

## Student Presentations.

1. "Environmentally Friendly Solvent-Free Processes: Preparation of Nitro Alcohols, A Class of Valuable Drug Intermediates" **Vikram Purohit**, Hilda Argulin, Apurba Bhattacharya\*. IUCCP symposium October 1-4, 2001. College Station, Texas.
2. "Environmentally Friendly Synthesis of Benzoin; a Valuable Intermediate in Organic Synthesis" **Stephanie Nichols**, Vikram Purohit, Apurba Bhattacharya\*. American Chemical Society South Texas Section, November 10, 2001.
3. "Environmentally Processes in Organic Synthesis: Zeolite Mediated selective O-Methylation of Phenols under Salt-free conditions" **James Ogle**, Apurba Bhattacharya\*. American Chemical Society South Texas Section, November 10, 2001.
4. "Environmentally Processes in Organic Synthesis Solvent-free Hydrolysis of Esters" **Nishant Joshi**, Apurba Bhattacharya\*. American Chemical Society South Texas Section, November 10, 2001.
5. "Environmentally Processes in Organic Synthesis: Novel Surfactant Mediated Solvent Free Ether Cleavage/trans-Etherification under Neutral Conditions" **Ritesh Tichkule**; Gaurang Parmar, Vikram Purohit, Apurba Bhattacharya\*. IUCCP symposium September 23-25, 2002; College Station, Texas.
6. "Environmentally Friendly Processes in Organic Synthesis: Novel Surfactant Mediated Solvent-Free Ester Cleavage/trans-Esterifications under neutral conditions" **Nishant Joshi**, Apurba Bhattacharya\*. IUCCP symposium September 23-25, 2002; College Station, Texas.
7. "Surfactant Mediated Dual Catalysis in Organic Synthesis: A novel Solvent-Free Transformation of Nitro to Amides" **Gaurang Parmar**, Apurba Bhattacharya\*. IUCCP symposium September 23-25, 2002; College Station, Texas.
8. "Environmentally Friendly Processes in Organic Synthesis: Novel Surfactant Mediated Solvent Free Ether Cleavage / Trans-Etherification under Neutral Conditions" **Ritesh Tichkule**; Savitha Muramulla; Gaurang Parmar; & Apurba Bhattacharya\*. South Texas Section, American Chemical Society, Second Research Symposium, Kingsville, Texas, November 21, 2003.
9. "Application of Surfactant Mediated Dual Catalysis in Organic Synthesis: A Novel Transformation of Nitro to Amides: One Step Synthesis of Acetaminophen<sup>®</sup>" **Gaurang Parmar**, Diego Saenz, Tamara Hussein & Apurba Bhattacharya\*. South Texas Section, American Chemical Society, Second Research Symposium, Kingsville, Texas, November 21, 2003.
10. "Environmentally friendly waste-free Acetoxylation of Alcohols" **Sankara R Cherukuri**, Senthil Kumar K.S., Victor Villareal, Vikram Purohit and Apurba Bhattacharya\*. South Texas Section, American Chemical Society, Second Research Symposium, Kingsville, Texas, November 21, 2003.

11. "Advances in Heterocyclic Synthesis" **Nitinchandra Patel**, Apurba Bhattacharya\*  
South Texas Section, American Chemical Society, Second Research Symposium,  
Kingsville, Texas, November 21, 2003.
12. "A Simple, Efficient One Pot Amidation of Nitriles" **Victor Villareal**, Sankara R  
Cherukuri, Richard Sanchez Jr. and Apurba Bhattacharya\*. South Texas Section,  
American Chemical Society, Second Research Symposium, Kingsville, Texas, November  
21, 2003.
13. "Zeolite-HBr-H<sub>2</sub>O<sub>2</sub> Mediated Waste-free Bromination of Aromatic Compounds"  
**Madeline R. Fair**, Ritesh Tichkule, Apurba Bhattacharya\*. South Texas Section,  
American Chemical Society, Second Research Symposium, Kingsville, Texas, November  
21, 2003.
14. "Environmentally Friendly Aliphatic Bromination of Substituted Acetophenones and  
Benzocyclic Ketones" **Mario E. Gomez**, Madeline Fair, Ritesh Tickule, Apurba  
Battacharya\*. South Texas Section, American Chemical Society, Second Research  
Symposium, Kingsville, Texas, November 21, 2003.
15. "Regioselectivity in Pyridine Synthesis" **Senthil Kumar K.S.**, Vikram Purohit and  
Apurba Bhattacharya\*. South Texas Section, American Chemical Society, Second  
Research Symposium, Kingsville, Texas, November 21, 2003.
16. "Novel Surfactant Mediated Solvent Free Cleavage of Esters Under Neutral  
Conditions" **Tomas Vasques**, Nitinchandra Patel, Omar Vela & Apurba Bhattacharya\*.  
South Texas Section, American Chemical Society, Second Research Symposium,  
Kingsville, Texas, November 21, 2003.
17. "Zeolite Catalyzed, Microwave Induced Environmentally Friendly Etherification"  
**Richard Sanchez Jr.**, Ritesh Tichkule, James Ogle, Shane Tichy, Apurba Bhattacharya\*.  
South Texas Section, American Chemical Society, Second Research Symposium,  
Kingsville, Texas, November 21, 2003.
18. "Environmentally Friendly Processes in Organic Synthesis: Novel Surfactant  
Mediated Solvent Free Cleavage of Esters Under Neutral Conditions"  
**Tomas Vasques**, Nitinchandra Patel, Omar Vela & Apurba Bhattacharya\*. IUCCP  
symposium October 13-15, 2003; College Station, Texas.
19. "Zeolite Mediated Microwave Induced Environmentally Friendly Etherification"  
**Richard Sanchez Jr.** Ritesh Tichkule, Apurba Bhattacharya\*. IUCCP symposium  
October 13-15, 2003; College Station, Texas.
20. "Environmentally Friendly Aliphatic Bromination of Substituted Acetophenones and  
Benzocyclic Ketones" **Mario E. Gomez**, Madeline Fair, Ritesh Tichkule, Apurba  
Bhattacharya\*. IUCCP symposium October 13-15, 2003; College Station, Texas.

21. "Zeolite-HBr-H<sub>2</sub>O<sub>2</sub> mediated Waste Free Bromination of Aromatic Compounds. **Madeline R Fair**, Ritesh Tichkule, Apurba Bhattacharya\*. IUCCP symposium October 13-15, 2003; College Station, Texas. [*Received the best presentation award in the symposium*].
22. "HBr-H<sub>2</sub>O<sub>2</sub> mediated, Zeolite Catalyzed Waste-Free Bromination of Aromatic Compounds" **Madeline R Fair**, Ritesh Tichkule, Apurba Bhattacharya\*. First Pathways Research Symposium. November 14-15, 2003; Galveston, Texas. [*Received the best presentation award in the symposium*].
23. "Environmentally Friendly Processes in Organic Synthesis: Novel Surfactant-mediated Solvent-free Reactions in a Catalytic System". **Tomas Vasques**, Nitin Patel, Victor Villarreal, Omar Vela, and Apurba Bhattacharya\*. Natural Sciences Research Poster Session at the University Of Texas at Austin, Austin, Texas April 2, 2004.
24. "Surfactant Mediated Dual Catalysis in Green Chemistry, Solvent Free Transformation of Nitro to Amides: One Step Synthesis of Tylenol. **Ritesh Tichkule**, Guarang Parmar, and Apurbah Bhattacharya\*. Natural Sciences Research Poster Session at the University Of Texas at Austin, Austin, Texas April 2, 2004.
25. "Remarkable Solvent Effect in Barton-Zard Pyrrole Synthesis: Improved Synthesis of 3,4-dialkyl-1-H-pyrrole-2-carboxylate". **Sankara Cherukuri**, Ritesh Tichkule, Victor Tamez, Vikram Purohit, and Apurba Bhattacharya\*. Natural Sciences Research Poster Session at the University Of Texas at Austin, Austin, Texas April 2, 2004.
26. "Application in Green Chemistry: Ether Cleavage/Trans-etherification Under Neutral Conditions". **Ritesh Tichkule**, Guarang Parmar, Savitha Muramulla, and Apurbah Bhattacharya\*. Natural Sciences Research Poster Session at the University Of Texas at Austin, Austin, Texas April 2, 2004.
27. "One Pot Transformation of Nitriles & Carboxylic Acids to Amides". **Victor Villarreal**, Savitha Muramulla, Rick Sanchez, Sankara Cherukuri, and Apurba Bhattacharya\*. Natural Sciences Research Poster Session at the University Of Texas at Austin, Austin, Texas April 2, 2004.
28. "Zeolite Catalyzed, Microwave Induced, Waste-Free Etherification, Formylation, Methylation and Ester Hydrolysis" **Sanchez, Richard**; Tichkule, Ritesh; Tamez, Victor; Vasques, Tomas; Villarreal, Victor; Bhattacharya, Apurba\*. Abstracts, 60th Southwest Regional Meeting of the American Chemical Society, Fort Worth, TX, United States, September 29-October 4 (2004).
29. "Zeolite catalyzed Waste-free Bromination of Aromatic Compounds" **Fair, Madeline Rosa**; Tichkule, Ritesh; Bhattacharya, Apurba\*. Abstracts, 60th Southwest Regional Meeting of the American Chemical Society, Fort Worth, TX, United States, September 29-October 4 (2004), SEPT04-066. Publisher: American Chemical Society, Washington, D. C.

30. "Waste-Free Environmentally Friendly Halogenation of Substituted Acetophenones and Benzocyclic Ketones" **Plata, Erik**; Gomez, Mario; Bhattacharya, Apurba\*. Abstracts, 60th Southwest Regional Meeting of the American Chemical Society, Fort Worth, TX, United States, September 29-October 4 (2004), SEPT04-069. Publisher: American Chemical Society, Washington, D. C.
31. "Surfactant mediated, solvent free oxidation of aryl alcohols to aldehydes" **Pedraza, Fernando**; Tichkule, Ritesh; Bhattacharya, Apurba\*. Abstracts, 60th Southwest Regional Meeting of the American Chemical Society, Fort Worth, TX, United States, September 29-October 4 (2004), SEPT04-070. Publisher: American Chemical Society, Washington, D. C.
32. "Solvent Free Processes In Organic Synthesis" **Patel, Nitinchandra**; Pedraza, Fernando; Vela, Omar; Bhattacharya, Apurba\*. Abstracts, 60th Southwest Regional Meeting of the American Chemical Society, Fort Worth, TX, United States, September 29-October 4 (2004), SEPT04-075. Publisher: American Chemical Society, Washington, D. C.
33. "Remarkable Solvent Effect In Barton - Zard Pyrrole Synthesis: An Efficient And Environmentally Friendly Synthesis Of 3,4-Dialkyl-1-H-Pyrrole-2-Carboxylates" **Cherukuri, Sankara**; Tichkule, Ritesh; Tamez, Victor; Bhattacharya, Apurba\*. Department of Chemistry, Abstracts, 60th Southwest Regional Meeting of the American Chemical Society, Fort Worth, TX, United States, September 29-October 4 (2004), SEPT04-074. Publisher: American Chemical Society, Washington, D. C.
34. "One Pot Synthesis of Amides from Nitriles" **Villarreal, Victor**; Muramulla, Savitha; Bhattacharya, Apurba\*. Department of Chemistry, Texas A&M University Kingsville, Kingsville, TX, USA. Abstracts, 60th Southwest Regional Meeting of the American Chemical Society, Fort Worth, TX, United States, September 29-October 4 (2004), SEPT04-160. Publisher: American Chemical Society, Washington, D. C.
35. "Environmentally Friendly Organic Synthesis: a Novel Surfactant Mediated Solvent Free Ether Cleavage/Trans-Etherification under Neutral Conditions" **Tichkule, Ritesh**; Muramulla, Savitha; Pedraza, Fernando; Parmar, Gaurang; Bhattacharya, Apurba\*. Abstracts, 60th Southwest Regional Meeting of the American Chemical Society, Fort Worth, TX, United States, September 29-October 4 (2004), SEPT04-067. Publisher: American Chemical Society, Washington, D. C.
36. "Environmentally Friendly Organic Syntheses: a Transformation of Nitro to Amides: One Step Syntheses of Acetaminophen<sup>TM</sup>" **Tamez, Victoriano**; Suarez, Victor H.; Parmar, Gaurang; Tichkule, Ritesh; Bhattacharya, Apurba\*. Abstracts, 60th Southwest Regional Meeting of the American Chemical Society, Fort Worth, TX, United States, September 29-October 4 (2004), SEPT04-068. Publisher: American Chemical Society, Washington, D. C.
37. "Amidation of Acids" **Muramulla, Savitha**; Villarreal, Victor; Cherukuri, Sankara; Bhattacharya, Apurba\*. Abstracts, 60th Southwest Regional Meeting of the American

Chemical Society, Fort Worth, TX, United States, September 29-October 4 (2004), SEPT04-159. Publisher: American Chemical Society, Washington, D. C.

38. "A Rational Approach to Catalyst Design via Chiral Alkylation of Indanones" **Ramirez, Thomas**; Plata, Robert; Vasques, Tomas; Bhattacharya, Apurba\*. Abstracts, 60th Southwest Regional Meeting of the American Chemical Society, Fort Worth, TX, United States, September 29-October 4 (2004), SEPT04-161. Publisher: American Chemical Society, Washington, D. C.

39. "Surfactant Mediated Solvent-Free Reductions of Aryl Carbonyl Substrates to Aryl Alcohols" **Ceaser A. Almaranz**, Fernando Pedraza, Savitha Murmulla, Apurba Bhattacharya\*. IUCCP symposium October 18-20, 2004; College Station, Texas.

40. "Environmentally Friendly, Surfactant-Mediated, Solvent-Free Oxidations of Primary Alcohols to Aldehydes" **Fernando Pedraza**, Apurba Bhattacharya\*. IUCCP symposium October 18-20, 2004; College Station, Texas.

41. "Rational Design of a Chiral Phase-Transfer Catalyst for the Alkylation of Substituted 2-Alkyl Indanones" **Thomas Ramirez**, Tomas Vasques, Eric Plata, Apurba Bhattacharya\*. IUCCP symposium October 18-20, 2004; College Station, Texas

42. "Waste-Free Environmentally Friendly Acetamidation of Aryl Nitro Compounds: Application in the Synthesis of Aetaminophen" **Victor Suarez**, Victoriano Tamez, Jr., Srinivas Reddy, Apurba Bhattacharya\*. IUCCP symposium October 18-20, 2004; College Station, Texas

43. "Remarkable Solvent Effect in the Barton-Zard Pyrrole Synthesis: An Efficient Synthesis of 3,4-Dialkyl-1-H-Pyrrole-2-Carboxylates: Application to a One-Step Synthesis of Pyrrole Derivatives" **Victoriano Tamez, Jr.**, Shankar Cheukuri, Nitinchandra Patel, Apurba Bhattacharya\*. IUCCP symposium October 18-20, 2004; College Station, Texas.

44. "Efficient One-Pot Synthesis of Amides from Aryl Nitriles and Carboxylic Acids" **Victor Villareal Jr.** Rick Sanchez, Savitha Murmulla, Apurba Bhattacharya\*.

44. "Environmentally Processes in Organic Synthesis: Application of Zeolites in Etherification, Fromylation and Hydrolysis" **Richard Sanchez, Jr.**, Ritesh Tichkule, Ronny G. Thomas, James Ogle, Shane Tichy, Apurba Bhattacharya\*. Annual Biomedical Conference for Minority Students (ABRCMS), November 10-13, 2004; Dallas, Texas.

45. "Green Chemistry in Organic Synthesis: Environmentally Friendly Waste-Free Bromination of Substituted Acetophenones, Bezocyclic Ketones and Aromatic Compounds" **Robert Erik Plata**, Apurba Bhattacharya\*. Annual Biomedical Conference for Minority Students (ABRCMS), November 10-13, 2004; Dallas, Texas.

46. "Surfactant Mediated Solvent-Free Reductions of Aryl Carbonyl Substrates to Aryl Alcohols" **Ceaser Almaranz**, Apurba Bhattacharya\*. Annual Biomedical Conference for Minority Students (ABRCMS), November 10-13, 2004; Dallas, Texas.
47. "An Efficient Waste-Free Acetamidation of Aryl Nitro Compounds; Application in the Synthesis of Acetaminophen" **Victor H. Suarez**, Apurba Bhattacharya\*. Annual Biomedical Conference for Minority Students (ABRCMS), November 10-13, 2004; Dallas, Texas.
48. "Remarkable Solvent Effect in Barton-Zard Pyrrole Synthesis: An efficient Synthesis of 3,4-Dialkyl-1-H-Pyrrole-2-Carboxylates: Application to a One-Step Synthesis of Pyrrole Derivatives" **Victoriano Tamez, Jr.**, Shankar Cherukuri, Nitinchandra Patel, Apurba Bhattacharya\*. Annual Biomedical Conference for Minority Students (ABRCMS), November 10-13, 2004; Dallas, Texas.
49. "Environmentally-Friendly Surfactant-Mediated Solvent-Free Oxidation of Aryl Alcohols to Aldehydes" **Fernando Pedraza**, Apurba Bhattacharya\*. Annual Biomedical Conference for Minority Students (ABRCMS), November 10-13, 2004; Dallas, Texas
50. "Efficient One-Pot Transformation of Aryl Nitriles and Carboxylic Acids to Amides" **Victor Villareal Jr.** Rick Sanchez, Savitha Murmula, Apurba Bhattacharya\*. Annual Biomedical Conference for Minority Students (ABRCMS), November 10-13, 2004; Dallas, Texas.
51. "Green technology in organic synthesis: An efficient one-step synthesis of acetaminophen<sup>TM</sup>" **Victor H Suarez**, Victoriano Tamez, Srinivas Reddy, Frank Rinaldi and Apurba Bhattacharya. 229th meeting of the American Chemical Society, San Diego, March 2005.
52. "Environmentally friendly surfactant-mediated cleavage of aryl esters and ethers under neutral conditions" **Nitinchandra Patel**, Ritesh Tichkule, Rick Sanchez, Apurba Bhattacharya and Jiejun Wu. 229th meeting of the American Chemical Society, San Diego, March 2005.
53. "Surfactant-mediated, solvent-free oxidation of primary alcohols to aldehydes". **Fernando Pedraza**, Jiejun Wu, and Apurba Bhattacharya. 229th meeting of the American Chemical Society, San Diego, March 2005.
54. Rationally engineered chiral phase-transfer catalysts in the alkylation of substituted 2-alkyl-1-indanones **Thomas Anthony Ramirez**, Tomas Vasques, Robert Erik Plata, Jiejun Wu, and Apurba Bhattacharya. 229th meeting of the American Chemical Society, San Diego, March 2005.
55. "Efficient one-pot, one-step synthesis of pyrrole derivatives: An unprecedented solvent selectivity in Barton-Zard pyrrole synthesis". **Victoriano Tamez Jr.** Sankara

Cherukuri, Nitinchandra Patel, John A. Grosso, Venkatapuram Palaniswamy and Apurba Bhattacharya. 229th meeting of the American Chemical Society, San Diego, March 2005.

56. "Solvent-free reactions in organic synthesis: Surfactant-mediated sodium borohydride reduction of aryl carbonyl substrates to aryl alcohols" **Caesar Aaron Almaraz**, Fernando Pedraza, Savitha Muramulla, Apurba Bhattacharya, and Jiejun Wu. 229th meeting of the American Chemical Society, San Diego, March 2005.

57. "Green technology in organic synthesis: Environmentally friendly waste free bromination of substituted acetophenones, benzocyclic ketones, and aromatic compounds" **Robert Erik Plata**, Veronica Jimenez, Celina Garcia, Vanessa Garcia, Alejandro Morales, Apurba Bhattacharya and Jiejun Wu. 229th meeting of the American Chemical Society, San Diego, March 2005.

58. "Zeolite catalysis in organic synthesis: Application in etherification, formylation, ester hydrolysis, and indole synthesis" **Richard Sanchez Jr**, Ritesh Tichkule, Ronnie Thomas, Jiejun Wu and Apurba Bhattacharya. 229th meeting of the American Chemical Society, San Diego, March 2005.

59. "Process Optimization of The Pharmaceutical Intermediate Tosyl Phosphonate" **Yvonne Jimenez**, Annette Ferrell and Apurba Bhattacharya. A&M System Pathways Research Symposium. Kingsville, Texas, November 4-5, 2005.

60. "An efficient One-Pot synthesis of sulfonamides" **Madeline Fair** and Apurba Bhattacharya. A&M System Pathways Research Symposium. Kingsville, Texas, November 4-5, 2005.

#### **Student MS Thesis:**

1. "Environmentally friendly solvent free processes: preparation of nitroalcohols, a class of valuable drug intermediates, by Henry reaction" by Vikram Chandrakant Purohit.

2. "Environmentally friendly synthesis: zeolite catalyzed electrophilic aromatic formylation and O- methylation" by James William Ogle.

3. "Surfactant mediated dual catalysis in organic syntheses: one step conversion of nitro groups to acetamides" by Gaurang Parmar.

4. "A rational approach to catalyst design via enantiomeric studies of chiral alkylation" by Tomas Vasques.

5. "Green technology towards pharmaceutical drug development" by Ritesh Tichkule.

6. "New developments toward the synthesis of heterocycles and applications in green chemistry" by Nitinchandra Patel.

7. "Zeolite catalysis in organic synthesis: applications in etherification, formylation, ester hydrolysis and heteroaromatic synthesis" by Richard Sanchez, Jr.
8. "Green chemistry in Pyrrole synthesis, I) Solvent effect in Barton-Zard Pyrrole synthesis: an improved synthesis of 3, 4-Dialkyl-1H-Pyrrole-2-Carboxylates, II) A novel route for the synthesis of pharmaceutically important Pyrrole derivatives" by Sankara R. Cherukuri.
9. "An environmentally and economically friendly process utilizing amino grignards for the synthesis of amides" by Victor R. Villarreal Jr.
10. "A simple and efficient synthesis of aromatic amides utilizing amino grignard reagents" by Savitha Muramulla.
11. "A scaleable synthesis of N-[4-chloro-3-(trifluoromethyl phenyl)-((4-[2-(N-methyl carbamoyl)(4-pyridyloxy)] phenyl) amino)carboxamide ; A scaleable synthesis of 4-Bromo-6-Methoxy Quinoline ; Synthesis of 3'-O-Methylguanosine" by Srinivasa E. Reddy.
12. "An efficient synthesis of heterocycles: an improved solvent effect in the Barton-Zard pyrrole synthesis and a one step synthesis of benzothiazole derivatives" by Victoriano Tamez, Jr.
13. "Solvent-free oxidation of primary aryl alcohols to aldehydes and II. Conversion of primary amide to nitrile using SiCl<sub>4</sub>, as the dehydrating agent" by Fernando Pedraza.
14. "One step, waste free reduction of aryl nitro compounds to aryl acetamides" by Victor Hugo Suarez.
15. "Green technology in organic synthesis: environmentally friendly, waste-free bromination of substituted acetophenones, benzocyclic ketones, and aromatic compounds" by Robert Erik Plata.
16. "Syntheses of chiral tricyclic enones" by Thomas Anthony Ramirez.
17. "An improved synthesis of Heptakis (2, 3-diacetyl-6-sulfato)- $\beta$ -cyclodextrin (HDAS) for chiral application" by S.B.B. Siddhartha Akasapu.
18. "Synthesis of novel diethanol amine based organocatalysts" by Prasanth Reddy Nyalapatla.