

Blanton
Publications:

Refereed articles in professional journals:

- Dunn, H.E., Wathen, R.O., Blanton, R. 1981. Lead Contamination in Jasper, Indiana. *Proceedings of the Indiana Academy of Science* 91:333-336.
- Bergbreiter, D.E., Blanton, J.R., Chen, B. 1983. Polystyrene Analogues of Alkali Metal Diphenylmethyl Anions. *The Journal of Organic Chemistry* 48:5366-5368.
- Bergbreiter, D.E., Chen, B., Blanton, J.R., Lynch, T.L. 1983. Metalated Benzyl Polystyrenes. *Polymer Materials Science and Engineering* 49:74-77.
- Bergbreiter, D.E., Blanton, J.R. 1985. Diphenylphosphinated Ethylene Oligomers as Polymeric Reagents for Synthesis of Alkyl Chlorides from Alcohols. *Journal of the Chemical Society Chemical Communications* 1985:337-338.
- Bergbreiter, D.E., Blanton, J.R. 1985. Functionalized Ethylene Oligomers as Phase Transfer Catalysts. *The Journal of Organic Chemistry* 50:5828-5833.
- Bergbreiter, D.E., Blanton, J.R. 1987. Catalytic Reductions of Alkyl Halides Using Soluble Polyethers and Tri-n-butyltin Chloride as Co-catalysts. *The Journal of Organic Chemistry* 52:472-474.
- Blanton, J.R., Salley, R.E. 1989. Using a Macromolecular Analogue of an Amide Base in 2-Step, One Pot Claisen Condensations. *The Journal of Organic Chemistry* 54:723-726.
- Bergbreiter, D.E., Blanton, J.R., Chandran, R., Hein, M.D., Huang, K., -J., Treadwell, D.R., Walker, S.M. 1990. Anionic Syntheses of Terminally Functionalized Ethylene Oligomers. *The Journal of Polymer Science Polymer Chemistry Edition* 27:4205-4226. This is a major review article.
- Blanton, J.R., Salley, J.M. 1991. Reducing Alkyl Halides Using a Polymer-Bound Crown Ether/Tin Hydride Co-catalyst. *The Journal of Organic Chemistry*, 56:49-491.
- Blanton, J.R., Kruzka, S.J. 1993. Using Sodium Borohydride-Polyethylene Glycol Methyl Ether 400 as an Effective Reducing Agent Under PTC Conditions. *Microchemical Journal*, 47:120-126.
- Blanton, J.R. 1997. Borohydride-Polyethylene Glycol Monomethyl Ether Derivatives: Chemo- and Stereoselectivity Studies Under Phase Transfer Conditions. *Reactive and Functional Polymers*, 33: 61-69.

Blanton

Blanton, J.R. 1997. The Selective Reduction of Aldehydes Using Polyethylene Glycol-Sodium Borohydride Derivatives as Phase Transfer Reagents. *Synthetic Communications*, 27: 2093-2102.

Blanton, J.R. 2005. Using Microenvironmental Effects to Increase Loading and Stereoselectivity for Polymer Bound NaBH₄ Reagents. *Journal of the South Carolina Academy of Science*, 2(1): 30-41.

Blanton, J.R. 2006. Using Microenvironmental Effects: Loading, Activity and Stereoselectivity Relative to Polymer Bound NaBH₄ Reagents. *Journal of the South Carolina Academy of Science*, X(X): xx-xx. (Manuscript in preparation)

Reviewed articles in professional/industrial journals:

Blanton, J.R. 1997. PEG-bound Borohydrides: Selective Phase Transfer Reagents. *The Alembic*, 56: 1-6. This was the featured article.

Chapters in Books

Berlinghieri, J.C., Adelman, S.J., Hilleke, R.O., Rembiesa, P.J., Dukes, R.J., Watts, J.F., Blanton, J.R. 1990. "The Use of CCD Detectors as Astronomical Detectors" in the *Astronomical Society of the Pacific Conference Series*, ed. G.H. Jacoby, 374.

Technical Reports:

Contributed and evaluated infrared spectra for the following publications:

_____. 1986. *TRC Spectral Data*, Supplement No. 2, 71-115. Thermodynamic Research Center, Texas A&M University, College Station, TX.

_____. 1986. *TRC Spectral Data*, Supplement No. 3, 151-224. Thermodynamic Research Center, Texas A&M University, College Station, TX.

_____. 1987. *TRC Spectral Data*, Supplement No. 4, 224-299. Thermodynamic Research Center, Texas A&M University, College Station, TX.

Blanton

Papers presented at professional meetings:

Blanton, J.R., Bergbreiter, D.E., Chen, B. 1983. Polymeric Analogues of Diphenylmethane. First Annual IUCCP Meeting, College Station, TX.

Blanton, J.R., Bergbreiter, D.E. 1984. Preparation and Uses of Functionalized Ethylene Oligomers. Organic Division Symposia, Texas A&M University, College Station, Tx.

Blanton, J.R., Bergbreiter, D.E. 1986. Phase Transfer Catalysis Using Ethylene Oligomer-Bound Crown Ethers. Southwest Regional American Chemical Society Meeting, Houston, TX.

Blanton, J.R. 1988. Applications of Oligomer-Bound Polyethers as Phase Transfer Catalysts. *Bulletin of the South Carolina Academy of Science* XLX:72. (Abstr.)

Blanton, J.R., Salley, R.E. 1988. Macromolecular Bases: Synthesis and Applications. *Bulletin of the South Carolina Academy of Science* XLX:120. (Abstr.)

Blanton, J.R., Salley, R.E. 1989. Using a Macromolecular Analog of an Amide Base in 2-Step, One-Pot Claisen Condensations. *Abstracts of Papers, 197th National Meeting of the American Chemical Society National Meeting, Dallas, TX; Washington DC; ORGN 52.*

Blanton, J.R., Salley, J.M. 1989. Reduction Reactions Using Macromolecular-Bound Reagents Under Phase Transfer Conditions. *Bulletin of the South Carolina Academy of Science* LI:87. (Abstr.) This paper was selected for one of the six "Outstanding Research Awards" that were presented by Sigma Xi.

Berlinghieri, J.C., Adelman, S.J., Blanton, J.R., Dukes, B.J., Hilleke, R.O., Rembiesa, P.J., Watts, J.F. 1989. Holographic Fourier Transform Spectroscopy. *Bulletin of the South Carolina Academy of Science* LI:47. (Abstr.) This was an invited paper.

Blanton, J.R., Salley, J.M., Salley, R.E. 1989. Reduction Reactions Involving Polymer-Bound Tin Reagents and Macrocyclic Polyethers as Catalysts. Southeast Regional American Chemical Society Meeting, Winston-Salem, NC.

Berlinghieri, J.C., Adelman, S.J., Blanton, J.R., Dukes, R.J., Hilleke, R.O., Rembiesa, P.J., Watts, J.F. 1989. A CCD Fourier Transform Spectrometer. National Optical Astronomy Observatories, Kitt Peak National Observatory, Tucson, AZ.

Blanton

Berlinghieri, J.C., Adelman, S.J., Blanton, J.R., Dukes, R.J., Hilleke, R.O., Rembiesa, P.J., Watts, J.F. 1989. Digital Array Scanned Fourier Transform Spectrometers. Optical Society of America, Orlando, FL.

Blanton, J.R. 1990. Developing Expert Systems for Undergraduate Organic Chemistry. *Bulletin of the South Carolina Academy of Science* LII:44. (Abstr.)

Blanton, J.R. 1990. Reducing Alkyl Halides Using Macromolecular-Bound Hydride Catalysts. *Abstracts of Papers*, 42nd Southeast Regional American Chemical Society Meeting, New Orleans, LA; ORGN 396.

Blanton, J.R., Kruszka, S.J. 1991. Reducing Prochiral Ketones to Chiral Alcohols Using a Chiral Borohydride Reagent Under Phase Transfer Conditions. *Bulletin of the South Carolina Academy of Science* LIII:47 (Abstract).

Blanton, J.R. 1991. Novel Reduction Reactions Using Polymer-Bound Catalysts Under Phase Transfer Conditions. The 47th Southwest Regional Meeting of the American Chemical Society, San Antonio, TX., ORGN 261 (Abstract).

McAfee, L.V., Zuraw, L., Blanton, J.R., Richardson, T.H. 1992. This is Chemistry, not English! *Bulletin of the South Carolina Academy of Science* LIV:86 (Abstract).

Blanton, J.R. 1993. The Electromagnetic Radiation Spectrum and Everyday Life. The South Carolina Junior Academy of Science, Charleston, SC.

Blanton, J.R. 1994. Asymmetric Reductions Using Novel Chiral Catalysts Under Phase Transfer Conditions. *Bulletin of the South Carolina Academy of Science* LVI:61 (Abstract).

Blanton, J.R. 1994. Asymmetric Reactions Under Phase Transfer Conditions. Southeastern Regional Meeting of the American Chemical Society, Birmingham Alabama; ORGN 340 (Abstract).

Blanton, J.R. 1995. PEG-Modified Borohydrides: Selectivity Studies. *Bulletin of the South Carolina Academy of Science* LVII:XX, Greenville, SC. (Abstract).

Blanton, J.R. 1995. Polymeric Reagents and Catalysis: Eight Years in Review. Colloquium speaker at the College of Charleston, Charleston, South Carolina.

Blanton, J.R. 1995. PEGMME-Borohydride Derivatives: Selectivity and Reactivity Under Phase Transfer Conditions. 51st Southwest/47th Southeast Joint Regional Meeting of the American Chemical Society, Memphis, Tennessee; ORGN 487 (Abstract).

Blanton

Blanton, J.R. 1996. Borohydride-Polyethylene Glycol Monomethyl Ether Derivatives: Chemo- and Stereoselectivity Studies using Phase Transfer Conditions. 212th National Meeting of the American Chemical Society, Orlando, Florida; ORGN 331 (Abstract).

Blanton, J.R. 1997. Using Controlled Solubilization to Alter the Chemoselectivity of Sodium Borohydride. 214th National Meeting of the American Chemical Society, Las Vegas, Nevada; ORGN 331 (Abstract).

Blanton, J.R. 2000. Using the Undergraduate Thesis as a Capstone Course. Communication Across the Curriculum, The Citadel, Charleston, South Carolina.

Blanton, J.R. 2000. Polymer-Supported Reagents Using Dendritic Systems. *Bulletin of the South Carolina Academy of Science* LXII:50, Clinton, South Carolina. (Abstract).

Blanton, J.R. 2001. Assessment Based Planning. Invited presentation, Georgia Southern University, Statesboro, GA.

Blanton, J.R. 2002 Polyethylene Glycol Supported Reagents: Increased Loading and Synergistic Effects. Southeastern Regional Meeting of the American Chemical Society, Charleston, South Carolina; ORGN 682 (Abstract)

Blanton, J.R. 2003 Polymer Bound Borohydrides: Selectivity and Loading Studies. 225th National Meeting of the American Chemical Society, New Orleans, Louisiana; ORGN 592 (Abstract).

Blanton, J.R. 2004 Polymer Bound Borohydrides: A Simple Method to Increase Loading and Stereoselectivity. *Bulletin of the South Carolina Academy of Science* LXVI: 54, Charleston, South Carolina. (Abstract).

Blanton, J.R. 2005 Microenvironmental Effects: Loading, Stereoselectivity, and Reaction Rates Involving Polymeric Reagents. *Bulletin of the South Carolina Academy of Science* LXVII: 64, Rock Hill, South Carolina. (Abstract).

Blanton, J.R. 2006 Using the Microenvironment of Polymers to Affect Reactivity of Polymeric Reagents. 231st National Meeting of the American Chemical Society, Atlanta, Georgia; ORGN 74 (Abstract).

Blanton
Grants:

Research Grants:

- 1987-1988 Organic Synthesis Using Chemically Modified Macromolecules as Reagents and Catalysts. The Citadel Development Foundation. \$1632.00
- Organic Compound Identification with the Aid of Microcomputers. The Citadel. The loan of a PS/2 computer.
- 1988-1989 Organic Synthesis Using Chemically Modified Macromolecules as Reagents and Catalysts II. The Citadel Development Foundation. \$3250.00.
- 1988-1989 Co-investigator on a CHE Cutting Edge Initiative Grant entitled "Construction and Evaluation of Holographic Fourier Transform Spectrometers." \$73,615.
- 1989-1990 Macromolecular-Bound Chiral Crown Ethers as Phase Transfer Catalysts. The Citadel Development Foundation. \$3860.
- Co-investigator on a CHE Cutting Edge Initiative Grant entitled "Construction and Evaluation of Holographic Fourier Transform Spectrometers." Second Year Renewal \$61,000.
- 1990-1991 Reactions Involving Chiral Crown Ethers Under Phase Transfer Conditions. The Citadel Development Foundation. \$4895.
- Co-investigator on a CHE Cutting Edge Initiative Grant entitled "Construction and Evaluation of Holographic Fourier Transform Spectrometers." Third Year Renewal submitted to CHE, \$15,000.
- 1991-1992 Developing Chiral Reagents for Asymmetric Reductions. The Citadel Development Foundation. \$2995.00.
- 1992-1993 Utilization of Chiral Organoboron Reagents for the Asymmetric Reduction of Prochiral Ketones. The Citadel Development Foundation. \$2744.62.
- 1993-1994 Preparation and Identification of Chiral Alcohols from the Asymmetric Reduction of Prochiral Ketones. The Citadel Development Foundation. \$2906.46
- 1994-1995 Practical Applications Involving Polyethylene Glycol. The Citadel Development Foundation. \$1984.00.

Blanton

1995-1996	New Methodologies for Disposal of Haloorganics. The Citadel Development Foundation. \$1590.00.
1997-1998	Controlled Solubilization of Borohydride Reagents. The Citadel Development Foundation. \$1515.80.
1998-1999	Controlled Solubilization of Borohydride Reagents II. The Citadel Development Foundation. \$1092.00
1999-2000	Reagent Delivery Systems. The Citadel Development Foundation. \$689.00
2000-2001	Organized Molecular Assemblies: Dendrimers and Hyperbranched Polymers. The Citadel Development Foundation. \$2325.00
2001-2002	Organized Molecular Assemblies: Dendrimers and Hyperbranched Polymers II. The Citadel Development Foundation. \$636.00
2003-2004	The Study of Derivatized Cyclodextrins as Organic Reagents. The Citadel Development Foundation. \$2372.00.
2004-2005	Synthesis of Asymmetric Dendrons and Dendrimers. The Citadel Development Foundation. \$1603.00.
2005-2006	Synthesis of Chiral Amides. The Citadel Development Foundation. \$2544.00.
2005-2006	Microenvironmental Effects of Polymer Bound Dendrimers. The Citadel Development Foundation. \$xxxx.xx. (Applied)

Travel Grants

1994-1995	The Citadel Development Foundation, \$930.00. Travel funds to present a research related paper at the ACS meeting in Birmingham, AL.
1995-1996	The Citadel Development Foundation, \$945.00. Travel funds to present a research related paper at the ACS meeting in Memphis, Tennessee.
1996-1997	The Citadel Development Foundation, \$863.00. Travel funds to present a research related paper at the National ACS meeting in Orlando, Florida.

Blanton

- 1997-1998 The Citadel Development Foundation, \$1098.00. Travel funds to present a research related paper at the National ACS meeting in Las Vegas, Nevada.
- 2002-2003 The Citadel Development Foundation, \$140.00. Travel funds to present a research related paper at the Regional ACS meeting in Charleston, SC.
- The Citadel Development Foundation, \$1365.00. Travel funds to present a research related paper at the National ACS meeting in New Orleans, LA
- 2005-2006 The Citadel Development Foundation, \$1414.50. Travel funds to present a research related paper at the National ACS meeting in Atlanta, Ga.

Advanced Study Grants:

- 1988 National Undergraduate Research Conference. Asheville, NC. The Citadel Development Foundation. (This trip was used as a field trip for the junior and senior members of the Knox Chemical Society.) \$800.00.
- Symposia on both polymer chemistry and chemical education. Third North American Chemical Conference. Toronto, Ontario, Canada. The Citadel Development Foundation. \$600.00.
- 1991 Symposia on polymer chemistry, undergraduate chemical education, and using computers for chemical research and classroom instruction. 201st National Meeting of the American Chemical Society. Atlanta, GA. The Citadel Development Foundation. \$330.00.

Research in progress:

Dendritic Systems
Synthesis of Novel Derivatized Macromolecules.
Catalytic Asymmetric Polymer Synthesis.
Catalytic Reactions Using Metal Hydrides.
Asymmetric Synthesis Using Phase Transfer Catalysis.
Developing Multimedia Applications
Microenvironmental Effects Relating to Polymeric Reagents

Blanton

Other Scholarly Activities:

- 1988 An initial manuscript for an organic chemistry laboratory manual was prepared and used during the second summer session.
- 1989 A completed laboratory manual entitled "Laboratory Experiments for Organic Chemistry" was compiled and distributed for general use during the spring semester.
- Developed computer software to aid students in organic chemistry. This software includes REACTIONS, an Expert System/Drill to aid in learning chemical reactions; and COMSYNTH, an Expert System/Drill to aid in solving basic synthesis problems.
- 1990 Developing an Expert System pertaining to synthesis strategies in organic chemistry. This system will be used as a reference aid by students attempting to solve more complicated synthesis problems.
- 1991 The laboratory manual written in 1989 was revised to incorporate scanned spectra of the compounds that were actually prepared by students. Additionally, a laboratory involving a laboratory practical exam was added.
- Animation software illustrating reaction mechanisms was developed for both first and second semester organic chemistry. The software was used in the classroom by employing a laptop computer and an overhead viewer.
- 1992 Reviewer for PRF grants administered by the American Chemical Society.
- 1993 Multimedia applications were developed to provide students with additional resources for their chemistry laboratory courses. A video tape that incorporates live video footage and computer simulations is currently undergoing beta testing.
- Reviewer for PRF grants administered by the American Chemical Society.
- 1994 Reviewer for PRF grants administered by the American Chemical Society.
- 1995 Use of the World Wide Web as a teaching tool. Course materials and supplemental handouts were developed specifically for this media.

Blanton

- 1996 Use of the World Wide Web was extended to include instructional modules to supplement materials in the areas of organic synthesis and spectroscopic identifications.
- 1998-2000 Use of the World Wide Web was extended to include interactive instructional modules. (Including WebCT)
- 2000-2003 Developed multi-media modules for the classroom and the World Wide Web.
- 1990-Present Routinely serve as a reviewer /referee for a variety of journals such as Journal of Organic Chemistry, The Chemical Educator, etc.