

# Curriculum Vitae

**William S. Taylor**  
Professor of Chemistry  
University of Central Arkansas  
7/7/2022

## EDUCATION

Ph.D., Physical Chemistry, Louisiana State University, August 1988.

*Dissertation*

“Gas Phase Reactions of Ligating Anions with Selected Lewis Acids as Potential Energy Surface Probes,” 1988.

B.A., Chemistry, with distinction; Hendrix College, 1983

*Senior Research Project*

“Synthesis and Resistivity Evaluations of Charge-Transfer Complexes of 7,7,8,8-Tetracyanoquinodimethane,” 1983.

## WORK EXPERIENCE

2009-present; Professor of Chemistry, University of Central Arkansas

2005-2009; Professor and Chair of Chemistry, University of Central Arkansas.

2002-2005; Professor of Chemistry, University of Central Arkansas.

1994-2002; Associate Professor of Chemistry, University of Central Arkansas.

1990-1994; Assistant Professor of Chemistry, University of Central Arkansas.

1988-1990; Developmental Scientist, Extrel Corporation.

## COURSES TAUGHT

Chemistry 1301 – Fundamentals of Chemistry

Chemistry 1400 – Chemistry in Society

Chemistry 1402 – Physiological Chemistry

Chemistry 1450 – College Chemistry I

Chemistry 1451 – College Chemistry II

Chemistry 4290 – Chemical Literature

Chemistry 4385 – Advanced Topics: Kinetics and Dynamics

Chemistry 4450 – Physical Chemistry I Lab

Chemistry 4451 – Advanced Analytical Chemistry

Chemistry 4460 – Physical Chemistry II

## AWARDS AND HONORS

Dow Fellowship in Chemistry, 1984-1987.

Finalist for the Research, Scholarship, and Creative Activity Award, University of Central Arkansas, 1997.

Finalist for the Research, Scholarship, and Creative Activity Award, University of Central Arkansas, 2000.

Recipient of the Research, Scholarship, and Creative Activity Award, University of Central Arkansas, 2001.

Outstanding Service Award, Central Arkansas Section of the American Chemical Society, 2009.

Finalist for the Research, Scholarship, and Creative Activity Award, University of Central Arkansas, 2017.

## PUBLICATIONS

1. Babcock, L. M.; Taylor, W. S.; Herd, C. R. "Ion- Molecule Association Reactions: Cl<sup>-</sup> Addition to SiF<sub>4</sub> in He and N<sub>2</sub>," *Int. J. Mass Spec. Ion Proc.* **1987**, *81*, 259-272.
2. Cho, S. G.; Fronczek, F. R.; Taylor, W. S.; Watkins, S. F. "Structure of 2,2',5,5'-Bis(butanobisthio)di- 1,3,4-thiadiazole," *Acta Crystallographica* **1988**, *C44*, 769-771.
3. Taylor, W. S.; Dulak, J. G. "Applications of a New Glow Discharge Quadrupole Mass Spectrometer," *Spectroscopy* **1989**, *4*(4), 41-46.
4. Taylor, W. S.; Ketkar, S. N.; Dulak, J. G. "Characterization of a Glow Discharge Plasma as a Function of Sampling Orifice Potential," *J. Amer. Soc. Mass Spec.* **1990**, *1*, 448-454.
5. Taylor, W. S.; Everett, W. R.; Babcock, L. M.; McNeal, T. L. "Application of a Glow Discharge Ion Source in a Flowing Afterglow Study of Transition Metal Ion Chemistry," *Int. J. Mass Spectrom. Ion Proc.* **1993**, *125*, 45-54.
6. Taylor, W. S.; Babcock, L. M. "Reactions of Catecholate and Related Anions with SiF<sub>4</sub> and BF<sub>3</sub>," *J. Am. Chem. Soc.* **1995**, *117*, 6497-6503.
7. Taylor, W. S.; Campbell, A. S.; Barnas, D. F.; Babcock, L. M.; Linder, C. B. "Thermal and Near-Thermal Reactions of Pt<sup>+</sup>, and Au<sup>+</sup> with Small Alkenes," *J. Phys. Chem. A* **1997**, *101*, 2654-2661.
8. Taylor, W. S.; Spicer, E. M.; Barnas, D. F. "Metastable Metal Ion Production in Sputtering DC Glow Discharge Plasmas: Characterization by Electronic State Chromatography," *J. Phys. Chem. A* **1999**, *103*, 643-650.
9. Taylor, W. S.; May, J. C.; Lasater, A. S. "Reactions of Cu<sup>+</sup> (<sup>1</sup>S, <sup>3</sup>D) and Au<sup>+</sup>(<sup>1</sup>S, <sup>3</sup>D) with CH<sub>3</sub>Br" *J. Phys. Chem. A* **2003**, *107*, 2209-2215.
10. Taylor, W. S.; Matthews, C. C.; Parkhill, K. S. "Reactions of Cu<sup>+</sup>(<sup>1</sup>S, <sup>3</sup>D) with CH<sub>3</sub>Cl, CH<sub>2</sub>ClF, CHClF<sub>2</sub>, and CClF<sub>3</sub>" *J. Phys. Chem. A* **2005**, *109*, 356-365.
11. Taylor, W. S.; Matthews, C. C.; Hicks, A. J.; Fancher, K. G.; Chen, L. C. "Near-Thermal Reactions of Au<sup>+</sup>(<sup>1</sup>S, <sup>3</sup>D) with CH<sub>3</sub>X (X = F, Cl)" *J. Phys. Chem. A* **2012**, *116*, 943-951.
12. Taylor, W. S.; Abrams, M. L.; Matthews, C. C.; Byers, S.; Musial, S.; Nichols, C. M. "State-Specific Reactions of Cu<sup>+</sup>(<sup>1</sup>S, <sup>3</sup>D) with CH<sub>3</sub>X and CF<sub>3</sub>X (X = Cl, Br, I): Exploring the Influence of Dipole Orientation on Association and C–X Bond Activation" *J. Phys. Chem. A* **2012**, *116*, 3979-3988.
13. Taylor, W. S.; Fancher, K. G.; Chen, L. C.; Ward, B. K.; Cameron, C. A. "Probing Ni<sup>+</sup> Metastable State Production in Sputtering Glow Discharges with the Use of Diagnostic Reactions" *Int. J. Mass Spectrom.* **2013**, *352*, 29-36.
14. Taylor, W. S.; Manion, J. M.; Church, C. M.; Redmon, X. S.; Scheuter, B. A. "State-Specific Reactions of Cu<sup>+</sup>(<sup>1</sup>S, <sup>3</sup>D, <sup>1</sup>D) with the Super Greenhouse Gas SF<sub>5</sub>CF<sub>3</sub>" *J. Phys. Chem. A* **2014**, *118*, 10919-10926.
15. Taylor, W. S.; Redmon, X. S.; Scheuter, B. A. "State-Specific Reactions of Cu<sup>+</sup>(<sup>1</sup>S, <sup>3</sup>D) with SF<sub>6</sub> and SF<sub>5</sub>Cl" *J. Phys. Chem. A* **2016**, *120*, 2295-2306.
16. Taylor, W. S.; Pedder, R. E.; Eden, A. B.; Emmerling, C. L. "Systematic Ligand Effects in the Reactions of Fe<sup>+</sup>(<sup>6</sup>D) and FeX<sup>+</sup>(<sup>5</sup>Δ) with CF<sub>3</sub>X (X=Cl, Br, I); Ion Mobility Measurements of FeX<sup>+</sup>(<sup>5</sup>Δ) (X=F, Cl, Br, I) in He" *J. Phys. Chem. A* **2018**, *122*, 6509-6523.
17. Foscoe, C.; Brown, H.; Walden, K.; Hession, D.; Taylor, W. S.; Provorse Long, M. "Near Thermal Reactions of Au<sup>+</sup>(<sup>1</sup>S, <sup>3</sup>D) and AuX<sup>+</sup> with CH<sub>3</sub>X (X=Br,I): A Combined Experimental and Computational Analysis" *J. Phys. Chem. A* **2021**, *125*, 8, 1696-1710.