

DR. ERIC E. SIMANEK

Department of Chemistry
Texas A&M University
College Station, TX 77843-3255
e-mail: simanek@tamu.edu

Phone: (979) 845-4242
Fax: (979) 845-9452

web: www.chem.tamu.edu/rgroup/simanek

Current Research Interests:

Polymer (dendrimer) chemistry aimed at drug delivery (chemotherapy), chemical education

Education:

Post-doctoral Work (8/96-5/98): Scripps Research Institute with Dr. Chi-Huey Wong

Research: Glycopeptide synthesis and conformation; anti-inflammatories

Ph.D., Chemistry (8/91-8/96): Harvard University with Dr. George M. Whitesides

Research: Molecular recognition; materials science

B.S., Chemistry (8/87-5/91): University of Illinois with Dr. Kenneth L. Rinehart, Jr.

Research: Bioactivity of marine natural products

Professional Experience:

Professor of Chemistry, Texas A&M University, 2007-present

Director of the First Year Chemistry Program (General Chemistry), 2006-2009

Associate Professor of Chemistry, Texas A&M University: 2004-2007

Assistant Professor of Chemistry, Texas A&M University: 1998-2004

Awards and Honors:

College of Science Distinguished Achievement Award from the Association of Former Students (2005)

TAMU College of Science 2003-2004 Montague-Center for Teaching Excellence Scholar (2003)

Innovation Award, 1999, Research Corporation

Eli Lilly Predoctoral Fellowship, 1994-5, Harvard University

Distinguished Teaching Award, 1992, Harvard University

Outstanding Teaching Award, 1991, University of Illinois

Carl Shipp Marvel Research Award, 1991, University of Illinois

Recent Service and Other Activities:

Director of the First Year Program in Chemistry (2006-2009)

P.I. on NSF-GK12 grant (2006-2009)

N.I.H. Study Section Member Ad hoc (SBCA 2005, ZMDG, 2006, SBCA 2007)

Chair of the Organic Division (2004-2005)

Lead Science Researcher and Team Leader in the N.S.F. Center for Teaching Learning

Member of the Academic Oversight Committee (2006-present)

Member of the Promotion and Tenure Committee (2007-present; Chair 2009)

Chair of the Mass Spec Users Group(2004-6),

Member of Graduate Admissions Committee (2006)

Text Author: *Fundamentals of Organic Chemistry*, 6e with John McMurry (2006).

Coordinating editor and contributor on four laboratory manuals used at Texas A&M University

Editor, Special Issues of *Molecular Pharmaceutics* (2006 and 2007)

Founder and President, *Lone Star Molecular, Inc.* (2006)

Current Support

NIH U01: 5U01AI075351-02 *Cooperative Research into Therapeutics and Diagnostics for Category B Bacteria, Viruses, and Parasites*. Subcontracted; S. Shaunak, Imperial College. Dates: 1-1-08 to 12-31-09. Award: \$110,000

NIH (GM R01 064560-05/08): *Molecular Recognition in Dendrimers*. Dates: 8-1-06 to 7-31-10. Award:

\$1,018,000.

NSF-GK12: (DGE 0538547) Building Understanding through Research Partnerships. Dates 2-2-06 to 2-1-09. Award \$1,904,916

Welch Foundation: Molecular Recognition. Dates: 6-1-05 to 5-31-08. Award \$150,000

Selected Previous Support

NIH (GM R01 0645600-01/04): Molecular Recognition in Dendrimers. Dates: . Award:

NSF-NTE: (NSF 0329386) Engineering on Nanospaces: Hybrid Membranes for Environmentally Important Separations. (TSE03-P) Dates 9-1-03 to 8-31-06. \$410,000 (co-PIs: David Ford & Daniel Shantz, TAMU-Chem. Eng)

NSF-CCLI: (DUE 0536673) Anchoring Organic Chemistry in Context. Dates 1-27-06 to 1-14-09. Award \$149,998

NSF-NER: (NSF 0102234) Dendrimer-Filled Mesoporous Membranes for Environmentally Relevant Separations (co-PI: David Ford)

Selected other support: Welch (>\$250K), Minor awards (>\$100K), Industrial (>\$25K)

Pending Support

Available on request.

Commercialization

Three provisional/full patents in varying stages of execution

Licensing agreement for the sale of dendrimers through Frontier Scientific

Two other products in development for commercial release in 2009

Lectures

Over 50 domestic and 10 international in the last eight years including international plenary lectures

Publications

Forty five peer-reviewed publications since 2000 (independent career), averaging >6/yr, H=23

Guest Editor for two special issues of *Molecular Pharmaceutics*

Co-author: *Fundamentals of Organic Chemistry*

Administrative Accomplishments within the First Year Program (since 2006)

Faculty: Normalization of teaching loads; annually funded \$2K professional development accounts for travel/other

Teaching Fellows: Travel awards for outstanding TAs; installation of projectors/computers for lab instruction

Students: Reduction in class size from 313 to 250; separation of lecture/lab; introduction of an e-curriculum saving >>\$250K/yr; introduction of context-anchored laboratory curriculum

Infrastructure: Introduction of computers/e-data collection in laboratories; remodeling of chemical stockroom; introduction of lecture series

Development: Raised approximately \$300K in endowments

Publications from Texas A&M (Independent Career)

79. *Mimicking PAMAM Dendrimers with Ampholytic, Hybrid Triazine Dendrimers: A Comparison of Dispersity and Stability.* Lalwani, S.; Chouai, A.; Perez, L.M.; Santiago, V.; Shaunak, S. Simanek, E.E. *Macromolecules*, **2009**, *Submitted*.
78. *Intercepting triazine dendrimer synthesis with nucleophilic pharmacophores as a general strategy toward drug delivery vehicles.* Venditto, V.J.; Allred, K.; Allred, C.D.; Simanek, E.E. *Chem. Comm.* **2009**, *Accepted*.
77. *Triazine dendrimers as non-viral gene delivery systems: Effects of molecular structure on biological activity.* Merkel, O. M.; Mintzer, M. A.; Sitterberg, J.; Bakowsky, U.; Simanek, E. E.; Kissel, T. *Bioconj. Chem.* **2009**, *Submitted*.
76. *Polycationic triazine-based dendrimers: Effect of peripheral groups on transfection efficiency.* Mintzer, M.A.; Merkel, O.M.; Kissel, T.; Simanek, E.E. *New J. Chem.* **2009**, *In press*.
75. *Lunch with a Scientist: A Cost-Effective Strategy for University and K-12 Partnerships.* Pinnick, V.T.; Venditto, V.J.; Duley, M.; Graham, C.; Everett, C.; Simanek, E.E. *School Sci. Math. J.* **2009**, *Submitted*.
74. *Design, Synthesis, and Characterization of Triazine Dendrimers Bearing Paclitaxel linked by Ester and Ester/Disulfide Linkages.* Lim, J.; Chouai, A.; Lo, S.-T.; Liu, W.; Sun, X.; Simanek, E.E. *Bioconj. Chem.* **2009**, *Submitted*.
73. *Scientists' Perspective on Introducing Authentic Inquiry to High School Teachers During an Intensive Three-Week Summer Professional Development Experience.* Reubush, L.E.; Grossman, E.L.; Miller, S.A.; North, S.W.; Schielack, J.F.; Simanek, E.E. *School Sci. Math. Journal* **2009**, *109*, 3: 162-174.
72. *Electrophoretic Behavior of Anionic Triazine and PAMAM Dendrimers: Methods for Improving Resolution and Assessing Purity Using Capillary Electrophoresis.* Lalwani, S.; Venditto, V.J.; Chouai, A.; Rivera, G.E.; Shaunak, S. Simanek, E.E. *Macromolecules*, **2009**, *42*, 3152–3161.
71. *Reverse-Selective Membranes formed by Dendrimers on Mesoporous Ceramic Supports.* Yoo, S.; Yeu, S.; Sherman, R. L.; Shantz, D.E.; Simanek, E.E.; Ford, D.A. *J. Membrane Sci.* **2009**, *334*, 16–22
70. *The Eight Year Thicket of Triazine Dendrimers. Strategies, Targets, and Applications.* Simanek, E.E.; Hanan A.; Lalwani, S.; Lim, J.; Mintzer, M.; Venditto, V.J.; Vittur, B. *Proc. Royal Soc. A.* **2009**, *In press*.
69. *Large scale, green synthesis of a generation-1 melamine (triazine) dendrimer.* Chouai, A.; Venditto, V.J.; Simanek, E.E. *Org. Syn.* **2009**, *86*, 151-160.
68. *Synthesis of 2-[3,3'-Di-(tert-butoxycarbonyl)-aminodipropylamino]-4,6,-dichloro-1,3,5-triazine as a monomer and 1,3,5-[tris-piperazine]-triazine as a core for the large scale synthesis of melamine (triazine) dendrimers.* Chouai, A.; Venditto, V.; Simanek, E.E. *Org. Syn.* **2009**, *86*, 141-150.
67. *Synthesis and Characterization of Anionic Triazine Dendrimers with a Labile Disulfide Core.* Zhang, W.; Chouai, A.; Simanek, E.E. *Isr. J. Chem.* **2009**, *49*, 23-30.
66. *Synthetic Vectors for Gene Delivery.* Mintzer, M.; Simanek, E.E. *Chem. Rev.* **2009**, *109*, 259-302.
65. *The Role of Size and Number of Polyethyleneglycol Chains on the Biodistribution and Tumor Localization of Triazine Dendrimers.* Lim, J.; Guo, Y.; Rostollan, C.L.; Stanfield, J.; Hsieh, J.-T.; Sun, X.; Simanek, E.E. *Molec. Pharm.* **2008**, *5*, 540-547.
64. *Identification of Diamine Linkers with Differing Reactivity and their Application in the Synthesis of a Melamine Dendrimers* Moreno, K.X.; Simanek, E.E. *Tetrahedron Lett.* **2008**, *49*, 1152-1154.
63. *Kilogram-Scale Synthesis of a Second Generation Dendrimer Based on 1,3,5-Triazine Using Green and Industrially Compatible Methods with a Single Chromatographic Step.* Chouai, A.; Simanek, E.E.; *J. Org. Chem.* **2008**, *73*, 2357-2366.
62. *Conformational Analysis of Triazine Dendrimers: Using NMR Spectroscopy to Probe the Choreography of a Dendrimer's Dance.* Moreno, K.X.; Simanek, E.E. *Macromolecules* **2008**, *41*, 4108-4114.
61. *Synthesis of Water Soluble Dendrimers Based on Melamine Bearing Sixteen Paclitaxel Groups.* Lim, J.; Simanek, E.E. *Org. Lett.* **2008**, *10*, 201-204.
60. *Triazine Dendrimers with Orthogonally Protected Amines on the Periphery. Masking Amines with Dde and BOC Groups Provides an Alternative to Carrying Protected Alcohols and Disulfides through an Iterative Synthesis.* Umali, A.; Crampton, H.; Simanek, E.E. *J. Org. Chem.* **2007**, *72*, 9866-9874.
59. *A Divergent Route towards Single-Chemical Entity Triazine Dendrimers with Opportunities for Structural Diversity.* Crampton, H.; Hollink, E.; Perez, L. M.; Simanek, E. E. *New J. Chem.* **2007**, *31*, 1283-1290
58. *Dendrimers as drug delivery vehicles: Non-covalent interactions of bioactive compounds with dendrimers.* Crampton, H.; Simanek, E. E. *J. Poly. Int.* **2007**, *56*, 489-496.
57. *Melamine-based organoclay to sequester atrazine.* Neitsch, S. L.; McInnes, K. J.; Senseman, S. A.; White, G. N.; Simanek, E. E. *Chemosphere* **2006**, *64*, 704-710.
56. *Dendrimers based on [1,3,5]-triazines.* Steffensen, M. B.; Hollink, E.; Kuschel, F.; Bauer, M.; Simanek, E.E. *J. Poly. Sci. A* **2006**, *44*, 3411-3433.
55. *Engineering Nanospaces: OMS/Dendrimer Hybrids Possessing Controllable Chemistry and Porosity.* Yoo, S.; Lunn, J. D.; Gonzalez, S.; Ristich, J. A.; Simanek, E. E.; Shantz, D. F. *Chem. Mater.* **2006**, *18*, 2935-2942.
54. *A Divergent Route to Diversity in Macromolecules.* Hollink, E.; Simanek, E. E. *Org. Lett.* **2006**, *8*, 2293-2295.
53. *Dendrimers based on melamine: vehicles for drug delivery?* Simanek, E. E. *ACS Symposium Series* **2006**, *923*(Polymeric Drug Delivery I), 121-136.
52. *Nanocomposite membranes of chemisorbed and physisorbed molecules on porous alumina for environmentally important separations.* Javaid, A.; Gonzalez, S. O.; Simanek, E. E.; Ford, D. M. *J. Membrane Sci.* **2006**, *275*, 255-260.
51. *New synthetic methods for the formation of basic, polyvalent, hyperbranched grafts.* Bergbreiter, D. E.; Simanek, E. E.; Owsik, I. *J. Poly. Sci. A* **2005**, *43*, 4654-4665.
50. *Engineering nanospaces: Ordered mesoporous silicas as model substrates for building complex hybrid materials.* Ford, D. M.; Simanek, E.E.; Shantz, D.F. *Nanotechnology* **2005**, *16*, 458-475.
49. *"Magic" May Grow on Trees...* Simanek, E.E. *Molec. Pharm.* **2005**, *2*, 251-252.
48. *Toward the Next-Generation Drug Delivery Vehicle: Synthesis of a Dendrimer with Four Orthogonally Reactive Groups.* Lim, J.; Simanek, E.E. *Molec. Pharm.* **2005**, *2*, 273-277.
47. *Biological evaluation of dendrimers based on melamine.* Neerman, M. F.; Umali, A. P.; Chen, H.-T.; Waghela, S. D.; Parrish, A. R.; Simanek, E. E. *J. Drug Del. Sci. Tech.* **2005**, *15*, 31-40.
46. *Strategies for protecting and manipulating triazine derivatives.* Hollink, E.; Simanek, E. E.; Bergbreiter, D. E. *Tetrahedron Lett.* **2005**, *46*, 2005-2008.

45. *Piperidine-Functionalized Supports Sequester Atrazine from Solution.* Hollink, E.; Tichy, S. E.; Simanek, E.E. *Ind. Eng. Chem. Res.* **2005**, *44*, 1634-1639.
44. *Synthesis, characterization, and application of melamine-based dendrimers supported on silica gel.* Acosta, E.J.; Gonzalez, S. O.; Simanek, E. E. *J. Poly. Sci. A* **2005**, *43*, 168-177.
43. *Latent Solid-Phase Extraction Using Thermoresponsive Soluble Polymers.* Gonzalez, S.O.; Furyk, S.; Li, C.; Tichy, S. E.; Bergbreiter, D. E.; Simanek, E. E. *J. Poly. Sci. A* **2004**, *42*, 6309-6317.
42. *Synthesis and Manipulation of Orthogonally Protected Dendrimers: Building Blocks for Library Synthesis.* Steffensen, M.B.; Simanek, E.E. *Angew. Chem. Int. Ed.* **2004**, *43*, 5178-5180.
41. *Attenuation of Drug Toxicity Using Dendrimers Based on Melamine, Candidate Vehicles for Drug Delivery.* Neerman, M.F.; Chen, H.-T.; Parrish, A.R.; Simanek, E.E. *Molec. Pharm.* **2004**, *1*, 390-393.
40. *Cytotoxicity, Hemolysis and Acute In Vivo Toxicity of Dendrimers Based on Melamine, Candidate Vehicles for Drug Delivery.* Chen, H.-T.; Neerman, M.F.; Parrish, A.R.; Simanek, E.E. *J. Am. Chem. Soc.* **2004**, *126*, 10044-10048.
39. *Engineering Nanospace: Iterative Synthesis of Melamine-based Dendrimers on Amine-functionalized SBA-15 Leads to a Stepwise Reduction in Pore Volume.* Acosta, E.; Carr, S.C.; Simanek, E.E.; Shantz, D.F. *Adv. Mater.* **2004**, *16*, 985-989
38. *In vivo evaluation of a triazine dendrimer: a potential vehicle for drug delivery.* F. Neerman, M.R.; Zhang, W.; Parrish, A.R.; Simanek, E.E. *Int. J. Pharm.* **2004**, *281*, 129-132.
37. *Removal of Atrazine from Water Using Reactive Resins.* Acosta, E.J.; Steffensen, M.B.; Tichy, S.E.; Simanek, E.E. *J. Agric. Food Chem.* **2004**, *52*, 545-549.
36. *Chemoselective building blocks for dendrimers from relative reactivity data.* Steffensen, M.B.; Simanek, E.E. *Org. Lett.* **2003**, *5*, 2359-2361.
35. *Dendritic Surfactants Show Evidence for Frustrated Intercalation: A New Organoclay Morphology.* Acosta, E.J.; Deng, Y.; White, G.N.; Dixon, J.B.; McInnes, K.; Senseman, S.A.; Frantzen, A.S.; Simanek, E.E. *Chem. Mater.* **2003**, *15*, 2903-2909.
34. *Evaluation of Multivalent Dendrimers Based on Melamine: Kinetics of Thiol-Disulfide Exchange Depends on the Structure of the Dendrimer.* Zhang, W.; Tichy, S.E.; Pérez, L.M.; Maria, G.; Lindahl, P.A.; Simanek, E.E. *J. Am. Chem. Soc.* **2003**, *125*, 5086-5094.
33. *Preparation of Multivalent Dendrimers Through Thiol-disulfide Exchange.* Umali, A.P.; Simanek, E.E. *Org. Lett.* **2003**, *5*, 1245-1247.
32. *Triazine Dendrimers for Drug Delivery: Evaluation of Solubilization Properties, Activity in Cell Culture, and In Vivo Toxicity of a Candidate Vehicle.* Zhang, W.; Jiang, J.; Qin, C.; Thomson, L.M.; Parrish, A.R.; Safe, S.H.; Simanek, E.E. *Supramol. Chem.* **2003**, *15*, 607-615.
31. *Synthesis and Characterization of DNA-Dendrimer Conjugates.* Bell, S.A.; McLean, M.E.; Oh, S.-K.; Tichy, S.E.; Corn, R.M.; Crooks, R.M.; Simanek, E.E. *Bioconj. Chem.* **2003**, *14*, 488-493.
30. *Structure-Activity Relationships in Dendrimers Based on Triazines: Gelation Depends on Choice of Linking and Surface Groups.* Zhang, W.; Gonzalez, S.O.; Simanek, E.E. *Macromolecules* **2002**, *35*, 9015-9021.
29. *Dendrimers. Branching Out of Polymer Chemistry.* Gonzalez, S.O.; Simanek, E.E. *J. Chem. Ed.* **2002**, *79*, 1222-1231.
28. *Orthogonal, Convergent Syntheses of Dendrimers Based on Melamine with One or Two Surface Sites for Manipulation.* Zhang, W.; Nowlan, D.T.III; Thomson, L.M.; Lackowski, W.M.; Simanek, E.E. *J. Am. Chem. Soc.* **2001**, *123*, 8914-8922.
27. *Synthesis and Characterization of Higher Generation Dendrons Based on p-Aminobenzylamine. Evidence for Molecular Recognition of Cu(II).* Zhang, W.; Simanek, E.E.; *Tetrahedron Lett.* **2001**, *42*, 5355-5357.
26. *Carbohydrate Libraries in Solution Using Thioglycosides. From Multistep to Programmable, Orthogonal, One-pot Synthesis.* Simanek, E.E.; Wong, C.-H. in *Solid Support Oligosaccharide Synthesis and Combinatorial Carbohydrate Libraries.* Ed. Peter Seeberger. Wiley and Sons. NY, NY. 2001.
25. *Creating Addressable Aqueous Microcompartments above Solid Supported Phospholipid Bilayers Using Lithographically Patterned Poly(dimethylsiloxane) Molds.* Yang, T.; Simanek, E.E.; Cremer, P.S. *Anal. Chem.* **2000**, *72*, 2587.
24. *Dendrimers Based on Melamine. Divergent and Orthogonal, Convergent Syntheses of a G3 Dendrimer.* Zhang, W.; Simanek, E.E. *Org. Lett.* **2000**, *2*, 843-845.

Publications from Post-doctoral Studies with Dr. Chi-Huey Wong:

23. *Glycosylation of the Heptad Repeat of RNA Pol II Induces a Turn-Like Structure.* Simanek, E.E.; Pasternak, L.; Huang, D.H.; Machajewski, T.D.; Seitz, O.; Millar, D.M.; Dyson, H.D.; Wong, C.-H. *J. Am. Chem. Soc.* **1998**, *120*, 11567.
22. *Enzymatic Synthesis of a Gelator of Organic Solvent with Remarkably Low Molecular Weight.* Vassilev, V.; Simanek, E.E.; Wood, M.R.; Wong, C.-H. *Chem. Commun.* **1998**, 1865.
21. *Selectin-Carbohydrate Interactions: From Natural Ligands to Designed Mimics.* Simanek, E.E.; McGarvey, G.J.; Jablonowski, J.A.; Wong, C.-H. *Chem. Rev.* **1998**, *98*, 833.

Publications from Graduate Studies with Dr. George M. Whitesides:

20. *Self-Assembly of Hydrogen-Bonded Polymeric Rods Based on the Cyanuric Acid-Melamine Lattice.* Choi, I. S.; Li, X.; Simanek, E.E.; Akaba, R.; Whitesides, G.M. *Chem. Mat.* **1999**, *11*, 684.
19. *Treating Electrostatic Shielding at the Surface of Silica as Discrete Siloxide•Cation Interactions: A Model for Electroosmosis that is Predictive Over a Wide Range of Concentrations.* Mammen, M.; Carbeck, J.D.; Simanek, E.E.; Whitesides, G.M. *J. Am. Chem. Soc.* **1997**, *119*, 3469.
18. *Benzimidazolene-2-thiones: A New Class of Molecules for Engineering the Organic Solid State.* Simanek, E.E.; Tsoi, A.; Wang, C.C.C.; Whitesides, G.M.; Palmore, G.T.R.; McBride, M.T. *Chem. Mater.* **1997**, *9*, 1954.
17. *Self-Assembly of Zinc Porphyrins Around the Periphery of Hydrogen-bonded Aggregates that Bear Imidazole Groups.* Simanek, E.E.; Isaacs, L.; Li, X.; Wang, C.C.C.; Whitesides, G.M. *J. Org. Chem.* **1997**, *62*, 8994.
16. *Computations and ¹H NMR Spectroscopy Chemistry Provide a Useful Method for the Characterization of Large Aggregates Based on CA•M.* Chin, D.N.; Simanek, E.E.; Li, X.; Wazeer, M.I.M.; Whitesides, G.M. *J. Org. Chem.* **1997**, *62*, 1891.

15. *Diastereomers of the Hydrogen-Bonded Aggregate Hub(M)₃•3CA can be Observed Using ¹H NMR Spectroscopy when CA is an Optically-active Isocyanuric Acid.* Simanek, E.E.; Choi, I.S.; Qiao, S.; Whitesides, G.M. *J. Org Chem.* **1997**, *62*, 2619.
14. *Design of Organic Structures in the Solid State: Molecular Tapes Based on Symmetrically Substituted Diketopiperazines.* Palacin, S.; Chin, D. N.; Simanek, E.E.; MacDonald, J.C.; Palmore, G.T.R.; McBride, M.T.; Whitesides, G.M. *J. Am. Chem. Soc.* **1997**, *119*, 11807.
13. *The Isocyanuric Acid•Melamine Lattice. A Platform for the Construction of Soluble Aggregates and Crystalline Materials.* Simanek, E.E.; Li, X.; Choi, I.S.; Whitesides, G.M. *Comprehensive Chemistry. Comprehensive Chemistry*, Elsevier Science Ltd: Tarrytown, NY. 1996, pp 595-621.
12. *Predicting the Relative Stabilities of Multi-particle Hydrogen-bonded Aggregates Using the Number of Hydrogen Bonds and the Number of Particles, and Measuring these Stabilities with Titrations using Dimethylsulfoxide.* Mammen, M.; Simanek, E.E.; Whitesides, G.M. *J. Am. Chem. Soc.* **1996**, *118*, 12614.
11. *Characterization of Hydrogen-bonded Aggregates in Chloroform by Electrospray Ionization Mass Spectrometry.* Cheng, X.; Gao, Q.; Smith, R. D.; Simanek, E.E.; Mammen, M.; Whitesides, G.M. *J. Org. Chem.* **1996**, *61*, 2204.
10. *Noncovalent Synthesis: Using Physical Organic Chemistry to Make Aggregates.* Whitesides, G.M.; Simanek, E.E.; Mathias, J.P.; Seto, C.T.; Chin, D.; Mammen, M.; Gordon, D.M. *Acc. Chem. Res.* **1995**, *28*, 37-44.
9. *Detection of Hydrogen-bonded Supramolecular Complexes Using Electrospray Ionization from Chloroform.* Cheng, X.; Gao, Q.; Smith, R. D.; Simanek, E.E.; Mammen, M.; Whitesides, G.M. *Rapid Commun. Mass Spec.* **1995**, *9*, 312-316.
8. *Design and Synthesis of Hydrogen-bonded Aggregates. Theory and Computation Applied to Three Systems Based on the Cyanuric Acid-Melamine Lattice.* Simanek, E.E.; Mammen, M.; Gordon, D.M.; Chin, D.; Mathias, J.P.; Seto, C.T.; Whitesides, G.M. *Tetrahedron* **1995**, *51*, 607-619.
7. *Approaches to Synthesis Based on Non-covalent Bonds.* Whitesides, G. M.; Simanek, E.E.; Gorman, C. B. NATO Advanced Institute on Chemical Synthesis: Gnosis to Prognosis. (1994) American Chemical Society: Washington, DC.
6. *¹H NMR Spectroscopy of the Hydrogen-bonded Imide Groups of Hub(M)₃•3CA Provides a Useful Method for the Characterization of these Aggregates.* Simanek, E.E.; Wazeer, M.I.M.; Mathias, J.P.; Whitesides, G.M. *J. Org. Chem.* **1994**, *59*, 4904-4909.
5. *Self-Assembly Through Hydrogen-Bonding. Peripheral Crowding – A New Strategy for the Preparation of Stable Supramolecular Aggregates Based on Parallel, Connected CA₃•M₃ Rosettes.* Mathias, J.P.; Simanek, E.E.; Seto, C.T.; Whitesides, G.M. *J. Am. Chem. Soc.*, **1994**, *116*, 4326-4340.
4. *Structural Preferences of Hydrogen Bonding Networks in Organic Solution –The Cyclic CA₃•M₃ ‘Rosette.’* Mathias, J.P.; Simanek, E.E.; Zerkowski, J.A.; Whitesides, G.M. *J. Am. Chem. Soc.*, **1994**, *116*, 4316-4325.
3. *Self-Assembly Through Hydrogen-Bonding: Preparation and Characterization of Three New Types of Supramolecular Aggregates Based on Parallel, Cyclic CA₃•M₃ ‘Rosettes.’* Mathias, J.P.; Seto, C.T.; Simanek, E.E.; Whitesides, G.M. *J. Am. Chem. Soc.* **1994**, *116*, 1725-1736.
2. *Design, Preparation, and Characterization of Hydrogen Bonded Supramolecular Aggregates Based on the Cyanuric Acid•Melamine Lattice.* Mathias, J.P.; Simanek, E.E.; Seto, C.T.; Whitesides, G.M. *Macromol. Symp.* **1994**, *77*, 157-166.
1. *Self-Assembly Through Hydrogen Bonding: Preparation of a Supramolecular Aggregate Composed of 10 Molecules.* Mathias, J.P.; Simanek, E.E.; Seto, C.T.; Whitesides, G.M. *Angew. Chem., Int. Ed. Eng.* **1993**, *32*, 1766-1769.

Invited Scientific Presentations by Dr. Simanek: Dendrimers Based on Melamine

2009:	Phillips University, Marburg Germany American Chemical Society Natl Mtg SLC	Southern Methodist University International Dendrimer Syposium, Stockholm
2008:	Interphase and Interphases Materials Conference, CA Notre Dame University, IN Southern Methodist University UT Southwestern Medical Center, Dallas	7th Int. Symp. on Polymer Therapeutics, Valencia Frontier Scientific, Logan Utah University of Texas at Dallas
2007:	International Polymer Therapeutics Symposium, Berlin International Dendrimer Symposium 5, Toulouse FR	MD Andersen Cancer Center, TX
2006:	University of St. Thomas, MN University of Texas-San Antonio, TX	Trinity University, TX Tulane University, LA
2005:	UT Southwestern Medical Center A.C.S. Meeting - San Diego Vanderbilt University* Southern Illinois University*	Henderson State, Ark* Ouichita Baptist College, Ark* National Institutes of Health* University of Texas-Dallas*
2004:	Colorado State University of Konstanz, Germany University of Hamburg, Germany University of Berlin, Germany Drug Delivery Symposium - Wales	University of Colorado University of Dortmund, Germ. University of Wisconsin University of Massachusetts GRC - Drug Delivery - Montana
2003:	A.C.S. National Meeting, New York A.C.S. Regional Meeting, Oklahoma Abbott Laboratories Carleton College Duke University Germany-US Polymer Conference (Bayreuth) James Madison University Drug Delivery Symposium -Hawaii	Macalester College N.C. State University S. F. Austin State University University of Chicago University of Maryland University of Minnesota University of North Carolina Virginia Military Institute
2002:	Brown University Emory University Georgia Institute of Technology Indiana University Lindsay Lecture – TAMU Chem. Eng. Louisiana State University Michigan State University Northwestern Notre Dame University Ohio State University Purdue University San Diego State University Scripps Research Institute	Smith College St. Olaf College Tulane University University of Akron University of California San Diego University of Connecticut University of Illinois - Chicago University of Michigan University of Minnesota University of Texas - Austin University of Wisconsin Wayne State University
2001:	A.C.S. National Meeting, San Diego A.C.S. Regional Meeting, San Antonio	Sam Houston State University University of Houston
2000:	A.C.S. Meeting, Washington D.C. Polymers Gordon Research Conf. (Poster) Southern Methodist University	Texas Christian University University of Texas - San Antonio

Education and Public Outreach Lectures

2009:	American Chem. Soc. Natl Mtg SLC	Strategies for Sustainability in a General Chemistry Program
2008:	NSF CCLI Annual Meeting (DC) UT Dallas	Strategies for Sustainability in a General Chemistry Program “ “
2007:	ACS National Meeting (CHED) GK-12 Annual Meeting (DC)	Texas A&M University and the FYP: Investment, Change, and Sustainability Organizational strategies for educational outreach programs
2006/7:	Wolf Pen Creek Science Park	C.S. Park District, Bryan Rotary, CS Rotary, Exec. Board of the Convention and Visitors Bureau, CS Council/CSISD Joint Meeting, Wolf Pen Creek Oversight Board, Multiple Individual Presentations

Lectures on Other Scientific Topics

2003:	Remediation	A.C.S. National Meeting, New York
1999:	Protein Glycosylation	Trinity University; Texas Lutheran University