

JOSEPH L. TEMPLETON

Venable Professor of Chemistry
Office: (919) 966-4575
joetemp@unc.edu

Department of Chemistry, CB 3290
University of North Carolina
Chapel Hill, N.C. 27599

EDUCATION

B.S. California Institute of Technology - 1971
Ph.D. Iowa State University - 1975

PROFESSIONAL EXPERIENCE

1. NSF on-site Program Officer for Inorganic Chemistry (Rotator) (2004-2005)
Director of Development, Department of Chemistry (2000-2004, 2005-present)
Resident Director, UNC Honors Program in London (1999)
Senior Associate Dean for Sciences, College of Arts and Sciences (1997-1998)
Acting Associate Dean, College of Arts and Sciences (1995-1997)
Chairman, Department of Chemistry (1990-1995)
Venable Professor of Chemistry (2002-present)
Professor of Chemistry (1986-2002)
Associate Professor of Chemistry (1981-1986)
Assistant Professor of Chemistry (1976-1981)
Institution: University of North Carolina, Chapel Hill, North Carolina
2. Postdoctoral Research as a NATO Fellow
Research Director: Professor G. Wilkinson
Institution: Imperial College of Science and Technology (1975-1976)

PROFESSIONAL RECOGNITION

Chair Organometallic Gordon Conference - 2004
F. P. Venable Professor of Chemistry - 2002
NSF Creativity Extension Award - 1995
Duncan MacRae, Jr. Professor of Chemistry (1993-1996)
Visiting Professor, University of Konstanz -1994
Australian National University Visiting Fellow - 1990
AWU - Los Alamos Faculty Participant - 1986
R. J. Reynolds Leave - Oxford University - 1985
ASEE - Navy Visiting Faculty Fellow - 1982

PERSONNEL

Graduate Students

Andrew Garrett (Fourth Year)
Margaret MacDonald (Fourth Year)
Andy Jackson (Third Year)

Anne Saunders (Third Year)
Ned West (Third Year)
Chetna Khosla (Second Year)

PUBLICATIONS

J. L. Templeton

1. "Species with Strong Heteronuclear Metal-Metal Bonds. Dimers with Tungsten-Molybdenum Bonds of Order 3.5 and 4.0", V. Katovic, J. L. Templeton, R.J. Hoxmeier and R. E. McCarley, J. Am. Chem. Soc., 97, 5300-5302 (1975).
2. "Some Unusual Dimeric and Cluster Species of the Group VI Transition Metals", R. E. McCarley, J. L. Templeton, T. J. Colburn, V. Katovic and R. J. Hoxmeier, Adv. Chem. Series, 150, 318-334 (1976).
3. "A Novel Heterometallic Molecule Consisting of a New Triangular Tungsten Cluster Bridged by Oxochromium Carboxylate and Alkoxy Ligands", V. Katovic, J. L. Templeton and R. E. McCarley, J. Am. Chem. Soc., 98, 5705-5706 (1976).
4. "Synthesis and Structure of Bis(tetrapropylammonium)Tribromohexabromoditungstate(2-). A Novel Odd-Electron Dimeric Anion Showing Evidence of Jahn-Teller Distortion", J. L. Templeton, R. A. Jacobson and R. E. McCarley, Inorg. Chem., 16, 3320-3328 (1977).
5. "Synthesis and Characterization of New Metal-Metal Bonded Species. 2. Crystal and Molecular Structure of Dimeric Niobium(III) and Tantalum(III) Bromide Adducts with Tetrahydrothiophene. Direct Stereochemical Evidence of Bonding Electron Density in Confacial Bioctahedra with Metal-Metal Bonds", J. L. Templeton, W. C. Dorman, J. C. Clardy and R. E. McCarley, Inorg. Chem., 17, 1263-1267 (1978).
6. "Synthesis and Characterization of New Metal-Metal Bonded Species. III. Dimeric Tantalum(III) Halide Adducts with Tetrahydrothiophene. Characterization of Structure-Bonding Features through NQR Spectroscopy", J. L. Templeton and R. E. McCarley, Inorg. Chem., 17, 2293-2299 (1978).
7. Stereochemical Aspects of Expanded Coordination Spheres: Seven Coordinate Tungsten Complexes", J. L. Templeton, Adv. Chem. Ser., 173, 263-268 (1979).
8. "Hexakispyridineruthenium(II) Tetrafluoroborate. Molecular Structure and Spectroscopic Properties", J. L. Templeton, J. Am. Chem. Soc., 101, 4906-4917 (1979).
9. "Metal-Metal Bonds of Order Four", J. L. Templeton, Prog. Inorg. Chem., 26, 211-300 (1979).
10. "Nuclear Magnetic Resonance Studies of Acetylenes as Four-Electron Donor Ligands", B. C. Ward and J. L. Templeton, J. Am. Chem. Soc., 102, 1532-1538 (1980).
11. "Carbon-13 Chemical Shifts of Alkyne Ligands as Variable Electron Donors in Monomeric Molybdenum and Tungsten Complexes", J. L. Templeton and B. C. Ward, J. Am. Chem. Soc., 102, 3288-3290 (1980).

12. Assignment of the Elusive Metal Ligand T_{1u} Stretching Vibration in Hexammineruthenium(II) Salts", A. Deak and J. L. Templeton, Inorg. Chem., 19, 1075-1077 (1980).
13. "Seven Coordinate Tricarbonylbis(N,N-dialkyldithiocarbamato)tungsten(II) Complexes. Molecular Structure and Dynamic Properties", B. C. Ward and J. L. Templeton, Inorg. Chem., 19, 1753-1759 (1980).
14. "Molecular Structure of $\text{Mo}(\text{CO})_2(\text{S}_2\text{CN}(\text{Pr}^i)_2)_2$. A Trigonal Prismatic Electron Deficient Molybdenum(II) Carbonyl Derivative", J. L. Templeton and B. C. Ward, J. Am. Chem. Soc., 102, 6568-6569 (1980).
15. "Oxotungsten(IV) Acetylene Complexes: Synthesis via Intermetal Atom Transfer and Nuclear Magnetic Resonance Studies", J. L. Templeton, B. C. Ward, G. J. -J. Chen, J. W. McDonald and W. E. Newton, Inorg. Chem., 20, 1248-1253 (1981).
16. "Seven Coordinate Dicarboxyltriphenylphosphinebis(N,N-dialkyldithiocarbamato)tungsten(II). Molecular Structure and Dynamic Properties", B. C. Ward and J. L. Templeton, J. Am. Chem. Soc., 103, 3743-3753 (1981).
17. "The Role of Ligand π -Donation in Electron Deficient Organometallic Group VI Complexes", J. L. Templeton, P. B. Winston and B. C. Ward, J. Am. Chem. Soc., 103, 7713-7721 (1981).
18. "Structural and Theoretical Evidence for Participation of the Second Acetylene π Orbital in Transition Metal Alkyne Complexes", K. Tatsumi, R. Hoffmann and J. L. Templeton, Inorg. Chem., 21, 466-468 (1982).
19. "Synthesis, Spectral Properties, and Dynamic Solution Behavior of Bis(alkyne)bis(dithiocarbamato)molybdenum(II) Complexes", R. S. Herrick and J. L. Templeton, Organometallics, 1, 842 (1982).
20. "Frontier Orbital Control of Ligand Addition of $\text{Mo}(\text{CO})_2(\text{S}_2\text{CNR}_2)_2$ ", J. L. Templeton and S. J. Nieter-Burgmayer, Organometallics, 1, 1007-1008 (1982).
21. "Synthesis, Structure and Spectral Properties of $\text{Mo}(\text{CO})(\text{RC}\equiv\text{CR}')\text{L}_2\text{X}_2$ Complexes", P. B. Winston, S. J. Nieter-Burgmayer and J. L. Templeton, Organometallics, 2, 167-169 (1983).
22. "A Theoretical Prescription for Reductive Coupling of CO and CNR Ligands", R. Hoffmann, C. N. Wilker, S. J. Lippard, J. L. Templeton and D. C. Brower, J. Am. Chem. Soc., 105, 1146-1147 (1983).
23. "Synthesis and Structure of a Molybdenum Dimer Illustrating $d\pi$ Orbital Participation in π -Donation, π -Acceptance and Metal-Metal Bond Formation", R. S. Herrick, S. J. Nieter-Burgmayer and J. L. Templeton, J. Am. Chem. Soc., 105, 2599-2605 (1983).

24. "Ligand Substitution Kinetics of Mo(CO)(RC≡CR')(S₂CNMe₂)₂ Complexes", R. S. Herrick, D. M. Leazer and J. L. Templeton, Organometallics, 2, 834-840 (1983).
25. "Chemical, Spectral and Structural Features of Mo(RC≡CR')₂(S₂CNC₄H₉)₂ Complexes Containing the Electronically Unique Pyrroledithiocarbamate Ligand", R. S. Herrick, S. J. Nieter-Burgmayer and J. L. Templeton, Inorg. Chem., 22, 3275-3281 (1983).
26. "Tungsten Vinylidenes and Carbynes from Terminal Alkyne Reagents", K. R. Birdwhistell, S.J. Nieter-Burgmayer and J. L. Templeton, J. Am. Chem. Soc., 105, 7789-7790 (1983).
27. "Electronic Spectroscopy and Electrochemistry of Alkyne Dithiocarbamate Complexes of Molybdenum(II) and Tungsten(II)", J. L. Templeton, R. S. Herrick and J. R. Morrow, Organometallics, 3, 535-541 (1984).
28. "Reactions of Cyclopropene with Mo(II) and W(II) Carbonyl Complexes: Formation of Coordinated Vinyl Ketene", J. L. Templeton, R. S. Herrick, C. A. Rusik, C. E. McKenna, J. W. McDonald and W. E. Newton, Inorg. Chem., 24, 1383-1388 (1985).
29. "Synthesis, Structure and Dynamic Properties of W(S)(PhC≡CPh)(S₂CNEt₂)₂, a Sulfidotungsten (IV) Alkyne Complex", J. R. Morrow, T. L. Tonker and J. L. Templeton, Organometallics, 4, 745-751 (1985).
30. "Synthesis and Structure of a Seven Coordinate Molybdenum Carbonyl Fluoride Derivative: [Et₄N][Mo(CO)₂(S₂CNEt₂)₂F]", S. J. N. Burgmayer and J. L. Templeton, Inorg. Chem., 24, 2224-2230 (1985).
31. "Unusual Ligand Formation in CS₂ Chemistry: Synthesis, Structure and Reactivity of Mo₂(S₂CNR₂)₃(μ²-CSC(S)S)(μ²-S₃C₂NR₂)", S. J. N. Burgmayer and J. L. Templeton, Inorg. Chem., 24, 3939-3946 (1985).
32. "Transformation of a Tungsten(0) Alkyne to a Tungsten(II) Alkyne via Vinylidene, Carbyne, and Ketanyl Ligands", K. R. Birdwhistell, T. L. Tonker and J. L. Templeton, J. Am. Chem. Soc., 107, 4474-4483 (1985).
33. "Protonation of Molybdenum(II) and Tungsten(II) Bisalkyne Complexes: Formation of η⁴-C₄R₄H Ligands", J. R. Morrow, T. L. Tonker and J. L. Templeton, J. Am. Chem. Soc., 107, 5004-5005 (1985).
34. "Synthesis and Structure of a Chelated Manganese Carbene-Alkene Complex", M. J. McGeary, T. L. Tonker and J. L. Templeton, Organometallics, 4, 2102-2106 (1985).
35. "Mixed Olefin Alkyne Complexes of Molybdenum(II) and Tungsten(II) Dithiocarbamates", J. R. Morrow, T. L. Tonker and J. L. Templeton, J. Am. Chem. Soc., 107, 6956-6963 (1985).

36. "Reactions at the β -Carbon of Anionic Tungsten Acetylide Complexes: Ion Pairing, Vinylidene Formation and CO₂ Binding", K. R. Birdwhistell and J. L. Templeton, Organometallics, **4**, 2062-2064 (1985).
37. " η^2 -Vinyl and η^2 -Ketenyl Ligands as Analogs of 4-Electron Alkyne Ligands", D. C. Brower, K. R. Birdwhistell and J. L. Templeton, Organometallics, **5**, 94-98 (1986).
38. "Molybdenum(II) and Tungsten(II) M(CO)(RC \equiv CR')L₂X₂ Alkyne Complexes", P. B. Winston, S. J. N. Burgmayer and J. L. Templeton, Organometallics, **5**, 1707-1715 (1986).
39. "Substituted Cyclopentadienyl Dithiolene Tungsten (IV) Products from Alkyne Addition to Tungsten (II) Dithiocarbamate Reagents", J. R. Morrow, J. L. Templeton, J. A. Bandy, C. Bannister and C. K. Prout, Inorg. Chem., **25**, 1923-1925 (1986).
40. "Syntheses, Spectral Properties and Substitution Reactions of M(CO)₃(S₂CNC₄H₄)₂ (M = Mo, W) Complexes Containing the Electronically Unique Pyrrole-N-carbodithioate Ligand", R. S. Herrick and J. L. Templeton, Inorg. Chem., **25**, 1270-1276 (1986).
41. Conversion of a Dithiocarbamate Ligand to a Thiocarboxamido Ligand to Form W(S)(PhC₂Ph)(S₂CNEt₂)(SCNEt₂)", D. C. Brower, T. L. Tonker, J. R. Morrow, D. S. Rivers and J. L. Templeton, Organometallics, **5**, 1093-1097 (1986).
42. "Stereospecific Alkylations of Molybdenum(II) Enolates from η^2 -Acyl Complexes", C. A. Rusik, T. L. Tonker and J. L. Templeton, J. Am. Chem. Soc., **108**, 4652-4653 (1986).
43. "Bidentate and Unidentate Formate Ligands in Mo(CO)₂(PEt₃)₂(O₂CH)₂", D. C. Brower, P. B. Winston, T. L. Tonker and J. L. Templeton, Inorg. Chem., **25**, 2883-2888 (1986).
44. "Alkyne Ligands as Two-Electron Donors in Octahedral d⁶ Tungsten(0) Complexes: fac-W(CO)₃(dppe)(η^2 -HCCR) and W(CO)₂(dppe)(DMAC)₂", K. R. Birdwhistell, T. L. Tonker and J. L. Templeton, J. Am. Chem. Soc., **109**, 1401-1407 (1987).
45. "Preparation of Siloxycarbenemanganese Complexes Including a Chelated Siloxycarbene-Alkene Complex", M. J. McGeary and J. L. Templeton, J. Organomet. Chem., **323**, 199-205 (1987).
46. "Cationic Phosphonium Carbyne and Bis(phosphonium) Carbene Tungsten Complexes: [Tp'(OC)₂WC(PMe₃)_n][PF₆] (n = 1,2)", A. E. Bruce, A. S. Gamble, T. L. Tonker and J. L. Templeton, Organometallics, **6**, 1350-1352 (1987).
47. "Metal-d π -Ligand π Conflicts in Octahedral Oxo, Carbyne, and Carbonyl Complexes", D. C. Brower, J. L. Templeton and D. M. P. Mingos, J. Am. Chem. Soc., **109**, 5203-5208 (1987).
48. "Tantalum(I) Alkyne Complexes: Ta(CO)₂(η^2 -RC \equiv CR)(I)L₂", M. J. McGeary, A. S. Gamble and J. L. Templeton, Organometallics, **7**, 271-279 (1988).

49. "Formation of a Tungsten Vinylvinylidene Complex from Addition of Alkyne to (dppe)(OC)₃W=C=CHPh", A. S. Gamble, K. R. Birdwhistell and J. L. Templeton, Organometallics, **7**, 1046-1050 (1988).
50. "Four-Electron Alkyne Ligands in Molybdenum(II) and Tungsten(II) Complexes", J. L. Templeton, Adv. Organomet. Chem., **29**, 1-100 (1989).
51. "Reactions η^2 -Acyl Ligands in Tp'(CO)₂Mo[η^2 -C(O)R] Complexes to Form Complexed Enolates and Enones, Allyls, and Alkyne Insertion Products", C. A. Rusik, M. A. Collins, A. S. Gamble, T. L. Tonker and J. L. Templeton, J. Am. Chem. Soc., **111**, 2550-2560 (1989).
52. "Stepwise Reduction of Acetonitrile in [Tp'(CO)(PhC \equiv CMe)W(NCCH₃)] [BF₄]", S. G. Feng and J. L. Templeton, J. Am. Chem. Soc., **111**, 6477-6478 (1989).
53. "Unsaturated Carbene Ligands: (η^2 -Vinyl)-, (Vinylcarbene)-, and (η^4 -Butadienyl)tungsten Dithiocarbamate Complexes", S. G. Feng, A. S. Gamble and J. L. Templeton, Organometallics, **8**, 2024-2031 (1989).
54. "Molybdenum Carbyne, Vinylidene, and Ketenyl Complexes with Hydrotris(3,5-dimethylpyrazolyl)borate Ligands", D. C. Brower, M. Stoll and J. L. Templeton, Organometallics, **8**, 2786-2792 (1989).
55. "Reactions of [Cp(CO)₂Fe=CHAr]⁺ (Ar = p-C₆H₄OMe) with O=N-Ar' (Ar' = C₆H₅, p-C₆H₄NMe)₂ and PhN=NPh", W.-J. Peng, A. S. Gamble, J. L. Templeton and M. S. Brookhart, Inorg. Chem., **29**, 463-467 (1990).
56. "Electrophilic Addition Reactions of Tungsten η^2 -Allenyl Complexes Formed by Deprotonation of Four-Electron Alkyne Ligands", A. S. Gamble, K. R. Birdwhistell and J. L. Templeton, J. Am. Chem. Soc., **112**, 1818-1824 (1990).
57. "Tungsten Nitrene Complexes Tp'W(CO)₂(NHR)", Li Luan, Peter S. White, M. Brookhart and J. L. Templeton, J. Am. Chem. Soc., **112**, 8190-8192 (1990).
58. "Reduction of Phenylacetylene in [Tp'(CO)₂W(PhC \equiv CH)] [BF₄] to Form a β -Agostic Methylphenylcarbene Ligand", S. G. Feng, P. S. White and J. L. Templeton, J. Am. Chem. Soc., **112**, 8192-8193 (1990).
59. "Isocyanide Ligands in Tp(CO)₂IMo(CNR) Complexes as Precursors to Aminocarbyne, η^2 -Iminoacyl, and η^2 -Vinyl Ligands", A. S. Gamble, P. S. White and J. L. Templeton, Organometallics, **10**, 693-702 (1991).
60. "An Agostic μ -Methyne Molybdenum-Iron Complex from Protonation of a μ -Carbide Precursor, Tp'(CO)₂Mo \equiv CFe(CO)₂Cp", M. Etienne, P. S. White and J. L. Templeton, J. Am. Chem. Soc., **113**, 2324-2325 (1991).

61. "Synthesis of Group VI Aryloxy-carbyne and Phosphonium Carbyne Complexes from Chlorocarbyne Precursors", G. M. Jamison, P. S. White and J. L. Templeton, Organometallics, 10, 1954-1959 (1991).
62. "Mononuclear *cis*-(Carbonyl)oxotungsten(IV) Complexes of Hydrotris(3,5-dimethyl-1-pyrazolyl)borate", S. G. Feng, L. Luan, P. S. White, M. S. Brookhart, C. G. Young and J. L. Templeton, Inorg. Chem., 30, 2582-2584 (1991).
63. "Monomeric Group VI (M = Mo, W) Methylidyne Complexes and Their Dimerization to Nonclassical Vinylidene-Bridge Tp'(CO)₂M(μ -CCH₂)M(CO)₂Tp' Products", G. M. Jamison, A. E. Bruce, P. S. White and J. L. Templeton, J. Am. Chem. Soc., 113, 5057-5059 (1991).
64. "Unusual ¹H NMR Properties of Tris(pyrazolyl)borate Tungsten(II) Hydride Complexes", A. J. M. Caffyn, S. G. Feng, A. Dierdorf, A. S. Gamble, P. A. Eldredge, M. R. Vossen, P. S. White and J. L. Templeton, Organometallics, 10, 2842-2848 (1991).
65. "Synthesis and Characterization of Chiral Hydridotris(3,5-dimethylpyrazolyl)borate Tungsten(II) Alkyne Complexes", S. G. Feng, C. C. Philipp, A. S. Gamble, P. S. White and J. L. Templeton, Organometallics, 10, 3504-3512 (1991).
66. "Vertical Four-Electron-Donor Alkyne Ligands in(Tris(3,5-dimethylpyrazolyl)borato)niobium Complexes", M. Etienne, P. S. White and J. L. Templeton, Organometallics, 10, 3801-3803 (1991).
67. "Stereoselective Stepwise Reduction of Coordinated Acetonitrile with Chiral Tp'(CO)(RC \equiv CR)W⁺ Templates", S. G. Feng and J. L. Templeton, Organometallics, 11, 1295-1303 (1992).
68. "Saturated and Unsaturated Hydridotris(3,5-dimethylpyrazolyl)borate Tungsten(II) Carbene Complexes", S. G. Feng, P. S. White and J. L. Templeton, J. Am. Chem. Soc., 114, 2951-2960, (1992).
69. "Intramolecular Hydride Migration from Formyl to Carbonyl and Nitrene Ligands", L. Luan, M. Brookhart and J. L. Templeton, Organometallics, 11, 1433-1435 (1992).
70. "Diastereoselective Reactions of Tungsten η^2 -Propargyl Complexes with Alkyl Halides and Aldehydes", M. A. Collins, S. G. Feng, P. S. White and J. L. Templeton, J. Am. Chem. Soc., 114, 3771-3775 (1992).
71. " η^2 -Vinyl and η^3 -Allyl Tungsten(II) Complexes Containing a Hydridotris(3,5-dimethylpyrazolyl)borate Ligand", S. G. Feng and J. L. Templeton, Organometallics, 11, 2168-2175 (1992).

72. "Seven-coordinate Hydridotris(3,5-dimethylpyrazolyl)borate Tricarbonyl Tungsten(II) Phosphine Complexes with a Capped Octahedral Geometry", C. C. Philipp, P. S. White and J. L. Templeton, Inorg. Chem., 31, 3825 (1992).
73. "Simple Low Valent Amido, Imido and Nitrido Complexes of Tungsten", Pedro J. Pérez, Li Luan, Peter S. White, M. Brookhart and J. L. Templeton, J. Am. Chem. Soc., 114, 7928 (1992).
74. "Optical Resolution and Reactivity of Chiral Tungsten Alkyne Complexes", J. L. Caldarelli, P. S. White and J. L. Templeton, J. Am. Chem. Soc., 114, 10097 (1992).
75. "¹⁸³W-¹H Long-Range Shift Correlation and ¹H NOESY Studies on Tungsten (II) Hydrido-Pyrazolylborate Complexes," J. L. Templeton, C. C. Philipp, P. S. Pregosin, and H. Ruegger, Mag. Reson. Chem., 31, 58-62 (1993).
76. "A Copper(I) Catalyst for Carbene and Nitrene Transfer to Form Cyclopropanes, Cyclopropenes, and Azridines," P. J. Pe'rez, M. Brookhart, and J. L. Templeton Organometallics, 12, 261-262 (1993).
77. "Amine Addition to Coordinated Nitriles in Tungsten(II) Alkyne Complexes", S. G. Feng, P. S. White and J. L. Templeton Organometallics, 12, 1765-74 (1993).
78. "Acyl, Carbene, Vinyl, and Azavinylidene Ligands in Tungsten(II) Hydridotris (3,5-dimethylpyrazolyl)borate Alkyne Complexes", S. G. Feng, P. S. White, and J. L. Templeton, Organometallics, 12, 2131-2139 (1993).
79. "Some Chemistry of Tp'(CO)₂WC≡H, A Simple Terminal Carbyne", G. M. Jamison, P. S. White, D. L. Harris, and J. L. Templeton, in Transition Metal Carbyne Complexes, F. R. Kreissl, Ed.; Kluwer Academic Publishers, Netherlands, 201-218, (1993).
80. "Carbon Monoxide Insertion and Coupling Reactions of Niobium Alkyne Complexes", M. Etienne, P. S. White and J. L. Templeton, Organometallics, 12 4010-4015 (1993).
81. "Diastereoselective Alkyne Alkylation Reactions in Chiral-at-Metal Niobium Complexes", M. Etienne, P. Zeline, J. L. Templeton and P. S. White, New J. Chem., 17, 515-517 (1993).
82. "Dicarbonyltungsten(II) Thiolate Complexes of Hydridotris (3,5-dimethylpyrazolyl) borate", C.C. Philipp, C. G. Young, P. S. White and J. L. Templeton, Inorg. Chem. 32, 5437-5443 (1993).
83. "Synthesis and Reactivity of Low-Valent Amido, Imido, Azavinylidene, and Nitrido Complexes of Tungsten", K.R. Powell, P.J. Perez, L. Luan, S.G. Feng, P.S. White, M. Brookhart and J.L. Templeton, Organometallics, 13, 1851-1864 (1994).
84. "Amine-Induced Coupling of Carbonyl and Nitrile Ligands in Tungsten(II) Complexes", S.G. Feng, P.S. White, and J. L. Templeton, Organometallics, 13, 1214-1223 (1994).

85. "Chiral Tungsten(II) η^1 -Ketone and η^1 -Aldehyde Complexes", J. L. Caldarelli, L.E. Wagner, P. S. White, and J. L. Templeton, J. Am.Chem.Soc., **116**, 2878-2888 (1994).
86. "Solution and Solid-State Structural Chemistry of Tungsten Pyrazolylborate π -Allyl Complexes: 2D ^{183}W and ^1H NOESY NMR Studies", P.S. Pregosin, A. Macchioni, J. L. Templeton, P. S. White, and S. G. Feng, Mag. Res. Chem., **32**, 415-421 (1994).
87. "Geometric Features of d^4 Metal Dicarbonyl Monomers with cis- π -Donor Ligands", J. L. Templeton, J. L. Caldarelli, S. G. Feng, C. C. Phillipp, M. B. Wells, B. E. Woodworth, and P. S. White, J. Organomet. Chem., **478**, 103-110 (1994).
88. "Conversion of Nitriles to Nitrenes via Azavinylidenes in Low-Valent Tungsten Carbonyl Complexes", S. G. Feng, P. S. White, and J. L. Templeton, J. Am.Chem.Soc., **116**, 8613-8620 (1994).
89. "Nitrene Transfer to Trimethylphosphine from Cationic Tungsten Tosylnitrene Complexes $[\text{Tp}'(\text{CO})_2\text{W}(\text{NTs})][\text{X}]$ ", P. J. Perez, P. S. White, M. S. Brookhart, and J. L. Templeton, Inorg. Chem., **33**, 6050-6056 (1994).
90. "Reactions of Vinyl Amido Ligands in $\text{Tp}'(\text{CO})_2\text{W}[\text{N}(\text{R}')\text{CH}=\text{CHR}]$ Complexes Prepared from Addition of Primary Amines to Coordinated Alkynes", S. G. Feng, P. S. White, and J. L. Templeton, Organometallics, **14**, 5184-5192 (1995).
91. "Two-electron Reductive Coupling of Acetonitrile to Form a (μ -Butane-2,3-diimino(2-)-N:N')ditungsten Complex", C. G. Young, C. C. Philipp, P. S. White, and J. L. Templeton, Inorg. Chem., **34**, 6412-6414 (1995).
92. "Hydridotris(3,5-dimethylpyrazolyl)borate Tungsten Alkyne Complexes for Nonlinear Optics", S. A. O'Reilly, P. S. White, and J. L. Templeton, Chem. Mater., **8**, 93-99(1996).
93. "Hydrottris(3,5-dimethylpyrazolyl)borato Niobium Alkyne Complexes: Dichloro and Dialkyl Derivatives, and Formation of a Butadienyl Complex with an α -Agostic Interaction", M. Etienne, F. Biasotto, R. Mathieu, and J. L. Templeton, Organometallics, **15**, 1106-1112 (1996).
94. "What's Wrong with Chemical Education: Style or Content?", The Chemist, **73** (2), 10-12, (1996).
95. "Solid-State Structure of $\text{Tp}'\text{PtMe}_2\text{H}$, a Dimethylhydrido Platinum(IV) Complex", S. A. O'Reilly, P. S. White, and J. L. Templeton, J. Am.Chem.Soc., **118**, 5684-5689 (1996).
96. "Stepwise Oxidation of Benzylamine Coordinated to the $[\text{Tp}'\text{W}(\text{CO})(\text{PhC}\equiv\text{CMe})]^+$ Moiety", T. Brent Gunnoe, P. S. White, and J. L. Templeton, J. Am.Chem.Soc., **118**, 6916-6923 (1996).

97. "Dinuclear Molybdenum and Tungsten C₃ Bridged Complexes with Metal-Carbon Multiple Bonds", B. E. Woodworth and J. L. Templeton, J. Am.Chem.Soc., 118, 7418-7419 (1996).
98. "Chemistry Surrounding Chiral Tungsten(II) η^1 -Imine Complexes", L. W. Francisco, P. S. White, and J. L. Templeton, Organometallics, 15, 5127-5136 (1996).
99. "Lewis Acid-Catalyzed Synthesis of Aziridines", L. Casarrubios, J. A. Perez, M. Brookhart, and J. L. Templeton, J. Org. Chem., 61, 8368-8369 (1996).
100. "*p*-Anisaldehyde as a Ligand in Molybdenum and Tungsten Complexes: σ or π ?", D. M. Schuster, P. S. White, and J. L. Templeton, Organometallics, 15, 5467-5469 (1996).
101. "Synthesis and Deprotonation/Alkylation Reactions of the Chiral Carbene Complex Tp'(CO)(NO)Mo=C(OMe)(Me)", T. Brent Gunnoe, P. S. White, and J. L. Templeton, Organometallics, 16 370-377 (1997).
102. "Stepwise Synthesis of (\equiv CCH₂CH₂C \equiv), (\equiv CCH=CHC \equiv), and (\equiv CC \equiv CC \equiv) Bridges between Molybdenum or Tungsten Centers", B. E. Woodworth, P. S. White, and J. L. Templeton, J. Am.Chem.Soc., 119, 828-829 (1997).
103. "Electrophilic Tungsten(II) Methylene Carbene Complexes: Adduct Formation, Methylene Transfer, and Catalysis of Aziridine Formation from Imines and Ethyl Diazoacetate", T. Brent Gunnoe, P. S. White, J. L. Templeton, and L. Casarrubios, J. Am.Chem.Soc., 119, 3171-3172 (1997).
104. "Cyclization Reactions of Coordinated Alkynes in Tungsten(II) Complexes", M. B. Wells, P. S. White, and J. L. Templeton, Organometallics, 16, 1857-1864 (1997).
105. "Complexes Containing Metal/Carbon Multiple Bonds: Molybdenum and Tungsten Carbene and Carbyne Complexes", J. L. Templeton and S. G. Feng, contributions to Chapter 3 by F. R. Kreissl in Synthetic Methods of Organometallic and Inorganic Chemistry, W. A. Herrmann, ed., Volume 7, 156-159, 191-194, 203-206, (1997).
106. "Synthesis and Reactivity of [Tp'(CO)(PhC \equiv CMe)W=NPh]⁺ (Tp' = hydridotris(3,5-dimethylpyrazolyl)borate)", L. W. Francisco, P. S. White, and J. L. Templeton, Organometallics, 16, 2547-2555 (1997).
107. "Orientational and Stereochemical Preferences in Hydridotris(3,5-dimethylpyrazolyl-1-borato)(CO)₂W(η^3 -allyl) Complexes", D. Frohnapfel, P. White, J. L. Templeton, H. Ruegger, and P. S. Pregosin, Organometallics, 16, 3737-3750 (1997).
108. "Reaction of A Tungsten(II) Methylene Complex with Excess Base to Form a C₃H₅ Bridged Dimer", T. B. Gunnoe, P. S. White, and J. L. Templeton, Organometallics, 16, 3794-3799 (1997).

109. "Substituent Effects on the Reaction Rates of Copper-Catalyzed Cyclopropanation and Aziridination of *para*-Substituted Styrenes", M. Mar Diaz-Requejo, P. J. Perez, M. Brookhart, and J. L. Templeton, Organometallics, 16, 4399-4402 (1997).
110. "Synthesis and Reactivity of Tungsten(II) Methylene Complexes", T. B. Gunnoe, M. Surgan, P. S. White, J. L. Templeton and L. Casarrubios, Organometallics, 16, 4865-4874 (1997).
111. "Formation of Transition Metal to Transition Metal Bonds", J. L. Templeton, contributions to Chapter 9 in Inorganic Reactions and Methods, J. J. Zuckerman and J. D. Atwood, eds., Volume 14, Wiley-VCH, New York, pages 48-91 (1998).
112. "Formation of Derivative Carbyne Complexes from $Tp'(CO)_2M\equiv CCH_3$ (M = Mo, W)", B. E. Woodworth, D. S. Frohnapfel, P. S. White, and J. L. Templeton, Organometallics, 17, 1655-1662 (1998).
113. "*E/Z*-Isomerization Dynamics in Molybdenum and Tungsten η^1 -Ketone Complexes", D. M. Schuster and J. L. Templeton, Organometallics, 17, 2707-2715 (1998).
114. "Variable Electronic Coupling Through Hydrocarbon Spacers Bridging Metal-Carbon Triple Bonds", D. S. Frohnapfel, B. E. Woodworth, H. H. Thorp, and J. L. Templeton, J. Phys. Chem. A, 102, 5665-5669 (1998).
115. "Electrophilic Addition to Cyanide Ligands in Tungsten(II) Four-Electron -Donor Alkyne Complexes", D. S. Frohnapfel, Stefan Reinartz, P. S. White, and J. L. Templeton, Organometallics, 17, 3759-3769 (1998).
116. "Deprotonation and Oxidation of the $W\equiv CCH_2-W$ Bridge to Form a C_2 -Biscarbyne $W\equiv C-C\equiv W$ Bridge", B. E. Woodworth, P. S. White, and J. L. Templeton, J. Am.Chem.Soc., 120, 9028-9033 (1998).
117. "Spectra, Structure, Ligand Exchange, and Decomposition of a Tungsten(II) Ether Complex", T. Brent Gunnoe, J. L. Caldarelli, P. S. White, and J. L. Templeton, Angew. Chem. Int. Ed., 37, 2093-2096 (1998).
118. "Conversion of Tungsten(IV) Oxo-Alkyne Complexes to Oxo-Vinylidene Complexes", T.W. Crane, P. S. White, and J. L. Templeton, Organometallics, 18, 1897-1903 (1999).
119. "Synthesis and β' -Site Deprotonation/Alkylation Reactions of $Tp'(CO)_2W(\eta^2\text{-vinyl})$ Complexes", D. S. Frohnapfel, Alejandro Enriquez, and J. L. Templeton, Organometallics, 19, 221-227 (2000).
120. "Deprotonation of Cationic Tungsten(IV) Aqua-Oxo-Alkyne Complexes to Form Dioxo-Vinyl Tungsten(VI) Complexes", T.W. Crane, P. S. White, and J. L. Templeton, Inorg. Chem., 39, 1081-1091 (2000).
121. "Insertion Products from Photolysis of $Tp'(CO)_3WH$ and Alkynes", D. S. Frohnapfel, P. S. White, and J. L. Templeton, Organometallics, 19, 1497-1506 (2000).

122. "Molybdenum and Tungsten η^1 - and η^2 -Aldehyde Complexes", D. M. Schuster, P. S. White, and J. L. Templeton, Organometallics, 19, 1540-1548 (2000).
123. "Transition Metal η^2 -Vinyl Complexes", D. S. Frohnapfel and J. L. Templeton, Coordination Chem. Rev., 206-207, 199-235 (2000).
124. "Tp'PtH₃: A Stable Platinum(IV) Trihydride", S. Reinartz, P. S. White, M. Brookhart and J. L. Templeton, Organometallics, 19, 3748-3750 (2000).
125. "Acid Assisted Reductive Elimination as a Route to Platinum(II) Products from Trispyrazolylborate Platinum(IV) Reagents", S. Reinartz, P. S. White, M. Brookhart and J. L. Templeton, Organometallics, 19, 3854-3866 (2000).
126. "X-ray Structure and Electrophilic Reactivity of a Cationic, Chiral Tungsten(II) Methylene Complex" A. S. Jepsen, N. J. Vogeley, P. S. White and J. L. Templeton, J. Organomet. Chem., 617-618, 520-529 (2001).
127. "Syntheses of Platinum(IV) Aryl Dihydride Complexes via Arene C-H Bond Activation", S. Reinartz, P. S. White, M. Brookhart and J. L. Templeton, Organometallics, 20, 1709-1712 (2001).
128. "Reactions of an Amphoteric Terminal Tungsten Methylidyne Complex", A. E. Enriquez, P. S. White and J. L. Templeton, J. A. Chem. Soc., 123, 4992-5002 (2001).
129. "Five-Coordinate Trispyrazolylborate Dihydridosilyl Platinum(IV) Complexes", S. Reinartz, P. S. White, M. Brookhart and J. L. Templeton, J. Am. Chem. Soc., 123, 6425-6426 (2001).
130. "Synthesis, Structure, and Electronic Properties of Monomeric and Dimeric Trispyrazolylborate Platinum(II) Hydride Complexes", S. Reinartz, M.-H. Baik, P. S. White, M. Brookhart and J. L. Templeton, Inorg. Chem., 40, 4726-4732 (2001).
131. "Structural Characterization of an Intermediate in Arene C-H Bond Activation and Measurement of the Barrier to C-H Oxidative Addition: A Platinum(II) η^2 -Benzene Adduct", S. Reinartz, P. S. White, M. Brookhart and J. L. Templeton, J. Am. Chem. Soc., 123, 12724-12725 (2001).
132. "Platinum(II) and Platinum(IV) Acyl and Formyl Complexes", S. Reinartz, M. Brookhart and J. L. Templeton, Organometallics, 247-249 (2002).
133. "Monomeric and Dinuclear Tungsten Carbyne Complexes Containing Benzyl, Allyl, and Alkenyl Carbyne Substituents", A. E. Enriquez and J. L. Templeton, Organometallics, 21, 852-863 (2002).

134. "Reactions of Tungsten Phosphonium Carbyne Complexes with Aryloxide Nucleophiles to Form Aryloxycarbyne and η^2 -Ketenyl Complexes", K. C. Stone, G. M. Jamison, P. S. White and J. L. Templeton, Inorg. Chim. Acta, **330**, 161-172 (2002).
135. "Regioselective and Stereoselective Reactions of 2-Butyne Bound to a Resolved Chiral Tungsten(II) Center", M. B. Wells, J. E. McConathy, P. S. White and J. L. Templeton, Organometallics, **21**, 5007-5020, (2002).
136. "Barriers for Arene C-H Bond Activation in Platinum(II) η^2 -Arene Intermediates", C. M. Norris, S. Reinartz, P. S. White and J. L. Templeton, Organometallics, **21**, 5649-5656 (2002).
137. "Heteroatom-Substituted Carbene Complexes of High-Valent Tungsten: Tp'W(O)X(=C(R)OSiR₃) Derivatives", J. L. Cross, T. W. Crane, P. S. White and J. L. Templeton, Organometallics, **22**, 548-554 (2003).
138. "Reductive Elimination/Oxidative Addition of Carbon-Hydrogen Bonds at Pt(IV)/Pt(II) Centers: Mechanistic Studies of the Solution Thermolyses of Tp^{Me2}Pt(CH₃)₂H", M. P. Jensen, D. D. Wick, S. Reinartz, P. S. White, J. L. Templeton and K. I. Goldberg, J. Am. Chem. Soc., **125**, 8614-8624, (2003).
139. "Sequential Chemical Transformations of a Tungsten Carbyne Ligand: Protonation, Alkyne Insertion, Vinylcarbene Formation, and Metallacyclopropene/Metallafuran Isomerization", K. C. Stone, G. M. Jamison, P. S. White and J. L. Templeton, Organometallics, **22**, 3083-3095, (2003).
140. "Methyl/Ethyl Differentiation in Diastereoselective Hydride Addition to [Tp'W(CO)(PhCCMe)(NH=CMeEt)][BAR'₄]", N. J. Vogeley, P. S. White and J. L. Templeton, J. Am. Chem. Soc., **125**, 12422-12423, (2003)
141. "Synthesis, protonation, and electrophilic reactions of Tp'(CO)₂W≡COMe, a Tungsten Methoxycarbyne Complex", K. C. Stone, P. S. White and J. L. Templeton, J. Organomet. Chem., **684**, 13-19, (2003).
142. "Interconversions of Simple Monodentate Nitrogen Donor Ligands Bound to Tp' Tungsten Fragments", N. J. Vogeley and J. L. Templeton, Polyhedron, **23**, 311-321 (2004).
143. "Hydrocarbon C-H Activation with Tp'Pt Complexes", C. M. Norris and J. L. Templeton, in Activation and Functionalization of C-H Bonds, K. I. Goldberg and A. S. Goldman, Eds.; ACS Symposium Series, Number 885, pages 303-318, (2004).
144. "Diastereoselective Hydride Addition to [Tp'W(CO)(PhCCMe)(NH=CRR')][BAR'₄]: Effects of Equilibrium and Kinetic Acidity", N. J. Vogeley, P. S. White and J. L. Templeton, Organometallics, **23**, 1378-1389, (2004).

145. "Probing Dynamic Equilibria between Platinum(II)- η^2 -Benzene Adducts and Unobserved Five-Coordinate Platinum(IV) C-H Oxidative Addition Intermediates", C. M. Norris and J. L. Templeton, Organometallics, 23, 3101-3104, (2004).
146. "Proton Addition to an Anionic Carbene Complex as a Route to Seven-Coordinate Methyl Carbonyl Complexes in Equilibrium with η^2 -Acyl Complexes", K. C. Stone, A. Onwuzurike, P. S. White and J. L. Templeton, Organometallics, 23, 4255-4264, (2004).
147. "Coordination and Reactivity of Acetonitrile in Tungsten(IV) Complexes: Oxidation, Methylation and Dimerization of Coordinated Acetonitrile", J. L. Cross, A. D. Garrett, T. W. Crane, P. S. White and J. L. Templeton, Polyhedron, 23, 2831-2840, (2004).
148. "Carbon Monoxide Promoted Reductive Elimination of Hydrogen from Tp' Platinum Complexes", N. M. West, S. Reinartz, P. S. White and J. L. Templeton, J. Am. Chem. Soc., 128, 2059-2066, (2006).
149. "Reactivity Relationships Between Chiral Cyclic Amido and Imine Tungsten(II) Complexes", A. D. Garrett, N. J. Vogeley, J. R. Varner, P. S. White and J. L. Templeton, Organometallics, 25, 1728-1734 (2006).
150. "Stoichiometric Alkane Dehydrogenation with Tp'PtMe₂H to Form Tp'Pt(η^2 -olefin)(H) Complexes" C. M. Norris Kostelansky, M. G. MacDonald, P. S. White and J L. Templeton, Organometallics, accepted for publication.