

67. Tetrahydrofuran effect in the synthesis of sialosides. C. De Meo, D. Mueller, M. Farris, N. Ginder, B. Gulley, U. Priyadarshani, M. Woods
68. Heterogeneous synthesis of novel hemi-cellulosic derivatives containing cationic groups and anionic groups. J. Ren, F. Peng, C. Liu, R. Sun
69. Computational study on the interaction of cytosine and its nucleosides with some biological anions. Z. Aliakbar Tehrani, A. Fattahi
70. Isolation, purification and characterization of water-soluble polysaccharide from Anemarrhena Sphodroides Bge. H. Yu, M. Yang, Y. Zhao, Z. Ruan
71. Change of micrograph and molecular structure of micronized potato starch in biodegradation process. F. Hu, L. Chen, Y.-K. He
72. Studies on digestibility and biodegradation of modified high amylose cornstarch as microcapsule wall material. F. Hu, Q.-B. Wen, L. Qiu
73. Study of dyeing poly(lactic acid) fiber with a novel alkyl disperse dyestuff. S.-K. Liao
74. Crosslinking of electrospun hydroxypropyl cellulose nanofibers and their application in drug release. Y. Tian, R. Liu, J. Tan, D. Wang, W. Liu, L. Ma, W. Liu, K. Zheng, Y. Li, Y. Huang
75. Preparation and controlled-release property of new polymer/layered silicate nanocomposites. X. Wang

WEDNESDAY MORNING

Section A

Salt Palace Convention Center
155 E

Symposium in Honor of Morris Robins
Cosponsored by MEDI

P. D. Cook, *Presiding*

M. Peterson, *Organizer, Presiding*

- 8:15 Introductory Remarks.
- 8:20 76. Nucleoside drug discovery: What is its future? P. D. Cook
- 9:00 77. Novel base-modified nucleosides, nucleotides and nucleic acids. M. Hoces
- 9:40 Intermission.
- 10:00 78. Path to antiviral therapy for chronic hepatitis B viral infection. D. L. J. Tyrrell
- 10:40 79. Clevidine (L-FMAU): A unique antiviral agent for the treatment of chronic hepatitis B virus infection. C. K. Chu
- 11:20 80. The synthesis and biological activity of some nucleoside analog inhibitors of Hepatitis C virus RNA polymerase (NS5B). M. MacCoss

WEDNESDAY AFTERNOON

Section A

Salt Palace Convention Center
155 E

Symposium in Honor of Morris Robins
Cosponsored by MEDI

M. Peterson, *Organizer*

A. D. Broom and V. Samano, *Presiding*

- 1:30 81. Synthesis and antiviral profiles of nucleoside analogs. D. C. Liotta, R. F. Schinazi
- 2:10 82. Natural amino acids as leaving group for DNA synthesis using HIV-RT. P. Herdewijn
- 2:50 Intermission.
- 3:20 83. S-Adenosylhomocysteine vs. S-ribosylhomocysteine (LuxS): Similarities and differences between two enzymes. S. F. Wnuk, A. J. Sobczak, V. Malladi, P. R. Sacasa, J.-P. Pitteloud

Please refrain from using cellular telephones and cameras during technical sessions.

- 4:00 84. Antiproliferative and protein kinase binding activities of some N6,5'-bis-ureido 5'-amino-5'-deoxyadenosine derivatives. M. A. Peterson
- 4:40 Concluding Remarks. M. J. Robins.

Section B

Salt Palace Convention Center
155 C

General Papers

T. L. Lowary, *Organizer*

P. R. Andreato, *Presiding*

- 1:20 85. Unprecedented stabilization of acyclic keto tautomers of fructosamine derivatives in crystalline state and solutions. V. V. Mossine, D. L. Chance, C. L. Barnes, R. Glaser, T. P. Mawhinney
- 1:40 86. Cyclodextrins used as solubility enhancer and chiral selector for phenolic compounds through inclusion complexes. H. Kim, S. Jung
- 2:00 87. High-yielding biocatalytic process for the production of 2-O-(α -D-glucopyranosyl)-sn-glycerol, a natural osmolyte and useful moisturizing ingredient. T. Sawangwan, C. Goedl, M. Mueller, A. Schwarz, B. Nidetzky
- 2:20 88. Microbial carbohydrate-doped multilayered carbon nanotubes based on a glassy carbon electrode for monitoring rutin, quercetin and their mixture for selective detection in an aqueous electrolyte. J.-H. Jin, S. Jung
- 2:40 89. Optical rotatory correlations in the 100th year of the Hudson rules. D. Horton, H. S. El Khadem
- 3:00 Intermission.
- 3:20 90. Zwitterionic polysaccharide (PS A1) as an immune elicitor for vaccine development. P. R. Andreato
- 3:40 91. Potent dual action composites. M. D. Leonida, S. Chauhan, N. Philips
- 4:00 92. Synthesis of cellulosic block- and multigraft copolymers via the combination of ATRP and click reaction. R. Liu, Q. Li, Y. Huang
- 4:20 93. Molecular structure of chitosan nanoparticles in solution. R. D. Lins, E. F. Franca, L. C. G. Freitas
- 4:40 94. Effect of metal cationization on guanosine and deoxyguanosine configurations: Changes on sugar puckering and strength of the n-glycosidic bond. M. A. Ahmadi, A. Fattahi

THURSDAY MORNING

Section A

Salt Palace Convention Center
155 E

General Papers

T. L. Lowary, *Organizer*

K. J. Jensen, *Presiding*

- 8:30 95. Cellular heparanomics: A robust approach to define HS-protein interactions. P. Babu, V. M. Tran, B. Kuberan
- 8:50 96. A new paradigm to define the structural basis for heparan sulfate-FGF interactions during zebrafish development. T. K. N. Nguyen, V. M. Tran, E. Veien, R. I. Dorsky, C.-B. Chien, B. Kuberan
- 9:10 97. Chemoselective capture of glycans for analysis on gold nanoparticles. K. J. Jensen
- 9:30 98. Effect of linker length in carbohydrate-lectin interactions. D. M. Lewallen, D. Siler, S. S. Iyer
- 9:50 99. Synthesis of gold and silver nanoparticles stabilized with glycosaminoglycans having distinctive biological activities. M. M. Kemp, A. Kumar, S. Mousa, P. Ajayan, N. Kubotera, S. Mousa, R. J. Linhardt
- 10:10 Intermission.
- 10:30 100. Functional carbohydrate substrates for influenza detection. D. B. Kimball, J. Schmidt, R. Michalczyk, R. R. Kale, S. Iyer
- 10:50 101. Production of 3-deoxy-d-mannooctulosonic acid (KDO) by fermentation for plant lectin binding studies. G. Camci-Unal, N. L. Pohl

- 11:10 102. Functionalization of single walled carbon nanotubes with carbohydrates. S. Y. Hong, G. Tobias, B. Ballesteros, M. L. H. Green, B. G. Davis
- 11:30 103. Carbohydrate screening platform for fractionation, identification and quantification of bioactive oligosaccharides in complex food mixtures. T. M. Slaghek, W. D. van Dongen, J. W. Timmermans, L. Coulier, R. C. Montijn, B. J. Keijser
- 11:50 104. Formation of carbohydrates at the hydrogenation of fullerite. S. Y. Zaginichenko III, D. V. Schur III

THURSDAY AFTERNOON

Section A

Salt Palace Convention Center
155 E

General Papers

T. L. Lowary, *Organizer*

L. A. Agrofoglio, *Presiding*

- 1:20 105. Solution phase automated synthesis of hyaluronan oligomers. L. Liu, N. L. Pohl
- 1:40 106. Enantioselective synthesis of tetrafluorinated carbohydrates. V. Foucher, B. Linclau
- 2:00 107. Acyclic nucleoside phosphonates targeting an antipox activity. H. Kumamoto, J. Broggi, U. Pradere, V. Roy, S. Berteina-Raboin, S. P. Nolan, L. A. Agrofoglio
- 2:20 108. Automated solution-phase synthesis of cellulitis-associated group A streptococcus and Staphylococcus aureus oligosaccharides. H. D. Spangler, N. L. Pohl
- 2:40 109. Automated solution-phase synthesis of beta-mannosides. S.-L. Tang, N. L. Pohl
- 3:00 Intermission.
- 3:20 110. Synthesis of three classes of aryl N-glycosides by solvent control cycloaddition of glycosyl azides and naphthoquinone. J. Zhang, C. W. T. Chang
- 3:40 111. Automated solution phase synthesis of KDO-containing sugars from plant pathogens. S. B. Tsabedze, N. L. Pohl
- 4:00 112. Automated iterative solution-phase synthesis of beta-glucan fragment libraries. S. M. Brokman, N. L. Pohl
- 4:20 113. Synthesis of (+)-1,2,3-triazolo-4'-hydroxymethyl carbanucleosides. L. A. Agrofoglio, N. Joubert, S. Diez-Gonzalez, J. Broggi, S. Berteina-Raboin, S. P. Nolan

CATL

Division of Catalysis Science and Technology (probationary)

B. Zhou, *Program Chair*

SUNDAY MORNING

Section A

Marriott Downtown
Salon H

Chemistry for Catalyst Synthesis
Cosponsored by COLL and I&EC

S. Soled, *Organizer*

- 8:30 Introductory Remarks.
- 8:35 1. Design of catalysts on the nanometer scale. F. Schueth
- 9:20 2. A simple, rational method to prepare supported metal catalysts. J. R. Regalbuto
- 10:05 Intermission.
- 10:20 3. Effect of catalyst preparation solvent on the activity/selectivity and physical properties of a Co/Ru/lanthana/alumina Fischer-Tropsch catalyst. R. P. S. Peguin, K. Cook, W. C. Hecker, C. H. Bartholomew

- 10:45 4. Novel route to fabricating carbon supported PtSn bimetallic nanocatalysts. J. B. Wilking, L. F. Allard, J. Liu
- 11:10 5. Platinum nanocrystals smaller than 10 nm with size and shape control: A study of ethylene and pyrrole hydrogenation. C.-K. Tsung, J. N. Kuhn, W. Huang, G. Somorjai, P. Yang

Refining and Petrochemicals Using Renewable Feedstocks
Transforming Oil Refining into Biorefining
Sponsored by PETR, Cosponsored by CATL (probationary)

SUNDAY AFTERNOON

Section A

Marriott Downtown
Salon H

Chemistry for Catalyst Synthesis
Cosponsored by COLL and I&EC

S. Soled, *Organizer*

- 1:30 Introductory Remarks.
- 1:35 6. Novel molecularly-organized catalysts for selective oxidation and reforming. M. Tada
- 2:20 7. Synthesis of supported metal and metal oxide catalysts. K. P. de Jong
- 3:05 Intermission.
- 3:20 8. Designing cooperative catalysts: Cosalen catalysts for epoxide ring-opening. X. Zheng, C. S. Gill, K. Venkatasubbaiah, S. Jain, T. Takatani, C. D. Sherrill, R. J. Davis, M. Weck, C. W. Jones
- 4:05 9. Surface functionalization of silica for improved stability of nanosized Au particles. A. Staker, A. Sanchez, L. R. Houk, A. K. Datye
- 4:30 10. Design and synthesis of accessible gold surfaces using calixarene-capped nanoparticles. J.-M. Ha, A. Solovyov, A. Katz
- 4:55 Concluding Remarks.

Section B

Marriott Downtown
Salon F

Nanotechnology in Catalysis VI
Cosponsored by COLL, FUEL, I&EC, PETR, and NANO

B. Zhou, J. G. Chen, and P. S. Weiss, *Organizers*

C. H. F. Peden, *Presiding*

- 1:30 11. Reactivity studies on oxide supported metal nanoparticles. H.-J. Freund
- 2:15 12. CO oxidation over noble metals: From single crystals to nanoparticles. D. W. Goodman
- 3:00 13. Active sites and reaction intermediates in CO oxidation, propene epoxidation, and formic acid dehydrogenation on Au-based catalysts. M. Ojeda, E. Iglesia
- 3:30 14. Ultrastrong Au/Al₂O₃ catalyst and its application in aerobic solvent-free benzyl alcohol oxidation. Z. Li, R. M. Richards, C. Kuebel
- 3:50 15. Catalysis on single gold nanocrystals. P. Mulvaney
- 4:10 16. Single molecule imaging of chemical reactions in a liquid-cell STM: Alkene oxidation and alkyne-azide clicking. J. A. Elemans, D. den Boer, B. Hulsken, R. van Hameren, A. Rowan, R. Nolte, S. Speller

Refining and Petrochemicals Using Renewable Feedstocks
New Platform Chemicals and Chemical Building Blocks for Petrochemicals
Sponsored by PETR, Cosponsored by CATL (probationary)

‡ Cooperative Cosponsorship

MONDAY MORNING

Section A

Marriott Downtown
Salon H

Chemistry for Catalyst Synthesis
Cosponsored by COLL and I&EC

S. Soled, *Organizer*

9:00 Introductory Remarks.

9:05 17. Molecular sieve catalysts and the challenges to bringing forward new materials. **S. I. Zones**

9:50 18. Synthesis of chromates in chroma-siloxane ring structures as active site models for the Phillips' catalyst. **S. L. Scott**, C. A. Demmelmaier, R. E. White, Y.-J. Wanglee

10:35 Intermission.

10:50 19. Improvement in catalytic activity of Al-MCM-41 mesoporous molecular sieve. **S. P. Naik**, S. Bali, H. Du, E. M. Eyring, J. D. Miller, W. Zmierczak

11:15 20. Synthesis and structural studies of metal (Cr, Zn and Bi) carboxylate liquids. **R. T. Hart Jr.**, N. A. Eckert, J. K. Ngala, A. F. Polley, C. J. Benmore, A. Clark, S. Macha

11:40 21. Mechanism and isotope effect of ammonia synthesis over Fe and Ru catalysts. **J. Lin**, **D. Liao**, H. Zhang, H. Wan, K. Tsai

12:05 Concluding Remarks.

Section B

Marriott Downtown
Salon F

Nanotechnology in Catalysis VI
Cosponsored by COLL, FUEL, I&EC, PETR, and NANO

J. G. Chen and P. S. Weiss, *Organizers*

B. Zhou, *Organizer, Presiding*

9:00 22. Synthesis, characterization, and investigation of well-defined catalytically active sites. **A. T. Bell**

9:45 23. Consequences of spatial constraints within zeolites for monomolecular activation of alkanes on acid sites. **R. Gounder**, **E. Iglesias**

10:30 24. Chemically active small nanoparticles for high temperature catalysis. **T. Guo**

11:00 25. Nanotechnology in fuel cell catalysis: Nanoengineered multimetallic catalysts. **C.-J. Zhong**

11:30 26. Nanostructured heterogeneous catalysts: One more step to an atomic scale design of the active surface. **D. Uzio**

MONDAY AFTERNOON

Section A

Marriott Downtown
Salon H

Catalysis for Cellulosic Feedstock Conversion Cosponsored by CELL, COLL, FUEL, I&EC, and PETR

G. W. Huber, *Organizer*

1:00 27. Biomass dissolution and conversion in ionic liquids. **A. T. Bell**, S. Dee, M. Chidambaram, S. Jayanti

1:25 28. Selective hydrogenolysis of acetic acid to ethanol on Ru surfaces. **Y. Xu**

1:50 29. Investigating catalyst design strategies for selective reaction of cyclic C4 oxygenates. **J. W. Medlin**, C. Horiuchi

2:15 30. Desulfurization of biomass-derived syngas. **S. Cheah**, K. A. Magrini-Bair

2:40 31. Catalytic pyrolysis of biomass for biofuel production. **S. R. Czernik**, R. J. French

3:05 32. Effect of minerals on fast pyrolysis of cellulose. **P. R. Patwardhan**, J. A. Satrio, R. C. Brown, B. H. Shanks

3:30 33. Hydrocarbon fuel production via biomass pyrolysis. **P. Steele**, S. Gajjela, F. Yu, G. L. Gresham

3:55 34. Production of hydrogen and alkanes by aqueous phase processing of aqueous fraction of bio-oil. **T. P. Vispute**, G. W. Huber

4:20 35. Model compound studies of small aldehyde condensation reactions. **S. P. Crossley**, Q. Amen, L. L. Lobban, R. G. Mallinson, D. E. Resasco

4:45 36. Exploratory studies on characterization of upgraded bio-oils and their distilled fractions. **S. Gajjela**, E.-B. M. Hassan, F. Yu, P. Steele

Section B

Marriott Downtown
Salon F

Nanotechnology in Catalysis VI
Cosponsored by COLL, FUEL, I&EC, PETR, and NANO

J. G. Chen and P. S. Weiss, *Organizers*

B. Zhou, *Organizer, Presiding*

1:30 37. The nanoscience revolution of catalysis science. **G. A. Somorjai**

2:30 38. Nanocage structures for catalytic materials. **H. H. Kung**, M. C. Kung

3:15 39. Self-assembly synthetic methods for the preparation of heterogeneous catalysts with novel architectures. **I. Lee**, J. Ge, T. Zhang, Y. Yin, **F. Zaera**

3:45 40. Building catalytic nanoarchitectures: Challenges. **J. Liu**

4:15 41. Reaction-driven restructuring of bimetallic nanoparticle systems. **F. Tao**, M. E. Grass, Y. Zhang, D. R. Butcher, J. R. Renzas, Z. Liu, J. Y. Chung, B. S. Mun, M. Salmeron, G. A. Somorjai

Catalysis in Fuel Chemistry
Catalytic Upgrading of Fuels Sponsored by FUEL, Cosponsored by CATL (probationary)

MONDAY EVENING

Section A

Salt Palace Convention Center
Hall 5

Sci-Mix Cosponsored by COLL, FUEL, I&EC, and PETR

B. Zhou, *Organizer*

8:00-10:00

42. Ammonia synthesis over BaF₂ or BaO promoted Ru/MgO catalysts and dipole interaction. **J. Lin**, **D. Liao**, H. Zhang, H. Wan, K. Tsai

43. Entrapment of Candida antarctic lipase B in sol-gel glass matrix. **H. Zhihong**, T. Wenli, **G. Jing**, L. Weijie, W. Lihua

44. Heterogeneous oxidation of 5-ethyl-2-methylpyridine over vanadium-titanium oxide catalysts. **Y. Alkayeva**, **K.-A. Cyzeski**, J. J. McMahon, G. Zenkovets, A. Shutlov

45. Immobilized-lipase catalyzed preparation of biodiesel from Jatropha oil. **G. Jing**, M. Li, H. Zhihong, L. Weijie, H. Ying

46. Mesoporous ZSM-5 synthesis and catalytic activity in the liquid-phase isomerization of α -pinene. **L. Dai**, Z. Yan

47. Microwave synthesis and characterization of MCM-41 molecular sieve containing hetero atom and aluminosilicate units and alkylation of benzene. **L. C. Cuiqing**

48. Preparation and catalytic performance of Ga₂O₃ powders with nanoholes. **Y. Li**, C. Hu, W. Chen, J. Hu, Y. Li, Y. Wu, J. Luo, X. Feng

49. Research into eliminating particulate from diesel engine exhaust over zeolite covered with perovskite-type oxides catalysts. **H. Wang**, J. Wang, C. Li, Y. Song, X. Ren, Y. Chi

50. Study on the synthesis of anthraquinone from phthalic anhydride and benzene over modified beta solid acid catalyst. **Z. Jia**, C.-Y. Jiang

51. Surface acidity and photocatalytic activity of TiO₂/SiO₂ catalysts prepared by atomic layer deposition. **J. Lu**, A. Danon, P. C. Stair, K. M. Kosuda, R. P. Van Duyne

52. Synthesis of small platinum nanoclusters via soft a crystalline surfactant-PtII complex and their application in heterogeneous catalysis. **S. Praharaj**, C. T. Williams, J. W. Weidner

TUESDAY MORNING

Section A

Marriott Downtown
Salon H

George A. Olah Award in Hydrocarbon or Petroleum Chemistry: Symposium in Honor of Cynthia M. Friend
Catalysis and Reaction Mechanisms
Cosponsored by COLL, FUEL, I&EC, PETR, WCC, and PHYS

H. Freund, *Organizer*

D. A. Chen, *Organizer, Presiding*

8:00 Introductory Remarks.

8:05 53. Surface chemistry of carbon-carbon bond formation between hydrocarbon moieties adsorbed on transition metals. **M. Shen**, **F. Zaera**

8:35 54. Mechanisms of the Fischer-Tropsch reaction. **R. A. van Santen**

9:05 55. Promoter effects in styrene oxidation on silver surfaces. **R. J. Madix**, L. Zhou

9:35 Introduction of Award Address.

9:50 56. **Award Address** (George A. Olah Award in Hydrocarbon or Petroleum Chemistry, sponsored by George A. Olah Endowment Fund). The surface chemistry of hydrocarbon oxidation on metal surfaces. **C. M. Friend**, X. Deng, X. Liu, B. Xu

10:35 57. Oxidation chemistry on oxygen precovered gold. **C. B. Mullins**

11:05 58. Properties of small Au clusters adsorbed on titania. **H. Metiu**

11:35 59. Trends in the catalytic CO oxidation activity of nanoparticles. **J. K. Norskov**

Section B

Marriott Downtown
Salon B

Nanotechnology in Catalysis VI
Cosponsored by COLL, FUEL, I&EC, PETR, and NANO

B. Zhou and P. S. Weiss, *Organizers*

J. G. Chen, *Organizer, Presiding*

9:00 60. Controlling catalytic properties with oxide nanoligands. **I. E. Wachs**, C. A. Roberts, S. P. Phivlay, K. F. Doura, C. J. Kiely, A. Burrows

9:45 61. Catalytic activities of iron oxide nanoparticles in biomass combustion. **P. Li**, E.-J. Shin, D. E. Miser, M. R. Hajjaligol, F. Rasouli, W. G. Chan

10:15 62. Nanoscale catalysts for water-gas shift reaction. **J. Hrbek**, J. B. Park, D. Stacchiola, S. Senanayake, S. Ma, J. Graciani, P. Liu, J. A. Rodriguez

10:35 63. One-pot synthesis of exceptionally stable bimetallic nanocatalysts. **A. Cao**, C. Hughes, G. Vesper

10:55 64. A fullerene catalyst for conversion of ethyl benzene to styrene. **S. R. Kal**

11:15 65. Sinter-resistant noble metal nanoparticles in sol-gel containers. **H. Koller**, N. Wichner, G. Rothenberg

11:35 66. Liquid phase trans-stilbene epoxidation over catalytically active cobalt substituted TUD-1 mesoporous materials (Co-TUD-1) using molecular oxygen. **X.-Y. Quek**, Q. Tang, S. Hu, **Y. Yang**

Catalysis in Fuel Chemistry
Catalytic Upgrading of Fuels Sponsored by FUEL, Cosponsored by CATL (probationary)

TUESDAY AFTERNOON

Section A

Marriott Downtown
Salon H

George A. Olah Award in Hydrocarbon or Petroleum Chemistry: Symposium in Honor of Cynthia M. Friend
Surface Chemistry of Oxides Cosponsored by COLL, FUEL, I&EC, PETR, WCC, and PHYS

D. A. Chen, *Organizer*

H. Freund, *Organizer, Presiding*

2:00 67. Defect sites and their distributions on MgO(100) by Li and Ca adsorption calorimetry. **C. Campbell**, J. Farmer, G. Henkelman, L. Xu

2:30 68. Breaking catalysis science barriers of heterogeneous catalysts with operando molecular spectroscopy experiments. **I. E. Wachs**

3:00 69. Raman spectroscopy studies of coke formation chemistry. **P. C. Stair**, Z. Wu, C. Zhang, P. Allotta

3:30 70. Selective growth of iron oxide nanoparticles on Au(111). **X. Deng**, C. Matranga

4:00 71. Adsorption and complete oxidation of propane on a PdO(101) thin film. **J. F. Weaver**, S. P. Devarajan, C. Hakanoglu, H. H. Kan

4:30 72. New ways for easy preparation of ultrathin carbon free rare earth oxide films. **K. Al-Shamery**

5:00 73. Photochemical activities of nitrogen doped rutile and anatase surfaces. **M. A. Henderson**

Section B

Marriott Downtown
Salon B

Nanotechnology in Catalysis VI
Cosponsored by COLL, FUEL, I&EC, PETR, and NANO

B. Zhou and J. G. Chen, *Organizers*

P. S. Weiss, *Organizer, Presiding*

1:30 74. Nanostructural formation of Pd-Co nanoparticles on HOPG surfaces and high surface area carbon support. **L. Arroyo-Hamirez**, R. Montano-Serrano, R. Raptis, **C. R. Cabrera**

2:00 75. Electrodeposition of Pt nanoparticles at high surface area carbon support materials. **D. Santiago**, A. Palkar, M. A. Scibioh, L. Echeogoyen, M. J. Yacamán, **C. R. Cabrera**

2:30 76. Synthesis of nanoporous platinum for catalysis applications. **A. Antoniou**

2:50 77. Catalytic reduction of nitroaromatic compounds by nanoparticle-containing membranes. **D. M. Dotzauer**, M. L. Bruening

3:10 78. Catalytic, hollow-fiber membranes prepared using layer-by-layer adsorption of metal nanoparticles. **L. Ouyang**, D. M. Dotzauer, J. Macanas, M. L. Bruening

3:30 79. Study on the effects of calcination on carbon nanotubes supported cobalt-based Fischer-Tropsch catalyst. **J. Lv**, **Z. Li**, C. Huang

Catalysis in Fuel Chemistry
ACS Award for Team Innovation:
Emissions Control Catalysis Sponsored by FUEL, Cosponsored by CATL (probationary)

The official technical program for the 237th National Meeting is available online at oasys2.confex.com/acs/237nm/techprogram/.

WEDNESDAY MORNING

Section A

Marriott Downtown
Salon H

George A. Olah Award in Hydrocarbon or Petroleum Chemistry: Symposium in Honor of Cynthia M. Friend
Bimetallics and Electrocatalysis
Cosponsored by COLL, FUEL, I&EC, PETR, WCC, and PHYS

D. A. Chen and H. Freund, *Organizers*

K. Queeeny, *Presiding*

8:30 80. Atomic-scale surface chemistry of catalytically important bimetallic alloys. **E. C. H. Sykes**

9:00 81. Probing selectivity by using reactions of *n*-C₆ hydrocarbons on model Pt-Sn alloy catalysts. **B. E. Koel**

9:30 82. New materials for catalysis. **M. Baeumer**, A. Wittstock, J. Biener, B. Juergens, P. Sonstroom, X. Wang, V. Zielasek, A. Hamza, C. M. Friend

10:00 83. First-principles approaches for improved heterogeneous catalysis. **M. Mavrikakis**

10:30 84. First-principle insights into the mechanisms for the electrooxidation of methanol and formic acid. **M. Neurock**

11:00 85. Exploring experimental vibrational spectra of surface intermediates using DFT modeling. **P. Uvdal**

11:30 86. Conduction in confined molecular assemblies. **J. D. Batteas**

Section B

Marriott Downtown
Salon F

Nanotechnology in Catalysis VI
Cosponsored by COLL, FUEL, I&EC, PETR, and NANO

B. Zhou, J. G. Chen, and P. S. Weiss, *Organizers*

J. R. Kitchin, *Presiding*

9:00 87. Engineering selectivity in heterogeneous catalysis: The impact of Ag surface structure (shape of nanoparticle) on selectivity in steady-state catalytic ethylene epoxidation. **P. Christopher, S. Linc**

9:30 88. In situ combined GISAXS and TPR studies of size-selected nanocatalysts: A new approach to investigate size effects in catalysis. **S. Lee**, L. M. Molina, M. J. Lopez, J. M. Alonso, B. Hammer, B. Lee, S. Seifert, R. E. Winans, J. W. Elam, M. J. Pellin, K. Sell, I. Barke, V. von Oeynhausen, K-H. Meiwes-Broer, S. Vajda

10:00 89. First principle modeling of catalyst nanoparticle synthesis. **G. Mpourmpakis**, D. G. Vlachos

10:20 90. First principles calculations of supported catalysts: CO binding on MgO supported gold clusters for the CO oxidation reaction. **G. Mpourmpakis**, D. G. Vlachos

10:40 91. Development and application of 3-D simulator for sintering and grain growth. **A. Suzuki**, K. Nakamura, R. Sato, K. Okushi, M. Koyama, H. Tsuboi, N. Hatakeyama, A. Endou, H. Takaba, C. A. Del Carpio, M. Kubo, A. Miyamoto

Catalysis in Fuel Chemistry
Biomass and Alternative Fuels Sponsored by FUEL, Cosponsored by CATL (probationary)

‡ Cooperative Cosponsorship

WEDNESDAY AFTERNOON

Section A

Marriott Downtown
Salon H

George A. Olah Award in Hydrocarbon or Petroleum Chemistry: Symposium in Honor of Cynthia M. Friend
Surface Characterization and Chemistry
Cosponsored by COLL, FUEL, I&EC, PETR, WCC, and PHYS

D. A. Chen and H. Freund, *Organizers*

R. J. Madix, *Presiding*

2:00 92. Waiting to be made. **R. Hoffmann**

2:30 93. Selective transformations of organic compounds mediated by transition metal complexes. **R. G. Bergman**

3:00 94. Surface plasmon enhanced photoluminescence from noble metal/CdS hybrid semiconductor nanowires. **J. C. Hemminger**, W. Luo, S. C. Kung, R. M. Penner

3:30 95. Environmental catalysis in the Earth's atmosphere: Heterogeneous reactions of trace atmospheric gases on carbonate and oxide surfaces. **V. H. Grassian**

4:00 96. Surface functionalization of aerosol nanoparticles for materials applications. **J. T. Roberts**

4:30 97. Aqueous oxidation of H-Si(100): The critical role of surface etching. **K. Queeeny**, M. Kulkarni, S. K. Green

5:00 98. Heterogeneous olefin oxidation studied by vibrational sum frequency generation. **F. M. Geiger**, A. M. Buchbinder, G. Y. Stokes

Section B

Marriott Downtown
Salon F

Nanotechnology in Catalysis VI
Cosponsored by COLL, FUEL, I&EC, PETR, and NANO

B. Zhou, J. G. Chen, and P. S. Weiss, *Organizers*

W. Huang, *Presiding*

1:30 99. CO oxidation by Ti and Al doped ZnO: The heteroatom activation of adsorbed oxygen. **W. Tang**, R. G. S. Pala, E. W. McFarland, H. Mettu

1:50 100. Solar hydrogen production by photo-oxidation of water from doped iron oxide photoanodes. **A. Kleiman-Shwarsstein**, A. Forman, Y.-S. Hu, G. D. Stucky, E. W. McFarland

2:10 101. Visual light and oxidants coactive TiO₂ in photocatalyzing AO7 and RhB. **Y. S. Wang**, J. J. Horng

2:30 102. Reuse TiO₂ to photocatalyze AO7 and RhB. C. Y. Chang, J. J. Horng, Y. S. Wang

2:50 103. Uniform Ni-Co alloy nanoparticle: Chemical synthesis in hydrogen atmosphere and selectively catalytic hydrogenation of p-chloronitrobenzene. **H. Zhang**, G. Que, D. Liu

Catalysis in Fuel Chemistry
Characterization of Catalytic Systems
Sponsored by FUEL, Cosponsored by CATL (probationary)

THURSDAY MORNING

Section A

Marriott Downtown
Salon H

Catalysis for Coal Conversion Cosponsored by FUEL and I&EC

B. H. Davis, *Organizer*

8:30 104. Coal liquefaction: The reaction pathway and the politics. **B. H. Davis**, R. A. Keogh

8:55 105. Withdrawn.

9:20 106. Solid-state hydrogenation/hydrogenolysis of high-rank bituminous coals with gaseous catalysts. **M. W. Haenel**, U.-B. Richter, A. Rufinska

9:45 107. Recent advances in direct coal liquefaction technology. **J. Lepinski**, S. Tam, T. Lee

10:10 108. A XANES and XRD study of a Cr-promoted Fe-based FT catalyst. **A. Campos**, N. Lohitham, G. Merchan, E. Lotero, A. D. Roy, J. G. Goodwin Jr., J. J. Spivey

10:35 109. Effect of ruthenium deposition order on cobalt Fischer Tropsch catalysts. **K. M. Cook**, R. P. S. Peguin, W. C. Hecker, C. H. Bartholomew

11:00 110. Group 11 promotion of cobalt Fischer-Tropsch synthesis catalysts. **G. Jacobs**, W. Ma, M. Ribeiro, Y. Ji, B. H. Davis

11:25 111. Effect of phosphorus on the acidity and catalytic performance of ZSM-5 with alumina binder for dehydration of methanol to dimethyl ether. **Q. Fu**

Catalysis in Fuel Chemistry
Catalysis for Fuel Cells Sponsored by FUEL, Cosponsored by CATL (probationary)

THURSDAY AFTERNOON

Catalysis in Fuel Chemistry
Carbon Catalysis Sponsored by FUEL, Cosponsored by CATL (probationary)

CELL

Division of Cellulose & Renewable Materials

S. J. Eichhorn and O. J. Rojas, *Program Chairs*

SOCIAL EVENT:
AP Banquet, 7:00 PM: Tue

BUSINESS MEETINGS:
1. Executive Committee Meeting, 5:00 PM: Sat
2. Division Program Meeting, 5:00 PM: Mon
3. Open Business Meeting, 5:30 PM: Wed

SUNDAY MORNING

Section A

Marriott Downtown
Salon G

Anselme Payen Symposium: Wood Components: Molecular Structure, Nanoarchitecture and Source for Functionalized Biomaterials Cosponsored by NANO

T. Rosenau, O. J. Rojas, and T. Umezawa, *Organizers*

T. Kimura and J. F. Kadla, *Organizers*, *Presiding*

7:55 Introductory Remarks.

8:00 1. Transgenic trees as potential feedstock for bioethanol production. **V. L. Chiang**

8:30 2. In vitro beta-glucan synthesis of plant cells. Y. Horikawa, C. Ito, T. Imai, V. Bulone, J. Sugiyama

9:00 3. Stereochemical mechanisms for lignan and norlignan biosynthesis. T. Nakatsubo, M. Yamamura, S. Suzuki, H. Takefumi, T. Umezawa

9:30 4. Novel polymeric materials derived from wood components. **A. Gandini**

10:00 Intermission.

10:15 5. Novel synthesis of gold nanoparticles for in situ conjugation with various carbohydrates via an NMMO-mediated redox reaction. **T. Kitaoka**, S. Yokota, M. Opietnik, T. Rosenau

10:45 6. Platform chemicals from a hardwood biorefinery. **B. Saake**, A. Schreiber, J. Puls

11:15 7. Molecular mechanisms in wood pyrolysis. **H. Kawamoto**

Section B

Marriott Downtown
Salon C

Cellulose in Conservation Science

A. Potthast, *Organizer*

8:25 Introductory Remarks.

8:30 8. Chemistry for conservation of artworks. **H. Roemich**

9:00 9. Mass deacidification technology in Germany and its quality control. **G. Banik**, T. Doehring

9:30 10. Hydroxide nanoparticles for deacidification of paper and waterlogged wood. **P. Baglioni**, R. Giorgi, G. Poggi

10:00 Intermission.

10:15 11. Mass spectroscopic analysis of soluble cellulose oligomers in naturally and artificially aged paper. **C. H. Stephens**, B. Shrestha, P. M. Whitmore, H. R. Morris, M. E. Bier, A. Vertes

10:45 12. Degradation of cellulose: Classical isothermal vs. UV laser accelerated aging. **J. Jalbert**, M. A. El Khakani, R. Gilbert

11:15 13. Cellulose depolymerization induced by iron gall inks: The impact of ink ingredients, oxygen and humidity. **V. Rouchon**, K. Janssens, C. Burgaud, A. Dorsch, M. Duranton, G. Nuyst, Y. Vercaemmen

Section C

Marriott Downtown
Deer Valley 1

Studies of Molecular Structure of Renewable Material

R. Woods and A. French, *Organizers*, *Presiding*

7:55 Introductory Remarks.

8:00 14. Side reactions of cellulose with common 1-alkyl-3-methylimidazolium-based ionic liquids. **T. Rosenau**, A. Potthast, G. Ebner

8:30 15. Structural pathways in the treatment of cellulose with amines. M. Wada, Y. Nishiyama, L. Heux, H. Chanzy, **P. Langan**

9:00 16. Secondary cell wall development in cotton fibers. **N. Abidi**, E. Hequet, L. Cabrales

9:30 17. Identifying molecular structural features of biomass recalcitrance using nondestructive microscopy and spectroscopy. **S.-Y. Ding**

10:00 Intermission.

10:15 18. Self-assembly of cellulose polymers: Insights into different crystalline forms. **T. Shen**, P. Langan, A. D. French, G. P. Johnson, S. Gnanakaran

10:45 19. On the external morphology of the native cellulose fibres. **K. Mazzeu**

11:15 20. Quantitative analysis of cellulose-hydrazine complexation. **X. Su**, S. Kimura, M. Wada, S. Kuga

Please refrain from using cellular telephones and cameras during technical sessions.