

Robert P. Houser

Associate Professor

Department of Chemistry and Biochemistry

University of Oklahoma

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Education

Ph.D. Chemistry — 1996

University of Minnesota, Minneapolis

Dissertation: Synthesis and characterization of thiolate-bridged multicopper complexes:
Modeling the Cu_A biological electron-transfer site

Advisor: William B. Tolman

B.S. Chemistry — 1987

Colorado State University

Fort Collins, CO

Academic Experience

Associate Professor	Department of Chemistry and Biochemistry University of Oklahoma	2005-present
Assistant Professor	Department of Chemistry and Biochemistry University of Oklahoma	1999-2005
Postdoctoral	California Institute of Technology laboratory of Jacqueline K. Barton	1996-1999
Graduate TA/RA	University of Minnesota laboratory of William B. Tolman	1992-1996

Leadership/Administration Experience

Assistant Chair	Department of Chemistry and Biochemistry University of Oklahoma	2006-2010
U. S. Army Officer	United States Army (active duty, Regular Army) Fort Riley, Kansas	1987-1991

Awards and Honors

University of Oklahoma Presidential International Travel Fellowship	2005
NSF CAREER Award	2001-2006
NRSA (NIH) Postdoctoral Fellowship	1997-1999
Bronze Star (Persian Gulf War)	1991
Army ROTC Distinguished Military Graduate & George C. Marshall Award	1987

RESEARCH

Publications from University of Oklahoma research

(corresponding author(s) in bold)

1. Yang, L.; Powell, D. R.; **Houser, R. P.** Copper(II) coordination chemistry of 2-methyl-2-(2-pyridyl)-1,3-propan-diol: Syntheses and structures of mono-, di-, and tricopper complexes *Polyhedron* **2010**, *29*, 1946-1955.
2. Wang, Z.; Powell, D. R.; **Houser, R. P.** Bis{2-hydroxy-N-[2-(2-pyridyl)ethyl]-benzamide}copper(I) tetrafluoridoborate *Acta Cryst.* **2010**, *E66*, m173.
3. Shakya, R.; Powell, D. R.; **Houser, R. P.** Unsupported μ -Oxo- and μ -Hydroxo Iron(III) Dimers and Mononuclear Iron(III) Complexes with Pyridylbis(aminophenol) Ligands *Eur. J. Inorg. Chem.* **2009**, 5319-5327.
4. Wang, Z.; Powell, D. R.; **Houser, R. P.** Syntheses and structures of a phenoxo-bridged copper(II) distorted cubane and related complexes with 2-hydroxy-N-(2-pyridylalkyl)benzamide ligands *Inorg. Chem. Commun.* **2009**, *12*, 511-514.
5. Yang, L.; Wang, Z.; Powell, D. R.; **Houser, R. P.** $[\text{Cu}_{16}\text{S}_{10}]^{4-}$ and $[\text{Cu}_{12}\text{S}_8]^{4-}$ Clusters Containing μ_3 - and μ_4 -Sulfido Ligands *Dalton Trans.* **2009**, 4439-4441.
6. Shakya, R.; Jozwiuk, A.; Powell, D. R.; **Houser, R. P.** Synthesis and characterization of polynuclear copper(II) complexes with pyridylbis(phenol) ligands *Inorg. Chem.* **2009**, *48*, 4083-4088.
7. Pal Chaudhuri, U.; Powell, D. R.; **Houser, R. P.** New examples of μ - η^2 : η^2 -disulfido dicopper(II,II) complexes with bis(tetramethylguanidine) ligands *Inorg. Chim. Acta* **2009**, *362*, 2371-2378.
8. Pal Chaudhuri, U.; Yang, L.; Whiteaker, L. R.; Mondal, A.; Fultz, M. R.; Powell, D. R.; **Houser, R. P.** Mononuclear Copper Complexes of Pyridylmethylamide Ligands *Polyhedron* **2007**, *26*, 5420-5431.
9. Yang, L.; Powell, D. R.; Klein, E. L.; Grohmann, A.; **Houser, R. P.** Delocalized Mixed-Valence Bi- and Trinuclear Complexes with Short Cu-Cu Bonds *Inorg. Chem.* **2007**, *46*, 6831-6833.
10. Pal Chaudhuri, U.; Whiteaker, L. R.; Mondal, A.; Klein, E. L.; Powell, D. R.; **Houser, R. P.** Substituted Pyridylmethylamide Ligands and their Zinc Complexes *Inorg. Chim. Acta* **2007**, *360*, 3610-3618.
11. Yang, L.; Powell, D. R.; **Houser, R. P.** Structural Variation in Copper(I) Complexes with Pyridylmethylamide Ligands: Structural Analysis with a New Four-Coordinate Geometry Index, τ_4 *Dalton Trans.* **2007**, 955-964.
12. Yang, L.; **Houser, R. P.** Copper(I) Coordination Chemistry of Pyridylmethylamide Ligands *Inorg. Chem.* **2006**, *45*, 9416-9422.
13. Whiteaker, L. R.; Pal Chaudhuri, U.; Powell, D. R.; **Houser, R. P.** 2-Phenyl-N-(2-pyridylmethyl)acetamide *Acta Cryst.* **2006**, *E62*, o3337-o3338.
14. Whiteaker, L. R.; Pal Chaudhuri, U.; Powell, D. R.; **Houser, R. P.** 2,2,2-Triphenyl-N-(2-pyridylmethyl)acetamide *Acta Cryst.* **2006**, *E62*, o3339-o3340.
15. Pal Chaudhuri, U.; Whiteaker, L. R.; Yang, L.; **Houser, R. P.** Multinuclear copper complexes of pyridylmethylamide ligands *Dalton Trans.* **2006**, 1902-1908.

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16. Michels, J. T.; O'Malley, B. G.; Klein, E. L.; Yang, L.; Grohmann, A.; **Houser, R. P.** 2-Methyl-*N,N'*-bis[2-(methylsulfonyl)ethyl]2-(2-pyridyl)-*N,N'*-ditosylpropane-1,3-diamine *Acta Crystallogr. E* **2005**, *E61*, o3834–o3836.
17. **Houser, R. P.**; Cheng, D. Diaquatetrakis(1*H*-imidazole)copper(II) bis[tris(1*H*-imidazole)(pyridine-2,4,6-tricarboxylato-*k*³*N,O*²:*O*⁶) cuprate(II)] dihydrate *Acta Cryst.* **2005**, *E61*, m1649–m1651.
18. Klein, E. L.; Khan, M. A.; **Houser, R. P.** Synthesis, Characterization, and Reactivity of New Copper(II) Complexes of 2-Methylthio-*N*-(2-pyridylmethyl)acetamide *Inorg. Chem.* **2004**, *43*, 7272–7274.
19. Mondal, A.; Li, Y.; Khan, M. A.; **Ross, J. H., Jr.**; **Houser, R. P.** Supramolecular Copper Hydroxide Tennis Balls: Self-Assembly, Structures, and Magnetic Properties of Octanuclear [Cu₈L₈(OH)₄]⁴⁺ Clusters (HL = *N*-(2-pyridylmethyl)acetamide) *Inorg. Chem.* **2004**, *43*, 7075–7082.
20. Cheng, D.; Khan, M. A.; **Houser, R. P.** Structural Variability of Cobalt(II) Coordination Polymers: Three Polymorphs of Co₃(TMA)₂ [TMA = Trimesate, C₆H₃(COO)₃³⁻] *Cryst. Growth Des.* **2004**, *4*, 599–604.
21. Mondal, A.; Klein, E. L.; Khan, M. A.; **Houser, R. P.** TACN-Amino Acid Conjugates and Their Copper(II) Complexes *Inorg. Chem.* **2003**, *42*, 5462–5464.
22. Cheng, D.; Khan, M. A.; **Houser, R. P.** Coordination Polymer Chains Derived from 1,2,4,5-Benzenetetracarboxylate and Transition Metals with Substituted Imidazole Co-Ligands *Inorg. Chim. Acta* **2003**, *351*, 242–250.
23. Cheng, D.; Khan, M. A.; **Houser, R. P.** Copper(II) and Cobalt(II) Coordination Polymers with *N*-Methylimidazole and Bridging 1,2,4,5-Benzenetetracarboxylate: Coordination Number-Determined Sheet Topology *J. Chem. Soc., Dalton Trans.* **2002**, 4555–4560.
24. Cheng, D.; Khan, M. A.; **Houser, R. P.** Novel Coordination Polymers Composed of Cobalt(II), 1,2,4,5-Benzenetetracarboxylate Ligands and Homopiperazonium Cations *Cryst. Growth Des.* **2002**, *2*, 415–420.
25. Cheng, D.; Khan, M. A.; **Houser, R. P.** Coordination Polymers Comprised of Copper(II), Trimesic Acid, and Imidazole: 3D Architecture Stabilized by Hydrogen-Bonding *Inorg. Chem.* **2001**, *40*, 6858–6859.
26. Stephens, J. C.; Khan, M. A.; **Houser, R. P.** Copper(II) Acetate Complexes, [CuL_{*m*}(OAc)₂]_{*n*} (L = HNPPPh₃), Stable in the Solid State Either as a Dimer (*m* = 1, *n* = 2) or a Monomer (*m* = 2, *n* = 1) *Inorg. Chem.* **2001**, *40*, 5064–5065.

Postdoctoral and graduate research publications

27. Copeland, K. D.; Fitzsimons, M. P.; Houser, R. P.; **Barton, J. K.** DNA Hydrolysis and Oxidative Cleavage by Metal-Binding Peptides Tethered to Rhodium Intercalators *Biochemistry* **2002**, *41*, 343–356.
28. Houser, R. P.; Fitzsimons, M. P.; **Barton, J. K.** Metal-Dependent Intramolecular Chiral Induction: The Zn²⁺ Complex of an Ethidium-Peptide Conjugate *Inorg. Chem.* **1999**, *38*, 1368–1370.
29. Berreau, L. M.; Mahapatra, S.; Halfen, J. A.; Houser, R. P.; Young, V. G. Jr.; **Tolman, W. B.** Reactivity of Peroxo- and Bis(μ-oxo)dicopper Complexes with Catechols *Angew. Chem., Int. Ed.* **1999**, *38*, 207–210.
30. Gamelin, D. R.; Randall, D. W.; Hay, M. T.; Houser, R. P.; Mulder, T. C.; Canters, G. W.; de Vries, S.; Tolman, W. B.; Lu, Y.; **Solomon, E. I.** Spectroscopy of Mixed-Valence Cu_A-Type

Centers: Ligand-Field Control of Ground-State Properties Related to Electron Transfer *J. Am. Chem. Soc.* **1998**, *120*, 5246–5263.

31. **Blackburn, N. J.**; de Vries, S.; Barr, M. E.; Houser, R. P.; Tolman, W. B.; Sanders, D.; Fee, J. A. X-ray Absorption Studies on the Mixed-Valence and Fully Reduced Forms of the Soluble Cu_A Domains of Cytochrome c Oxidase *J. Am. Chem. Soc.* **1997**, *119*, 6135–6143.
32. Williams, K. R.; Gamelin, D. R.; LaCroix, L. B.; Houser, R. P.; Tolman, W. B.; Mulder, T. C.; de Vries, S.; **Hedman, B.**; **Hodgson, K. O.**; **Solomon, E. I.** Influence of Copper-Sulfur Covalency and Copper-Copper Bonding on Valence Delocalization and Electron Transfer in the Cu_A Site of Cytochrome c Oxidase *J. Am. Chem. Soc.* **1997**, *119*, 613–614.
33. Houser, R. P.; Young, V. G. Jr.; **Tolman, W. B.** A Thiolate-Bridged, Fully Delocalized Mixed-Valence Dicopper(I,II) Complex That Models the Cu_A Biological Electron-Transfer Site *J. Am. Chem. Soc.* **1996**, *118*, 2101–2102.
34. Houser, R. P.; Halfen, J. A.; Young, V. G. Jr.; Blackburn, N. J.; **Tolman, W. B.** Structural Characterization of the First Example of a Bis(μ -thiolato)dicopper(II) Complex. Relevance to Proposals for the Electron Transfer Sites in Cytochrome c Oxidase and Nitrous Oxide Reductase *J. Am. Chem. Soc.* **1995**, *117*, 10745–10746.
35. Houser, R. P.; **Tolman, W. B.** Mixed Valence, Tricopper(I,II,I) Complexes with Thiolate Bridges. Progress toward Synthetic Models of the Putative {Cu₂}³⁺ Sites in Nitrous Oxide Reductase and Cytochrome c Oxidase *Inorg. Chem.* **1995**, *34*, 1632–1633.
36. LeCloux, D. D.; Tokar, C. J.; Osawa, M.; Houser, R. P.; Keyes, M. C.; **Tolman, W. B.** Optically Active and C₃-Symmetrical Tris(Pyrazolyl)Hydroborate and Tris(Pyrazolyl)Phosphine Oxide Ligands - Synthesis and Structural Characterization *Organometallics* **1994**, *13*, 2855–2866.
37. Carrier, S. M.; Ruggiero, C. E.; Houser, R. P.; **Tolman, W. B.** Synthesis, Structural Characterization, and Electrochemical Behavior of Copper(I) Complexes of Sterically Hindered Tris(3-tert-Butylpyrazolyl and 3,5-Diphenylpyrazolyl)Hydroborate Ligands *Inorg. Chem.* **1993**, *32*, 4889–4899.

Research Funding – External

National Science Foundation (PI)

Design and Synthesis of Models for Copper Enzymes in Denitrifying Bacteria
\$401,000; September 2006 – August 2009

Herman Frasch Foundation (PI)

Copper-Containing Enzymes in the Bacterial Denitrification Pathway: Synthesis of Inorganic Complexes that Model Nitrite Reductase and Nitrous Oxide Reductase
\$200,000; July 2002 – June 2007

National Science Foundation CAREER Award (PI)

Models for Metal Active Sites in Proteins
\$435,000; March 2001 – February 2007 (including 1 yr no-cost extension)

National Science Foundation – Major Research Instrumentation (Co-PI)

Acquisition of X-ray Scattering Systems for the Characterization of Nanostructured Materials
\$474,842 (direct costs only) August 2004 – July 2005

Petroleum Research Fund (PI, PRF-G)

Synthesis and Characterization of Functional Mimics of the Dicopper Center in Nitrite Reductase
\$25,000; September 2000 – August 2002

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Research Funding – Internal

University of Oklahoma Office of the Vice President for Research (travel)
Joint SW/SE Regional ACS meeting in New Orleans, LA
\$414; December 2010

University of Oklahoma College of Arts & Sciences (travel)
Joint SW/SE Regional ACS meeting in New Orleans, LA
\$414; December 2010

University of Oklahoma Office of the Vice President for Research (travel)
National ACS meeting in Washington D.C.
\$550; August 2009

University of Oklahoma College of Arts & Sciences (travel)
National ACS meeting in Washington D.C.
\$550; August 2009

University of Oklahoma Department of Chemistry & Biochemistry/Astellas (travel)
National ACS Meeting in Salt Lake City
\$1700; March 2009

University of Oklahoma Office of the Vice President for Research (travel)
National ACS meeting in New Orleans
\$724; April 2008

University of Oklahoma College of Arts & Sciences (travel)
National ACS meeting in New Orleans
\$724; April 2008

University of Oklahoma College of Arts & Sciences Faculty Enrichment Grant
ChemDraw 11.0 Software Purchase
\$620; October 2007

University of Oklahoma Office of the Vice President for Research (travel)
National ACS meeting in San Francisco
\$500; September 2006

University of Oklahoma College of Arts & Sciences (travel)
National ACS meeting in San Francisco
\$500; September 2006

Department of Chemistry & Biochemistry Professional Development (travel)
National ACS Meeting in Atlanta
\$800; March 2006

University of Oklahoma Presidential International Travel Fellowship (travel)
1st European Conference on Chemistry for Life Sciences in Rimini, Italy
\$1000; October 2005

University of Oklahoma Office of the Vice President for Research (travel)
National ACS meeting in San Diego
\$774; March 2005

University of Oklahoma College of Arts & Sciences (travel)
National ACS meeting in San Diego
\$774; March 2005

University of Oklahoma Faculty Enrichment Grant
Models of Metal Active Sites in Denitrifying Bacteria
\$999; May 2004 – August 2004

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University of Oklahoma Office of the Vice President for Research (travel)
National ACS meeting in Anaheim
\$451; March 2004

University of Oklahoma College of Arts & Sciences (travel)
National ACS meeting in Anaheim
\$451; March 2004

University of Oklahoma Dugger Foundation (travel)
Gordon Conference on Inorganic Reaction Mechanisms
\$864; February 2003

Department of Chemistry & Biochemistry Professional Development (travel)
National ACS Meeting in San Diego
\$1,200; April 2001

University of Oklahoma Dugger Foundation (travel)
Gordon Conference on Metals in Biology
\$955; January 2000

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Invited Conference Lectures

Carnegie Initiative on the Doctorate Summer Convening on Research, Stanford, CA, Aug 2005, Asking Questions and Developing a Line of Inquiry

National Science Foundation Workshop on Inorganic Chemistry, Leesburg, VA, June 2005, Reduction of Cu(II) by Thioether Sulfur: Relevance to β -Amyloid Peptide and Alzheimer's Disease

229th American Chemical Society National Meeting, San Diego, CA, March 2005
Modeling Copper Sites in Denitrifying Enzymes Nitrite Reductase and Nitrous Oxide Reductase

39th Midwest Regional Meeting of the American Chemical Society, Manhattan, KS, Oct 2004, Coordination Polymers with 2,4,6-Pyridinetri-carboxylate: 1D Chains and 2D Tiles

Invited Lectures at Colleges and Universities

Cameron University, February 2008
Oklahoma State University, September 2007
Creighton University, February 2006
Technische Universität Berlin, October 2005
University of Arkansas Pine Bluff, April 2005
Cameron University, March 2004
University of Utah, February 2004
Utah State University, February 2004
University of Utah, February 2004
Westfälische Wilhelms-Universität Münster, November 2003
Max Planck Institut für Bioanorganische Chemie, November 2003
Technische Universität Berlin, November 2003
Texas A & M University, October 2003
University of Colorado, October 2003
Colorado State University, September 2003
University of Wyoming, September 2003
Trinity University, November 2001
Texas Lutheran University, November 2001
Southwestern Oklahoma State University, April 2001
University of Texas at Dallas, October 2000

Contributed Papers from University of Oklahoma Research

(corresponding author in bold; ‡presenting author)

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1. ‡**Houser, R. P.** Copper and iron coordination chemistry with pyridylamide and pyridylbis (amide) ligands: Progress towards modeling Cu₂ from nitrous oxide reductase, and non-heme diiron centers *66th Southwest and 62nd Southeastern Regional Meeting of the American Chemical Society*, New Orleans, LA, December 2010
2. ‡**Houser, R. P.** Coordination chemistry of pyridylbis(aminophenol), pyridylbis (amidophenol), and pyridylbis(amidothioether) ligands: From copper clusters to oxo- and hydroxo-bridged iron dimers *238th American Chemical Society National Meeting*, Washington, DC, August 2009
3. ‡**Houser, R. P.** Copper(I) sulfide clusters and complexes: Progress toward models of Cu₂ from nitrous oxide reductase *237th American Chemical Society National Meeting*, Salt Lake City, UT, March 2009
4. ‡Shakya, R.; **Houser, R. P.** Unsupported hydroxo- and oxo-bridged binuclear iron(III) complexes of pyridyl bis(aminophenol) ligands *237th American Chemical Society National Meeting*, Salt Lake City, UT, March 2009
5. ‡Pal Chaudhuri, **Houser, R. P.** Copper Complexes of 3-Methylthio-N-(3-pyridylmethyl)acetamide and 4-Methylthio-N-(3-pyridylmethyl)acetamide as Models for Copper Nitrite Reductase *235th American Chemical Society National Meeting*, New Orleans, LA, April 2008
6. ‡Pal Chaudhuri, U.; **Houser, R. P.** Investigating the Coordination Chemistry of 3-Methylthio-N-(3-pyridylmethyl)acetamide and 4-Methylthio-N-(3-pyridylmethyl)acetamide as Models for Copper Nitrite Reductase *53rd Pentasectional Meeting of the American Chemical Society*, Duncan, OK, March 2008
7. ‡Yang, L.; **Houser, R. P.** Model complexes of the Cu₂ center from nitrous oxide reductase *234th American Chemical Society National Meeting*, Boston, MA, August 2007
8. ‡**Houser, R. P.**; Yang, L.; Wang, Z. Polynuclear copper(II) and mixed-valence copper complexes: Progress toward models of the Cu₂ catalytic cluster in nitrous oxide reductase *233rd American Chemical Society National Meeting*, Chicago, IL, March 2007
9. ‡**Houser, R. P.**; Klein, E. L.; Pal Chaudhuri, U.; Anderson, B. M. Spontaneous Redox Between Copper(II) and a Thioether Ligand: Modeling the Oxidation of Methionine in Amyloid β of Alzheimer's Disease *231st American Chemical Society National Meeting*, Atlanta, GA, March 2006
10. ‡**Houser, R. P.**; Mondal, A.; Klein, E. L. Octanuclear Copper(II) Clusters: Progress Toward Modeling the Cu₂ Cluster from Nitrous Oxide Reductase *227th American Chemical Society National Meeting*, Anaheim, CA, March 2004
11. ‡Klein, E. L.; Khan, M. A.; **Houser, R. P.** Synthetic Models of the Perturbed Type I Copper Center from Nitrite Reductase: Novel Thiolate/Thioether Copper(II) Complexes *227th American Chemical Society National Meeting*, Anaheim, CA, March 2004
12. ‡Cheng, D.; Xu, H.; **Houser, R. P.** 1D Coordination Polymers Composed of Copper(II), Trimesic Acid and Imidazole *59th Southwest Regional Meeting of the American Chemical Society*, Oklahoma City, OK, October 2003
13. ‡Klein, E. L.; **Houser, R. P.** Modeling the Copper-Containing Nitrite Reductase Active Site: Synthesis and Characterization of Novel N₂S(Thiolate)S(Thioether) Copper Complexes *59th Southwest Regional Meeting of the American Chemical Society*, Oklahoma City, OK, October 2003

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14. ‡**Houser, R. P.**; Mondal, A.; Klein, E. L.; Khan, M. A. Progress Toward Model Complexes of the Active Site in the Denitrifying Enzyme Nitrite Reductase
225th American Chemical Society National Meeting, New Orleans, LA, March 2003
15. ‡**Houser, R. P.**; Cheng, D.; Khan, M. A. Unusual Topologies in Supramolecular Coordination Polymers Comprised of Transition Metals and Aromatic Carboxylates
225th American Chemical Society National Meeting, New Orleans, LA, March 2003
16. ‡**Houser, R. P.** Design and Synthesis of Copper Complexes that Model Active Sites of the Denitrifying Enzymes Nitrite Reductase and Nitrous Oxide Reductase
58th American Chemical Society Southwest Regional Meeting, Austin, TX, Nov 2002
17. ‡Cheng, D.; **Houser, R. P.** Copper(II), Zinc(II) and Cobalt(II) Coordination Polymers with Bridging 2,4,6-pyridinetricarboxylate *58th American Chemical Society Southwest Regional Meeting*, Austin, TX, November 2002
18. ‡**Houser, R. P.** Coordination Polymers Containing Transition Metals and Aromatic Carboxylates: New Materials with Large Channels *57th American Chemical Society Southwest Regional Meeting*, San Antonio, TX, October 2001

Contributed Papers from Postdoctoral and Graduate Research

(corresponding author in bold; ‡presenting author)

19. ‡Houser, R. P.; Fitzsimons, M. P.; **Barton, J. K.**
Hydrolytic Cleavage of DNA with Metallointercalator-Peptide Conjugates
214th American Chemical Society National Meeting, Las Vegas, NV, September 1997
20. ‡Houser, R. P.; Halfen, J. A.; Young, V. G. Jr.; Blackburn, N. J.; **Tolman, W. B.**
Progress Towards a Model of the Mixed Valence Dicopper center in Nitrous Oxide Reductase *210th American Chemical Society Nat'l Meeting*, Chicago, IL, August 1995

Posters from University of Oklahoma Research

(corresponding author in bold; ‡presenting author)

1. Shakya, R.; Wang, Z.; Jozwiuk, A.; Pal Chaudhuri, U.; Yang, L.; Klein, E.; Mondal, A.; **‡Houser, R. P.** Copper(II) and Iron(III) Coordination Chemistry with Pyridylamido and Pyridylbis(amino/imino/amido) Ligands: From Copper Clusters to Oxo- and Hydroxo-Bridged Diiron(III,III) Complexes *Gordon Research Conference: Inorganic Chemistry*, Biddeford, ME, June 2009
2. ‡ McClain, J. M. II, **Houser, R. P.** Synthesis and characterization of a cyclic, trinuclear copper(I)-thioacetamide hydrosulfide complex *237th American Chemical Society National Meeting*, Salt Lake City, UT, March 2009
3. ‡Wang, Z.; **Houser, R. P.** Binuclear and tetranuclear copper(II) complexes with pyridylamidophenol ligands *237th American Chemical Society National Meeting*, Salt Lake City, UT, March 2009
4. ‡Yang, L.; **Houser, R. P.** Model Complexes of the Cu₂ Center from Nitrous Oxide Reductase *235th American Chemical Society National Meeting*, New Orleans, LA, April 2008
5. ‡Son, M. J.; Pal Chaudhuri, U.; **Houser, R. P.** Copper Complexes of *N*-(3-pyridylmethyl)-acetamide *235th American Chemical Society National Meeting*, New Orleans, LA, April 2008
6. ‡Yang, L.; **Houser, R. P.** Progress Towards Model Complexes of the Cu₂ Center from Nitrous Oxide Reductase *53rd Pentasectional Meeting of the American Chemical Society*, Duncan, OK, March 2008

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7. Yang, L.; Wang, Z.; ‡**Houser, R. P.** Mixed-Valence Copper Trimers and Copper Sulfide Clusters: Models for the Cu₂ center in Nitrous Oxide Reductase *Gordon Research Conference: Inorganic Chemistry*, Newport, RI, July 2007
8. ‡Whiteaker, L. R.; Pal Chaudhuri, U.; **Houser, R. P.** Zinc(II) complexes of pyridyl-substituted mono- and bis(guanidine) ligands *233rd American Chemical Society National Meeting*, Chicago, IL, March 2007
9. ‡Pal Chaudhuri, U.; Whiteaker, L. R.; **Houser, R. P.** Copper complexes of a new family of alkylguanidine derivatives of 2-(aminomethyl)pyridine and 2-methyl-2-(2-pyridinyl)-1,3-propanediamine *233rd American Chemical Society National Meeting*, Chicago, IL, March 2007
9. ‡Houser, R. P. Copper Coordination Chemistry with Pyridylmethylamide and Pyridylbis (methylamide) Ligands: Bioinorganic Modeling from Denitrification to Alzheimer's Disease *Gordon Research Conference: Inorganic Chemistry*, Newport, RI, July 2006
10. ‡Yang, L.; Pal Chaudhuri, U.; Whiteaker, L. R.; **Houser, R. P.** Progress Towards Model Complexes of the Cu-Z Center from Nitrous Oxide Reductase *231st American Chemical Society National Meeting*, Atlanta, GA, March 2006
11. ‡Pal Chaudhuri, U.; Anderson, B. M.; Klein, E. L.; **Houser, R. P.** Reduction of Copper(II) by a Thioether: Relevance to the β Amyloid Peptide (A β) of Alzheimer's Disease *231st American Chemical Society National Meeting*, Atlanta, GA, March 2006
12. ‡Whiteaker, L. R.; Pal Chaudhuri, U.; Yang, L.; **Houser, R. P.** Pyridylmethylacetamide Ligands and their Hydrogen Bonding and Coordination Behavior *231st American Chemical Society National Meeting*, Atlanta, GA, March 2006
13. Klein, E. L.; Anderson, B. M.; Michels, J. T.; O'Malley, B. G.; Grohmann, A.; ‡**Houser, R. P.** Spontaneous Redox Between Copper(II) and a Methionine Analog Relevant to Amyloid- β Oxidation and Alzheimer's Disease *1st European Conference on Chemistry for Life Sciences*, Rimini, Italy, October 2005
14. ‡**Houser R. P.**; Click T. Carnegie Initiative on the Doctorate 2004-2005 CID Activities *Carnegie Initiative on the Doctorate Summer Convening*, Stanford, CA, Aug 2005
15. ‡Pal Chaudhuri, U.; Whiteaker L. R.; **Houser R. P.** Copper and Zinc Complexes of Pyridylmethylamide Ligands –Synthesis, Characterization and DNA Cleavage Studies *12th Internat'l Conference on Biological Inorganic Chemistry*, Ann Arbor, MI, Aug 2005
16. ‡Klein, E. L.; Grohmann, A.; **Houser, R. P.** Copper(II) Reduction by Methylthioether Sulfur: Relevance to ROS Generation in Alzheimer's Disease β -Amyloid Peptides *12th Internat'l Conference on Biological Inorganic Chemistry*, Ann Arbor, MI, Aug 2005
17. ‡Yang, L.; Pal Chaudhuri, U. Whiteaker L. R.; **Houser R. P.** Progress Towards Model Complexes of the Cu₂ Center from Nitrous Oxide Reductase *12th Internat'l Conference on Biological Inorganic Chemistry*, Ann Arbor, MI, Aug 2005
18. Pal Chaudhuri, U.; Klein, E. L.; Mullin, S. A.; Whiteaker, L. R.; Yang, L.; ‡**Houser R. P.** Synthesis and characterization of copper complexes with pyridylmethylamide ligands *229th American Chemical Society National Meeting*, San Diego, CA, March 2005
19. Cheng D.; ‡**Houser R. P.** 1D chains and 2D tiles from transition metals and 2,4,6-pyridinetri-carboxylate *229th American Chemical Society National Meeting*, San Diego, CA, March 2005
20. ‡**Houser, R. P.**; Cheng, D.; Khan, M. A. Unusual Topologies in Supramolecular Coordination Polymers Comprised of Transition Metals and Aromatic Carboxylates *Gordon Research Conference: Inorganic Reaction Mechanisms*, Ventura, CA, Feb 2003

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21. ‡Klein, E. L.; Mondal, A.; **Houser, R. P.** Design and Synthesis of Ligand-Peptide Conjugates and Their Metal Complexes as Metalloenzyme Site Models *58th American Chemical Society Southwest Regional Meeting*, Austin, TX, Nov 2002
22. ‡Mondal, A.; Klein, E. L.; **Houser, R. P.** Synthesis and Characterization of Metallopeptides Derived from Ligand-Peptide Conjugates of TACN (1,4,7-triazacyclononane) and Amino Acids *58th American Chemical Society Southwest Regional Meeting*, Austin, TX, November 2002
23. ‡Klein, E. L.; Mondal, A.; **Houser, R. P.** Design and Synthesis of Ligand-Peptide Conjugates and their Metal Complexes *57th American Chemical Society Southwest Regional Meeting*, San Antonio, TX, October 2001
24. ‡Cheng, D.; **Houser, R. P.** Solids Containing Large Channels Synthesized from Metal Complexes of 1,3,5-Benzenetricarboxylate and 1,2,4,5-Benzenetetracarboxylate *57th American Chemical Society Southwest Reg'l Meeting*, San Antonio, TX, Oct 2001
25. Klein, E. L.; Mondal, A.; ‡Houser, R. P. Transition metal complexes of ligand-peptide conjugates: Progress towards modeling Cu-NiR *10th International Conference on Bioinorganic Chemistry*, Florence, Italy, August 2001
26. Cheng, D.; Stephens, J. C.; ‡**Houser, R. P.** A mixed-valence copper cluster relevant to the Cu₂ catalytic site in nitrous oxide reductase *10th International Conference on Bioinorganic Chemistry*, Florence, Italy, August 2001
27. ‡Klein, E. L.; Reese, R. D.; **Houser, R. P.** Design and synthesis of ligand-peptide conjugates and their copper complexes: Models of the copper centers in nitrite reductase *221st American Chemical Society Nat'l Meeting*, San Diego, CA, April 2001
28. ‡Stephens, J. C.; Cheng, D.; Collins, S.; **Houser, R. P.** Progress towards a structural model of the Cu₂ cluster in nitrous oxide reductase *221st American Chemical Society National Meeting*, San Diego, CA, April 2001
29. ‡**Houser, R. P.**; Cheng, D.; Stephens, J. C.; Collins, S. Progress towards a structural model of the Cu₂ cluster in nitrous oxide reductase *46th Annual Pentasectional Meeting of the Oklahoma Sections of the Am. Chemical Society*, Bartlesville, OK, March 2001
30. Stephens, J. C.; Collins, S.; ‡**Houser, R. P.** Progress towards a structural model of the Cu₂ cluster in nitrous oxide reductase *52nd Southeast/56th Southwest Combined Regional Meeting of the American Chemical Society*, New Orleans, LA, December 2000

Posters from Postdoctoral and Graduate Research

(corresponding author in bold, ‡presenting author)

31. ‡Houser, R. P.; Fitzsimons, M. P.; **Barton, J. K.** Construction of metal-peptide conjugates targeted to DNA *9th International Conference on Bioinorganic Chemistry*, Minneapolis, MN, July 1999
32. ‡Houser, R. P.; **Barton, J. K.** Metal-Dependent Intramolecular Chiral Induction: The Zn²⁺ Complex of an Ethidium-Peptide Conjugate *Gordon Research Conference: Inorganic Chemistry*, Newport, RI, July 1998
33. ‡Houser, R. P.; **Barton, J. K.** Metallointercalator-Peptide Conjugates that Contain Constrained α -Helical Peptides: Potential Artificial Nucleases *Gordon Graduate Research Seminar: Bioinorganic Chemistry*, Ventura, CA, January 1998
34. ‡Houser, R. P.; **Tolman, W. B.** Models for the Cu_A Site in Cytochrome c Oxidase *Gordon Graduate Research Seminar: Bioinorganic Chemistry*, Ventura, CA, January 1996

35. ‡Houser, R. P.; Halfen, J. A.; Young, V. G. Jr.; Blackburn, N. J.; **Tolman, W. B.** A Dicopper(II)-bis- μ -thiolato Complex Relevant to the Cu_A Sites in Cytochrome c Oxidase and N₂O Reductase *Midwest Bioinorganic Summer Workshop*, Mpls, MN, June 1995
36. ‡Houser, R. P.; **Tolman, W. B.** A Mixed Valence Thiolate Bridged Tricopper Complex as a Model of the Mixed-Valence Copper Site in Nitrous Oxide Reductase 208th American Chemical Society National Meeting, Washington, DC, August 1994

TEACHING

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Teaching Responsibilities at the University of Oklahoma

Fall 1999	Chem 4333	Inorganic Chemistry (35 students)
Fall 2000	Chem 4333	Inorganic Chemistry (35)
Spring 2001	Chem 1315	General Chemistry I (100)
Fall 2001	Chem 5333	Physical Inorganic Chemistry (5)
Spring 2002	Chem 6863	Special Topics: Bioinorganic Chemistry (10)
Fall 2002	Chem 5333 Chem 6850	Physical Inorganic Chemistry (8) Inorganic Seminar Coordinator
Spring 2003	Chem 1315	General Chemistry I (150)
Spring 2004	Chem 4923	Chemistry Capstone: Chem. of the Environment (30)
Fall 2004	Chem 1315 Chem 6850	General Chemistry I (100) Inorganic Seminar Coordinator
Spring 2005	Chem 4923	Chemistry Capstone: Chem. of the Environment (35)
Spring 2006	Chem 4923 Chem 6850	Chemistry Capstone: Chem. of the Environment (35) Inorganic Seminar Coordinator
Fall 2006	Chem 6863 Chem 6850	Special Topics: Copper in Metalloproteins and Medicine Inorganic Seminar Coordinator
Fall 2007	Chem 4333/5233 Chem 6863* (*temporary #)	Inorganic Chemistry/Advanced Inorganic Chemistry (40) Foundations in Chemistry and Biochemistry (Team-taught w/ Paul Cook, Roger Frech, Ken Nicholas, and Rich Taylor)
Spring 2008	Chem 6850 Chem 5333 Chem 6863* (*temporary #)	Inorganic Seminar Coordinator Physical Inorganic Chemistry (9) Foundations in Chemistry and Biochemistry (Team-taught w/ Paul Cook, Roger Frech, Ken Nicholas, and Rich Taylor)
Fall 2008	Chem 6850 Chem 5213	Inorganic Seminar Coordinator Foundations in Chemistry and Biochemistry (Team-taught w/ Paul Cook, Roger Frech, Ron Halterman, and Rich Taylor)
Spring 2009	Chem 5313	Foundations in Chemistry and Biochemistry (Team-taught w/ Paul Cook, Roger Frech, Ron Halterman, and Rich Taylor)
Fall 2010	Chem 5333 Chem 6850 Chem 4333/5233	Physical Inorganic Chemistry (5) Inorganic Seminar Coordinator Inorganic Chemistry/Advanced Inorganic Chemistry (45)
Spring 2011	Chem 4923 Chem 5333	Chemistry Capstone: Chem. of the Environment (TBD) Physical Inorganic Chemistry (TBD)

Also supervised students in Honors Reading (Chem 3960), Honors Research (Chem 3980), Independent Study (Chem 3990; Chem 4990; Chem 5990), Directed Readings (Chem 5960), and Dissertation Research (Chem 6980).

Activities Related to Pedagogical Development

Foundations in Chemistry & Biochemistry: an Introductory Graduate Course, developed by CID Committee in 2006 and 2007, implemented Fall 2007/Spring 2008.

Carnegie Initiative on the Doctorate: Summer Convening, Stanford, CA, August 2005

Faculty Discussion Group: Making Large Classes Interesting, Norman, OK, Spring 2001

New Faculty Professional Development Seminar, Norman, OK, Fall 1999

Advisees (current group members in bold)

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Postdoctoral Researchers

<i>Dr. Rajendra Shakya</i>	2007-2009
<i>Dr. Urmila Chaudhuri</i>	2004-2008
<i>Dr. Deping Cheng</i>	2001-2004
<i>Dr. Arunendu Mondal</i>	2001-2003

Graduate Students

Adam Campbell	2010-present
Anna Jozwiuk	2010-present
Audrey Myers	2008-present
Mike McClain	2007-present
Zhaodong Wang	2005-present
<i>Lei Yang, Ph.D. 2008</i>	2003-2008
<i>Ryan Sprouse, M.S. (non-thesis) 2004</i>	2002-2004
<i>Hanhui Xu</i>	2002-2004
<i>Hongfei Xi, M.S. (non-thesis) 2004</i>	2001-2004
<i>Eric Klein, Ph.D. 2006</i>	2000-2006

Undergraduate Students

<i>Anna Jozwiuk (TU-Berlin exchange student)</i>	2007-2008
<i>Jessica Son</i>	2007-2008
<i>Matthew Fultz (honors student)</i>	2006-2007
<i>Brett Anderson (honors student)</i>	2005-2007
<i>Laura Whiteaker (honors student)</i>	2004-2007
<i>Niket Muni (honors student)</i>	2004-2004
<i>Scott Mullin (honors student)</i>	2003-2005
<i>Antony Rivers</i>	2003-2003
<i>Kimberly Yang (B.S. thesis 2004, honors student)</i>	2002-2004
<i>Matt Bauer (honors student)</i>	2002-2004
<i>Scott Nguyen (honors student)</i>	2002-2002
<i>Tracy Washington (honors student)</i>	2002-2003
<i>Brant Bennett</i>	2001-2001
<i>Kimberly Lin</i>	2001-2001
<i>Mark Howard (B.S. 2000)</i>	2000-2000
<i>Ryan Reese (B.S. thesis 2001, honors student)</i>	2000-2001
<i>Scott Collins</i>	2000-2000
<i>Jeremy Stephens (B.S. thesis 2002)</i>	2000-2002
<i>Eric Klein</i>	1999-2000

High School Students

<i>Amanda Stockton</i>	2000-2000
<i>Scott Mullin</i>	2002-2002

Doctoral Committees

To date have served on more than 30 Doctoral Committees

Masters Committees

To date have served on 11 Masters Committees

SERVICE

Departmental Service

Coordinator for Departmental Move to New Building (SLSRC)	2010
Assistant Chair, Department of Chemistry and Biochemistry	2006-2010
New Building Committee	2007-present
Elected Member of Committee "A" (Departmental Exec. Committee)	2006-2008
Graduate Committee	2004-2010
Chair, Carnegie Initiative on the Doctorate (CID) Leadership Team	2004-present
Chair, Small Molecule X-ray Crystallography User Group	2004-present
Recruiting Committee	2004-2006
Coordinator, Summer Research Experience for Undergraduates	2004-2005
Student Organization Advisor (PLU)	2001-2004
Faculty Marshal for College of Arts & Sciences Convocation	2000-2004
Seminar Committee	2000-2004
Host for Karcher/Barton & Divisional Seminar Speakers	2000-present
General Chemistry Text Committee	2000-2002
Secretary at faculty meetings	1999-2000

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College and University Service

Advisory Committee to the Vice President for Research (AC-VPR)	2008-2010
Chair, OU Research Council	2008-2009
OU Research Council	2006-2009
OU Faculty Senate Development Award Committee	2006-2009
Honors College National Scholarship Selection Committee	2006-2008
Books That Inspire V	2005
Adopt-a-Faculty Program	2003-2005
English Assessment Program Panelist	2002-present
Faculty-In-Residence Program	2002-2003
Henderson Scholars Program Mentor	2002-2003

Leadership Roles at Meetings

Organizer and Session Chair (Bioinorganic Chemistry) *66th Southwest and 62nd Southeastern Regional Meeting of the American Chemical Society*, New Orleans, LA, December 2010

Session Chair (Coordination Chemistry) *238th American Chemical Society National Meeting*, Washington, DC, August 2009

Session Chair (Coordination Chemistry: Applications) *237th American Chemical Society National Meeting*, Salt Lake City, UT, March 2009

Organizer and Session Chair (General Inorganic, Main Group Chemistry, Synthesis and Characterization of Materials) *235th American Chemical Society National Meeting*, New Orleans, LA, April 2008

Organizer and Session Chair (Bioinorganic Compound Design and Modeling; Inorganic Coordination Chemistry-Characterization and Applications; Inorganic Coordination Chemistry-Synthesis) *231st American Chemical Society National Meeting*, Atlanta, GA, March 2006

Session Chair (Bioinorganic Chemistry)
227th American Chemical Society National Meeting, Anaheim, CA, April 2004

Session Chair, *59th Southwest Regional Meeting of the American Chemical Society*, Oklahoma City, OK, October 2003

Journals and Granting Agencies for which I Have Refereed

Australian Journal of Chemistry
BBA – Proteins and Proteomics
Chemical Reviews
Crystal Growth and Design
Crystal Engineering Communications
Dalton Transactions
European Journal of Inorganic Chem.
Inorganic Chemistry
Inorganic Chemistry Communications

Inorganica Chimica Acta
J. Biological Inorganic Chemistry
Journal of Coordination Chemistry
Journal of Molecular Structure
J. American Chemical Society
New Journal of Chemistry
Langmuir
Polyhedron
Proc. Org. Reactions Catalysis Society
Supramolecular Chemistry

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National Science Foundation (NSF)
Petroleum Research Fund (PRF)
U.S. Civilian Research and
Development Foundation (CRDF) 2004
Moldovan-U.S. Bilateral Grants
Program
PSC-CUNY (City University of New York
granting program)