*, 1997, 481.
78. Q. Abbasali, F. G. N. Cloke, P. B. Hitchcock and S. C. P. Joseph, 'The First Mononuclear η^8 -Coordinated Pentalene Complex: Synthesis and Molecular structure of $[\text{Ta}(\eta^8\text{-}\{1,4\text{-SiMe}_3\}_2\text{C}_8\text{H}_4)\text{Cl}_3]$ ', *J. Chem Soc. Chem. Commun.*, 1997, 1541.
79. F. G. N. Cloke and P. B. Hitchcock, 'A new class of actinide "sandwich" complexes: Synthesis and molecular structure of a thorium bis(η^8 -pentalene) complex', *J. Am. Chem. Soc.*, 1997, **119**, 7899.
80. J. C. Green, R. G. Scurr, P. L. Arnold and F. G. N. Cloke, 'An experimental and theoretical investigation of the electronic structure of Pd and Pt bis(carbene) complexes', *J. Chem Soc. Chem. Commun.*, 1997, 1963.
81. F. G. N. Cloke, A. R. Dias, A. M. Galvao, J. L. F. daSilva, 'Synthesis and characterisation of Ti, Cr, Mo and W bis(flourene) complexes', *J. Organomet. Chem.*, 1997, **548**, 177.
82. P. L. Arnold, F. G. N. Cloke and J. F. Nixon, 'The first stable scandocene: synthesis and characterisation of bis(η -2,4,5-*tert*-butyl-1,3-diphosphacyclopentadienyl)scandium(II)', *J. Chem Soc. Chem. Commun.*, 1998, 797.
83. M. C. Kuchta, F. G. N. Cloke, P. B. Hitchcock, 'A bimetallic bis-pentalene sandwich complex: Synthesis and structure of $\text{Mo}[\text{C}_8\text{H}_4(1,4\text{-Si}^i\text{Pr}_3)_2]_2$ ', *Organometallics*, 1998, **17**, 1934.
84. F. G. N. Cloke, P. B. Hitchcock, P. Hunnabell, J. F. Nixon, L. Nyulaszi, E. Niecke, V. Thelen, 'The first delocalized phosphole containing a planar tricoordinate phosphorus atom: 1-[bis(trimethylsilyl)methyl]-3,5-bis(trimethylsilyl)-1,2,4-triphosphole', *Angew. Chem., Intn. Edn.*, 1998, **37**, 1083.
85. F. G. N. Cloke, J. C. Green, C. N. Jardine, 'Electronic Structure and Photoelectron Spectra of Bispentalene Complexes of Thorium and Uranium', *Organometallics*, 1999, **18**, 1080.
86. F. G. N. Cloke, J. C. Green, C. N. Jardine, M. C. Kuchta, 'Bonding in Bis(pentalene)dimolybdenum: Density Functional Calculations on $\text{Mo}_2(\text{C}_8\text{H}_6)_2$ and Photoelectron Spectroscopy of $\text{Mo}_2(\text{C}_8\text{H}_4(1,4\text{-Si}^i\text{Pr}_3)_2)_2$ ', *Organometallics*, 1999, **18**, 1087.
87. C. Callaghan, G. K. B. Clentsmith, F. G. N. Cloke, P. B. Hitchcock, J. F. Nixon, D. M. Vickers, '(Phosphacyclopentadienyl)indium(I) Derivatives: Synthesis and X-ray Crystal Structure of $[\text{In}(\eta^5\text{-P}_3\text{C}_2\text{But}_2)]$ ', *Organometallics*, 1999, **18**, 793.
88. P. L. Arnold, F. G. N. Cloke, T. Geldbach, P. B. Hitchcock, 'Metal Vapor Synthesis as a Straightforward Route to Group 10 Homoleptic Carbene Complexes', *Organometallics*; 1999, **18**, 3228.
89. H. C. S. Clark, F. G. N. Cloke, J. C. Green, P. B. Hitchcock and J. B. Love, 'Titanium(III) Complexes Incorporating the Aminodiamide Ligand $[(\text{SiMe}_3)\text{N}\{\text{CH}_2\text{CH}_2\text{N}(\text{SiMe}_3)\}_2]^{2-}$ (L). The Synthesis and X-ray Crystal Structure of the First Non-metallocene Titanium(III) Hydride, $[\{\text{TiH}(\text{L})\}_2]$ ', *J. Am. Chem. Soc.*, 1999, **121**, 6843

90. J. S. Parry, F. G. N. Cloke, S. J. Coles, M. B. Hursthouse, 'Synthesis and Characterization of the First Sandwich Complex of Trivalent Thorium: A Structural Comparison with the Uranium Analogue', *J. Am. Chem. Soc.*, 1999, **121**, 6867.
91. F. G. N. Cloke, P. B. Hitchcock, J. F. Nixon, D. J. Wilson, P. Mountford, 'One- and two-step [2 + 2] cycloaddition reactions of group 4 imides with the phosphalkyne Bu^tCP. Crystal and molecular structures of [Zr(η⁵-C₅H₅)₂(PCBu^tNC₆H₃Me₂-2,6)] and [TiCl₂(P₂C₂Bu^tNBu^t)(py)] (py) = pyridine', *J. Chem. Soc., Chem. Commun.*, 1999, 661.
92. F. G. N. Cloke, J. R. Hanks, P. B. Hitchcock, J. F. Nixon, 'Synthesis, structure and reactivity of the hexaphospha-titanocene, bis-(η⁵-di-*tert*-butyl-1,2,4-triphosphacyclopentadienyl)titanium(II)', *J. Chem. Soc., Chem. Commun.*, 1999, 1731.
93. G. Clancy, H. C. S. Clark, F. G. N. Cloke and P. B. Hitchcock, 'Vanadium(III) complexes incorporating the silylamino(disilylamido) ligand [(Me₃Si)N{CH₂CH₂N(SiMe₃)₂}₂]²⁻ [N{N''}₂]²⁻. Synthesis and X-ray crystal structure of the dimeric, non-metallocene vanadium(III) hydride [V(N{N''}₂)₂]₂(μ-H)₂', *J. Chem. Soc., Dalton Trans.*, 1999, 3345.
94. G. K. B. Clentsmith, V. M. E. Bates, P. B. Hitchcock, F. G. N. Cloke, 'Reductive Cleavage of Dinitrogen by a Vanadium Diamidoamine Complex; the Molecular Structures of [V(Me₃SiN{CH₂CH₂NSiMe₃}₂)(μ-N)]₂ and K[V(Me₃SiN{CH₂CH₂NSiMe₃}₂)(μ-N)]₂', *J. Am. Chem. Soc.*, 1999, **121**, 10444.
95. F. G. N. Cloke, P. B. Hitchcock, J. F. Nixon, D. J. Wilson, F. Tabellion, U. Fischbeck, F. Preuss, M. Regitz and L. Nyulaszi, 'Synthetic, structural and theoretical studies on new aromatic 1, 2, 4-azadiphospole ring systems: crystal and molecular structure of P₂C₂Bu^t₂NPh', *J. Chem. Soc., Chem. Commun.*, 1999, 2363.
96. F. G. N. Cloke, P. B. Hitchcock, J. F. Nixon, D. J. Wilson, 'Remarkable Transformation of 2,4,6-tritertiarybutyl-1,3,5-triphosphenazine into the 2,4,5-tritertiarybutyl-1,3-diphosphacyclopentadiene Anion', *Organometallics*, 2000, **19**, 219.
97. P. E. Collier, S. M. Pugh, H. C. S. Clark, J. B. Love, A. J. Blake, F. G. N. Cloke, P. Mountford, 'Titanium and Niobium Imido Complexes Derived from Diaminoamide Ligands', *Inorg. Chem.*, **2000**, **39**, 2001.
98. A. G. Avent, F. G. N. Cloke, M. D. Francis, P. B. Hitchcock, J. F. Nixon, 'Synthesis, crystal and molecular structures of the novel, structurally different, cage compounds P₆C₄Bu^t₄SiI₂ and P₆C₄Bu^t₄GeI₂, resulting from intra-molecular coupling of two 1,2,4-triphospholyl rings', *J. Chem. Soc., Chem. Commun.*, 2000, 879.
99. G. K. B. Clentsmith, F. G. N. Cloke, M. D. Francis, J. C. Green, P. B. Hitchcock, J. F. Nixon, J. L. Suter, D. M. Vickers, 'A study of the molecular and electronic structures of the indium(I) phospholyls [In(η⁵-P₂C₃Bu^t₃)] and [In(η⁵-P₃C₂Bu^t₂)] by X-ray diffraction, photoelectron spectroscopy and density functional theory', *J. Chem. Soc., Dalton Trans.*, 2000, 1715.
100. G. K. B. Clentsmith, V. M. E. Bates, F. G. N. Cloke, J. C. Green and H. D. L. Jenkins, 'Theoretical Investigation of the Pathway for Reductive Cleavage of Dinitrogen by a Vanadium Diamidoamine Complex', *J. Chem. Soc., Chem. Commun.*, 2000, 927.

101. S. M. Pugh, D. J. M. Trösh, D. J. Wilson, A. Bashall, F. G. N. Cloke, L.H. Gade, P. B. Hitchcock, M. McPartlin, J. F. Nixon, and P. Mountford, "Cycloaddition Reactions of the Titanium Imido Complex $[\text{Ti}(\text{N}^i\text{Bu})\{\text{MeC}(2\text{-C}_5\text{H}_4\text{N})(\text{CH}_2\text{NSiMe}_3)_2\}(\text{py})]$ with MeCN and $t\text{BuCP}$ ", *Organometallics*, 2000, **19**, 3205-3210.
102. F. G. N. Cloke, J. C. Green, J.R. Hanks, J. F. Nixon and J. L. Suter, "Photoelectron Spectroscopy and Electronic Structure of the Hexaphospha-titanocene, $[\text{Ti}(\eta^5\text{-P}_3\text{C}_2\text{Bu}^t)_2]$ ", *J.Chem.Soc. Dalton Trans.*, 2000, 3534
103. F. G. N. Cloke, M. C. Kuchta, R. M. Harker, P. B. Hitchcock and J. S. Parry, 'Trialkylsilyl-Substituted Pentalene Ligands', *Organometallics*, 2000, **19**, 5795.
104. F. G. N. Cloke, P. B. Hitchcock, J. F. Nixon, D. J. Wilson, 'First catalytic dihydroamination of a phosphalkyne. Crystal and molecular structure of *trans*- $[\text{PdCl}_2\{\text{P}(\text{Pr}^i\text{NH})_2\text{CH}_2\text{Bu}^t\}_2]$ ', *J. Chem. Soc. Chem. Commun.*, 2000, 2387.
105. F. G. N. Cloke, P. B. Hitchcock, J. F. Nixon, U. Schiemann, R. Streubel and D. J. Wilson, 'Syntheses of complexes containing the novel 1,2,3-azadiphosphole and 1,2,5-azadiphosphole ring systems: crystal and molecular structure of $[\text{Ir}(\eta^5\text{-C}_5\text{Me}_5)(4\text{-}(\text{Bu}^i\text{CPN}^i\text{Bu}^i\text{PC}^i\text{Bu}^i))]$ ', *J. Chem. Soc. Chem. Commun.*, 2000, 1659.
106. S. Caddick, F. G. N. Cloke, G. K. B. Clentsmith, P. B. Hitchcock, D. McKerrecher, L. R. Titcomb and M. R. V. Williams, 'An improved synthesis of bis(1, 3-di-*N-tert*-butylimidazol-2-ylidene)palladium(0) and its use in C-C and C-N coupling reactions', *J. Organomet. Chem.*, 2001, **617**, 635.
107. F. G. N. Cloke, P. B. Hitchcock, J. F. Nixon and D. M. Vickers, 'Metal vapour synthesis of phospho-organometallic compounds via reaction of cobalt atoms with the phospho-alkyne $t\text{BuCP}$: synthesis and structural characterisation of the sandwich compounds $[\text{Co}(\eta^5\text{-P}_3\text{C}_2^i\text{Bu}_2)(\eta^4\text{-P}_2\text{C}_2^i\text{Bu}_2)]$, $[\text{Co}(\eta^5\text{-P}_2\text{C}_3^i\text{Bu}_3)(\eta^4\text{-P}_2\text{C}_2^i\text{Bu}_2)]$ and the protonated tetraphospha-barralene complex $[\text{Co}(\eta^4\text{-P}_4\text{C}_4^i\text{Bu}_4\text{H})(\eta^4\text{-P}_2\text{C}_2^i\text{Bu}_2)]$, the latter as its $[\text{W}(\text{CO})_5]$ adduct', *J. Organomet. Chem.*, 2001, **635**, 201.
108. L. R. Titcomb, S. Caddick, F. G. N. Cloke, D. J. Wilson and D. McKerrecher, 'Unexpected reactivity of two-coordinate palladium carbene complexes; synthetic and catalytic implications', *J.Chem. Soc., Chem. Commun.*, 2001, 1388.
109. R. Bartsch, F. G. N. Cloke, J. C. Green, R. M. Matos, John F. Nixon, R. J. Suffolk, J. L. Suter and D. J. Wilson, 'A Study of the Molecular and Electronic Structure of Iron (II) and Ruthenium (II) 1,3-Di and 1,2,4-Triphospholyl sandwich compounds by Photoelectron Spectroscopy and Density Functional Theory', *J.Chem. Soc., Dalton Trans.*, 2001, 1013
110. F. G. N. Cloke, "Organometallic Pentalene Complexes", *Pure and Appl. Chemistry*, 2001, **73**, 233.
111. F. G. N. Cloke, B. R. Elvidge, P. B. Hitchcock, and V. M. E. Lamarche, "Yttrium iodide and bis(trimethylsilyl)methyl complexes of the chelating diamide $[\text{ArN}(\text{CH}_2)_3\text{NAr}]$ ($\text{Ar} = 2,6\text{-}^i\text{Pr}_2\text{C}_6\text{H}_3$)", *J.Chem. Soc., Dalton Trans.*, 2002, 2413.
112. F. G. N. Cloke and P. B. Hitchcock, "Reversible Binding and Reduction of Dinitrogen by a Uranium(III) Pentalene Complex", *J. Am. Chem. Soc.*, 2002, **124**, 9352.

113. M. Kaupp, T. Kopf, A. Murso, D. Stalke, C. Strohmann, J. R. Hanks, F. G. N. Cloke, P. B. Hitchcock, 'The Trigonal Prismatic Structure of Tris(butadiene)-Molybdenum and Related Complexes Revisited: Diolefin or Metallacyclopentene Coordination?', *Organometallics*, 2002, **21**, 5021.
114. S. Caddick, F. G. N. Cloke, P. B. Hitchcock, J. Leonard, A. K. de K. Lewis, D. McKerrecher and L. R. Titcomb, 'The first example of simple oxidative addition of an aryl chloride to a discrete palladium(N-heterocyclic carbene) amination pre-catalyst', *Organometallics*, 2002, **21**, 4318.
115. D. J. Wilson, A. Sebastian, F. G. N. Cloke, A. G. Avent, and P. B. Hitchcock, 'Synthesis and Molecular Structures of Uranium and Thorium Diamidoamine Complexes', *Inorg. Chim. Acta*, 2003, **345**, 89.
116. G. K. B. Clentsmith, F. G. N. Cloke, J. C. Green, J. R. Hanks, P. B. Hitchcock and J. F. Nixon, 'Stabilisation of low oxidation state early transition metal complexes bearing 1,2,4-triphosphacyclopentadienyl ligands. Structure of $[\text{Sc}\{\text{P}_3\text{C}_2\text{Bu}^t\}_2]$; Sc(II) or mixed oxidation state?', *Angew. Chem., Intn. Edn*, 2003, **42**, 1038.
117. A. K. de K. Lewis, S. Caddick, F. G. N. Cloke, N. C. Billingham, P. B. Hitchcock, and J. Leonard, "Synthetic, Structural and Mechanistic Studies on the Amination of Aromatic Chlorides using Discrete Palladium (N-Heterocyclic -Carbene) Complexes", *J. Am. Chem. Soc.*, 2003, **125**, 10066.
118. A. J. McCarroll, D. A. Sandham, L. R. Titcomb, A. K. de K. Lewis, F. G. N. Cloke, B. P. Davies, A. Perez de Santana, W. Hiller, S. Caddick, 'Studies on nigh-temperature amination reactions using discrete palladium N-heterocyclic carbene (NHC) complexes and in situ palladium/imidazolium salt protocols', *Molecular Diversity*, 2003, **7**, 115.
119. P. L. Arnold, M. A. Petrukhina, V. E. Bochenkov, T. I. Shabatina, V. V. Zagorskii, G. B. Sergeev, and F. G. N. Cloke, "Arene complexation of Sm, Eu, Tm and Yb atoms: a variable temperature spectroscopic investigation", *J. Organomet. Chem.*, 2003, **688**, 49.
120. F. G. N. Cloke, J. C. Green, N. Kaltsoyannis, "Electronic Structure of $[\text{U}_2(\mu^2\text{-N}_2)(\eta^5\text{-C}_5\text{Me}_3)_2(\eta^8\text{-C}_8\text{H}_4(\text{Si}^i\text{Pr}_3)_2)_2]$ ", *Organometallics*, 2004, **23**, 832.
121. A. G. Avent, F. G. N. Cloke, B. R. Elvidge, and P. B. Hitchcock Yttrium Complexes Incorporating the Chelating Diamides $\{\text{ArN}(\text{CH}_2)_x\text{NAr}\}^{2-}$ (Ar = C₆H₃-2,6-ⁱPr₂, x = 2, 3); Olefin Polymerisation Studies and Unusual Reactivity Towards Phenylsilane", *Dalton Trans.*, 2004, 1083.
122. K. Arentsen, S. Caddick, F. G. N. Cloke, A. P. Herring, and P. B. Hitchcock, ""Suzuki-Miyaura cross-coupling of aryl and alkyl halides using palladium/imidazolium salt protocols", *Tet. Lett.*, 2004, **45**, 3327.
123. S. Caddick, F. G. N. Cloke, P. B. Hitchcock and A. K. de K. Lewis, "Unusual Reactivity of a Nickel N-Heterocyclic Carbene Complex: *tert*-Butyl Group Cleavage and Silicone Grease Activation", *Angew. Chem., Intn. Edn.* 2004, **43**, 5824.
124. F. G. N. Cloke, P. B. Hitchcock, J. F. Nixon and D. M. Vickers, "Metal-vapour synthesis of phospho-organometallic compounds: Reaction of nickel atoms with the phospho-alkyne ^tBuCP. Structural characterisation of $[\text{Ni}(\eta^3\text{-PC}_2\text{Bu}^t)(\eta^5\text{-P}_3\text{C}_2\text{Bu}_2)]$, a derivative of the novel, aromatic phosphirenyl cation", *Compte Rendu* 2004, **7**, 931.

125. F. G. N. Cloke, P. B. Hitchcock, M. C. Kuchta and N. A. Morley-Smith. "Mononuclear Tantalum (V) Pentalene Complexes: Synthesis of $[\text{Ta}\{\eta^s\text{-C}_8\text{H}_4(1,4\text{-Si}^i\text{Pr}_3)_2\}\text{X}_3]$ ($\text{X} = \text{CH}_3, \text{Cl}, \text{I}$) and the X-Ray Crystal Structures of $[\text{Ta}\{\eta^s\text{-C}_8\text{H}_4(1,4\text{-Si}^i\text{Pr}_3)_2\}(\text{CH}_3)_3]$, $[\text{Ta}\{\eta^s\text{-C}_8\text{H}_4(1,4\text{-Si}^i\text{Pr}_3)_2\}(\text{CH}_3)_2\text{Cl}]$, $[\text{Ta}\{\eta^s\text{-C}_8\text{H}_4(1,4\text{-Si}^i\text{Pr}_3)_2\}(\text{CH}_3)\text{Cl}_2]$ and $[\text{Ta}\{\eta^s\text{-C}_8\text{H}_4(1,4\text{-Si}^i\text{Pr}_3)_2\}\text{I}_3]$ ", *Polyhedron*, 2004, **23**, 2625.
126. F. G. N. Cloke, "Review of Volume 4 of Comprehensive Coordination Chemistry II", *J. Organomet. Chem.*, 2004, **689**, 2737.
127. F. Studt, V. M. E. Lamarche, G. K. B. Clentsmith, F. G. N. Cloke, and F. Tuczek, "Vibrational and Electronic Structure of the Dinuclear Bis(μ -nitrido) Vanadium(V) Complex $[\text{V}(\text{N}\{\text{N}''\})_2(\mu\text{-N})_2]$: Spectroscopic Properties of the $\text{M}_2(\mu\text{-N})_2$ Diamond Core", *Dalton Trans.*, 2005, **6**, 1052-1057.
128. M. J. Bermingham, F. G. N. Cloke, M. G. Gardiner, P. B. Hitchcock, L. E. Wise, B. F. Yates, "Structural studies of Group 1 metal 4-azapentalenyl complexes", *Dalton Trans.*, 2005, **7**, 1157-1158.
129. K. Arentsen, S. Caddick and F. G. N. Cloke "On the efficiency of two-coordinate palladium(0) N-heterocyclic carbene complexes in amination and Suzuki–Miyaura reactions of aryl chlorides", *Tetrahedron*, 2005, **61**, 9710-9715.
130. F. G. N. Cloke, P. B. Hitchcock, J. F. Nixon, D. J. Wilson, L. Nyulaszi and T. Karpati, '1-Triphenylstannyl-2,4,5-tritertiarybutyl-1,3-diphosphole, $\text{Ph}_3\text{SnP}_2\text{C}_3\text{Bu}^t_3$: Preparation, X-ray crystal structure, theoretical studies and solution fluxional behaviour', *J. Organomet. Chem.*, 2005, **690**, 3983-3989.
131. I.C.Lerma, M.J.Cowley, F.G.N.Cloke, K.Arentsen, J.Scott, S.Pearson, J.Hayes and S.Caddick, "Studies on Pd/imidazolium salt protocols for amination of aryl bromides and iodides using lithium hexamethyl disilazide (LHMDS)", *J. Organomet. Chem.*, 2005, **690**, 5841-5848.
132. O. T. Summerscales, F. G. N. Cloke, P. B. Hitchcock, J. C. Green, and N. Hazari, "Reductive Cyclotrimerization of Carbon Monoxide to the Deltate Dianion by an Organometallic Uranium Complex", *Science*, 2006, **311**, 829.
133. O.T.Summerscales and F.G.N.Cloke, 'The Organometallic Chemistry of Pentalene', *Coordn. Chem. Rev.*, 2006, **250**, 1122.
134. O. T. Summerscales, F. G. N. Cloke, P. B. Hitchcock, J. C. Green, and N. Hazari, "Reductive Cyclotramerization of CO to Squarate by a U(III) Complex; the X-ray Crystal Structure of $[(\text{U}(\eta\text{-C}_8\text{H}_6\{\text{Si}^i\text{Pr}_3\text{-}1,4\}_2)(\eta\text{-C}_5\text{Me}_4\text{H}))_2(\mu\text{-}\eta^2\text{-}\eta^2\text{-C}_4\text{O}_4)]$ ", *J. Am. Chem. Soc.*, 2006, **128**, 9602.
135. F. G. N. Cloke, J. C. Green, N. Hazari, P. B. Hitchcock, P. Mountford, J. F. Nixon and D. J. Wilson, "Reactions of $t\text{BuC}\equiv\text{P}$ with Cyclooctatetraene-supported Titanium Imido Complexes", *Organometallics*, 2006, **25**, 3688.
136. F.G.N.Cloke, M.P.Coles, L.T.Evans and P.B.Hitchcock, "Exploring the chelating potential of 1,3-bis(furyl)-1,1,3,3-tetramethyldisilazides" *J. Organomet. Chem.*, in press.
137. Synthesis of Chromium(0) and Molybdenum(0) Bis (η^6 -arene) Derivatives and Their Mono-electronic Oxidation to $[\text{M}(\eta^6\text{-arene})_2]^+$ Cations

Lucia Calucci,^a F. Geoffrey N. Cloke,^b Ulli Englert,^c Peter B. Hitchcock,^b Guido Pampaloni,^{*,d} Calogero Pinzino,^a Filippo Puccini,^d and Manuel Volpe^{s,b}, *Dalton Trans.*, 2006, 4228

138. F.G.N. Cloke and P.L. Arnold, 'Metal Vapour Synthesis; Principles and Practice', *Comprehensive Organometallic Chemistry III*, R. H. Crabtree and D. M. P. Mingos Eds, Elsevier, Oxford 2006

139. G. Balazs, F. G. N. Cloke, A. Harrison, P. B. Hitchcock, J.C Green and O. T. Summerscales, "Mn₂ bis(pentalene): a mixed-spin bimetallic with two extremes of bonding within the same molecule", *Chem. Commun.*, 2007, 873.

140. O. Esposito, A. K. de K. Lewis, P. B. Hitchcock, S. Caddick, and F. G. N. Cloke, "Synthesis and reactivity of alkyl palladium *N*-heterocyclic carbene complexes" *Chem. Commun*, 2007, 1157.

141. F. G. N. Cloke, J. C. Green, R. M. Harker, A. Harrison, P. B. Hitchcock, and R. Walton, "Cerium(III) and Cerium(IV) Pentalene Sandwich Complexes: Synthetic, Structural, Spectroscopic and Theoretical Studies", *Organometallics.*, 2007, 26, 3111.

142. Pedro M. P. Gois, Alexandre F. Trindade, Luís F. Veiros, Vania André, M. Teresa Duarte, Carlos A. M. Afonso, Stephen Caddick, F. Geoffrey N. Cloke, "Tuning the Reactivity of Dirhodium (II) Complexes with Axial NHC Ligands: The Arylation of Aldehydes", *Angew. Chem., Int. Ed.*, 2007, 46, 5750.

143. L.T.J. Evans, F.G.N. Cloke, M.P. Coles, P.B. Hitchcock, "Titanium and zirconium complexes incorporating 1,3-bis(furyl)-1,1,3,3-tetramethyldisilazides : ligand transfer as a likely deactivation pathway in ethylene polymerization catalysis, deduced from stoichiometric alkylation studies", *Dalton Trans.*, 2007, 2707 – 2717

144. S. Y. Ketkov, H. L. Selzle, and F. Geoffrey N. Cloke, "Direct Detection of Individual Bis(arene) Rotational Isomers in the Gas Phase by Mass-Analyzed Threshold Ionization Spectroscopy", *Angew. Chem. Int. Ed.* 2007, 46, 7072 – 7074

145. C. P. Larch, F. G. N. Cloke. and P. B. Hitchcock, "Activation and reduction of diethyl ether by low valent uranium: formation of the trimetallic, mixed valence uranium oxo species [U(Cp^{RR})(μ-D)₂]₃(μ³-O) (Cp^{RR} = C₅Me₅, C₅Me₄H, C₅H₄SiMe₃)", *Chem. Commun*, 2008, 82 – 84

146. O. T. Summerscales and F. G. N. Cloke, "Activation of Small Molecules by U(III) Cyclooctatetraene and Pentalene Complexes", *Structure & Bonding*, Springer Berlin / Heidelberg, 2008.

147. G.K.B. Clentsmith, F.G.N. Cloke, M.D. Francis, J.R. Hanks, P.B. Hitchcock, J.F. Nixon, "Synthesis and structural characterisation of lanthanide and actinide phosphoorganometallic complexes derived from the 3,5-di-tert-butyl-1, 2, 4 - triphospholyl ring anion, P3C2But 2 -. Crystal and molecular structures of [M(η⁵ P3C2But 2)2(η²-P3C2But 2)] (M = Sc, Y, Tm, and U)", *J. Organomet. Chem.*, 2008, 693, 2287.

148. A. S. Frey, F. G. N. Cloke, P. B. Hitchcock, I. J. Day, J. C. Green, and G. Aitken, "Mechanistic Studies on the Reductive Cyclooligomerisation of CO by U(III) Mixed Sandwich Complexes; the

- Molecular Structure of $[(U(\eta\text{-C}_8\text{H}_6\{\text{Si}^i\text{Pr}_3\text{-1,4}\}_2)(\eta\text{-Cp}^*))_2(\mu\text{-}\eta^1:\eta^1\text{-C}_2\text{O}_2)]$, *J. Am. Chem. Soc.*, 2008, 130, 13816
149. A. Trindade, P.M.Gois, L.Veiros, V. André, M. Duarte, A. Mateus, S. Caddick, F.G.N.Cloke, "Axial Coordination of NHC Ligands on Di-rhodium(II) Complexes: Generation of a New Family of Catalysts", *J. Org. Chem.*, 2008, 73 (11), pp 4076–4086
150. M. J. Cawley, F. G. N. Cloke, R. J. Fitzmaurice, S. E. Pearson, J. S. Scott and S. Caddick, "Development of a practical Buchwald–Hartwig amine arylation protocol using a conveniently prepared (NHC)Pd(R-allyl)Cl catalyst", *Organic & Biomolecular Chemistry*, 2008.
151. O. T. Summerscales, D. R. Johnston, F. G. N. Cloke and P. B. Hitchcock "Samarium(III) Pentalene Sandwich Compounds $[\text{Sm}(\eta^8\text{-C}_8\text{H}_4\{\text{Si}^i\text{Pr}_3\text{-1,4}\}_2)(\text{Cp}^*)]$ and $[\text{Sm}(\eta^8\text{-C}_8\text{H}_4\{\text{Si}^i\text{Pr}_3\text{-1,4}\}_2)(\eta^5\text{-C}_8\text{H}_5\{\text{Si}^i\text{Pr}_3\text{-1,4}\}_2)]$ and a Mixed-Valence Hexasamarium Cluster Derived from Sm(II)-Based Solvent Activation", *Organometallics*, 2008, 27 (21), pp 5612–5618
152. G. Balazs, F. G. N. Cloke, L. Gagliardi, J. C. Green, A. Harrison, P. B. Hitchcock, A. R. M.Shahi, O.T. Summerscales, "A Dichromium(II) Bis(η^8 -pentalene) Double-Sandwich Complex with a Spin Equilibrium: Synthetic, Structural, Magnetic, and Theoretical Studies", *Organometallics*, 2008, 27 (9), pp 2013–2020
153. O. Esposito, P. M. P. Gois, A. K. de K. Lewis, S. Caddick, F. G. N. Cloke and P.B. Hitchcock, "Alkylpalladium N-Heterocyclic Carbene Complexes: Synthesis, Reactivity, and Catalytic Properties", *Organometallics*, 2008, 27 (24), pp 6411–6418
154. F. G. N. Cloke, J. C. Green, P. B. Hitchcock^a, J. F. Nixon, J. L. Suter and D. J. Wilson, "Syntheses, Structural studies, Photoelectron spectra and Density Functional Theory calculations on the "pseudo" tetraphospha-metallocenes $[\text{M}(\eta\text{-P}_2\text{C}_3\text{Bu}^t_3)_2]$, (M= Ni, Pd, Pt)", *Dalton Trans.*, 2009, 1164 - 1171.
155. O. T. Summerscales, A. S. Frey, F.G.N. Cloke and P. B. Hitchcock "Reductive Disproportionation of Carbon Dioxide to Carbonate and Squarate Products Using A Mixed-Sandwich U(III) Complex", *Chem. Commun.*, 2009, 198 – 200
156. O. Esposito, D. E. Roberts, F. G. N. Cloke, S. Caddick, J. C. Green, N. Hazari, and P. B. Hitchcock, "Carbon–Silicon Bond Activation by $[\text{Pd}(\text{I}^t\text{Bu})_2]$ – the Molecular Structures of $[\text{Pd}(\text{Me}_3\text{Si})(\text{I}^t\text{Bu})(\mu\text{-I})_2]$ and $[\text{Pd}(\text{CH}_2\text{I}^t\text{Bu})\text{I}_2]$ ", *Eur. J. Inorg. Chem.* 2009, 1844–1850
157. A. K. de K. Lewis, S. Caddick, O. Esposito, F. G. N. Cloke, and P.B. Hitchcock "Synthetic and Structural Studies on Amine Coordination to Pd-N-Heterocyclic Carbene Complexes", *Dalton Trans.*, 2009, 7094 - 7098.
158. O. T. Summerscales, S. C. Jones, F. G. N. Cloke and P. B. Hitchcock, "Anti-Bimetallic Complexes of Divalent Lanthanides with Silylated Pentalene and Cyclooctatetraenyl Bridging Ligands as Molecular Models for Lanthanide-Based Polymers", *Organometallics*, 2009, 28 (20), pp 5896–5908
159. L. T. J. Evans, M. P. Coles, F. G. N. Cloke and P. B. Hitchcock "Group 3 complexes incorporating (furyl)-substituted disilazide ligands", *Inorg. Chim. Acta*, 363 (2010) 1114–1125
160. J. H. Farnaby, F. G. N. Cloke, M. P. Coles, J. C. Green, G. Aitken, "Tris(pyrazolyl)borate half-sandwich complexes of trivalent uranium incorporating the $[\text{C}_8\text{H}_6\{\text{Si}^i\text{Pr}_3\text{-1,4}\}_2]^{2-}$ and $[\text{C}_8\text{H}_4\{\text{Si}^i\text{Pr}_3\text{-1,4}\}_2]^{2-}$

1,4₂}]²⁻ ligands”, *Compte Rendue Chimie*, 13 (2010) 812–820

161. A. S. P. Frey, F. G. N. Cloke, M. P. Coles, P. B. Hitchcock, “U^{III}-Induced Reductive Co-Coupling of NO and CO to Form U^{IV} Cyanate and Oxo Derivates”, *Chem. Eur. J.*, **2010**, 16, 9305. VIP Status

162. Z.E. Button, F.G.N. Cloke*, N.A. Morley-Smith, M.P. Coles, P.B. Hitchcock
“Mixed-sandwich complexes of zirconium(III) and hafnium(III): Potential analogues of [U(η-C₈H₆{SiⁱPr₃-1,4₂})(η-Cp*)] for cyclooligomerisation of CO”, *J. Organomet. Chem.* **2010**, 695, 2809

163. Ketkov, Sergey; Selzle, Heinrich; Cloke, F. Geoffrey; Markin, Gennady; Schevelev, Yury; Domrachev, Georfy; Schlag, E.W., “ZEKE Spectroscopy Mass-Analyzed Threshold Ionization Spectra of Chromium Sandwich Complexes with Alkylbenzenes, (η⁶-RPh)₂Cr (R=Me, Et, i-Pr, t-Bu)”, *J. Phys. Chem. A* **2010**, 114, 11298–11303

164. A. S. P. Frey, F. G. N. Cloke, P.B. Hitchcock and J. C. Green , “Activation of P₄ by U(η⁵-C₅Me₅)(η⁸-C₈H₆(SiⁱPr₃)₂-1,4)(THF); the X-ray structure of [U(η⁵-C₅Me₅)(η⁸-C₈H₆(SiⁱPr₃)₂-1,4)]₂(μ-η²:η²-P₄)”, *New J. Chem.*, **2011**, Advance Article DOI: 10.1039/C1NJ20163H

165. G.Aitken, N. Hazari, A. S. P. Frey, F. G. N. Cloke, O. Summerscales and J. C. Green, “Reductive coupling of carbon monoxide by U(III) complexes—a computational study” *Dalton Trans.*, **2011**, 40 (42), 11080 – 11088

166. A.S. P. Frey, F. G. N. Cloke,* M. P. Coles, L. Maron, and T. Davin, “Facile Conversion of CO/H₂ into Methoxide at a Uranium(III) Center”, *Angew. Chem. Int. Ed.* **2011**, 50, 6881 –6883.

167. D. McKay, A. Frey, Jennifer C. Green, F. G.N. Cloke, L. Maron, "Computational Insight into the Reductive Oligomerisation of CO at Uranium (III) Mixed-Sandwich Complexes", *Chem. Commun.*, 2012,**48**, 4118-4120

168. O. T. Summerscales, C. J. Rivers, M. J. Taylor, P. B. Hitchcock, J. C. Green, and F. G.N. Cloke "Double-Sandwich Pentalene Complexes M₂(pent[†])₂ (M = Rh, Pd; pent[†] = 1,4-Bis(triisopropylsilyl)pentalene): Synthesis, Structure, and Bonding", *Organometallics*, **2012**, 31, 8613-8617

169. N. Tsoureas, O.T. Summerscales, F.G.N. Cloke, and S.M. Roe "Steric effects in the reductive coupling of CO by mixed-sandwich uranium(III) complexes", *Organometallics*, **2013**, 32, 1353-1362






168. N.Tsoureas, A. F. R. Kilpatrick, O. T. Summerscales, J. F. Nixon, F. G. N. Cloke, and Peter B Hitchcock, "The First Example of the Two-Electron Reduction of a Phosphaalkyne – Synthesis and Structural Characterisation of the Diuranium(IV) Pentalene Complex [(U{η⁵-C₅Me₅}{η⁸-C₈H₄(SiⁱPr₃-1,4)₂})₂(μ-η²:η¹-^tBuCP)]", *Eur. J. Inorg. Chem.*, **2013**, 4085–4089

169. A. F. R. Kilpatrick, J. C. Green, F. G. N. Cloke, and N. Tsoureas, "Bis(pentalene)di-titanium: a bent double-sandwich complex with a very short Ti–Ti bond", *Chem. Commun.*, **2013**, 49, 9434

170. J. A. Higgins, F. G. N. Cloke and S. M. Roe, "Synthesis and CO₂ Insertion Chemistry of Uranium(IV) Mixed-Sandwich Alkyl and Hydride Complexes", *Organometallics*, **2013**, 32, 5244-5252.

Cover Page and Wilkinson Award Editorial dedicated to FGNC

171. A. F. R. Kilpatrick and F. G. N. Cloke "Reductive deoxygenation of CO₂ by a bimetallic titanium bis(pentalene) complex," *Chem. Commun.*, **2014**, 50, 2769 - 2771.
172. C. E. Kefalidis, A. S. P. Frey, S. M. Roe, F. G. N. Cloke and L. Maron, " Formation of cyanates in low-valent uranium chemistry: a synergistic experimental/theoretical study", *Dalton Trans.*, **2014**, DOI : 10.1039/C4DT00618F
173. N.Tsoureas, L. Castro,^b A. F. R. Kilpatrick,^a F. G. N. Cloke, and L. Maron. "Controlling selectivity in the reductive activation of CO₂ by mixed sandwich uranium(III) complexes", *Chem. Sci.*, **2014**, 3777–3788.
174. Z.E. Button, J. A. Higgins, M. Suvova, F. G. N. Cloke, and S. M. Roe, "Mixed Sandwich Thorium Complexes Incorporating Bis(tri-isopropylsilyl)cyclooctatetraenyl and Pentamethylcyclopentadienyl Ligands: Synthesis, Structure and Reactivity", *Dalton Trans.*, **2015**, 44, 2588 - 2596
175. J. A. Higgins Frey, F. G. N. Cloke, and S. M. Roe, "Synthesis and Reactivity of a Mixed-Sandwich Uranium(IV) Primary Amido Complex" *Organometallics*, **2015**, 34, 2102–2105. DOI: 10.1021/om501190x
176. M. B. Ansell, D. E. Roberts, F. G. N. Cloke, O. Navarro, J. Spencer, "Synthesis of an (NHC)₂Pd(SiMe₃)₂ (NHC = N-Heterocyclic Carbene) Complex. Catalytic Z-Selective- Bis-Silylations of Internal Alkynes with Unactivated Disilanes", *Angew. Chem. Intern. Edn.*, **2015**, 54 , 5578. DOI: 10.1002/anie.201501764.
177. R. J. Kahan, F. G. N. Cloke, S. M. Roe and F. Nief, "Activation of Carbon Dioxide by New Mixed Sandwich Uranium(III) Complexes Incorporating Cyclooctatetraenyl and Pyrrolide, Phospholide, or Arsolide Ligands", *New Journal of Chemistry*, 2015, **39**, 7602 - 7607
178. L. T. J. Evans, J. H. Farnaby, M. P. Coles, F. G. N. Cloke and P. B. Hitchcock "Group 4 metal compounds incorporating the amide ligand, [N(SiMe₂{C₆H₄-2-OMe})₂]⁻", *Dalton Trans.*, **2015**, 44, 8950-8958. DOI: 10.1039/C5DT00684H
179. A. F. R. Kilpatrick, J. C. Green, and F. G. N. Cloke, "The reductive activation of CO₂ across a Ti=Ti double bond: synthetic, structural and mechanistic studies", *Organometallics*, **2015**; DOI:10.1021/acs.organomet.5b00315. **Front Cover and ACS Editors Choice Article -free Open Access**
180. A. F. R. Kilpatrick, J. C. Green, and F. G. N. Cloke, "Bonding in complexes of bis-pentalene dititanium, Ti₂(C₈H₆)", *Organometallics*, **2015**; DOI: 10.1021/acs.organomet.5b00363. **Front Cover (in combination with above article) and ACS Editors Choice Article -free Open Access**
181. N.Tsoureas, A. F. R. Kilpatrick, C. J. Inman, and F. G. N. Cloke, "Steric Control of Redox Events in Organo-uranium chemistry: Synthesis and Characterisation of U(V) Oxo and Nitrido complexes", *Chem. Sci.*, 2016, **7**, 4624-4632.
182. A. F. R. Kilpatrick, J. C. Green, and F. G. N. Cloke, "Complexes of iron(II) with silylated pentalene ligands; building blocks for homo- and heterobimetallics", *Polyhedron*, **2016**, [doi:10.1016/j.poly.2016.03.001](https://doi.org/10.1016/j.poly.2016.03.001)

183. F. G. N. Cloke, J. C. Green, A. F.R. Kilpatrick, D.O'Hare, "Bonding in pentalene complexes and their recent applications", *Coord. Chem. Rev.*, **2017**, <http://dx.doi.org/10.1016/j.ccr.2016.12.006>
184. A. F. R. Kilpatrick and F. G. N. Cloke, "A base-free synthetic route to anti-bimetallic lanthanide pentalene complexes", *Dalton Transactions*, **2017**, *46*, 5587 - 5597
185. A. F. R. Kilpatrick, J. C. Green, and F. G. N. Cloke, "Reactivity of a Ditungsten Bis(pentalene) Complex toward Heteroallenes and Main-Group Element–Element Bonds", *Organometallics*, **2017**, DOI:10.1021/acs.organomet.6b00791
- 186 C. J. Inman, A. S. P. Frey, A. F. R. Kilpatrick, F. G. N. Cloke, and S. M. Roe, "Carbon Dioxide Activation by a Uranium(III) Complex Derived from a Chelating Bis(aryloxy) Ligand" *Organometallics*, **2017**, DOI:10.1021acs.organomet.7b00263
187. N. Tsoureas and F. G. N. Cloke, "Mixed sandwich imido complexes of Uranium(V) and Uranium(IV): Synthesis, structure and redox behaviour", *J. Organomet. Chem.*, **2017** doi.org/10.1016/j.jorganchem.2017.08.019
188. N. Tsoureas, J. C. Green, and F. G. N. Cloke, "C-H and H-H Activation at a Di-titanium Centre", *Chemical Communications*, **2017**, **53**, 13117 - 13120
189. M. B. Ansell, S. K. Furfari, F. G. N. Cloke, S. M. Roe, J. Spencer, and O. Navarro, "Comparison of the Reactivity of the Low Buried-Volume Carbene Complexes (ITMe)₂Pd(PhCCPh) and (ITMe)₂Pd(PhNNPh)", *Organometallics*, **2018**, *37*, 1214–1218
190. Single-molecule magnet properties of a monometallic dysprosium pentalene complex† Alexander F. R. Kilpatrick, a Fu-Sheng Guo, b Benjamin M. Day, b Akseli Mansikkamaäki, *c Richard A. Layfield *a and F. Geoffrey N. Cloke *a *Chemical Communications*, **2018**, DOI: 10.1039/C8CC03516D
191. Trimerisation of carbon suboxide at a di-titanium centre to form a pyrone ring system†‡ Nikolaos Tsoureas, Jennifer C. Green, F. Geoffrey N. Cloke, * Horst Puschmann, S. Mark Roe and Graham Tizzard *Chem. Sci.*, **2018**, *9*, 5008
192. "Activation of Carbon Suboxide (C₃O₂) by U(III) to form a Cyclobutane-1,3-dione Ring" N. Tsoureas and FGN Cloke, *Chemical Communications*, **2018**, DOI: 10.1039/C8CC04391D
193. "Bis(pentalene)ditungsten chemistry: C–H, C–X and H–H bond activation" N. Tsoureas, J. C. Green* and F. G. N. Cloke*, *Dalton Transactions*, **2018**, **47**, 14531 - 14539