

## Biographical Sketch

### Timothy J. Hubin

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### (A) PROFESSIONAL PREPARATION

Kansas State University	Manhattan, KS	Chemistry	B.S. 1994
Kansas State University	Manhattan, KS	Science Ed	B.S. 1994
University of Kansas	Lawrence, KS	Chemistry	Ph.D. 1999
California Institute of Tech	Pasadena, CA	Medical Imaging	1999-2000

### (B) APPOINTMENTS

2013-present	Bernhardt Professor of Chemistry at Southwestern Oklahoma State University
2009-2013	Associate Professor of Chemistry at Southwestern Oklahoma State University
2005-2009	Assistant Professor of Chemistry at Southwestern Oklahoma State University
2000-2005	Assistant Professor of Chemistry at McPherson College (Kansas)

### (C) PRODUCTS

#### (i) Most Closely Related to the Proposed Project

1. Busch, D. H; Collinson, S. R.; **Hubin, T. J.** 2005. Catalysts and Methods for Catalytic Oxidation. *US Patent* 6,906,189 B2; granted June 14, 2005.
2. Jones, D. G.; Wilson, K. R.; Shircliff, A. D.; Zhang, Z.; Chen, Z.; Yin, G.; Prior, T. J.; **Hubin, T. J.** 2015. Synthesis, Structural Studies, and Oxidation Catalysis of the First Row Transition Metal Complexes of a 2-pyridylmethyl Pendant Armed Ethylene Cross-bridged Cyclam. *Inorg. Chem.* 54: 2221-2234. DOI: [10.1021/ic502699m](https://doi.org/10.1021/ic502699m)
3. Matz, D. L.; Jones, D. G.; Roewe, K. D.; Gorbet, M.-J.; Zhang, Z.; Chen, Z.; Prior, T. J.; Archibald, S. J.; Yin, G.; **Hubin, T. J.** 2015. Synthesis, Structural Studies, Kinetic Stability, and Oxidation Catalysis of the Late First Row Transition Metal Complexes of 4,10-dimethyl-1,4,7,10-Tetraazabicyclo[6.5.2] Pentadecane *Dalton Trans.* 44:12210-12224. DOI: [10.1039/c5dt00742a](https://doi.org/10.1039/c5dt00742a)
4. Zhang, Z.; Coats, K. L.; Chen, Z.; **Hubin, T. J.**; Yin, G. 2014. Influences of Calcium (II) and Chloride on the Oxidative Reactivity of a Manganese (II) Complex of a Cross-bridged Cyclen Ligand. *Inorg. Chem.* 53:11937-11947. DOI: [10.1021/ic501342c](https://doi.org/10.1021/ic501342c)
5. **Hubin, T. J.**; McCormick, J. M.; Collinson, S. R.; Perkins, C. M.; Alcock, N. W.; Kahol, P. K.; Raghunathan, A.; Busch, D. H. 2000. New Iron (II) and Manganese (II) Complexes of Two Ultra-rigid, Cross-bridged Tetraazamacrocycles for Catalysis and Biomimicry. *J. Am. Chem. Soc.* 122:2512. DOI: [10.1021/ja990366f](https://doi.org/10.1021/ja990366f)

#### (ii) Other Significant Products

1. Brewer, S. M.; Wilson, K. R.; Jones, D. G.; Reinheimer, E. W.; Archibald, S. J.; Prior, T. J.; Ayala, M. A.; Foster, A. L.; **Hubin, T. J.**; Green, K. N. 2018. Increase of Direct C-C Coupling Reaction Yield by Identifying Structural and Electronic Properties of High-spin Iron Tetra-azamacrocyclic Complexes. *Inorg. Chem.* 57:8890–8902. DOI: [10.1021/acs.inorgchem.8b00777](https://doi.org/10.1021/acs.inorgchem.8b00777)

2. Maples, R. D.; Cain, A. N.; Burke, B. P.; Silversides, J. D.; Mewis, R.; D'huys, T.; Schols, D.; Linder, D. P.; Archibald, S. J.; **Hubin, T. J.** 2016. Aspartate-based CXCR4 Chemokine Receptor Binding of Cross-bridged Tetraazamacrocyclic Copper (II) and Zinc (II) complexes. *Chem. Eur. J.* 22:12916-12930. DOI: [10.1002/chem.201601468](https://doi.org/10.1002/chem.201601468)
3. Archibald, S. J.; Lewis, E. A.; **Hubin, T. J.** 2011. Novel Antiviral Macrocycle Derivatives and Metal Complexes Incorporating Bridged Macrocycles. *US Patent* 8,034,800; granted October 11, 2011.
4. Timmons, J. C.; **Hubin, T. J.** 2010. Preparations and Applications of Synthetic Linked Azamacrocyclic Ligands and Complexes. *Coord. Chem. Rev.* 254:1661-1685. DOI: [10.1016/j.ccr.2009.09.018](https://doi.org/10.1016/j.ccr.2009.09.018)
5. Khan, A.; Nicholson, G.; Greenman, J.; Madden, L.; McRobbie, G.; Pannecouque, C.; De Clercq, E.; Silversides, J. D.; Ullom, R.; Maples, D. L.; Maples, R. D.; **Hubin, T. J.**; Archibald, S. J. 2009. Binding Optimization through Coordination Chemistry: CXCR4 Chemokine Receptor Antagonists form Ultrarigid Metal Complexes" *J. Am. Chem. Soc.* 131:3416-3417. DOI: [10.1021/ja807921k](https://doi.org/10.1021/ja807921k)

#### (D) SYNERGISTIC ACTIVITIES

- Mentored 57 undergraduate research students at SWOSU, including 17 underrepresented minorities, and 29 women. 26 of these students have enrolled or have graduated from Chemistry Ph.D., MD, DO, PharmD or related graduate or professional programs. 24 of these undergraduate research students have appeared as co-authors on peer-reviewed publications.
- Hold 7 US and/or European Patents in the following fields: oxidation catalysts, consumer product bleach compositions, anti-viral transition metal complexes, MRI contrast agents.
- Developed a project-based Advanced Inorganic Lab course at SWOSU where each student synthesizes and characterizes a unique transition metal complex of a topologically constrained tetraazamacrocyclic. 4 publications, and 7 more in preparation have resulted from this course, with student co-authors. 9 of these undergraduate Advanced Inorganic Lab students have appeared as undergraduate co-authors without serving as undergraduate research advisees. Multiple national presentations on incorporating project-based chemistry courses have been given (American Chemical Society and National Conference on Undergraduate Research meetings).
- Served since 2009 as Campus Coordinator of the NSF funded OK-LSAMP program, which has a goal of increasing the participation and eventual graduate study of STEM fields by underrepresented students. Recruited and mentored 30 underrepresented minority STEM majors, including 10 current LSAMP scholars. Of 17 LSAMP scholars to leave the program since 2009, 14 have done so with a bachelor's degree from SWOSU. 10 of these 14 have proceeded directly into graduate programs.
- Served as a referee for multiple national and international inorganic chemistry research journals including: *Inorganic Chemistry*, *Coordination Chemistry Reviews*, *Inorganic Chimica Acta*, *New Journal of Chemistry*, *Inorganic Chemistry Communications*, *Journal of Biological Inorganic Chemistry*, *Zeitschrift für anorganische und allgemeine Chemie*, *Acta Crystallographica Section C: Structural Chemistry*, *Acta Crystallographica Section E: Crystallographic Communications*, *ChemSelects*, *Medicinal Research Reviews*, *RSC Advances*, *ChemMedChem*, *The Journal of Organic Chemistry*.