

Conference Presentations

(presenter's name is underlined)

1. P. Kumar, H. Alsyouri, V.V. Guliants, S. Kim, J. Ida, and Y.S. Lin, "Ordered MCM-48 Membranes Containing Surface-Grafted Amino Groups for CO₂/N₂ Separation", 8th International Conference on Inorganic Membranes, Cincinnati, OH, July 19-22, 2004.
2. R. Bhandari, J.N. Al-Saeedi, P.I. Rosales, F.J. Boerio, V.K. Vasudevan, V.V. Guliants, R. Soman, H.H. Brongersma, A.M. Gaffney, S. Han, "Mixed Mo-V-Te Oxide Catalysts for Selective Propane Oxidation to Acrylic Acid", 13th International Congress on Catalysis, Paris, France, July 11-16, 2004.
3. M.A. Carreon, V.V. Guliants, F. Pierelli and F. Cavani, "Mesostructured Mixed Metal Oxides for Partial Oxidation of Lower Alkanes", 13th International Congress on Catalysis, Paris, France, July 11-16, 2004.
4. J.N. Al-Saeedi and V.V. Guliants, "Macroporous Mo-V-Te-Nb Oxide Catalysts for Selective Propane Oxidation to Acrylic Acid", 13th International Congress on Catalysis, Paris, France, July 11-16, 2004.
5. A.M. Gaffney, S. Han, V.V. Guliants, R. Bhandari, P.I. Rosales, H.H. Brongersma, "Model Mo-V-Te-O catalysts for propane oxidation to acrylic acid: New fundamental insights from studies of surface active sites", 227th ACS National Meeting, Anaheim, CA, United States, March 28-April 1, 2004.
6. V.V. Guliants, M.A. Carreon, L. Yuan, "Thermally stable mesostructured mixed metal oxides", 227th ACS National Meeting, Anaheim, CA, United States, March 28-April 1, 2004.
7. M.A. Carreon, L. Yuan and V.V. Guliants, "Mesostructured Mixed Metal Mo-V-Nb Oxides for Selective Oxidation of Lower Alkanes", 2003 Annual AIChE Meeting, San Francisco, CA, November 17, 2003.
8. J.N. Al-Saeedi and V.V. Guliants, "Colloidal Sphere Array Synthesis of Nanocrystalline Mo-V-Te-Nb Oxide Catalysts for Selective Propane Oxidation to Acrylic Acid", 2003 Annual AIChE Meeting, San Francisco, CA, November 19, 2003.
9. V.V. Guliants, S. Kim, J. Ida, and Y.S. Lin, "Ordered Mesostructured Silica Membranes for Carbon Dioxide Separation from Flue Gas", 2003 Annual AIChE Meeting, San Francisco, CA, November 18, 2003.
10. S. Sarang, V.V. Guliants and Y.S. Lin, "Edible Barrier Coatings for Protection of Food Additives", 2003 Annual AIChE Meeting, San Francisco, CA, November 18, 2003.
11. J.N. Al-Saeedi, R. Bhandari, V. Vasudevan and V.V. Guliants, "Mixed Mo-V-Te Oxide Catalysts for Selective Propane Oxidation to Acrylic Acid", 2003 Annual AIChE Meeting, San Francisco, CA, November 17, 2003.
12. S. Sarang, V.V. Guliants and Y.S. Lin, "Edible Films", 2003 Annual AIChE Meeting, San Francisco, CA, November 18, 2003.
13. V.V. Guliants, S. Kim, J. Ida, and Y.S. Lin, "Ordered Meso- and Microporous Silica Membranes for CO₂ separation from Flue Gas", 20th Annual International Pittsburgh Coal Conference, Pittsburgh, PA, September 15-19, 2003.

14. J.N. Al-Saeedi, V. Vasudevan and V.V. Guliants, "Bulk Mixed Mo-V-Te-O Catalysts for Selective Propane Oxidation to Acrylic Acid", EuropaCatVI, September 1-4, 2003, Innsbruck, Austria.
15. J.N. Al-Saeedi and V.V. Guliants, "Nanocrystalline Mo-V-Te-Nb-O Catalysts for Selective Oxidation of Propane to Acrylic Acid", EuropaCatVI, September 1-4, 2003, Innsbruck, Austria.
16. J.N. Al-Saeedi and V.V. Guliants, "Macrostructured Mo-V-Te-(Nb)-O Catalysts for Selective Oxidation of Propane to Acrylic Acid", 18th NAM, June 1-6, 2003, Cancun, Mexico.
17. M.A. Carreon, and V.V. Guliants, "Mesostructured Mixed Metal Oxides for Partial Oxidation of Lower Alkanes", 18th NAM, June 1-6, 2003, Cancun, Mexico.
18. J.N. Al-Saeedi, V. Vasudevan and V.V. Guliants, "Mixed Mo-V-Te Oxide Catalysts for Selective Propane Oxidation to Acrylic Acid", Operando Spectroscopy, 1st International Conference on Applications of *in situ* Spectroscopies in Heterogeneous Catalysis, March 1-March 5, 2003, Lunteren, the Netherlands.
19. S. Kim, C. Gauer, V.V. Guliants, and Y.S. Lin, "Amine-Modified Silica Membranes for Separation of Carbon Dioxide Under Ambient Conditions", 2002 Annual AIChE Meeting, Indianapolis, IN, November 3-8, 2002.
20. P. Kumar, M.A. Carreon, and V.V. Guliants, "Synthesis and Characterization of Nanosized CdS Confined in Ordered Mesoporous Silica Thin Films", 2002 Annual AIChE Meeting, Indianapolis, IN, November 3-8, 2002.
21. S. Sarang, V.V. Guliants, and Y.S. Lin, "Smart Membranes for Protection and Controlled Release of Food Additives", 2002 Annual AIChE Meeting, Indianapolis, IN, November 3-8, 2002.
22. M.A. Carreon and V.V. Guliants, "Mesostructured Mixed Metal Oxides for Partial Oxidation of Lower Alkanes", 2002 Annual AIChE Meeting, Indianapolis, IN, November 3-8, 2002.
23. M.A. Carreon and V.V. Guliants, "Macroporous Vanadium-Phosphorus Oxide Phases for the Partial Oxidation of *n*-Butane", 2002 Annual AIChE Meeting, Indianapolis, IN, November 3-8, 2002.
24. J.N. Al-Saeedi and V.V. Guliants, "Hydrothermal Synthesis of Mixed Metal V-Mo-Te Oxide Catalysts for Selective Propane Oxidation to Acrylic Acid", 2002 Annual AIChE Meeting, Indianapolis, IN, November 3-8, 2002.
25. V.V. Guliants, S. Kim and J.Y.S. Lin, "Amine-Modified Silica Membranes for Separation of Carbon Dioxide from Flue Gas", International Conference on Air Quality III, September 9-12, Washington, DC.
26. J.N. Al-Saeedi and V.V. Guliants, "High Throughput Experimentation in Bulk Mixed Mo-V-Sb-Nb Oxide Catalysts for Selective Oxidation of Propane to Acrylic Acid", 224th National ACS Meeting, Boston, MA, August 18-22, 2002.
27. M.A. Carreon, V.V. Guliants, P. Kumar, and G. Beaucage, "Oriented Periodic Mesoporous Thin Films for the Fabrication of Nanoelectronic Devices", 7th International Conference on Inorganic Membranes, June 23-26, 2002, Dalian, China.

28. S. Kim, C. Gauer, V.V. Guliants, and J.Y.S. Lin, "Amine-Modified Silica Membranes for Separation of Carbon Dioxide Under Ambient Conditions", 7th International Conference on Inorganic Membranes, June 23-26, 2002, Dalian, China.
29. M.A. Carreon, V.V. Guliants, "Novel Macroporous Vanadium-Phosphorus-Oxide with Three Dimensional Arrays of Spherical Voids", Nanoporous Materials III, June 12-15, 2002, Ottawa, Canada.
30. M.A. Carreon, V.V. Guliants, "Synthesis and Characterization of Mesoporous Vanadium-Phosphorus-Oxide Phases", Nanoporous Materials III, June 12-15, 2002, Ottawa, Canada.
31. M.A. Carreon, V.V. Guliants, "Thermally Stable Hexagonal and Cubic Mesoporous Vanadium-Phosphorus-Oxide Phases", 4th International Symposium on Group V Elements, Toledo, Spain, April 9-12, 2002.
32. J. N. Al-Saeedi, V. V. Guliants, O. Guerrero, M. A. Bañares, "Bulk Mixed Mo-V-Sb-Nb Oxides for Selective Propane Oxidation to Acrylic Acid", 4th International Symposium on Group V Elements, Toledo, Spain, April 9-12, 2002.
33. J. N. Al-Saeedi, V. V. Guliants, O. Guerrero, M. A. Bañares, "Selective Oxidation of Propane to Acrylic Acid over Bulk Mixed Mo-V-Sb-Nb Oxides: A Study of Structure-Reactivity/Selectivity Relationships", *Selective Alkane Oxidation* Symposium, cosponsored with Division of Colloid and Surface Chemistry, Division of Industrial and Engineering Chemistry, and Division of Petroleum Chemistry, Spring 2002 ACS Meeting, Orlando, FL, April 7-11, 2002.
34. M. A. Carreon, V. V. Guliants, "Nano and Macroporous Mixed Metal Oxide Phases for Selective Oxidation of Lower Alkanes". *Selective Alkane Oxidation* Symposium, cosponsored with Division of Colloid and Surface Chemistry, Division of Industrial and Engineering Chemistry, and Division of Petroleum Chemistry, Spring 2002 ACS Meeting, Orlando, FL, April 7-11, 2002.
35. M.A. Carreon and V.V. Guliants, "Hierarchical Design of Novel Macroporous Vanadium-Phosphorus-Oxide Catalysts for Selective Oxidation of *n*-Butane to Maleic Anhydride", the Annual 2001 AIChE Meeting, Reno, NV, November 5, 2001.
36. M.A. Carreon and V.V. Guliants, "Synthesis of Thermally Stable Nanoporous Vanadium-Phosphorus-Oxide Phases", the Annual 2001 AIChE Meeting, Reno, NV, November 9, 2001.
37. J.N. Al-Saeedi and V.V. Guliants, "High-Throughput Automated Synthesis of Bulk Mixed Mo-V-Sb-Nb Oxide Catalysts for Selective Oxidation of Propane to Acrylic Acid", the Annual 2001 AIChE Meeting, Reno, NV, November 7, 2001.
38. J.N. Al-Saeedi and V.V. Guliants, "The Bulk Structure and Catalytic Properties of Mixed Mo-V-Sb-Nb Oxides for Selective Propane Oxidation to Acrylic Acid", the Annual 2001 AIChE Meeting, Reno, NV, November 8, 2001.
39. P.A. Bobrovnikov, E.M. Kopaygorodsky, W.B. Krantz, V.V. Guliants, "Ultra-Rapid Cycle Adsorptive Separation", the Annual 2001 AIChE Meeting, Reno, NV, November 9, 2001.
40. P.A. Bobrovnikov, E.M. Kopaygorodsky, V.V. Guliants, "Molecular Transport Through Single Zeolite X Crystals", the Annual 2001 AIChE Meeting, Reno, NV, November 9, 2001.

41. S. A. Holmes, V.V. Guliants, M. Carreon Garciduenas, "Studies of Active Sites Present in (100) Surface Planes of Vanadyl Pyrophosphate Using Methanol Probe Molecule", the 4th World Congress on Oxidation Catalysis, Berlin/Potsdam, September 16-21, 2001.
42. E. Kopaygorodsky, W.B. Krantz, and V.V. Guliants, "Scaling Analysis – A Valuable Technique In Engineering Teaching and Practice", 2001 Annual Conference & Exposition of the American Society for Engineering Education, Albuquerque, NM, June 24-27, 2001.
43. S.A. Holmes, J. Al-Saeedi, V.V. Guliants, P. Boolchand, D. Georgiev, "Structure, Composition, and Solid State Chemistry of Mixed V-Sb-Mo-Nb Oxides for Propane Oxidation", 6th Natural Gas Conversion Symposium, Girdwood, Alaska, June 17-22, 2001.
44. M.A. Carreon and V.V. Guliants, "Nano- and Macroporous Vanadium-Phosphorus-Oxides for Partial Oxidation of *n*-Butane to Maleic Anhydride", 6th Natural Gas Conversion Symposium, Girdwood, Alaska, June 17-22, 2001.
45. J.N. Al-Saeedi, S.A. Holmes, and V.V. Guliants, "Structure, Composition, and Solid State Chemistry of Bulk Mixed V-Sb-Mo-Nb Oxides for Propane Oxidation", North American Catalysis Society (NACS2001), Toronto, Canada, June 3-8, 2001.
46. M.A. Carreon and V.V. Guliants, "Hierarchically Designed Nano- and Macroporous Mixed Metal Oxides for Partial Oxidation of Lower Alkanes", North American Catalysis Society (NACS2001), Toronto, Canada, June 3-8, 2001.
47. S. A. Holmes, V.V. Guliants, M. A. Carreon, and I.E. Wachs, "Investigation of Active Sites Present in (100) Surface Planes of Vanadyl Pyrophosphate Using Methanol Probe Molecule", Annual AIChE Meeting, Los Angeles, CA, November 16, 2000.
48. S. A. Holmes, V.V. Guliants, M.A. Carreon, "Investigation of Active Surface Sites of (VO)₂P₂O₇ Catalysts Using Methanol Probe Molecule", American Chemical Society Meeting, Washington, D.C., August 23, 2000.
49. V.V. Guliants, J. B. Benziger, S. Sundaresan, and I. E. Wachs, Poster, "Molecular Structure-Reactivity Relationships in *n*-Butane Oxidation over Bulk VPO and Supported Vanadia Catalysts: Lessons for Molecular Engineering of New Selective Catalysts for Alkane Oxidation", 12th International Congress on Catalysis, Granada, Spain, July 9-14, 2000.
50. V.V. Guliants, Poster, "Intercalation and Pillaring of Vanadium-Phosphorus-Oxide Catalysts for Selective Butane Oxidation", American Chemical Society Meeting, San Francisco, CA, March 26, 2000.
51. V.V. Guliants, "Molecular Engineering of New Catalytic Materials: from Bulk to Supported VPO Catalysts for Alkane Oxidation", The Spring Conference of the Catalysis Society of Metropolitan New York, Lehigh University, Bethlehem, PA, March 20, 2000.
52. V.V. Guliants, J.B. Benziger, and I.E. Wachs, "*In Situ* Studies of Transformation of Vanadyl(IV) Hydrogen Phosphate Hemihydrate into Vanadyl(IV) Pyrophosphate and Nature of Phase Selective in Butane Oxidation to Maleic Anhydride", Annual AIChE Meeting, Dallas, TX, November 15, 1999.
53. V.V. Guliants, J.B. Benziger, and I.E. Wachs, "Novel Promoted Vanadium-Phosphorus-Oxide (VPO) and Supported Vanadia Catalysts for Partial Oxidation of *n*-Butane to Maleic

- Anhydride". 16th Meeting of the North American Catalysis Society, Boston, MA, May 30 – June 4, 1999.
54. V.V. Guliants, J.B. Benziger, S. Sundaresan, P. Heaney, D. Yates, I.E. Wachs, J.M. Jehng, G. Deo, "Transformation of VPO Precursor and the Nature of VPO Phase Selective in Butane Oxidation to Maleic Anhydride". American Chemical Society Meeting, Dallas, TX, March 25, 1998.
 55. V.V. Guliants, J.T. Mullhaupt, J.M. Newsam, A.M. Gorman, C.M. Freeman, "Validating Simulations of Non-Framework Species Locations in Zeolites". American Chemical Society Meeting, San Francisco, CA, April 16, 1997.
 56. J.B. Benziger, V.V. Guliants, and S. Sundaresan, "The Oxidation of C4 Molecules on Vanadyl Pyrophosphate Catalysts". 11th International Congress on Catalysis, Baltimore, MD, June 30-July 5, 1996.
 57. I.E. Wachs, J.M. Jehng, G. Deo, V.V. Guliants, "Fundamental Studies of Butane Oxidation Over Model Supported Vanadium Oxide Catalysts: Molecular Structure-Reactivity Relationships". The Spring Conference of the Catalysis Society of Metropolitan New York, Lehigh University, Bethlehem, PA, April 17, 1996.
 58. J.B. Benziger, V.V. Guliants, and S. Sundaresan, Poster, "New Precursors to Vanadium Phosphorus Oxide Catalysts". American Chemical Society Meeting, Chicago, IL, August 22, 1995.
 59. J.B. Benziger, V.V. Guliants, and S. Sundaresan, Poster, "Evolution of the Active Surface of VPO Catalysts". American Chemical Society Meeting, Chicago, IL, August 22, 1995.
 60. J.B. Benziger, V.V. Guliants, and S. Sundaresan, "Characterization of Vanadyl(IV) Phosphonates, Their Catalytic Activity in *n*-Butane Oxidation to Maleic Anhydride". Annual AIChE Meeting, San Francisco, CA, November 14, 1994.
 61. V.V. Guliants, J.B. Benziger and S. Sundaresan, "Synthesis of Intercalated Vanadyl(IV) Phosphates". American Chemical Society Meeting, Washington, DC, August 24, 1994.
 62. V.V. Guliants, J.B. Benziger and S. Sundaresan, "On the Nature of VPO Phase Selective in Partial Oxidation of *n*-Butane to Maleic Anhydride". The Spring Conference of the Catalysis Society of Metropolitan New York, Lehigh University, Bethlehem, PA, March 9, 1994.
 63. V.V. Guliants, and J.B. Benziger, "The Water Vapor Effect in Selective Oxidation of *n*-Butane into Maleic Anhydride on Vanadyl (IV) Pyrophosphate Catalyst". Annual AIChE Meeting, Miami Beach, FL, November 18, 1992.