
DIVISION OF INORGANIC CHEMISTRY

S. Koch and N. Radu, *Program Chairs*

SUNDAY MORNING

Section A

Dallas Convention Center A309

F. Albert Cotton Award in Synthetic Inorganic Chemistry: Symposium in Honor of Larry G. Sneddon

P. Walsh, *Organizer*
D. Berry, P. Walsh, *Presiding*

8:30 Introductory Remarks.

8:35 1. Carborane photochemistry. **S. Kang**, Y. Cho, K. Wee

9:05 2. Organizing donors for specific tasks: Rational ligand designs for hard acceptors. **R. T. Paine**

9:35 3. New strategies for expanding the oxidative chemistry of cerium. **E. J. Schelter**

10:05 4. Bimetallic complexes of rhodium dibenzotetramethylaza[14]annulene ((tmtaa)Rh): Structure, reactivity, and thermodynamic studies. **B. B. Wayland**, G. H. Imler

10:35 Intermission.

10:45 5. Main group compounds as reagents for catalytic C-H bond functionalization. **J. F. Hartwig**

11:15 6. Single-handed helical wrapping of single-walled carbon nanotubes by chiral, ionic, semiconducting polymers: New opportunities for the design of electro-optically functional nanoscopic materials. P. Deria, J. Olivier, V. D. Christopher, J. Park, A. S. Kumbhar, M. Andrian-Albescu, J. G. Saven, **M. J. Therien**

11:45 7. Carbon nanotubes for chemical sensing. **T. M. Swager**
12:15 8. Advances on silicone resins. **G. Zank**, D. Katsoulis, B. Zhu, M. Suto, M. Itoh

Section B

Dallas Convention Center A303

Undergraduate Research at the Frontiers of Inorganic Chemistry
Bioinorganic and Coordination Chemistry

C. Nataro, *Organizer*
S. Smith, *Organizer, Presiding*
L. Hunsicker Wang, *Presiding*

9:00 Introductory Remarks.

9:05 9. Recent advances in the preparation of synthetic analogs of methanobactin. **D. Rabinovich**

9:25 10. [Fe-Fe] hydrogenase models: Computational and electrocatalytic studies. **C. A. Mebi**

9:45 11. Target formation in BZ: Nucleation vs. fluctuation. **E. R. Kast**, D. J. Prado, H. M. Hastings, S. G. Sobel

10:05 12. Syntheses, characterization, density functional theory calculations and reactivity of three and five coordinate SNS copper(I) and copper(II) pincer complexes. **J. R. Miecznikowski**, M. A. Lynn, J. P. Jasinski, W. Lo, E. Reinheimer, M. Pati, D. A. Bak

10:25 Intermission.

10:40 13. Synthesis and group 12 metal complexes of a new pyridine/thione ligand. **A. N. Michels**, D. Rabinovich

11:00 14. Hammett relationship of dipicolinatooxovanadium(V) compounds evaluated by NMR spectroscopy. A. M. Trujillo, J. A. Burke, **D. C. Crans**

11:20 15. Transition metal complexes for storage and delivery of nitric oxide. **H. M. Nguyen**, A. Lowe, N. Trinh, K. J. Balkus

11:40 16. Transition metal complexes of N-oxides derived from five- and six-membered aromatic heterocyclic amines. **P. Baran**, N. G. Strom, T. Jordan, N. S. Morgan

Section C

Dallas Convention Center A310

Molecular Inorganic Chemistry at the Frontiers of Energy Research

F. Castellano, *Organizer*
S. Bernhard, *Presiding*

8:30 17. Optimizing the photocatalytic hydrogen evolution reaction in water. **R. S. Khnayzer**, F. N. Castellano

9:00 18. Light-driven proton-coupled electron transfer with photoexcited metal complexes. **O. S. Wenger**

9:30 19. Synthesis and structure-function analysis of photosensitizer-catalyst solar

fuels assemblies. **K. L. Mulfort**, A. Mukherjee, O. Kokhan

10:00 Intermission.

10:15 20. Carbon dioxide reduction with bio-inspired catalysts: Electrochemical CO₂ reduction vs CO₂hydrogenation. **E. Fujita**, Y. Matsubara, G. F. Manbeck, D. C. Grills, D. E. Polyansky, J. T. Muckerman, W. Wang, Y. Himeda

10:45 21. Molecular catalysts for electrochemical water oxidation and/or

O₂ reduction. **S. S. Stahl**

11:15 22. Fuel from water: The light-driven generation of hydrogen. **R. Eisenberg**

11:45 23. New approaches to solar fuels: Photocatalytic reductions of metal ions and visible light-driven alcohol dehydrogenations. **S. Bernhard**, A. C. Brooks, H. N. Kagalwala, J. A. Woods, D. N. Chirdon, A. B. Maurer, K. Basore

Section D

Dallas Convention Center A305

A Celebration of Crystallography in Solid State and Materials Chemistry: Complex Problems and New Solutions in Inorganic Small Molecule Crystallography

S. Lattner, *Organizer*
J. Aitken, J. Chan, *Organizers, Presiding*

8:30 24. Advanced structural characterization of complex materials. **T. Proffen**

8:55 25. Molecular models for study of spin relaxation and magnetic anisotropy. **D. E. Freedman**, M. J. Graham, K. E. Powers, J. M. Zadrozny

9:20 26. Neutrons needed: Three structure solutions made possible by single crystal neutron diffraction. **S. Lattner**

9:45 27. Probing into the world of correlated electron systems: Materials characterization and neutron scattering studies multiferroics. **C. R. dela Cruz**

10:10 Intermission.

10:20 28. Powder diffraction crystallography: Why you need this and how Argonne helps. **B. H. Toby**, M. R. Sucomel, R. B. Von Dreele

10:45 29. Structure, magnetic, and electrical properties of Sm_{1.33}Pd₃Ga₈ and Yb₂Pd₃X₉ (X =

Al, Ga). **L. J. Treadwell**, G. T. McCandless, J. Y. Chan

11:00 30. Phase transitions by isovalent/aliovalent elemental substitutions in the Zintl phase, Eu₁₁Cd₆Sb₁₂. **N. Kazem**, A. Hurtado, S. M. Kauzlarich

11:15 31. From complex crystal structures to isolobal analogies in intermetallics: How superstructures and incommensurability can reveal what matters most in chemical bonding. **D. C. Fredrickson**

Section E

Dallas Convention Center A304

ACS Award in Organometallic Chemistry: Symposium in Honor of Kenneth G. Caulton

O. Ozerov, Z. Xue, *Organizers*
D. Mindiola, *Organizer, Presiding*

9:00 Introductory Remarks.

9:05 32. Coordination chemistry of N-donor chelates of the first row transition elements: Ligand reactivity from redox non-innocence. **P. T. Wolczanski**, W. D. Morris, V. A. Williams, B. M. Lindley, B. P. Jacobs, T. R. Cundari, K. Meyer

9:30 33. Playing both sides: Comparing the redox abilities of tetrazine-based and pyrazolyl-based pincer ligands. **B. J. Cook**, R. L. Lord, C. Chen, D. J. Mindiola, K. G. Caulton

9:55 34. Redox-activity of tetrazines in molecular switches. **A. Flood**

10:20 Intermission.
10:30 35. Catalytic enantioselective synthesis of planar-chiral (η⁶-arene)chromium complexes. **M. Ogasawara**

10:55 36. New frontiers of iron-pyridylpyrrolide chemistry. **K. Searles**, M. Carroll, P. J. Carroll, C. Chen, D. J. Mindiola, K. G. Caulton

11:20 37. Platinum complexes for catalytic C-H oxidation with O₂. S. Pal, D. Wang, **A. N. Vedernikov**

11:45 38. Reactions of d⁰ transition metal complexes with O₂. **Z. Xue**, A. C. Lamb, S. C. Hunter, T. M. Callaway, B. Sharma, Z. Lu, S. Chen

Section F

Dallas Convention Center A302

Bioinorganic Chemistry Proteins and Enzymes and Model Systems

S. Koch, *Organizer*
L. Finney, *Presiding*

8:30 39. X-ray fluorescence imaging and metalloproteomics: Tying images of metals in cells to the proteins that bind them. **L. Finney**

8:50 40. Metal-halogen secondary bonding in iron(II), cobalt(II), and nickel(II) 2,6-dihalophenolate complexes: Insights into the substrate specificity of the hydroquinone dioxygenase PcpA. **T. E. Machonkin**, M. Boshart, J. Schofield, P. L. Holland, D. Rokhsana

9:10 41. Phosphoryl transfer enzymes: Theoretical studies of native enzymes and ground-state and transition-state analogs. **C. E. Webster**, K. N. Leigh, R. G. Letterman, N. J. DeYonker

9:30 42. Reversible pyranopterin cyclization in synthetic models of the molybdenum cofactor. **B. R. Williams**, S. J. Burgmayer, A. Kalinsky, Y. Fu

9:50 43. Nitric oxide reactivity of the site-differentiated cluster $[\text{Fe}_4\text{S}_4(\text{LS}_3)\text{L}']^{2-}$. **E. Victor**, S. J. Lippard

10:10 Intermission.

10:25 44. Probing intermediates in the nitric oxygen dioxygenase reactivity of myoglobin using nitroxyl adducts. **P. J. Farmer**, A. Zapata, M. R. Kumar

10:45 45. Novel reactivity of $\{\text{Fe}(\text{NO})_2\}^9$ dinitrosyl iron complexes and its implications in protein post-translational modification. **J. Fitzpatrick**, E. Kim

11:05 46. Synthetic analogs for reduced $[2\text{Fe}-2\text{S}]$ cofactors and for Rieske centers. **F. Meyer**, A. Albers, S. Demeshko, S. Dechert, E. Bill

11:25 47. Bioinorganic meets organometallic: A tetracarbene-oxoiron(IV) complex. **F. Meyer**, S. Meyer, I. Klawitter, S. Demeshko, E. Bill, O. Krahe, F. Neese

Section G

Dallas Convention Center
A301

Chemistry of Materials

C. Lugmair, *Organizer*
c. weeks, J. Cirera
Fernandez, *Presiding*

8:30 48. Water stability of carboxylate containing metal-organic frameworks: Where we stand 15 years after MOF-5 and Cu-BTC. **J. B. DeCoste**

8:50 49. Series of tetra-topic ligand based metal-organic frameworks for hydrogen storage. **Y. Liu**, W. Zhuang, H. Zhou

9:10 50. Probing CO_2 adsorption in metal-organic frameworks using X-ray spectroscopy. **W. S. Drisdell**, R. Poloni, T. M. McDonald, J. R. Long, B. Smit, J. B. Neaton, D. Prendergast, J. B. Kortright

9:30 51. Molecular-level characterization of spin crossover in metal-organic frameworks from computer simulations. **J. Cirera**, F. Paesani

9:50 52. Mesoporous metal-organic frameworks based on perfluorinated and macrocyclic ligands. **T. Chen**, I. Popov, Y. Chuang, O. Daugulis, O. S. Miljanic

10:10 Intermission.

10:25 53. Synthetic control and guest binding in porous metal-organic frameworks. **C. L. Weeks**, K. Mauger-Sonnek, T. D. Petersen, G. Balakrishnan, T. G. Spiro

10:45 54. Characterization of high-spin metal-carbonyls in metal-organic frameworks with exposed cation sites. **E. D. Bloch**, M. R. Hudson, W. L. Queen, J. A. Mason, J. M. Zadrozny, S. Chavan, S. Bordiga, C. M. Brown, J. R. Long

11:05 55. Synthesis of novel imidazole linkers to create novel ZIF structures. **R. A. Muhanna**

11:25 56. Redox intercalation of hydroquinone into a flexible metal-organic framework. **W. Kaveevitichai**, L. Liu, X. Wang, A. J. Jacobson

11:45 57. Metal organic frameworks for the catalytic generation of nitric oxide from S-nitrosothiols: Insights into reactivity and biomedical device fabrication. **J. L. Harding**, M. M. Reynolds

Section H

Dallas Convention Center
A307

Solid State Inorganic Chemistry

C. Lugmair, V.
Poltavets, *Organizers*
J. Wiley, K. Kovnir, *Presiding*

8:30 58. Geometrical spin frustration and ferromagnetic ordering in $(\text{Mn}_x\text{Pb}_{2-x})\text{Pb}_2\text{Sb}_4\text{Se}_{10}$. **P. Poudeu**

Poudeu

9:00 59. Withdrawn.

9:20 60. Transition metal-phosphorus clathrates for thermoelectric energy conversion. **K. Kovnir**

9:50 61. Probing chemical pressure in $\text{A}Ag_2(\text{M}_{1-x}\text{M}'_x)[\text{VO}_4]_2$ by Raman spectroscopy. **M. Bratsch**, N. E. Amunkeke, J. Tapp, A. P. Litvinchuk, A. Möller

10:10 Intermission.

10:25 62. Ternary molybdates with direct metal-metal bonding. **P. Khalifah**, D. Colabello

10:55 63. Probing scintillation behavior of lanthanide doped YAG and LuAG using ion beam induced luminescence. **B. A. Hernandez-Sanchez**, P. Yang, K. M. Hattar

11:15 64. Topochemical reaction strategies for directing structure in layered perovskite hosts. D. Montasserasadi, L. Gustin, E. Josepha, **J. B. Wiley**

11:35 65. Role and effects of disorder in the thermal expansion of ReO_3 -type fluorides and oxyfluorides. **C. R. Morelock**, A. P. Wilkinson

11:55 66. Crystal growth, structure determination and magnetic properties of U(IV) containing mixed metal fluorides. **H. zur Loye**

Section I

Dallas Convention Center
A308

Organometallic Chemistry Applications To Organic Transformations

N. Radu, *Organizer*
D. Vici, *Presiding*

8:30 67. Base metal reactivity and catalysis using redox non-innocent bis(imino)-N-heterocyclic carbene ligands. **J. Byers**, H. Kaplan, X. Zhang

8:50 68. Sterically directed functionalization of bis(imino)acenaphthene: Radical dearomatization vs. nucleophilic imine C-alkylation. **D. A. Evans**, A. H. Cowley, I. Vargas-Baca

9:10 69. Revisiting the use of zinc in perfluoroalkylation reactions. **D. A. Vici**, P. T. Kaplan, L. Xu, B. Chen, S. Yu, K. R. McGarry

9:30 70. C-H activation and functionalization of hydrocarbons mediated by $\text{Cp}^*\text{W}(\text{NO})(\text{CH}_2\text{CMe}_3)(\eta^3\text{-allyl})$ and $\text{Cp}^*\text{W}(\text{NO})(\text{H})(\eta^3\text{-allyl})$ complexes. **R. A. Baillie**, P. Legzdins

9:50 71. Cyclometalated palladium 2-phenylimidazole carbene complexes and their catalytic performance in the Suzuki-Miyaura cross coupling reaction. **M. Micksch**, T. Strassner

10:10 Intermission.

10:20 72. Design, synthesis, and application of enantiopure ligands with a distal regulation site in diverse asymmetric transformations. **A. Vidal-Ferran**, I. Mon, L. Rovira

10:40 73. Mechanism of a palladium-catalyzed unprecedented Heck relay reaction: Insight into the origins of regio- and enantioselectivities. **X. Wang**, Y. Dang, Z. Wang

11:00 74. Asymmetric alkynylation of aldehydes catalyzed by rare earth-zinc ethyl BINOLate complexes. **I. Nieto**, A. J. Wooten, J. Robinson, P. C. Carroll, E. J. Schelter, P. J. Walsh

11:20 75. Structurally diverse gold-acyclic diaminocarbene complexes as catalysts for organic transformations. **A. Ruch**, L. Slaughter

11:40 76. Catalytic β -alkylation of secondary alcohols: Scope and mechanism. **M. Koppel**, B. Moasser

12:00 77. Mechanistic investigation of Nazarov cyclization reaction catalyzed by palladium(0) complexes. **T. Atesin**, M. Tius

SUNDAY AFTERNOON

Section A

Dallas Convention Center
A307

F. Albert Cotton Award in Synthetic Inorganic Chemistry: Symposium in Honor of Larry G. Sneddon

P. Walsh, *Organizer*
A. Weller, *Presiding*

1:30 78. Mechanism-led design of catalysts for the dehydrocoupling of amine and phosphine boranes. **A. S. Weller**

2:00 79. BN/CC Isosterism: A new approach to expand the

chemical space in biomedical research. **S. Liu**
2:30 80. Hydrogen activation in molecular complexes: Approaches to catalysis and energy storage using amine boranes. **T. Autrey**
3:00 81. Pumping iron for selective amine-borane dehydrogenation. **R. T. Baker**
3:30 Intermission.
3:40 82. Conjugated boracycles: Electron-deficient ring systems. **F. Jaekle**
4:10 83. Dendrimer- and nanostructure-supported carboranes and metallacarboranes: Historic perspective. **N. S. Hosmane**
4:40 84. Polyborate assembly directed by metal and nonmetal cations. **D. M. Schubert**, D. Neiner, Z. Liu
5:10 85. Influences of structural factors on thermolysis behavior of metal B-N-H complexes. H. Li, C. Wang, **X. Chen**, **S. G. Shore**
5:40 Concluding Remarks.

Section B

Dallas Convention Center
A303

Undergraduate Research at the Frontiers of Inorganic Chemistry

Solid State and Nano Materials

C. Nataro, S. Smith, *Organizers*
C. Read Spray, *Presiding*
2:00 86. Novel 1D magnet $\text{NH}_4\text{FeCl}_2(\text{HCOO})$. **N. Izquierdo**, J. Greenfield, K. Kovnir
2:20 87. New triosmium clusters with multidentate phosphine ligands. **G. L. Powell**
2:40 88. Synthesis and characterization of alkali metal ion battery cathode materials from novel single-source metal alkoxides. **M. L. Neville**, T. J. Boyle, D. Ingersoll, C. A. Apblett, D. T. Yonemoto
3:00 Intermission.
3:15 89. Squeezing the unit cell: Synthesis, structure, and properties of ScFeGa_5 analogs. **J. D. McAlpin**, B. W. Fulfer, D. P. Young, J. Y. Chan
3:35 90. Utilization of metathesis to achieve water solubility of nanoparticles. **L. G. Mast**, M. J. Turo, J. E. Macdonald
3:55 91. Synthesis of novel group 4 metal carboxylates for

the production of ceramic nanowires. **D. T. Yonemoto**, T. J. Boyle, N. S. Bell, T. Q. Doan

Section C

Dallas Convention Center
A310

Molecular Inorganic Chemistry at the Frontiers of Energy Research

F. Castellano, *Organizer*
C. Berlinguette, *Presiding*
1:30 92. Solar water splitting in a molecular photoelectrochemical cell. **T. J. Meyer**, L. Alibabaei, M. Brennaman, M. R. Norris, B. Kalanyan, W. Song, M. D. Losego, J. J. Concepcion, R. A. Binstead, G. N. Parsons
2:00 93. Strategic design of chromophores to clarify key reactions steps in the dye-sensitized solar cell. **C. P. Berlinguette**, K. C. Robson, G. J. Meyer, K. Hu
2:30 94. Photoinduced electron transfer at TiO_2 interfaces sensitized to visible light with triarylamine-appended bis(tridentate) cycloruthenated complexes. **G. Meyer**, K. Hu, K. C. Robson, C. P. Berlinguette
3:00 Intermission.
3:15 95. Mechanistic investigations and detection of intermediates of molecular proton reduction catalysts. **L. Hammarström**, A. Brown, M. Mirmohades, S. Pullen, S. Ott, R. Lomoth
3:45 96. Power curves of buried junction photoelectrochemical cells. **D. G. Nocera**
4:15 97. Determining domain structures for amorphous metal-oxide water-splitting catalysts in artificial photosynthesis. **D. M. Tiede**, J. Huang, J. D. Blakemore, G. Kwon, D. Fazi, O. Kokhan, N. D. Schley, K. W. Chapman, P. J. Chupas, G. W. Brudvig, P. Du, R. H. Crabtree
4:45 98. Near-infrared-to-visible photon upconversion by highly conjugated sensitizers under low-power noncoherent illumination. **J. Olivier**, H. Uh, Y. Bai, F. N. Castellano, M. J. Therien

Section D

Dallas Convention Center
A305

A Celebration of Crystallography in Solid State and Materials Chemistry: Complex Problems and New Solutions

in Inorganic Small Molecule Crystallography

J. Aitken, *Organizer*
J. Chan, S. Latturmer, *Organizers, Presiding*
1:30 99. Discovery and crystallographic challenges of diamond-like semiconductors with attractive physicochemical properties. **J. A. Aitken**, J. A. Brant, C. D. Brunetta, K. A. Rosmus, K. P. Devlin
1:55 100. Structure of cerium cobalt borocarbide: Cobalt squares and borocarbide chains. **T. Mishra**, P. Tucker, S. Latturmer
2:10 101. RELiSn_2 or RELi_xSn_2 ($\text{RE} = \text{La-Nd, Sm, and Gd}$; $0 \leq x < 1$): Synthesis and crystal chemistry. **S. Bobev**
2:35 102. $\text{Li}_{1-x}\text{Sn}_{2+x}\text{Pn}_2$ ($\text{Pn} = \text{P, As}$): Novel layered Li compounds. **K. Kovnir**
2:50 103. Intermetallics with giant unit cells: Polar structures, disorder, and magnetism. **M. Shatruk**, P. Chai, K. Kovnir
3:15 Intermission.
3:25 104. Elucidating magnetic phase diagrams of antiferromagnetic $\text{Li}_2\text{Fe-IV-S}_4$ diamond-like semiconductors (DLSs) with commensurate and incommensurate structures. **J. A. Brant**, J. Yao, C. R. Dela Cruz, M. Shatruk, J. A. Aitken
3:40 105. Metal carbide clusters inside fullerene cages and the use of synchrotron radiation to reveal their structures. **M. Olmstead**, J. Zhang, H. Dorn, X. Lu, A. Popov, C. Beavers
4:05 106. Molecular clusters as pseudo-atoms: Simple structures with complex interiors. **T. Siegrist**
4:30 107. Determining electronic configuration of diruthenium compounds: Coupling crystallography with magnetic studies. **C. A. Murillo**

Section E

Dallas Convention Center
A304

ACS Award in Organometallic Chemistry: Symposium in Honor of Kenneth G. Caulton

D. Mindiola, Z. Xue, *Organizers*
O. Ozerov, *Organizer, Presiding*
1:30 108. Spectroscopic studies of high-spin Group 5, 6, and 7 metallocenes. **J. Telsler**, A. S. Fortier, A. Liang, B. Wicker, D. J. Mindiola, G. Wijeratne, T. A.

Jackson, J. Krzystek, A. Ozarowski

1:55 109. Ni(II) dithiocarbamate complexes containing rhodamine fluorophores for detection and bio-imaging of nitrogen dioxide. Y. Yan, S. Krishnakumar, H. Wu, **D. Huang**
2:20 110. Biomedical imaging with short-lived positron-emitting radiometals. **M. A. Green**
2:45 Intermission.
2:55 111. Mobility of alkylidene metal complexes on silica surface from a simulation of NMR Chemical Shift Anisotropy by dynamic ab initio calculations. **O. Eisenstein**, S. Halbert, C. Raynaud, S. Ispas
3:20 112. Selective catalytic C=O hydrogenation of unsaturated aldehydes, ketones, and esters. **D. G. Gusev**, D. Spasyuk
3:45 113. Insight into C-C and C-N cross-coupling reactions involving nickel NHC derivatives. S. M. Baldwin, S. A. Del Ciello, R. J. Witzke, **G. L. Hillhouse**
4:10 114. Selectivity control in C-S bond cleavage reaction of thiranes and thietanes by bridged and non-bridged heterodinuclear organoplatinum-manganese complexes. **S. Komiya**
4:35 115. Developments in Group 4 olefin complexes. **D. J. Mindiola**, M. Kamitani

Section F

Dallas Convention Center
A302

2014 Priestley Medalist: Symposium in Honor of Stephen J. Lippard

C. Cummins, K. Karlin, *Organizers, Presiding*
2:00 116. Reversible RNA methylation in biological regulation. **C. He**
2:25 117. Development of small molecules as chemical tools to study the role of metal-associated misfolded proteins in Alzheimer's disease. **M. Lim**
2:50 118. Titanic siderophores. **A. M. Valentine**
3:15 119. Zinc fluxes in control of biology: Chemical thermodynamic, structural, and dynamic studies of zinc sensors, probes, and metalloregulatory proteins. E. L. Que, B. A. Gilston, S. Wang, S. A. Garwin,

F. E. Duncan, T. K. Woodruff, **T. V. O'Halloran**
3:40 Intermission.
3:55 120. Coordination chemistry of low coordinate phosphorus compounds. **J. Protasiewicz**
4:20 121. Donor-acceptor interactions in heterobimetallic lantern complexes. J. L. Guillet, F. G. Baddour, S. G. Fiedler, M. P. Shores, **L. H. Doerrer**
4:45 122. Practical bioinspired aerobic oxidation of alcohols and amines with organic (co)catalysts. **S. S. Stahl**

Section G

Dallas Convention Center
A301

Inorganic Supramolecular Chemistry

C. Aakeroy, *Organizer*
S. Baudron, *Organizer, Presiding*

1:30 Introductory Remarks.
1:40 123. Crystal-free crystallography. **M. Fujita**
2:10 124. Crosslinked MOFs: New materials, new opportunities. **S. M. Cohen**, C. A. Allen
2:40 125. Chromophore photophysics defined by metal-organic frameworks. **N. B. Shustova**

3:10 Intermission.
3:25 126. Molecular design of metal-ligand chromophoric building blocks and their supramolecular assembly and functions. **V. W. Yam**
3:55 127. Supramolecular organization of metal complexes in one, two, and three dimensions. **A. A. Marti**
4:25 128. Luminescent metal complexes and their assemblies. **L. De Cola**, M. Mauro, A. Aliprandi

Section H

Dallas Convention Center
A309

ACS Awards: Symposium in Honor of Guy Bertrand and T. Don Tilley

F. Gabbai, R. Waterman, J. Walzer, *Organizers*
D. Bourissou, *Organizer, Presiding*

1:30 Introductory Remarks.
1:35 129. Controlling catalytic processes through ligand design. **R. H. Grubbs**
1:55 130. Catalytic additions of O-H, N-H and C-H bonds to alkenes. **J. F. Hartwig**

2:15 131. Reactivity of the coinage metals beyond electrophilic activation of n systems. **D. Bourissou**, A. Amgoune, M. Joost
2:35 132. Fixing nitrogen with iron complexes. **J. C. Peters**, J. S. Anderson, J. Rittle, S. E. Creutz
2:55 133. Redox non-innocent ncnac and pyridine-imine chelate complexes of first row metals. **P. T. Wolczanski**, V. A. Williams, W. D. Morris, B. M. Lindley, B. P. Jacobs, T. R. Cundari, K. Meyer
3:15 Intermission.

3:30 134. Design of new ancillary ligands with nitrogen and phosphorus donors. **M. D. Fryzuk**, T. C. Wambach, F. Pick, T. Suzuki

3:50 135. Remarkable properties of LiCB₁₁Me₁₂. M. Zamadar, J. Kaleta, V. Volkis, K. Whitener, C. Douvris, **J. Michl**
4:10 136. Carborane anions as ligand substituents. **V. Lavallo**

4:30 137. Catalytic reactions involving main group substrates. **I. Manners**

4:50 138. Activation of small molecules by main group compounds. F. Lips, **P. P. Power**

Section I

Dallas Convention Center
A308

Nanoscience

R. Richards, *Organizer*
A. Goforth, H. Torsten, *Presiding*

1:30 139. Synthesis, modification, and characterization of oleic acid functionalized hematite nanoparticles. **M. Khalil**, N. Liu, R. L. Lee

1:50 140. Inkjet-printed gold nanoparticle alignment layers: A novel approach for the patterned alignment of nematic liquid crystals. **T. Hegmann**, M. Reznikov, A. Sharma

2:10 141. Graphene nanoribbons: A versatile material for modern technology. **A. O. Raji**

2:30 142. Thermochemical measurements of cation exchange reactions in colloidal nanocrystals. **B. J. Beberwyck**, P. Alivisatos

2:50 143. Synthesis of binary and ternary core/shell of superparamagnetic nanoparticles and their property improvements from thermal

annealing. **M. P. Rowe**, S. Sullivan, B. Lorenzetti
3:10 Intermission.

3:25 144. New chemical synthesis of discrete MnBi hard magnetic nanoparticles. **M. P. Rowe**, D. Herrera

3:45 145. Optical temperature detection inside mesoporous silica nanoparticles with superparamagnetic nanoheaters. **J. Dong**, J. I. Zink

4:05 146. Multifunctional silica-based nanomaterials for biomedical applications: Photodynamic therapy and pancreatic cancer treatment. **J. L. Vivero-Escoto**

4:25 147. Synthesis, X-ray opacity, and biological compatibility of elemental bismuth nanoparticle X-ray contrast agents. **A. M. Goforth**, A. L. Brown, D. P. Cormode, P. C. Naha

4:45 148. Peapod nanocomposites: Forming organized nanoparticle chains within scrolled nanosheets. S. Adireddy, C. Carbo, T. Rostamzadeh, T. Brown, J. M. Vargas, L. Spinu, **J. B. Wiley**

SUNDAY EVENING

Section A

Dallas Convention Center
Hall F

Undergraduate Research at the Frontiers of Inorganic Chemistry Bioinorganic Chemistry

C. Nataro, S. Smith, *Organizers*
6:00 - 8:00

149. IONiC/VIPEr workshops: Back to grad school. **B. C. Chan**, **C. R. Spray**, **S. R. Smith**

150. Ride the snake: The online, inorganic community of IONiC/VIPEr. **C. Nataro**, **S. R. Smith**, S. N. Collins, H. J. Eppley, M. J. Geselbracht, E. Jamieson, A. R. Johnson, B. A. Reisner, J. L. Stewart, B. S. Williams, L. A. Watson

151. Isolating and characterizing mixed disulfide intermediate of mutant Sco and C_UA from *Thermus thermophilus*. **E. Wadler**, L. Hunsicker-Wang

152. Electron withdrawing capability of ligating histidine adducts influence the reduction potential of the [2Fe-2S] cluster of the Rieske protein. **C. Hertz**, N. Karagas, L. M. Hunsicker-Wang

153. Probing the factors that affect the reduction potential of the *Thermus*

thermophilus Rieske protein: L135A mutation. **M. Ponthier**, L. M. Hunsicker-Wang

154. Characterization of the H134C mutant of the *Thermus thermophilus* Rieske protein. **V. Rodriguez**, **N. Webber**, L. M. Hunsicker-Wang

155. Creation and characterization of 4-His/3-carboxylate DFSC proteins. **K. Biernat**, A. Reig

156. Creation of rubrerythrin and symerythrin model proteins. **R. Z. Polinski**, **J. Pellegrino**, S. N. Cimerol, A. J. Reig

157. Correlation of ligand substitution pattern and solid state topography: The design of novel arylcalciumphosphonates for bone therapeutic applications. **M. D. Lijewski**, V. Lopez, K. Ruhlandt

158. Kinetics of heme self-association in aqueous solution. **K. M. Conner**, K. R. Rodgers

159. Mössbauer spectroscopic studies of the enzyme dehaloperoxidase from *Amphitrite ornata*. **C. V. Popescu**, D. Miller, D. A. Barrios, R. Ghiladi

160. Investigation of mechanism of the heme enzyme chlorite dismutase from *Klebsiella pneumoniae*. **Z. Geeraerts**, G. S. Lukat-Rodgers, J. L. DuBois, K. R. Rodgers

161. Using bonding paradigms to investigate copper catalyzed oxidative damage. **S. Dautel**, C. Flener Lovitt

162. Kinetic and mechanistic studies on the reactions of the reactive oxygen species nitrosyl hydride with the phenolic antioxidants catechol and hydroquinone. **M. A. Waddington**, R. S. Dassanayake, N. E. Brasch, P. Sampson

163. Synthesis and characterization of novel zinc complexes as models for hydrolases. **M. A. Pedraza**, R. A. Joy, G. T. Musie

Section B

Dallas Convention Center
Hall F

Molecular Inorganic Chemistry at the Frontiers of Energy Research

F. Castellano, *Organizer*

6:00 - 8:00

164. Azadipyromethene dyes and their Zn(II) complexes as red absorbing electron acceptors for organic solar cells: Effect of ethynylthiophene substitution at the distal phenyls. **C. Daddario**, Q. Han, Z. Mao, G. Sauvé

Section C

Dallas Convention Center
Hall F

Undergraduate Research at the Frontiers of Inorganic Chemistry

Coordination Chemistry

C. Nataro, S. Smith, *Organizers*

6:00 - 8:00

165. Ionothermal synthesis and characterization of [EMIM]₃[(Cr(P₃S₉)₂)] (EMIM = 1-ethyl-3-methylimidazolium). **G. C. Alexander**, C. Guillot-Deudon, J. A. Cody

166. Selective formation of a hexaprismatic carboxylato-coordinated titanium complex from an asymmetric pyridine carboxylic anhydride precursor. **J. L. Fenton**, P. Mobian, C. Chaumont, C. Huguenard, M. Henry

167. Bimetallic catalysts supported by ionic porphyrins: Activity of cofacial porphyrin dimer towards CO₂ reduction. **N. Chaudary**, L. Cesanek, **R. J. Swails**

168. Improved synthesis of [Re(CO)₃(H₂O)₃]Br and its derivatives. **G. J. Kerins**, J. R. Farrell, R. S. Herrick, C. J. Ziegler

169. Lanthanide luminescence with a new carbamoylmethylphosphine oxide ligand. **J. R. Shady**, A. C. Boyden, S. M. Biros

170. Investigation of multidentate carbamoylmethylphosphine oxide compounds for lanthanide and actinide chelation. **J. A. Stoscup**, S. M. Biros

171. Exploration of magnetic coupling through the dicyanamidobenzene anion bridge in dinuclear metal complexes. **C. M. Culbertson**, X. Zhang, K. R. Dunbar

172. Photophysical properties of chromium tris-diimine complexes that contain ligands with hydrogen bonding capability. **J. R. Brooks**, C. M. Barr, E. G. Donnay

173. Effects of systematic variation of the N-aryl group of phosphinoamide ligands [ArNPiPr₂] on the properties of the heterobimetallic Zr/Co complexes. **S. Lee**, J. W. Napoline, C. Thomas

174. Synthesis and decarboxylation of new copper trifluoroacetate complexes for the trifluoromethylation of arenes. **A. Mullins**, J. M. Hoover

175. Electrochemical determination of rhodium hydride aqueous hydricities. **O. N. Finster**, C. L. Pitman, A. J. Miller

176. Zerovalent group VI metal complexes of the anionic bidentate bis(diphenylphosphinomethyl)di phenylborate ligand. **L. Avena**, G. K. Putka, T. D. Bohrmann, P. J. Fischer

177. Measurement of the rate of activation constants (k_{act}) for (TREN-R) copper catalysts utilized in atom transfer radical addition reactions. **K. Mullarney**, R. Kaur, A. R. O'Connor, T. Pintauer

178. Synthesis of tridentate anionic carbazoyl/bis(imine) pincer complexes of platinum. **J. R. Dekarske**, J. C. DeMott, O. V. Ozerov

179. Development of pyridine based lanthanide(III) complexes for imaging and sensor applications. **K. R. Johnson**, E. J. Werner

180. Synthesis, characterization, and formation constant studies of novel bifunctional ligands for sensing copper, zinc, and iron. **A. Kasparian**, L. Nyiranshuti, F. Wang, W. Seitz, R. Planalp

181. Synthesis and characterization of mixed bimetallic complexes. **P. J. Hubbard**, V. B. Mdluli, D. R. Manke

182. Syntheses of 1,2-di(4-pyridyl)glycol platinum(II) dithiolene building blocks. **D. Park**, B. W. Smucker

183. Exchanging labile pyrazine with bispyridyl ligands to form diimine platinum(II) dithiolene complexes. **N. Maldonado**, B. W. Smucker

Section D

Dallas Convention Center
Hall F

A Celebration of Crystallography in Solid State and Materials Chemistry: Complex

Problems and New Solutions in Inorganic Small Molecule Crystallography

J. Aitken, J. Chan, S. Latturmer, *Organizers*

6:00 - 8:00

184. Guanylurea metformin double salt of decavanadate:(HGU⁺)₄(HMet⁺)₂(V₁₀O₂₈⁶⁻)·2H₂O. A. Chatkon, A. Barres, **N. Samart**, K. J. Haller, D. C. Crans

185. Synthesis of homogeneous AlScMo₃O₁₂. **R. J. Truitt**, I. Hermes, A. Leright, A. Sendecki, C. Lind

186. Structure, magnetic, and electrical properties of Gd₁₁₇Ni₅₆Sn₁₀₄. **L. E. Reyes**, J. Y. Chan

187. Synthesis and colorimetric sensing of pyridine based tripodal amines and their copper (II) complexes for anions. **J. Jackson**, M. Hossain, S. Haque

188. Utilization of synchrotron radiation to determine the structure of weakly-diffracting fullerene crystals. **K. B. Ghiassi**, S. Y. Chen, A. de Meijere, M. M. Olmstead, A. L. Balch

189. In situ reduction to generate a second-harmonic generation active, mixed-valence sodium vanadium oxide-fluoride. **M. D. Donakowski**, R. Gautier, H. Lu, T. Tran, P. Halasymani, K. R. Poeppelmeier

Section E

Dallas Convention Center
Hall F

Undergraduate Research at the Frontiers of Inorganic Chemistry
Main Group Chemistry and Catalysis

C. Nataro, S. Smith, *Organizers*
6:00 - 8:00

190. Synthesis of ketoimines with electron-withdrawing substituents for use in aluminum complexes. **A. M. McCollum**, J. M. Fritsch

191. Synthesis and characterization of *bis*-ligated aluminum complexes for the polymerization of lactide. **L. A. Schmitz**, A. L. Rheingold, J. M. Fritsch

192. Reactivity of anisole and bromoanisole regioisomers toward brominating agents in solutions of NaBr + free available chlorine. **D. A. Victor**, J. D. Sivey

193. Nitrobenzene hydrogenation over supported gold catalysts. **J. Newell**, E. Purdy, B. Chandler, C. Pursell

194. Transition metal catalyzed conversion of pyrolytic lignin into chemical feedstocks. **M. Mohadjer Beromi**, N. West, A. Boateng

195. Platinum catalysts supported on mesoporous silica nanoparticles for production of alkyl and vinyl arenes. **N. A. Hirscher**, T. S. Gray, M. M. Otting, B. G. Trewyn, T. B. Gunnoe

196. Exploring reactivity of phosphine imidazole ligands with ruthenium: Access to monometallic and bimetallic complexes. **Y. F. Lin**, S. E. Flowers, B. M. Cossairt

Section F

Dallas Convention Center
Hall F

ACS Award in Organometallic Chemistry: Symposium in Honor of Kenneth G. Caulton

D. Mindiola, O. Ozerov, Z. Xue, *Organizers*

6:00 - 8:00

197. Computational study into controlling azide reduction vs. dinitrogen expulsion through metal and ligand choice. **T. M. Kosak**, S. Groysman, R. L. Lord

198. Exploring the redox states and reactivity of a vanadium bis-tetrazinylpyridine complex with DFT. **A. M. Terwilliger**, K. G. Caulton, R. L. Lord

199. Synthesis and reactivity of new pincer-ligated rhodium alkyne dimerization catalysts. **C. J. Pell**, O. V. Ozerov

200. Binuclear pincer complexes of Pd and Ni: Catalysts for selective decomposition of HCOOH to CO₂ and H₂. **C. Palit**, O. V. Ozerov

201. Insertion chemistry and reactivity of a neutral terminal nitride of vanadium. **R. R. Thompson**, B. L. Tran, S. Fortier, M. Pink, D. J. Mindiola

202. Cu(II) mediated dialkoxylation of alkenes by alcohols: The impact of ligands and scope of the reaction. **H. Wu**, D. Huang

203. Application of carborane weakly-coordinating anions in organometallic synthesis, catalysis, and characterization. **B. J. McCulloch**, R. Huacuja, M. MacInnis, Y. Zhu, O. V. Ozerov

204. Synthesis and characterization of triflyloxy substituted carboranes. **L. P. Press**, B. J. McCulloch, O. V. Ozerov

Section G

Dallas Convention Center
Hall F

**Undergraduate Research at the Frontiers of Inorganic Chemistry
Solid State Chemistry**

C. Nataro, S. Smith, *Organizers*
6:00 - 8:00

205. Investigation of the rhombohedral-to-cubic transformation path in boron nitride. **P. M. Patel**, M. Somosot, A. Chourasia, P. Kroll
206. Polymorphism in novel Li₂-II-IV-S₄ diamond-like semiconductors. **K. P. Devlin**, K. R. Daley, M. A. Moreau, J. A. Brant, J. A. Aitken
207. Synthesis and characterization of surface modified zinc oxide quantum dots. **S. M. Bynum, L. F. Ibrahim**, M. T. Smith, H. X. Egido-Betancourt, P. P. Vaughan, A. K. Schrock, K. S. Molek

208. Searching for light responsive metal-organic frameworks via the incorporation of photochromic linker molecules. **D. R. Butzer**, I. M. Walton, J. M. Cox, C. A. Gleason, D. G. Patel, J. B. Benedict

209. Synthesis and characterization of titanium oxide nanopowders. **C. K. Butterfield**, T. K. Boucher, R. M. Oberhausen, G. S. Kostelac, K. S. Molek

210. Synthesis of BaMoO₄ from colloidal MoS₂. **M. T. Spiegel**, L. Akinkunmi, **B. R. Martin**

211. New quaternary rare earth bismuth telluride with potential thermoelectric properties. **L. Kennedy, V. Wu**, K. Rai, M. Kita, B. C. Chan

212. Carbazole based metal-organic frameworks for applications in gas separation. **A. W. Stubbs**, R. L. Lehane, D. R. Manke

213. Design of nanoparticles for targeted drug delivery: Surface modification of zirconium phosphate with PEG. **A. S. Rosas**, A. Diaz, B. Mosby, A. Clearfield

214. Preparation of coordination polymers containing diosmium

units. **S. Yoon, N. Gwini**, A. G. Fikes, G. L. Powell

215. Preparation of a library of transition-metal-doped zinc sulfide nanoparticles and characterization of their photoluminescent properties. **F. N. Youmbi**, M. Seehra, B. V. Popp

216. Mesoporous metal organic frameworks for use in enzyme immobilization. **S. Almaraz**

217. Research in the inorganic classroom: Structural characterization of sulfonamide derivatives and their metal coordination complexes. **K. Rai**, L. Kennedy, D. L. Jacobs, B. C. Chan, A. R. O'Connor

Section H

Dallas Convention Center
Hall F

**Bioinorganic Chemistry
Proteins and Enzymes and
Model Systems**

S. Koch, *Organizer*

6:00 - 8:00

218. Inorganic biochemistry of Clofibric acid with Fe³⁺. **Y. Z. Hamada**, J. Scott, M. Z. Badr

219. Novel N₂ complexes of relevance to the NN bond breaking. **K. Grubel**, W. W. Brennessel, P. L. Holland

220. Macrocyclization of the ATCUN motif controls metal binding and catalysis. **K. P. Neupane**, A. R. Aldous, J. A. Kritzer

221. Kinetic and spectroscopic study of enzyme-substrate interactions in a tRNA monooxygenase MiaE (a non-heme diiron enzyme). **B. P. Subedi**, A. Corder, B. Pierce

222. Redox-induced ligand switching in F82H cytochrome c. **K. R. Hoke**, M. R. Chandler, R. Quarles

223. Degradation of human hemoglobin by organic C-nitroso compounds. **y. guan**, j. yi, G. Richter-Addo

224. Examination of the substrate specificity of the enzyme PcpA using synthetic model complexes. **J. Schofield**, T. E. Machonkin, P. L. Holland

225. Synthesis of heterometallic dinuclear nitrosyl compounds and their roles as electrocatalysts for H⁺ reduction and H₂ evolution. **P. Ghosh**, C. - . Hsieh, M. Y. Darensbourg

226. Is HNO produced from the reaction of H₂S with GSNO or

HNSO? **M. Kumar**, T. Clover, P. J. Farmer

227. Formation and reactivity of a novel Fe-peroxynitrite species: A computational study. **J. Schmitt**, J. Shearer

228. Computational studies of adenosine monophosphate dependent protein kinase: Phosphoryl transfer and ground- and transition-state analogs. **K. N. Leigh**, C. E. Webster

229. Molecular assemblies as mimics of the complete H-cluster in diiron hydrogenase. **C. C. Beto**, R. Bethel, M. Y. Darensbourg

230. Characterization of retinal phosphodiesterase: Dependence of activity on zinc and cadmium concentration. **R. C. Hadley**, R. Cote, R. P. Planalp

231. Synthesis and properties of water soluble N-heterocyclic carbene dinitrosyl iron complexes. **R. B. Chupik**, R. Pulukkody, M. Y. Darensbourg

232. Syntheses and reactivity studies of Co-E (where E= group 14 element) containing complexes. **E. M. Ward**, A. M. Stolzenberg, S. Moningi, J. Gutshall

233. Biomimetic Mo-Cu model complexes of carbon monoxide dehydrogenase: Computational design and synthesis. **D. Ellis**, D. Rokhsana

234. Computational investigation of redox-dependent structural changes at the active site of molybdenum-copper carbon monoxide dehydrogenase. **T. A. Large**, M. C. Dienst, D. Rokhsana

Section I

Dallas Convention Center
Hall F

**Undergraduate Research at the Frontiers of Inorganic Chemistry
Organometallic Chemistry**

C. Nataro, S. Smith, *Organizers*
6:00 - 8:00

235. Metal-metal interactions in compounds with 1,1'-bis(phosphino)metallocene ligands. **E. G. Lubas**, E. P. Warnick, M. A. Tiedemann, C. Nataro

236. Enantio-enrichment of {TpW(NO)(PMe₃)} dearomatizing agent. **A. W. Lankenau**, J. A. Pienkos, W. D. Harman, W. H. Myers

237. Synthesis and reactivity of tungsten and molybdenum

carbon dioxide complexes. **R. G. Carden, J. J. Ohane**, M. A. Pogash, P. M. Graham

238. Transition metal complexes containing the 7-azaindolide ligand. **M. L. Kiewit**, Z. J. Tonzetich

239. Microwave-assisted, copper-catalyzed concurrent tandem catalytic methodology for the amidation of aryl halides. **J. L. Sarjeant, J. A. Mills**, D. J. Brown, S. Lin, A. H. Roy MacArthur

240. Synthesis of pyridyl substituted carbene complexes of nickel: In search of new chemical catalysts. **M. Callis**, A. Puetz, **R. M. Meier**

241. PDI-pincer ligands with a modifiable secondary coordination sphere: Synthesis, characterization, and application to transition-metal catalysis. **T. W. Butcher**, V. Vajpayee, B. V. Popp

242. Exploring a modular approach to chiral tetradentate aminosulfoxide ligands through two different undergraduate research formats. **T. J. Brunker**

243. N-heterocyclic carbene platinum(II) complexes for catalytic olefin hydroarylation. **A. M. Brosnahan**, B. A. McKeown, S. E. Kalman, H. E. Gonzales, T. B. Gunnoe, T. R. Cundari

244. One-pot synthesis and characterization of new cationic (π-allyl)Ni(II) complexes containing pendent alkyolphosphonate groups. **J. L. Levene**, J. M. O'Connor, A. R. O'Connor

245. Synthesis, characterization, and reactivity of (π-allyl)nickel complexes to serve as catalysts for norbornene polymerization. **M. McDaniel**, A. R. O'Connor, B. C. Chan

246. Withdrawn.

247. Iridium-catalyzed acceptorless dehydrogenation of alkanes. **K. H. Jensen**, A. R. Chianese

248. Alkene isomerization catalyzed by CCC-pincer complexes of iridium. **D. Kim**, A. R. Chianese

249. Probing the mechanism of dehydrogenation of primary amines to nitriles by an iridium PCP-pincer complex. **H. Sajjad**, D. A. Laviska

250. Microwave-assisted reactions of Os₃(CO)₁₂ with

substituted acetylenes. **E. K. Fry**, S. M. Martin, C. B. Powell
Section J

Dallas Convention Center
Hall F

Coordination Chemistry Synthesis

D. Crans, *Organizer*

6:00 - 8:00

- 251.** Augmented nuclearity in gold(I) arrays with disparate NN-, CC-donor bridges. **D. Y. Melgarejo**, G. M. Chiarella, J. P. Fackler
- 252.** Theoretical and model complexes (N₅)M(L) stabilized by intramolecular hydrogen bonding (M = K, L = aza-18-crown-6, hexaaza-18-crown-6; M = Na, L = pentaaza-15-crown-5; M = Li, L = tetraaza-12-crown-4). **I. Kobrsi**, I. McNaught, O. El-Kadri, P. Naumov
- 253.** Copper and silver guanidinate complexes with luminescence properties. **G. M. Chiarella**, D. Y. Melgarejo, J. P. Fackler
- 254.** Synthesis of lanthanide complex containing heteroleptic ligands. **P. K. Yuen**, C. D. Lau
- 255.** Two novel zeolitic imidazolate frameworks (ZIFs) with high porosity, high thermal and chemical stability. **S. A. Basnayake**, M. Rudolph, K. J. Balkus
- 256.** Computational and experimental investigation of the Lewis acid character of Ru₂(II,II) paddlewheel complexes with (N,O) ligands. **T. R. Brown**
- 257.** Coordination polymers based on 1,3-alternate calix[4]arene tetrabenzoic acid: Design, synthesis and structure. S. Krajangsi, N. Muangsin, **B. Pulpoka**
- 258.** Synthesis and volatility characteristics of novel hafnium complexes employing β-ketoiminato and β-diketiminato ligand systems. E. Ballester, L. Pineda, **B. D. Fahlman**
- 259.** Co-ligand effects on the structural chemistry of bismuth perfluorinated-alkoxides. **C. C. Webb Jr**, **A. Goos**, A. O'Brien, K. Ruhlandt
- 260.** Syntheses and characterization of Ta(=NSiMe₃)[N(SiMe₃)₂]X₂ (X = CH₂Ph, NMe₂). **S. C. Hunter**, Z. Xue
- 261.** Iron, cobalt, and nickel complexes of electronically

- varied dithiocarbamate ligands. **E. C. Sylvester**, M. E. Railing, K. Lucas, G. Azzarello
- 262.** Synthesis and characterization of [Pd₂(HD-3-pyF₄⊃Cl)]Cl₃: A new chloride ion inclusion complex. **S. C. Haefner**, J. Matta
- 263.** Synthesis, characterization and antibacterial activity of Cu(II) complexes with multidentate pyridyl ligands: X-ray crystal structure of an alkoxy-bridged cubane-like tetranuclear Cu(II) complex. **D. Lee**, S. Lee, H. Jung, S. Lim
- 264.** Synthesis, characterization and biological activity of N-heterocyclic carbene complexes of Ag(I) and Ni(II) ions. **D. Lee**, H. Jung, G. Moon, G. Park, O. Yang
- 265.** Difficulties, obstacles, and successes in preparing multi-zonal crystalline systems based upon coordination helices. **S. Seidel**, R. Wilkens, A. M. Stock
- 266.** Synthesis and characterization of few novel [NNN]Ni(II) pincer complexes. **A. Pramanik**, A. Das, M. Yousufuddin, H. Dias
- 267.** Aminophosphine tungsten carbonyls as potential scaffolds for CO₂/olefin coupling. **J. A. Cedeño-Alicea**, S. J. Kyran, D. J. Darensbourg
- 268.** Crystallographic evidence of coordination environment control through the interplay of anion coordination strength and ligand sterics in Cu^{II} complexes of methylated pyrazoles. **I. D. Giles**, J. R. Deschamps
- 269.** Synthesis and late-metal coordination chemistry of novel guanidine ligands. **N. A. Piro**, W. Kassel
- 270.** Coordination chemistry of the Janus-head ligand tris(2-pyridyl)phosphine [P(py)₃] and its oxide with late first row transition metal nitrates. **D. J. Pericic**, W. G. Dougherty, N. A. Piro, W. Kassel
- 271.** Coordination chemistry of the Janus-head ligand tris(2-pyridyl)phosphine [P(py)₃] and its oxide with lanthanide nitrates. **D. J. Pericic**, W. G. Dougherty, N. A. Piro, W. Kassel

Section K

Dallas Convention Center
Hall F

Organometallic Chemistry Synthesis and Characterization

N. Radu, *Organizer*

6:00 - 8:00

- 272.** Synthesis of *ansa*-ytterbocenes by reductive fulvene coupling: Reactivity and electronic properties. **M. Villareal**, E. Shurda, S. T. Iacono, G. J. Balaich, D. W. Ball
- 273.** Synthesis and characterization of (*bis*-azapentadienyl)ruthenium(phosphine) complexes. **M. Stouffer**, J. R. Bleeke, N. P. Rath
- 274.** Activation of phenylsilane by a zerovalent platinum dimer. **L. Matuszewski**, S. Schreiner
- 275.** Iridium(III) hydride complexes with bidentate phosphines: Synthesis, characterization and reactivity. **T. Tran**, S. Schreiner
- 276.** Synthesis and characterization of low-valent iridium complexes stabilized by alkyl- and arylidiphosphines. **H. Russ**, S. Schreiner
- 277.** Highly fluorescent phosphines based on the BODIPY scaffold. **J. F. Wallis**, L. J. Higham
- 278.** Synthesis and reactivity of borenium ions supported by azaferrrocene donors. **J. R. Smith**, S. B. Krause, A. L. Rheingold, T. J. Brunker
- 279.** Selective nucleophilic replacement reactions of substituted silanes. **Z. Bassampour**, D. Y. Son
- 280.** Synthesis structure and reactivity of alkali metal silanides. **V. D. Thalangaarachchige**, D. Cordes, C. Krempner
- 281.** Organometallic reactivity of nitroxyl donors with transition metal complexes. **M. E. DelHomme**, P. J. Farmer
- 282.** Synthesis and reactivity of three-coordinate Rh(I) silylamides. **A. J. Kosanovich**, M. T. Whited
- 283.** Synthesis of N-heterocyclic carbene-containing pincer complexes for catalytic hydrogenation of polar bonds. **S. M. Knapp**, A. R. Chianese, K. H. Jensen, M. J. Drance, G. F. Moore
- 284.** Synthesis and photophysical properties of platinum acetylides compounds. **R. W. Winkel**, K. S. Schanze
- 285.** Applications of low valent transition metal centers:

- Formation of cyclopentadienyl cobalt (I) clusters. **G. P. McGovern**, C. A. Bradley
- 286.** Synthesis and characterization of (η⁵-Pentalenyl)Mn(CO)₂ complexes with tethered functional groups: Development of organometallic photochromes. **J. O. Johnson**, R. G. Letterman, E. J. Heilweil, C. E. Webster, T. J. Burkey
- 287.** Synthesis and characterization of d8 transition metal complexes for electronic applications. **A. A. Shahub**, M. A. Omary, I. Oswald

Section L

Dallas Convention Center
Hall F

Organometallic Chemistry New Ligand Platforms

N. Radu, *Organizer*

6:00 - 8:00

- 288.** Buckycatcher with nothing to catch and its first reduction study. A. V. Zabula, S. N. Spisak, Y. Sevryugina, L. Kobryn, R. Sygula, A. Sygula, **M. A. Petrukhina**
- 289.** Transition metal complexes of novel MOP-phosphonites and their applications in homogeneous asymmetric catalysis. **J. T. Fleming**, L. J. Higham
- 290.** Cooperative small-molecule activation by ambiphilic late-metal complexes. **A. M. Deetz**, M. T. Whited

Section M

Dallas Convention Center
Hall F

Environmental and Energy- Related Inorganic Chemistry

S. Koch, *Organizer*

6:00 - 8:00

- 291.** Carbon dioxide reduction with Zn: An alternative to precious and toxic metals. **J. Stafford**, A. Hamza, **J. G. Andino**
- 292.** Design and synthesis of ruthenium coordination polymers for use in dye sensitized solar cells. **S. M. Boyer**, K. H. Skorenko, K. B. Fischer, N. A. Ravvin, A. D. Taggart, W. E. Bernier, W. E. Jones
- 293.** Platinum(IV) photoelimination reactions: What is going on? **P. R. Sharp**
- 294.** Interaction of phosphate esters and phosphine oxides

with imidazolium-based room temperature ionic liquids. R. Joshi, **S. P. Pasilis**

295. Expedited synthesis, and structural and kinetic studies of non-platinum group metal-organic framework electrocatalysts. **E. M. Miner**, K. M. Strickland, U. Tylus, S. Mukerjee

296. Density functional study of $(\text{LiCl})_n$ ($n=1-24$) clusters: Structure, stability, and spectra. **E. M. Mitchell**, B. Long, J. Su, G. Wu, J. Li

297. Protein folding thermodynamics of ferricytochrome c_{552} from *Marino bacter hydrocarbonoclasticus*. **W. Chen**, **J. S. Magyar**

298. Coordination chemistry, structure, and spectroscopy of a putative metalloregulatory protein from a methanogenic archaeon. **C. L. Cleveland**, **J. S. Magyar**

299. Electrochemical and photochemical reduction of carbon dioxide to methanol and formate by ruthenium polypyridyl complexes containing a pyridine group. **D. J. Boston**, Y. M. Franco Pachón, R. O. Lezna, N. R. de Tacconi, F. M. MacDonnell

300. Bioaccumulation of selenium in the bryophyte *Hygrohypnum ochraceum* in Colorado. **J. S. Carsella**, **D. C. Crans**, S. J. Bonetti, D. R. Nimmo, S. J. Herrmann, D. W. Lehmpuhl

301. Effect of interpenetration on the structure and adsorption properties of metal-organic frameworks. **L. Zou**, T. Liu, H. Zhou

302. Activation of CO_2 and the subsequent conversion into value added chemicals. **C. Chatterjee**

303. Pulse-gradient spin echo ^7Li and ^{19}F NMR diffusion measurements of 8 novel silyl-carbonate solvent-blend electrolytes containing LiPF_6 and LiTfSA . **W. Barth**, **E. Dixon-Anderson**, L. J. Lyons

304. Ionic conductivity of silyl solvent and organic carbonate electrolyte blends. **J. Lindstrom**, L. J. Lyons

Section N

Dallas Convention Center Hall F

Nanoscience

R. Richards, *Organizer*

6:00 - 8:00

305. Simulation, synthesis, and analysis of upconverting and downconverting doped nanomaterials for enhanced photovoltaic efficiency. **A. Gotlin**, E. Chan

306. Tunable electroluminescence from carbon dot LEDs. Y. Zhang, J. Zhao, X. Zhang, Y. Wang, A. Rogach, **W. W. Yu**

307. Template-assembled cuprous oxide nanorod films on transparent electrodes: Electrodeposition conditions and photoelectrochemical behavior. **M. Rivas**, K. M. Haynes, C. M. Perry, J. W. Youngblood, I. Parchamzad

308. Syntheses and SERS investigation of core-shell Ag@SiO_2 nanoparticles. **X. Meng**, C. Jiang

309. Synthesis of oxidation stable Cu nanowires with high performances for future electrodes. Z. Yin, S. Cho, **Y. S. Kim**, J. Yoo, J. Myoung

310. Ligand investigations towards green iron pyrite nanoparticle synthesis. **B. A. Weintraub**

311. Edge-abundant boron-nitride-carbon nanoribbons aerogel as efficient electrocatalysts for oxygen reduction reaction. **Y. Gong**, S. Yang, P. Ajayan

312. Preparation of size-controlled hollow spherical gold nanoparticle superstructures with near-infrared extinction. **C. Zhang**, Y. Zhou, C. Song, G. C. Schatz, N. L. Rosi

313. Mechanochemical routes to bicontinuous conductive polymer networks for solar applications. **E. R. Waterman**, M. E. Hagerman

314. Surface plasmon mediated solution chemical deposition on nanostructured substrates from silver(I) and gold(I) precursors. **K. Johnson**, Y. Wu, J. Qiu, W. Wei, L. McElwee-White

315. Metal oxide nanowires: Synthesis, characterization, and its application in nanoscale fuel cells. **M. Hasan**, J. Coffey

316. Design, synthesis and application of multifunctional redox-responsive porphyrin-based polysilsesquioxane nanomaterials for photodynamic therapy. **D. Vega**, J. L. Vivero-Escoto

317. Toward a multifunctional ^{19}F MRI contrast agent based on mesoporous silica nanoparticles. **J. L. Steinbacher**, J. E. Hitro, J. A. Heck, J. A. Binns, J. M. Schnitter

318. Characterization of RF magnetron sputtered nanoscale films of lithium ceramic materials for solid battery electrolytes. **E. Burton**, D. Teeters

319. Optoelectronic properties of solution-processed metal-semiconductor nanocrystal films. **N. N. Kholmicheva**, M. Zamkov

Section O

Dallas Convention Center Hall F

Solid State Inorganic Chemistry

C. Lugmair, V. Poltavets, *Organizers*

6:00 - 8:00

320. Synthesis and properties of $\text{Yb}_{10}\text{Ca}_{4-x}\text{Bi}_x\text{MnSb}_{11}$. **A. T. Brown**, Y. Hu, S. K. Bux, S. Kauzlarich

321. Isotropic negative thermal expansion in rock-salt ordered mixed metal fluorides $\text{M}^{(\text{II})}\text{ZrF}_6$ ($\text{M}^{(\text{II})}=\text{Ca}, \text{Co}, \text{Zn}$) with a ReO_3 -type structure. **J. C. Hancock**, A. P. Wilkinson

322. Synthesis, structure, and characterization of new mixed valence manganese ($\text{Mn}^{2+}/\text{Mn}^{3+}$) fluorides. **S. Kim**, E. Pachoud, P. S. Halasyamani

323. Solvation of Li_xVS_2 as a function of cation density. **J. A. Armitage**, **B. R. Martin**

324. $[(\text{CH}_3)_2\text{CHNH}_3]_2\text{Cu}_5\text{Br}_{12}$: A new feature in the isopropylammonium halidometallate landscape. **M. R. Bond**

MONDAY MORNING

Section A

Dallas Convention Center Ballroom A

ACS National Awards in Inorganic Chemistry: Plenary Session

Cosponsored by COLL N. Radu, S. Koch, *Organizers* D. Crans, *Organizer*, *Presiding*

9:00 325. Award Address (ACS Award for Distinguished Service in the Advancement of Inorganic Chemistry sponsored by Strem Chemicals, Inc.). Design, discovery and serendipity in transition metal-mediated reactivity. **T. Tilley**

9:35 326. Award Address (ACS Award in Pure Chemistry by the Alpha Chi Sigma Fraternity and the Alpha Chi Sigma Educational Foundation). Shaping the synthesis of bimetallic nanostructures. **S. E. Skrabalak**

10:10 327. Award Address (ACS Award in Organometallic Chemistry sponsored by The Dow Chemical Company Foundation). Systematic development of new redox-noninnocent ligands. **K. G. Caulton**

10:45 Intermission. **10:55 328. Award Address** (ACS Award in Inorganic Chemistry sponsored by Aldrich Chemical Company, LLC). Stable carbenes and related species: Powerful tools in organic, inorganic and organometallic chemistry. **G. Bertrand**

11:30 329. Award Address (F. Albert Cotton Award in Synthetic Inorganic Chemistry sponsored by the F. Albert Cotton Endowment Fund). Chemical hydrogen storage: Pathways and intermediates for activated amineborane hydrogen-release/oligomerization reactions. **L. G. Sneddon** **WCC Rising Stars Symposium** Sponsored by WCC, Cosponsored by ANYL, INOR, MEDI, ORGN, PHYS, and PROF

MONDAY AFTERNOON

Section A

Dallas Convention Center A306

Environmental and Energy-Related Inorganic Chemistry

S. Koch, *Organizer* E. Dikarev, M. Petrukhina, *Presiding*

1:30 330. Shape stabilized composite zinc electrode for secondary batteries. **O. Ebil**, G. Payer, O. Ocali

1:50 331. Ab initio study of p-type dye-sensitized solar cells: Effects of different anchoring groups on the electronic features of dye-NiO interphase. **M. Pavone**, A. B. Muñoz-García

2:10 332. Curved carbon-rich polyarenes for maximizing lithium ion storage. S. N. Spisak, A. V. Zabula, A. S. Filatov, A. Y. Rogachev, **M. A. Petrukhina**

2:30 333. Application of redox non-innocent ligands to non-aqueous flow battery electrolytes. **P. J. Cappillino**, H. D. Pratt, N. S. Hudak, N. C. Tomson, T. M. Anderson, M. R. Anstey

2:50 334. Versatile catalyst motif for production of H₂ from alcohols and O₂ from hydrogen peroxide. **M. Nielsen**

3:10 335. Comprehensive cobalt-based water oxidation catalysts: From nanomaterials to PSII mimics. **G. R. Patzke**, F. Evangelisti, H. Liu, S. Lubner

3:30 Intermission.

3:40 336. Nanoarchitected Ni(OH)₂ nanotube arrays for high power and high energy asymmetric supercapacitors. **Q. Li**, X. Sun, Y. Mao

4:00 337. Design of heterobimetallic molecular precursors for LiCoO₂ cathode material. **E. V. Dikarev**, Z. Wei, H. Han, A. S. Filatov

4:20 338. Speciation of transition metal dopant ions during the formation of SrTiO₃ powders. **K. R. Kittilstved**, K. A. Lehuta, W. L. Harrigan

4:40 339. Conversion of a two-electron her-electrocatalyst into a multielectron CO₂ reduction electrocatalyst by ligand backbone modification. **O. M. Williams**, M. J. Rose, A. H. Cowley

5:00 340. Novel bis- and mono(thiourea) conducting polymer materials for highly selective and robust ionophoric sensors. **M. T. Raiford**, B. J. Holliday

Section B

Dallas Convention Center
A303

Undergraduate Research at the Frontiers of Inorganic Chemistry

Spotlight on CENTC (Center for Enabling New Technologies Through Catalysis)

C. Nataro, S. Smith, *Organizers*
A. O Connor, *Presiding*

1:30 341. Continuing the CENTC mission: Developing more sustainable methods in recycling and catalysis. **M. H. Emmert**

1:50 342. DFT modeling of the aldehyde-water shift reaction. **W. C. Ou**, T. R.

Cundari, T. P. Brewster, D. M. Heinekey

2:10 343. Base metal catalysis: Activating inert bonds using iron and cobalt. **M. Findlater**, A. D. Smith, S. Schunemann, A. Saini, R. Arias-Ugarte

2:30 344. Bis-phosphite PCP iridium complexes bearing hydrides and the catalysis of the deoxygenation of glycerol. **M. E. Brastow**, G. W. Wong, D. M. Heinekey, K. I. Goldberg

2:50 Intermission.

3:05 345. Selectivity in C-H bond activation of substituted pyridines: Overcoming the influence of a strongly coordinating arene heteroatom. R. Herberster, **D. A. Laviska**

3:25 346. Heterogenous acid catalyzed conversion of furfuryl alcohol to valuable chemicals. **N. A. Prisco**, J. M. Gallo, J. A. Dumesic

3:45 347. Withdrawn.

4:05 348. Synthesis and characterization of (1,5-bis-cyclooctadiene)iridium(I) complexes containing *N*-(2-(pyridin-2-yl)ethyl)sulfonamide derivatives. **A. R. O'Connor**, J. M. O'Connor, J. W. Carlin, D. L. Jacobs, B. C. Chan

Section C

Dallas Convention Center
A310

Molecular Inorganic Chemistry at the Frontiers of Energy Research

F. Castellano, *Organizer*
L. Berben, *Presiding*

1:30 349. Photoreduction of main group/late transition metal heterobimetallic complexes. **F. P. Gabbai**

2:00 350. New approaches to probe proton-coupled electron transfer reaction pathways. **J. L. Dempsey**, T. T. Eisenhart

2:30 351. Synthesis, physical, and photophysical properties of a new class of first row-based transition metal complexes as chromophores for solar energy conversion strategies. L. L. Jamula, A. M. Brown, J. Miller, **J. K. McCusker***

3:00 352. Photoreduction of carbon dioxide to methanol and formate using a homogeneous pyridinium catalyst coupled with a ruthenium polypyridyl chromophore. D. J. Boston, N. S. de Tacconi, R. O. Lezna, **F. M. MacDonnell**

3:30 Intermission.

3:45 353. Water-compatible polyoxometalate catalysts for solar fuel production. **C. L. Hill**, H. Lv, J. W. Vickers, J. M. Sumliner, Y. V. Geletii, D. G. Musaev

4:15 354. Water oxidation catalysis beginning with the cobalt-polyoxometalate, Co₄(H₂O)₂(PW₉O₃₄)¹⁰⁻ under electrochemical and chemical oxidant conditions: Mechanistic studies en route to discovering the true catalysts. **R. G. Finke**, J. J. Stracke

4:45 355. Electrocatalytic reduction of CO₂ by metal-metal bonded clusters of iron and copper. P. N. Serrano, A. D. Nguyen, M. D. Rail, **L. A. Berben**

Section D

Dallas Convention Center
A305

A Celebration of Crystallography in Solid State and Materials Chemistry: Complex Problems and New Solutions in Inorganic Small Molecule Crystallography

J. Chan, *Organizer*
J. Aitken, S.

Latturner, *Organizers, Presiding*

1:30 356. Neutron diffraction opportunities at Oak Ridge National Laboratory. **A. Huq**

1:55 357. Influence of average and local crystal structures on superconductivity in the Bi-O-S system. **W. A. Phelan**, B. A. Trump, D. C. Wallace, K. E. Arpino, J. R. Neilson, K. J. Livi, C. R. Seabourne, A. J. Scott, A. E. Payzant, A. Huq, T. M. McQueen

2:20 358. Powder crystallography applied to negative thermal expansion materials. **C. Lind-Kovacs**

2:45 359. Structural modulation in the battery material LiFeBO₃: Symmetry analysis, thermodynamic oddities, and relationship to Li ion mobility. **P. Khalifah**, Y. Janssen, S. Bo, D. Middlemiss, C. Grey

3:10 Intermission.

3:20 360. Crystallographic studies of complex perovskites. **P. M. Woodward**, A. Fry, G. M. King, A. Sharits

3:45 361. In-situ crystallography of inorganic melt synthesis. **D. P. Shoemaker**

4:10 362. New crystallographic tools for the analysis of solid-state materials. **C. F. Campana**

4:35 363. Visualizing ordered disorder: 2D X-ray diffraction, simulations, and Patterson Functions. **E. D. Dill**, J. C. Folmer, J. D. Martin

Section E

Dallas Convention Center
A304

ACS Award in Organometallic Chemistry: Symposium in Honor of Kenneth G. Caulton

D. Mindiola, O.
Ozerov, *Organizers*

Z. Xue, *Organizer, Presiding*

2:00 364. So close and yet so hard to reach: Accessing Ir-hydrides in hydrogenative C-C coupling of alkynes and imines catalyzed by [Ir(I)-BIPHEP]⁺. **M. Baik**

2:25 365. Where are the electrons? How DFT can be both a research and teaching tool with metal complexes featuring redox-active ligands. **R. L. Lord**

2:50 366. Facile assembly of redox active ligand and pendant amine on iron. **Z. Wu**, O. González-del Moral, M. Kaess, M. Adelhardt, C. Chen, M. Pink, K. Meyer, D. J. Mindiola, K. G. Caulton

3:15 Intermission.

3:25 367. σ/n Metal-mediated enediyne activation to promote diradical generation and C-C bond formation. **J. M. Zaleski**, K. Kirschner, S. E. Lindahl

3:50 368. Separation of trivalent lanthanide and actinide ions using polyazine extractants. **L. A. Watson**, B. P. Hay, C. de Sahb, J. Nadas

4:15 369. Boremium cations: Versatile reagents for synthesis and small molecule activation. **M. J. Ingleson**

4:40 370. Borylation of C-H bonds with iridium pincer catalysts. **O. V. Ozerov**, C. Lee, J. Zhou, N. A. Hirscher, L. P. Press, N. Bhuvanesh

5:05 Concluding Remarks.

Section F

Dallas Convention Center
A302

2014 Priestley Medalist: Symposium in Honor of Stephen J. Lippard

K. Karlin, *Organizer*
C. Cummins, *Organizer, Presiding*
S. Gorun, *Presiding*

2:00 371. Copper acquisition by methanotrophic bacteria. G. E. Kenney, **A. C. Rosenzweig**
2:25 372. ESCRT pathway in HIV budding and cell division. **W. I. Sundquist**

2:50 373. Harnessing the iron acquisition machinery of gram-negative microbes for intracellular cargo delivery. **E. M. Nolan**, T. Zheng

3:15 374. Metal-selective activation of the nickel-responsive transcription factor NikR. **D. B. Zamble**, M. D. Jones, S. Krecisz, Y. Li, S. C. Wang

3:40 Intermission.

3:55 375. On the mechanism of nitrogen fixation by nitrogenase. **B. M. Hoffman**, D. Lukoyanov, D. R. Dean, L. C. Seefeldt

4:20 376. Manipulating metals at the host-pathogen interface. **K. J. Franz**

4:45 377. Role of dimanganese-tyrosyl radical ribonucleotide reductase in the virulence of *Streptococcus sanguinis*. **J. Stubbe**, O. Makhlynets, D. Rhodes, T. Kitten, A. Boal, A. Rosenzweig

Section G

Dallas Convention Center
A301

Inorganic Supramolecular Chemistry

S. Baudron, *Organizer*
C. Aakeroy, *Organizer, Presiding*

1:30 378. Building functional inorganic clusters within mesoporous metal-organic frameworks. **J. T. Hupp**

2:00 379. Metal-organic frameworks based on extensively fluorinated and dehydrobenzannulenic linkers. T. Chen, I. Popov, O. Daugulis, **O. Miljanić**

2:30 380. Hybrid materials from the f-block: Tips and tricks for directing supramolecular assemblies. **C. L. Cahill**, R. G. Surbella, K. P. Carter

3:00 Intermission.

3:15 381. Supramolecular architectures and properties of metal-radical coordination complexes. **K. E. Preuss**, E. M. Fatila, M. Rouzieres, D. V. Soldatov, R. Clerac, C. Mathoniere

3:45 382. Metallacrowns: Assembly and spectroscopic characteristics. **V. L. Pecoraro**,

J. Jankolovits, E. Trivedi, C. Chow

4:15 383. Supramolecular approaches in the quest for improved molecular magnets. **A. K. Powell**

Section H

Dallas Convention Center
A309

ACS Awards: Symposium in Honor of Guy Bertrand and T. Don Tilley

J. Walzer, R. Waterman, *Organizers*
F. Gabbai, D. Bourissou, *Organizers, Presiding*

1:30 384. Reactive phosphorus intermediates. A. Velian, M. Temprado, **C. C. Cummins**

1:50 385. From dehydrogenations, organometallic fuel cells, silanes, and other Don Guy tales. **H. F. Gruetzmacher**

2:10 386. P₄ and As₄ in main group and transition-metal chemistry. **M. Scheer**, M. Eckhardt, C. Schwarzmaier

2:30 387. Synthesis and properties of low-oxidation state boron compounds. **K. Nozaki**

2:50 388. Small HOMO-LUMO energy gap favors the chemistry of low valent silicon and transition metals. **H. W. Roesky**

3:10 389. Phosphorus chemistry and Lewis acid catalysis. **D. W. Stephan**

3:30 Intermission.

3:45 390. Werner complexes: A new class of chiral hydrogen bond donor catalysts for enantioselective organic reactions. **J. A. Gladysz**

4:05 391. Nickel complexes of electron rich PCP pincer ligands: Bond activation and catalysis. **W. Piers**, D. Gutsulyak, J. Borau-Garcia, E. LaPierre, M. Parvez

4:25 392. Tantalum and niobium methylidenes. **D. J. Mindiola**, K. Searles

4:45 393. Anion complexation and sensing with organoantimony compounds. **F. P. Gabbai**

Section I

Dallas Convention Center
A308

Main Group Chemistry

N. Radu, *Organizer*
T. Hanusa, *Presiding*

1:30 394. Structure, supramolecular aggregation and

thermal transformation of heavy analogs of asymmetric N-heterocyclic carbene. **A. V. Zabula**, I. A. Guzei, A. Y. Rogachev, R. West

1:50 395. Novel carbon-based functionalization of N-Heterocyclic carbenes. **B. M. Barry**

2:10 396. Main group metal complexes supported by a macrocyclic dianionic tetra-NHC. **S. A. Cramer**, F. L. Sturgill, D. M. Jenkins

2:30 397. Reactivity study of carbene-stabilized diatomic molecules. **Y. WANG**, M. Y. Abraham, R. J. Gilliard, G. H. Robinson

2:50 398. Structure and bonding in heavy group 2 organometallics: Does dispersion hold the key? L. K. Engerer, N. C. Boyde, **T. P. Hanusa**

3:10 Intermission.

3:20 399. Development of stable organophosphorus conjugated materials. **S. Wu**, N. Deligonul, A. L. Rheingold, J. D. Protasiewicz

3:40 400. Synthesis, spectroscopic, and structural characterization of unique trialkylboranes: Evidence of unusual geometries stabilized by dispersion effects. **M. A. Faust**, P. P. Power

4:00 401. Synthesis and characterization of heavy metal frustrated Lewis pairs. **S. Tamang**, J. Son, J. D. Hoefelmeyer

4:20 402. Synthesis and reactivity of highly electrophilic trityl salts of carborane anions. **C. Lee**, O. V. Ozerov

Undergraduate Research Posters

Inorganic Chemistry

Sponsored by CHED,
Cosponsored by INOR and SOCED

WCC Rising Stars Symposium

Sponsored by WCC,
Cosponsored by ANYL, INOR, MEDI, ORGN, PHYS, and PROF

MONDAY EVENING

Section A

Dallas Convention Center
Hall F

Sci-Mix

N. Radu, S. Koch, *Organizers*

8:00 - 10:00
45, 150, 151, 152, 153, 154, 156, 159, 163, 166, 167,

171, 173, 176, 177, 179, 191, 200, 202, 206, 211, 212, 218, 219, 222, 229, 235, 237, 239, 244, 247, 255, 260, 262, 266, 272, 274, 277, 285, 288, 290, 291, 293, 300, 314, 316, 320, 323. See previous listings.
448, 539, 540, 543, 546, 551, 554, 565, 568, 573, 577, 582, 586, 590, 591, 592, 603, 605, 607, 608, 622, 623, 629, 630, 631, 632, 633, 636, 638, 642, 664, 666, 668, 671, 675, 676, 678, 685, 687, 688, 692, 699, 700, 703, 706, 707, 710, 772. See subsequent listings.

TUESDAY MORNING

Section A

Dallas Convention Center
A307

Nanomaterials for Energy Capture, Conversion and Storage

Cosponsored by CEI
D. Gamelin, N. Neale, *Organizers*
K. Choi, *Presiding*

8:30 403. Unassisted solar water splitting with semiconductor oxide photoanode/photocathode tandem cells. **K. Sivula**

9:00 404. Nanoporous bismuth vanadate photoanodes for use in solar energy conversion. T. Kim, **K. Choi**

9:30 405. Suspended inorganic photocatalysts for the water splitting reaction. **F. E. Osterloh**

10:00 Intermission.

10:15 406. Photochemical route for accessing amorphous mixed-metal oxides for electrocatalytic water oxidation. **C. P. Berlinguette**

10:45 407. Manganese oxide oxygen evolution catalysts deposited by ALD. K. L. Pickrahn, **S. F. Bent**

11:15 408. Nanostructured electrocatalysts for the hydrogen evolution reaction. **R. E. Schaak**

Section B

Dallas Convention Center
A303

Undergraduate Research at the Frontiers of Inorganic Chemistry Organometallic Chemistry

S. Smith, *Organizer*
C. Nataro, *Organizer, Presiding*

9:00 409. "All that is gold does not glitter": Gold(III)...Sulfur

intramolecular interactions in templated C-H bond activation and solid-state effects. **D. E. Janzen**, A. M. Kooyman, S. R. Doherty

9:20 410. Cooperative reactivity involving organosilicon ligands and late transition metals: Making and breaking silicon-element bonds via metal silyl and silylene intermediates. **M. T. Whited**, J. W. Boerma, A. M. Deetz, D. E. DeRossa, C. A. Olivares

9:40 411. Investigation into the structure of (SiNN)Rh complexes and their borylation reactivity toward terminal alkynes and arenes. **N. A. Hirscher**, C. Lee, O. V. Ozerov

10:00 412. Versatile synthesis of orthogonally protected azamacrocyclic ligands. **M. S. Wasilewski**, M. M. Wetzler, J. L. Brumaghim

10:20 Intermission.

10:35 413. Modeling the photophysics of luminescent organometallic platinum(II) phosphors. **J. E. McGarrah**, R. L. Wheeler, B. E. Nagasing, E. Helms

10:55 414. Group VI metal carbonyl complexes of bis(diphenylphosphinomethyl)di phenylborate. **P. J. Fischer**, L. Avena, M. C. Neary, G. K. Putka, K. P. Sullivan, T. D. Bohrmann

11:15 415. Investigation of the influence of ligand sterics on the mechanism of alkene isomerization catalyzed by Ir(III) CCC-pincer complexes. **S. M. Knapp**, D. Kim, S. E. Shaner, D. Y. Shopov, J. A. Tendler, D. M. Pudalov, A. R. Chianese

11:35 416. Halide abstraction from [MⁿX₂(1,1'-bis(phosphino)metallocene)] complexes. **M. A. Tiedemann**, C. Nataro

11:55 Concluding Remarks.

Section C

Dallas Convention Center
A310

Molecular Inorganic Chemistry at the Frontiers of Energy Research

F. Castellano, *Organizer*
W. Weare, *Presiding*

8:30 417. Molecular approaches to catalytic hydrogen generation and carbon dioxide reduction. **C. J. Chang**

9:00 418. Cobalt-based catalysts for water-splitting. **V. Artero**

9:30 419. Learning from Nature how to make solar fuels. **G. W. Brudvig**

10:00 Intermission.

10:15 420. Cobalt catalyzed hydrogen evolution and formic acid dehydrogenation. S. C. Marinescu, S. M. Laga, A. Sattler, H. B. Gray, **J. R. Winkler**

10:45 421. Oxygen donor ligands and oxidation states. L. Tahsini, M. Tiedemann, **L. H. Doerrer**

11:15 422. Low energy proton-coupled electron transfer pathways in photo- and electrochemical catalytic water oxidation. **D. E. Polyansky**, Y. Badiei, E. Fujita, A. Lewandowska-Andralojc, J. T. Muckerman, R. Zong, R. P. Thummel

11:45 423. Controlling the energetics and lifetimes of ligand-to-metal and metal-to-metal charge transfer excited states. **W. W. Weare**

Section D

Dallas Convention Center
A305

Metal-Based Probes for Magnetic Resonance Imaging

M. Allen, P. Caravan, *Organizers*
V. Pierre, *Organizer, Presiding*

8:30 Introductory Remarks.

8:35 424. Can MRI agents compete in the biochemical imaging arena? **M. F. Tweedle**

9:05 425. Gadonanotubes: What's new and what's next? **L. J. Wilson**

9:35 426. High relaxivity MRI contrast agents for high magnetic field – challenges and pitfalls. **L. Helm**

10:05 Intermission.

10:15 427. Does anybody really know what (correlation) time it is? Designing Gd(III) complexes for high field, high relaxivity applications. **P. Caravan**

10:45 428. Multimodality molecular imaging. **A. Louie**

11:15 429. Hyperpolarized yttrium-89 complexes as potential magnetic resonance probes. L. Lumata, A. Jindal, M. Merritt, C. Malloy, A. Sherry, **Z. Kovacs**

Section E

Dallas Convention Center
A304

ACS Award in Pure Chemistry: Symposium in Honor of Sara E. Skrabalak

Cosponsored by COLL and WCC
A. Flood, *Organizer, Presiding*
L. Bronstein, *Presiding*

8:30 430. Heterogeneous-nucleation mechanism for the polyol synthesis of silver nanowires. W. M. Schuette, **W. E. Buhro**

9:00 431. Size and shape controlled syntheses of iron oxide nanoparticles. O. R. Sanchez-Felix, K. E. Donelson, B. Boris, N. V. Kuchkina, Z. B. Shifrina, **L. M. Bronstein**

9:30 432. Light activated tandem catalysis driven by multicomponent nanomaterials. **M. R. Knecht**, E. M. Zahran, N. M. Bedford, M. A. Nguyen, Y. Chang, B. S. Guiton, R. R. Naik, L. G. Bachas

10:00 433. Photoinduced structural rearrangements of kinetic phase Cu(TCNQ) crystals visualized with ultrafast electron microscopy. **D. J. Flannigan**

10:30 Intermission.

10:45 434. Cyano star wars episode I: A star is born. **A. Flood**

11:15 435. Understanding the role of surface diffusion in controlling the growth pathway of citrate-free silver nanoplates. **D. Qin**

11:45 436. Ultrasonic hot spots in polymeric composites. **K. S. Suslick**, S. You, M. Chen, D. D. Dlott

Section F

Dallas Convention Center
A302

2014 Priestley Medalist: Symposium in Honor of Stephen J. Lippard

C. Cummins, K. Karlin, *Organizers, Presiding*

9:00 437. Copper-oxygen intermediates relevant to metalloenzymes and other oxidation catalysts. **W. Tolman**

9:25 438. Tuning of the first- and second-coordination spheres in nonheme iron complexes. **D. P. Goldberg**, A. C. McQuilken, S. Sahu, L. R. Widger

9:50 439. Shellfish are inorganic chemists: Characterization and synthetic mimics of marine biological adhesives. E. Alberts, C. Jenkins, H. Meredith, M.

Johnston, J. Roman, C. Del Grosso, M. North, N. Hamada, **J. Wilker**

10:15 Intermission.

10:30 440. DNA signaling among proteins with iron-sulfur clusters. **J. K. Barton**

10:55 441. Metalloprotein inhibitors: Obstacles and opportunities. **S. M. Cohen**

11:20 442. Chemical probes put tyrosine phosphatase activity in the spotlight. **A. M. Barrios**, N. Bottini, S. M. Stanford, R. A. Kulkarni

11:45 443. Molecular imaging approaches to discovery and understanding of inorganic chemistry in the brain. **C. J. Chang**

Section G

Dallas Convention Center
A301

Inorganic Supramolecular Chemistry

C. Aakeroy, *Organizer*
S. Baudron, *Organizer, Presiding*

8:30 444. Template-directed synthesis and supramolecular chemistry of porphyrin nanorings. **H. L. Anderson**

9:00 445. Triazole-pyridine diad: Yin-Yang in coordination-driven self-assembly. N. Wu, C. Melan, O. Fleischel, H. Guo, K. Stevenson, F. Habib, M. Murugesu, N. Mosey, **A. Petitjean**

9:30 446. Supramolecular chemistry of anions with p-acidic rings: Organic, inorganic, and biological studies. **K. R. Dunbar**

10:00 Intermission.

10:15 447. DNA-mediated assembly of transition metals into 2D and 3D-structures. **H. Sleiman**

10:45 448. Redox reactions and host-guest chemistry of macrocyclic metal-organic complexes. **A. W. Maverick**, U. R. Pokharel, F. R. Fronczek, J. S. Casey, S. O. Elsidieq, T. M. Wheat

11:15 449. From frameworks to spheres: Exploiting the coordination bond. **N. R. Champness**

Section H

Dallas Convention Center
A309

ACS Award for Distinguished Service in the Advancement of Inorganic Chemistry: Symposium in Honor of T. Don Tilley

R. Waterman, *Organizer*
J. Walzer, *Organizer, Presiding*

8:30 Introductory Remarks.

8:35 450. Use of photocrystallography to capture critical intermediates in HX energy conversion photocycles. D. C. Powers, S. Zheng, B. L. Anderson, Y. Chen, **D. G. Nocera**

8:55 451. Recent advances in olefin polymerization catalysis. **J. C. Stevens**, E. M. Carnahan

9:15 452. Well-defined chromium silicates as efficient ethylene polymerization catalysts in the absence of co-catalyst: A clue in the Phillips catalyst. M. P. Conley, M. Delley, G. Siddiqui, G. Lapadula, S. Norsic, V. Monteil, O. V. Safonova, **C. Copéret**

9:35 453. Advances in electrolytes for lithium ion batteries: A mechanistic understanding. **B. L. Lucht**

9:55 Intermission.

10:10 454. Lithium carbenoids in bond activation reactions. **V. H. Gessner**

10:30 455. Controlling the properties of silicon and germanium nanocrystals through surface chemistry. **N. R. Neale**

10:50 456. Why do weaker metal-carbon bonds lead to more stable complexes: What's going on? **W. D. Jones**, M. E. Evans, Y. Jiao, G. Chin, J. Morris

11:10 457. Controlled deposition of metal ions on the surface of TiO₂ nanorods. C. Balasanthiran, W. Kang, C. S. Spanjers, R. M. Rioux, **J. D. Hoefelmeyer**

11:30 458. Synthesis of silyl-hydride compounds of molybdenum and tungsten via oxidative addition of Si-H bonds to electron-rich metal centers. A. Zuzek, **G. Parkin**

Section I

Dallas Convention Center
A308

ACS Award in Inorganic Chemistry: Symposium in Honor of Guy Bertrand

D. Bourissou, F. Gabbai, *Organizers*
V. Gandon, *Presiding*

8:30 Introductory Remarks.

8:35 459. New advances in P(I) chemistry. **F. Mathey**

9:05 460. Unraveling the mechanism of the ruthenium assisted hydrolysis of white phosphorus. **M. Peruzzini**, P. Stoppioni

9:35 461. Beyond amino groups: Pushing boundaries with ylidic n-donor substituents. **C. Dyker**, G. D. Charlton, S. S. Hanson

10:05 Intermission.

10:20 462. Synthesis of complexes with protic NHC ligands by oxidative addition of neutral azoles or N-alkylazoles to transition metals. **F. Hahn**

10:50 463. Understanding catalytic olefin dimerisation. A. M. Messinis, W. R. Wright, A. S. Batsanov, M. J. Hanton, **P. W. Dyer**

11:20 464. From metallylenes and metallylones to a new generation of catalysts. **M. Driess**

TUESDAY AFTERNOON

Section A

Dallas Convention Center
A307

Nanomaterials for Energy Capture, Conversion and Storage

Cosponsored by CEI
D. Gamelin, N.

Neale, *Organizers*
T. Hamann, *Presiding*

1:30 465. Discovery, benchmarking, characterization and integration of new materials for solar-fuels generators. **C. A. Koval**

2:00 466. Photoelectrochemical investigation of solar energy storage via water splitting with metal oxide electrodes. **T. Hamann**

2:30 467. Increasing photovoltage generation by hematite in photoelectrochemical water splitting reactions. **D. Wang**

3:00 Intermission.

3:15 468. Efficient solar photoelectrolysis by Mo:BiVO₄ through controlled electron transport. **J. A. Seabold**, K. Zhu, N. R. Neale

3:45 469. Solar water splitting: The role of cobalt phosphate in enhancing the photoelectrochemical efficiency of hematite. **G. M. Carroll**, D. K. Zhong, D. R. Gamelin

4:15 470. Solar energy conversion and hydrogen evolution catalysis using earth-abundant nanomaterials. **S. Jin**, M. S. Faber

4:45 471. Nanocrystalline oxynitrides with tunable composition and band gap. **G. Dukovic**

Section B

Dallas Convention Center
A303

Coordination Chemistry Characterization and Applications

D. Crans, *Organizer*
K. Green, K. Dunbar, *Presiding*

1:30 472. Immobilization of nature's catalyst, microperoxidase (MP-11) a large pore metal organic framework. **A. Marti**, K. J. Balkus Jr.

1:50 473. Directional charge transfer and highly reducing excited states of new dirhodium(II,II) complexes: Potential applications in solar energy conversion. **Z. Li**, N. Leed, C. Turro, K. R. Dunbar

2:10 474. Cu(II) cross-linked artificial tripeptides with pendant heterofunctional ligands. **M. Zhang**, A. Silakov, M. T. Green, M. Williams

2:30 475. New class of PN3-pincer ligands for metal-ligand cooperative catalysis. **K. Huang**

2:50 476. Single source precursors for heterometallic fluoride nanomaterials. **S. Mishra**, E. Jeanneau, G. Ledoux, S. Daniele

3:10 477. One-pot synthesis, spectroscopic characterization, crystal structure, and biological activity of supramolecular Fe(III), Cu(II) and Zn(II) compounds obtained from pyridine-dicarboxylic acid and 3,5-diamino-1,2,4-triazole. **A. S. Johnson**, S. Yousuf, A. S. Kazmi, O. E. Offiong, W. S. Loh, F. H. Kun

3:30 Intermission.

3:40 478. Activation of small molecules by polar heterobimetallic complexes. **U. Jayarathne**, S. Bagherzadeh, N. P. Mankad

4:00 479. Coordination of first-row transition metals in biologically relevant oligopyrrolic fragments. **E. Tomat**, S. Sinharay, T. M. Chang, S. G. Poplin

4:20 480. Synthesis, coordination chemistry, and applications of sulfur donor ligands. **P. Chandrasekaran**, L. N. Kakarla, S. Kallapu, J. K.

Moparti, N. Aalahmar, K. Thanusha

4:40 481. Siamese twin porphyrin and its bimetallic complexes: Story of a non-innocent chiral twist. **F. Meyer**, L. K. Blusch, S. Demeshko, S. Dechert, C. Brückner, K. E. Craigo, A. B. McQuarters, N. Lehnert, E. Bill, V. Martin-Diaconescu, S. DeBeer

5:00 482. Versatile coordination chemistry modes for monovalent coinage metal molecular and supramolecular complexes. **M. A. Omary**

Section C

Dallas Convention Center
A310

Lanthanide and Actinide Chemistry Spectroscopy and Magnetism

A. de Bettencourt-Dias, *Organizer, Presiding*
T. Boyle, *Presiding*

1:30 483. Correlation between magnetism and luminescence in redox active single molecule magnets. **L. Ouahab**, F. Pointillart, S. Golhen, O. Cadour

1:50 484. Fluoro-acetate and -alkoxy lanthanide precursors for lanthanide fluoride-based ion sensors. **T. J. Boyle**, R. F. Hess, D. T. Yonemoto, M. L. Neville, G. A. Stillman, S. P. Bingham

2:10 485. Synthesis and photophysical properties of emissive Ln(III)-capped carbon dots. **T. D. Cournoyer**, A. d. Bettencourt-Dias

2:30 486. Sensitizing lanthanide luminescence with CMPOs. **S. M. Biros**, J. Shady, A. C. Boyden

2:50 487. Emissive Eu(III)-containing polymers with pyridine-bis(oxazoline) on a poly(vinylbenzyl) backbone. **J. S. Rossini**, A. de Bettencourt-Dias

3:10 Intermission.

3:25 488. Quinoxolinol modified ligands for spectrophotometric molecular recognition. **M. A. DeVore II**, A. Gorden, S. Kerns

3:45 489. Highly conjugated electropolymerizable antenna ligands for the sensitization of near-IR and visible Ln(III) emission. **M. T. Raiford**, B. J. Holliday

4:05 490. Reactivity of low-valent f elements supported by siloxide ligands. **M. Mazzanti**, C. Camp, V. Mougél, J. Pécaut, L. Maron

4:25 491. Spectroscopy and cell studies of water-soluble lanthanide ion complexes with –NH₂-bearing ligands. **A. de Bettencourt-Dias**, J. H. Monteiro, F. A. Sigoli, L. M. de Hollanda, D. Machado, M. Lancellotti

Section D

Dallas Convention Center
A305

Metal-Based Probes for Magnetic Resonance Imaging

M. Allen, P. Caravan, V. Pierre, *Organizers*
T. Meade, *Presiding*

1:30 492. Paramagnetic fluorine-based responsive MRI contrast agents. **V. C. Pierre**

2:00 493. Intramolecular hydrogen-bonded phenol U-SHY CEST MRI probes. X. Yang, X. Song, N. Yadav, H. Edelman, P. C. van Zijl, S. Ray Banerjee, M. G. Pomper, **M. T. McMahon**

2:30 494. Metalloprotein contrast agents for molecular MRI. **A. Jasanoff**

3:00 Intermission.

3:10 495. From paraCEST to lipo- and cellCEST: Routes to multiplex MRI detection. **S. Aime**, G. Ferrauto, E. Di Gregorio, D. Delli Castelli, E. Terreno

3:40 496. NiCEST, CoCEST and ferroCEST MRI contrast agents. **J. R. Morrow**, P. B. Tsitovich, A. O. Olatunde, S. J. Dorazio

4:10 497. Moving the goal posts: PARASHIFT contrast agents for magnetic resonance. **D. Parker**

4:40 498. New type of responsive MRI contrast agent that modulate T_{2ex} relaxation: Detection of nitric oxide. **I. Daryaei**, M. Pagel

Section E

Dallas Convention Center
A304

ACS Award in Pure Chemistry: Symposium in Honor of Sara E. Skrabalak

Cosponsored by COLL and WCC
A. Flood, *Organizer*, *Presiding*
T. Douglas, *Presiding*

1:30 499. Nanocrystal synthesis across diverse materials systems. **R. E. Schaak**

2:00 500. Highly-ordered, chemically stable and thermally robust organic interfaces at metal surfaces. **S. L. Tait**, D. Skomski

2:30 501. Recent progress in controlling the synthesis of colloidal noble-metal nanocrystals. **Y. Xia**

3:00 Intermission.

3:15 502. Virus particles as templates for mineral nanoparticle synthesis. **T. Douglas**, M. Uchida, P. E. Prevelige, C. Reichhardt

3:45 503. Colloidal nanoparticle alloys. **J. E. Millstone**, C. M. Andolina, L. E. Marbella, P. J. Straney

4:15 504. Searching for algorithms of reaction anisotropy. **C. J. Murphy**

Section F

Dallas Convention Center
A302

Organometallic Chemistry Catalysis

N. Radu, *Organizer*
L. Slaughter, *Presiding*

1:30 505. Catalytic production of carbonyl sulfide (S=C=O) and isothiocyanates (S=C=NR) under near ambient conditions via facile sulfur-atom transfer. **W. S. Farrell**, P. Y. Zavalij, L. R. Sita

1:50 506. Activation of small molecules by Pt-Sn heterobimetallic complexes. **A. Koppaka**, V. Yempally, L. Zhu, B. Captain, G. C. Fortman, C. D. Hoff

2:10 507. Unusual ligand effects and unexpected C-H arylation side reactions in palladium-catalyzed amination reactions en route to new monodentate binaphthyl-based ligands. **L. M. Slaughter**, S. Handa, A. A. Ruch

2:30 508. Platinum catalyzed ethane C-H functionalization: Unexpected products, reactivity, and mechanism. **B. G. Hashiguchi**, M. M. Konnick, S. M. Bischof, M. Yousufuddin, D. H. Ess, R. A. Periana

2:50 509. Catalyst design and mechanism of base metal heterobimetallic catalysts for C-H borylation and C-C coupling. **N. P. Mankad**, T. J. Mazzacano, G. W. Waldhart

3:10 Intermission.

3:20 510. Base metal catalysts for photochemical C-H borylation that utilize metal-metal cooperativity. **T. J. Mazzacano**, N. P. Mankad

3:40 511. Aromatic C-H bond activation and functionalization by first row transition metals. **S.**

E. Kalman, A. Petit, T. B. Gunnoe, D. H. Ess, T. R. Cundari, M. Sabat

4:00 512. Investigation of the ancillary ligand effect on C-H activation at [Tp⁺Rh(L)]. **Y. Jiao**, J. Morris, W. W. Brennessel, W. D. Jones

4:20 513. Development of palladium(II) catalysts for the oxidative hydroarylation of olefins. **B. A. Vaughan**, T. Cundari, T. B. Gunnoe

4:40 514. Tris(pyrazolyl)borato silver(I) catalyzed C-H bond activation. **N. B. Jayaratna**, S. Ray, H. R. Dias

Section G

Dallas Convention Center
A301

Inorganic Supramolecular Chemistry

S. Baudron, *Organizer*
C. Aakeroy, *Organizer*, *Presiding*

1:30 515. Mechanochemistry and accelerated aging: Interconversion of inorganic and metal-organic structures with minimum input of energy and solvent. **T. Friscic**

2:00 516. Exploring the roles of catalysis, templating and probability in the self assembly of giganatic inorganic clusters. **L. Cronin**

2:30 517. Supramolecular metal-organic frameworks assembled by weak M-H interactions (M = alkali metal). L. Z. Miller, **M. Shatruk**, D. T. McQuade

3:00 Intermission.

3:15 518. Regulating secondary coordination spheres in metal complexes with non-covalent interactions. **A. S. Borovik**

3:45 519. Synthesis and properties of heterometallic cluster models of biological and heterogeneous water oxidation catalysis. **T. Agapie**

4:15 520. Supramolecular strategies in transition metal catalysis. **J. N. Reek**

4:45 Concluding Remarks.

Section H

Dallas Convention Center
A309

ACS Award for Distinguished Service in the Advancement of Inorganic Chemistry: Symposium in Honor of T. Don Tilley

J. Walzer, R. Waterman, *Organizers*
P. Hayes, *Presiding*

1:30 521. Synthesis of Cu₃(μ₃-S)⁺ and Cu₂(μ-S) complexes supported by N-heterocyclic carbene ligands. J. Zhai, **G. L. Hillhouse**

1:50 522. Catalytic applications of heterobimetallic Zr/Co complexes. **C. M. Thomas**, S. L. Marquard, W. Zhou, N. I. Saper

2:10 523. Molecular precursor approaches to the design and synthesis of catalytic materials for renewable fuels production. **D. A. Ruddy**, N. R. Neale, O. G. Reid, B. M. Leonard, S. Pylypenko

2:30 524. Four-step mechanism for the formation of supported-nanoparticle heterogeneous catalysts in contact with solution: The conversion of Ir(1,5-COD)Cl/γ-Al₂O₃ to Ir(0)₋₁₇₀/γ-Al₂O₃. **R. G. Finke**, P. Kent, J. Mondloch

2:50 Intermission.

3:05 525. Subtleties of the isocyanide for carbonyl isolobal substitution for middle and late transition metals. **J. S. Figueroa**

3:25 526. Transition-metal free reduction of carbon dioxide to methanol using amphiphilic molecules. **F. Fontaine**, M. Courtemanche, M. Légaré, J. Larouche, L. Maron

3:45 527. Silyl chelating ligands for directed C-H borylation. B. Ghaffari, S. M. Preshlock, R. E. Maleczka, S. W. Krska, **M. R. Smith**

4:05 528. Carbazole and pyrrole-based pincer platforms for supporting lutetium alkyl and hydride complexes. **P. G. Hayes**, K. R. Johnson, B. L. Kamenz, M. A. Hannon, J. P. Knott

4:25 529. Hydroaryloxylation of olefins, and C-O bond cleavage via dehydroaryloxylation of ethers, catalyzed by pincer-ligated iridium complexes. M. C. Haibach, N. Lease, C. Guan, K. Krogh-Jespersen, **A. S. Goldman**

Section I

Dallas Convention Center
A308

ACS Award in Inorganic Chemistry: Symposium in Honor of Guy Bertrand

D. Bourissou, F. Gabbai, *Organizers*
J. Masuda, *Presiding*

1:30 Introductory Remarks.

1:35 530. Deconvoluting the black art of metallation: Understanding the benefits of placing two metals in the synthetic chemists' palette. **R. E. Mulvey**, C. T. O'Hara

2:05 531. Isolation of the magic-size nanoclusters (CdSe)₁₃ and (CdSe)₃₄ as amine derivatives. **Y. Wang**, **W. E. Buhro**

2:35 532. Selective bond cleavage catalyzed by a silyl complex of a transition metal. **H. Nakazawa**

3:05 533. Oxidative cross-coupling: A powerful tailoring for ideal C-C/C-Heteroatom bond formation from hydrocarbons. **A. Lei**

3:35 Intermission.

3:50 534. Iron-catalyzed C-H bond activation reactions. **E. Nakamura**

4:20 535. Mobility and stability of weakly coordinating anions in transition- and main group metal catalyzed reactions. **V. Gandon**

4:50 536. Transfer, metathesis, and catenation: Reactivity patterns emerging from borylene complexes. **H. Braunschweig**

TUESDAY EVENING

Section A

Dallas Convention Center
Hall F

Inorganic Supramolecular Chemistry

C. Aakeroy, S. Baudron, *Organizers*

6:00 - 8:00

537. Multi-zonal crystalline systems: A unique composite based upon self-assembled coordination helices that shows six primary zones. **S. Seidel**, R. Wilkens

538. Cross-hyperconjugated molecular sensors based on tetrasubstituted silanes. **M. A. Saeed**, O. & Miljanić

539. Binding and extraction studies of sulfate by a tripodal hexa urea/thiourea-based receptor. **M. Emami Khansari**, A. Pramanik, B. M. Wong, M. Hossain

540. Ultra-sensitive anion detection by NMR: A supramolecular approach based on anion-modulated increase in chemical exchange rate. **L. H. Perruchoud**, X. Zhang

541. Probing guest-binding capability of metal-organic

supercontainers. **U. Sambasivam**, D. Fengrong, Z. Wang

542. *p*-Carboxylatocalix[4]arenes: Advances and strategies in metal-directed assembly. **P. P. Cholewa**, S. J. Dalgarno

543. Zn²⁺ binding ability of a 1,2,3-triazole linked ferrocenyl pyridine chemosensor. **J. Broome**, H. C. Roberts, P. J. Cragg, K. J. Wallace

544. Rhodamine triazole based chemosensors "podands" for detection of Fe³⁺ and Al³⁺. **E. Manandhar**, P. J. Cragg, F. R. Fronczek, K. J. Wallace

545. Probing anion-p interactions of metallacycles with the *n*-acidic ligand 3,6-bis(2-pyridyl)-1,2,4,5-tetrazine (bptz) by NMR spectroscopy. **H. T. Chifotides**, K. R. Dunbar

546. 4-Hydroxy-3-azomethine coumarin based ratiometric chemosensors for the detection of Co²⁺, Ni²⁺, Cu²⁺, and Zn²⁺. **A. B. Davis**, J. R. Panella, R. E. Lambert, F. R. Fronczek, K. J. Wallace

547. Supramolecular chemistry of *N*-substituted benzo-2,1,3-selenadiazoles. **L. Lee**, I. Vargas-Baca

548. Decontamination of toxic fluoride from water by a novel class of synthetic receptor. **S. A. Haque**

549. Synthesis and anion binding studies of pyridine-based macromonocyclic ployamine. **M. Rhaman**, D. R. Powell, M. Hossain

550. Extended superstructures developed from supramolecular anion-*n* templated metallacycles. **J. Frank**, B. Ewers, J. D. Batteas, S. Wheeler, K. R. Dunbar

551. New dipodal urea-based receptor for selective binding of fluoride. **A. Gana**, A. Pramanik, F. R. Fronczek, M. Hossain

552. Synthesis and binding studies of hexaurea-based tripodal receptors. **h. Djouda**, A. Pramanik, M. Hossain

553. Cap-type Schiff base acting as fluorescence sensor for zinc(II) and colorimetric sensor for iron(II), copper(II), and zinc(II) in aqueous media. **Y. Na**, Y. Choi, G. You, S. Yang, C. Kim

554. Selective colorimetric and fluorescent chemosensor for Hg²⁺. **M. Lee**, J. Lee, S. Lee, Y. Kim, C. Kim

555. Multifunctional colorimetric and fluorescent chemosensor for Cr³⁺ and Al³⁺. **G. Park**, S. Lee, H. Jo, J. Lee, C. Kim

Section B

Dallas Convention Center
Hall F

Metal-Based Probes for Magnetic Resonance Imaging

M. Allen, P. Caravan, V. Pierre, *Organizers*

6:00 - 8:00

556. New multimodal platforms of nanodiamond for molecular imaging. **S. Montante**, L. Vander Elst, R. N. Muller, **S. Laurent**

557. Enable early detection of liver metastasis with desired stability and sensitivity by protein MRI contrast agents. **S. Xue**, H. Yang, J. Qiao, F. Pu, R. Long, K. Hekmatarya, H. Grossniklaus, Z. Liu, J. J. Yang

558. Comparison of divalent transition metal ion amide- and alcohol-appended paraCEST MRI contrast agents. **A. O. Olatunde**, J. Cox, J. A. Sperryak, J. B. Benedict, J. R. Morrow

559. Can Gd₃TCAS₂ be a new motif of contrast agent for MRI? Unexpected slow water exchange arising from the tri-Gd^{III} cluster sandwiched by two TCAS ligands (TCAS = thiacalix[4]arene-*p*-tetrasulfonate). **N. Iki**, E. Boros, M. Nakamura, K. Shinoda, P. Caravan

560. Ratiometric imaging of Cu(I) using a thulium-based ¹⁹F MRI contrast agent. **E. A. Weitz**, M. Marjanska, V. C. Pierre

561. Correlation of ¹H relaxivities with solution speciation and structural features in a series of Mn(II) complexes of cyclen derivatives. **B. G. Craft**, S. A. Hensiek, K. T. How, T. Westmoreland

562. Optimization of water exchange in PARACEST agents for *in vivo* imaging. **W. K. Fernando**, P. Zhao, G. E. Kiefer, Y. Wu, A. Sherry

563. Effects of coordination geometry on hydration state. **K. M. Payne**, M. Botta, M. Woods

564. Development of lipophilic Gd(III)-based MRI contrast agents for long-term cell labeling applications. **C. E. Carney**, K. W. MacRenaris, I. L. Lenov, C. Baker, S. G. Sligar, T. J. Meade

565. New generation of enzyme-activated MRI contrast agents. **S. G. Kamper**, D. M. Ballweg, K. W. MacRenaris, J. Krimmel, T. A. Mills, T. J. Meade

566. Design and synthesis of a series of progesterone receptor-targeted MR imaging probes. **T. R. Townsend**, G. Moyle-Heyman, P. A. Sukerkar, K. W. MacRenaris, J. E. Burdette, T. J. Meade

567. δ-substituents in LnDOTA-tetraamide chelates: Their position and effect on water exchange and CEST. **J. R. Slack**, M. Woods

568. Design of *in vivo* pH-triggered self assembly of gadolinium contrast agents. **C. Buettner**, M. Buettner, A. Ghosh, E. Dobson, M. Nicholl, M. Tweedle, J. Goldberger

569. Graphene oxide enhances Gd(III)-complex cell labeling for high sensitivity cellular MRI. **A. H. Hung**, R. J. Holbrook, C. Glasscock, M. W. Rotz, K. W. MacRenaris, N. D. Mansukhani, M. C. Duch, K. T. Dam, L. M. Manus, M. C. Hersam, T. J. Meade

570. Self-assembling peptide nanofibers modulate water exchange and report biomaterial localization *in vivo*. **A. T. Preslar**, G. Parigi, M. T. McClendon, S. S. Sefick, T. J. Moyer, C. Haney, E. A. Waters, K. W. MacRenaris, C. Luchinat, S. I. Stupp, T. J. Meade

571. Cy3 labeled Gd(III)-DNA-gold nanostars: Anisotropic nanoconjugates for biocompatible optical and magnetic resonance imaging. **M. Rotz**, K. Culver, G. Parigi, C. Luchinat, T. W. Odom, T. J. Meade

572. Conformationally restricted integrin targeting imaging agents. **Q. N. Do**, Z. Kovacs, G. Hao, X. Sun, A. Sherry

573. Redox-activated transition metal paraCEST contrast agents. **P. B. Tsitovich**, J. R. Morrow

574. New gadolinium-based contrast agents for highly sensitive detection of Zn²⁺ with MRI. **J. M. Yu**, **C. Preihs**, Y. Wu, P. Zhao, K. Nasr, A. D. Sherry

575. Development of a new PARACEST agent for *in vivo* pH imaging. **X. Wang**, Y. Wu, P. Zhao, A. D. Sherry

- 576.** Hexameric Mn(II)-EDTA complex as MRI contrast agent. **J. Zhu**, P. Caravan
- 577.** Controlling the relaxivity of liposomal MRI agents through the gating of a mechanosensitive bacterial channel. **L. Yang**, J. Ratnakar, A. Sherry, P. Blount, Z. Kovacs
- 578.** Binding affinity of iron oxide based PET/MRI probe to macrophage scavenger receptor in vulnerable atherosclerotic plaques. **T. Tang**, C. Tu, A. Louie

Section C

Dallas Convention Center
Hall F

Bioinorganic Chemistry DNA, RNA and Inorganic Drugs

S. Koch, *Organizer*

6:00 - 8:00

- 579.** New gold(I) complexes with t-butyl phosphine and dialkyl dithiocarbamate ligands: Synthesis, spectroscopic characterization, crystal structure determination, and in vitro cytotoxic evaluation against A549, HeLa, and MCF7 human cancer lines. **A. Isab**
- 580.** Development toward ruthenium based light activated redox potential disruption catalysts. **D. E. Hill**, J. J. Soldevial-Barreda, A. Habtemariam, P. J. Sadler
- 581.** Chemical, alpha-glucosidase and carbonic anhydrase inhibition studies of Pd(II)-hydrazide complexes. **M. Mahroof-Tahir**, U. Ashiq, Q. Ul Ain, R. Jamal, M. Saleem
- 582.** Comparison of the chemical reactivity of synthetic peroxytrinitrate with that of the products of nitroxyl or its anion with molecular oxygen. **J. Jorolan**, L. Buttitta, C. Cheah, K. M. Miranda
- 583.** Synthesis, characterization, and biological reactivity of mixed ligand Cu(II) complexes. **C. Elwell**, L. Tyler, K. Fox, J. Tanski
- 584.** Synthesis, characterization, biological activity and DNA binding and cleavage studies on tetrazole imine bases and their Cu(II), Co(II) and Ni(II) complexes: An experimental and theoretical approach. R. P. -, M. J. -, R. M. -, S. P. -, **S. C. -**
- 585.** Anticancer properties of Ruthenium(II) polypyridine

- compounds with anionic N^{^-}O-donor bidentate ligands. **B. Peña**, R. Barhoumi, **K. R. Dunbar**
- 586.** Ruthenium(II) bipyridyl complexes for activation of cobalt(III) Schiff base protein inhibitors through photoinduced electron transfer. **R. J. Holbrook**, M. D. Peterson, E. A. Weiss, T. J. Meade
- 587.** Biodistribution and toxicity of lipophilic ruthenium complexes. **N. Alatrash**, E. S. Narh, F. M. MacDonnell
- 588.** Synthesis and DNA cleavage activity of tetraazatetrapyridopentacene (*tatpp*) rhenium(I) complexes. **P. Ahuja**, F. M. Macdonnell
- 589.** Cytotoxicity of C₂-symmetric platinum(II) bioxazoline complexes in murine leukemia (P388, L1210) models. **C. L. Thorsheim**, A. E. Ranucci, G. D. Whitehill, D. D. Himmelstein, M. H. Schofield
- 590.** Mechanistic study of the biological activity of the redox-active dinuclear ruthenium(II) polypyridal complex, [(phen)₂Ru(*tatpp*)Ru(phen)₂]⁴⁺ (P⁴⁺). **C. A. Griffith**, S. Singh, Z. S. Breitbach, J. K. Crowell, N. Alatah, K. Abayan, B. S. Pierce, F. M. MacDonnell
- 591.** DNA interactions with cytotoxic platinum-corrrole conjugates. **M. A. Pribisko**, G. A. Tang, H. B. Gray, R. H. Grubbs
- 592.** Interaction of a biguanide antimetastatic drug with the model membrane system: AOT reverse micelles. **N. Samart**, K. J. Haller, D. C. Crans

Section D

Dallas Convention Center
Hall F

Chemistry of Materials

C. Lugmair, *Organizer*

6:00 - 8:00

- 593.** Synergistic effects in metal organic framework-zinc oxide composites for the removal of toxic chemical gases. **J. B. DeCoste**, B. J. Schindler, J. R. Soliz, G. W. Peterson
- 594.** Characterization of UiO—66 metal organic framework analogs with varying organic linker concentrations for the adsorption of toxic chemical gases. **J. R. Soliz**, J. B. DeCoste, B. J. Schindler, G. W. Peterson
- 595.** Study of a vapochoformic Pt(II) salt. **P. Diaz**, A. E. Norton, M. K. Abdolmaleki, S. D. Taylor, S. Kennedy, A. Calhoun, J. A. Krause, W. B. Connick
- 596.** Synthesis and characterization of a novel manganese-molybdenum precursor for the synthesis of manganese molybdate. **A. Alabdulrahman**, a. bagabas, A. Apblett
- 597.** Solid state lithium electrolytes (LLTO) for advanced battery applications. **L. A. Bolton**, F. Beck, A. Manivannan
- 598.** Effect of precursor loading on axial composition gradients, phase segregation, and aspect ratio of Cu₂ZnSnS₄ nanorods. **M. J. Thompson**, K. J. Blakeney, P. Ruberu, J. Vela
- 599.** How robust are semiconductor nanorods? Investigating the chemical stability and decomposition pathways in photoactive nanocrystals. **M. Reichert**, C. Lin, J. Vela
- 600.** Synthesis and optical characterizations of near-IR emitting Ge-nCdS core-shell nanocrystals. **Y. Guo**, P. Ruberu, C. Rowland, R. Schaller, J. Vela
- 601.** Metal oxide transformations: An alternative way to make metal chalcogenide and pnictide nanoparticles for the reforming of oil. **C. Lin**, S. Tan, J. Vela
- 602.** Controlled introduction of nickel in the BEA zeolite by post-synthesis methods. **L. Tesler**, S. Dzwigaj, F. Averseng
- 603.** Molecular programming: Bottom-up fabrication of Cu₂ZnSnS₄ nanostructures with controlled composition and morphology. **K. Blakeney**, M. Thompson, P. Ruberu, J. Vela
- 604.** Synthesis of metallic Janus nanoparticles using silica as a protecting group. **C. Crane**, J. Chen
- 605.** Synthesis of metal nanoparticles with a DOTA-PAMAM atomic metron template. **M. Grochowski**, A. Epshteyn, V. Jane, D. Kidwell
- 606.** Withdrawn.
- 607.** Improved nanocomposite materials for flywheel energy storage applications. **T. J. Boyle**, T. N. Lambert, N. S. Bell, W. K. Miller, M. A. Ehlen
- 608.** Formation mechanism of nanostructured metal carbides

- via salt flux synthesis. **S. M. Schmuecker**, B. M. Leonard
- 609.** Corrosion performance of nickel-based alloys in the uranium-containing chloride melts. **I. B. Polovov**, A. V. Abramov, A. V. Bazhenov, R. V. Kamalov, V. A. Volkovich, O. I. Rebrin, D. Maltsev
- 610.** Hydrogeninduced amorphization behaviors of multiphase La_{0.8}Mg_{0.2}Ni_{3.5} alloy. **Y. Li**, H. Ren, Z. Liu, H. Zhang
- 611.** Size-controlled synthesis of Cu₂O octahedra and their size-dependent photocatalytic reactivities. **M. A. Nguyen**, M. R. Knecht
- 612.** Preparation of aluminum vanadate and vanadic acid materials using vanadyl oxalate. **A. Allothman**, A. Apblett
- 613.** Corrosion resistance of Hastelloy-type alloys in chloroaluminate melts. **I. B. Polovov**, A. V. Abramov, A. V. Bazhenov, V. V. Karpov, V. A. Volkovich, O. I. Rebrin
- 614.** Versatility of cerium in manganese cluster chemistry. **A. E. Thuijs**, G. Christou, K. A. Abboud
- 615.** Synthesis and characterization of a new Fe₈ complex using a 2-hydroxymethylpyridine derivative. **K. Mitchell**, K. A. Abboud, G. Christou
- 616.** Synthesis and characterization of a family of n-extended metal thiophenedithiolenes. **K. L. Konkol**, S. C. Rasmussen
- 617.** Mixed-metal extended supramolecular solids from reaction of multiple trinuclear coinage metal azolates with unsaturated diimine bridging ligands. **R. M. Almotawa**, G. AlJomeh, M. Yosten, L. Scoggins, V. Nesterov, M. A. Rawashdeh-Omary*
- 618.** Complexation of decamethylferrocene to cyclic trinuclear Ag(I) and Cu(I) azolate complexes. **W. Hassen**, E. Humbach, J. Kohistani, L. Delgado, V. Nesterov, M. A. Rawashdeh-Omary*
- 619.** Fabrication and characterization of vanadia-silica aerogels. **L. C. Smith**, A. M. Bechu, M. K. Carroll, A. M. Anderson
- 620.** Supramolecular aggregates of single-molecule magnets by carboxylate

substitution. **A. M. Mowson**, K. A. Abboud, G. Christou

621. Variable-temperature multinuclear NMR spectra of the $[\text{Mn}_{12}\text{O}_{12}(\text{O}_2\text{CR})_{16}(\text{H}_2\text{O})_4]$ family of single-molecule magnets in solution. **A. Fournet**, G. Christou

622. Effects of alpha substitution on difluoroboron dibenzoylmethane mechanochromic luminescence. **W. A. Morris**, C. O. Trindle, C. L. Fraser

623. Tailoring surface composition and morphology of platinum-copper nanotubes through in situ galvanic replacement reaction. **L. E. Mathurin**, S. Chen, J. Chen

624. Direct access to macroporous chromium nitride/chromium titanium nitride with inverse opal structure. **W. Zhao**, F. J. DiSalvo

625. Tuning structures of metal-organic frameworks for gas adsorption application. **Z. Wei**, D. Feng, V. Krungleviciute, J. Park, J. Ferrando, H. Zhou, T. Yildirim

626. Metal-organic frameworks constructed from metal-organic polyhedra with nitrogen-based linkers. **S. A. Fordham**, D. Feng, Y. Chen, D. Liu, M. Zhang, H. Zhou

627. Adsorption and release of siRNA from porous silica. **J. L. Steinbacher**, C. C. Landry

628. Sorption studies on isorecticular Zr-based metal-organic frameworks. **X. Wang**, Y. Chen, H. Zhou

Section E

Dallas Convention Center
Hall F

Coordination Chemistry Characterization and Applications

D. Crans, *Organizer*

6:00 - 8:00

629. Multifunctional molecular materials based on transition metals and organocyanide anions. **X. Zhang**, H. Zhao, K. Dunbar

630. Potential applications of hydroxypyriden derivatives. **S. Dionicio**, K. Green

631. Synthesis and characterization of new coordination polymers. **J. Cui**

632. Substituent effects in platinum(II) biphenyl bipyridine complexes. **A. Jehan**, D.

Rillema, K. Siam, A. Cruz, C. Moore, V. Komreddy, H. Ngyuen

633. Tuning of charge localization/delocalization and spin-state in mixed-valent triangular $\{\text{Fe}_3(\mu_3\text{-O})\}$ -pyrazolates. **E. V. Govor**, C. S. Coste, D. M. Pinero, R. G. Raptis

634. Fine tuning the isomeric stability and metal-binding properties of light-triggered hydrozane metal chelators. **R. C. McAtee**, A. Franks, K. Franz

635. Photomagnetic state trapping: A comparison between transition metal complexes and hypervalent organic radicals. **H. Phan**, K. Lakin, S. M. Winter, R. T. Oakley, P. Chakraborty, A. Hauser, M. Shatruk

636. Rhodamine and fluorescein based fluorescent and optical sensors for heavy metal ions. **R. M. Madawala**, E. Sinn

637. Synthesis of ligands and polymers for fluorescent ratiometric sensor of Cu (II). **L. Nyiranshuti**, F. Wang, W. Seitz, R. P. Planalp

638. Copper(I) complexes of cyclodiphosph(v)azanes, $[\text{R}(\text{E})\text{P}(\mu\text{-N}^i\text{Bu})_2\text{P}(\text{E})\text{R}]$ (R = NH^iBu ; E = S, Se): Synthesis, characterization, and catalytic activity. **S. Kallapu**, P. Chandrasekaran

639. Proton-coupled electron transfer and cofacial self-exchange of a nickel dithiolene complex. **S. Kennedy**, H. Yennawar, B. Lear

640. New class of multifunctional binolate ligand: Synthesis, characterization, and applications toward catalysis. **B. Farajidizaji**, K. L. Smith, B. V. Popp

641. Electron density modification at Ru^{II} within $[\text{Ru}^{\text{II}}(\text{tpy})(\text{NN})\text{X}]^{\text{n}+}$ via polypyridyl substituent and structure variation for electrocatalytic CO_2 reduction. **T. A. White**, S. Ott

642. Computational study of cation coupled electron transfer in ferrate complexes. **K. A. Jung**, **L. Favela**, M. Johnson, H. Wang

Section F

Dallas Convention Center
Hall F

Inorganic Spectroscopy

S. Ronco, *Organizer*

6:00 - 8:00

643. Vanadium spectroscopy and spectroelectrochemistry in

alkali chloride melts. **I. B. Polovov**, M. V. Chernyshov, V. A. Volkovich, B. D. Vasin, A. V. Chukin, T. R. Griffiths

Section G

Dallas Convention Center
Hall F

Electrochemistry

B. Lucht, *Organizer*

6:00 - 8:00

644. Effects of zeolite types and their different properties on proton exchange membrane. V. SIM, **K. LAM**, H. POON, W. HAN, K. YEUNG

645. Carbon nanofoams as porous scaffolds for iron-air battery electrodes. **M. T. McNally**, **M. R. Pueringer**, **H. C. Seal**, **M. C. Walsworth**, J. C. Lytle

646. Uranium electrochemical behavior and properties in LiCl-KCl-CsCl eutectic melt. D. S. Maltsev, **V. A. Volkovich**, E. N. Vladyskin, **I. B. Polovov**, B. D. Vasin

647. Electrochemical sensing of hydrogen peroxide using various metal complexes supported on carbonaceous nanomaterials. **C. Felton**, U. B. Nasini, P. Ramidi, A. U. Shaikh

648. Electrochemical and local structural analysis of the $\text{Li}_3\text{V}_{(2-2x/3)}\text{Mg}_x(\text{PO}_4)_3/\text{C}$ cathode. **S. Kim**, J. Penner-Hahn, A. Deb, L. Yang, J. Chen

649. Development of an electrochemical microRNA sensor. **S. G. MacArdle**, E. R. Smith, **M. C. Buzzeo**

650. Electrochemical characterization of diselenide bond reduction. **L. M. Walker**, F. Dewan, **M. C. Buzzeo**

Section H

Dallas Convention Center
Hall F

Nanoscience

R. Richards, *Organizer*

6:00 - 8:00

651. Directing polyaniline self-assembly using Laponite nanoparticles. **J. S. Mondschein**, M. E. Hagerman, R. Cortez

652. Target-specific stimuli-responsive MSN platform for the intracellular delivery of gemcitabine for pancreatic cancer treatment. **A. R. Hashemi**, A. Geier, J. Pan, J. L. Vivero-Escoto

653. Magnetic plasmon modes in Au nanorod trimer arrays. **Y. Tao**, L. Shao, Q. Ruan, J. Wang

654. Graphene-polyaniline-laponite nanocomposites for solar applications. **I. A. Ramphal**, M. E. Hagerman

655. Silicon nanotube-based drug delivery/gene therapy. **Y. Tian**, R. Gonzalez-Rodriguez, J. L. Coffey, G. R. Akkaraju

656. Silicon nanotubes: Fabrication, surface functionalization, and loading. **R. Gonzalez Rodriguez**

657. Sustainable routes to porous silicon manufacture for drug delivery. **J. Kalluri**, W. Cosey, R. Gonzalez, P. Hartman, A. Loni, L. T. Canham, J. L. Coffey

658. Metal phosphide electrocatalysts for clean energy technologies. **E. J. Popczun**, R. E. Schaak

659. Advanced nanocomposite innovation with Pixelligent's nanotechnology. **R. Wiacek**, W. Xu, Y. Wang, X. Bai, S. Thomas, L. Gou, B. Wehrenberg, J. Xu, Z. Chen, G. Cooper, S. Gonen-Williams

660. ^1H NMR characterization of association of single-walled carbon nanotubes with alcohols. D. J. Nelson, **L. Radhakrishnan**, R. Kumar

661. Reversible Li capacity of thermally- and chemically-reduced graphene oxide nanoribbons. **P. A. Medina IV**, C. Uthaisar, D. J. Hicks

662. Development of pattern hiding layer with silica nano particle for graphene anode on transparent devices. **F. Kim**, D. Yang, C. Lee

663. Diameter control of electrospun yttrium doped cerium oxide nanowires. **A. D'Achille**, J. Coffey

664. Preparation of a magnetite-immobilized cyclam copper(II) complex for heterogeneous phosphate ester hydrolysis. **E. T. Amerling**

Section I

Dallas Convention Center
Hall F

Organometallic Chemistry Applications To Materials and Polymer Science

N. Radu, *Organizer*

6:00 - 8:00

665. Significant proximity effect in heterobimetallic $\text{Ti}^{\text{IV}}/\text{Cr}^{\text{III}}$ catalysts for ethylene

polymerization. **S. Liu**, A. Motta, A. R. Mouat, M. Delferro, T. J. Marks

Section J

Dallas Convention Center
Hall F

Organometallic Chemistry Catalysis

N. Radu, *Organizer*

6:00 - 8:00

666. Kinetics of phosphine substitution in $\text{CpRu}(\text{PPh}_3)_2\text{X}$ ($\text{X} = \text{Cl}, \text{Br}, \text{I}, \text{N}_3, \text{NCO}, \text{and SCN}$). **R. Kirss, M. Clark, C. Delaney**, D. Hill, M. Eaton, O. Hendricks

667. Aerobic oxidative C-C bond formation from novel Pd complexes: Ligand effects by a theoretical study. **Q. Peng**, M. B. Hall

668. Light enhanced displacement of methylacrylate from iron carbonyl: Investigation of the reactive intermediate via rapid-scan FTIR and computational studies. **M. Sohail**, S. Moncho, E. N. Brothers, A. A. Bengali, B. Li, S. J. Kyran, D. J. Darensbourg

669. Catalytic hydrosilylation of carbonyl compounds using Fe- and Co-complexes. **A. Smith**, A. Saini, M. Findlater

670. Ruthenium-catalyzed amine alkylation using alcohols under mild conditions via the borrowing hydrogen methodology. **A. Enyong**, B. Moasser

671. Comparison of an *in situ* generated, air stable, and recyclable aqueous phase nitrile hydration catalyst with $[\text{RuCl}_2\text{PTA}_4]$. **W. Ounkham**, J. A. Weeden, W. Lee, B. J. Frost

672. Role of the metal and ligand environment in designing catalysts for water-gas shift reaction. **A. Dinescu**, J. Fox

673. Cyclometalated $\text{Ru}(\text{II})$ complexes catalyzed enyne coupling and alkene dimerization. **P. Zhao, J. Zhang**

Section K

Dallas Convention Center
Hall F

Organometallic Chemistry Applications To Organic Transformations

N. Radu, *Organizer*

6:00 - 8:00

674. Progress towards asymmetric hydrosilylation of ketones using a Zr/Co

heterobimetallic complex. **N. I. Saper**, S. L. Marquard, W. Zhou, C. M. Thomas

675. C-H activation and functionalization of long chain and substituted aromatic hydrocarbons effected by $\text{Cp}^*\text{W}(\text{NO})(\text{CH}_2\text{CMe}_3)(\eta^3\text{-CH}_2\text{CHCHMe})$ and a comparison of the reactivity of $\text{Cp}^*\text{W}(\text{NO})(\text{alkyl})(\eta^3\text{-allyl})$ complexes with aldehydes and ketones. **M. V. Shree**, P. Legzdins

Section L

Dallas Convention Center
Hall F

Inorganic Catalysis

S. Koch, *Organizer*

6:00 - 8:00

676. Synthesis of bifunctional catalyst and its application in CO_2 /epoxide copolymerization. **F. Tsai**, D. J. Darensbourg

677. Synthesis and characterization of a cis-directed 4-electron/4-proton transfer agent. **E. L. Lebeau**, M. R. Stenzel

678. Photocatalytic conversion of CO_2 to CO and acrylic acid. **E. Oweggi**, V. Komreddy, D. Rillema

679. 1D, beta-cyclodextrin and carbonaceous coated oxide nanofibers for photocatalytic membrane filtration. **J. Shaikh**, Y. Mao

680. Preparation of sol-gel-immobilized cyclam metal complexes for heterogeneous phosphate ester hydrolysis. **A. C. Thomas**, B. R. Bodsgard

681. Synthesis and characterization of carbonic anhydrase active-site mimics for CO_2 hydration. **D. Gupta**, C. A. Lippert, A. Wishrojar, J. P. Selegue, J. E. Remias, K. Liu

682. Characterization of transition metal substituted polyoxometalates in aprotic solvents and their activity toward carbon dioxide reduction. **A. J. Dannenoffer**, S. Sweeney, M. M. Kozik, **S. H. Szczepankiewicz**

683. Computational investigation of the polymerization of phenylacetylene by rhodium scorpionates. **T. R. Rogers**, R. M. Tarkka, P. J. Desrochers, C. E. Webster

684. Stereoselective-induced variable aggregation and

photocatalysis of fluorinated phthalocyanines lacking C-H bonds. **H. H. Patel**, S. M. Gorun

685. Ammonia as the high-density solar fuel of the future. **D. J. Little**, J. M. Thornton, T. W. Hamann

686. Synthesis and reactivity studies of novel tris(pyrazolyl)boratocobalt complexes. **S. G. Ridlen**, M. Yousufuddin, H. Dias

687. Hydrogen transfer catalyst design inspired by thermodynamics. **Z. M. Heiden**

688. $[\text{FeFe}]$ -hydrogenase active site mimic with an annulated terthiophene group as an approach to a visible light absorbing photocatalyst for hydrogen production. **S. M. Sill**, G. B. Hall, L. M. Stratton, R. S. Glass, D. L. Lichtenberger, D. H. Evans

Section M

Dallas Convention Center
Hall F

Main Group Chemistry

N. Radu, *Organizer*

6:00 - 8:00

689. Study on stability of new primary phosphines. **S. Wu**, J. D. Protasiewicz

690. N-substituted amine-boranes as liquid-phase hydrogen storage fuels. **A. E. Carre-Burritt**, B. L. Davis, B. D. Rekken

691. Aluminum- α -diimine complexes: Redox-active aluminum systems. **B. E. Cole**, C. A. Koellner, N. A. Piro, W. G. Dougherty, W. S. Kassel, **C. R. Graves**

692. Reactions of diiminopyridine ligands with boron halides. A. Africa, **C. D. Martin**

693. Silylanilino derivatives containing boron. **K. Hauger**, R. H. Neilson

694. Heterolytic cleavage of molecular dihydrogen via an "inverse" frustrated Lewis pair (FLP) approach. **S. Mummadi**, H. Li, A. Aquino, D. Cordes, F. Hung-Low, W. Hase, C. Krempner

695. Tetrahedral and octahedral organotin showing a dependence on geometry for activity as biocides. **J. A. Muniz**, K. H. Pannell, A. Varela, R. Aguilera

696. Syntheses and characterization of $\text{Sb}(\text{III})$ and $\text{Sb}(\text{V})$

di(benzothieno)stiboles. **A. M. DeLaRosa**, M. Hirai, F. P. Gabbai

697. Reactivity of $[\text{Ru}(\text{tpy})(\text{dppz})(\text{NO}_2)]^+$ in model physiological conditions with DNA. **N. O. Lahanas**, V. S. Lonnay, M. Mongelli, W. R. Murphy

698. Investigation of synthetic pathways of $[\text{Ru}(\text{bpy})_2(\text{NO}_2)(\text{OH}_2)]^+$. **V. S. Lonnay**, N. O. Lahanas, W. R. Murphy, Jr.

Section N

Dallas Convention Center
Hall F

Lanthanide and Actinide Chemistry

A. de Bettencourt-Dias, *Organizer*

6:00 - 8:00

699. Heterocyclic platform ligands with a PO/CMPO pendant arm: Synthesis and coordination with $\text{Ln}(\text{III})$ ions. **S. Ouizem**, D. Rosario Amorin, s. Pailloux, D. A. Dickie, B. P. Hay, L. H. Delmau, R. T. Paine

700. Design, synthesis and coordination chemistry of new ligands with potential interests for LLE applications. **D. Rosario-Amorin**, S. Ouizem, D. A. Dickie, B. P. Hay, J. Podair, L. H. Delmau, S. D. Reilly, A. J. Gaunt, B. L. Scott

701. Synthesis, structural characterization, and magnetic properties of dinuclear, tetranuclear, and heptanuclear lanthanide(III) complexes of a tri-functional hydrazone ligand. **S. S. Tandon**, S. D. Bunge, L. K. Thompson

702. Structural, photoluminescence, and energy transfer properties of lanthanide dicyanoaurates containing terpyridine ligands. **F. White**, L. Pham, K. Xiang, R. Thomas, P. Vogel, **R. Sykora**, Z. Assefa

703. Synthesis and design of supramolecular self-assembled lanthanide cages. **L. J. DePue**, **A. Bard**, **M. Tran**, **L. Lawson**, C. Tram, X. Yang, B. J. Holliday, R. A. Jones

Section O

Dallas Convention Center
Hall F

Organometallic Chemistry Characterization and Applications

N. Radu, *Organizer*

6:00 - 8:00

704. Synthesis, *in vitro* testing, and encapsulation of novel organometallic compounds for cancer treatment. **S. Yespolyayeva**, G. Khamitova, A. Zhanbossinova, **S. Adilov**

705. Varying the sterics of an azaferrrocene Lewis base donor: Synthesis and structures of azaferrrocene-boranes. **S. B. Krause**, J. R. Smith, A. L. Rheingold, T. J. Brunker

706. Copper (I) complexes of "click"-derived abnormal carbenes and their applications in catalysis. **S. Hohloch**, B. Sarkar

707. Frustrated Lewis pairs as ligands for organometallic catalysis. **B. R. Nichols**, B. V. Popp

708. Density-functional analysis of N-heterocyclic carbene compounds. **R. A. Juarez**, W. Lee, J. Smith, H. Wang

709. Organometallic complexes with tethered hydrazone and pyridyl ligands as model photochromic complexes: A density functional theory study. **R. G. Letterman**, J. O. Johnson, T. J. Burkey, C. E. Webster

710. Fluorescent organotin systems based on O-N-O ligands: Synthesis, characterization, and cell imaging applications. **M. C. Garcia**, B. M. Muñoz, V. M. Jimenez, R. A. Chan, A. Chavez

711. Synthesis and DNA-binding studies of Re(I)-pentylcarbonato and related complexes. **B. V. Powell**, S. K. Pramanik, S. K. Mandal

Poster Session

Sponsored by COMP, Cosponsored by BIOL, CINP, COLL, ENFL, ENVR, FLUO, GEOC, HIST, I&EC, INOR, MEDI, ORGN, PHYS, PMSE, POLY, TOXI, and YCC

WEDNESDAY MORNING

Section A

Dallas Convention Center A307

Nanomaterials for Energy Capture, Conversion and Storage

Cosponsored by CEI
D. Gamelin, N. Neale, *Organizers*
T. Lian, *Presiding*

8:30 712. Electrochemical durability of nanocrystal-based energy storage materials. N. Krins, A. Singh, L. Xu, B. A. Helms, J. Cabana, **D. J. Milliron**

9:00 713. Inorganic synthesis of titanium-based nanomaterials for high power, safe Li-ion battery anodes. **B. M. Bartlett**

9:30 714. Carbon coated silicon nanowires for lithium ion battery electrodes. T. Bogart, D. Oka, X. Lu, **B. A. Korgel**

10:00 Intermission.

10:15 715. Mechanisms of solar-driven charge separation and H₂ generation in multifunctional colloidal nanorod-catalyst heterostructures. **T. Lian**

10:45 716. Photochemical upconversion and its applications in solar energy capture, conversion, and storage. **F. N. Castellano**

11:15 717. Electron transfer as a probe of the permeability of monolayers at nanoscopic interfaces. K. Knowles, M. Malicki, M. Tagliazucchi, **E. Weiss**

Section B

Dallas Convention Center A303

Chemistry of Materials

C. Lugmair, *Organizer*
J. Owen, R.

Allenbaugh, *Presiding*

8:00 718. Fabrication of TiO₂ nanofibers for photocatalytic degradation of environmental toxins. **D. L. McCarthy**, J. Liu, J. B. Tollin, J. B. Decoste, W. E. Bernier, W. E. Jones

8:20 719. Tuning noble gas separations in metal formates with temperature dependent selectivities. **K. V. Lawler**, P. M. Forster

8:40 720. Surface functionalized zirconium phosphates: A unique class of functional materials. **A. Diaz**, B. M. Mosby, A. Clearfield

9:00 721. Exploring C-C coupling reactions using peptide-capped Pd nanoparticles. **B. D. Briggs**, N. M. Bedford, R. R. Naik, M. R. Knecht

9:20 722. Synthesis and characterization of metal deposited CZTS nanostructures for use in catalysis. **P. S. Dilsaver**, J. Vela, M. Reichert

9:40 723. DNP surface enhanced NMR spectroscopy for the characterisation of metal-surface interactions in catalysis. **L. Emsley**

10:00 Intermission.

10:10 724. Synthesis of peptide-templated bimetallic nanostructures for enhanced catalytic reactivity. **N. A. Merrill**, N. M. Bedford, R. R. Naik, L. Drummy, M. R. Knecht

10:30 725. Metal-based supramolecular ordering in liquid crystalline phases. **R. J. Allenbaugh**, M. G. Hyatt, M. L. Morgan

10:50 726. Designable architectures on nanoparticle surfaces: Zirconium phosphate nanoplatelets as a platform for tetravalent metal and phosphonic acid assemblies. **B. Mosby**, M. Goloby, A. Díaz, A. Clearfield

11:10 727. Electroless approach to atomic layer deposition on noble metal powders. **P. J. Cappillino**, G. M. Buffleben, M. Salloum, J. L. Stickney, D. B. Robinson

11:30 728. Discovering Ce-rich oxygen evolution catalysts, from high throughput screening to water electrolysis. **J. A. Haber**, S. Jung, D. Guevarra, C. Xiang, S. Mitrovic, E. Anzenberg, C. Kisielowski, J. Yano, J. Jin, J. M. Gregoire

11:50 729. Coordination chemistry of metal chalcogenide nanocrystals. **J. S. Owen**, N. C. Anderson, M. P. Hendricks, J. J. Choi

Section C

Dallas Convention Center A310

Creative Inorganic Synthesis in the Pursuit of Unusual Molecules and Notable Reactivity

J. Protasiewicz, *Organizer*
D. Richeson, *Organizer*, *Presiding*

L. Doerrer, *Presiding*

8:30 730. Chromium and cobalt, carbonyl, carbanions, and carboxylates: Organometallic chemistry through the years. R. R. Schrock, **L. H. Doerrer**

9:00 731. Selective transformations of organic compounds mediated by transition metal complexes. **R. G. Bergman**

9:30 732. Zincacarbatranes: Organozinc compounds that feature terminal hydride, fluoride and bicarbonate ligands. W. Sattler, S. Rucolo, **G. Parkin**

10:00 Intermission.

10:10 733. O-O bonding in metal-dioxygen adducts. **W. Tolman**

10:40 734. Hybrid nanoreactors comprising enzymatic and water stable organometallic co-catalysts. **T. Douglas**, D. Patterson, E. Edwards

11:10 735. Adventures in low-coordinate phosphorus chemistry. **J. Protasiewicz**

Section D

Dallas Convention Center A305

Metal-Based Probes for Magnetic Resonance Imaging

M. Allen, V. Pierre, *Organizers*
P. Caravan, *Organizer*, *Presiding*

8:30 Introductory Remarks.

8:35 736. Manipulating MRI contrast by catalytic exchange of protons in slow water exchange complexes. **A. D. Sherry**, Y. Wu, M. Evbuomwan, B. Sombunsakdikun, T. Soesbe

9:05 737. Design of nanoparticles for magnetic resonance molecular imaging: A multidisciplinary task. **R. N. MULLER**

9:35 738. How coordination chemistry affects water exchange, and *vice versa*, in lanthanide(III) DOTA-type chelates. **M. Woods**

10:05 Intermission.

10:15 739. Recent developments in Eu(II)-based contrast agents. **M. J. Allen**, L. A. Ekanger, M. M. Ali, E. M. Haacke, L. A. Polin

10:45 740. CatalyCEST MRI contrast agents that detect enzyme activities. **M. D. Pagel**, B. Yoo, D. V. Hingorani, I. Daryaei, P. J. Akhenblit

11:15 741. DOTAM-based chelates for the development of paraCEST contrast agents. **R. H. Hudson**

Section E

Dallas Convention Center A304

Nanoscience

R. Richards, *Organizer*
A. Ivanisevic, K. Kittilstved, *Presiding*

8:30 742. Electrochemical growth of copper(I) oxide nanorods on F-SnO₂ substrates via polymer templating. **K. M. Haynes**, W. J. Youngblood, T. D. Golden

8:50 743. Modulated nanotopography and optical properties of nonpolar gallium nitride via surface in-situ functionalization with cysteamine and phosphoric acid. **A. Ivanisevic**

9:10 744. Synthesis of copper indium disulfide nanoplatelets. **L. Mu, W. E. Buhro**

9:30 745. Oriented growth of 1D CdSe and 0D Bi quantum structures from vertical sub-10nm hard templates. **Y. Liu, F. Wang, W. E. Buhro, C. Mou**

9:50 746. High-resolution TEM of CdSe nanorod sublimation. **D. J. Hellebusch, A. P. Alivisatos**

10:10 747. Magic-size nanocluster (CdSe)₃₄ as a low-temperature nucleant for cadmium selenide nanocrystals: Room-temperature growth of crystalline quantum platelets. **Y. Wang, Y. Zhang, F. Wang, D. E. Giblin, J. Hoy, H. W. Rohrs, M. L. Gross, R. A. Loomis, W. E. Buhro**

10:30 Intermission.

10:40 748. Single layer materials beyond MoS₂. **P. Miro Ramirez, M. Ghorbani-Asl, T. Heine**

11:00 749. Modular approach to colloidal CdSe nanocrystal ligand exchange with chalcogenols generated via the in-situ reduction of dialkyl and diaryl dichalcogenides. **J. J. Buckley, E. Couderc, S. Bradforth, R. Brutchey**

11:20 750. Incorporation of dopant ions in II-VI molecular clusters. **K. R. Kittilstved, S. Pittala**

11:40 751. Consequences of surface treatment on the transport properties of II-VI semiconductor nanowire devices. **P. Paudel, B. Barker, C. W. Pinion, A. B. Greytak**

12:00 752. Seeded growth of semiconductor nanocrystals from conducting metallopolymer: A novel approach to material fabrication for hybrid photovoltaics. **M. T. Nguyen, M. T. Raiford, K. J. Suhr, B. J. Holliday**

12:20 753. Sequential chemistry of semiconductor nanocrystals through purification, stoichiometry, and measurement. **A. B. Greytak**

Section F

Dallas Convention Center
A302

Coordination Chemistry

Synthesis

D. Crans, *Organizer*
C. Zaleski, D. Rabinovich, *Presiding*

8:30 754. N-heterocyclic carbene-stabilization of highly reactive beryllium complexes. **R. J. Gilliard, Jr., Y. Wang, G. H. Robinson**

8:50 755. Structural insights and characteristics of novel alkaline earth metal organic frameworks based on isonicotinic acid and isomers. **P. J. Rosado, K. Ruhlandt**

9:10 756. From bisimidazole to N-alkylated bisimidazoles: The incremental ligand field increase leads to spin crossover in homoleptic Fe(II) complexes. **H. V. Phan, J. J. Hrudka, M. Shatruk**

9:30 757. Development of a new bispyrrolylpyridine pincer ligand that enforces unusual geometries at iron. **K. Searles, S. Fortier, P. J. Carroll, C. Chen, M. Pink, D. J. Mindiola, K. G. Caulton**

9:50 758. Electronic structure and redox properties of bimetallic units with open coordination sites. **D. Villagran**

10:10 Intermission.

10:20 759. Second generation tris(2-pyridyl)borate ligands: toward supramolecular polymeric materials. **S. Jeong, C. Cui, P. O. Shipman, F. Jaekle**

10:40 760. Synthesis, characterization and investigation of low coordinate transition metal compounds and their magnetic properties. **A. M. Bryan, P. P. Power**

11:00 761. Polyoxometalate-supported polyiron complex that mimics the mineralization in ferritin. **X. Fang**

11:20 762. Zwitterionic carb- and silyl anions: Synthesis, structure, reactivity and FLP chemistry. **C. Krempner**

11:40 763. Survey of the coordination chemistry of a new bis(pyridyl)silone. **L. Hernandez, D. Rabinovich**

Section G

Dallas Convention Center
A301

Organometallic Chemistry Applications To Materials and Polymer Science

N. Radu, *Organizer*
M. Delferro, *Presiding*

8:30 764. Heterobimetallic effects for enhanced α -olefin incorporation in ethylene polymerization catalysis. **M. Delferro, S. Liu, A. Motta, A. R. Mouat, T. J. Marks**

8:50 765. Development of thermally stable nickel(II) α -diimine catalysts for ethylene polymerization. **J. L. Rhinehart, L. A. Brown, N. Mitchell, B. K. Long**

9:10 766. (CH₃)₂M(μ -Lⁿ)(μ -OCH₃)M(CH₃)₂: Synthesis and function as MAO mimic complexes in syndiotactic styrene polymerization (M = Al, Ga; L¹ = 3,5-di(2-pyridyl)-1,2,4-triazole; L² = 3,5-di(2-pyridyl)pyrazole). **I. Kobrsi**

9:30 767. Bis(imino)pyridine iron bis(alkoxide) catalysts for redox-controlled polymerization of cyclic esters. **A. B. Biernesser, J. A. Byers**

9:50 768. Electronic design principles of metal-organic frameworks for photocatalysis, gas-storage and light harvesting. **C. H. Hendon, A. Walsh**

10:10 Intermission.

10:20 769. Selective reactions of chlorosilanes: Applications in degradable and dendritic materials. **A. R. Jennings, D. Y. Son**

10:40 770. Copolymerization of CO₂ and dihydronaphthalene oxide with Cr(III) and Co(III) catalysts. **S. J. Kyran, D. J. Darensbourg**

11:00 771. Copolymerization of cyclopentene oxide with CO₂ utilizing bifunctional cobalt(III)- and chromium(III)-salen catalysts. **W. Chung, D. J. Darensbourg**

11:20 772. Synthesis, characterization, and photophysical studies of exceptionally stable phosphorescence polymeric microspheres with Pt(II) complexes for biomedical applications. **P. K. Upadhyay, S. Marpu, M. Omary**

Section H

Dallas Convention Center
A308

ACS Award for Distinguished Service in the Advancement of Inorganic Chemistry: Symposium in Honor of T. Don Tilley

J. Walzer, R. Waterman, *Organizers*
S. Humphrey, *Presiding*

9:00 773. Making and breaking bonds using new group 5 metal catalysts. **J. Arnold, T. L. Gianetti, R. G. Bergman**

9:20 774. Unusual structures in metal complexes with heavy group 14 atoms. **O. Eisenstein, C. Raynaud**

9:40 775. Transition metal catalyzed activation of the SiH bond: New insights into the dual SiH effect. **K. H. Pannell**

10:00 776. Magnesium(II)-catalyzed hydroboration of carbonyl compounds. **A. D. Sadov**

10:20 Intermission.

10:35 777. Synthesis, bonding and reactivity of uranium (IV-VI) imido complexes. **J. M. Boncella, N. C. Tomson, R. E. Jilek, R. S. Shook, B. L. Scott, E. R. Batista**

10:55 778. Early transition metals in hydroaminoalkylation: Catalytic C-C bond formation via C-H activation. **L. L. Schafer**

11:15 779. Microwave assisted synthesis of unusual noble metal nanocatalysts. **S. M. Humphrey, S. Garcia, G. W. Piburn, P. Kunal, G. A. Henkelman, L. Zhang**

11:35 780. Don, Cp*₂Yb(bipy), and 547 Latimer Hall. **R. A. Andersen**

11:55 Concluding Remarks.

Section I

Dallas Convention Center
A308

ACS Award in Inorganic Chemistry: Symposium in Honor of Guy Bertrand

D. Bourissou, F. Gabbai, *Organizers*
A. Dyker, *Presiding*

8:30 Introductory Remarks.

8:35 781. Reactivity of a diphosphine with persistent phosphinyl character in solution and advances in carbene-stabilized group 14, 15, and 16 systems. **J. D. Masuda**

9:05 782. Diversifying the coordination chemistry of p-block acceptor elements. **N. Burford**

9:35 783. Stable radicals of the heavy group 14 elements: From phantom species to isolable compounds and their application. **A. Sekiguchi**

10:05 Intermission.

10:20 784. Phosphine-stabilized Si(II) complexes. **A. BACEIREDO**

10:50 785. Stabilization of small fragments with NHC and CAAC ligands. **G. Frenking**

11:20 786. Reactivity of carbene-stabilized diatomics. **G. H. Robinson**

WEDNESDAY AFTERNOON

Section A

Dallas Convention Center
A307

Nanomaterials for Energy Capture, Conversion and Storage

Cosponsored by CEI

D. Gamelin, N.

Neale, *Organizers*

J. Owen, *Presiding*

1:30 787. Developing quantum dot solids for thin-film photovoltaics. **M. Law**

2:00 788. Electronic and phonon transports in bulk quantum dots engineered semiconductors. **P. Poudeu Poudeu**

2:30 789. Microwave assisted synthesis of Ge nanoparticles and their application in quantum dot TiO₂/Ge heterojunction solar cells. E. Muthuswamy, C. P. Church, S. A. Carter, **S. M. Kauzlarich**

3:00 Intermission.

3:15 790. Flat colloidal semiconductor nanocrystals. Y. Wang, P. J. Morrison, L. Mu, Y. Zhou, **W. E. Buhro**

3:45 791. Substituted thioureas: A tunable precursor library for colloidal nanocrystal synthesis. **J. S. Owen**, M. P. Hendricks

4:15 792. Molecular control of nanoscale composition, morphology and function: From compositionally graded nanorods to surface doped quantum dots. **J. Vela**

Section B

Dallas Convention Center
A303

Bioinorganic Chemistry DNA, RNA and Inorganic Drugs

S. Koch, *Organizer*

K. Green, *Presiding*

1:30 793. Hybrid small molecules using lipoic acid as antioxidant chelators designed to target amyloid and the molecular features associated with neurodegenerative disorders. **K. N. Green**, P. M. Gonzalez, K. M. Lincoln, G. Akkaraju

1:50 794. Ruthenium(II) polypyridyl complexes synthesis and studies of DNA binding, photocleavage, cytotoxicity activity. **Y. P. Kumar**, S. Satyanarayana

2:10 795. Extending the utility of platinum-based anticancer agents using nanodelivery. **T. C. Johnstone**, S. J. Lippard

2:30 796. Reactivity of kateplatin with biothiols and nucleic acids. **E. Petruzzella**, N. Margiotta, G. Natile, J. D. Hoeschele

2:50 797. Microwave-assisted synthesis of cisplatin. **J. D. Hoeschele**, E. Petruzzella, C. Chiroasca

3:10 Intermission.

3:20 798. Cytotoxicity studies of a new series of dirhodium (II,II) compounds containing mixed bridging ligands. **A. David**, B. Peña, J. Pellois, K. R. Dunbar

3:40 799. Synthesis, characterization and structure-activity relationships of novel ruthenium(II) polypyridyl complexes. **E. S. Narh**, F. M. MacDonnell

4:00 800. DNA protection by the bacterial ferritin Dps via DNA charge transport. **A. R. Arnold**, J. K. Barton

4:20 801. Treatment of Alzheimer's disease with bimodal hybrid heterocyclic amine ligands: A closer look into the oxidative pathways and copper misregulation in the disease. **P. Gonzalez**, G. Akkaraju, K. Green

Section C

Dallas Convention Center
A310

Creative Inorganic Synthesis in the Pursuit of Unusual Molecules and Notable Reactivity

D. Richeson, *Organizer*
J. Protasiewicz, *Organizer*,
Presiding

L. Doerrer, *Presiding*

2:00 802. Coordination chemistry of cobalt and chromium. **P. T. Wolczanski**, B. M. Lindley, V. A. Williams, W. D. Morris, B. P. Jacobs

2:30 803. Study of an amphiphilic poly(organosiloxane) nanocage: Behavior of Co ions in a bio-inspired confined nanoreactor with defined array of multifunctional reactive groups in confined space. **J. Shen**, Z.

Shen, Z. Wang, W. A. Gunderson, M. Kung, B. M. Hoffman, H. Kung

3:00 804. Mechanistic investigations of acetonitrile, chloromethane, and alcohol activation by Tp⁺RhL complexes. **W. D. Jones**, Y. Jiao

3:30 Intermission.
3:40 805. Chemistry of old and new perfluoropinacolate complexes. S. E. Specht, L. Tahsini, J. J. Nelson, A. F. Long, H. Hajare, **L. H. Doerrer**

4:10 806. Small molecule activation with monovalent by nickel complexes. G. P. Yap, W. L. Green, J. Wallick, **C. G. Riordan**

4:40 807. Expanding the coordination geometry and enhancing the photophysical features of Re(I) with redox non-innocent pincer ligands. **D. Richeson**, T. Woo, P. Bulsink, P. Joshi, T. Jurca, I. Korobkov

Section D

Dallas Convention Center
A305

Metal-Based Probes for Magnetic Resonance Imaging

P. Caravan, V. Pierre, *Organizers*
M. Allen, *Organizer*, *Presiding*

1:30 808. MRI contrast agents: Toward a second generation. **K. N. Raymond**, S. L. Paillox, S. D. Köster

2:00 809. Gd-free MRI contrast agents based on a Mn-porphyrin platform: Improving the sensitivity and modulating the pharmacokinetics. I. E. Haedicke, W. Cheng, **X. Zhang**

2:30 810. Linking fundamental undergraduate f-element research to real-world applications: Development of pyridine/phosphonate based MRI contrast agents. **E. J. Werner**, M. Botta, K. R. Johnson, M. P. Madsen

3:00 Intermission.

3:10 811. Design of protein MRI contrast agents for temporal and spatial molecular imaging of cancer biomarkers. **J. J. Yang**, J. Qiao, S. Xue, F. Pu, J. Jiang, N. White, Z. Liu

3:40 812. Iron oxide nanoparticles as theranostic agents for siRNA and microRNA therapies in cancer. **A. Moore**

4:10 813. Multifunctional inorganic nanocrystal based contrast agents for medical imaging. **D. P. Cormode**

Section E

Dallas Convention Center
A304

Coordination Chemistry Characterization and Applications

D. Crans, *Organizer*
B. Dietzek, M. Darenbourg, R. Petros, *Presiding*

1:30 814. Application of photoexcited states of Re (I) metal complexes to solar energy conversion. **V. Komreddy**, J. Yoder, C. Wilkinson, H. Ngyuen, N. Subbayan, D. Rillema

1:50 815. New iridium luminophores combining tunability and enhanced photostability. **D. N. Chirdon**, W. J. Transue, H. N. Kagalwala, A. Kaur, A. B. Maurer, T. Pintauro, S. Bernhard

2:10 816. Novel lanthanide-containing 12-MC-4 complexes. **C. M. Zaleski**

2:30 817. Rational post-synthetic modification of phosphorous based porous coordination materials for gas uptake and luminescence applications. **A. J. Nuñez**, M. S. Chang, I. A. Ibarra, S. M. Humphrey

2:50 818. Phosphorescent cyclometalated iridium(III) complexes based on phenyl-imidazole and 2,2'-bipyridine ligands: Application to OLEDs. **P. Kumar**

3:10 819. Chromogenic detection of Sarin by discolouring decomplexation of a metal coordination complex. **A. Carella**, L. Ordroneanu, M. Pohanka, J. Simonato

3:30 Intermission.

3:40 820. Cyclometallation of aza-dipyrromethene on neutral Ru^{II} complexes: Toward new chromophores with extended NIR absorption properties for light-harvesting applications. **A. Bessette**, J. G. Ferreira, M. Cibian, F. Bélanger, D. Désilets, G. S. Hanan

4:00 821. Homogeneous and immobilized Ni tripod complexes: Syntheses, 2D liquid- and solid-state NMR, and catalysis. **K. J. Cluff**, N. Bhuvanesh, J. Bluemel

4:20 822. Macrocyclic ligands with heterocyclic pendent groups for Fe(II) and Co(II) paraCEST MRI contrast agents. **P. B. Tsitovich**, J. R. Morrow

4:40 823. Theoretical investigations of supramolecular

chemisorption adducts of volatile small molecules with a trinuclear silver(I) nitrated pyrazolate complex: DFT modeling of dipole-quadrupole interactions. **S. M. Tekarli**, V. N. Nesterov, M. A. Omary, R. Galassi, S. Ricci, A. Burini
5:00 824. Interesting pulse radiolytic studies on cobalt(II)- and ruthenium(II)-containing complexes in acetonitrile. **M. J. Celestine**

Section F

Dallas Convention Center
A302

Inorganic Spectroscopy

S. Ronco, *Organizer*
J. Rack, *Presiding*

1:30 Introductory Remarks.

1:35 825. Trapped in imidazole: How to accumulate multiple photoelectrons on a black absorbing ruthenium complex. **B. Dietzek**, L. Zedler, I. Rabelo de Moraes, S. Kupfer
1:55 826. Sensing amyloid protein aggregation using ruthenium probes: The effect of Δ and Λ enantiomers. **A. A. Marti**, N. P. Cook

2:15 827. Combined XANES, Mössbauer, and DFT analysis of Cu-Fe and Zn-Fe heterobimetallic complexes featuring polar metal-metal bonds. **M. K. Karunananda**, S. Chattopadhyay, T. Shibata, E. E. Alp, W. Bi, N. P. Mankad

2:35 828. Tuning excited state isomerization dynamics through ground state structural changes in analogous ruthenium and osmium sulfoxide complexes. **K. Garg**, J. J. Rack

2:55 829. Use of iron tricarbonyl complexes as dynamic probes of local chemical environments. **B. J. Lear**, A. N. Giordano

3:15 Intermission.

3:25 830. Perturbation analysis of the (0,0) band of the $A^2\Pi_{3/2} - X^2\Sigma^+$ transition in ZrN. **K. A. Womack**, T. N. Dahms, L. C. O'Brien, J. J. O'Brien

3:45 831. Analysis of a new electronic transition of MoO in the near-infrared. **J. C. Harms**, K. A. Womack, L. C. O'Brien

4:05 832. Magnetic excitations in metalloporphyrins by inelastic neutron scattering and determination of zero-field splittings. **S. C. Hunter**, A. A. Podlesnyak, Z. Xue

4:25 833. Femtosecond transient absorption anisotropy study on photochromic ruthenium and osmium sulfoxide complexes. **L. Wang**, J. J. Rack
4:45 834. Ultrafast spectroscopy of ruthenium and osmium sulfoxide complexes. **J. Rack**, K. Garg, A. King, L. Wang
5:05 835. Investigating ultrafast linkage isomerizations in a new ruthenium sulfoxide two-color photochrome. **A. W. King**, J. J. Rack

Section G

Dallas Convention Center
A301

Inorganic Catalysis

S. Koch, *Organizer*
X. Zhao, *Presiding*

1:30 836. Water oxidation catalyzed by a dinuclear Cobalt polypyridyl catalyst Co-Hbpp: How does it differ from Ru-Hbpp? **N. Planas**, S. Mandal, M. L. Rigsby, A. Llobet, S. S. Stahl, L. Gagliardi, C. J. Cramer

1:50 837. Electro- and photocatalytic H₂ production by Co complexes with pentadentate ligands. **X. Zhao**, M. Vennampalli, C. Que, T. Baine, M. Zhang, G. Liang, J. C. Bollinger, C. E. Webster

2:10 838. Threefold-symmetric cobalt complexes for oxidation catalysis. M. Wieliczko, C. M. Wallen, **C. C. Scarborough**
2:30 839. Theoretical insights into the mechanisms of peptide hydrolysis by metal-cyclen and metal-cyclodextrin complexes. **T. Zhang**, R. Prabhakar

2:50 840. Hydroxide-promoted catalytic hydrodefluorination by ruthenium in aqueous media. **M. M. Konnick**, R. A. Periana, B. G. Hashiguchi

3:10 Intermission.

3:20 841. Using reduced catalysts for oxidation reactions: Mechanistic studies of the "Periana-Catalytica" system for CH₄ oxidation. O. A. Mironov, S. M. Bischof, **M. M. Konnick**, B. G. Hashiguchi, V. R. Ziatdinov, W. A. Goddard, M. Ahlquist, R. A. Periana

3:40 842. Novel heterogeneous core/shell nanostructured photocatalysts for high efficient waste water treatment. **J. Bravo**, Y. Mao

4:00 843. Catalytic oxidation of alcohols by nickel phosphine complexes with pendant

amines. **C. J. Weiss**, M. L. Helm, A. M. Appel, P. Das
4:20 844. Hexadecacobalt-substituted polysilicotungstate water oxidation catalyst. **G. Zhu**, J. Bacsa, C. L. Hill
4:40 845. Oxidation and oxygenation catalysis with metal-organic ligands lacking C-H bonds. H. H. Patel, A. I. Loas, K. Ramji, **S. M. Gorun**

5:00 846. Protonation of mono-N₂ complexes: A DFT investigation. **A. W. Pierpont**, M. T. Mock, R. Rousseau, W. G. Dougherty, S. Kassel, M. Bullock

Section H

Dallas Convention Center
A309

Electrochemistry

B. Lucht, *Organizer, Presiding*

1:30 847. Non-line-of-sight deposition of nanoscale separator/electrolytes for 3D all-solid-state batteries. **M. B. Sassin**, J. W. Long, D. R. Rolison

1:50 848. *In-situ* neutron diffraction of lithium vanadium oxide cathodes. **T. M. Fears**, N. Leventis, C. Sotiriou-Leventis, J. G. Winiarz, H. Taub, H. Kaiser

2:10 849. Polyoxometalates as electron mediators for better Li-S cell performance. W. Choi, **D. Im**, M. Park, D. Lee, Y. Ryu, S. Hwang

2:30 850. New methods for modification of electrodes by metal complexes. **M. V. Sheridan**, K. Lam, W. E. Geiger

2:50 851. Electrochemically driven functionalization of metal oxide surfaces using aryl iodonium salts. **K. J. Suhr**, M. R. Charlton, K. J. Stevenson, B. J. Holliday

3:10 Intermission.

3:20 852. Enhancing tungsten trioxide photoanodes through electrochemical doping. **J. Zhao**, F. E. Osterloh

3:40 853. Reduction potentials and hyperfine electron affinities of O₂. **E. C. Chen**, S. Pai, H. Keith, E. S. Chen

4:00 854. Electrocatalytic water oxidation with a manganese pyrophosphate compound. **T. Takashima**, Y. Hotori, H. Irie

4:20 855. Multielectron transfer processes in strongly coupled bis(pyridinium) systems. A. Petty II, K. Olson, G. Meek, B. G. Levine, **T. F. Guarr**

4:40 856. Na storage and diffusion in bulk and

nanostructured C, Si, Ge, and Sn-based anode materials. **O. I. Malyi**, F. Legrain, V. V. Kulish, T. L. Tan, S. Manzhos

Section I

Dallas Convention Center
A308

Organometallic Chemistry Characterization and Applications

N. Radu, *Organizer*
M. Findlater, *Presiding*

1:00 857. Tris(alkyne) complexes of coinage metal ions. **A. Das**, M. A. Celik, G. Frenking, M. Yousufuddin, H. Dias

1:20 858. Phosphorescent C⁺ cyclometalated Pt(II) NHC emitters. **A. Tronnier**, T. Strassner

1:40 859. Cyclometalated Pt(II) complexes based on phenyltriazol-5-ylidenes. **M. Tenne**, T. Strassner

2:00 860. Lewis acid promoted formation of acrylate from nickelalactone complexes. **D. Jin**, W. Bernskoetter

2:20 861. Reduction of carbon dioxide to acrylate, formate and propionate at Triphos molybdenum complexes. **Y. Zhang**, W. Bernskoetter

2:40 862. Ferracarborane-ruthenium tris(bipyridyl) complexes as optical small cation sensors. **S. S. Graham**, P. A. Jelliss, R. J. Callahan

3:00 863. Rhenacarboranes: Toward their use as drug delivery vehicles. **D. G. Pruitt**, P. A. Jelliss

3:20 Intermission.

3:25 864. Mesoporous crystalline lattice, for the adsorption and fluorescent sensing, of biological compounds. **K. J. MacKenzie**, A. M. Marti, K. J. Balkus Jr.*

3:45 865. Hydrogenation of CO₂ using non-precious metal complexes. **M. A. Barnes**, J. Jiang, J. Lu, A. Lough, P. G. Jessop

4:05 866. Ratiometric detection of nitric oxide by fluorescent organometallic Re-phenanthroline complexes. **L. I. Lozano-Lewis**, K. Madras, N. M. Tsoukias, K. Kavallieratos

4:25 867. Platinum(II) assisted chlorine photoelimination from platinum(IV) chloro complexes. **T. A. Perera**, M. Masjedi, P. R. Sharp

4:45 868. Oxygen atom insertion into iron phenyl and methyl bonds. **J. Mei**, S. E. Kalman, T. B. Gunnoe, T. R. Gundari, M. Sabat

THURSDAY MORNING

Section A

Dallas Convention Center
A308

Bioinorganic Chemistry Proteins and Enzymes and Model Systems

S. Koch, *Organizer*
W. Ames, *Presiding*

9:00 869. Design and engineering of man-made protein maquettes for diverse functions. **G. Kodali**, L. A. Solomon, M. T. Englander, B. R. Lichtenstein, T. A. Farid, J. R. Anderson, M. M. Sheehan, N. M. Ennist, B. A. Fry, C. Bialas, J. A. Mancini, Z. Zhao, B. M. Discher, C. C. Moser, P. L. Dutton

9:20 870. Flexible glutamine regulates catalysis within toluene/*o*-xylene monooxygenase. **A. Deliz Liang**, A. T. Wrobel, S. J. Lippard

9:40 871. Copper(II) and copper(III) in copper-dioxygen systems for tyrosinase models. **J. B. Gary**, T. B. Stack, P. Kang

10:00 Intermission.

10:15 872. Enzyme immobilization in a gyroidal metal-organic-framework. **M. Van**, A. Marti, K. J. Balkus

10:35 873. BS-DFT calculations of μ -oxo bridge EPR parameters applied to Mn^{III}Mn^{IV} model complexes and Photosystem II. **W. M. Ames**, L. Rapatskiy, A. Savitsky, T. Weyhermüller, F. Neese, W. Lubitz, N. Cox

10:55 874. Diiron hydrogenase active site models outfitted with pendant redox-active units. **A. M. Lunsford**, M. Y. Darensbourg

11:15 875. Deciphering the mechanism of carbon monoxide induced elimination of disulfide from a dinitrosyl iron complex: Hammett correlations of a series of *para* substituted (NHC)(SPhX)Fe(NO)₂ compounds. **R. Pulukkody**, M. Drummond, S. J. Kyran, C. -. Hsieh, D. J. Darensbourg, M. Y. Darensbourg

Section B

Dallas Convention Center
A303

Chemistry of Materials

C. Lugmair, *Organizer*
K. Yu, S. Nosheen, *Presiding*

8:30 876. Recent advances in microwave irradiation for novel materials. **D. Gunn**

8:50 877. Dissolution of silica from rice hull ash (RHA) and other biogenics and the distillation of an alkoxysilane right out of the pot. **R. M. Laine**, V. Popova, D. Pan, P. Doan

9:10 878. Thermotropic liquid crystalline Pt(II) complexes with a single side chain. **M. Krikorian**, S. Liu, T. Swager

9:30 879. Effect of cations and polar additives on the crystallinity and morphology of FAU zeolite. **S. Nosheen**

9:50 Intermission.

10:00 880. Comparative studies on fire-rated and standard gypsum wallboard. **H. Javangula**, Q. Lineberry

10:20 881. Mechanism of conversion of precursors to binary semiconductor nanomaterials at low temperature. **K. Yu**

10:40 882. Low temperature solvent processing of SnS thin films for light harvesting applications. **P. D. Antunez**, R. L. Brutchey

11:00 883. Metal-organic routes to functional ceramics: Single source precursor approach for synthesis of alkaline earth metal and first row transition metal-based molybdates and vanadates. **A. M. Moneeb**, A. M. Alabdulrahman, A. A. Bagabas, C. K. Perkins, A. W. Apblett

11:20 884. Tailoring organic growth modifiers of calcium oxalate monohydrate crystallization. **J. Chung**, J. D. Rimer

11:40 885. Formation of zero-valent metal salt-hydride complex and its unique use for nanoparticle synthesis. **M. P. Rowe**, D. Herrera, R. Mohtadi

Section C

Dallas Convention Center
A310

Organometallic Chemistry Catalysis

N. Radu, *Organizer*
J. Bluemel, *Presiding*

8:30 886. Molecular organometallic Pd, Cu, and Rh catalysts immobilized on oxide

supports. **J. Bluemel**, J. Guenther, J. Pope

8:50 887. Arene ruthenium(II) and iridium(III) complexes of pyridyl-triazoles, bis-triazoles and bis-triazolyldenes:

Synthesis, characterization, and catalysis. **S. Hohloch**, L. Suntrup, B. Sarkar

9:10 888. Hybrid platinum complex – based systems for tandem aerobic methane – to methanol conversion. **D. Wang**, A. N. Vedernikov

9:30 889. Nickel-catalyzed transformations of CO₂ into value added products. **J. J. Garcia**

9:50 890. Organolanthanide-catalyzed atom-efficient and regioselective dearomatization of substituted aromatic N-heterocycles. **M. Delferro**, A. S. Dudnik, V. L. Weidner, A. Motta, T. J. Marks

10:10 Intermission.

10:20 891. Iron-catalyzed synthesis of phospholes from primary phosphines. **J. K. Pagano**, R. Waterman

10:40 892. Heterobimetallic complexes for catalytic alkene carboxylation. **V. Vajpayee**, T. W. Butcher, B. V. Popp

11:00 893. Correlation of ligand donicity with catalytic activity in a series of gold (I) carbene and phosphine complexes. **Y. L. Mathota Arachchige**, J. Le, L. M. Slaughter

11:20 894. Dehydrocoupling of amine boranes and subsequent transfer hydrogenation of alkenes and alkynes via triamidoamine-supported zirconium catalysts. **K. Erickson**, R. Waterman

11:40 895. Synthesis and reactivity of phosphinite-amino (NCOP) complexes of rhodium. **J. A. Flores**, T. J. Emge, A. S. Goldman

Section D

Dallas Convention Center
A305

Metal-Based Probes for Magnetic Resonance Imaging

M. Allen, P. Caravan, V. Pierre, *Organizers*
M. Tweedle, *Presiding*

8:30 Introductory Remarks.

8:35 896. Exploiting P22 virus-like particles as contrast agents for magnetic resonance imaging (MRI). **T. Douglas**, S. Qazi, M. Uchida, J. Jucon, E. Edwards

9:05 897. Enzyme-responsive PARACEST and T₁ probes based on a self-immolative approach. **E. Toth**, S. Lacerda, J. He, C. Bonnet, T. Chauvin, B. Badet, P. Durand

9:35 898. Signal amplification by reversible exchange (SABRE): An avenue for "steady-state" hyperpolarization? **K. X. Moreno**, W. Goux, K. Nasr, Z. Kovacs, D. Sherry

10:05 Intermission.

10:15 899. Molecular imaging probes for investigating cell patterning and recognition events. **T. J. Meade**

10:45 900. Dual-frequency MRI contrast agents for visualization of biological processes. **G. Angelovski**

11:15 901. GdAAZTA complexes as building blocks for the development of multimeric and supramolecular assemblies. **M. Botta**, L. Tei, G. Gambino, J. Martinelli

Section E

Dallas Convention Center
A304

Nanoscience

R. Richards, *Organizer*
B. Lear, M. Knecht, *Presiding*

8:30 902. Peptide effects at nanoparticle surfaces. **M. R. Knecht**, Z. Tang, N. M. Bedford, J. P. Palafox-Hernandez, Y. Li, T. R. Walsh, P. N. Prasad, M. T. Swihart, R. R. Naik

8:50 903. New and novel synthesis for the formation of oxide-free tin nanoparticles. **M. P. Rowe**, D. Herrera, N. Singh

9:10 904. Unusual noble metal alloy nanoparticles for enhanced and cost-effective hydrogenation catalysis. **S. Garcia**, L. Zhang, G. Henkelman, S. M. Humphrey

9:30 905. Optical rotation measurements of enantioselective separation on chiral Au nanoparticles. **N. Shukla**, N. Ondeck, N. Khosla, A. Petti, A. J. Gellman

9:50 Intermission.
10:05 906. Controlled synthesis and catalytic performance of gold intercalated in the walls of mesoporous silica. **Y. Ji**, X. Wang, R. M. Richards

10:25 907. Chemical relevance of the photothermal effect of strongly absorbing nanoparticles. **B. J. Lear**, K. M. Haas, R. J. Johnson

10:45 908. Intercalation of aggregation-resistant metal nanoparticles in the walls of mesoporous silica for applications in catalysis. **G. Leong, M. C. Schulze, V. S. Delaney,** A. Ghavam, X. Wang, B. Trewyn, R. M. Richards
11:05 909. Platinum-based single-site catalyst tethered onto mesoporous carbon nanoparticles for C-H activation chemistry. **M. Joglekar,** T. S. Gray, T. B. Gunnoe, B. G. Trewyn

Section F

Dallas Convention Center
A301

Solid State Inorganic Chemistry

V. Poltavets, C. Lugmair, *Organizers*

A. Norquist, B. Bellott, *Presiding*

8:30 910. Formation principles for templated vanadium selenites. **A. J. Norquist**

9:00 911. Symmetry-guided synthesis of highly porous metal-organic frameworks with desired topology for clean energy applications. **M. Zhang,** Y. Chen, M. Bosch, H. Zhou

9:20 912. Facile chemical etching induced structure evolution of cuprous oxide microcrystals and their SERS application. **C. Qiu,** Y. Bao, N. L. Netzer, C. Jiang

9:40 913. Investigations of processing parameters that affect transparency of silica aerogels for thermal insulation systems. **M. Karayilan,** C. Erkey

10:00 Intermission.

10:15 914. Kinetic isotope effect studies of the template effect on the mechanism of crystallization of the halozeotype CZX-1. **F. Hou,** E. D. Dill, J. C. Folmer, J. D. Martin

10:35 915. Morphological control in Pechini synthesis via polymerization-induced phase separation. **S. G. Rudisill,** S. Shaker, A. Stein

10:55 916. Crystal structure and morphology control of metal carbide nanomaterials synthesized from an amine-metal oxide composite. **B. M. Leonard**

Section G

Dallas Convention Center
A301

Coordination Chemistry Synthesis

D. Crans, *Organizer*

C. Scarborough, R.

Petros, *Presiding*

9:00 917. Rotating linkers as a guest-dependent breathing mechanism in anisotropic MOFs. **C. R. Murdock,** N. W. McNutt, D. J. Keffer, D. M. Jenkins

9:20 918. Synthesis and characterization of $[\text{Fe}(\text{CO})_3(\mu\text{-dppe})_2]_2[\text{Rh}(\text{CO})\text{Cl}]_2$: A unique compound. **H. E. Hudson,** B. L. Lutes, W. Zhang, B. J. Bellott, R. L. Keiter, E. A. Keiter, A. L. Rheingold

9:40 919. Terminal nitride of titanium. **R. R. Thompson,** D. J. Mindiola, M. Pink

10:00 920. New developments involving *N*-heterocyclic phosphonium pincer ligands bound to first row transition metals. **S. E. Knight,** C. M. Thomas

10:20 Intermission.

10:30 921. Novel coordination chemistry of first-row transition metals enabled by the bulkiest triazacyclononane derivatives. A. Thangavel, G. J. Karahalil, C. T. Buru, **C. C. Scarborough**

10:50 922. Comparing covalent multiple bonds in chromium-*m* (*m* = Cr, Mn, Fe) complexes. **P. A. Rudd,** N. Planas, L. Gagliardi, C. C. Lu

11:10 923. *N*-heterocyclic thiones (NHTs): Synthesis and structures of mercury(II) complexes. **M. S. Styron,** D. Rabinovich

11:30 924. Assembly of interpenetrated MOFs through "molecular stitching" of pre-formed 2D layers. **Z. Zhang,** J. Chen, W. Zhang, T. Hor

Section H

Dallas Convention Center
A309

Organometallic Chemistry Synthesis and Characterization of Pincer-Containing Complexes

N. Radu, *Organizer*
O. Ozerov, *Presiding*

8:30 925. Alkane dehydrogenation and alkene isomerization catalyzed by CCC-pincer complexes of iridium. **A. R. Chianese**

8:50 926. Dual reactivity of pincer iridium complexes toward hydrazine. **K. D. Field,** T. Zhou, K. Krogh-Jespersen, A. S. Goldman

9:10 927. Iridium (III) pincer complexes in catalytic aerobic methane oxidation. **M. Zhou,** A. S. Goldman, R. J. Nielson, S. I. Johnson, W. A. Goddard

9:30 928. Aryl halide coupling reactions with pincer complexes of group 9 metals. **O. V. Ozerov,** S. D. Timpa, C. J. Pell

9:50 929. Application of new $\text{P}^{\text{O}}\text{C}^{\text{O}}\text{P}$, $\text{P}^{\text{O}}\text{C}^{\text{CH}_2}\text{S}$ and $\text{P}^{\text{O}}\text{C}^{\text{CH}_2}\text{O}\text{P}$ pincer complexes of iridium for catalytic C-H bond functionalization. **L. P. Press,** B. J. McCulloch, C. J. Pell, O. V. Ozerov

10:10 Intermission.

10:20 930. Activation of C-H bonds via iridium pincer complexes: New motifs in protected M(I) low-valent catalysts. **L. Singer,** M. Findlater

10:40 931. Mechanistic studies of intramolecular hydroamination of alkylamines by a zirconium(IV) CCC-NHC pincer complex. **K. N. Leigh,** W. D. Clark, T. K. Hollis, C. E. Webster

11:00 932. Ambiphilic ligands for late-transition-metal catalysis. **B. V. Popp**

11:20 933. Synthesis of PCS bis-pincer complexes and their reactivities. **W. Shih,** L. P. Press, C. M. Palit, O. V. Ozerov

11:40 934. Synthesis of siloxycarbonyls from metal carbonyls with silylium reagents. **B. J. McCulloch,** O. V. Ozerov

Section I

Dallas Convention Center
A307

Environmental and Energy-Related Inorganic Chemistry

S. Koch, *Organizer*
Y. Mao, *Presiding*

8:30 935. Contributions of BrCl , BrOCl , and Br_2O toward bromination rates of aromatic compounds in solutions of aqueous free bromine: Implications for water disinfection. **J. D. Sivey,** D. A. Victor, M. A. Bickley

8:50 936. High water oxidation activity of suspended $\text{BiVO}_4/\text{Co}_3\text{O}_4$ nanocomposite photocatalyst under visible light. **J. Wang,** F. E. Osterloh

9:10 937. Synthesis, energetics and charge separation in rhodium-doped strontium titanate nanocrystals for visible light driven water splitting

photocatalysis. **J. Wang,** B. A. nail, J. Zhao, F. E. Osterloh

9:30 938. ZnO nanoforest: Morphology-tunable synthesis and applications in solar energy conversion. **Y. Mao,** X. Sun

9:50 939. Optimal ratio of polypyrrole decoration on V_2O_5 nanofibers as electrode materials for energy storage. **X. Sun,** Y. Mao

10:10 Intermission.

10:20 940. Photosensitization of a molecular iron catalyst for water oxidation using semiconductor electrodes. **B. M. Klepser,** B. M. Bartlett

10:40 941. Reactions of hydrated nitrates and rare earth oxides with formamide: Relevant to recycling rare metals. **P. W. Samarasekera,** X. Wang, A. J. Jacobson

11:00 942. Pore size tailored metal-organic frameworks with ultrahigh methane uptake. **D. Feng,** H. Zhou

11:20 943. Synthesis of water stable MOFs by post-synthetic exchange of unstable MOFs. **T. Liu,** L. Zou, Y. Chen, H. Zhou

11:40 944. Photochemistry of Pt^{IV} hydroxo complexes and mechanistic studies. **L. A. Wickramasinghe,** P. R. Sharp

12:00 945. Pushing forward the adoption of H_2 and CH_4 in metal-organic-frameworks: A theoretical investigation. **E. Tsvion,** M. Head-Gordon

12:20 946. Studies of aluminum borohydride: From stabilized adducts to a novel hypersalt material. **D. A. Knight,** R. Lascola, R. Mohtadi, P. Sivasubramanian, D. Samanta, P. Jena

THURSDAY AFTERNOON

Section A

Dallas Convention Center
A308

Coordination Chemistry Characterization and Applications

D. Crans, *Organizer*
J. Cirera Fernandez, M. Omary, *Presiding*

1:30 947. Watching a photocatalyst function: Spectroscopic implications for the design of supramolecular photocatalysts for the production of H_2 . **B. Dietzek,** S. Rau

1:50 948. Porous supramolecular boronates: Towards selective adsorption

and detection of benzene. **J. J. Lavigne**

2:10 949. Spectroelectrochemical characterization of metal verdazyl complexes. **D. J. Brook**, D. Chung, E. Johnson

2:30 950. Enhancing zero field splitting parameters in mononuclear vanadium complexes. **M. R. Saber**, S. Hill, K. Thirunavukkuarasu, K. R. Dunbar

2:50 Intermission.

3:05 951. Magnetic, spectroscopic, and structural properties of a *trans*- μ_2 -[TCNQ-TCNQ] $^{2-}$ bridged zinc complex. **J. Kim**, R. Fraleigh, H. P. Yennawar, N. Samarth, B. J. Lear

3:25 952. Accurate calculation of relative energies between different spin states in coordination complexes using density functional methods. **J. Cirera**

3:45 953. Tuning the spin transitions in hexacyanomethylate containing magnetic materials. **C. A. Sanders**, H. Stout, C. Achim, D. Petasis, K. R. Dunbar

4:05 954. Underexplored magnetic architectures based on trivalent titanium and molybdenum. **A. J. Brown**, K. R. Dunbar

Section B

Dallas Convention Center
A303

Organometallic Chemistry Synthesis and Characterization

N. Radu, *Organizer*

L. Slaughter, *Presiding*

1:30 955. Copper(I) and silver(I) complexes of an amido ligand with two pendent carbenes. **V. Adiraju**, M. Yousufuddin, H. Dias

1:50 956. Polynuclear metal complexes for multi-electron reactions. **G. Menard**, T. A. Betley

2:10 957. Investigations of group 11 metal-ethylene complexes. **K. Klimovica**, O. Daugulis

2:30 958. Organometallic chemistry with a hammer: Mechanochemical synthesis of bulky allyl metal complexes containing electropositive metal centers. **N. R. Rightmire**, T. P. Hanusa

2:50 959. Investigation of mechanistic pathways for N-N

bond cleavage with group 5 and 6 dinuclear

pentamethylcyclopentadienyl amidinate dinitrogen complexes of general formula, $\{(\eta^5\text{-C}_5\text{Me}_5\text{M})[\text{N}(\text{i-Pr})\text{C}(\text{X})\text{N}(\text{i-Pr})]\}_2(\mu\text{-}\eta^1\text{-}\eta^1\text{-N}_2)$, for M = V, Nb, Ta, Mo and W. **A. J. Keane**, B. L. Yonke, J. P. Reeds, P. P. Fontaine, M. Hirotsu, P. Y. Zavalij, L. R. Sita

3:10 960. Isolation and reactivity of neutral mono- and dinuclear coinage metal complexes of Cyclic (Alkyl)(amino) carbenes. **D. S. Weinberger**, M. Melaimi, G. Bertrand

3:30 961. Steric protection of polyyynes within rotaxane assemblies. **Z. Baranova**, A. Kalin, J. A. Gladysz

3:50 962. Mechanistic insight into inorganic click (*iClick*) reactions: Cycloadditions between gold(I)-azides and gold(I)-acetylides. **A. R. Powers**, K. A. Abboud, A. S. Veige

4:10 963. Platinum(0) complexes derived from molecular gyroscopes: Synthesis, characterization, and reactivity. **T. Fiedler**, J. A. Gladysz

4:30 964. Niobium-mediated disassembly of benzylic CF₃ groups. **T. L. Gianetti**, J. Arnold, R. G. Bergman

4:50 965. Chemistry of coordinatively unsaturated tantalum alkylidynes. **R. Ramirez**, O. V. Ozerov

5:10 966. Syntheses, structural characterizations and low temperature magnetic studies on paramagnetic trimeric vanadium(IV) and dimeric cobalt(II) clusters. **R. L. Luck**, M. Zeller, J. S. Maass

Section C

Dallas Convention Center
A310

Lanthanide and Actinide Chemistry Coordination Chemistry and Separations

A. de Bettencourt-Dias, *Organizer*
A. E. Gorden, P. Miro Ramirez, *Presiding*

1:30 967. Theoretical studies of the complexation process of lanthanides in separations by solvent extraction. **D. A. Penchoff**, G. K. Schweitzer, B. E. Bursten, R. J. Harrison

1:50 968. Extraction of uranyl from the lanthanide elements in acidic media using dithiophosphinate based ionic liquids. **L. A. Seaman**, B. Ewing, G. S. Goff, W. H. Runde

2:10 969. Quinoxalino salens for actinide sensors and sensing polymers. **A. E. Gorden**, M. A. DeVore, C. D. Tutson, B. A. Maynard, S. Kerns

2:30 Intermission.

2:45 970. Unconventional metal-organic frameworks (UMOFs) for separation of lanthanides from actinides and americium from curium. **R. Silbernagel**, J. D. Burns, T. C. Shehee, D. T. Hobbs, A. Clearfield

3:05 971. Optimization of lanthanide separations using Eichrom's LN resin. **L. M. Arrigo**, C. L. Beck, E. C. Finn, Z. S. Finch, S. J. Gregory, B. N. Seiner, L. A. Snow, L. A. Metz

3:25 972. Thorium mediated synthesis of 2,3-diaminophenazine. **B. A. Maynard**, A. E. Gorden

3:45 Intermission.

4:00 973. What do uranyl-peroxide nanocapsules have in their pockets? **P. Miro Ramirez**, B. Vlasisavjevich, A. Gil, P. C. Burns, M. Nyman, C. Bo, C. J. Cramer, L. Gagliardi

4:20 974. Synthesis and characterization of a new ligand for uranium capture. **K. J. Bernstein**, C. Do-Thanh, D. Penchoff, C. R. Murdock, S. A. Cramer, Z. Lu, R. J. Harrison, J. P. Camden, D. M. Jenkins

4:40 975. Insights into the bonding of Ln-DTPA chelates: A combined experimental/theoretical study. **L. E. Roy**, J. J. Pittman, C. L. Klug, L. R. Martin

5:00 976. Assembly of mixed ligand lanthanide coordination polymers. **R. Zehnder**

Section D

Dallas Convention Center
A305

Main Group Chemistry

N. Radu, *Organizer*
M. A. Juhasz, T. Hudnall, *Presiding*

1:30 977. Copper-promoted cyanation of the *closo*-CB₁₁⁻ cluster: Synthesis and reactivity of 12-CN-*closo*-CHB₁₁H₁₀⁻ and 7,12-(CN)₂-*closo*-CHB₁₁H₉⁻. **M. A. Juhasz**, A. J.

Rosenbaum, D. H. Juers, G. E. Dwulet, H. R. Midget

1:50 978. Luminescent organoboron compounds derived from

salicylidenebenzohydrazide: Synthesis, characterization, structure, and photophysical properties. **R. A. Chan**, V. M. Jimenez, B. M. Muñoz, I. Moggio, E. Arias, M. C. García

2:10 979. Reactivity of acyclic silylenes toward alkenes and alkynes. **F. B. Lips**, P. P. Power

2:30 980. Synthesis and reactivity of stable nucleophilic boron species. **D. A. Ruiz**, M. Melaimi, G. Bertrand

2:50 981. An "inverse" frustrated Lewis pair (FLP) approach toward the activation and heterolytic cleavage of molecular dihydrogen. **H. Li**, C. Krempner, A. J. Aquino, D. B. Cordes, F. Hung-Low, W. L. Hase

3:10 Intermission.

3:20 982. Coordination non-innocence in transition metal stibine complexes. **J. S. Jones**, I. Ke, F. P. Gabbai

3:40 983. Organoantimony(V) Lewis acids as colorimetric and turn-on fluorescence fluoride sensors. **M. Hirai**, F. Gabbai

4:00 984. Synthesis and characterization and isolation of a stable carborane-fused triazole radical anion. **M. Asay**, C. E. Kefalidis, L. Maron, V. Lavallo

4:20 985. Two-electron redox chemistry at the dinuclear core of a SbPt platform: Chlorine photoreductive elimination. **H. Yang**, F. Gabbai

4:40 986. Reactivity studies of carbonyl-decorated carbenes with group 15 element-containing compounds. **T. W. Hudnall**, A. J. Torres, R. R. Rodrigues, C. L. Dorsey

5:00 987. Synthesis and reactivity study of an efficient precursor for transition-metal-free 1,3-dehydro-o-carborane. **D. Zhao**, Z. Xie

Section E

Dallas Convention Center
A303

Chemistry of Materials

C. Lugmair, *Organizer*
G. Salazar-Alvarez, J. Rack, *Presiding*

1:30 988. Core@Shell RE:A₂B₂O₇@A'B'O₃ nanoparticles : Synthesis and luminescence properties. **Y. Mao**

1:50 989. Linking the anomalous magnetic properties of iron oxide nanocubes to their defect structure: Topotaxial oxidation of $\text{Fe}_{1-x}\text{O}|\text{Fe}_3\text{O}_4$ core|shell nanocubes to single-phase particles. E. Wetterskog, C. Tai, J. Grins, L. Bergström, **G. Salazar-Alvarez**

2:10 990. Tuning thermoelectric properties of $\text{Yb}_{14}\text{MnSb}_{11}$ by RE substitution: Synthesis, structure and thermoelectric properties of $\text{Yb}_{14-x}\text{RE}_x\text{MnSb}_{11}$ (RE=Pr and Sm, $0 < x < 1$). **Y. Hu, S. Kauzlarich, S. K. Bux, M. N. Abdusalyamova**

2:30 991. 3D conjugated acceptors: Azadipyromethene based homoleptic Zn(II) complexes. **W. Senevirathna, J. Gu, Z. Mao, G. Sauvé**

2:50 992. Supramolecular aggregates of single-molecule magnets. **T. N. Nguyen, T. Ghosh, M. Shiddiq, W. Wernsdorfer, S. Hill, K. Abboud, G. Chistou**

3:10 993. Interlacing STEM disciplines in the search for new mesoscopic magnetic materials. **C. Lampropoulos, J. M. Cain**

3:30 Intermission.

3:40 994. Light-induced radical trapping (LIRT): Toward photomagnetic switching at room temperature. **H. Phan, K. Lakin, S. M. Winter, R. T. Oakley, M. Shatruk**

4:00 995. Halide substituent effects on difluoroboron β -diketonate mechanochromic luminescence. **W. A. Morris, T. Liu, C. A. DeRosa, C. L. Fraser**

4:20 996. Investigating the formation of thermoelectric nanomaterials synthesized by a modified polyol process. E. E. Rugen, C. F. Holder, **M. E. Anderson**

4:40 997. Phenomena observed in solid-state NMR spectroscopy when adsorbing phosphines, phosphine oxides, and metallocenes on silica surfaces. **J. Bluemel, K. J. Cluff, C. R. Hilliard**

5:00 998. Photomechanical effects in polymers containing photochromic compounds. L. Loftus, Y. Jin, **J. Rack**

5:20 999. Luminescent aluminum salophen complexes incorporated into conducting metallopolymer. **L. A. Mitchell, S. F. Swingle, B. J. Holliday**

Dallas Convention Center
A302

Nanoscience

R. Richards, *Organizer*
F. Osterloh, J. Lytle, *Presiding*

1:30 1000. Self-Propelled Mg-based micromotors for environmental remediation. **W. Gao, X. Feng, A. Pei, Y. Gu, J. Li, J. Wang**

1:50 1001. Integration of molecular and enzymatic catalysts on graphene for biomimetic generation of antithrombotic species. **T. Xue, Y. Huang, X. Duan, M. E. Meyerhoff**

2:10 1002. Optimization of the Fe_2O_3 (hematite) nanocrystal: NaIO_4 photocatalytic water oxidation system. B. L. Harrod, N. Brune, C. Wong, **F. E. Osterloh**

2:30 1003. Self-assembly of catalytic Janus nanomotors. **W. Gao, J. Wang**

2:50 1004. Design of hybrid nanostructures for efficient electron-hole separation in photocatalytic CO_2 reduction and water splitting. **Y. Xiong**

3:10 1005. Nanofabricated, nanostructured LiCoO_2 thin film cathode for Li ion batteries. **M. A. Poyner, D. Teeters**

3:30 Intermission.

3:40 1006. Exciton-plasmon energy exchange in non-epitaxial Au/CdS core/shell nanocrystals. **M. Zamkov, S. Lambright, P. Moroz, S. Ibarra, N. Razgoniaeva**

4:00 1007. Structural and electronic properties of photocatalytic GaN/ZnO alloy-water interfaces. N. Kharche, M. S. Hybertsen, **J. T. Muckerman**

4:20 1008. Interconnected 3D caterpillar-like ZnO networks: Novel structural evolution and enhanced photoelectrochemical water splitting performance. **Y. Mao, Q. Li, X. Sun**

4:40 1009. Imparting stability to $\text{MgO}(111)$ via carbon coating processes. **G. Leong, Z. R. Gertig, M. C. Schulze, A. Ghavam, R. M. Richards**

5:00 1010. How does the surface area of metal-air anodes affect their rate of discharge? M. T. McNally, M. R. Pueringer, H. C. Seal, M. C. Walsworth, **J. C. Lytle**

5:20 1011. Single-walled carbon nanotubes wrapped by helically chiral, ionic,

semiconducting polymers: New nanoscale compositions for energy capture, conversion and storage. **J. Olivier, J. Park, P. Deria, A. S. Kumbhar, M. Andrian-Albescu, M. J. Therien**

Section F