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CHARLES ALBERT WIGHT

Department of Chemistry
University of Utah
Salt Lake City, UT 84112
Tel:(801)581-8796, FAX:(801)585-3581
Email: chuck.wight@utah.edu

2568 Redondo Ave.
Salt Lake City, UT 84108
(801) 243-8242

EDUCATION

- B.S. Chemistry, 1977, University of Virginia
Research Advisor: Lester Andrews
- Ph.D. Chemistry, 1982, California Institute of Technology
Thesis: Chemical Applications of Infrared Laser Photochemistry
Thesis Advisor: J. L. Beauchamp

PROFESSIONAL APPOINTMENTS

- 2006 - Associate Vice President for Academic Affairs and Undergraduate Studies
2005- Board of Trustees, Academy for Math Engineering and Science
2004-2006 Assistant Vice President for Academic Affairs and Undergraduate Studies
2002-2004 Associate Dean of Undergraduate Studies
1993- Professor, Department of Chemistry, University of Utah
2000-2002 Academic Coordinator for Web-Based Instruction, University of Utah
1999-2000 President, Academic Senate, University of Utah
1990-1993 Associate Professor, Department of Chemistry, University of Utah
1984-1990 Assistant Professor, Department of Chemistry, University of Utah
1981-1984 Postdoctoral Research Associate, University of Colorado

HONORS AND AWARDS

- R. W. Parry Teaching Award in Chemistry, 2006
Fellow, American Association for the Advancement of Science, 1994
Alfred P. Sloan Research Fellow, 1990-94
Outstanding Teaching Award in Chemistry, 1985
Herbert Newby McCoy Award for Graduate Research, 1981
Phi Beta Kappa, 1977

RESEARCH INTERESTS

Physical chemistry; chemistry of explosives and propellants; kinetics of solid state reactions and thermal analysis; reaction dynamics in cryogenic solids; development of internet learning tools for distance education and college readiness.

ORGANIZATIONS

Am. Chem. Soc., Am. Phys. Soc., Sigma Xi, Am. Assoc. Adv. Sci.

PUBLICATIONS

1. C. A. Wight, B. S. Ault, and L. Andrews, "Laser-Induced Fluorescence and Resonance Raman Spectra of Interhalogen Diatomics Isolated in Inert Matrices at 12 K", *J. Mol. Spectrosc.* 56, 239-50 (1975).
2. C. A. Wight, B. S. Ault, and L. Andrews, "On Microwave Discharge Sources of New Chemical Species for Matrix-Isolation Spectroscopy and the Identification of Charged Species", *J. Chem. Phys.* 65, 1244-49 (1976).
3. C. A. Wight, B. S. Ault, and L. Andrews, "Laser Raman and Emission Spectra of the Dibromide Molecular Anion in the $M^+Br_2^-$ Species", *Inorg. Chem.* 15, 2147-50 (1976).
4. C. A. Wight, T. J. Turley, and J. N. Demas, "A New Approach to the Study of Reversible Excited-State Electron Transfer Reactions", *J. Chem. Phys.* 68, 5486-9 (1978).
5. C. A. Wight, H. Willner, and L. Andrews, "Laser Photoluminescence Spectra of the $M^+S_2^-$ Species in Solid Argon at 12 K", *J. Mol. Spectrosc.* 72, 332-41 (1978).
6. C. A. Wight and L. Andrews, "Matrix Reactions of Dichlorosulfane with Alkali Metals", *J. Mol. Spectrosc.* 72, 342-8 (1978).
7. L. Andrews, C. A. Wight, F. T. Prochaska, S. A. McDonald, and B. S. Ault, "Vacuum-Ultraviolet Photoionization of Bromoform and its Chlorine Substituted Counterparts During Condensation with Argon at 15 K", *J. Mol. Spectrosc.* 73, 120-43 (1978).
8. C. A. Wight and J. L. Beauchamp, "Acidity, Basicity, and Ion Molecule Reactions of Isocyanic Acid in the Gas Phase by Ion Cyclotron Resonance Spectroscopy", *J. Phys. Chem.* 84, 2503-8 (1980).
9. C. A. Wight and J. L. Beauchamp, "Infrared Laser Photochemistry of Vibrationally Excited Cyanobenzene Cation Prepared by Internal Conversion Following Electronic Excitation", *Chem. Phys. Lett.* 77, 30-5 (1981).
10. C. A. Wight and J. L. Beauchamp, "Infrared Spectra of Gas Phase Ions and Their Use in Elucidating Reaction Mechanisms. Identification of $C_7H_7^-$ Structural Isomers by Multiphoton Electron Detachment Using a Low Power Infrared Laser", *J. Am. Chem. Soc.* 103, 6499-501 (1981).
11. L. R. Thorne, C. A. Wight, and J. L. Beauchamp, "Infrared Photochemistry of Gas Phase Ions", *Lect. Notes Chem.* 31, 43-97 (1982).
12. C. A. Wight and J. L. Beauchamp, "Infrared Laser Photodetachment from Vibrationally Excited Allyl Anions", *J. Phys. Chem.* 88, 4426-30 (1984).
13. C. A. Wight and S. R. Leone, "Excimer Laser Photolysis Studies of Translational-to-Vibrational Energy Transfer in Collisions of H and D Atoms with CO", *J. Chem. Phys.* 78, 4875-86 (1983).
14. C. A. Wight and S. R. Leone, "Vibrational State Distributions and Absolute Excitation Efficiencies for T-V Transfer Collisions of NO and CO with H atoms Produced by Excimer Laser Photolysis", *J. Chem. Phys.* 79, 4823-9 (1983).

15. C. A. Wight and S. R. Leone, "Reinvestigation of the I* Yield in the 193 nm Photodissociation of 1,2-C₂F₄IBr", *J. Phys. Chem.* 87, 5299-300 (1983).
16. C. A. Wight, F. Magnotta, and S. R. Leone, "Vibrational Energy Disposal in Reactive and Inelastic Collisions of H(D) + HCl(DCl) at 1 to 3 eV", *J. Chem. Phys.* 81, 3951-7 (1984).
17. C. A. Wight, D. J. Donaldson, and S. R. Leone, "A Two-Laser Pulse-and-Probe Study of T R,V Energy Transfer Collisions of H + NO at 0.95 and 2.2 eV", *J. Chem. Phys.* 83, 660-7 (1985).
18. C. A. Wight, "Laser Pulse-and-Probe Studies of Collisional Excitation Dynamics", *Proc. Int. Conf. Lasers '84* (STS Press, McLean, Virginia, 1985).
19. C. A. Wight, "Infrared Fluorescence Studies of Near Resonant Electronic-to-Vibrational Energy Transfer: Br* + NO", *J. Phys. Chem.* 90, 2683-7 (1986).
20. A. J. Sedlacek and C. A. Wight, "Infrared Fluorescence Study of E-V Energy Transfer from Br*(4²P_{1/2}) to Nitrosyl Bromide", *J. Chem. Phys.* 86, 2787-92 (1987).
21. S. Georgiou and C.A. Wight, "Photofragment Spectroscopy of Cyclopentadienyl Nickel Nitrosyl", *Chem. Phys. Lett.* 132, 511-15 (1986).
22. A. J. Sedlacek, E. S. Mansueto, and C. A. Wight, "Laser-Initiated Chain Reactions of Chlorine with Propane and Cyclopropane in Amorphous Films at 77 K", *J. Am. Chem. Soc.* 109, 6223-9 (1987).
23. A. J. Sedlacek and C.A. Wight, "Laser-Initiated Free Radical Chlorination of Propane in Amorphous Thin Films: Temperature Dependence from 15-77 K", *J. Phys. Chem.* 92, 2821-4 (1988).
24. S. Georgiou and C. A. Wight, "Nitric Oxide Photofragment Rotational Distributions from UV Dissociation of Cyclopentadienyl Nickel Nitrosyl", *J. Chem. Phys.* 88, 7418-23 (1988).
25. E. S. Mansueto, C.-Y. Ju, and C. A. Wight, "Laser-Initiated Polymerization of Solid Formaldehyde", *J. Phys. Chem.* 93, 2143-7 (1989).
26. A. J. Sedlacek and C. A. Wight, "Free Radical Chain Reactions of Chlorine with Cyclobutane in the Solid State: Evidence for Radical Migration via H Atom Transfer", *J. Chem. Phys.* 88, 2847-8 (1988).
27. A. J. Sedlacek and C. A. Wight, "Photochemical Chain Reactions in Amorphous Solids", *Laser Chem.* 9, 155-70 (1988).
28. A. J. Sedlacek and C. A. Wight, "Photochemistry of Solid Ozone", *J. Phys. Chem.*, 93, 509-11 (1989).
29. S. Georgiou and C. A. Wight, "Photofragment Spectroscopy of Cobalt Tricarbonylnitrosyl and its Trialkylphosphine Derivatives", *J. Chem. Phys.* 90, 1694-700 (1989).
30. S. Niles and C. A. Wight, "Photofragment Spectroscopy of Nitrosobenzene", *Chem. Phys. Lett.*, 154, 458-62 (1989).

31. C. A. Wight and J. L. Beauchamp, "Multiphoton Electron Detachment of $C_7H_7^-$ Using a Low Power Infrared Laser. Competition of Radiative and Collisional Relaxation with Vibrational Excitation", *Chem. Phys.*, 134, 375-84 (1989).
32. E. S. Mansueto and C. A. Wight, "Excited-State Proton Transfer Polymerization of Amorphous Formaldehyde", *J. Am. Chem. Soc.* 111, 1900-1 (1989).
33. C. A. Wight, T. W. Tang, and E. S. Mansueto, "Laser-Induced Reaction and Polymerization of Formaldehyde in Low Temperature Amorphous Solids", in *Advances in Laser Science-IV*, J.L. Gole, D.F. Heller, W.C. Stwalley, M. Lapp, eds. (American Institute of Physics, New York, 1989), pp. 357-9.
34. C. A. Wight, T. W. Tang, and E. S. Mansueto, "Low Temperature Photochemistry in Amorphous Films", *SPIE Proceedings* 1056, 203-6 (1989).
35. C. A. Wight, P. M. Kligmann, T. R. Botcher, and A. J. Sedlacek, "Photochlorination of Simple Alkanes in Cryogenic Solids", *J. Phys. Chem.*, 94, 2487-92 (1990).
36. S. Georgiou and C. A. Wight, "Photodissociation of Cobalt Tricarbonylnitrosyl and its Trialkylphosphine Derivatives in the Visible: Evidence for Impulsive Fragmentation of the Nitrosyl Ligand", *J. Phys. Chem.*, 94, 4935-40 (1990).
37. D. Prinslow, S. Niles, P. B. Armentrout, and C. A. Wight, "Multiphoton Ionization of Cobalt Atoms Produced by Multiphoton Dissociation of $Co(CO)_3NO$, $Co(CO)_2(NO)P(methyl)_3$, $Co(CO)_2(NO)P(n-propyl)_3$ and $Co(CO)_2(NO)P(n-butyl)_3$ ", *Chem Phys. Lett.*, 168, 482-8 (1990).
38. G. F. Stowe, R. H. Schultz, P. B. Armentrout, and C. A. Wight, "Translational and Electronic Energy Dependence of $S^+ + H_2(D_2,HD) \rightarrow SH^+ + H(D)$. Spin-allowed and Spin-Forbidden Pathways", *Int. J. Mass Spectrom. Ion Processes*, 100, 177-95 (1990).
39. C. A. Wight and J. L. Beauchamp, "Infrared Spectra of Butenyl Anions. Multiphoton Electron Detachment as a Photochemical Probe of Isomeric Structures of Gas Phase Anions", *Int J. Mass Spectrom. Ion Processes*, 100, 445-55 (1990).
40. C. A. Wight, "A Statistical Model of Solid State Chain Reactions", *Trends Chem. Phys.* 1, 125-31 (1991).
41. S. Niles, D. A. Prinslow, C. A. Wight, and P. B. Armentrout, "Laser Multiphoton Ionization and Photoelectron Spectroscopy of $Co(CO)_3NO$ and $Fe(CO)_5$ ", *J. Chem. Phys.* 93, 6186-99 (1990).
42. E. S. Mansueto and C. A. Wight, "Photopolymerization of Amorphous Formaldehyde: A Mechanistic Study", *J. Photochem. Photobiol. A* 60, 251-60 (1991).
43. T. J. Tague, Jr. and C. A. Wight, "Laser-Initiated Chain Reactions and Microexplosions in Solid Solutions of Methylcyclopropane and Chlorine", *Chem. Phys.* 156, 141-8 (1991).
44. T. J. Tague, Jr., P. M. Kligmann, C. P. Collier, M. A. Ovchinnikov, and C. A. Wight, "Laser-Initiated Chain Reactions and Microexplosions in Solid Solutions of Simple Alkenes and Chlorine", *J. Phys. Chem.* 96, 1288-93 (1992).

45. E. S. Mansueto and C. A. Wight, "Photopolymerization of Disordered Solid Acetaldehyde at Cryogenic Temperatures", *J. Phys. Chem.* 96, 1502-4 (1992).
46. T. J. Tague, Jr. and C. A. Wight, "Selectivity of Isomeric Product Formation in Solid State Photochlorination Reactions of Methylcyclopentane and Methylcyclohexane", *J. Photochem. Photobiol. A*, 66 193 (1992).
47. M. A. Ovchinnikov and C. A. Wight, "Isomeric Product Distributions from Solid State Chain Reactions and Low-Temperature Microexplosions of Acetylene and Chlorine", *J. Phys. Chem.* 96, 5411-4 (1992).
48. C. A. Wight, "A Statistical Model of Solid State Chain Reactions", *Chem. Phys.*, 162, 393-400 (1992).
49. S. Niles, D. A. Prinslow, C. A. Wight and P. B. Armentrout, "Laser Multiphoton Dissociation - Multiphoton Ionization and Photoelectron Spectroscopy of $\text{Fe}(\text{C}_2\text{H}_5)_2$, $\text{Co}(\text{C}_2\text{H}_5)_2$, and $\text{Ni}(\text{C}_2\text{H}_5)_2$ ", *J. Chem. Phys.* 97, 3115-25 (1992).
50. S. Niles, P. B. Armentrout and C. A. Wight, "Laser Multiphoton Dissociation and Multiphoton Ionization Spectroscopy of VOCl_3 ", *Chem. Phys.* 165, 143-6 (1992).
51. C. A. Wight and T. R. Botcher, "Thermal Decomposition of Solid RDX Begins With N-N Bond Scission", *J. Am. Chem. Soc.* 114, 8303-4 (1992).
52. T. J. Tague and C. A. Wight, "Magnetic Effects on Solid State Free Radical Chain Reactions", *J. Am. Chem. Soc.*, 114, 9235-6 (1992).
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54. C. A. Wight, E. Y. Misochko, E. V. Vetoshkin, and V. I. Goldanskii, "Tunneling Dynamics and Spatial Correlations of Long Chain Growth in Solid -State Photochlorination of Ethylene at Low Temperatures", *Chem. Phys.* 170, 393-410 (1993).
55. C. A. Wight and P. B. Armentrout, "Laser Photoionization Probes of Ligand Binding Effects in Multiphoton Dissociation of Gas Phase Transition Metal Complexes", in Laser Chemistry of Organometallics, J. Chaiken, Ed., (ACS Symp. Ser. 530, Washington, DC, 1993) p. 61-74.
56. T. R. Botcher and C. A. Wight, "Infrared Laser Pyrolysis Studies of Thermal Decomposition Mechanisms in Nitramine Propellants", in Structure and Properties of Energetic Materials, Liebenberg, D.H., Armstrong, R.W., and Gilman, J.J., Eds., (Materials Research Society: Pittsburgh, 1993) p. 47-51.
57. T. J. Tague, Jr. and C. A. Wight, "Control of Conformational Selectivity in Solid State Photochlorination Reactions of Cyclopropane", *J. Phys. Chem.* 97, 3266-9 (1993).
58. C. A. Wight, E. Ya. Misochko and V. A. Benderskii, "Solid-State Photochlorination in Recrystallized Mixtures of Ethene and Chlorine at 30 K", *Mendeleev Comm.* 1, 5-7 (1993).
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60. T. R. Botcher and C. A. Wight, "Transient Thin Film Laser Pyrolysis of RDX", *J. Phys. Chem.* **1999**, *97*, 9149-53.
61. E. Ya. Misocho, C. A. Wight, E. V. Vetoshkin, and V. A. Benderskii, "Tunneling Dynamics and Spatial Correlations of Long Chain Growth in Solid -State Photochlorination of Ethylene at Low Temperatures", *Russian Chemical Bulletin* **42**, 648 (1993).
62. V. A. Benderskii, D. E. Makarov, and C. A. Wight, Chemical Dynamics at Low Temperatures, (Wiley-Interscience, New York, 1994).
63. M. A. Ovchinnikov and C. A. Wight, "Infrared Line Shapes of Clusters and Microcrystals: Vibrational Modes Mixed by Dipole Interactions", *J. Chem. Phys.* **100**, 972-7 (1994).
64. T. R. Botcher and C. A. Wight, "Explosive Thermal Decomposition Mechanism of RDX", *J. Phys. Chem.* **98**, 5441-4 (1994).
65. A. V. Benderskii and C. A. Wight, "Photochemistry of Ozone in Solid Mixtures with Argon", *J. Chem. Phys.*, **101**, 292-8 (1994).
66. A. V. Benderskii and C. A. Wight, "Photochemistry of Ozone in a Reactive Nitrogen Host Matrix", *Chem. Phys.* **189**, 307-14 (1994).
67. M. A. Ovchinnikov and C. A. Wight, "Dipole Mechanism of Line Broadening in Amorphous Solids", *J. Chem. Phys.* **102**, 67-74 (1995).
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69. C. A. Wight and A. I. Boldyrev, "Potential Energy Surface and Vibrational Frequencies of Carbonic Acid", *J. Phys. Chem.* **99**, 12125-30 (1995).
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72. M. A. Ovchinnikov and C. A. Wight, "Dipole Broadened Lineshape of Impurity Chromophores Isolated in a Transparent Matrix", *J. Chem. Phys.* **103**, 9563-7 (1995).
73. A. V. Benderskii and C. A. Wight, "Diffusion-Limited Geminate Recombination of O + O₂ in Solid Xenon", *J. Chem. Phys.* **104**, 85-94 (1996).
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76. E. Ya. Misochko, A. V. Benderskii, and C. A. Wight, "Formation of β -Fluoroethyl Radical and Closed-Shell Products in Reactions of Photogenerated Fluorine Atoms with Ethene in Solid Argon", *J. Phys. Chem.* **1996**, *100*, 4496-502.
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78. D. J. Beardall, T. R. Botcher, and C. A. Wight, "Explosive Thermal Decomposition Mechanism of NTO", *Mater. Res. Soc. Symp. Proc.* **1996**, *418*, 379-84.
79. A. V. Benderskii and C. A. Wight, "Conformational Isomerization of 1,2-Difluoroethane in Solid Argon: Cage-Modified Reaction Barriers", *J. Phys. Chem.* **1996**, *100*, 14958-61.
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81. E. Ya. Misochko, V. A. Benderskii, A. U. Goldschleger, A. V. Akimov, A. V. Benderskii and C. A. Wight, "Reactions of Translationally Excited and Thermal Fluorine Atoms with CH₄ and CD₄ in Solid Argon", *J. Chem. Phys.* **1997**, *106*, 3146-3156.
82. E. Ya. Misochko, V. A. Benderskii, A. U. Goldschleger, A. V. Akimov, A. V. Benderskii and C. A. Wight, "Reactions of Fluorine Atoms with Guest Molecules in Solid Argon I. Photolysis of Solid Mixtures Ar/CH₄/F₂ at 13-16 K", *Bull. Russian Akad. Sci.* **1997**, *46*, 678-86.
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84. S. Vyazovkin and C. A. Wight, "Ammonium Dinitramide: Kinetics and Mechanism of Thermal Decomposition", *J. Phys. Chem.* **1997**, *101*, 5653-5658.
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91. S. Vyazovkin and C. A. Wight, "Isothermal and Nonisothermal Reaction Kinetics in Solids: A Search for Consensus", *J. Phys. Chem.* **1997**, *101*, 8279-8284.

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98. C. A. Wight, T. Sell, P. Lofy, and E. Lindholm, "Isoconversional Thermal Analysis of Composite Propellants", Proc. JANNAF Combust. Subcomm. Meeting, Tucson, AZ, **1998**.
99. Pete Lofy and Charles A. Wight, "Thermal Decomposition of HMX Below Its Melting Point", Proc. JANNAF Combust. Subcomm. Meeting, Tucson, AZ, **1998**.
100. E. Ya. Misochko, A. V. Akimov, I. U. Goldschleger, A. I. Boldyrev, and C. A. Wight, "Endothermic formation of a chemical bond by entropic stabilization: difluoronitroxide radical in solid argon", *J. Am. Chem. Soc.* **1999**, *121*, 405-410.
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