

## Curriculum Vitae *Phil S. Baran*

### *Appointment:*

The Scripps Research Institute  
Department of Chemistry  
10550 North Torrey Pines Road, BCC-169  
La Jolla, California 92037

Telephone: (858) 784-7373  
Facsimile: (858) 784-7575  
Email: pbaran@scripps.edu  
Website: [www.scripps.edu/chem/baran/](http://www.scripps.edu/chem/baran/)

April, **2009** Member, Skaggs Institute for Chemical Biology

June, **2008** Professor of Chemistry

July, **2006** Associate Professor of Chemistry (with Tenure)

June, **2003** Assistant Professor of Chemistry

### *Date/Place of Birth:*

10 Aug 1977 / Denville, NJ, USA

### *Citizenship:*

United States

### **Education**

2001 – 2003

Postdoctoral Associate  
*Advisor:* Professor E.J. Corey  
Harvard University, Cambridge, Massachusetts

1997 – 2001

Ph.D. Graduate Student in Chemistry  
*Advisor:* Professor K.C. Nicolaou  
The Scripps Research Institute, La Jolla, California

1995 – 1997

B.S. with Honors in Chemistry  
*Advisor:* Professor D.I. Schuster  
New York University, New York, New York

1991 – 1995

Simultaneous high school graduation from Mt. Dora High School and  
A.A. degree with honors from Lake Sumter Community College, Florida

### **Awards**

- Sackler Prize, 2009
- National Fresenius Award, ACS, 2007
- Novartis Lecturer, 2007 – 2008
- Hirata Gold Medal, 2007
- Pfizer Award for Creativity in Organic Synthesis, 2006

- Beckman Foundation Fellow, 2006 – 2008
- Alfred P. Sloan Foundation Fellow, 2006 – 2008
- BMS Unrestricted “Freedom to Discover” Grant, 2006 – 2010
- NSF CAREER Award, 2006 – 2010
- Eli Lilly Young Investigator Award, 2005 – 2006
- AstraZeneca Excellence in Chemistry Award, 2005
- DuPont Young Professor Award, 2005
- Roche Excellence in Chemistry Award, 2005
- Amgen Young Investigator Award, 2005
- Searle Scholar Award, 2005
- GlaxoSmithKline Chemistry Scholar Award, 2005 – 2006

#### Awards (Pre- and Post-Doctoral)

- Nobel Laureate Signature Award in Chemistry, ACS, 2003
- National Institutes of Health Post-Doctoral Fellowship Award, Harvard, 2001 – 2003
- Hoffmann-La Roche Award for Excellence in Organic Chemistry, 2000
- Lesly Starr Shelton Award for Excellence in Chemistry Graduate Studies, Scripps, 2000
- National Science Foundation Pre-Doctoral Research Fellowship Award, Scripps, 1998 – 2001
- William and Sharon Bauce Family Foundation Fellowship Award, Scripps, 1997
- Dean’s Undergraduate Research Fund Award in Chemistry, NYU, 1996 – 1997
- George Granger Brown Award for Excellence in Chemistry, NYU, 1996 – 1997
- NYU College of Art and Sciences Scholarship, 1995 – 1997
- Herman and Margaret Sokol Chemistry Fellowship, NYU, 1995 – 1997

#### Publications

1. Burns, N.Z.; Krylova, I.; Hannoush, R.N.; Baran, P.S. Scalable Total Synthesis and Biological Evaluation of Haouamine A and its Atropoisomer, *J. Am. Chem. Soc.* **2009**, *131*, *in press*.
2. Newhouse, T.; Baran, P.S.; Hoffmann, R.W. The Economies of Synthesis, *Chem. Soc. Rev.* **2009**, *in press*.
3. Burns, N.Z.; Jessing, M.; Baran, P.S. Total Synthesis of Haouamine A: The Indeno-tetrahydropyridine Core, *Tetrahedron* **2009**, *in press*. (Special issue dedicated to Tetrahedron award winner)
4. Chen, K.; Baran, P.S. Total Synthesis of Eudesmane Terpenes by Site-Selective C–H Oxidations, *Nature* **2009**, *459*, 824–828.
5. Newhouse, T.; Lewis, C.A.; Baran, P.S. Enantiospecific Total Syntheses of Kapakahines B and F, *J. Am. Chem. Soc.* **2009**, *131*, 6360 – 6361.

6. Shi, J.; Shigehisa, H.; Guerrero, C.A.; Shenvi, R.A.; Li, C.; Baran, P.S. Stereodivergent Synthesis of 17 $\alpha$ - and 17 $\beta$ -Aryl Steroids: Application and Biological Evaluation of D-Ring Cortistatin Analogues, *Angew. Chem. Int. Ed.* **2009**, *48*, 4328 – 4331.
7. Burns, N.Z.; Baran, P.S.; Hoffmann, R.W. Redox Economy in Organic Synthesis, *Angew. Chem. Int. Ed.* **2009**, *48*, 2854 – 2867.
8. Young, I.S.; Baran, P.S. Protecting Group Free Synthesis as an Opportunity for Invention, *Nature Chem.* **2009**, *1*, 193 – 205.
9. Shenvi, R.A.; O'Malley, D.P.; Baran, P.S. Chemoselectivity: The Mother of Invention in Total Synthesis, *Acc. Chem. Res.* **2009**, *42*, 530 – 541.
10. Hafensteiner, B.D.; Santamaria, M.E.; Petricci, E.; Baran, P.S. An Improved Synthesis of alpha, beta-Unsaturated Nitrones Relevant to the Stephacidins and Analogs Thereof, *Bioorg. Med. Chem. Lett.* **2009**, in press. (Special issue dedicated to Tetrahedron young investigator)
11. Eastman, K.; Baran, P. S. A Simple Method for the Direct Arylation of Indoles, *Tetrahedron* **2009**, *65*, 3149 – 3154. (Special issue dedicated to Tetrahedron young investigator)
12. Richter, J.M.; Ishihara, Y.; Masuda, T.; Whitefield, B.; Llamas, T.; Pohjakallio, A.; Baran, P.S. Enantiospecific Total Synthesis of the Hapalindoles, Fischerindoles, and Welwitindolinones via a Redox Economic Approach, *J. Am. Chem. Soc.* **2008**, *130*, 17938 – 17954.
13. Su, S.; Seiple, I.B.; Young, I.; Baran, P.S. Total Synthesis of ( $\pm$ )-Massadine and Massadine Chloride, *J. Am. Chem. Soc.* **2008**, *130*, 16490 – 16491.
14. DeMartino, M.P.; Chen, K.; Baran, P.S. Intermolecular Enolate Heterocoupling: Scope, Mechanism, and Application, *J. Am. Chem. Soc.* **2008**, *130*, 11546 – 11560.
15. Newhouse, T.; Baran, P.S. Total Synthesis of ( $\pm$ )-Psychotrimine, *J. Am. Chem. Soc.* **2008**, *130*, 10886 – 10887.
16. Chen, K.; Richter, J.M.; Baran, P.S. 1,3-Diol Synthesis via Controlled, Radical Mediated C–H Functionalization, *J. Am. Chem. Soc.* **2008**, *130*, 7247 – 7249.
17. Shenvi, R.A.; Guerrero, C.A.; Shi, J.; Li, C.; Baran, P.S. Synthesis of (+)-Cortistatin A, *J. Am. Chem. Soc.* **2008**, *130*, 7241 – 7243.
18. O'Malley, D.P.; Yamaguchi, J.; Young, I.S.; Seiple, I.B.; Baran, P.S. Total Synthesis of ( $\pm$ )-Axinellamines A and B, *Angew. Chem. Int. Ed.* **2008**, *47*, 3581 – 3583.
19. Yamaguchi, J.; Seiple, I.B.; Young, I.S.; O'Malley, D.P.; Maue, M.; Baran, P.S. Synthesis of 1,9-Dideoxy-pre-axinellamine, *Angew. Chem. Int. Ed.* **2008**, *47*, 3578 – 3580.

20. Maimone, T.J.; Voica, A.-F.; Baran, P.S. A Concise Approach to Vinigrol, *Angew. Chem. Int. Ed.* **2008**, *47*, 3054 – 3056.
21. Burns, N.Z.; Baran, P.S. On the Origin of the Haouamine Alkaloids, *Angew. Chem. Int. Ed.* **2008**, *47*, 205 – 208.
22. Richter, J.M.; Whitefield, B.; Maimone, T.J.; Lin, D.W.; Castroviejo, P.; Baran, P.S. Scope and Mechanism of the Direct Indole Coupling Adjacent to Carbonyl Compounds: Total Synthesis of Acremoauxin A and Oxazinin 3, *J. Am. Chem. Soc.* **2007**, *129*, 12857 – 12869.
23. Grube, A.; Immel, S.; Baran, P.S.; Köck, M. Massadine Chloride: a Biosynthetic Precursor of Massadine and Stylissadine, *Angew. Chem. Int. Ed.* **2007**, *46*, 6721 – 6724. [Corrigenda: *Angew. Chem. Int. Ed.* **2007**, *46*, 8107.]
24. Köck, M.; Grube, A.; Seiple, I.B.; Baran, P.S. The Pursuit of Palau'amine, *Angew. Chem. Int. Ed.* **2007**, *46*, 6586 – 6594.
25. Maimone, T.J.; Baran, P.S. Modern Synthetic Approaches to Terpenes, *Nature Chem. Bio.* **2007**, *3*, 396 – 407.
26. O'Malley, D.P.; Li, K.; Maue, M.; Zografos, A.L.; Baran, P.S. Total Synthesis of Dimeric Pyrrole-Imidazole Alkaloids: Scepttrin, Ageliferin, Nagelamide E, Oxysceptrin, Nakamuric Acid, and the Axinellamine Carbon Skeleton, *J. Am. Chem. Soc.* **2007**, *129*, 4762 – 4775.
27. Baran, P.S.; Maimone, T.J.; Richter, J.M. Total Synthesis of Marine Natural Products Without Using Protecting Groups, *Nature* **2007**, *446*, 404 – 408.
28. Baran, P.S.; Shenvi, R.A. Total Synthesis of (±)-Chartelline C, *J. Am. Chem. Soc.* **2006**, *128*, 14028 – 14029.
29. Baran, P.S.; DeMartino, M.P. Intermolecular Oxidative Enolate Heterocoupling, *Angew. Chem. Int. Ed.* **2006**, *45*, 7083 – 7086.
30. Baran, P.S.; Hafensteiner, B.D.; Ambhaikar, N.B.; Guerrero, C.A.; Gallagher, J. Enantioselective Total Synthesis of Avrainvillamide and the Stephacidins, *J. Am. Chem. Soc.* **2006**, *128*, 8678 – 8693.
31. Northrop, B.H.; O'Malley, D.P.; Zografos, A.L.; Baran, P.S.; Houk, K. N. Mechanism of the Vinylcyclobutane Rearrangement of Scepttrin to Ageliferin and Nagelamide E, *Angew. Chem. Int. Ed.* **2006**, *45*, 4126 – 4130.
32. Baran, P.S.; Burns, N.Z. Total Synthesis of (±)-Haouamine A, *J. Am. Chem. Soc.* **2006**, *128*, 3908 – 3909.

33. Baran, P.S.; Li, K.; O'Malley, D.P.; Mitsos, C.A. Short, Enantioselective Total Synthesis of Sceptrin and Ageliferin by Programmed Oxaquadricyclane Fragmentation, *Angew. Chem. Int. Ed.* **2006**, *45*, 249 – 252.
34. Baran, P.S.; Shenvi, R.A.; Nguyen, S.A. One-Step Synthesis of 4,5-Disubstituted Pyrimidines Using Commercially Available and Inexpensive Reagents. *Heterocycles* **2006**, *70*, 581 – 586. (Special issue dedicated to Professor Steve Weinreb)
35. Baran, P.S.; Ambhaikar, N.B.; Guerrero, C.A.; Hafensteiner, B.D.; Lin, D.W.; Richter, J.M. Oxidative C–C Bond Formation in Heterocyclic Chemistry, *ARKIVOC* **2006**, 310 – 325 (invited review).
36. Baran, P.S.; Richter, J.M. Enantioselective Total Syntheses of Welwitindolinone A and Fischerindoles I and G, *J. Am. Chem. Soc.* **2005**, *127*, 15394 – 15396.
37. Baran, P.S.; Guerrero, C.A.; Hafensteiner, B.D.; Ambhaikar, N.B. Total Synthesis of Avrainvillamide (CJ-17,665) and Stephacidin B, *Angew. Chem. Int. Ed.* **2005**, *44*, 3892 – 3895.
38. Baran, P.S.; Shenvi, R.A.; Mitsos, C.A. A Remarkable Ring Contraction En Route to the Chartelline Alkaloids, *Angew. Chem. Int. Ed.* **2005**, *44*, 3714 – 3717.
39. Baran, P.S.; Guerrero, C.A.; Ambhaikar, N.B.; Hafensteiner, B.D. Short, Enantioselective Total Synthesis of Stephacidin A, *Angew. Chem. Int. Ed.* **2005**, *44*, 606 – 609.
40. Baran, P.S.; Richter, J.M.; Lin, D.W. Direct Coupling of Pyrroles with Carbonyl Compounds: Short Enantioselective Synthesis of (*S*)-Ketorolac, *Angew. Chem. Int. Ed.* **2005**, *44*, 609 – 612.
41. Baran, P.S.; Richter, J.M. Direct Coupling of Indoles with Carbonyl Compounds: Short, Enantioselective, Gram-Scale Synthetic Entry into the Hapalindole and Fischerindole Alkaloid Families, *J. Am. Chem. Soc.* **2004**, *126*, 7450 – 7451.
42. Baran, P.S.; O'Malley, D.P.; Zografos, A.L. Sceptrin as a Potential Biosynthetic Precursor to Complex Pyrrole-Imidazole Alkaloids: The Total Synthesis of Ageliferin, *Angew. Chem. Int. Ed.* **2004**, *43*, 2674 – 2677.
43. Baran, P.S.; Zografos, A.L.; O'Malley, D.P. Short Total Synthesis of Sceptrin, *J. Am. Chem. Soc.* **2004**, *126*, 3726 – 3727.
44. Baran, P.S.; Guerrero, C.A.; Corey, E.J. The First Method for Protection-Deprotection of the Indole 2,3- $\pi$  Bond, *Org. Lett.* **2003**, *5*, 1999 – 2001.
45. Baran, P.S.; Guerrero, C.A.; Corey, E.J. A Short, Enantioselective Total Synthesis of Okaramine N, *J. Am. Chem. Soc.* **2003**, *125*, 5628 – 5629.

46. Baran, P.S.; Corey, E.J. A Short Synthetic Route to (+)-Austamide, (+)-Deoxyaustamide, and (+)-Deoxyisoaustamide from a Common Precursor by a Novel Palladium-Mediated Indole to Dihydroindoloazocine Cyclization, *J. Am. Chem. Soc.* **2002**, *124*, 7904 – 7905.
47. Nicolaou, K.C.; Baran, P.S. The CP Molecules Labyrinth: A Paradigm of How Endeavors in Total Synthesis Lead to Discoveries and Inventions in Organic Synthesis, *Angew Chem. Int. Ed.* **2002**, *41*, 2678 – 2720.
48. Nicolaou, K.C.; Montagnon, T.; Baran, P.S. HIO<sub>3</sub> and I<sub>2</sub>O<sub>5</sub>: Mild and Selective Alternatives Reagents to IBX for the Dehydrogenation of Aldehydes and Ketones, *Angew. Chem. Int. Ed.* **2002**, *41*, 1386. [Corrigendum/Warning: *Angew. Chem. Int. Ed.* **2003**, *42*, 3981]
49. Nicolaou, K.C.; Montagnon, T.; Baran, P.S. Modulation of the Reactivity Profile of IBX by Ligand Complexation: Ambient Temperature Dehydrogenation of Aldehydes and Ketones to  $\alpha,\beta$ -Unsaturated Carbonyl Compounds, *Angew. Chem. Int. Ed.* **2002**, *41*, 993.
50. Nicolaou, K.C.; Jung, J.; Yoon, W.H.; Fong, K.C.; Choi, H.S.; He, Y.; Zhong, Y.-L.; Baran, P.S. Total Synthesis of the CP-Molecules (CP-263,114 and CP-225,917, Phomoidrides B and A). Part 1. Racemic and Asymmetric Synthesis of Bicyclo(4.3.1) Key Building Blocks, *J. Am. Chem. Soc.* **2002**, *124*, 2183 – 2189.
51. Nicolaou, K.C.; Baran, P.S.; Zhong, Y.-L.; Fong, K.C.; Choi, H.S. Total Synthesis of the CP-Molecules (CP-263,114 and CP-225,917, Phomoidrides B and A). Part 2. Model Studies for the Construction of Key Structural Elements and First Generation Strategy, *J. Am. Chem. Soc.* **2002**, *124*, 2190 – 2201.
52. Nicolaou, K.C.; Zhong, Y.-L.; Baran, P.S.; Jung, J.; Choi, H.S.; Yoon, W.H. Total Synthesis of the CP-Molecules (CP-263,114 and CP-225,917, Phomoidrides B and A). Part 3. Completion and Synthesis of Advanced Analogs, *J. Am. Chem. Soc.* **2002**, *124*, 2202 – 2211.
53. Nicolaou, K.C.; Baran, P.S.; Zhong, Y.-L.; Sugita, K. Iodine(V)-Reagents in Organic Synthesis. Part 1. Synthesis of Polycyclic Heterocycles via DMP-Mediated Cascade Cyclization: Generality, Scope and Mechanism of the Reaction, *J. Am. Chem. Soc.* **2002**, *124*, 2212 – 2220.
54. Nicolaou, K.C.; Sugita, K.; Baran, P.S.; Zhong, Y.-L. Iodine (V)-Reagents in Organic Synthesis. Part 2. Access to Complex Molecular Architectures via DMP-Generated *o*-Azaquinones, *J. Am. Chem. Soc.* **2002**, *124*, 2221 – 2232.
55. Nicolaou, K.C.; Baran, P.S.; Zhong, Y.-L.; Barluenga, S.; Hunt, K.W.; Kranich, R.; Vega, J.A. Iodine(V) Reagents in Organic Synthesis. Part 3. New Routes to Heterocyclic Compounds via IBX-Mediated Cyclizations: Generality, Scope, and Mechanism, *J. Am. Chem. Soc.* **2002**, *124*, 2233 – 2244.

56. Nicolaou, K.C.; Montagnon, T.; Baran, P.S.; Zhong, Y.-L. Iodine(V)-Reagents in Organic Synthesis. Part 4. IBX as a Chemospecific Tool for SET-Based Oxidation Processes, *J. Am. Chem. Soc.* **2002**, *124*, 2245 – 2258.
57. Nicolaou, K.C.; Montagnon, T.; Ulven, T.; Baran, P.S.; Zhong, Y.-L.; Sarabla, F. Novel Chemistry of  $\alpha$ -Sulfonated Ketones: Applications to the Solution and Solid Phase Synthesis of Privileged Heterocycle and Eneidyne Libraries, *J. Am. Chem. Soc.* **2002**, *124*, 5718 – 5728.
58. MacMahon, S.; Fong, R.; Baran, P.S.; Safonov, I.; Wilson, S.R.; Schuster, D.I. Synthetic Approaches to a Variety of Covalently Linked Porphyrin-Fullerene Hybrids *J. Org. Chem.* **2001**, *66*, 5449 – 5455.
59. Nicolaou, K.C.; Baran, P.S.; Zhong, Y.-L. Selective Oxidation at Carbon Adjacent to Aromatic Systems with IBX, *J. Am. Chem. Soc.* **2001**, *123*, 3183 – 3185.
60. Nicolaou, K.C.; Zhong, Y.-L.; Baran, P.S.; Sugita, K. Rapid Access to Molecular Complexity via *o*-Azaquinones, *Angew. Chem. Int. Ed.* **2001**, *40*, 2145.
61. Nicolaou, K.C.; Sugita, K.; Baran, P.S.; Zhong, Y.-L. New Synthetic Technology for the Construction of N-Containing Quinones and Derivatives Thereof: Total Synthesis of Epoxyquinomycin B, *Angew. Chem. Int. Ed.* **2001**, *40*, 207 – 210.
62. Nicolaou, K.C.; Baran, P.S.; Kranich, R.; Zhong, Y.-L.; Sugita, K.; Zou, N.; Mechanistic Studies of Periodinane-Mediated Reactions of Anilides and Related Systems, *Angew. Chem. Int. Ed.* **2001**, *40*, 202 – 206.
63. Nicolaou, K.C.; Baran, P.S.; Zhong, Y.-L. Novel Solution and Solid Phase Chemistry of  $\alpha$ -Sulfonated Ketones Applicable to Combinatorial Chemistry, *J. Am. Chem. Soc.* **2000**, *122*, 10246 – 10248.
64. Nicolaou, K.C.; Zhong, Y.-L.; Baran, P.S. A New One-step Method for the Oxidation of Alcohols and Carbonyl Compounds to  $\alpha,\beta$ -Unsaturated Systems, *J. Am. Chem. Soc.* **2000**, *122*, 7596 – 7597.
65. Nicolaou, K.C.; Baran, P.S.; Zhong, Y.-L.; Vega, J.A. Novel IBX-Mediated Processes for the Synthesis of Amino Sugars and Libraries Thereof, *Angew. Chem. Int. Ed.* **2000**, *39*, 2525 – 2529.
66. Nicolaou, K.C.; Jung, J.-K.; Yoon, W.-Y.; He, Y.; Zhong, Y.-L.; Baran, P.S. The Absolute Configuration and Asymmetric Total Synthesis of the CP Molecules (CP-263, 114 and CP-225, 917, Phomoidres B and A), *Angew. Chem. Int. Ed.* **2000**, *39*, 1829 – 1832.
67. Nicolaou, K.C.; Vassilikogiannakis, G.; Kranich, R.; Baran, P.S.; Zhong, Y.-L.; Natarajan, S. New Synthetic Technology for the Mild and Selective Homologation of Hindered Aldehydes in the Presence of Ketones, *Org. Lett.* **2000**, *2*, 1895 – 1898.

68. Nicolaou, K.C.; Vassilikogiannakis, G.; Simonsen, K.B.; Baran, P.S.; Zhong, Y.-L.; Vidali, V.P.; Pitsinos, E.N.; Couladouros, E.A. Biomimetic Total Synthesis of Bisorbicillinol, Bisorbibutenolide, Trichodimerol and Designed Analogs of the Bisorbicillinoids, *J. Am. Chem. Soc.* **2000**, *122*, 3830 – 3838.
69. Baran, P.S.; Khan, A.U.; Schuster, D.I. Some Photophysical Properties of Nanotubes, *Fullerene Sci. Tech.* **1999**, *7*, 921 – 925.
70. Nicolaou, K.C.; Zhong, Y.-L.; Baran, P.S. New Synthetic Technology for the Rapid Construction of Novel Heterocycles- Part 1: The Reaction of Dess – Martin Periodinane with Anilides and Related Compounds, *Angew. Chem. Int. Ed.* **2000**, *39*, 622 – 625.
71. Nicolaou, K.C.; Zhong, Y.-L.; Baran, P.S. New Synthetic Technology for the Rapid Construction of Novel Heterocycles- Part2: The Reaction of IBX with Anilides and Related Compounds, *Angew. Chem. Int. Ed.* **2000**, *39*, 625 – 628.
72. Nicolaou, K.C.; Vourloumis, D.; Winssinger, N.; Baran, P.S. The Art and Science of Total Synthesis at the Dawn of the Twenty-First Century, *Angew. Chem. Int. Ed.* **2000**, *39*, 44 – 122.
73. Nicolaou, K.C.; Jautelat, R.; Vassilikogiannakis, G.; Baran, P.S.; Simonsen, K. Studies Towards the Synthesis of Trichodimerol, *Chem. Eur. J.* **1999**, *5*, 3651 – 3665.
74. Nicolaou, K.C.; Simonsen, K.S.; Vassilikogiannakis, G.; Baran, P.S.; Vidali, V.P.; Pitsinos, E.N.; Couladouros, E.A. Biomimetic Explorations Towards the Bisorbicillinoids: Total Synthesis of Bisorbicillinol, Bisorbibutenolide, and Trichodimerol, *Angew. Chem. Int. Ed.* **1999**, *38*, 3555 – 3559.
75. Nicolaou, K.C.; Baran, P.S.; Zhong, Y.-L.; Choi, H.-S.; Fong, K.C.; He, Y.; Yoon, W.H. New Synthetic Technology for the Synthesis of Hindered  $\alpha$ -Diazo Ketones, *Org. Lett.* **1999**, *6*, 863 – 866.
76. Nicolaou, K.C.; Baran, P.S.; Zhong, Y.-L.; Choi, H.-S.; Yoon, W.H.; He, Y.; Fong, K.C. Total Synthesis of the CP Molecules CP-263,114 and CP-225,917 - Part 1: Synthesis of Key Intermediates and Intelligence Gathering, *Angew. Chem. Int. Ed.* **1999**, *38*, 1669-1675.
77. Nicolaou, K.C.; Baran, P.S.; Zhong, Y.-L.; Fong, K.C.; He, Y.; Yoon, W.H.; Choi, H.S. Total Synthesis of the CP Molecules CP-263,114 and CP-225, 917 - Part 2: Evolution of the Final Strategy, *Angew. Chem. Int. Ed.* **1999**, *38*, 1676 – 1678.
78. Nicolaou, K.C.; He, Y.; Fong, K.C.; Yoon, W.H.; Choi, H.-S.; Zhong, Y.-L.; Baran, P.S. Novel Strategies to Construct the  $\gamma$ -Hydroxy Lactone Moiety of the CP Molecules, Synthesis of the CP-225,917 Core Skeleton, *Org. Lett.* **1999**, *1*, 63 – 66.
79. Nicolaou, K.C.; Baran, P.S.; Jautelat, R.; He, Y.; Fong, K.C.; Choi, H.-S.; Yoon, W.H.; Zhong, Y.-L. A Novel Route to the Fused Maleic Anhydride Moiety of CP Molecules, *Angew. Chem. Int. Ed.* **1999**, *38*, 549 – 552.

- Schuster, D.I.; Baran, P.S.; Hatch, R.K.; Khan, A.U.; Wilson, S.R. The Role of Singlet Oxygen in the Photochemical Formation of C<sub>60</sub>O, *Chem. Commun.* (Cambridge) **1998**, 22, 2493 – 2494.
- Safonov, I.G.; Baran, P.S.; Schuster, D.I. Synthesis and Photophysics of a Novel Porphyrin-C<sub>60</sub> Hybrid, *Tetrahedron Lett.* **1997**, 38, 8133 – 8136.
- Baran, P.S.; Monaco, R.R.; Khan, A.U.; Schuster, D.I.; Wilson, S.R. Synthesis and Cation-mediated Electronic Interactions of Two Novel Classes of Porphyrin-fullerene Hybrids, *J. Am. Chem. Soc.* **1997**, 119, 8363 – 8364.
- Baran, P.S.; Monaco, R.R.; Khan, A.U.; Schuster, D.I.; Soulas, P.; Echegoyen, L. Synthesis and Cation-mediated Electronic Interactions of Two Novel Classes of Porphyrin-fullerene Hybrids. *Proc. - Electrochem. Soc.* **1997**, 97 – 14. (Recent Advances in the Chemistry and Physics of Fullerenes and Related Materials), 25 – 36.

### Patents

- Nicolaou, K.C.; Zhong, Y.-L.; Baran, P.S. Formation of Heterocycles Using O-Iodoxy Benzoic Acid (IBX), *PCT Int. Appl.* WO 01/14348 2001, 39pp.
- Baran, P.S.; O'Malley, D.P.; Zografos, A.L. *Synthesis of (±)-Sceptrin and Ageliferin*, Provisional U.S. Patent Filed.
- Chen, K.; Richter, J. M.; Baran, P. S. 1,3-Diol Synthesis via Controlled, Radical Mediated C–H Functionalization, Provisional U.S. Patent Filed.
- Shenvi, R. A.; Guerrero, C. A.; Shi, J.; Li, C.; Baran, P. S. Synthesis of (+)-Cortistatin A, Provisional U.S. Patent Filed.

### Miscellaneous Reviews

- Baran, P. S. Dead Ends and Detours. Direct Ways to Successful Total Synthesis. By Miguel A. Sierra and María C. de la Torre. *Angew. Chem. Int. Ed.* **2005**, 44, 3338 – 3339. (Book Review)

### Book Forewords

- Li, J. J. *From Lipitor to Viagra: Stories Behind the Drugs We Use*, Oxford Press, **2006**
- Li, J. J. *Name Reactions*, Springer, 3<sup>rd</sup> edition, **2006**

### Professional Activities

- NIH Study Section Member, SBC-B, 2008 – 2012
- NIH Study Section Member, CMLD Special emphasis panel, July 2008

3. NIH Study Section Member, ad-hoc, SBC-B, June 2005
4. Scripps Graduate Student Admissions Committee, 2004 – Present
5. Discussion Chair, GRC (Heterocycles), July 2006
6. Co-Chair, ACS Western Regional Meeting, 2007

### **Consulting**

1. Bristol-Myers Squibb (exclusive, all sites), 2005 – present
2. DuPont, 2007 – Present
3. TetraPhase (Scientific Advisory Board), 2007 – present