



ON-SITE MEETING PROGRAM



**237th American Chemical Society
National Meeting & Exposition
Salt Lake City, UT
March 22 – 26, 2009**



- 4:00 100.** Carbyne complexes of ruthenium: Synthesis, structure, and reactivity. **M. J. A. Johnson**, M. L. Macnaughtan, J. W. Kampf
- 4:20 101.** Verifying an ortho fluorine effect through M-C/H-C bond energy correlations of fluorinated aromatic hydrocarbons. **M. E. Evans**, W. D. Jones
- 4:40 102.** Synthesis and catalytic activity of Bis-dimidazolylidene complexes of nickel. **T. A. P. Paulose**, J. W. Quail, S. R. Foley
- 5:00 103.** Electron-rich ruthenium hydride complexes: Potential catalysts for regio-selective reductions. **A. P. Shaw**, J. R. Norton

Section F

Salt Palace Convention Center
Combo Rooms 253 A-BChemistry of Materials
Crystals, Light, and SensorsD. J. Nelson, *Organizer*M. H. Bartl and Y. Sun, *Presiding*

- 2:00 104.** Atomic layer deposition of tantalum oxide using a new amidinate-based precursor. **M. K. Wiedmann**, C. H. Winter
- 2:20 105.** Directed syntheses of noncentrosymmetric materials. **A. J. Norquist**
- 2:40 106.** Nanostructural investigation of thorium incorporated UO₂ and UN₂. **G. W. C. Silva**, K. Czerniewski
- 3:00 107.** Polar and ionic liquid crystals incorporating the [closo-1-CB₉H₁₀] cluster. **P. Kaszynski**, B. S. Ringstrand
- 3:20 108.** Strong optical second harmonic generation from the tantalum thioarsenates A3Ta2AsS11 (A = K, Rb). **T. K. Bera**, J. I. Jang, J. B. Ketterson, M. G. Kanatzidis
- 3:40 109.** Synthesis, structures and physical properties of double metal cyanides. **P. J. van Koningsbruggen**, E. J. M. Vertelman, H. Tchouka, A. Noble
- 4:00 110.** Using precursor-controlled microstructures for preparing selective gas microsensors by chemical vapor deposition. **C. J. Taylor**, J. A. Beardslee, A. K. Mebust, A. S. Chaimowitz, C. R. Davis-vanAtta
- 4:20 111.** Vapor phase synthesis of upconverting nanocrystals to generate red, green, blue and white light. **G. P. Gasparell II**, J. Anderson, J. R. Wilkins, M. S. El-Shall
- 4:40 112.** Lanthanide-based polymers and ionic liquids. **R. E. Del Sesto**, D. Ortiz-Acosta, G. M. Purdy, E. A. McKigney, R. D. Gilbertson, R. Muenchausen, T. M. McCleskey, B. L. Scott, B. L. Bennett, A. H. Mueller
- 5:00 113.** Molecular based thin films: Structures, materials and devices. **T. Gupta**

Section G

Salt Palace Convention Center
255 F

Inorganic Spectroscopy

D. C. Crans, *Organizer*S. Ciurli, *Presiding*

- 2:00 114.** FT-IR investigations of carbon dioxide adsorption in flexible coordination polymers. **J. T. Culp**, A. L. Goodman, C. Matranga
- 2:20 115.** Spectroscopic and computational studies of peroxomanganese(III) adducts. **T. A. Jackson**, R. Geiger, S. Chattopadhyay
- 2:40 116.** Cooperative dual donor sensitization in lanthanide system. **Z. Assefa**, C. Crawford, N. Beedoe, B. Maynard, P. Smith, L. Ladner, R. E. Sykora
- 3:00 117.** Spin delocalization and spin polarization in a triplet donor-bridge-acceptor biradical system. **M. L. Kirk**, D. Habel-Rodriguez, D. A. Shultz, R. D. Schmidt
- 3:20 118.** Structural and spectroscopic evidence of electron delocalization in a cyanide bridged trinuclear compound. **L. M. Baraldo**, M. B. Rossi, P. Alborés

- 3:40 119.** Luminescent β -diketones: Photo-physical properties and magnesium binding. **G. Zhang**, S. H. Kim, R. E. Evans, B. H. Kim, J. N. Demas, C. L. Fraser
- 4:00 120.** Two color reversible photochromism. **B. A. McClure**, J. J. Rack
- 4:20 121.** Photochemistry and photophysics of photochromic ruthenium sulfoxide complexes. **J. J. Rack**, B. A. McClure, D. A. Lutterman, C. Turro
- 4:40 122.** Homoleptic and heteroleptic Fe(III) and Fe(IV) complexes stabilized by sulfur-donor ligands. **S. Sproules**, C. Milsman, S. DeBeer George, K. Wieghardt

Section H

Salt Palace Convention Center
Combo Rooms 253 A-B

Bioinorganic Chemistry: DNA and RNA

D. C. Crans and S. L. J. Michel,
*Organizers*J. B. Vincent, *Presiding*

- 2:30 123.** DNA binding and cleavage and anticancer activities of dinuclear mixed ligand copper(II) complexes of dimines. **M. Palaniandavar**, S. Ramakrishnan, M. A. Akbarsha, V. S. Periasamy
- 2:50 124.** Size and distance dependent NSET ruler for selective sensing of hepatitis C virus RNA. **P. Ray**
- 3:10 125.** Sulfur oxygenates of biomimetics of the diiron subsite of the [FeFe] hydrogenase active site: Structures, reactivity and oxygen damage repair possibilities. **T. L. Liu**, M. L. Singleton, B. Li, M. B. Hall, M. Y. Darensbourg
- 3:30 126.** Identification of a gold nanorod forming RNA aptamer via in vitro selection on surfaces. **A. E. Mahady**, S. E. Lohse, S. F. Sweeney, J. A. Berglund, J. E. Hutchison
- 3:50 127.** Interaction of cytidine and deoxycytidine with Li⁺, Na⁺, K⁺, Mg²⁺, Ca²⁺, Zn²⁺ and Cu⁺ in gas phase observed through theoretical study: Effects of metal cationization on sugar puckering and stability of the N-glycosidic bond. **A. Fattahi**, Z. Aliakbar Tehrani
- 4:10 128.** Luminescence studies of dinuclear lanthanide ion complexes interactions with phosphate esters and DNA. **C. M. Andolina**, K. Nwe, J. R. Morrow
- 4:30 129.** Specific recognition and photocleavage of abasic sites and single base bulges in DNA by a sterically expansive metalloinsertor. **B. Zeglis**, J. K. Barton
- Nanotechnology and the Environment: Emphasis on Green Nanotechnology Sustainable Synthesis of Nanomaterials**
Sponsored by I&EC, Cosponsored by INOR and NANO

SUNDAY EVENING

Section A

Salt Palace Convention Center
Hall 5

Bioinorganic Chemistry: DNA and RNA

D. C. Crans and S. L. J. Michel,
Organizers

7:00–10:00

- 130.** Binding, storage and delivery of nitric oxide for biomedical applications. **K. Balkus Jr.**, H. A. Liu, H. Osuna, C. Miller
- 131.** Cobalt phenanthroline complexes: Synthesis, characterization, and intercalation with DNA. **T. C. Sweigart**, S. K. Hurst
- 132.** DFT and ONIOM(DFT:MM) studies on enzymatic mechanism in B12-dependent methylmalonyl-CoA mutase. **X. Li**, L. W. Chung, P. Paneth, K. Morokuma
- 133.** Examining the structure of the nutritional supplement chromium nicotinate. **J. B. Vincent**, N. R. Rhodes, T. A. Konovalova, C. J. Cassidy

‡ Cooperative Cosponsorship

- 134.** Short term effects of Cr3 on glucose metabolism in rats. **J. B. Vincent**, C. M. Goodwin, N. R. Rhodes
- 135.** Paramagnetic ¹⁹F NMR and ESI MS studies of substituted pyridine complexes of chromium(III): Models for potential use of ¹⁹F NMR to probe Cr(III)-nucleotide interactions. **J. B. Vincent**, N. R. Rhodes, K. Belmore, C. J. Cassidy
- 136.** Comprehensive conformational analysis of guanosine and deoxyguanosine, canonical DNA nucleosides, by DFT calculation. **M. A. Ahmadi**, A. Fattahi
- 137.** Defining lanthanide ion binding sites in nucleic acids. **C. M. Andolina**, M. A. Fountain, J. R. Morrow
- 138.** Development of water-soluble organometallic ruthenium(II)-arene piano stool complexes. **L. Regali**, S. Schreiner
- 139.** DFT studies of the interaction of thymine and deoxythymidine with various mono- and divalent metal cations (Li⁺, Na⁺, K⁺, Mg²⁺, Ca²⁺, Cu⁺, Zn²⁺). **M. Shakorianfard**, A. Fattahi
- 140.** Interaction of guanine, guanosine and deoxyguanosine with some biological anions and formation of anion-anion clusters. **M. A. Ahmadi**, A. Fattahi
- 141.** Interactions of thymine with divalent metal ions. **M. K. Aitha**, M. K. Mameni, E. A. Waddell, S. Shreeves, A. Sunda Meya, N. Phambu
- 142.** Carosine analogs and their properties and metal complexes. **N. G. Nair**, V. P. Reddy, E. Sinn
- 143.** Electrochemical study of G quartet structures. **J. Kim**
- 140-141.** Metallobioconjugate of pyruvic acid as potential antibacterial agent. **D. Shingnapurkar**, S. Padhye, Z. Afrasiabi, E. Sinn, S. G. Franzblau
- 145.** Rhodium-centered supramolecular complex exhibiting DNA photocleavage and antibacterial properties. **L. Stepanyan**, A. Jain, B. Okyere, B. T. Thelwell, B. S. J. Winkler, K. J. Brewer
- 146.** Withdrawn.

Section B

Salt Palace Convention Center
Hall 5

Chemistry of Materials

D. J. Nelson and C. N. Brammer,
Organizers

7:00–10:00

- 147.** Highly porous metal-organic framework: Crystal dynamics and gas storage. **M. P. Suh**, **W. S. Yang**, T-R. Oh, H. J. Park
- 148.** Synergistic enhancing role of simple inorganic electrolytes with sodium hexametaphosphate in ceria slurries for the material removal rate on chemical mechanical polishing of ZF7 glass. **L. Wei**, **M. Fu**, **Y. Li**, **X. Zhou**, **X. Zhou**, **Y. Li**
- 149.** Metal-organic frameworks as tunable materials for the sensitization of near-infrared emitting ytterbium cations. **K. A. White**, D. A. Chengelis, M. Zeller, S. J. Geib, S. Petoud, N. L. Rosi
- 150.** Metal-organic frameworks constructed from biomolecular building blocks: Synthesis, characterization, and emerging properties. **J. An**, R. Fiorella, S. J. Geib, N. L. Rosi
- 151.** Mixed-ligand metal-organic frameworks with large pores. **M. P. Suh**, **H. J. Park**
- 152.** Nanosizing thermoelectric oxides: New precursors and their conversion to n-type SrTi_{1-x}(Nb)_xO_y and p-type CaCO₃O₄. **C. K. Narula**, F. C. Montgomery, L. F. Allard
- 153.** Using chemical vapor transport in the synthesis of doped titanium dioxide materials. **J. R. Perodeau**, S. T. Munie, J. L. Hunting
- 154.** Novel approach to the formation of copper nanowire patterns on silica substrates. **H-Y. Liao**
- 155.** Preparation and characterization of cuprous oxide nanowires in organic solvents. **K-J. Lo**

- 156.** Visible light insensitive silver(I) cyanoximates. **N. Gerasimchuk**, **G. Glover**
- 157.** Chemical routes to photocatalysts: Nano-sizing RuO₂/GaN:ZnO. **M. Moses DeBusk**, C. K. Narula
- 158.** Strategic synthetic color tuning of simple azole based luminescent organoboron compounds. **J. C. Carlson**, D. Anderson, P. Kiprof
- 159.** Synthesis and characterization of dendrimer modified controlled pore glass (CPG) beads for immobilized Ni²⁺ indicator release assays. **M. J. Greaney**, C-C. Chang, A. P. Good, L. D. Margerum
- 160.** Temperature dependent diffusion of the cation and anion of ionic liquids. **A. M. Kortan**, T. A. Moblely, L. Lyons, L. Zhang, R. West
- 161.** Ionic conductivity and NMR studies of plastic crystal electrolytes. **L. Lyons**, C. Kruse, A. Albright, L. Zhang, R. West

Section C

Salt Palace Convention Center
Hall 5

Coordination Chemistry: Synthesis

D. C. Crans and W. A. Howard,
Organizers

7:00–10:00

- 162.** A hexanuclear Ni(II) enediolate cluster complex. **L. M. Berreau**, K. Rudzka, A. M. Arif
- 163.** Synthesis and characterization of Cu(II) and Ni(II) complexes of some N,N-dialkyl-N'-(4-bromobenzoyl)thiourea derivatives. **H. Arslan**, G. Binzet, U. Kılıcı, U. Flörke
- 164.** Accessing of the multiple mixed-valence states in tetraferrocenyl-porphyrins. **G. T. Rohde**, V. N. Nemykin, B. Floris, G. Reina, R. H. Herber, I. Nowik
- 165.** Bifunctional coordinative binding ability of a newly synthesized series of phenanthroline-dione semicarbazone and thiosemicarbazone ligands. **C. Steelman**, E. C. Liscic
- 166.** Bimetallic nickel complexes bridged by non-innocent phosphine-quinone ligands. **L. Pignotti**, E. Urnezis
- 167.** Binuclear and tetranuclear copper(II) complexes with pyridylimidophenol ligands. **Z. Wang**, R. P. Houser
- 168.** Synthesis and characterization of a cyclic, trinuclear copper(II)-thioacetamide hydro-sulfide complex. **J. M. McClain II**, R. P. Houser
- 169.** Bridge modulation of superexchange in Ni(II/Co(II) tris(pyrazolyl)borates – oxalate vs. dithioxamidate. E. A. Mikhal'yova, **A. W. Addison**, S. V. Koltitov, V. V. Pavlishchuk, O. Cador, M. Zeller, W. G. Dougherty Jr., L. Ouahab, A. D. Hunter, S. Trofimenko
- 170.** Chemistry of organically templated iron phosphate complexes. **N. Gogoi**, R. Murugavel
- 171.** Coordination chemistry of a new bulky bis(thione) ligand. **N. Ahuja**, L. Hernandez, D. Rabinovich
- 172.** Homoleptic bis(selenone) complexes of lead(II). **S. V. John-Rajkumar**, G. P. A. Yap, D. Rabinovich
- 173.** Developments in the syntheses of a series of bis-bidentate ligands utilizing 4,4'-methyleneedianiline. **M. Mouyianis**, C. Hsu, J. Kubert, N. Datien, M. Benvenuto
- 174.** Effects of Group 15 donor ligands in platinum thiocrown complexes. **D. A. Biggers**, G. J. Grant
- 175.** Progress toward self-assembled platinum(II) and palladium(II) molecular squares. **R. D. Naik**, G. J. Grant

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NOTE: Abstracts public availability on January 26, 2009; rooms and times subject to change.

Synthesis and characterization of Cu(II) and Ni(II) complexes of some *N,N*-dialkyl-*N'*-(4-bromobenzoyl)thiourea derivatives

INOR 163

Hakan Arslan, harslan@uncfsu.edu¹, Gün Binzet, polatgun@mersin.edu.tr², Nevzat Külcü, nkulcu@mersin.edu.tr², and Ulrich Flörke, ulrich.florke@upb.de³. (1) Department of Natural Sciences, Fayetteville State University, Fayetteville, NC 28301, (2) Department of Chemistry, Faculty of Arts and Science, Mersin University, Mersin, 33343, Turkey, (3) Department of Chemistry, University of Paderborn, Paderborn, 33098, Germany

N,N-diethyl-*N'*-(4-bromobenzoyl)thiourea (HL¹), *N,N*-di-*n*-propyl-*N'*-(4-bromobenzoyl)thiourea (HL²) ligands and their Ni(II) and Cu(II) complexes have been synthesized and characterized by elemental analyses, FT-IR spectroscopy and ¹H-NMR spectroscopy. The spectroscopic data are consistent with the ligands and the metal complexes containing two O and S chelated ligands. Additional to these methods, molecular structures of the ligands were determined by single crystal X-ray diffraction technique. HL¹ ligand, C₁₂H₁₅BrN₂OS crystallizes monoclinic, space group *P*2₁/*c*, with *Z* = 4, and unit cell parameters *a* = 6.9955(9) Å, *b* = 18.680(2) Å, *c* = 10.0816(13) Å, and β = 95.361(3)°. HL² ligand, C₁₄H₁₉BrN₂OS, crystallizes in monoclinic space group *P*2₁/*c*, with *Z* = 8, and unit cell parameters *a* = 21.104(3) Å, *b* = 9.6940(12) Å, *c* = 16.208(2) Å, and β = 108.956(3)°. The bidentate ligands coordinate to metal resulting in type [ML₂] neutral complexes.

[Coordination Chemistry: Synthesis](#)

7:00 PM-10:00 PM, Sunday, March 22, 2009 Salt Palace Convention Center -- Hall 5, Poster

[Division of Inorganic Chemistry](#)

[The 237th ACS National Meeting, Salt Lake City, UT, March 22-26, 2009](#)