

2000

- 786 (838) Formation of C_mH_n (M >= 3, N <= M) Hydrocarbons from C-1 and C-2 Molecules by High-Temperature (>= 1000 °C), Short-Contact-Time (1-10 Ms) Nozzle Beam Reactions, L. Romm and G. A. Somorjai, *Cat. Lett.* **64**, 85-93 (2000). LBNL-46657
- 787 (816) Fabrication and Characterization of the Ag-Based High Technology Model Nanocluster Catalyst for Ethylene Epoxidation Manufactured by Electron Beam Lithography, A. Avoyan, G. Rupprechter, A. Eppler, and G.A. Somorjai, *Topics in Catalysis* **10**, 107-113 (2000). LBNL-44081
- 788 (805) Transitions from Nanoscale to Microscale Dynamic Friction Mechanisms on Polyethylene and Silicon Surfaces, S. Niederberger, D.H. Gracias, K. Komvopoulos, and G.A. Somorjai, *J. Appl. Phys.* **87**, 3143-3150 (2000). LBNL-44001
- 789 (823) Structure of Confined Films of Chain Alcohols, F. Mugele, S. Baldelli, M. Salmeron, and G.A. Somorjai, *J. Phys. Chem. B* **104**, 3140-3144 (2000). LBNL-44332
- 790 (825) Translated to Hungarian MKL 2003.58.Evfolyam.6 Szem 210.
- 791 (839) Reaction Pathway Studies of C₆ Hydrocarbons on Palladium Model Catalysts: Effects of Hydrogen/Hydrocarbon Ratio, Molecular Structure, Surface Structure, and Temperature, A.L.D. Ramos, S.H. Kim, P. Chen, J.H. Song, and G.A. Somorjai, *Catal. Lett.* **66**, 5-11 (2000). LBNL-46659
- 792 (793) Equilibrium Surface Composition of Sulfuric Acid Films in Contact with Various Atmospheric Gases (HNO₂, CO₂, CH₂O, Cl₂, NO, and NO₂), D.H. Fairbrother, H. Johnston, and G.A. Somorjai, *J. Phys. Chem. B* **104**, 4649-4652 (2000). LBNL-42250
- 793 (829) Hydrodechlorination of Dichlorodifluoromethane over Palladium Model Catalysts and a Comparison with the Hydrodechlorination of 1,1-dichlorotetrafluoroethane, A.L.D. Ramos, M. Schmal, D.A.G. Aranda, and G.A. Somorjai, *J. Catal.* **192**, 423-431(2000). LBNL-46660
- 794 (834) Model Catalysts Fabricated by Electron Beam Lithography: AFM and TPD Surface Studies and Hydrogenation/Dehydrogenation of Cyclohexene + H₂ on a Pt Nanoparticle Array Supported by Silica, A.S. Eppler, J. Zhu, E.A. Anderson, and G.A. Somorjai, *Top. in Cat.* **13**, 33-41 (2000). LBNL-46661
- 795 (815) Dense Structures Formed by CO on Rh(111) Studied by Scanning Tunneling Microscopy, P. Cernota, K. Rider, H. A. Yoon, M. Salmeron, and G.A. Somorjai, *Surf. Sci.* **445**, 249-255 (2000). LBNL-43269
- 796 (845) Az Anyagfelületek Vizsgálatától a Felületi Technológiákig, G.A. Somorjai, *Mag. Kém. Fol.* **105** (trans. 2000).
- 797 (812) Heterogenous Catalysis since Berzelius: Some Personal Reflections—Preface. G. A. Somorjai, *Catal. Lett.* **67**, iii (2000). LBNL-46784

- 798 (847) Polymer Growth Mode on the Heterogeneous Ziegler-Natta Catalyst: Active Sites at the Bottom of the Growing Polymer Layer, S. H. Kim and G. A. Somorjai, *Catal. Lett.* **68**, 7-11 (2000). LBNL- 46780
- 799 (842) Direct Measurement of Polymer Growth Rate in a Model Ziegler-Natta Polymerization System Using Laser Reflection Interferometry, S.H. Kim, G. Vurens, and G.A. Somorjai, *J. Catal.* **193**, 171-175 (2000). LBNL-46673
- 800 (837) Thermal and Chemical Stability and Adhesion Strength of Pt Nanoparticle Arrays Supported on Silica Studied by TEM and AFM, A.S. Eppler, G. Rupprechter, E.A. Anderson, and G.A. Somorjai, *J. Phys. Chem. B* **104**, 7286-7292 (2000). LBNL-46670
- 801 (822) TPD Characterization of Surface Adsorption Sites of Model Ziegler-Natta Polymerization Catalysts, S.H. Kim, and G.A. Somorjai, *Appl. Surf. Sci.* **161**, 333-339 (2000). LBNL-46667
- 802 (832) Surface Science Studies of Model Ziegler-Natta Polymerization Catalysts, S.H. Kim, E. Magni, and G.A. Somorjai, *Stud. Surf. Sci. Catal* **130**, 3861 (2000).LBNL-46666
- 803 (828) Nanoparticle Arrays as Model Catalysts: Microstructure, Thermal Stability and Reactivity of Pt/SiO₂ and Ag/Al₂O₃ Fabricated by Electron Beam Lithography, G. Rupprechter, A. S. Eppler, A. Avoyan, and G.A. Somorjai, *Stud. Surf. Sci. Catal* **130A**, 215-220 (2000).LBNL- 46665
- 804 (826) Sum Frequency Generation (SFG)-Surface Vibrational Spectroscopy Studies of Catalytic Reactions on Metal Single Crystal Surfaces, K. McCrea and G.A. Somorjai, *Adv. in Catalysis* **45**, 385-438 (2000). LBNL-46677
- 805 (841) Sum Frequency Generation Spectroscopic Study of CO Adsorption and Dissociation on Pt(111) at High Pressure and Temperature, K. Y. Kung, P. Chen, F. Wei, Y. R. Shen, and G. A. Somorjai, *Surf. Sci.* **463**, 627 (2000). LBNL-46672
- 806 (819) Detection of Hydrophobic End Groups on Polymer Surfaces by Sum Frequency Generation Vibrational Spectroscopy, Z. Chen, R. Ward, Y. Tian, S. Baldelli, Y.-R. Shen, and G.A. Somorjai, *J. Am. Chem. Soc.* **122**, 10615 (2000). LBNL-44085
- 807 (833) Model Ziegler-Natta Polymerization Catalysis Fabricated by Reactions of Mg Metal and TiCl₄: Film Structure, Composition and Decomposition Kinetics, S.H. Kim, and G.A. Somorjai, *J. Phys. Chem.B* **104**, 5519 (2000). LBNL-46667
- 808 (699) Surface Chemistry, G.A. Somorjai, in *The New Chemistry*, N. Hall, ed., 137-167, Cambridge University Press ((2000)). LBNL-36979
- 809 (840) Surface Enhanced Sum Frequency Generation of Carbon Monoxide Adsorbed on Platinum Nanoparticle Arrays, S. Baldelli, A.S. Eppler, E. Anderson, Y.R. Shen, and G.A. Somorjai, *J.. Chem. Phys.* **113**, 5432 (2000). LBNL-46671

- 810 (859) Low Energy Electron Diffraction (LEED), C. A. Gerken, G. A. Somorjai, *Methods in Materials Research*, 11c.1.1-11c.1.17 (2000). LBNL-47105
- 811 (846) SFG-Surface Vibrational Spectroscopy Studies of Structure Sensitivity and Insensitivity in Catalytic Reactions: Cyclohexene Dehydrogenation and Ethylene Hydrogenation on Pt(111) and Pt(100) Crystal Surfaces, K.R. McCrea and G.A. Somorjai, *J. Mol. Catal. A* **163**, 43 (2000). LBNL-46663
- 812 (836) Surface Characterization of the TiCl_x/MgCl₂ Model Ziegler-Natta Polymerization Catalysts: Adsorption Site Studies Using Mesitylene Thermal Desorption, S.H. Kim, C.R. Tewell, G.A. Somorjai, *Langmuir* **16**, 9414 (2000). LBNL-46669
- 813 (866) Gold-Induced MgCl₂ Reduction by AlEt₃. Surface Science Study of a Novel Reaction and Its Potential Application in Ziegler-Natta Catalysis, E. Magni, T. I. Koranyi, G. A. Somorjai, *Langmuir* **16**, 8113 (2000). LBNL-47648.
- 814 (872) Model Catalysts Fabricated Using Electron beam Lithography and Pulsed Laser Deposition, L. Guczi, G. A. Somorjai, A. S. Eppler, Z. Paszti, G. Peto and G. Rupprecheter, *Magy. Kem. Lapja* **55**, 62-67 (2000). LBNL-47839.

2001

- 815 (864) Kinetics for the Hydrodechlorination of Chlorofluorocarbons over Model Palladium Catalysts" Fabio H. Ribeiro and Gabor A. Somorjai, in P. T. Anastas, L. Bartlett, and T. C. Williamson (Editors), Green Engineering, ACS Symposium Series 766, Washington, D.C., 2001, Chapter 15, 192-204. LBNL-46655
- 816 (848) Ultrahigh Vacuum High-Pressure Reaction System for 2-Infrared 1-Visible Sum Frequency Generation Studies, K. Y. Kung, P. Chen, F. Wei, G. Rupprechter, Y. R. Shen, and G. A. Somorjai, *Rev. Sci. Instrum.* **72**, 1806 (2001). LBNL-46779
- 817 (850) Potential Dependent Orientation of Acetonitrile on Platinum (111) Electrode Surface Studied by Sum Frequency Generation, S. Baldelli, G. Mailhot, P. Ross, Y. R. Shen, and G. A. Somorjai, *J. Phys. Chem. B* **105**, 654-662 (2001). LBNL-46783
- 818 (855) Polymer Surface Science, A. Opdahl, S. Hoffer, B. Mailhot, G. A. Somorjai, *Chem. Rec.* **1** 101 (2001). LBNL-46883
- 819 (870) *In-situ* Characterization of Ziegler-Natta Polymerization: Laser Reflection Interferometry, X-Ray Photoelectron Spectroscopy and Thermal Desorption of Probe Molecule, S. H. Kim, D. Gnani, G. A. Somorjai, *Polymer Preprints* **42**, 331 (2001). LBNL-47834
- 820 (854) Mechanical and Friction Properties of Thermoplastic Polyurethanes Determined by Scanning Force Microscopy, B. Mailhot, K. Komvopoulos, B. Ward, Y. Tian, and G. A. Somorjai, *J. Appl. Phys.* **89**, 5712 (2001). LBNL-46821
- 821 (858) Structure and Dynamics of Dense Monolayers of NO Adsorbed on Rh(111) in Equilibrium with the Gas Phase in the Torr Pressure Range, K. B. Rider, K. S. Hwang, M. Salmeron, G. A. Somorjai, *Phys. Rev. Lett.* **86**, 4330 (2001). LBNL-46932
- 822 (853) Correlation between Catalyst Surface Structure and Polypropylene Tacticity in Ziegler-Natta Polymerization System, S. H. Kim and G. A. Somorjai, *J. Phys. Chem. B* **105**, 3922 (2001). LBNL-46820.
- 823 (867) Surface Materials: The Frontier of Solid State Chemistry, G. A. Somorjai and P. Chen, *Solid State Ionics* **141-142**, 3 (2001). LBNL-47660
- 824 (862) Characterization of the Ziegler-Natta Olefin Polymerization System: Surface Science Studies on Model Catalysts, S. H. Kim and G. A. Somorjai. *Surf. Interface Anal.* **31**, 701 (2001). LBNL-47137.
- 825 (861) Methane Chemistry in the Hot Supersonic Nozzle, L. Romm, Y. H. Kim and G. A. Somorjai, *J. Phys. Chem. A* **105**, 7025 (2001). LBNL-47127
- 826 (869) Potential Dependent Vibrational Spectroscopy of Solvent Molecules at the Pt(111) Electrode in a Water/Acetonitrile Mixture Studied by Sum Frequency Generation, S. Baldelli, G. Mailhot, P. N. Ross, G. A. Somorjai, *J. Am. Chem. Soc.* **123** 7697 (2001). LBNL-47814.

- 827 (849) Stretched Polymer Surfaces: Atomic Force Microscopy Measurement of the Surface Deformation and Surface Elastic Properties of Stretched Polyethylene, A. Opdahl and G. A. Somorjai, *J. Polym. Sci. Part B: Polym. Phys.* **39**, 2236-2274 (2001). LBNL-46781.
- 828 (843) Surface Science Approach Toward Molecular-Level Understanding of the Ziegler-Natta Olefin Polymerization System, S.H. Kim and G.A. Somorjai, in *Micro-Kinetics and Dynamics of Individual Active Sites in Catalytic Reactions*. M. Terano and N Otsuka (Editors), Technology and Education Publishers, Tokyo, (2001) pp 9. LBNL-46674
- 829 (876) Research in Nanosciences – Great Opportunity for Catalysis Science, G. A. Somorjai and Y. G. Borodko. *Catal. Lett.* **76**, 1 (2001). LBNL-48545
- 830 (865) Friction Studies of Hydrogel Contact Lenses Using AFM: Non-Crosslinked Polymers of Low Friction at the Surface, S. H. Kim, C. Marmo, G. A. Somorjai, *Biomaterials* **22**, 3285 (2001). LBNL-47186.
- 831 (878) Future Directions of Catalysis Science - Workshop, G. A. Somorjai, *Catal. Lett* **76**, 111 (2001). LBNL-48565
- 832 (871) Surface Structure Sensitivity of High-Pressure CO Dissociation on Pt(557), Pt(100) and Pt(111) Using Sum Frequency Generation Surface Vibrational Spectroscopy, K. McCrea, J. S. Parker, P. Chen and G. A. Somorjai, *Surf. Sci.* **494**, 238 (2001). LBNL-47871.
- 833 (873) Sum Frequency Generation Spectroscopic Study of CO/Ethylene Coadsorption on the Pt(111) Surface and CO Poisoning of Catalytic Ethylene Hydrogenation, P. Chen, K. Y. Kung, Y. R. Shen and G. A. Somorjai, *Surf. Sci.* **494**, 289 (2001). LBNL-47905.
- 834 (877) Roadmap for Catalysis Science in the 21st Century: A Personal View of Building the Future on Past and Present Accomplishments, G. A. Somorjai and K. McCrea, *Appl. Catal. A* **222**, 3 (2001). LBNL-48555.
- 835 (860) Formation of Platinum Silicide On a Platinum Nanoparticle Array Model Catalyst Deposited on Silica During Chemical Reaction, J. Zhu and G. A. Somorjai, *Nano Lett.* **1**, 8 (2001). LBNL-47104

2002

- 836 (874) Nanomechanical Properties and Morphology of Thick Polyurethane Films under Contact Pressure and Stretching, E. Amitay-Sadovsky, B. Ward, G. A. Somorjai, and K. Komvopoulos, *J. Appl. Chem.* **91**, 375 (2002). LBNL-48411
- 837 (856) Active Sites in Heterogeneous Catalysis: Development of Molecular Concepts and Future Challenges, G. A. Somorjai, K. R. McCrea and J. Zhu, *Top. Catal.* **18**, 157 (2002). LBNL-46884
- 838 (875) AFM and SFG Studies of pHEMA-based Hydrogel Contact Lens Surfaces in Saline Solution: Adhesion, Friction, and the Presence of Non-crosslinked Polymer Chains at the Surface, S. H. Kim, A. Opdahl, C. Marmo and G. A. Somorjai, *Biomaterials* **23**, 1657 (2002). LBNL-48413.
- 839 (881) Surface Science Studies of Ziegler-Natta Olefin Polymerization System: Correlations between Polymerization Kinetics, Polymer Structures and Active Site Structures on Model Catalysts, S. H. Kim, C. R. Tewell, G. A. Somorjai, *Korean J. Chem. Eng.* **19**, 1 (2002). LBNL-48610
- 840 (896) Correlation of Surface Molecular Composition to Nanoscale Elastic Behavior and Topography of Stretched Polyurethane Films, E. Amitay-Sadovsky, K. Komvopoulos, Y. Tian, G. A. Somorjai, *Appl. Phys. Lett.* **80**, 1829 (2002). LBNL-50026
- 841 (879) An Ultraviolet-Raman Spectroscopic Investigation of Magnesium Chloride-Ethanol Solids with a 0.47 to 6 Molar Ratio of C_2H_5OH to $MgCl_2$, C. R. Tewell, F. Malizia, J. W. Ager III, and G. A. Somorjai, *J. Phys. Chem. B* **106**, 2946 (2002). LBNL-48568
- 842 (880) CO Poisoning of Catalytic Ethylene Hydrogenation on the Pt(111) Surface Studied by Surface Sum Frequency Generation, P. Chen, S. Westerberg, K. Y. Kung, J. Zhu, J. Grunes and G. A. Somorjai, *Appl. Cat. A* **229**, 147 (2002). LBNL-48599
- 843 (886) Surface Segregation of Methyl Side Branches Monitored by Sum Frequency Generation (SFG) Vibrational Spectroscopy for a Series of Random Poly(ethylene-co-propylene) Copolymers, A. Opdahl, R. A. Phillips, G. A. Somorjai, *J. Phys. Chem. B* **106**, 5212 (2002). LBNL-48985
- 844 (889) Effect of Bulk Miscibility on the Surface Composition of Polypropylene/Poly(ethylene-co-propylene) Blends, A. Opdahl, R. A. Phillips, G. A. Somorjai, *Macromol.* **35**, 4387 (2002). LBNL-49020
- 845 (893) AFM and TEM Studies of Pt Nanoparticle Arrays Supported on Alumina Model Catalyst Prepared by Electron Beam Lithography, T. Tsirlin, J. Zhu, J. Grunes and G. A. Somorjai, *Top. Catal.* **19**, 165 (2002). LBNL-49676

- 846 (887) High Pressure (1 Torr) Scanning Tunneling Microscopy (STM) Study of Coadsorption and Exchange of CO and NO on the Rh(111) Crystal Face, K. B. Rider, K. S. Hwang, M. Salmeron and G. A. Somorjai, *J. Am. Chem. Soc* **124**, 5588 (2002). LBNL-48924
- 847 (888) Studies of Polymer Surfaces by Sum Frequency Generation Vibrational Spectroscopy, Z. Chen, Y.-R. Shen and G. A. Somorjai, *Annu. Rev. Phys. Chem.* **53**, 437 (2002). LBNL-49049
- 848 (892) CO Oxidation on Electrified Platinum Surfaces in Acetonitrile/Water Solutions Studied by Sum Frequency Generation and Cyclic Voltammetry, S. Hoffer, S. Baldelli, K. Chou, P. Ross and G. A. Somorjai, *J. Phys. Chem. B* **106**, 6473 (2002). LBNL-49456
- 849 (882) Stereospecific Ziegler-Natta Model Catalysts Produced by Electron Beam-Induced Deposition of $TiCl_4$: Deposition Kinetics, Film Structure and Surface Structure, S. H. Kim, G. A. Somorjai, *J. Phys. Chem. B* **106**, 1386 (2002). LBNL-48798.
- 850 (884) Catalytic Cracking of *n*-Hexane over MoO_2 , J. H. Song, P. Chen, S. H. Kim, G. A. Somorjai, R. J. Gartside, F. M. Dautzenberg, *J. Mol. Catal. A: Chem.* **184**, 197 (2002). LBNL-48918
- 851 (891) Novel Two-Step Synthesis of Controlled Size and Shape Platinum Nanoparticles Encapsulated in Mesoporous Silica, Z. Konya, V. F. Puntes, I. Kiricsi, J. Zhu, P. Alivisatos and G. A. Somorjai, *Catal Lett.* **81**, 137 (2002). LBNL-49393
- 852 (897) Nanocrystal Templating of Silica Mesopores with Tunable Pore Sizes, Z. Konya, V. F. Puntes, I. Kiricsi, J. Zhu, A. P. Alivisatos and G. A. Somorjai, *Nano Lett.*, **2**, 907 (2002). LBNL-50171
- 853 (863) In Situ Catalysis and Surface Science Methods, P. Chen and G. A. Somorjai, in *In-Situ Spectroscopy in Heterogeneous Catalysis*, James F. Haw Ed., Wiley VCH Verlag GmbH, Weinheim, 2002, pp. 15-52. LBNL-47174.
- 854 (885) High Temperature Short Contact Time Supersonic Nozzle Chemistry of Light Aliphatic Hydrocarbons, L. Romm and G. A. Somorjai, *Top. Catal.* **20** 53 (2002). LBNL-48982
- 855 (895) The Evolution of Surface Chemistry. A Personal View of Building the Future on Past and Present Accomplishments, G. A. Somoajai, *J. Phys. Chem. B* **106**. 9201 (2002). LBNL-50103
- 856 (852) The Interaction of Fibrinogen with Surfaces of End Group Modified Polyurethanes: A Surface-Specific Sum Frequency Generation Vibrational Spectroscopy Study, Z. Chen, R. Ward, Y. Tian, F. Malizia, D. H. Gracias, Y. R. Shen, and G. A. Somorjai, *J. Biomed. Mat. Res.* **62**, 254 (2002). LBNL-46819
- 857 (894) Investigations of the Potential-Dependent Structure of Phenylalanine on the Glassy Carbon Electrode by IR-Visible Sum Frequency Generation, J. Kim, K. C. Chou and G. A. Somorjai, *J. Phys. Chem. B* **106** , 9198 (2002). LBNL-49948

- 858 (868) High-Pressure CO Dissociation and CO Oxidation Studies on Platinum Single Crystal Surfaces Using Sum Frequency Generation Surface Vibrational Spectroscopy – A Structure Sensitivity Study, K. McCrea, J. Parker and G. A. Somorjai. In *Surface Chemistry and Catalysis* (Fundamental and Applied Catalysis Series), Albert F. Carley, Philip R. Davis, Graham J. Hutchings and Michael S. Specer Eds, Kluwer Academics/Plenum, 2002, pp.55-78. LBNL-47769
- 859 (900) Solvent Vapor Induced Ordering and Disordering of Phenyl Side Branches at the Air/Polystyrene Interface Studied by SFG. A. Opdahl and G. A. Somorjai *Langmuir* **18**, 9409 (2002). LBNL-50752
- 860 (899) Surface Structural Analysis of LiF(100) Thin Fil.ms Grown on Pt(111), J. G. Roberts, M. A. Van Hove and G. A. Somorjai, *Surf. Sci.* **518**, 49 (2002). LBNL-50024
- 861 (890) The Role of Carbon Deposition from CO Dissociation on Platinum Crystal Surfaces During Catalytic CO Oxidation: Effects on Turnover Rate, Ignition Temperature, and Vibrational Spectra, K. R. McCrea, J. S. Parker, G. A. Somorjai, *J. Phys. Chem.B* **106**, 10854 (2002). LBNL-49314
- 862 (904) Ethylene Hydrogenation over Platinum Nanoparticle Array Model Catalysts Fabricated by Electron Beam Lithography: Determination of Active Metal Surface Area, J. Grunes, J. Zhu, E. A. Anderson and G. A. Somorjai, *J. Phys. Chem.B* **106**, 11463 (2002). LBNL-51075.

2003

- 863 (916) A Reversibly Switching Surface, J. Lahann, S. Mitragotri, T.N. Tran, H. Kaido, J. Sundaram, I. S. Choi, S. Hoffer, G. A. Somorjai, R. Langer, *Science*, **299**, 371 (2003). LBNL-52114
- 864 (911) Molecular Packing of Lysozyme, Fibrinogen, and Bovine Serum Albumin on Hydrophilic and Hydrophobic Surfaces Studied by Infrared-Visible Sum Frequency Generation and Fluorescence Microscopy, J. Kim and Gabor A. Somorjai, *J. Am. Chem. Soc.* **125**, 3150 (2003). LBNL-51662
- 865 (898) Structure and Dynamics of Acetonitrile at the Air/Liquid Interface of Binary Solutions Studied by Infrared-Visible Sum Frequency Generation, J. Kim, K. C. Chou, G. A. Somorjai, *J. Phys. Chem. B* **107**, 1592 (2003). LBNL-50313
- 866 (913) An *In-situ* Time-Dependent Study of CO Oxidation on Pt(111) in Aqueous Solution by Voltammetry and Sum Frequency Generation, K. C. Chou, N. M. Markovic, J. Kim, P. N. Ross, and G. A. Somorjai, *J. Phys. Chem. B* **107**, 1840 (2003). LBNL-51680
- 867 (909) Synthesis and Characterization of Hyperbranched Mesoporous Silica SBA-15, Z. Konya, J. Zhu, A. Szegedi, I. Kiricsi, P. Alivisatos and G. A. Somorjai, *Chem. Commun.* (2003) 314. LBNL-51646
- 868 (919) CO Poisoning of Ethylene Hydrogenation over Pt Catalysts: A Comparison of Pt(111) Single Crystal and Pt Nanoparticles Activities, Jeff Grunes, Ji Zhu, Minchul Yang, and Gabor A. Somorjai, *Cat. Lett.* **86**, 157 (2003). LBNL-51986
- 869 (905) Synthetic Insertion of Gold Nanoparticles into Mesoporous Silica, Z. Konya, V. F. Puntes, I. Kiricsi, J. Zhu, J. W. Ager III, M. K. Ko, H. Frei, P. Alivisatos, G. A. Somorjai, *Chem. Mat.* **15**, 1242 (2003). LBNL-51329
- 870 (910) Fabrication of Sub-10 nm Silicon Nanowire Arrays by Size Reduction Lithography, Y.-K. Choi, J. Zhu, J. Grunes, J. Bokor and Gabor A. Somorjai, *J. Phys. Chem. B* **107**, 3340 (2003). LBNL-51647
- 871 (912) Effect of Equilibrium Bulk Water Content on the Humidity-Dependent Surface Mechanical Properties of Hydrophilic Contact Lenses Studied by Atomic Force Microscopy, T. S. Koffas, A. Opdahl, C. Marmo and Gabor A. Somorjai, *Langmuir* **19**, 3453 (2003). LBNL-51679
- 872 (917) Detection of Immobilized Protein on Latex Microspheres by IR-Visible Sum-Frequency Generation and Scanning Force Microscopy, T. S. Koffas, J. Kim, C. C. Lawrence and G. A. Somorjai, *Langmuir* **19**, 3563(2003). LBNL-51946
- 873 (906) Encapsulation of Metal (Au, Ag, Pt) Nanoparticles into the Mesoporous SBA-15 Structure, J. Zhu, Z. Konya, V. F. Puntes, I. Kiricsi, C. X. Miao, J. W. Ager, A. P. Alivisatos and G. A. Somorjai, *Langmuir* **19**, 4396 (2003). LBNL-51370

- 874 (920) *In-situ* Observation of π -allyl c-C₆H₉ Intermediate during High-Pressure Cyclohexene Catalytic Reactions on Pt(111) using Sum Frequency Generation (SFG) Vibrational Spectroscopy, Minchul Yang, Keng Chou and Gabor A. Somorjai. *J. Phys. Chem.* **107**, 5267 (2003). LBNL-52367
- 875 (902) Surface Reordering of Stretched Polyurethane Block Copolymer Films Studied by Sum Frequency Generation Vibrational Spectroscopy, E. Amitay-Sadovsky, K. Komvopoulos, R. Ward and G. A. Somorjai, *J. Phys. Chem. B* **107**, 6377 (2003). LBNL-51033
- 876 (924) Catalysis and Nanoscience, Jeff Grunes, Ji Zhu and Gabor A. Somorjai. *Chem. Commun.* Focus Article, 2257 (2003). LBNL-52668
- 877 (907) Surface Mechanical Properties of pHEMA Contact Lenses: Viscoelastic and Adhesive Property Changes on Exposure to Controlled Humidity, A. Opdahl, S. J. H. Kim, T. Koffas, C. Marmo, and G. A. Somorjai. *J. Biomed. Mat. Res.* **67A**, 350-356 (2003). LBNL-51403
- 878 (938) Michael Polanyi, the father of catalytic surface reaction mechanisms and the mentor of Hungarian scientists abroad. *Polanyiana* **1-2**, 127-129 (2003). LBNL-53851
- 879 (908) The Molecular Mechanism of the Poisoning of Platinum and Rhodium Catalyzed Ethylene Hydrogenation by Carbon Monoxide, K. S. Hwang, M. Yang, J. Zhu, J. Grunes, and Gabor A. Somorjai. *J. Molec. Catal. A. Chemical* **204-205**, 499-507 (2003). LBNL-51553
- 880 (921) Evidence for Cyclohexyl as a Reactive Surface Intermediate during High-Pressure Cyclohexane Catalytic Reactions on Pt(111) by Sum Frequency Generation Vibrational Spectroscopy, Minchul Yang and Gabor A. Somorjai. *J. Am. Chem. Soc.* **125**, 11131 (2003). LBNL-52521
- 881 (927) Fabrication of Size-Tunable Large-Area Periodic Silicon Nanopillar Arrays with Sub-10 nm Resolution, Chun-Wen Kuo, Jau-Ye Shiu, Peilin Chen and Gabor A. Somorjai, *J. Phys. Chem. B* **107**, 9950 (2003). LBNL-52786
- 882 (915) Vibrational Spectroscopy of Carbon Monoxide, Acetonitrile and Phenylalanine Adsorbed on Liquid/Electrode Interfaces by Sum Frequency Generation, K. C. Chou, J. Kim, S. Baldelli and G. A. Somorjai *J. Electroanalytical Chemistry* **554-555**, 253 (2003). LBNL-51704
- 883 (903) Effects of Copolymer Segment Length and Reversible Deformation on the Molecular Surface Structure of Polyurethane, E. Amitay-Sadovsky, K. Komopoulos, R. Ward, and G. A. Somorjai, *Appl. Phys. Lett.* **83**, 3066 (2003). LBNL-51034
- 884 (918) Electro-oxidation of CO and Pt Based Electrodes Simulated by Electronic Structure Calculations, Chandra Saravanan, Barry D. Dunietz, Nenad M. Markovic, Gabor A. Somorjai, Martin Head-Gordon and Phil. N. Ross, *J. Electroanal. Chem.* **554**, 459 (2003). LBNL-51967

- 885 (926) Sample Mounting and Transfer Mechanism for In-Situ Ir-Visible Sum Frequency Generation Vibrational Spectroscopy in High-Pressure Ultrahigh Vacuum System, Minchul Yang, David C. Tang, Gabor A. Somorjai, *Rev. Sci. Instrum.* **74** 4554 (2003). LBNL-52695
- 886 (928) Hydrophobic-Interaction Induced Alignment of Polymers at the Solid/liquid Interface Studied by Infrared-Visible Sum Frequency Generation, Joonyeong Kim, Aric Opdahl, Keng C. Chou and Gabor A. Somorjai, *Langmuir* **19**, 9551 (2003). LBNL-52787
- 887 (922) The Surface Science of Catalytic Selectivity, Gabor A. Somorjai and Minchul Yang. *Topics in Catalysis* **24** 61 (2003). LBNL-52576
- 888 (883) Restructuring of Hydrogenation Metal Catalysts under the Influence of CO and H₂, G. A. Somorjai, K. S. Hwang, J. S. Parker. *Topics in Catalysis* **26**, 87 (2003). LBNL-48886
- 889 (929) Sublithographic Nanofabrication Technology for Nanocatalysts and DNA Chips, Y.-K. Choi, J. S. Lee, J. Zhu, Gabor A. Somorjai, L. P. Lee and J. Bokor. *J. Vac. Sci. Technol. B* **21**, 2951 (2003). LBNL-52899

2004

- 890 (914) Solvent- and Interface-Induced Surface Segregation in Blends of Isotactic Polypropylene with Poly(ethylene-*co*-propylene) Rubber, Aric Opdahl, Roger A. Phillips, and Gabor A. Somorjai *J. of Pol. Sci. B* **42**, 421 (2004). LBNL-51705
- 891 (923) Catalysis and Nanoscience, Jeff Grunes, Ji Zhu and Gabor A. Somorjai, in “*Nanotechnology in Catalysis*”, Vol. I, edited by Bing Zhou, Sophie Hermans and Gabor A. Somorjai. Kluwer Academic/Plenum Publishers, New York. pp 1-15 (2004). LBNL-54485
- 892 (943) Formation of Hollow Nanocrystals through the Nanoscale Kirkendall effect. Y. Yin, R. M. Rioux, C. K. Erdonmez, S. Hughes, G. A. Somorjai and A. P. Alivisatos, *Science* **304** #5671, 711 (2004). LBNL-54995
- 893 (936) Unusual Hydrogen Effect in Olefin Dehydrogenation: 1-Methylcyclohexene Dehydrogenation Initiated by Excess Hydrogen over Pt(111) Surfaces. A Combined Vibrational Spectroscopy (SFG) and Kinetic Study. Minchul Yang and Gabor A. Somorjai, *J. Phys. Chem.B*, **108**, 4405 (2004). LBNL-53818
- 894 (930) Probing the Charge-Transfer state of CO-Pt(111) by Two-Dimensional Infrared-Visible Sum Frequency Generation Spectroscopy, K. C. Chou, S. Westerberg, Y. R. Shen, P. N. Ross and G. A. Somorjai. *Physical Review B* **69** (15) Art. No. 153413 (2004). LBNL-52901
- 895 (939) High Pressure Ammonia Adsorption and Dissociation on Clean Fe(111) and Oxygen Precovered Fe(111) Studied by Sum Frequency Generation Vibrational Spectroscopy, Staffan Westerberg, Chen Wang, Keng Chou, Gabor A. Somorjai. *J. Phys. Chem. B* **108**, 6374 (2004). LBNL-54009
- 896 (925) Adsorption and Reactions of C₆ Hydrocarbons at High Pressures on Pt(111) Single Crystal Surfaces Studied by Sum Frequency Generation Vibrational Spectroscopy: Mechanisms of Isomerization and Dehydrocyclization of n-hexane, Minchul Yang and Gabor A. Somorjai, *J. Am. Chem. Soc.* **126**, 7698 (2004). LBNL- 52693
- 897 (937) Molecular Composition and Mechanical Properties of Biopolymer Interfaces Studied by Sum Frequency Generation Vibrational Spectroscopy and Atomic Force Microscopy, Telly S. Koffas, Ella Amitay-Sadovsky, Joonyeong Kim, and Gabor A. Somorjai. *J. Biomaterials Science, Polymer Edition*, **15** 475 (2004). LBNL-53847
- 898 (935) Characterization of Polymer Surface Structure and Surface Mechanical Behavior by Sum Frequency Generation (SFG) Surface Vibrational Spectroscopy and Atomic Force Microscopy (AFM). Aric Opdahl, Telly S. Koffas, Ella Amitay-Sadovsky, Joonyeong Kim, and Gabor A. Somorjai, *J. of Phys: Condens. Matter* **16** R659-R677 (2004). LBNL-53816
- 899 (942) Sum Frequency Generation Vibrational Spectroscopy Characterization of Surface Monolayers: Catalytic Reaction Intermediates and Polymer Surfaces, G. A. Somorjai, K. C. Chou, and M. Yang. *e-Journal of Surface Science and Nanotechnology*. **2**, 106 (2004). LBNL-54525

- 900 (941) Surface Structural Characterization of Protein- and Polymer-Modified Polystyrene Microspheres by Infrared-Visible Sum Frequency Generation Vibrational Spectroscopy and Scanning Force Microscopy, Joonyeong Kim, Telly S. Koffas, Christopher C. Lawrence and Gabor A. Somorjai. *Langmuir*, **2004** 4640-4646 (2004). LBNL-54200
- 901 (946) On the Move. Gabor A. Somorjai, *Nature* **430**, 730 (2004). LBNL-56142
- 902 (933) High Pressure Scanning Tunneling Microscopy Study of CO Poisoning of Ethylene Hydrogenation on Pt(111) and Rh(111) Single Crystals. David C. Tang, Kevin S. Hwang, Miguel Salmeron and Gabor A. Somorjai. *J. Phys. Chem. B* **108** 13300-13306 (2004). LBNL-53675
- 903 (944) The Structures and Reactions of Linear and Cyclic C₆ Hydrocarbons Adsorbed on the Pt(111) Crystal Surface Studied by Sum Frequency Generation Vibrational Spectroscopy: Pressure, Temperature, and H₂ Coadsorption Effects, Minchul Yang, Keng C. Chou and Gabor A. Somorjai. *J. Phys. Chem. B* **108** 14766-14779 (2004). LBNL-54583
- 904 (957) Principles of Surface Physics. Book Review. *Physics Today* **70** December (2004).

2005

- 905 (958) Pt Nanocrystals: Shape Control and Langmuir-Blodgett Monolayer Formation. Hyunjoon Song, Franklin Kim, Stephen Connor, Gabor A. Somorjai and Peidong Yang. *J. Phys. Chem. B* **109**, 188 (2005).
- 906 (934) Vibrational Properties of CO at the Pt(111)-Solution Interface: the Anomalous Stark-Tuning Slope, V. Stamenkovic, K. C. Chou, G. A. Somorjai, P. N. Ross and N. M. Markovic, *J. Phys. Chem. B* **109**, 679 (2005). LBNL-53703
- 907 (947) High-Surface Area Catalyst Design: Synthesis, Characterization, and Reaction Studies of Platinum Nanoparticles in Mesoporous SBA-15 Silica, R. M. Rioux, H. Song, J. D. Hoefelmeyer, P. Yang, G. A. Somorjai. *J. Phys. Chem. B* **109**, 2192 (2005). LBNL-54746
- 908 (956) Molecular Restructuring at Poly(butyl methacrylate) and Poly(methyl methacrylate) Surfaces Due to Compression by a Sapphire Prism Studied by Infrared-Visible Sum Frequency Generation Vibrational Spectroscopy, S.J. Kweskin, K. Komvopoulos and Gabor A. Somorjai. *Langmuir* **21**, 3647 (2005). LBNL-56628
- 909 (952) Radial Anisotropic Growth of Rhodium Nanoparticles, J. D. Hoefelmeyer, K. Niesz, G. A. Somorjai, T. D. Tilley. *Nano Letters* **5**, 435 (2005). LBNL-56264
- 910 (950) High Technology Catalysts Towards 100% Selectivity. Fabrication, Characterization and Reaction Studies, G. A. Somorjai and R. M. Rioux. *Catalysis Today* **100**, 201 (2005). LBNL-55555
- 911 (961) Fabrication of Large Number Density Platinum Nanowire Arrays by Size Reduction Lithography and Nanoimprint Lithography, X.-M. Yan, S. Kwon, A. M. Contreras, J. Bokor and G. A. Somorjai. *Nano Letters* **5**, 745 (2005). LBNL-57019
- 912 (959) The Catalytic Nanodiode. Gas Phase Catalytic Reaction Generated Electron Flow Using Nanoscale Platinum Titanium-Oxide Schottky Diodes, X. Z. Ji, A. Zuppero, J. M. Gidwani, and Gabor A. Somorjai. *Nano Letters* **5**, 753 (2005).
- 913 (949) Combined Atomic Force Microscopy and Sum Frequency Generation (SFG) Vibrational Spectroscopy Studies of Polyolefins and Hydrogels at Interfaces. In *ACS Symposium Series* 897, Aric Opdahl and Gabor A. Somorjai. James D. Batteas, Chris A. Michaels, Gilbert C. Walker. (Editors). American Chemical Society, Washington, DC (2005) pp. 112. LBNL-54899
- 914 (953) Heat of Adsorption of CO on Pt(111) Obtained by Sum Frequency Generation Vibrational Spectroscopy – A New Technique to Measure Adsorption Isotherms, Staffan Westerberg, Chen Wang and Gabor A. Somorjai. *Surf. Sci.* **582** 137-144 (2005). LBNL-56520
- 915 (960) Fabrication of Platinum Nanoparticles and Nanowires by Electron Beam Lithography (EBL) and Nanoimprint Lithography (NIL): Comparison of Ethylene Hydrogenation Kinetics, A. M. Contreras, J. Grunes, X.M. Yan, A. Liddle, G. A. Somorjai. *Catal. Lett.* **100** 115-124 (2005). LBNL-56789

- 916 (963) Electron Flow Generated by Gas Phase Exothermic Catalytic Reactions Using a Platinum-Gallium Nitride Nanodiode, Xiaozhong Ji, Anthony Zuppero, Jawahar M. Gidwani and Gabor A. Somorjai. *J. Am. Chem. Soc.* **127** 5792 (2005).
- 917 (964) The Catalytic NanoDiode. Its Role in Catalytic Reaction Mechanisms in a Historical Perspective. Gabor A. Somorjai. *Cat. Lett.* **101** 1 (2005).
- 918 (954) Sol-Gel Synthesis of Ordered Mesoporous Alumina, Kriztian Niesz, Peidong Yang and Gabor A. Somorjai. *Chem. Commun.*, 1986 (2005). LBNL-56525
- 919 (951) Structure, Reactivity, and Mobility of Carbonaceous Overlayers during Olefin Hydrogenation on Platinum and Rhodium Single Crystal Surfaces, Anderson L. Marsh and Gabor A. Somorjai, *Topics in Catalysis*, **34** Nos 1-4, 121 (2005). LBNL-55799
- 920 (955) The Changing Landscape of Physical Chemistry at the Beginning of the 21st Century, G. A. Somorjai and R.D. Levine *J. Phys. Chem. B*, **109**, 9853 (2005). LBNL-56587
- 921 (940) Active Sites and States in the Heterogeneous Catalysis of Carbon-Hydrogen Bonds, Gabor A. Somorjai and Anderson L. Marsh, *Phil. Trans. R. Soc. A* **363**, 879-900 (2005). LBNL-55459
- 922 (932) Fabrication of 2-Dimensional and 3-Dimensional Platinum Nanoparticle Systems for Chemisorption and Catalytic Reaction Studies. In *Nanotechnology and the Environment, ACS Symposium Series 890*, Gabor A. Somorjai. Ed. B. Karn, T. Masciangioli, W.-X. Zhang, V. Colvin and P. Alivisatos. American Chemical Society, Washington, D.C. (2005) pp. 210. LBNL-53660
- 923 (967) Parallel Fabrication of Sub-50 nm Uniformly-Sized Nanoparticles by Deposition Through a Patterned Silicon Nitride Nanostencil. X.-M. Yan, A. M. Contreras, M. M. Koebel, J. A. Liddle and Gabor A. Somorjai, *Nanoletters* **5**, 1129-1134 (2005). LBNL-57465
- 924 (948) Fabrication of Two-Dimensional and Three-dimensional Platinum Nanoclusters to Serve as High Technology Catalysts – Catalysts Capable of 100% Reaction Selectivity, G. A. Somorjai, R. M. Rioux and J. Grunes. In *Clusters and Nano-Assemblies Physical and Biological Systems*. Eds. P. Jena, S. N. Khanna, B. K. Rao. World Scientific, Singapore, pp 97-127. LBNL-54785
- 925 (965) Methane Dissociative Adsorption on the Pt(111) Surface over the 300-500 K Temperature and 1-10 Torr Pressure Ranges. Anderson L. Marsh, Kevin A. Becroft and G. A. Somorjai. *J. Phys. Chem. B* **109**, 13619-13622 (2005). LBNL-57397
- 926 (962) Surface Chemical and Mechanical Properties of Plasma-Polymerized *N*-Isopropylacrylamide, Xuanhong Cheng, Heather E. Canavan, M. Jeanette Stein, James R. Hull, Sasha J. Kwaskin, Matthew S. Wagner, Gabor A. Somorjai, David G. Castner, Buddy D. Ratner, *Langmuir* **21**, 7833-7841 (2005). LBNL-57035

- 927 (966) Structure Sensitivity of Vibrational Spectra of Mesoporous Silica SBA-15 and Pt/SBA-15. Y. Borodko, J. W. Ager III, G. E. Marti, H. Song, K. Niesz, G. A. Somorjai. *J. Phys. Chem. B* **109** 17386-17390 (2005). LBNL-57424
- 928 (971) Entropically Mediated Polyolefin Blend Segregation at Buried Sapphire and Air Interfaces Investigated by Infrared-Visible Sum Frequency Generation Vibrational Spectroscopy. S. J. Kweskin, K. Komvopoulos and G. A. Somorjai. *J. Phys. Chem. B* **109**, 23415 (2005). LBNL-58329
- 929 (972) Continuous Hot Electron Generation in Pt/TiO₂, Pd/TiO₂ and Pt/GaN Catalytic Nanodiodes from oxidation of Carbon Monoxide. X. Z. Ji and Gabor A. Somorjai. *J. Phys. Chem. B* **109**, 22530 (2005).
- 930 (974) Precise Control of the Pt Nanoparticle Size by Seeded Growth Using EO₁₃PO₃₀EO₁₃ Triblock Copolymers as Protective Agents. Krisztian Niesz, Michael Grass, Gabor A. Somorjai. *Nano Letters* **5**, 2238 (2005). LBNL-58688
- 931 (985) Fabrication of Dense Arrays of Platinum Nanowires on Silica, Alumina, Zirconia and Ceria Surfaces as 2-D Model Catalysts. X.-M. Yan, S. Kwon, A. M. Contreras, M. M. Koebel, J. Bokor and G. A. Somorjai. *Cat. Lett.* **105**, 127 (2005). LBNL-59267
- 932 (981) Fabrication of Metallic Nanodots in Large-area Arrays by Mold-to-Mold Cross Imprinting (MTMCI). Sunghoon Kwon, Xiaoming Yan, Anthony M. Contreras, J. Alexander Liddle, Gabor A. Somorjai, and Jeffrey Bokor. *Nano Letters* **5** 2557-2562 (2005). LBNL-58964
- 933 (969) Hydrogenation and Dehydrogenation of Cyclohexene on Pt(100): A Sum Frequency Generation Vibrational Spectroscopic and Kinetic Study. Kaitlin M. Bratlie, Lucio D. Flores and Gabor A. Somorjai. *Surf. Sci.* **599** (1-3) 93-106 (2005). LBNL-58212

2006

- 934 (968) Reaction kinetics and in-situ sum frequency generation surface vibrational studies of cycloalkene hydrogenation/dehydrogenation on Pt(111) surfaces: substituent effects and CO poisoning mechanism. Minchul Yang, R. M. Rioux, and G. A. Somorjai. *J. Catal.* **237**, 255 (2006). LBNL-57477
- 935 (983) Hydrothermal Growth of Mesoporous SBA-15 Silica in the Presence of PVP-Stabilized Pt Nanoparticles: Synthesis, Characterization, and Catalytic Properties. Hyunjoon Song, Robert M. Rioux, James D. Hoefelmeyer, Russell Komor, Krisztian Niesz, Michael Grass, Peidong Yang, and Gabor A. Somorjai. *J. Am. Chem. Soc.* **128** 3027-3037 (2006). LBNL-59077
- 936 (984) Platinum Nanoparticle Encapsulation during Hydrothermal growth of Mesoporous Oxides: Synthesis, Characterization and Catalytic Properties. Robert M. Rioux, Hyunjoon Song, James D. Hoefelmeyer, Krisztian Niesz, Michael Grass, Peidong Yang, and Gabor A. Somorjai. *Mater. Res. Soc. Symp. Proc.* **900E** (2006). LBNL-59270
- 937 (970) Scanning Tunneling Microscopy (STM) at High Pressures. Adsorption and Catalytic Reaction Studies on Platinum and Rhodium Single Crystal Surfaces. Max Montano, David C. Tang, and Gabor A. Somorjai. *Cat. Lett.* **107**, 131-141 (2006). LBNL-58257
- 938 (992) Conformational Changes at Polymer Gel Interfaces upon Saturation with Various Liquids Studied by Infrared-visible Sum Frequency Generation Vibrational Spectroscopy. S. J. Kweskin, K. Konvopoulos and G. A. Somorjai. *Appl. Phys. Lett.* **88**, 134105 (2006). LBNL-60041
- 939 (975) In-situ Adsorption Studies on a 14-amino Acid Leucine-Lysine Peptide onto Hydrophobic Polystyrene and Hydrophilic Silica Surfaces Using Quartz Crystal Microbalance, Atomic Force Microscopy, and Sum Frequency Generation Vibrational Spectroscopy. Ozzy Mermut, Diana C. Phillips, Roger L. York, Keith R. McCrea, Robert S. Ward and Gabor A. Somorjai. *J. Am. Chem. Soc.* **128**, 3598 (2006). LBNL-58766
- 940 (982) STM Studies of Cyclohexene Hydrogenation/Dehydrogenation and Its Poisoning by Carbon Monoxide on Pt(111). Max Montano, Miquel Salmeron, and Gabor A. Somorjai. *Surf. Sci.* **600**, 1809-1816 (2006). LBNL-59027
- 941 (979) Fabrication of Two- and Three-dimensional Model Catalyst Systems with Monodispersed Platinum Nanoparticles as Active Metal Building Blocks, Krisztian Niesz, Matthias M. Koebel and Gabor A. Somorjai. *Inorg. Chemica Acta* **359**, 2683-2689 (2006). LBNL-58893
- 942 (990) *In-situ* Sum Frequency Generation Vibrational Spectroscopy Observation of a Reactive Surface Intermediate During High-Pressure Benzene Hydrogenation. Kaitlin M. Bratlie, Lucio D. Flores and Gabor A. Somorjai. *J. Phys. Chem.* **110**, 10051 (2006). LBNL-59794

- 943 (987) The Catalytic Nanodiode: Detecting Continous Electron Flow at Oxide-Metal Interfaces Generated by Gas Phase Exothermic Chemical Reaction. Jeong Y. Park and Gabor A. Somorjai. *Chem. Phys. Chem.* **7**, 1409-1413 (2006). LBNL-59545
- 944 (976) Clusters, Surfaces, and Catalysis. Gabor A. Somorjai, Anthony M. Contreras, Max Montano and Robert M. Rioux, *PNAS* **103**, 10577-10583 (2006). LBNL-58809
- 945 (989) Energy Conversion from Catalytic Reaction to Hot Electron Current with Metal – Semiconductor Schottky Diodes. Jeong Young Park and Gabor A. Somorjai. *J. Vac. Sci Technol. B* **24** (4) 1967 (2006). LBNL-59777
- 946 (978) G. Rupprechter and G. A. Somorjai, Adsorbate Properties of Linera Hydrocarbons on Metals and Semiconductors. In *Physics of Covered Solid Surfaces*, Subvolume A, Adsorbed Layers on Surfaces. Ed. H. P. Bonzel. Landolt-Börnstein, Numerical Data and Functional Relationships in Science and Technology. Springer-Verlag, Berlin Heidelberg, (2006) pp243-330. LBNL-58847
- 947 (1002) Directions in Peptide Interfacial Science. Ozzy Mermut, Roger L. York, Diana C. Phillips, Keith R. McCrea, Robert S. Ward and Gabor A. Somorjai. *Biointerphases* **1** (2) p5 (2006). LBNL-59918
- 948 (994) Carbon Monoxide Adsorption and Oxidation on Monolayer Films of Cubic Platinum Nanoparticles Invetigated by Infrared-Visible Sum Frequency Generation Vibrational Spectroscopy. S. J. Kwaskin, S. E. Habas, R. M. Rioux, K. Komvopoulos, P. Yang and G. A. Somorjai. *J. Phys. Chem. B* **110**, 15920-15925 (2006). LBNL-60044
- 949 (996) Structure Effects of Benzene Hydrogenation Studied with Sum Frequency Generation Vibrational Spectroscopy and Kinetics on Pt(111) and Pt (100) Single Crystal Surfaces. Kaitlin M. Bratlie, Christopher J. Kliewer, and Gabor A. Somorjai. *J. Phys. Chem.B* **110**, 17925-17930 (2006). LBNL-60109
- 950 (997) Hydrogen and Deuterium Exchange on Pt (111) and Its Poisoning by Carbon Monoxide Studied by Surface Sensitive High-Pressure Techniques. Max Montano, Kaitlin Bratlie, Miquel Salmeron and Gabor A. Somorjai. *J. Am. Chem. Soc.* **128**, 13229-013234 (2006). LBNL-60270
- 951 (1000) Catalytic CO Oxidation Reaction Studies on Lithographically Fabricated Platinum Nanowire Arrays with Different Oxide Supports. A.M. Contreras, X.-M. Yan, S. Kwon, J. Bokor and G.A. Somorjai. *Cat. Lett.* **111** (2006) 5. LBNL-60938
- 952 (991) Surface Science of Single-Site Heterogeneous Olefin Polymerization Catalysts. Seong H. Kim and Gabor A. Somorjai. *PNAS* **103**(42), 15289 (2006). LBNL-59960

- 953 (993) Sum Frequency Generation Vibrational Spectroscopic and High-Pressure Scanning Tunneling Microscopic Studies of Benzene Hydrogenation on Pt(111). Kaitlin M. Bratlie, Max O. Montano, Lucio D. Flores, Matti Paajanen and Gabor A. Somorjai. *J. Am. Chem. Soc.* **128**, 12810-12816 (2006). LBNL-60043
- 954 (995) Dynamics of Surface Catalyzed Reactions; the roles of Surface Defects, Surface Diffusion and Hot Electrons. Gabor A. Somorjai, Kaitlin M. Bratlie, Max O. Montano and Jeong Y. Park. *J. Phys. Chem. B* **110**, 20014-20022 (2006). LBNL-60107
- 955 (998) Probing the Interaction of Poly(vinylpyrrolidone) with Platinum Nanocrystals by UV-Raman and FTIR. Yuri Borodko, Susan E. Habas, Matthias Koebel, Peidong Yang and Gabor A. Somorjai. *J. Phys. Chem. B*, **110**, 23052-23059 (2006). LBNL-60306
- 956 (1008) Monodisperse Platinum Nanoparticles of Well-Defined Shape: Synthesis, Characterization, Catalytic Properties and Future Prospects. R. M. Rioux, H. Song, M. Grass, S. Habas, K. Niesz, J. D. Hoefelmeyer, P. Yang, and G. A. Somorjai, *Topics in Catalysis*, **39**, 187-190 (2006). LBNL-62144
- 957 (973) Fabrication of 2-Dimensional Platinum Nanocatalyst Arrays by Electron Beam Lithography: Ethylene Hydrogenation and CO-Poisoning Reaction Studies. A. M. Contreras, J. Grunes, X.-M. Yan, A. Liddle, G. A. Somorjai. *Topics in Catalysis*, **39**, 121-129 (2006). LBNL-58684
- 958 (986) Molecular Surface Science of C-H Bond Activation and Polymerization Catalysis. A. M. Contreras, M. Montano, S. J. Kweskin, M. M. Koebel, K. Bratlie, K. Becroft, G. A. Somorjai. *Topics in Catalysis* **40** 19-34 (2006). LBNL-59220
- 959 (1003) Morphology Control of Catalytically Active Pt Nanocrystals. Hyunjoo Lee, Susan E. Habas, Sasha Kweskin, Derek Butcher, Gabor A. Somorjai and Peidong Yang. *Angew. Chem. Int. Ed* **118(46)**, 7988-7992 (2006). LBNL-61603

2007

- 960 (1001) Side Chain, Chain Length, and Sequence Effects on Amphiphilic Peptide Adsorption at Hydrophobic and Hydrophilic Surfaces Studied by Sum-Frequency Generation Vibrational Spectroscopy and Quartz Crystal Microbalance. Diana C. Phillips, Roger L. York, Ozzy Mermut, Keith R. McCrea, Robert S. Ward and Gabor A. Somorjai. *J. Phys. Chem. C.* **111** 255-261 (2007). LBNL-61123
- 961 (1005) Reverse Micelle Synthesis of Rhodium Nanoparticles. James D. Hoefelmeyer, Hongjian Liu, Gabor A. Somorjai and T. Don Tilley. *J. Colloid and Interface Science* **309** 86-93 (2007). LBNL-61965
- 962 (988) Pre-prepared Platinum Nanoparticles Supported on SBA-15 – Preparation, Pretreatment Conditions and Catalytic Properties. Zoltan Konya, Eva Molnar, G. Tasi, Krisztian Niesz, Gabor A. Somorjai and Imre Kiricsi. *Cat. Lett.* **113** 19 (2007). LBNL-59734
- 963 (1010) Charge-Transfer Interaction of Poly(vinylpyrrolidone) with Platinum and Rhodium Nanoparticles. Yuri Borodko, Simon M. Humphrey, T. Don Tilley, Heinz Frei and Gabor A. Somorjai, *J. Phys. Chem. C* **111** 6288-6295 (2007). LBNL-62153
- 964 (1018) The Impact of Surface Science on the Commercialization of Chemical Processes. Gabor A. Somorjai and Jeong Y. Park. *Cat. Lett.* **115** 87 (2007). LBNL-62743
- 965 (1011) The Evolution of Model Catalytic Systems; Studies of Structure, Bonding and Dynamics from Single Crystal Metal Surfaces to Nanoparticles, and from Low Pressure ($< 10^{-3}$ Torr) to High Pressure ($> 10^{-3}$ Torr) to Liquid Interfaces. Gabor A. Somorjai, Roger L. York, Derek Butcher and Jeong Y. Park. *Phys. Chem. Chem. Phys.*, **9** 3500-3513 (2007). LBNL-62177
- 966 (1013) Surface Premelting of Ice. Yimin Li and Gabor A. Somorjai. *J. Phys. Chem. C* **111**, 9631-9637 (2007). LBNL-62355
- 967 (1019) One-Step Polyol Synthesis and Langmuir-Blodgett Monolayer Formation of Size-tunable Monodisperse Rhodium Nanocrystals with Catalytically Active (111) Surface Structures. Yawen Zhang, Michael E. Grass, Susan E. Habas, Feng Tao, Tianfu Zhang, Peidong Yang, and Gabor A. Somorjai. *J. Phys. Chem. C* **111**, 12243-12253 (2007). LBNL-63525
- 968 (999) The Genesis and Importance of Oxide-Metal Interface Controlled Heterogeneous Catalysis; the Catalytic Nanodiode. Jeong Y. Park, J. R. Renzas, A. M. Contreras and Gabor A. Somorjai. *Topics in Catalysis* **46** (Nos. 1-2) 217-222 (2007). LBNL-60756
- 969 (1006) A Sum Frequency Generation Vibrational Spectroscopic Study of the Adsorption and Reactions of C_6 Hydrocarbons at High Pressures on Pt(100). Kaitlin M. Bratlie and Gabor A. Somorjai. *J. Phys. Chem. C* **111**, 6837-6845 (2007). LBNL-61964

- 970 (1007) The Influence of Ionic Strength on the Adsorption of a Model Peptide on Hydrophilic Silica and Hydrophobic Polystyrene Surfaces: Insights from SFG Vibrational Spectroscopy. Roger L. York, Ozzy Mermut, Diana C. Phillips, Keith R. McCrea, Robert S. Ward and Gabor A. Somorjai. *J. Phys. Chem. C*, **111** 8866-8871 (2007). LBNL-61969
- 971 (1015) Oxidation and Reforming Reactions of CH₄ on a Stepped Pt(5 5 7) Single Crystal. Robert M. Rioux, Anderson L. Marsh, J. S. Gaughan, G. A. Somorjai. *Catalysis Today* **123** 265-275 (2007). LBNL-62355
- 972 (1012) Rhodium Nanoparticles from Cluster Seeds: Control of Size and Shape by Precursor Addition Rate. Simon M. Humphrey, Michael E. Grass, Susan E. Habas, Krisztian Niesz, Gabor A. Somorjai, and T. Don Tilley. *Nano Letters* **7**, 785-790 (2007). LBNL-62171
- 973 (1017) IR Spectroscopic Observation of Molecular Transport through Pt@CoO Yolk-Shell Nanostructures. Sunhee Kim, Yadong Yin, A. Paul Alivisatos, Gabor A. Somorjai and John T. Yates, Jr. *J. Am. Chem. Soc.* **129**, 9510-9513 (2007)
- 974 (1016) Frontiers of Surface Science. Gabor A. Somorjai and Jeong Y. Park. *Physics Today*, October issue, p. 48-54 (2007).
- 975 (1022) Platinum Nanoparticle Shape Effects on Benzene Hydrogenation Selectivity. Kaitlin M. Bratlie, Hyunjoo Lee, Kyriakos Komvopoulos, Peidong Yang and Gabor A. Somorjai. *Nano Letters* **7**, 3097-3101 (2007). LBNL-63623
- 976 (1020) Shaping Binary Metal Nanocrystals through Epitaxial Seeded Growth. Susan E. Habas, Hyunjoo Lee, Velimir Radmilovic, Gabor A. Somorjai and Peidong Yang. *Nature Materials* **6** (9), 692-697 (2007). LBNL-63626
- 977 (1023) Studies of Reaction Intermediates with Experimental and Theoretical Methods. Imre Kiricsi, Zoltan Konya, Akos Kukovecz, Tasi Gyula and Gabor A. Somorjai. *Magyar Kemiai Folyoirat* **113**, 49 (2007) (in Hungarian).
- 978 (1021) Interfacial and Chemical Properties of Pt/TiO₂, Pd/TiO₂ and Pt/GaN Catalytic Nanodiodes Influencing Hot Electron Flow. Jeong Y. Park, J. R. Renzas, Bryan B. Hsu and Gabor A. Somorjai, *J. Phys. Chem. C* **111**, 15331-15336 (2007). LBNL-63816

2008

- 979 (1025) Adsorption and Co-adsorption of Ethylene and Carbon Monoxide on Silica-supported Monodisperse Pt Nanoparticles: Volumetric Adsorption and Infrared Spectroscopy Studies. Robert M. Rioux, James D. Hoefelmeyer, Michael Grass, Hyunjoon Song, Krisztian Niesz, Peidong Yang, and Gabor A. Somorjai, *Langmuir*, **24**, 198-207 (2008). LBNL-63814
- 980 (1024) Kinetics and Mechanism Ethylene Hydrogenation Poisoned by CO on Silica-Supported Monodisperse Pt Nanoparticles. Robert M. Rioux, Russell Komor, Hyunjoon Song, James D. Hoefelmeyer, Michael Grass, Krisztian Niesz, Peidong Yang, Gabor A. Somorjai. *J. of Catalysis* **254**, 1 (2008). LBNL-63815
- 981 (1034) Tuning of Catalytic CO Oxidation by Changing Composition of Rh-Pt Bimetallic Nanoparticles. Jeong Y. Park, Yawen Zhang, Michael Grass, Tianfu Zhang and Gabor A. Somorjai. *Nano Letters*, **8**, 673-677 (2008). LBNL-63822
- 982 (1033) Compensation Effect of Benzene Hydrogenation on Pt(111) and Pt(100) Analyzed by the Selective Energy Transfer Model. Kaitlin M. Bratlie, Yimin Li, Ragnar Larsson and Gabor A. Somorjai. *Catal. Lett.*, **121** 173-178 (2008). LBNL-63823
- 983 (1009) Peptides Adsorbed on Hydrophobic Surfaces. A Sum Frequency Generation Vibrational Spectroscopy and Modeling Study. Roger L. York, William K. Browne, Phillip L. Geissler, Gabor A. Somorjai. *Israel J. of Chemistry* (special issue honoring R. Levine), **47**, 51-58 (2007). LBNL-62143
- 984 (977) Single Crystal Surfaces. Anderson L. Marsh, Fabio H. Ribeiro and Gabor A. Somorjai. Chapter 4.1 in *Handbook of Heterogeneous Catalysis*, Second Completely Revised and Enlarged Edition. Eds. G. Ertl, H. Knözinger, F. Schüth and J. Weitkamp. Vol. 3, pp 1259. LBNL-58845
- 985 (1004) The Nanoscience Revolution: Merging of Colloid Science, Catalysis and Nanoelectronics. Gabor A. Somorjai, Feng Tao, Jeong Young Park. *Topics in Catalysis* **47**, 1-14 (2008). LBNL-61858
- 986 (1029) Silver Ion Mediated Shape Control of Platinum Nanoparticles: Removal of Silver by Selective Etching Leads to Increased Catalytic Activity. Michael E. Grass, Yao Yue, Susan E. Habas, Robert M. Rioux, Chelsea I. Teall, Peidong Yang and Gabor A. Somorjai. *J. Phys. Chem. C* **112**, 4797-4804 (2008). LBNL-1225E
- 987 (1038) Highly Selective Synthesis of Catalytically Active Monodisperse Rhodium Nanocubes. Yawen Zhang, Michael E. Grass, John N. Kuhn, Feng Tao, Susan E. Habas, Wenyu Huang, Peidong Yang and Gabor A. Somorjai. *J. Am. Chem. Soc.* **130**, 5868 (2008). LBNL-1229E

- 988 (1027) The 13th International Symposium on Relations Between Homogeneous and Heterogeneous Catalysis – An Introduction. Gabor A. Somorjai. *Topics in Catalysis* **48**, 1-7 (2008). LBNL-1226E
- 989 (1036) Localized Pd Overgrowth on Cubic Pt Nanocrystals for Enhanced Electrocatalytic Oxidation of Formic Acid. Hyunjoo Lee, Susan E. Habas, Gabor A. Somorjai and Peidong Yang. *J. Am. Chem. Soc.* **130**, 5406-5407 (2008). LBNL-1814E
- 990 (1035) Evolution of the Surface Science of Catalysis from Single Crystals to Metal Nanoparticles under Pressure. Gabor A. Somorjai and Jeong Y. Park. *J. Chem. Phys.* **128**, 182504 (2008). LBNL-1018E
- 991 (1028) John Pendry: His Contributions to the Development of Low Energy Electron Diffraction Surface Crystallography. G. A. Somorjai and P. J. Rous. *Journal of Physics: Condensed Matter* **20**, 304210 (2008). LBNL-1227E
- 992 (1026) Preparation of Size-tunable, Highly Monodisperse PVP-Protected Pt-nanoparticles by Seed-mediated Growth. Matthias M. Koebel, Louis C. Jones and Gabor A. Somorjai. *J. Nanopart Res* **10** 1063-1069 (2008). LBNL-1236E
- 993 (1014) Platinum Nanoclusters' Size and Surface Structure Sensitivity of Catalytic Reactions. Robert M. Rioux, Hyunjoon Song, Peidong Yang, and Gabor A. Somorjai. Chapter 7 in *Metal Nanoclusters in Catalysis and Materials Science: the Issue of Size-Control*. B. Corain, G. Schmid and N. Toshima Eds., Elsevier, Amsterdam, pp. 149-166 (2008). LBNL-62356
- 994 (1045) Near-Monodisperse Ni-Cu Bimetallic Nanocrystals of Variable Composition: Controlled Synthesis and Catalytic Activity for H₂ Generation. Yawen Zhang, Wenyu Huang, Susan E. Habas, John N. Kuhn, Michael E. Grass, Yusuke Yamada, Peidong Yang and Gabor A. Somorjai. *J. Phys. Chem. C* **112**, 12092-12095 (2008). LBNL-1373E
- 995 (1048) A New Scanning Tunneling Microscope Reactor Used for High Pressure and High Temperature Catalysis Studies. Feng Tao, David C. Tang, Miquel Salmeron, and Gabor A. Somorjai. *Rev. Sci. Instrum.* **79**, 084101 (2008). LBNL-1932E
- 996 (1037) Sum Frequency Generation Vibrational Spectroscopy of Pyridyne Hydrogenation on Platinum Nanoparticles. Kaitlin M. Bratlie, Kyriakos Komvopoulos and Gabor A. Somorjai. *J. Phys. Chem. C* **112**, 11865-11808 (2008). LBNL-1382E
- 997 (1040) Pyrrole Hydrogenation over Rh(111) and Pt(111) Single-Crystal Surfaces and Hydrogenation Promotion Mediated by 1-Methylpyrrole: A Kinetic and Sum Frequency Generation Vibrational Spectroscopy Study. Christopher J. Kliwer, Marco Bieri and Gabor A. Somorjai. *J. Phys. Chem. C* **112**, 11373 (2008). LBNL-1380E

- 998 (1044) Dendrimer Templatd Synthesis of One Nanometer Rh and Pt Particles Supported on Mesoporous Silica: Catalytic Activity for Ethylene and Pyrrole Hydrogenation. Wenyu Huang, John N. Kuhn, Chia-Kuang Tsung, Yawen Zhang, Susan E. Habas, Peidong Yang, and Gabor A. Somorjai. *Nano Letters* **8**, 2027 (2008). LBNL-1802E
- 999 (1030) Colloid Science of Metal Nanoparticle Catalysts in 2D and 3D Structures. Challenges of Nucleation, Growth, Composition, Particle Shape, Size Control and Their Influence on Activity and Selectivity. Gabor A. Somorjai and Jeong Y. Park. *Topics in Catalysis* **49**, 126-135 (2008). LBNL-1374E
- 1000 (1039) Molecular Surface Chemistry by Metal Single Crystals and Nanoparticles from Vacuum to High Pressure. Gabor A. Somorjai and Jeong Y. Park. *Chem. Soc. Rev.*, **37**, 2155-2162 (2008). LBNL-1806E
- 1001 (1042) Probing Hot Electron Flow Generated on Pt Nanoparticles with Au/TiO₂ Schottky Diodes during Catalytic CO Oxidation. Jeong Y. Park, Hyunjoo Lee, J. Russell Renzas, Yawen Zhang and Gabor A. Somorjai. *Nano Letters* **8**, 2388-2392 (2008). LBNL-1784E
- 1002 (1052) Influence of Reaction with XeF₂ on Surface Adhesion of Al and Al₂O₃ Surfaces. Tianfu Zhang, Jeong Y. Park, Wenyu Huang and Gabor A. Somorjai. *Appl. Phys. Lett.* **93**, 141905 (2008). LBNL-1816E
- 1003 (1054) Reaction-Driven Restructuring of Rh-Pd and Pt-Pd Core-Shell Nanoparticles. Feng Tao, Michael E. Grass, Yawen Zhang, Derek R. Butcher, James R. Renzas, Zhi Liu, Jen Y. Chung, Bongjin S. Mun, Miquel Salmeron and Gabor A. Somorjai. *Science*, **322**, 932-934 (2008). LBNL-1379E
- 1004 (1051) A Reactive Oxide Overlayer on Rhodium Nanoparticles during CO Oxidation and Its Size Dependence Studied by *in Situ* Ambient Pressure X-ray Photoelectron Spectroscopy. Michael E. Grass, Yawen Zhang, Derek R. Butcher, Jeong Y. Park, Yimin Li, Hendrik Bluhm, Kaitlin M. Bratlie, Tianfu Zhang, and Gabor A. Somorjai. *Angew. Chem. Int. Ed.* **47**, 8893-8896 (2008). LBNL-1378E
- 1005 (1050) Molecular Factors of Catalytic Selectivity. Gabor A. Somorjai and Jeong Y. Park. *Angew. Chemie Intl. Ed.* **47**, 9212-9228 (2008). LBNL-1786E
- 1006 (1049) Structure Sensitivity of Carbon-Nitrogen Ring Opening: Impact of Platinum Particle Size from below 1 to 5 nm upon Pyrrole Hydrogenation Product Selectivity over Monodisperse Platinum Nanoparticles Loaded onto Mesoporous Silica. John N. Kuhn, Wenyu Huang, Chia-Kuang Tsung, Yawen Zhang, and Gabor A. Somorjai. *J. Am. Chem. Soc.* **130**, 14026-14027 (2008). LBNL-1785E

- 1007 (1043) A New Optical Parametric Amplifier Based on Lithium Thioindate Used for Sum Frequency Generation Vibrational Spectroscopic Studies of the Amide I Mode of an Interfacial Model Peptide. Roger L. York, Goerge J. Holinga, Dean R. Guyer, Keith R. McCrea, Robert S. Ward, Gabor A. Somorjai. *Applied Spectroscopy* **62** (9) 937 (2008). LBNL-2440E
- 1008 (1055) Influence of Particle Size on Reaction Selectivity in Cyclohexene Hydrogenation and Dehydrogenation over Silica-Supported Monodisperse Pt Particles. R. M. Rioux, B. B. Hsu, M. E. Grass, H. Song and G. A. Somorjai. *Cat. Lett.* **126** 10-19 (2008). LBNL-1813E
- 1009 (1047) The Effects of Oxygen Plasma on the Chemical Composition and Morphology of the Ru Capping Layer of the Extreme Ultraviolet Mask Blanks. Leonid Belau, Jeong Y. Park, Ted Liang and Gabor A. Somorjai. *J. Vac. Sci. Technol. B* **26**(6), 2225 (2009). LBNL-1826E

2009

- 1010 (1053) Thermally Stable Pt/Mesoporous Silica Core-Shell Nanocatalysts for High-Temperature Reactions. Sang Hoon Joo, Jeong Young Park, Chia-Kuang Tsung, Yusuke Yamada, Peidong Yang and Gabor A. Somorjai. *Nature Materials* **8** (February), 126 (2009). LBNL-2410E
- 1011 (1068) Dependence of Gas-Phase Crotonaldehyde Hydrogenation Selectivity and Activity on the Size of Pt Nanoparticles (1.7-7.1 nm) Supported on SBA-15. Michael E. Grass, Robert M. Rioux and Gabor A. Somorjai. *Catal Lett* **128**, 1-8 (2009). LBNL-2434E
- 1012 (1062) The Role of Organic Capping Layers of Platinum Colloid Nanoparticles in Catalytic Activity of CO Oxidation. Jeong Y. Park, Cesar Aliaga, J. Russell Renzas, Hyunjoo Lee and Gabor A. Somorjai. *Cat. Lett.* **129** 1-6 (2009). LBNL-2439E
- 1013 (1059) Sum Frequency Generation Vibrational Spectra: The Influence of Experimental Geometry for an Absorptive Medium or Media. Roger L. York, Yimin Li, George J. Holinga and Gabor A. Somorjai. *J. Phys. Chem. A* **113**, 2768-2774 (2009).
- 1014 (1061) Sum Frequency Generation and Catalytic Reaction Studies of the Removal of Organic Capping Agents from Pt Nanoparticles by UV — Ozone Treatment. Cesar Aliaga, Jeong Y. Park, Yusuke Yamada, Hyun Sook Lee, Chia-Kuang Tsung, Peidong Yang and Gabor A. Somorjai. *J. Phys. Chem. C* **113**, 6150-6155 (2009). LBNL-2425E
- 1015 (1046) Concepts, Instruments, and Model Systems that Enabled the Rapid Evolution of Surface Science. Gabor A. Somorjai and Jeong Y. Park. *Surface Science* **603**, 1293-1300 (2009). LBNL-2433E
- 1016 (1064) Reaction Selectivity in Heterogeneous Catalysis. Gabor A. Somorjai and Christopher J. Kliwer. *React. Kinet. Catal. Lett.* **96** 191-208 (2009). LBNL-2438E
- 1017 (1065) Colloidally Synthesized Monodisperse Rh Nanoparticles Supported on SBA-15 for Size- and Pretreatment-Dependent Studies of CO Oxidation. Michael E. Grass, Sang Hoon Joo, Yawen Zhang and Gabor A. Somorjai. *J. Phys. Chem. C* **113**, 8616-8623, (2009). LBNL-2432E
- 1018 (1069) Restructuring of *hex*-Pt(100) under CO Gas Environments: formation of 2-D Nanoclusters. Feng Tao, Sefa Dag, Lin-Wang, Zhi Liu, Derek Butcher, Miquel Salmeron and Gabor A. Somorjai. *Nano Letters* **9**, 2167-2171 (2009). LBNL-1820E
- 1019 (1063) Sub-10 nm Platinum Nanocrystals with Size and Shape Control: Catalytic Study for Ethylene and Pyrrole Hydrogenation. Chia-Kuang Tsung, John N. Kuhn, Wenyu Huang, Cesar Aliaga, Ling-I Hung, Gabor A. Somorjai and Peidong Yang. *J. Am. Chem. Soc.* **131** 5816-5822 (2009). LBNL-1883E

- 1020 (1041) Spectroscopic Study of Tetradecyltrimethylammonium Bromide Pt-C₁₄TAB Nanoparticles: Structure, Stability, and Electron-Phonon Coupling. Yuri Borodko, Louis Jones, Hyunjoo Lee, Heinz Frei and Gabor A. Somorjai, *Langmuir* **25**, 6665-6671 (2009). LBNL-3169E
- 1021 (1071) Effect of Organic Capping Layers over Monodisperse Platinum Nanoparticles upon Activity for Ethylene Hydrogenation and Carbon Monoxide Oxidation. John N. Kuhn, Chia-Kuang Tsung, Wenyu Huang and Gabor A. Somorjai. *J. Catalysis* **265** 209-215 (2009). LBNL-2431E
- 1022 (1072) Chemical Effect of Dry and Wet Cleaning of the Ru Protective Layer of the Extreme ultraviolet Lithography Reflector. Leonid Belau, Jeong Y. Park, Ted Liang, Hyuntak Seo and Gabor A. Somorjai. *J. Vac. Sci. Technol. B* **27(4)** 1919-1925 (2009). LBNL-2430E
- 1023 (1060) Hydrogenation of the α , β -Unsaturated Aldehydes Acrolein, Crotonaldehyde, and Prenal over Pt Single Crystals: A Kinetic and Sum Frequency Generation Vibrational Spectroscopy Study. Christopher J. Kliewer, Marco Beiri and Gabor A. Somorjai. *J. Am. Chem. Soc.* **131**, 9958-9966 (2009). LBNL-3173E
- 1024 (1074) Rhodium Nanoparticle Shape Dependence in Reduction of NO by CO. James Russell Renzas, Yawen Zhang, Wenyu Huang and Gabor A. Somorjai. *Cat. Lett.* **132**, 317-322 (2009). LBNL-3168E
- 1025 (1067) An Investigation of the Influence of Chain Length on the Interfacial Ordering of L-Lysine and L-Proline and Their Homopeptides at Hydrophobic and Hydrophilic Interfaces Studied by Sum Frequency Generation and Quartz Crystal Microbalance. Roger L. York, George J. Holinga and Gabor A. Somorjai. *Langmuir* **25**, 9369-9374 (2009). LBNL-3210E
- 1026 (1075) Advancing the Frontiers in Nanocatalysis, Biointerfaces, and Renewable Energy Conversion by Innovations of Surface Techniques. Gabor A. Somorjai, Heinz Frei, and Jeong Y. Park. *J. Am. Chem. Soc.* **131**, 16589-16605 (2009). LBNL-3273E
- 1027 (1031) Heinz Heinemann. The Berkeley Years (1978-1993). Gabor A. Somorjai. *Cat. Lett.* **133**, 232-233 (2009). LBNL-3317E
- 1028 (1070) Hydrogen Oxidation-Driven Hot Electron Flow Detected by Catalytic Nanodiodes. Antoine Hervier, J. Russell Renzas, Jeong Y. Park and Gabor A. Somorjai. *Nano Letters* **9**, 3930-3933 (2009). LBNL-4528E
- 1029 (1083) Characterization of Colloidal Platinum Nanoparticles by MALDI-TOF Mass Spectrometry. Jason K. Navin, Michael E. Grass, Gabor A. Somorjai and Anderson L. Marsh, *Anal. Chem.* **81** 6295-6299 (2009). LBNL-4371E

Somorjai Publication List 2000-2009

- 1030 (1080) Molecular Studies of Surfaces under Reaction Conditions; Sum Frequency Generation
Vibrational Spectroscopy, Scanning Tunneling Microscopy and Ambient Pressure X-Ray
Photoelectron Spectroscopy. Gabor A. Somorjai. Proceedings of 7th International
Symposium on Atomic Level Characterizations for New Materials and Devices ALC '09,
December 6-11, 2009, Maui, Hawaii. LBNL-3357E