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Education:

Ph.D., Yale University, New Haven, CT, June 1990
M.S., Yale University, New Haven, CT, 1986
B.S. (Honors) Illinois Institute of Technology, Chicago, IL, 1985

Professional Experience

Charles A. Goessmann Professor of Chemistry, 2005-present, University of Massachusetts-Amherst
Professor, Program in Molecular and Cell Biology, *Adjunct Professor*, Department of Polymer Science and Engineering, 2001-present, University of Massachusetts-Amherst
Associate Professor, 1998-2001, *Assistant Professor*, University of Massachusetts-Amherst, 1993-1998
NSF Postdoctoral Fellow, Massachusetts Institute of Technology, 1990-1993

Honors and Awards:

2007: Fellow, Royal Society of Chemistry (UK)
2006: University of Massachusetts Chancellor's Medal
2006: College of Natural Sciences and Mathematics Distinguished Researcher Award.
2005: Invited Professor, Ecole Normale Supérieure de Cachan.
2003-2004: Samuel F. Conte University Distinguished Faculty Fellowship
1998-2000: Alfred P. Sloan Fellow
1997-2002: Camille Dreyfus Teacher-Scholar
1997: NSF CAREER Award
1996: American Chemical Society, Connecticut Valley Section, John Burlew Award in Research
1996-2001: Research Corporation Cottrell Scholar
1996-1997: Lilly Teaching Fellow, University of Massachusetts
1990-1993: National Science Foundation Postdoctoral Fellow
1985: American Chemical Society Undergraduate Award in Analytical Chemistry

Named/Plenary/Keynote Lectures:

2009: *Keynote speaker*, 42nd IUPAC conference, Glasgow Scotland **2007:** *Plenary Speaker*, Bio-Physicochemical Interactions of Engineered Nanomaterials Workshop, UCLA. *Keynote Speaker*, Lorentz Conference, Magnetic Nanoparticles: Challenges and Future Prospects, Leiden, Netherlands, *Cherry Emerson Lecture*, Georgia Tech. **2006:** *Distinguished Faculty Lecture*, University of Massachusetts; *Plenary Lecture*; Particles 2006. **2005:** *Distinguished Faculty Lecture*; Indiana University. **2004:** *Keynote Speaker* Particles 2004. **2002:** *Distinguished Lecture Series* Dept of Materials & Nuclear Eng., University of Maryland; *Keynote speaker*, Macromolecular Science and Engineering Symposium. University of Michigan, **2000:** *R.T. Major Co-Lecturer*, University of Connecticut. **1999:** Williams College, *Organic Syntheses Lecture*; **1997:** Elms College, Springfield, MA, *Nora Harrington Lecture*, **1996:** University of Chicago, *Closs Lecture*.

Professional Service

Editorial:

2008-2013 **Associate Editor for North America**, *Journal of Materials Chemistry*
2008: **Guest Editor**, *Journal of Materials Chemistry* feature issue "Biology in the Service of Materials"
2008: **Guest Editor**, *Advanced Drug Delivery Reviews* focus issue "Inorganic Particles in Drug Delivery"
2007: **Co-Editor**, *Polymers Today* special issue "Recognition mediated Self-Assembly of Polymers"
2006-2009 **Editorial Board**, *Journal of Materials Chemistry*
2005- **Editorial Advisory Board**, *Chemical Biology & Drug Design*
2002- **Editorial Advisory Board**, *Mini-Reviews in Organic Chemistry*, *Letters in Organic Chemistry*, *Drug Design Reviews*, *Medicinal Chemistry*
2001- **Analyst**, *Faculty of 1000* research highlighting service
2001: **Editor**, *Tetrahedron* Symposium in Print "Self-Assembly of Organic Molecules"
2001: **Co-Editor** "Organic Cofactors" Forum Issue of *Antioxidants and Redox Signaling*

Panels/Study Sections

NIH Panel Standing Membership: 2002-2006: *Member*, Medicinal Chemistry (MCHA/SBCA) Study Section. *Ad Hoc NIH Service:* 2008: Microscopic Imaging (MI) (Fall), Microscopic Imaging (MI) Special Emphasis Panel (ZRG1 BST-Q)(Summer). 2007: *Chair*; Microscopic Imaging (MI); Special Emphasis Panel (ZRG1 BST-Q, Spring); Molecular Probes for Microscopy (BST-R). 2006: F14 Fellowship Panel; Program Project Grant Evaluation. 2005: Nanomedicine Design Centers (NDC); Biomedical Sensing and Instrumentation (SBIB-K). Small Business Bioengineering and Physiology (SSSMI-K); Bioengineering Nanotechnology Initiative (SBIB-S 50R); *Chair* R13 Conference Grants (OSR-C); Sepsis and CAP: Partnerships for Diagnostics Development (SR-M M1); Microarrays and Nanoparticles (BST-A). 2004: Prokaryotic Cell and Molecular Biology (PCMB) Study Section. 2003: COBRE Biomedical Center Panel; Medical Imaging (SSS7) Study Section. 2002: Special Emphasis Panel; F32 Special Emphasis Panel. 2001: Medicinal Chemistry (Spring, Fall); Bioorganic and Natural Products (Summer).

NSF: 2004: Nanotechnology Science and Engineering Center (NSEC) reverse site visit panel; Organic Optoelectronics

EPSRC: 2006-2009: Member, EPSRC Peer Review College

Argonne National Lab: Proposal Evaluation Board, Center for Nanoscale Materials

Symposium Organizing:

ACS: Session co-organizer: 2006: "Nanoparticles and Microparticles" Division of Polymer Chemistry; "Organic Nanotechnology" Division of Organic Chemistry Fall National Meeting of the ACS, San Francisco, CA.. 2005: "Molecular Recognition using Polymeric Materials", Division of Polymer Chemistry, Fall National Meeting of the ACS, Washington, DC; 2003: "Supramolecular Chemistry and Molecular Recognition", Division of Organic Chemistry, "Molecular Recognition using Polymeric Materials" Division of Polymer Chemistry, Fall National Meeting of the ACS, New York, NY; "Polymer Design Using Noncovalent Methods", Division of Polymer Chemistry, Spring National Meeting of the ACS, New Orleans, LA; 2000: Session Organizer, "Nanoscale Materials and Devices", New England Region of the ACS, Storrs, CT

MRS: 2007: "Biomolecular and Biologically-Inspired Interfaces and Assemblies", Symposium MM Materials Research Society Fall Meeting, Boston MA. 2005: "Nanomaterials in the Environment" (Symposium O) Materials Research Society Fall Meeting, Boston MA.

NSF: 2006-2008 National Science Foundation, "Workshop on Physical Organic Chemistry", (S. David and M. Garcia-Garibay co-organizers)

Current/Recent Funding (Total Costs)

Current: National Science Foundation "Bionanocomposites through Protein-Mediated Assembly of Nanoparticles" CHE-0808945, 8/1/08-7/31/11, \$397,000.

National Institutes of Health, "Detection of Bacteria using Nanoparticle-Polymer Sensors" R21 AI073425-01, 4/1/08-3/31/10, \$423,489 (VR P.I., U. Bunz, Co-P.I.)

Department of Energy "Hyperbranched Conjugated Polymers and their Nanodot Composites as Universal Bioinspired Architectures" 4/4/07-4/3/10, \$494,691 (\$199,000 to VR) (U. Bunz P.I.)

National Institutes of Health, "Recognition and Presentation of α -Helices using Nanoparticle Receptors" R01 GM077173, 4/1/07-3/31/11, \$1,061,000.

National Science Foundation, "Workshop on Physical Organic Chemistry", 8/1/06-7/31/09, (CHE-633924), \$62,544, (Co-PI with S. David and M. Garcia-Garibay)

National Science Foundation, "Center for Hierarchical Manufacturing", 4/1/06-3/31/12, (DMI-0531171) \$4,000,000 (\$78,000/year to VR)(J. Watkins, M. Tuominen, P.I.'s)

National Science Foundation, "Materials Research Science and Engineering Center on Polymers", 8/1/08-12/31/13, DMR-0820506 \$4,092,000 (\$32,000/year to VR)(T. Russell, P.I.)

National Science Foundation, "IGERT: Research and Innovation in Nanoscale Device Development", 8/1/05-7/31/10, DUE-044852, \$3,189,732 (co-P.I., J. Watkins, P.I.)

Recent: National Science Foundation, "Recognition-Controlled Polymer Self-Assembly" CHE-0518487 8/1/05-7/31/08, \$365,000. National Institutes of Health, "Nanoparticles with Tailored Monolayers for DNA Transfection" R21 EB004503-01, 8/1/05-7/31/07, \$416,000. Office of Naval Research "Nanoparticle Assemblies as New Highly Efficient Extraction Materials", 1/1/2005-12/31/07, \$1,250,000 (R. Vachet, P.I., 1 other investigator). National Academies Keck Futures Initiative "Integrated Nanoparticle-Protein Nanocomposite Systems" 4/1/05-3/31/07, \$50,000 (V. Rotello P.I., M. Tuominen Co-PI). Army Research Office, "Targeting of Breast Tumors and Tumor Cells using Inductive Magnetic Heating of Metallic Nanoparticles", BC021171, 4/1/03-3/31/06, \$460,500. National Institutes of Health, "Nanoparticles: Model Systems for Flavoenzyme Activity" RO1 GM59249-04, 4/1/02-3/31/06, \$921,000. National Science Foundation, "The Interdependence of Redox and Recognition Processes" CHE-0213354 8/1/02-7/31/05, \$348,000 National Science Foundation NIRT grant, "Copolymer Templates: A Self-Assembling Route to High-Density Arrays of Functional Nanostructures" 6/1/01-5/31/05, DMI-0103024, \$1,250,000 (M. Tuominen, P.I., 3 other investigators). National Institutes of Health, "Specific Recognition of Biomacromolecules using Self-Optimizing Nanoparticles", 6/1/01-5/31/04, R01 GM62998, \$946,000

Books

Rotello, V. M.; Thayumanavan, S., eds. "Molecular Recognition and Polymers: Control of Polymer Structure and Self-Assembly" Wiley: New York, 2008.

Bull, R.; Rotello, V. M.; Reckhow, D.; Bull, O. M.; Kim, J. *Use of Toxicological and Chemical Models to Prioritize DBP Research*, AWWA: Denver, 2007.

Rotello, V., ed. *Nanoparticles: Building Blocks for Nanotechnology*, Kluwer: New York, 2004.

Publications

277) Samanta, B.; Patra, D.; Subramani, C.; Ofir, Y.; Yesilbag, G.; Sanyal, A.; Rotello, V. M. Stable Magnetic Colloidosomes via "Click" Mediated Crosslinking of Nanoparticles at Water-Oil Interfaces" *Small*, in press.

276) De, R.; Rana, S.; Rotello V. M. "Nickel Ion-Mediated Control of the Stoichiometry of His-tagged Protein-Nanoparticle Interactions" *Macromol. Biosci.*, in press.

275) Kim, I.-B.; Han, M. H.; Phillips, R. L.; Samanta, B.; Rotello, V. M.; Zhang, Z. J, Bunz, U.H.F. "Nano-Conjugate Fluorescence Probe for the Discrimination of Phosphate and Pyrophosphate" *Chem. Eur. J.* in press.

274) Zhu, Z.-J. Ghosh, P.S.; Miranda, O.R.; Vachet, R. W.; Rotello, V. M. "Multiplexed Screening of Cellular Uptake of Gold Nanoparticles Using Laser Desorption/Ionization Mass Spectrometry (LDI-MS)" *J. Am. Chem. Soc.*, **2008**, *130*, 14139-14143.

273) Yu, X.; Samanta, B.; Xu, H.; Arumugam, P.; Ofir, Y.; Jordan, B. J. "Fabrication and Functionalization of Supramolecular Microgel Arrays through Complementary Hydrogen Bonding Interactions" *Small*, in press.

272) Ghosh, P. S.; Kim, C.-K.; Han, G.; Forbes, N. S.; Rotello, V. M. "Efficient Gene Delivery Vectors by Tuning the Surface Charge Density of Amino Acid-Functionalized Gold Nanoparticles" *ACS Nano*, in press.

271) Caldwell, S. T.; Cooke, G.; Hewage, S. G.; Mabruk, S.; Rabani, G.; Rotello, V. M.; Smith, B. O.; Subramani, C.; Woisel, P. "Model Systems for Flavoenzyme Activity: Intramolecular Self-Assembly of a Flavin Derivative via Hydrogen Bonding and Aromatic Interactions" *Chem. Comm.*, **2008**, 4126-4128.

270) Phillips, R.L.; Miranda O. R.; Mortenson, D. E.; Subramani, C.; Rotello, V. M.; Bunz, U. H. F. "Gold Nanoparticle-PPE Constructs as Biomolecular Material Mimics: Understanding the Electrostatic and Hydrophobic Interactions" *Soft Matter*, in press.

269) Santore, M. M.; Zhang, J.; Srivastava, S.; Rotello, V. M. "Adhesive Specificity at the Micron Scale without Molecular Recognition: Tuning Valency with Repulsive Fields" *Langmuir*, in press.

268) Chen, H.-T.; Crosby, T.; Park, M.H.; Nagarajan, S.; Rotello, V. M. "Control of Nanoparticle Diffusion using Size Exclusion Channels within Patterned Mesoporous Silica Films prepared using Supercritical Carbon Dioxide-Mediated Replication of Block Copolymer Templates" *J. Mat. Chem.*, in press.

267) Agasti, S.; Caldwell, S. T.; Cooke, G.; Jordan, B. J.; Rana, S.; Kennedy, A.; Rabani, G.; Sanyal, A.; Rotello, V. M. "Dendron-Based Mimic of Flavoenzyme Activity: Towards a New Class of Synthetic Flavoenzymes" *Chem. Comm.*, **2008**, 4123-4125.

266) De, M.; Ghosh, P.; Rotello, V. M. "Applications of Nanoparticles in Biology", *Adv. Mat.*, in press.

265) Jordan, B. J.; Ofir, Y.; Patra, D.; Caldwell, S.T.; Joubanian, S.; Rabani, G.; Cooke, G.; Rotello, V.M. "Controlled Self-Assembly of Organic Nanowires and Platelets using Dipolar and Hydrogen Bonding Interactions" *Small*, in press.

264) Park, M-H.; Ofir, Y.; Samanta, B.; Arumugam, P.; Miranda, O. R.; Rotello, V.M. "Nanoparticle Immobilization on Surfaces via Activatable Heterobifunctional Dithiocarbamate Bond Formation" *Adv. Mat.*, in press.

263) Samanta, B.; Ofir, Y.; Patra, D.; Rotello, V. M. "Self-assembly of Fluorocarbon Coated FePt Nanoparticles for Controlling Structure and Wettability of Surfaces" *Soft Matter*, in press.

262) Rotello, V. M. "Biology in the Service of Materials" *J. Mat. Chem.* **2008**, *18*, 3739-3740.

261) Arumugam, P.; Patra, D.; Samanta, B.; Agasti, S. S.; Subramani, C.; Rotello, V. M. "Self-Assembly and Crosslinking of FePt Nanoparticles at Planar and Colloidal Liquid-Liquid Interfaces" *J. Am. Chem. Soc.*, **2008**, *130*, 10046-10047.

260) Rotello, V. M. "Preface: Inorganic Nanomaterials in Drug Delivery" **2008**, *60*, 1225-1225.

259) Chompoosor, A.; Han, G.; Rotello, V. M. "Charge Dependence of Ligand Release on Gold Nanoparticles by Biogenic Thiols" *Bioconjugate Chem.* **2008**, *19*, 1342-1345.

258) Rotello, V. M. "Crown Ether-Peptide Construct Kills Cancer Cells (Commentary)" *Chem. Biol. Drug Des.* **2008**, *72*, 1-2.

257) Zhang, J.; Srivastava, S.; Duffandar, R.; Davis, J. M.; Rotello, V. M.; Santore, M. M. "Manipulating Microparticles with Single Surface-Immobilized Nanoparticles" *Langmuir*, **2008**, *24*, 6404-6408.

256) De, M.; Rotello, V. M. "Synthetic "Chaperones": Nanoparticle-Mediated Refolding of Thermally Denatured Proteins" *Chem. Comm.* **2008**, 3504-3506.

255) Ofir, Y.; Samanta, B.; Rotello, V. M. "Polymer Mediated Self-Assembly of Gold Nanoparticles" *Chem. Soc. Rev.*, **2008**, *37*, 1814-1825.

254) Caldwell, S.T.; Cooke, G.; Cooper, A.; Nutley, M.; Rabani, G.; Rotello, V.M.; Smith, B. O.; Woisel, P. "Tuneable pseudorotaxane formation between a biotin-avidin bioconjugate and CBPQT4+" *Chem. Comm.* **2008**, 2650-2652.

- 253) Ghosh, P.; Han, G.; De, M.; Kim, C. K.; Rotello, V. M. "Gold Nanoparticles in Delivery Applications" *Adv Drug Del. Rev.* **2008**, *60*, 1307-1315.
- 252) McGrier, P.L.; Solntsev, K. M.; Miao, S.; Tolbert, L. M.; Miranda, O. R.; Rotello, V. M. "Hydroxycruciforms: Amine-Responsive Fluorophores" *Chem. Eur. J.* **2008**, *14*, 4503-4510.
- 251) Ofir, Y.; Samanta, B.; Xiao, Q.; Jordan, B. J.; Xu, H.; Arumugam, P.; Arvizo, R.; Tuominen, M. T.; Rotello, V. M. "Polyelectrolyte Negative Resist Patterns as Templates for the Electrostatic Assembly of Nanoparticles and Electroless Deposition of Metallic Films" *Adv. Mat.*, **2008**, *20*, 2561-2566.
- 250) Rotello, V. "Inspiration (and Perspiration) from Biology" *ACS Nano*, **2008**, *2*, 4-6.
- 249) Phillips, R. L.; Miranda, O. R.; You, C.-C.; Rotello, V. M.; Bunz, U. H. F. "Rapid and Efficient Identification of Bacteria Using Gold Nanoparticle-Conjugated Polymer Constructs" *Angewandte Chemie*, **2008**, *47*, 2590-2594.
- 248) Leroueil, P. R.; Berry, S. A.; Duthie, K.; Han, G.; Rotello, V. M.; McNerny, D. Q.; Baker, J. R.; Orr, B. G.; Banaszak Holl, M. M. "Wide Variety of Cationic Nanoparticles Induce Defects in Supported Lipid Bilayers" *Nano Lett.*, **2008**, *8*, 420-424.
- 247) Samanta, B.; Yan, H.; Fischer, N. O.; Shi, J.; Jerry, D. J.; Rotello, V. M.; "Protein-Passivated Fe₃O₄ Nanoparticles: Low Toxicity and Rapid Heating for Thermal Therapy" *J. Mat. Chem.*, **2008**, *18*, 1204-1208.
- 246) Bayraktar, H.; Srivastava, S.; You, C.-C.; Rotello, V. M.; Knapp, M. J. "Controlled Nanoparticle Assembly through Protein Conformational Changes" *Soft Matter*, **2008**, *4*, 751-756..
- 245) Richter, H.; McCarthy, K.; Nevin, K.P.; Johnson, J. P.; Rotello, V. M.; Lovely, D. R. "Electricity Generation by *Geobacter sulfurreducens* Attached to Gold Electrodes" *Langmuir*, **2008**, *24*, 4376-4379..
- 244) Jordan, B. J.; Pollier, M.A.; Ofir, Y.; Joubanian, S.; Mehtala, J. G.; Sinkel, C.; Caldwell, S. T.; Kennedy, A.; Rabani, G.; Cooke, G.; Rotello, V. M. "'Lock and Key' Control of Optical Properties in a Push-Pull System" *Chem. Comm.* **2008**, 1653-1655.
- 243) Ghosh, P. S.; Han, G.; Erdogan, B.; Rosado, O.; Rotello, V. M. "Binding of Nanoparticle Receptors to Peptide Alpha-Helices using Amino Acid-Functionalized Nanoparticles" *J. Peptide. Sci.* **2008**, *14*, 134-138.
- 242) You, C.-C.; Agasti, S.; Rotello, V. M. "Isomeric Control of Protein Recognition with Amino Acid- and Dipeptide-Functionalized Gold Nanoparticles" *Chem. Eur. J.*, **2008**, *14*, 143-150.
- 241) Agasti, S.; You, C.-C.; Arumugam, P.; Rotello, V. M. "Structural Control of the Monolayer Stability of Water-Soluble Gold Nanoparticles" *J. Mat. Chem.*, **2008**, *18*, 70-73.
- 240) Cooke, G.; Daniels, L. M.; Cazier, F.; Garety, J. F.; Hewage, S. G.; Parkin, A.; Rabani, G.; Rotello, V. M.; Wilson, C. C.; Woisel, P. "The synthesis of a pyrrole-functionalized cyclobis(paraquat-p-phenylene) derivative and its corresponding 2 rotaxane and 2 catenane and their subsequent deposition onto an electrode surface" *Tetrahedron* **2007**, *63*, 11114-11121.
- 239) Ofir, Y.; Samanta, B.; Arumugam, P.; Rotello, V. M. "Controlled Fluorination of FePt Nanoparticles: Hydrophobic to Superhydrophobic Surfaces" *Adv. Mat.* **2007**, *19*, 4075-4079.
- 238) Goicochea, N. L.; De, M.; Rotello, V. M.; Mukhopadhyay, S.; Dragnea, B. "Core-like particles of an enveloped animal virus can self-assemble efficiently on artificial templates" *Nano Lett.* **2007**, *7*, 2281-2290.
- 237) De, M.; You, C.-C.; Srivastava, S.; Rotello, V. M. "Biomimetic Interactions of Proteins with Functionalized Nanoparticles: A Thermodynamic Study" *J. Am. Chem. Soc.*, **2007**, *129*, 10747-10753.
- 236) Ghosh, P. S.; Han, G.; Erdogan, B.; Rosado, O.; Krovi, S. A.; Rotello, V. M. "Nanoparticles Featuring Amino Acid-Functionalized Side Chains as DNA Receptors" *Chem. Biol. Drug Des.* **2007**, *70*, 13-18.
- 235) Srivastava, S.; Samanta, B.; Jordan, B. J.; Hong, R.; Xiao, Q.; Tuominen, M.; Rotello, V. M. "Integrated Magnetic Bio-Nanocomposites through Nanoparticle-Mediated Assembly of Ferritin" *J. Am. Chem. Soc.*, **2007**, *129*, 11776-11780.
- 234) Miranda, O. R.; You, C.-C.; Phillips, R.; Kim, I. -B.; Ghosh, P. S.; Bunz, U.H.F.; Rotello, V.M. "Array-Based Sensing of Proteins Using Conjugated Polymers" *J. Am. Chem. Soc.*, **2007**, *129*, 9856-9857.
- 233) Jordan, B. J.; Pollier, M. A.; Miller, L. A.; Tiernan, C.; Clavier, G.; Audebert, P. Rotello, V. M. "Redox-Modulated Recognition of Tetrazines Using Thioureas" *Org. Lett.* **2007**, *9*, 2835-2838.
- 232) Han, G.; Ghosh, P.; De, M.; Rotello, V. M. "Drug and Gene Delivery using Gold Nanoparticles", *NanoBioTechnology*, **2007**, *3*, 40-45.
- 231) Alexander, A. M.; Bria, M.; Brunklaus, G.; Caldwell, S.; Cooke, G.; Garety, J. F.; Hewage, S. G.; Hocquel, Y.; McDonald, N.; Rabani, G.; Rosair, G.; Smith, B. O.; Spiess, H. W.; Rotello, V. M.; Woisel, P. "Probing the Solvent-Induced Tautomerism of a Redox-Active Ureidopyrimidinone" *Chem. Comm.* **2007**, 2246-2248.
- 230) Ghosh, P.; Verma, A.; Rotello, V. M. "Binding and Templatation of Nanoparticle Receptors to Peptide α -Helices through Surface Recognition" *Chem. Commun.* **2007**, 2796-2798.
- 229) Han, G.; Ghosh, P.; Rotello, V. M. "Multi-Functional Gold Nanoparticles for Drug Delivery" *Bio-Applications of Nanoparticles* Chan, W.C.W. ed, Landes/Springer: Austin, **2007**, 48-56.
- 228) Fillon, Y.; Verma, A.; Ghosh, P.; Ernenwein, D.; Rotello, V. M.; Chmielewski, J. "Peptide Ligation Catalyzed by Functionalized Gold Nanoparticles" *J. Am. Chem. Soc.*, **2007**, *129*, 6676-6677.
- 227) You, C.-C.; Miranda, O. R.; Gider, B.; Ghosh, P. S.; Kim, I. -B.; Erdogan, B.; Krovi, S. A.; Bunz, U. H. F.; Rotello, V. M. "Detection and Identification of Proteins using Nanoparticle-Fluorescent Polymer "Chemical Nose" Sensors" *Nature Nanotech*, **2007**, *2*, 318-323.

- 226) Xu, H.; Hong, R.; Wang, X.; Arvizo, R.; You, C. -C.; Samanta, B.; Patra, D.; Tuominen, M. T. Rotello, V. M.. "Controlled Formation of Patterned Gold Films via Site-Selective Deposition of Nanoparticles onto Polymer Templated Surfaces" *Adv. Mat.* **2007**, *19*, 1383-1386.
- 225) Jordan, B. J.; Cooke, G.; Garety, J. F.; Pollier, M. A.; Kryvokhyzha, N.; Bayir, A.; Rabani, G.; Rotello, V. M. "Polymeric Model Systems for Flavoenzyme Activity: Towards Synthetic Flavoenzymes" *Chem. Commun.* **2007**, 1248-1250.
- 224) Bayraktar, H.; You, C. -C, Rotello, V. M.; Knapp, M. J. "Facial Control of Nanoparticle Binding to Cytochrome c" *J. Am. Chem. Soc.*, **2007**, *129*, 2732-2733.
- 223) You, C.-C.; Chompoosor, A.; Rotello, V. M. "The Nanoparticle-Biomacromolecule Interface" *Nano Today*, **2007**, *2*, 34-43.
- 222) Cooke, G.; Garety, J. F.; Hewage, S. G.; Jordan, B. J.; Rabani, G.; Rotello, V. M.; Woisel, P. "Tuneable Side-Chain Supramolecular Polymer" *Org. Lett.* **2007**, *9*, 481-484.
- 221) Han, G.; Ghosh, P., Rotello, V. M. "Functionalized Gold Nanoparticles for Drug Delivery" *Nanomedicine*, **2007**, *2*, 113-123.
- 220) Sun, J.; DuFort, C.; Daniel, M.- C.; Murali, A.; Chen, C.; Gopinath, K.; Stein, B.; De, M.; Rotello, V. M.; Holzenburg, A.; Kao, C. C.; Dragnea, B. "Core-Controlled Polymorphism in Virus-Like Particles" *Proc. Natl. Acad. Sci. U. S. A.*, **2007**, 1354-1359.
- 219) LeDuc, P. R.; Wong, M. S.; Ferreira, P. M.; Groff, R. E.; Haslinger, K.; Koonce, M. P.; Lee, W. Y.; Love, J. C.; McCammon, J. A.; Monteiro-Riviere, N, A.; Rotello, V. M.; Rubloff, G. W.; Westervelt, R.; Yoda, M, "Towards an *In Vivo* Biologically Inspired Nanofactory" *Nature Nanotech.*, **2007**, *2*, 3-7.
- 218) Xu, H.; Srivastava, S.; Rotello, V. M. "Nanocomposites Based on Hydrogen Bonds" *Advances in Polymer Science*, **2007**, *207*, 179-198.
- 217) Rotello V.M.; Thayumanavan S. "In focus: Recognition mediated Self-Assembly" *Polymer Int.*, **2007**, *56*, 435.
- 216) Arumugam, P.; Srivastava, S.; Rotello, V. M. "'Bricks and Mortar' Nanoparticle Self-Assembly Using Polymers" *Polymer Int.*, **2007**, *56*, 461-466.
- 215) Srivastava, S.; Samanta, B.; Arumugam, P.; Han, G.; Rotello, V. M. "DNA-Mediated Assembly of Iron Platinum (FePt) Nanoparticles" *J. Mat. Chem.*, **2007**, *17*, 52-55.
- 214) Nakade, H.; Jordan, B. J.; Xu, H.; Han, G.; Srivastava, S.; Arvizo, R.; Cooke, G.; Rotello, V. M. "Chiral Translation and Cooperative Self-Assembly of Discrete Helical Structures Using Molecular Recognition Dyads" *J. Am. Chem. Soc.*, **2006**, *128*, 14924-14929.
- 213) Uzun, O.; Frankamp, B. M.; Sanyal ,A.; Rotello, V. M. "Recognition-mediated Nanoparticle Incorporation in Polymeric Micelles with Controlled Size" *Chem. Mat.*, **2006**, *18*, 5440-5409
- 212) You, C.-C.; Agasti, S.; De, M.; Knapp, M. J.; Rotello, V. M. "Modulation of the Catalytic Behavior of α -Chymotrypsin at Monolayer-Protected Nanoparticle Surfaces" *J. Am. Chem. Soc.*, **2006**, *128*, 14612-14618.
- 211) Bayir, A.; Jordan, B. J.; Verma, A.; Pollier, M. A.; Cooke, G.; Rotello, V. M. "Models Systems for Flavoenzyme Activity. Recognition and Redox Modulation of Flavin Mononucleotide in Water using Nanoparticles" *Chem. Comm*, **2006**, 4033-4035.
- 210) Dixit, S. K.; Goicochea, N. L.; Daniel, M.-C.; Murali, A.; Bronstein, L.; De, M.; Stein, B.; Rotello, V. M.; Kao, C. C.; Dragnea, B. "Quantum Dot Encapsulation in Viral Capsids" *Nano Lett.*, **2006**, *6*, 1993-1999.
- 209) Cooke, G.; Garety, J. F.; Hewage, S. G.; Rabani, G.; Rotello, V. M.; Woisel, P. "The Tuneable Complexation of Gold Nanoparticles" *Chem. Comm.*, **2006**, 4419-4120
- 208) Norsten, T.B.; Gulver, M. D.; Murphy, J.; Astill, T.; Navessin, T.; Holdcroft, S.; Frankamp, B. L.; Rotello, V.M.; Ding, J. "Fluorinated Comb-Shaped Copolymers as Proton Exchange Membranes (PEMs): Improving PEM Properties Through Rational Design" *Adv. Funct. Mat.*, **2006**, *16*, 1814-1822.
- 207) Arvizo, R.R.; De, M.; Rotello, V. M. "Proteins and Nanoparticles: Covalent and Non-Covalent Conjugates" *Nanobiotechnology*, Niemeyer, C. M.; Mirkin, C. A. ed, Wiley: New York, **2007**, 65-78.
- 206) Vanderpuije, B. N.; Han, G.; Rotello, V. M.; Vachet, R. W. "Mixed Monolayer-Protected Gold Nanoclusters as Selective Peptide Extraction Agents for MALDI-MS Analysis" *Anal. Chem.* **2006** *78*, 5491-2496.
- 205) Cooke, G.; Garety, J. F.; Jordan, B.; Kryvokhyzha, N.; Parkin, A.; Rabani, G.; Rotello, V. M.; "Flavin-Based [2]Rotaxanes" *Org. Lett.* **2006**, *8*, 2297-2300.
- 204) Cooke, G.; Couet, J.; Garety, J. F.; Ma, C. Q.; Mabruk, S.; Rabani, G.; Rotello, V. M.; Sindelar, V.; Woisel, P. "The Electrochemically Tuneable Hydrogen Bonding Interactions between a Phenanthrenequinone-Functionalized Self-Assembled Monolayer and a Phenyl-Urea Terminated Dendrimer" *Tetrahedron Lett.*, **2006**, 3763-3766.
- 203) You, C.-C.; Arvizo, R. R.; Rotello, V. M. "Regulation of α -Chymotrypsin Activity on the Surface of Substrate-Functionalized Gold Nanoparticles" *Chem. Comm.*, **2006**, 2905-2907.
- 202) Jordan, B. J.; Hong, R.; Gider, B.; Hill, J.; Emrick, T.; Rotello, V. "Stabilization of α -Chymotrypsin at Air-Water Interface through Surface Binding to Gold Nanoparticle Scaffolds" *Soft Matter*, **2006**, 558-560.
- 201) Thibault, R. J.; Uzun, O.; Hong, R.; Lu, T.; Rotello, V. M. "Recognition-Controlled Hierarchical Assembly of Nanoparticles using Photochemically Crosslinked Recognition-Induced Polymersomes" *Adv. Mat.*, **2006**, *18*, 2179-2183.
- 200) Hong, R.; Fernández, J. M.; Nakade, H.; Arvizo, R.; Emrick, T.; Rotello, V. M. "In Situ Observation of Place Exchange Reactions of Gold Nanoparticles. Correlation of Monolayer Structure and Stability" *Chem. Comm.*, **2006**, 2347-2349.

- 199) Worrall, J. W. E.; Verma, A.; Yan, H.; Rotello, V. M.; ““Cleaning” of Nanoparticle Inhibitors via Proteolysis of Adsorbed Proteins” *Chem. Comm.*, **2006**, 2338-2340.
- 198) Chen, C.; Daniel, M.-C.; Quinkert, Z. T.; De, M.; Stein, B.; Bowman, V. D.; Chipman, P. R.; Rotello, V. M.; Kao, C. C.; Dragnea, B. “Nanoparticle-Templated Assembly of Viral Protein Cages” *Nano Lett.*, **2006**, *6*, 611-615.
- 197) Goodman, C. M.; Chari, N. S.; Han, G.; Hong, R.; Ghosh, P.; Rotello, V. M. “DNA Binding by Functionalized Gold Nanoparticles: Mechanism and Structural Requirements” *Chem. Biol. Drug Des.* **2006**, *67*, 297-304.
- 196) Han, G.; You, C.-C.; Kim, B.-J.; Forbes, N. S.; Martin, C. T.; Rotello, V. M., “Light-Regulated DNA Release and Nuclear Delivery using Photolabile Gold Nanoparticles” *Angew. Chem.* **2006**, *45*, 3165-3169.
- 195) Xu, H.; Hong, R.; Lu, T.; Uzun, O.; Rotello, V. M. “Surface Modification Through Recognition Induced Orthogonal Self-Assembly of Polymers and Nanoparticles” *J. Am. Chem. Soc.* **2006**, *128*, 3162-3163.
- 194) Cooke, G.; Garety, J. F.; Mabruk, S.; Rabani, G.; Rotello, V. A.; Surpateanu, G.; Woisel, P. “The Electrochemical Polymerisation of a 2 Rotaxane” *Tetrahedron Lett.* **2006**, *47*, 783-786.
- 193) You, C.-C.; Verma, A.; Rotello, V. M. “Engineering the Nanoparticle-Biomacromolecule Interface” *Soft Matter*, **2006**, *2*, 190-204.
- 192) Bayraktar, H.; Ghosh, P.; Rotello, V. M.; Knapp, M. J. “Disruption of Protein-Protein Interactions using Nanoparticles: Inhibition of Cytochrome c Peroxidase”. *Chem. Comm.*, **2006**, 1390-1392
- 191) Frankamp, B. L.; Fischer, N. O.; Hong, R.; Srivastava, S.; Rotello, V. M. “Surface Modification using Cubic Silsesquioxane Ligands. Facile Synthesis of Water-Soluble Metal Oxide Nanoparticles” *Chem. Mat.*, **2006**, *18*, 956-959.
- 190) Hong, R.; Han, G.; Kim, B.; Forbes, N. S.; Rotello, V. M.; “Glutathione-Mediated Drug Release using Monolayer Protected Nanoparticle Carriers” *J. Am. Chem. Soc.*, **2006**, *128*, 1078-1079.
- 189) Han, G.; Martin, C. M.; Rotello, V. M. “Stability of Gold Nanoparticle-Bound DNA towards Biological, Physical and Chemical Agents” *Chem. Biol. Drug Des.*, **2006**, *67*, 78-82.
- 188) Verma, A.; Srivastava, S.; Rotello, V. M. “Modulation of the Interparticle Spacing and Optical Behavior of Nanoparticle Ensembles using a Single Protein Spacer” *Chem. Mat.* **2005**, *17*, 6317-6322.
- 187) You, C.-C.; De, M.; Rotello, V. M. “Contrasting Effects of Exterior and Interior Hydrophobic Moieties in the Complexation of Amino Acid-Functionalized Gold Clusters with α -Chymotrypsin” *Org Lett.*, **2005**, *7*, 5685-5687.
- 186) Shenhar, S.; Xu, H.; Frankamp, B. L.; Mates, T. E.; Sanyal, A.; Uzun, O.; Rotello, V. M. “Molecular Recognition in Structured Matrices: Control of Guest Localization in Block Copolymer Films” *J. Am. Chem. Soc.*, **2005**, *127*, 16318-16324.
- 185) You, C.-C. De, M.; Rotello, V. M. “Monolayer-Protected Nanoparticle-Protein Interactions” *Curr. Opin. Chem. Biol.*, **2005**, *9*, 639-646.
- 184) Han, G.; Chari, N. S.; Verma, A.; Hong, R.; Martin, C. T.; Rotello, V. M. “Controlled Recovery of the Transcription of Nanoparticle-Bound DNA by Intracellular Concentrations of Glutathione” *Bioconjugate Chem.* **2005**, *16*, 1356-1359.
- 183) Xu, H.; Norsten, T. B.; Uzun, O.; Jeoung E.; Rotello, V. M. “Stimuli Responsive Surfaces through Recognition-Mediated Polymer Modification” *Chem. Comm.*, **2005**, 5157-5159.
- 182) Uzun, U.; Xu, H.; Jeoung, E.; Thibault, R. J.; Rotello, V. M. “Recognition-Induced Polymersomes: Structure and Mechanism of Formation” *Chem. Eur. J.*, **2005**, *11*, 6916-6920.
- 181) Hong, R.; Fischer, N. O.; Emrick, T.; Rotello, V. M. “Surface PEGylation and Ligand Exchange Chemistry of FePt Nanoparticles for Biological Applications” *Chem. Mat.*, **2005**, *17*, 10693-10698.
- 180) Shenhar, R.; Jeoung, E.; Srivastava, S.; Norsten, T. B.; Rotello, V. M. “Cross-Linked Nanoparticle Stripes and Hexagonal Networks Obtained Via Selective Patterning of Block Copolymer Thin Films” *Adv. Mat.*, **2005**, *17*, 2206-2210.
- 179) You, C.-C.; De, M.; Rotello, V. M. “Tunable Inhibition and Denaturation of α -Chymotrypsin with Amino Acid-Functionalized Gold Nanoparticles” *J. Am. Chem. Soc.*, **2005**, *127*, 12873-12881.
- 178) Carroll, J. B.; Cooke, G.; Garety, J. F.; Jordan, B. J.; Mabruk, S.; Rotello, V. M. “The Electrochemically-Tuneable Interactions Between Flavin-Functionalised C(60) Derivatives and 2,6-Diethylamidopyridine” *Chem. Comm.* **2005**, 3838-3840.
- 177) Sandaraj, B. S.; Vutukuri D. H.; Simard, J. M.; Khalikerd, A.; Hong, R.; Rotello, V. M.; Thayumanavan, S. “Non-Covalent Modification of Protein Surface using Amphiphilic Polymeric Scaffold – Implications in Modulating Protein Function” *J. Am. Chem. Soc.*, **2005**, *127*, 10693-10698.
- 176) Frankamp, B. L.; Boal, A. K.; Tuominen, M. T.; Rotello, V. M. “Direct Control of the Magnetic Interaction Between Superparamagnetic Nanoparticles Using Dendrimer Mediated Self-Assembly” *J. Am. Chem. Soc.*, **2005**, *127*, 9731-9735.
- 175) Nakade, H.; Ilker, M. F.; Uzun, O.; LaPointe, N. L.; Coughlin, E. B.; Rotello V. M. “Duplex Strand Formation using Alternating Copolymers” *Chem. Comm.* **2005**, 3271-3273.
- 174) Carroll, J. B.; Jordan, B. J.; Xu, H.; Erdogan, B.; Lee, L.; Cheng, L.; Tiernan, C.; Cooke, G.; Rotello, Vincent M. “Model Systems for Flavoenzyme Activity: Site Isolated Redox Behavior in Flavin Functionalized Random Polystyrene Copolymers” *Org. Lett.*, **2005**, *7*, 10693-10698.
- 173) Simard, J. M.; Szymanski, B.; Rotello, V. M. “Control of Substrate Selectivity through Complexation and Release of Chymotrypsin from Gold Nanoparticle Surfaces” *J. Biomed. Nanotech.*, **2005**, *1*, 341-344..

- 172) Boyd, A. S. F.; Carroll, J. B.; Cooke, G.; Garety, J. F.; Jordan, B. J.; Mabruk, S.; Rosair, G.; Rotello, V. M. "Model systems for Flavoenzyme Activity: a Tuneable Intramolecularly Hydrogen Bonded Flavin-Diamidopyridine Complex" *Chem. Comm.* **2005**, 2468-2470
- 171) McCusker, C.; Carroll, J. B.; Rotello, V. M. "Cationic Polyhedral Oligomeric Silsesquioxane (POSS) Units as Carriers for Drug Delivery Processes" *Chem. Comm.*, **2005**, 996-998.
- 170) Simard, J. M.; Szymanski, B.; Rotello, V. M. "Reversible Regulation of Chymotrypsin Activity using Negatively Charged Gold Nanoparticles featuring Malonic Acid Termini" *Med. Chem.*, **2005**, *1*, 153-158.
- 169) Shenhar, R.; Norsten, T. B.; Rotello, V. M. "Polymer-Mediated Nanoparticle Assembly: Structural Control and Applications" *Adv. Mat.*, **2005**, *17*, 657-669
- 168) Srivastava, S.; Frankamp, B. L.; Rotello, V. M. "Controlled Plasmon Resonance of Gold Nanoparticles Self-Assembled with PAMAM Dendrimers" *Chem. Mat.* **2005**, *17*, 487-490.
- 167) Foster, P.; Lahti, P.M.; Carroll, J. B.; Rotello, V. M. "Molecular Recognition In a Uranyl-Functionalized Stable Radical" *Chem. Comm.* **2005**, 895-897.
- 166) Arvizo, R.; Verma, A.; Rotello, V.M. "Biomacromolecule Surface Recognition Using Nanoparticle Receptors" *Supramol. Chem.* **2005**, *17*, 155-161.
- 165) Srivastava, S.; Verma, A.; Frankamp, B. L.; Rotello, V. M.; "Controlled Assembly of Protein-Nanoparticle Composites through Protein Surface Recognition" *Adv. Mat.*, **2005**, 617-621.
- 164) Verma, A.; Rotello, V.M. "Surface Recognition of Biomacromolecules Using Nanoparticle Receptors" *Chem Comm.*, **2005**, 301-312.
- 163) Uzun, O.; Sanyal, A.; Nakade, H.; Thibault, R. J. Rotello, V. M. "Recognition-Induced Transformation of Microspheres into Vesicles: Morphology and Size Control" *J. Am. Chem. Soc.*, **2004**, *126*, 14773-14777.
- 162) Cooke, G.; Mabruk, S.; Rotello, V. M.; Surpateanu, G.; Woisel, P. "The Electrochemically Tuneable Recognition Properties of an Electropolymerised Flavin Derivative" *Chem. Comm.*, **2004**, 2722-2723.
- 161) Hong, R.; Emrick, T.; Rotello, V. "Monolayer-Controlled Substrate Selectivity using Non-Covalent Enzyme-Nanoparticle Conjugates" *J. Am. Chem. Soc.*, **2004**, *126*, 13572-13573.
- 160) Fischer, N.; Paulini, R.; Drechsler, U.; Rotello, V. "Light-Induced Inhibition of Chymotrypsin using Photocleavable Monolayers on Gold Nanoparticles", *Chem. Comm.*, **2004**, 2866-2867.
- 159) Verma, A.; Simard, J. M.; Worrall, J. W. E.; Rotello, V. M. "Tunable Reactivation of Nanoparticle-Inhibited β -Galactosidase by Glutathione at Intracellular Concentrations", *J. Am. Chem. Soc.*, **2004**, *126*, 13987-13991.
- 158) Verma, A.; Nakade, H.; Simard, J.M.; Rotello, V. M. "Recognition and Stabilization of Peptide α -Helices Using Templatable Nanoparticle Receptors" *J. Am. Chem. Soc.*, **2004**, *126*, 10806-10807.
- 157) Carroll, J. B.; Gray, M.; Bardon, K. M.; Nakade, H. Rotello, V. M. "Multivalent Recognition of Flavin Derivatives Using Polymer Scaffolds" *Lett. Org. Chem.* **2004**, 227-233.
- 156) Drechsler, U.; Erdogan, B.; Rotello, V. M. "Nanoparticles: Scaffolds for Molecular Receptors" *Chem. Eur. J.*, **2004**, *10*, 5570-5579.
- 155) Boal, A. K.; Frankamp, B. L.; Uzun, O.; Tuominen, M. T.; Rotello, V. M. "Modulation of Spacing and Magnetic Properties of Iron Oxide Nanoparticles through Polymer-Mediated 'Bricks and Mortar' Self-Assembly" *Chem. Mat.* **2004**, *16*, 3252-3256.
- 154) Goodman, C. M.; McCusker, C. D.; Yilmaz, T.; Rotello, V. M. "Toxicity of Gold Nanoparticles Functionalized with Cationic and Anionic Sidechains" *Bionconjugate Chem.*, **2004**, *15*, 897-900.
- 153) Sanyal, A.; Norsten, T. B.; Uzun, O.; Rotello, V. M. "Adsorption/Desorption of Mono- and Diblock Copolymers on Surfaces using Specific Hydrogen Bonding Interactions" *Langmuir*, **2004**, *20*, 5958-5964.
- 152) Cooke, G.; Legrand, Y.-M., Rotello, V. M. "Model Systems for Flavoenzyme Activity: An Electrochemically Tuneable Model of Roseoflavin" *Chem. Comm.* **2004**, 1088-1090.
- 151) Shenhar, R.; Sanyal, A.; Uzun, O.; Nakade, H.; Rotello, V. M. "Integration of Recognition Elements with Macromolecular Scaffolds: Effects on Polymer Self-Assembly in the Solid-State". *Macromolecules*, **2004**, *37*, 4931-4939.
- 150) Verma, A.; Simard, J. M.; Rotello, V.M. "Effect of Ionic Strength on the Binding of α -Chymotrypsin to Nanoparticle Receptors" *Langmuir*, **2004**, *20*, 4178-4181.
- 149) Gray, M.; Goodman, A. J.; Carroll, J. B.; Bardon, K.; Markey, M.; Cooke, G.; Rotello, V. M. "Model Systems for Flavoenzyme Activity: Interplay of Hydrogen Bonding and Aromatic Stacking in Cofactor Redox Modulation" *Org Lett*, **2004**, *6*, 385-388.
- 148) Carroll, J. B.; Gray, M.; Cooke, G.; Rotello, V. M. "Proton Transfer versus Redox Modulation in Thiourea-Phenanthrenequinone Molecular and Polymeric Complexes", *Chem. Comm.* **2004**, 442-443.
- 147) Carroll, J. B.; Frankamp, B. L.; Srivastava, S.; Rotello, V. M. "Electrostatic Self-Assembly of Structured Gold Nanoparticle-Polyhedral Oligomeric Silsesquioxanes (POSS) Nanocomposites" *J. Mat. Chem.*, **2004**, *14*, 690 - 694.
- 146) Thibault, R. J.; Rotello, V.M. "Molecular Recognition-Mediated Assembly of Polymers" *Encyclopedia of Polymer Science & Technology*, Mark, H. ed, Wiley: New York, **2004** .

- 145) Goodman, C. M.; Frankamp, B. L.; Cooper, B. M.; Rotello, V. M. "Surfactant Layering on Mixed Monolayer-Protected Gold Clusters" *Colloid Surf. B-Biointerfaces*, **2004**, 39, 119-123.
- 144) Norsten, T.; Sanyal, A.; Shenhar, R.; Rotello, V.M. "Polymer-Mediated Self-Assembly of Nanoparticles" in *Encyclopedia of Nanoscience and Nanotechnology*, Nalwa, H.S. ed., Dekker:New York, **2004**, 2985-2998.
- 143) Thibault, R. J.; Rotello, V. M. Recognition-Mediated Assembly of Polymers" *Polymer News*, **2004**, 29, 40-49.
- 142) Das, K.; Nakade, H.; Pennelle, J.; Rotello, V. M., "Synthesis and Recognition Properties of Polymers Containing Embedded Binding Sites" *Macromolecules*, **2004**, 37, 310-314.
- 141) Shenhar, R.; Sanyal, A.; Uzun, O.; Rotello, V. M. "Anthracene-Functionalized Polystyrene Random Copolymers: Effects of Side-Chain Modification on Polymer Structure and Behavior" *Macromolecules*, **2004**, 37, 92-98.
- 140) Drechsler, U.; Fischer, N. O.; Frankamp, B. L.; Rotello, V. M. "Highly Efficient Biocatalysts via Covalent Immobilization of *Candida rugosa* Lipase on Ethylene Glycol Modified Gold-Silica Nanocomposites" *Adv. Mat.*, **2004**, 16, 271-274.
- 139) Hong, R.; Fischer, N. O.; Verma, A.; Goodman, C. M.; Emrick, T. S.; Rotello, V. M. "Control of Protein Structure and Function through Surface Recognition by Tailored Nanoparticle Scaffolds" *J. Am. Chem. Soc.*, **2004**, 126, 739-743.
- 138) Butterfield, S. M.; Goodman, C. M.; Rotello, V. M.; Waters, M. L. "A Peptide Flavoprotein Mimic: Flavin Recognition and Redox Potential Modulation in Water by a Designed β -Hairpin" *Angew. Chem.* **2004**, 43, 724-727.
- 137) Cooke, G.; Duclairoir, F. M. A.; Kraft, A.; Rosair, G.; Rotello, V. M. "Pronounced Stabilisation of the Ferrocenium State of Ferrocenecarboxylic Acid by Salt Bridge Formation with a Benzamidine" *Tetrahedron Lett.*, **2004**, 557-560.
- 136) Goodman, C. M.; Rotello, V. "Biomacromolecule Surface Recognition Using Nanoparticles" *Mini-Rev. Org. Chem.* **2004**, 1, 103-114.
- 135) Sanyal, A.; Norsten, T. B.; Rotello, V.M. "Nanoparticle-Polymer Ensembles" in *Nanoparticles: Building Blocks for Nanotechnology*, Rotello, V. M., ed., Kluwer: New York, **2004**, 201-224.
- 134) Cooke, G.; Duclairoir, M. A.; John, P.; Polwart, N.; Rotello, V. M. "Model Systems for Flavoenzyme activity: Flavin-Functionalised SAMs as Models for Probing Redox Modulation through Hydrogen Bonding" *Chem. Commun.* **2003**, 2468-2469.
- 133) Legrand, Y.-M.; Gray, M.; Cooke, G.; Rotello, V. "Model Systems for Flavoenzyme Activity. Relationships between Cofactor Structure, Binding and Redox Properties" *J. Am. Chem. Soc.*, **2003**, 125, 15789-15793.
- 132) Carroll, J. B.; Waddon, A.J.; Nakade, H.; Rotello, V. M. "Plug and Play" Polymers. Thermal and X-ray Characterizations of Noncovalently-Grafted Polyhedral Oligomeric Silsesquioxane (POSS)-Polystyrene Nanocomposites", *Macromolecules*, **2003**, 36, 6289-6291.
- 131) Bryce, M.R.; Cooke, G.; Duclairoir, F. M. A.; John, P.; Perepichka, D. F.; Polwart, N.; Rotello, V. M.; Stoddart, J. F.; Tseng, H. R. "Surface Confined Pseudorotaxanes with Electrochemically Controllable Complexation Properties" *J. Mat. Chem.*, **2003**, 13, 2111-2117.
- 130) Norsten, T. B.; Jeung, E.; Thibault, R. J.; Rotello, V. M. "Specific Hydrogen Bond-Mediated Recognition and Modification of Surfaces using Complementary Functionalized Polymers" *Langmuir*, **2003**, 19, 7089-7093.
- 129) Fischer, N. O.; Verma, A.; Goodman, C. M. Simard, J. M.; Rotello, V. M. "Reversible "Irreversible" Inhibition of Chymotrypsin using Nanoparticle Receptors" *J. Am. Chem. Soc.*, **2003**, 125, 13387-13391.
- 128) Carroll, J. B.; Gray, M.; McMenimen, K. A.; Hamilton, D. G.; Rotello, V. M. "Redox Modulation of Benzene Triimides and Diimides via Non-Covalent Interactions" *Org. Lett.*, **2003**, 5, 3177-3180.
- 127) Cooke, G.; de Cremiers, H. A.; Duclairoir, F. M. A.; Leonardi, J.; Rosair, G.; Rotello, V. M. "Ferrocene Incorporating Host-Guest Dyads with Electrochemically Controlled Three-Pole Hydrogen Bonding Properties" *Tetrahedron*, **2003**, 3341-3347.
- 126) Thibault, R. J.; Hotchkiss, P. Gray, M.; Rotello, V. M. "Thermally Reversible Formation of Microspheres through Non-Covalent Polymer Crosslinking" *J. Am. Chem. Soc.*, **2003**, 125, 11249-11252.
- 125) Shenhar, S.; Rotello, V. M. "Nanoparticles:Scaffolds and Building Blocks" *Accts. Chem. Res.*, **2003**, 36, 549-561.
- 124) Das, K.; Pennelle, J.; Nüsslein, K.; Rotello, V. M. "Specific Recognition of Bacteria by Surface-Templated Polymer Films" *Langmuir*, **2003**, 19, 6226-6229.
- 123) Gray, M.; Cuello, A.; Cooke, G.; Rotello, V. "Hydrogen Bonding in Redox-Modulated Molecular Recognition. An Experimental and Theoretical Investigation" *J. Am. Chem. Soc.*, **2003**, 125, 7882-7888
- 122) Das, K.; Pennelle, J.; Rotello, V. M. "Picomolar Detection of Polychlorinated Aromatic Contaminants in Water using a Quartz Crystal Microbalance Coated with a Molecularly Imprinted Polymer Thin Film" *Langmuir*, **2003**, 19, 3921-3925.
- 121) Boyd, A. S. F.; Cooke, G.; Duclairoir F. M. A., Rotello V.M. "An Investigation of the Role of the Disparate Redox States of the Tetrathiafulvalene Unit in Modulating Hydrogen Bonding Interactions in Solution" *Tetrahedron Lett.*, **2003**, 303-306.
- 120) Cooke, G.; Sindelar, V.; Rotello, V. M. "Electrochemically Tuneable Hydrogen Bonding Interactions between a Phenyl-Urea Terminated Dendrimer and Phenanthrenequinone" *Chem. Commun*, **2003**, 752-753.
- 119) Jeung, E.; Rotello, V. M. "Photochemical Control of Molecular Recognition on Self-Assembled Monolayer-Protected Gold Clusters", *J. Supramol. Chem.*, **2002**, 2, 53-55.
- 118) Beeby, A.; Bryce, M. R.; Christensen, C. A.; Cooke, G.; Duclairoir, F. M. A.; Rotello, V. M. "Electrochemically Controlled Interactions between TTF-Based Dendrimers and an Electron-Rich Oligomer" *Chem. Commun*, **2002**, 2950-2951.

- 117) Drechsler, U.; Thibault, R. J.; Rotello, V. M. "Formation of Recognition-Induced Polymersomes using Complementary Rigid Random Copolymers" *Macromolecules*, **2002**, *35*, 9621-9623.
- 116) Norsten, T.; Rotello, V. M. "Metal Directed Assembly of Terpyridine-Functionalized Gold Nanoparticles" *Nano Letters*, **2002**, *2*, 1345-1348.
- 115) Thibault, R.; Galow, T.; Turnberg, E.; Gray, M.; Hotchkiss, P.; Rotello, V. M. "Specific Interactions of Complementary Mono- and Multivalent Guests with Recognition-Induced Polymersomes" *J. Am. Chem. Soc.* **2002**, *124*, 15249-15254.
- 114) Frankamp, B. L.; Boal, A. K.; Rotello, V. M. "Controlled Interparticle Spacing through Self-Assembly Of Au Nanoparticles And Poly(Amidoamine) Dendrimers" *J. Am. Chem. Soc.*, **2002**, *124*, 15146-15147.
- 113) Galow, T.; Fuller, N.; Cohen, C.; Rotello, V. M. "Flavin Mononucleotide as a Probe for Dopant Encapsulation in Sol-Gel Silicates", *Langmuir*, **2002**, *18*, 9149-9152.
- 112) Drechsler, U.; Rotello, V. "The Interplay Between Redox and Recognition Processes: Models and Devices" *Adv. Phys. Org. Chem.* **2002**, *37*, 315-337.
- 111) Carroll, J. B.; Frankamp, B. L.; Rotello, V. M. "Self-Assembly of Gold Nanoparticles through Tandem Hydrogen Bonding and Polyoligosilsequioxane (POSS)-POSS Recognition Processes" *Chem. Commun.* **2002**, 1892-1893.
- 110) Briggs, C.; Norsten, T. B.; Rotello, V. M. "Inhibition and Acceleration of Deuterium Exchange in Amide- Functionalized Monolayer-Protected Gold Clusters" *Chem. Commun.* **2002**, 1890-1891.
- 109) Jeoung, E.; Carroll, J. B.; Rotello, V. M. "Surface Modification via 'Lock and Key' Specific Self-Assembly of Polyhedral Oligomeric Silsequioxane (POSS) Derivatives to Modified Gold Surfaces" *Chem. Commun.* **2002**, 1510-1511.
- 108) Duffy, D. J.; Das, K.; Hsu, S. L.; Penelle, J.; Rotello, V. M.; Stidham, H. D. "Binding Efficiency and Transport Properties of Molecularly Imprinted Polymer Thin Films" *J. Am. Chem. Soc.* **2002**, *124*, 8290-8296.
- 107) Credo, G. M.; Boal, A. K.; Das, K.; Galow, T. H.; Rotello, V. M.; Feldheim, D. L.; Gorman, C. B. "Supramolecular Assembly on Surfaces: Manipulating Conductance in Noncovalently Modified Mesoscale Structures" *J. Am. Chem. Soc.* **2002**, *124*, 9036-9037.
- 106) Cooke, G.; Rotello, V. M. "Methods of Modulating Hydrogen Bonded Interactions in Synthetic Host-Guest Systems" *Chem. Soc. Rev.* **2002**, *31*, 275-286.
- 105) Galow, T. H.; Drechsler, U.; Hanson, J. A.; Rotello, V. M. "Highly Reactive Heterogeneous Heck and Hydrogenation Catalysts constructed Through 'Bottom-Up' Nanoparticle Self-Assembly" *Chem. Commun.* **2002**, 1076-1077.
- 104) Fischer, N. O.; McIntosh, C. M.; Simard, J. M.; Rotello, V. M. "Inhibition of Chymotrypsin through Surface Binding using Nanoparticle-Based Receptors" *Proc. Natl. Acad. Sci. U. S. A.* **2002**, *99*, 5018-5023.
- 103) Boal, A. K.; Das, K.; Gray, M.; Rotello, V. M. "Monolayer Exchange Chemistry of gamma-Fe₂O₃ Nanoparticles" *Chem. Mat.* **2002**, *14*, 2628-2636.
- 102) Boal, A. K.; Rotello, V. M. "Radial Control of Recognition and Redox Processes with Multivalent Nanoparticle Hosts" *J. Am. Chem. Soc.* **2002**, *124*, 5019-5024.
- 101) Paulini, R.; Frankamp, B. L.; Rotello, V. M. "Effects of Branched Ligands on the Structure and Stability of Monolayers on Gold Nanoparticles" *Langmuir* **2002**, *18*, 2368-2373.
- 100) Rotello, V. M. "Recognition-Mediated Self-Assembly of Organic Systems - Preface" *Tetrahedron* **2002**, *58*, XI-XI
- 99) Boal, A. K.; Gray, M.; Ilhan, F.; Clavier, G. M.; Kapitzky, L.; Rotello, V. M. "Bricks and Mortar Self-Assembly of Nanoparticles" *Tetrahedron* **2002**, *58*, 765-770.
- 98) Sandhu, K. K.; McIntosh, C. M.; Simard, J. M.; Smith, S. W.; Rotello, V. M. "Gold Nanoparticle-Mediated Transfection of Mammalian Cells" *Bioconjugate Chem.* **2002**, *13*, 3-6.
- 97) Frankamp, B. L.; Uzun, O.; Ilhan, F.; Boal, A. K.; Rotello, V. M. "Recognition-Mediated Assembly of Nanoparticles into Micellar Structures with Diblock Copolymers" *J. Am. Chem. Soc.* **2002**, *124*, 892-893
- 96) Boal, A. K.; Galow, T. H.; Ilhan, F.; Rotello, V. M. "Binary and ternary polymer-mediated "bricks and mortar" self- assembly of gold and silica nanoparticles" *Adv. Funct. Mater.* **2001**, *11*, 461-465.
- 95) Rotello, V. M. "Nanoparticles—Scaffolds for Devices, Building Blocks for Materials" *Materials Today*, **2001**, 24-29.
- 94) de Cremiers, H. A.; Clavier, G.; Ilhan, F.; Cooke, G.; Rotello, V. M. "Tuneable electrochemical interactions between polystyrenes with anthracenyl and tetrathiafulvalenyl sidechains" *Chem. Commun.* **2001**, 2232-2233.
- 93) Swenson, R.; Rotello, V. "Organic Redox Cofactors" *Antiox. Redox Signaling*, 2001, 721.
- 92) Bourgel, C.; Boyd, A. S. F.; Cooke, G.; de Cremiers, H. A.; Duclairoir, F. M. A.; Rotello, V. M. "The first redox controlled hydrogen bonded three-pole switch" *Chem. Commun.* **2001**, 1954-1955.
- 91) Jeoung, E.; de Cremiers, H. A.; Deans, R.; Cooke, G.; Heath, S. L.; Vanderstraeten, P. E.; Rotello, V. M. "Control of host dimerization and flavin recognition via intramolecular receptor self-assembly" *Tetrahedron Lett.* **2001**, *42*, 7357-7359.
- 90) Rotello, V. M. "From biology to devices. The interdependence of redox and molecular recognition" *Curr. Org. Chem.* **2001**, *5*, 1079-1090.
- 89) Batsanov, A. S.; Bryce, M. R.; Chesney, A.; Howard, J. A. K.; John, D. E.; Moore, A. J.; Wood, C. L.; Gershtenman, H.; Becker, J. Y.; Khodorkovsky, V. Y.; Ellern, A.; Bernstein, J.; Perepichka, I. F.; Rotello, V.; Gray, M.; Cuello, A. O. "Synthesis

- and crystal engineering of new halogenated tetrathiafulvalene (TTF) derivatives and their charge transfer complexes and radical ion salts" *J. Mater. Chem.* **2001**, *11*, 2181-2191.
- 88) Jeoung, E.; Galow, T. H.; Schotter, J.; Bal, M.; Ursache, A.; Tuominen, M. T.; Stafford, C. M.; Russell, T. P.; Rotello, V. M. "Fabrication and characterization of nanoelectrode arrays formed via block copolymer self-assembly" *Langmuir* **2001**, *17*, 6396-6398.
- 87) Cooke, G.; de Cremiers, H. A.; Duclairoir, F. M. A.; Gray, M.; Vaqueiro, P.; Powell, A. V.; Rosair, G.; Rotello, V. M. "The charge-transfer complexation of tetrathiafulvalene with paraquat and its oligomeric derivatives" *Tetrahedron Lett.* **2001**, *42*, 5089-5091.
- 86) McIntosh, C. M.; Esposito, E. A.; Boal, A. K.; Simard, J. M.; Martin, C. T.; Rotello, V. M. "Inhibition of DNA transcription using cationic mixed monolayer protected gold clusters" *J. Am. Chem. Soc.* **2001**, *123*, 7626-7629.
- 85) Bryce, M. R.; Cooke, G.; Devonport, W.; Duclairoir, F. M. A.; Rotello, V. M. "A stopperless tetrathiafulvalene based [2]pseudorotaxane molecular shuttle" *Tetrahedron Lett.* **2001**, *42*, 4223-4226.
- 84) Bryce, M. R.; Cooke, G.; Duclairoir, F. M. A.; Rotello, V. M. "An investigation of the complexation behaviour of structurally modified tetrathiafulvalene derivatives with the electron deficient cyclophane cyclobis(paraquat-p-phenylene)" *Tetrahedron Lett.* **2001**, *42*, 1143-1145
- 83) Perepichka, D. F.; Bryce, M. R.; Batsanov, A. S.; Howard, J. A. K.; Cuello, A. O.; Gray, M.; Rotello, V. M. "Trialkyltetrathiafulvalene-sigma-tetracyanoanthraquinodimethane (R₃TTF-sigma-TCNAQ) diads: Synthesis, intramolecular charge-transfer properties, and X-ray crystal structure" *J. Org. Chem.* **2001**, *66*, 4517-4524.
- 82) Goodman, A. J.; Breinlinger, E. C.; McIntosh, C. M.; Grimaldi, L. N.; Rotello, V. M. "Model systems for flavoenzyme activity. Control of flavin recognition via specific electrostatic interactions" *Org. Lett.* **2001**, *3*, 1531-1534.
- 81) Vining, W.; Rotello, V. M.; Bak, D. "Harcourt Interactive Organic Chemistry" (CD-ROM) Harcourt:New York, 2001.
- 80) Goodman, A.; Breinlinger, E.; Ober, M.; Rotello, V. M. "Controlled multi-stage recognition of guests using orthogonal electro- and photochemical inputs" *J. Am. Chem. Soc.* **2001**, *123*, 6213-6214.
- 79) Ilhan, F.; Gray, M.; Rotello, V. M. "Reversible side chain modification through noncovalent interactions. "Plug and play" polymers" *Macromolecules* **2001**, *34*, 2597-2601.
- 78) Rotello, V. M. "Redox modulation by molecular recognition", *Electron Transfer in Chemistry*, Wiley-VCH:Weinheim, V. Balzani, ed., 2001, 68-86.
- 77) Cooke, G.; de Cremiers, H. A.; Rotello, V. M.; Tarbit, B.; Vanderstraeten, P. E. "Synthesis of 6-aryl-2,4-diamino-pyrimidines and triazines using palladium catalysed Suzuki cross-coupling reactions" *Tetrahedron* **2001**, *57*, 2787-2789.
- 76) Clavier, G.; Ilhan, F.; Rotello, V. M. "Photochemical control of the macroconformation of polystyrene using azobenzene side chains" *Macromolecules* **2000**, *33*, 9173-9175.
- 75) Galow, T. H.; Cuello, A. O.; Rotello, V. M. "Vicinal tricarbonyls as redox-controlled molecular rotors" *Tetrahedron Lett.* **2000**, *41*, 9489-9492.
- 74) Boal, A. K.; Rotello, V. M. "Intra- and intermonolayer hydrogen bonding in amide- functionalized alkanethiol self-assembled monolayers on gold nanoparticles" *Langmuir* **2000**, *16*, 9527-9532.
- 73) Cooke, G.; Duclairoir, F. M. A.; Rotello, V. M.; Stoddart, J. F. "The reversible complexation of a tetrathiafulvalene functionalised self-assembled monolayer by cyclobis(paraquat-p-phenylene)" *Tetrahedron Lett.* **2000**, *41*, 8163-8166.
- 72) Simard, J.; Briggs, C.; Boal, A. K.; Rotello, V. M. "Formation and pH-controlled assembly of amphiphilic gold nanoparticles" *Chem. Commun.* **2000**, 1943-1944.
- 71) Das, K.; Duffy, D. J.; Hsu, S. L.; Penelle, J.; Rotello, V. M. "Experimental study of release and uptake in well-defined imprinted polymer films" *Polymer Preprints*, **2000**, 1173-1174.
- 70) Ilhan, F.; Boal, A. K.; Rotello, V. "Polymer-mediated "bricks and mortar" self-assembly of nanoparticles into discrete structured arrays" *Polymer Preprints*, **2000**, 1348-1349.
- 69) Clavier, G.; Ilhan, F.; Galow, T. H.; Gray, M.; Rotello, V. "Control of polymer structure: Organization by non-covalent interactions" *Polymer Preprints*, **2000**, 1322-1323.
- 68) Ilhan, F.; Galow, T. H.; Gray, M.; Clavier, G.; Rotello, V. M. "Giant vesicle formation through self-assembly of complementary random copolymers" *J. Am. Chem. Soc.* **2000**, *122*, 5895-5896.
- 67) Deans, R.; Cuello, A. O.; Galow, T. H.; Ober, M.; Rotello, V. M. "Communication of electronic information over nanometer distances with supramolecular transduction. An experimental and density functional investigation" *J. Chem. Soc.-Perkin Trans. 2* **2000**, 1309-1313.
- 66) Niemz, A.; Cuello, A.; Steffen, L. K.; Plummer, B. F.; Rotello, V. M. "Electron confinement in structurally constrained sigma-bonded pi-systems. An experimental and density functional investigation" *J. Am. Chem. Soc.* **2000**, *122*, 4798-4802.
- 65) Roux, M. V.; Jimenez, P.; Davalos, J. Z.; Martin-Luengo, M. A.; Rotello, V. M.; Cuello, A. O.; Liebman, J. F. "The plausible aromaticity of 1,8-naphthalimides: The enthalpy of formation of N-methyl-1,8-naphthalimide" *Struct. Chem.* **2000**, *11*, 1-7.
- 64) Galow, T. H.; Ilhan, F.; Cooke, G.; Rotello, V. M. "Recognition and encapsulation of an electroactive guest within a dynamically folded polymer" *J. Am. Chem. Soc.* **2000**, *122*, 3595-3598.
- 63) Boal, A. K.; Ilhan, F.; DeRouchey, J. E.; Thurn-Albrecht, T.; Russell, T. P.; Rotello, V. M. "Self-assembly of nanoparticles into structured spherical and network aggregates" *Nature* **2000**, *404*, 746-748

- 62) Cuello, A. O.; McIntosh, C. M.; Rotello, V. M. "Model systems for flavoenzyme activity. The role of N(3)-H hydrogen bonding in flavin redox processes" *J. Am. Chem. Soc.* **2000**, *122*, 3517-3521
- 61) Boal, A. K.; Rotello, V. M. "Fabrication and self-optimization of multivalent receptors on nanoparticle scaffolds" *J. Am. Chem. Soc.* **2000**, *122*, 734-735.
- 60) Galow, T. H.; Boal, A. K.; Rotello, V. M. "A "building block" approach to mixed-colloid systems through electrostatic self-organization" *Adv. Mater.* **2000**, *12*, 576-579.
- 59) Ilhan, F.; Diamondis, L.; Gautreau, L.; Rotello, V. M. "Kinetic trapping of host-guest complexes in a polymeric matrix" *Chem. Commun.* **2000**, 447-448.
- 58) Duffy, D. J.; Das, K.; Hsu, S. L.; Penelle, J.; Rotello, V. M.; Stidham, H. D. "Molecularly imprinted polymer systems for selective recognition via hydrogen-bonding interactions" *PMSE Preprints*, **2000**, *82*, 69-70.
- 57) Niemz, A.; Jeoung, E.; Boal, A. K.; Deans, R.; Rotello, V. M. "Divergent surface functionalization using acid fluoride-functionalized self-assembled monolayers" *Langmuir* **2000**, *16*, 1460-1462.
- 56) Rotello, V. M. "Synthetic Models of Flavoenzyme Activity", *Flavins and Flavoproteins 99*, VCH:Berlin, Ghisla, S.; Macheroux, P.; Kroneck, P.; Sund, H. eds. Agency for Scientific Publishing: Berlin, **1999**, 17-23.
- 55) McIntosh, C.M.; Niemz, A.; Rotello, V. M. "Supramolecular Models of Flavoenzyme Activity *Flavins and Flavoproteins 99*, Ghisla, S.; Macheroux, P.; Kroneck, P.; Sund, H. eds. Agency for Scientific Publishing: Berlin, **1999**, 67-70.
- 54) Bryce, M. R.; Moore, A. J.; Batsanov, A. S.; Howard, J. A. K.; Petty, M. C.; Williams, G.; Rotello, V.; Cuello, A. "4-ethoxycarbonyl-4',5,5'-trimethyltetrathiafulvalene and its radical cation: Langmuir-Blodgett film studies, EPR spectra and the X-ray crystal structure of (Me₃TTF-CO₂Et)(2)center dot TCNQ complex" *J. Mater. Chem.* **1999**, *9*, 2973-2978.
- 53) Cooke, G.; Rotello, V. M.; Radhi, A. "Fluorocarbonyltetrathiafulvalene: an effective building block for the production of tetrathiafulvalene esters and amides" *Tetrahedron Lett.* **1999**, *40*, 8611-8613.
- 52) Rotello, V. M. "Model systems for redox cofactor activity" *Curr. Opin. Chem. Biol.* **1999**, *3*, 747-751.
- 51) Ilhan, F.; Gray, M.; Blanchette, K.; Rotello, V. M. "Control of polymer solution structure via intra- and intermolecular aromatic stacking" *Macromolecules* **1999**, *32*, 6159-6162.
- 50) Deans, R.; Ilhan, F.; Rotello, V. M. "Recognition-mediated unfolding of a self-assembled polymeric globule" *Macromolecules* **1999**, *32*, 4956-4960.
- 49) Boal, A. K.; Rotello, V. M. "Redox-modulated recognition of flavin by functionalized gold nanoparticles" *J. Am. Chem. Soc.* **1999**, *121*, 4914-4915.
- 48) Greaves, M. D.; Deans, R.; Galow, T. H.; Rotello, V. M. "Flavins as modular and amphiphilic probes of silica microenvironments" *Chem. Commun.* **1999**, 785-786.
- 47) Galow, T. H.; Rodrigo, J.; Cleary, K.; Cooke, G.; Rotello, V. M. "Fluorocarbonylferrocene. A versatile intermediate for ferrocene esters and amides" *J. Org. Chem.* **1999**, *64*, 3745-3746.
- 46) Ilhan, F.; Rotello, V. M. "Thermoreversible polymerization. Formation of fullerene-diene oligomers and copolymers" *J. Org. Chem.* **1999**, *64*, 1455-1458.
- 45) Greaves, M. D.; Niemz, A.; Rotello, V. M. "Control of one- versus two-electron reduction of ubiquinone via redox-dependent recognition" *J. Am. Chem. Soc.* **1999**, *121*, 266-267.
- 44) Greaves, M. D.; Galow, T. H.; Rotello, V. M. "Model systems for flavoenzyme activity: aromatic stacking in sol-gel matrices" *Chem. Commun.* **1999**, 169-170.
- 43) Niemz, A.; Rotello, V. M. "From enzyme to molecular device. Exploring the interdependence of redox and molecular recognition" *Accounts Chem. Res.* **1999**, *32*, 44-52.
- 42) Rotello, V. M. "The donor atom-pi interaction of sulfur with flavin. A density functional investigation" *Heteroatom Chem.* **1998**, *9*, 605-606.
- 41) Rotello, V. M. "Model Systems for Flavoenzyme Activity. Redox-Induced Modulation of Flavin-Receptor Hydrogen Bonding:" *Molecular Recognition and Inclusion*, A. Coleman, ed., Kluwer:Amsterdam, **1998**, 479-482.
- 40) Breinlinger, E. C.; Keenan, C. J.; Rotello, V. M. "Modulation of flavin recognition and redox properties through donor atom-pi interactions" *J. Am. Chem. Soc.* **1998**, *120*, 8606-8609.
- 39) Cheng, W. J. Y.; Janosy, N. R.; Nadeau, J. M. C.; Rosenfeld, S.; Rushing, M.; Jasinski, J. P.; Rotello, V. "Stereoisomeric p-quinodimethanes" *J. Org. Chem.* **1998**, *63*, 379-382.
- 38) de Miguel, P.; Bryce, M. R.; Goldenberg, L. M.; Beeby, A.; Khodorkovsky, V.; Shapiro, L.; Niemz, A.; Cuello, A. O.; Rotello, V. "Synthesis and intramolecular charge-transfer properties of new tetrathiafulvalene-sigma-tetracyanoanthraquinodimethane diad (TTF-sigma-TCNAQ) and triad (TTF-sigma-TCNAQ-sigma-TTF) molecules" *J. Mater. Chem.* **1998**, *8*, 71-76.
- 37) Nie, B.; Rotello, V. M. "Attachment of Fullerenes to Materials: The Importance of Backbone-Fullerene Interactions" *J. Phys. Chem. Solids*, **1997**, *58*, 1897-1899.
- 36) Deans, R.; Niemz, A.; Breinlinger, E. C.; Rotello, V. M. "Electrochemical control of recognition processes. A three-component molecular switch" *J. Am. Chem. Soc.* **1997**, *119*, 10863-10864.
- 35) Greaves, M. D.; Rotello, V. M. "Model systems for flavoenzyme activity, specific hydrogen bond recognition of flavin in a silicate sol-gel" *J. Am. Chem. Soc.* **1997**, *119*, 10569-10572.
- 34) Niemz, A.; Rotello, V. "UV-Vis Spectroelectrochemistry of Flavins in Aprotic Organic Solvents", *Flavins and Flavoproteins '96*, Steveneson, K.; Massey, V.; Williams, C.; eds. Univ. of Calgary: Calgary, **1997**, 159-162.

- 33) Breinlinger, E.; Niemz, A.; Rotello V. M. "Synthetic Models for Flavoenzyme Activity: Modification of Flavin Redox Properties Through Hydrogen Bonding", *Flavins and Flavoproteins '96*, Steveneson, K.; Massey, V.; Williams, C., eds. Univ. of Calgary: Calgary, **1997**, 123-126.
- 32) Nie, B.; Rotello V. "Purification of Fullerenes via Thermo-Reversible Diels-Alder Addition to Solid Supports", *Proc. Electrochem. Soc.*, **1997**, 97-10, 435-439.
- 31) Niemz, A.; Rotello, V. M. "Modification of Spin Density Distribution via Specific Hydrogen Bond Interactions: An experimental, UHF, and Density Functional Study" *J. Am. Chem. Soc.* **1997**, *119*, 6833-6836.
- 30) Nie, B.; Rotello, V. M. "Thermally controlled formation of fullerene-diene oligomers and copolymers" *Macromolecules* **1997**, *30*, 3949-3951.
- 29) Greaves, M.; Rotello, V. "Specific Recognition of Flavin in a Sol-Gel Matrix" *Sol-Gel Optics IV*, Dunn, B.; Mackenzie, J.; Pope, E.; Schmidt, H.; Yamane, M., eds, SPIE:Bellingham, **1997**, 433-441.
- 28) Deans, R.; Rotello, V. M. "Model systems for flavoenzyme activity. Molecular recognition of flavin at the polymer-liquid interface" *J. Org. Chem.* **1997**, *62*, 4528-4529.
- 27) Dutra, J. K.; Cuello, A. O.; Rotello, V. M. "Model systems for flavoenzyme activity. A versatile synthesis of N(3)-alkylated flavins" *Tetrahedron Lett.* **1997**, *38*, 4003-4004.
- 26) Deans, R.; Cooke, G.; Rotello, V. M. "Model systems for flavoenzyme activity. Regulation of flavin recognition via modulation of receptor hydrogen-bond donor- acceptor properties" *J. Org. Chem.* **1997**, *62*, 836-839.
- 25) Breinlinger, E. C.; Rotello, V. M. "Model systems for flavoenzyme activity. Modulation of flavin redox potentials through pi-stacking interactions" *J. Am. Chem. Soc.* **1997**, *119*, 1165-1166.
- 24) Niemz, A.; Imbriglio, J.; Rotello, V. M. "Model Systems for Flavoenzyme Activity: One- and Two-Electron Reduction of Flavins in Aprotic Hydrophobic Environments" *J. Am. Chem. Soc.* **1997**, *119*, 887-892.
- 23) Nie, B.; Rotello, V. M. "Nonchromatographic purification of fullerenes via reversible addition to silica-supported dienes" *J. Org. Chem.* **1996**, *61*, 1870-1871..
- 22) Imbriglio, J.; Patel, P.; Rotello, V. M. "Model systems for cofactor activity. Biomimetic reduction of vitamin K by 1,3-propanedithiol" *Heteroatom Chem.* **1996**, *7*, 293-294..
- 21) Deans, R.; Rotello, V. M. "Model systems for flavoenzyme activity. 2-aminopyridines as spectroscopic models for flavoenzyme active sites" *Tetrahedron Lett.* **1996**, *37*, 4435-4438.
- 20) Nie, B.; Rotello, V. M. "Reversible Covalent Attachment of Fullerenes to Polymers and Materials". *Proc. Electrochem. Soc.*, **1996**, 96-10, 1212-1217.
- 19) Niemz, A.; Rotello, V. M. "Model systems for flavoenzyme activity. The effects of specific hydrogen bonds on the C-13 and H-1 NR/IR of flavins" *J. Mol. Recognit.* **1996**, *9*, 158-162.
- 18) Lambert, E.; Breinlinger, E. C.; Rotello, V. M. "Selective Transport of Riboflavin Through a Liquid Organic Membrane" *J. Org. Chem.* **1995**, *60*, 2646-2647.
- 17) Nie, B.; Hasan, K.; Greaves, M. D.; Rotello, V. M. "Reversible Covalent Attachment of C-60 to a Furan- Functionalized Resin" *Tetrahedron Lett.* **1995**, *36*, 3617-3618.
- 16) Breinlinger, E.; Niemz, A.; Rotello, V. M. "Model Systems For Flavoenzyme Activity - Stabilization of the Flavin Radical-Anion Through Specific Hydrogen-Bond Interactions" *J. Am. Chem. Soc.* **1995**, *117*, 5379-5380.
- 15) Guhr, K. I.; Greaves, M. D.; Rotello, V. M. "Reversible Covalent Attachment of C-60 to a Polymer Support" *J. Am. Chem. Soc.* **1994**, *116*, 5997-5998.
- 14) Giovane, L. M.; Barco, J. W.; Yadav, T.; Lafleur, A. L.; Marr, J. A.; Howard, J. B.; Rotello, V. M. "Kinetic Stability of the C-60-Cyclopentadiene Diels-Alder Adduct" *J. Phys. Chem.* **1993**, *97*, 8560-8561.
- 13) Rotello, V. M.; Howard, J. B.; Yadav, T.; Conn, M. M.; Viani, E.; Giovane, L. M.; Lafleur, A. L. "Isolation of Fullerene Products From Flames - Structure and Synthesis of the C60-Cyclopentadiene Adduct" *Tetrahedron Lett.* **1993**, *34*, 1561-1562.
-
- 12) Wasserman, H. H.; Rotello, V. M.; Frechette, R.; DeSimone, R. W.; Yoo, J. U.; Baldino, C. M. "Singlet oxygen in synthesis. Formation of d,l- and meso- isochrysohermidin from a 3,3'-bipyrrole precursor" *Tetrahedron* **1997**, *53*, 8731-8738.
- 11) Rotello, V.; Feng, Q.; Hong, J.-I.; Rebek J. "Competition, Reciprocity, and Mutation at the Molecular Level: Irradiation of a Synthetic Replicator Generates a Superior Species", *Self-Production of Supramolecular Structures*; Colonna, P., ed., Kluwer:Dordrecht, **1994**, 291.
- 10) Rotello, V. M.; Viani, E. A.; Deslongchamps, G.; Murray, B. A.; Rebek, J. "Molecular Recognition in Water - New Receptors For Adenine- Derivatives" *J. Am. Chem. Soc.* **1993**, *115*, 797-798.
- 9) Hong, J. I.; Feng, Q.; Rotello, V.; Rebek, J. "Competition, Cooperation, and Mutation - Improving a Synthetic Replicator By Light Irradiation" *Science* **1992**, *255*, 848-850.
- 8) Wasserman, H. H.; Ennis, D. S.; Blum, C. A.; Rotello, V. M. "The Conversion of Carboxylic-Acids to Keto Phosphorane Precursors of 1,2,3-Vicinal Tricarbonyl Compounds" *Tetrahedron Lett.* **1992**, *33*, 6003-6006.
- 7) Wasserman, H. H.; Rotello, V. M.; Krause, G. B. "Oxidation of Alpha-Ylido, Beta-Keto Amides to Vicinal Tricarbonyls - Synthesis of a Diketopiperazine Precursor of Bicyclomycin" *Tetrahedron Lett.* **1992**, *33*, 5419-5422.
- 6) Rotello, V.; Hong, J. I.; Rebek, J. "Sigmoidal Growth in a Self-Replicating System" *J. Am. Chem. Soc.* **1991**, *113*, 9422-9423..

- 5) Wasserman, H. H.; Frechette, R.; Rotello, V. M.; Schulte, G. "Singlet Oxygen Reactions of 2-Carboxy-3-Methoxypyrroles" *Tetrahedron Lett.* **1991**, *32*, 7571-7574.
- 4) Wasserman, H. H.; Rotello, V. M.; Williams, D. R.; Benbow, J. W. "Synthesis of the Tricarbonyl Region of Fk-506 Through an Amidophosphorane" *J. Org. Chem.* **1989**, *54*, 2785-2786.
- 3) "The Chemistry of Vicinal Tricarbonyl Compounds. Use of Vinyl Tricarbonyl Esters in the Formation of 3-Hydroxypyrrole-2-Carboxylates" H. H. Wasserman, J. D. Cook, J. M. Fukuyama, V. M. Rotello, *Tetrahedron Lett.*, **1989**, *30*, 1721.
- 2) Wasserman, H. H.; Fukuyama, J.; Murugesan, N.; Vanduzer, J.; Lombardo, L.; Rotello, V.; McCarthy, K. "The Chemistry of Vicinal Tricarbonyls - a Stable Vinyl Tricarbonyl Hydrate As a Dielectrophile and Trielectrophile" *J. Am. Chem. Soc.* **1989**, *111*, 371-372.
- 1) Garner, P.; Park, J. M.; Rotello, V. "An Enantioselective Synthesis of the Carzinophilin Degradation Product (2s,3s) 4-Amino-2,3-Dihydroxy-3-Methylbutyric Acid" *Tetrahedron Lett.* **1985**, *26*, 3299-3302.

Invited Presentations:

2008

University of Florida, Gainesville FL
American Chemical Society, Spring National Meeting, (PMSE), two talks, New Orleans, LA.
International Symposium on Macrocyclic and Supramolecular Chemistry, Las Vegas, NV
University of Maryland, College Park, MD
University of Michigan, Ann Arbor, MI

2007

Rennselear Institute of Technology, Troy, NY
University of Puerto Rico, Rio Piedras, PR
Lorentz Conference: Magnetic Nanoparticles: Challenges and Future Prospects, Leiden, Netherlands
Purdue University, West Lafayette, IN
Gordon Research Conference: Supramolecules and Assemblies", Il Ciocco, Italy
New York University, New York, NY
Georgia Institute of Technology, Atlanta, GA
Materials Research Society, Fall National Meeting, Boston, MA, : Symposium PP and Symposium MM/PP Tutorial

2006

University of Miami, Coral Gables FL
Organic Structure and Properties Gordon Conference
American Chemical Society, Spring National Meeting, (PMSE)
Johnson and Johnson, Spring House, PA
Xerox Material Research Center, Mississauga, ON
American Chemical Society, Fall National Meeting, 3 talks (POLY, COLL, and ORGN)
Particles 2006, *Plenary Lecture*, Orlando, CA
Skidmore College, Saratoga Springs, NY
3M Corporation, St. Paul, MN
Mayo Clinic, Rochester, MN

2005

University of Texas, Arlington, TX
Ohio State University, Columbus, OH
University of Buffalo, Buffalo, NY
American Chemical Society Spring National Meeting, San Diego, CA (ANYL, Applications of Nanomaterials)
Self-Assembled Nanomaterials Workshop, Argonne National Labs, Argonne, IL.
University of Vermont, Burlington, VT
Indiana University, Bloomington, IN
American Chemical Society, Fall National Meeting, 3 talks (POLY, COLL, and ANYL)

Arizona State University, Tempe AZ
Particles 2008, Orlando, FL
Canadian Society of Chemistry, two talks, Edmonton AL, Canada
Polymers in Life Science 2008, Zurich, Switzerland
American Chemical Society, Fall National Meeting, (POLY), Philadelphia, PA

Department of Chemistry and Biochemistry, University of California, Los Angeles CA
California NanoSystems Institute, University of California, Los Angeles, CA
Department of Materials Science and Eng. University of California, Los Angeles, CA.
University of Eindhoven, Netherlands
University of Twente, Netherlands
Radboud University of Nijmegen, Netherlands
Johns Hopkins University, Baltimore, MD
University of Central Florida, Orlando, FL

University of Montreal, Montreal, QC
Laval University, Québec, QC
McGill University
Brigham Young University, Provo, UT
University of Utah, Salt Lake City, UT
SUNY-Albany, Albany, NY
Gordon Conference : Macromolecular Organization and Cell Function: Cellular Systems Biology, South Hadley, MA
Northwestern University, Evanston, IL
Indo-US Symposium on Nanotechnology in Advanced Drug Delivery, Punjab, India

Simon Fraser University, Vancouver BC
University of Victoria, Victoria, BC
Lehigh University, Bethlehem, PA
University of Connecticut, Storrs, CT.
Era of Hope Breast Cancer Symposium, Philadelphia, PA
Materials Research Society, Fall National Meeting, Boston, MA, 3 talks: Symposia O, Q, and CC
Dartmouth College, Hanover NH
Biologically Inspired Nanomaterials ICAM workshop, Penn State University, State College, PA

2004

Duke University, Durham, NC
Research Triangle ACS Polymer Discussion Group,
Durham, NC
13th International Symposium on Supramolecular
Chemistry, South Bend ND
Georgia State University, Atlanta, GA
North Dakota State University, Fargo, ND
NSF Workshop "Models of Thought Processes:
Insights toward Chemical Systems" Washington, DC
Indiana University, Bloomington, IN
Naval Research Labs, Washington, DC
Mass. Medical Society, Waltham MA

2003

Clemson University, Clemson, SC
Green Chemistry in Practice, Andover MA
American Chemical Society Spring National Meeting,
(POLY, Non-Covalent Assembly of Polymers)
Materials Research Society, Fall National Meeting,
Boston MA (Nanostructured Organic Materials),
Boston, MA
Southern Illinois University, Carbondale, IL
Yale University, New Haven, CT
Lawrence Livermore National Laboratories, Livermore,
CA

2002

20th International Symposium on the Organic
Chemistry of Sulfur, Flagstaff, AZ
Purdue University, West Lafayette, IN
Northwestern University, Evanston, IL
University of Notre Dame, Notre Dame, IN
University of Illinois, Urbana, IL
University of South Carolina, Columbia, SC
Macromolecular Science and Engineering Symposium,
University of Michigan, Ann Arbor, MI

2001

University of Texas, Austin, TX
NSF Workshop on Materials Chemistry
MRSEC-HOMRC (Korea) Joint Workshop, Amherst,
MA
Southeastern Regional Meeting of the American
Chemical Society, (Biomimetic Chemistry and
Nanostructured Materials sessions) Savannah, GA
Emory University, Atlanta, GA
University of Washington, Seattle, WA
University of Toledo, Toledo, OH
Bowling Green State University, Bowling Green, OH

North Carolina State University, Raleigh, NC
NSF Workshop on Supramolecular Chemistry,
Sanibel Island, FL
Keynote Speaker, Particles 2004, Orlando, Fla
Nanotechnology Research Institute, The National
Institute of AIST, Tsukuba, Japan
Tokyo University, Tokyo, Japan
American Chemical Society Spring National Meeting,
(POLY, Metal-Mediated Assembly of Materials)
American Chemical Society Spring National Meeting,
(COLL, Nanoscience and Nanotechnology)
Eastern Analytical Symposium, (Bionanomaterials)

Montana State University, Bozeman MT
American Chemical Society Fall National Meeting
(POLY, Self-Assembly of Nanostructures)
American Chemical Society Fall National Meeting
(POLY, Molecular recognition using Polymeric
Materials)
American Chemical Society Fall National Meeting
(ORGN, Supramolecular Chemistry)
Sandia National Laboratories, Albuquerque, NM

Tulane University, New Orleans, LA
Louisiana State University, Baton Rouge LA
Sandia National Labs, Albuquerque NM
University of North Carolina, Chapel Hill NC
Texas A&M University, College Station, TX
Distinguished Lecture Series, Dept of Materials &
Nuclear Eng. , University of Maryland, College Park
MD
NSF Physical Organic Workshop, Hilton Head, SC
Colorado State University, Fort Collins CO

Georgia Institute of Technology, Atlanta, GA
Tufts University, Medford, MA
University of Massachusetts, Department of Polymer
Science and Engineering, Amherst, MA
Polytechnic University, Brooklyn, NY
Materials Research Society, Symposium Z-Patterning
Soft Materials, San Francisco, CA
Materials Research Society, Symposium Y-
Applications of Nanostructures, San Francisco, CA

2000

Third International Symposium on Atomic Scale Processing and Novel Properties in Nanoscopic Materials, Osaka, Japan

R.T. Major Lecturer, University of Connecticut, Storrs, CT

Wayne State University, Detroit, MI

Mount Holyoke College, South Hadley, MA

Case-Western Reserve University, Dept. of Macromolecular Sciences, Cleveland, OH

University of Maine, Orono ME

AIChe National Meeting, Los Angeles, CA

Gordon Conference (Bioorganic Chemistry), Plymouth, NH

Gordon Conference (Polymers East), Short Talk (Presented by F. Ilhan)

Material Res. Society Spring Meeting, San Francisco, CA

Vanderbilt University, Nashville, TN

Wesleyan University, Middletown, CT

1999

CUMIRP Fall Meeting, Amherst, MA

University of Maryland-Baltimore County, Baltimore, MD

NSF Workshop on Materials Chemistry

Fullerenes in Polymer Chemistry, ACS National Meeting (Presented by F. Ilhan)

Flavins and Flavoproteins 1999, Konstanz (Germany)

University of New Orleans, New Orleans, LA

Johns Hopkins University, Baltimore, MD

Organic Syntheses Lecturer, Williams College, Williamstown, MA

NSF New England Workshop on Molecular Modeling, Amherst, MA

Temple University, Philadelphia, PA

1998

Brown University, Providence, RI

University of California, Irvine, CA

University of Nevada, Reno NV

Scripps Institute, La Jolla, CA

San Diego State University, San Diego, CA

North Carolina State University, Raleigh, NC

University of Pittsburgh, Pittsburgh, PA

University of Durham, Durham (UK)

University of Northumbria, Newcastle (UK)

Virginia Commonwealth University, Richmond, VA

1997

Merrimack College, North Andover, MA

CUNY- City College, New York, NY

SUNY Stonybrook, Stonybrook, NY

Union College, Schenectady, NY

University of Teeside, Teeside (UK)

Tufts University, Medford, MA

Nora Harrington Lecturer, Elms College, Springfield, MA

1996

University of Wisconsin, Milwaukee, WI

University of Wisconsin, Madison WI

University of Maryland, College Park MD

Case-Western Reserve University, Cleveland, OH

Closs Lecturer, University of Chicago, Chicago, IL

Illinois Institute of Technology, Chicago, IL

University of California, Los Angeles, CA

Mount Holyoke College, South Hadley, MA

Electrochemical Society National Meeting-Fullerene section, Los Angeles, CA

CUNY- Brooklyn College, New York, NY

1995

University of Massachusetts Medical School, Worcester, MA

Amherst College, Amherst, MA

University of Sheffield, Sheffield (U.K.)

University of Leeds, Leeds (U.K.)

University of East Anglia (U.K.)

Parke-Davis Research Laboratories, Cambridge (U.K.)

Institute for Science Instruction and Study, New Haven, CT

Gordon Conference (Bioorganic Chemistry), Plymouth, NH

Fairfield University, Fairfield, CT

Courses Taught:

Chem 263: Organic Chemistry-Non-Majors
Chem. 551: Advanced Organic Chemistry
Chem 756: Organic Synthesis
Chem 791A: Molecular Recognition (proposed and developed)
Chem 791H: Graduate Core Course (proposed and developed)
NS&M 121A: Undergraduate Seminar

Service Responsibilities:

2007-2008 Distinguished Faculty Lecture Series Selection Panel
Member, Executive Committee, Chemistry-Biology Interface Training Grant
Graduate Studies Committee
Graduate Recruiting Committee
NSM Awards Committee
Co-leader, Center for Hierarchical Materials TRG 3 (Bionanotechnology)

2006-2007 Chair, Combined Inorganic Materials, Bioorganic, and Device Searches
Co-leader, Center for Hierarchical Materials TRG 3 (Bionanotechnology)
Member, CVIP Patent Evaluation Committee
Member, Executive Committee, Chemistry-Biology Interface Training Grant
Faculty Advisor, MassNanoTech
Member, Head's Advisory Committee

2005-2006 Member, Device Search Committee
Member, CVIP Patent Evaluation Committee
Member, Executive Committee, Chemistry-Biology Interface Training Grant
Faculty Advisor, MassNanoTech
Member, Head's Advisory Committee

2004-2005 Member, Biological Search Committee
Member, CVIP Patent Evaluation Committee
Member, Executive Committee, Chemistry-Biology Interface Training Grant
Faculty Advisor, MassNanoTech
Member, NSM Awards Committee
Member, Departmental Personnel Committee
Member, Graduate Program Committee

2003-2004 Member, Biological Search Committee
Member, Center for Emergency Preparedness Faculty Leadership Committee
Member, CVIP Patent Evaluation Committee
Member, Executive Committee, Chemistry-Biology Interface Training Grant
Member, MCB recruiting committee
Faculty Advisor, MassNanoTech

2002-2003 *Vice-Chair*, Organic/Physical Search Committee
Member, Center for Emergency Preparedness Faculty Leadership Committee
Member, Graduate Studies/Recruiting Committee
Member, CVIP Patent Evaluation Committee
Member, Executive Committee, Chemistry-Biology Interface Training Grant

2001-2002 *Vice-Chair*, Organic/Inorganic Search Committee
Member, Graduate Studies/Recruiting Committee
Member, CVIP Patent Evaluation Committee
Member, Executive Committee, Chemistry-Biology Interface Training Grant

2000-2001 Chair, Symposium on Nanoscience and Technology
Organizer, Nanotechnology Initiative
Chair, Faculty Search Committee
Member, Graduate Studies, Recruiting and Admissions Committee

1999-2000 Member, Advisory Committee to the Head

1998-1999 Member, Graduate Studies Committee
Member, Future Planning Committee

1997-1998 Member, Organic Search Committee;
Member, Graduate Studies Committee;
Director, Howard Hughes Biological Chemistry REU;

1996-1997 *Chair*, Graduate Curriculum Reform Committee;
Chair, Bioorganic Search Committee;
Faculty Mentor, PSITAP;
Director, Howard Hughes Biological Chemistry REU;
Member, Graduate Studies Committee;
Co-Chair, LSSC bioanalytical faculty proposal committee

1995-1996 *Faculty Mentor*, PSITAP
Assistant Director, Howard Hughes Biological Chemistry REU;
Member, Graduate Studies Committee;
Member, Eugene Eisenberg Curriculum Development Committee

1994-1995 *Faculty Mentor*, Physical Sciences Talant Advancement Program (PSITAP)
Assistant Director, Howard Hughes Biological Chemistry REU
Member, Space Committee

1993-1994 Member, Computer Committee