

Curriculum Vitae
Phil S. Baran

Appointment:

Scripps Research
Professor, Department of Chemistry
10550 North Torrey Pines Road, BCC-436
La Jolla, California 92037

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

September **2023** Richard Lerner Chair of Chemistry

January, **2013** Darlene Shiley Professor of Chemistry

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, Lake Sumter Community College, Florida

Awards

- Edison Patent Award, 2023
- Horizon Discovery Prize, Royal Society of Chemistry, 2022
- Danisco Science Excellence Medal Award, 2022
- Bristol Chemical Synthesis Syngenta Award, 2021
- Janssen Prize for Creativity, 2020
- Inhoffen Medal, 2019
- Manchot Research Professorship, 2017
- Member, The National Academy of Sciences, 2017
- Emanuel Merck Lectureship, 2017
- Blavatnik National Laureate in Chemistry, 2016
- ACS Elias J. Corey Award, 2016
- Member, American Academy of Arts and Sciences, 2015
- College of Arts and Science Alumni Distinguished Service Award, New York University, 2015
- Reagent of the Year Award (EROS), 2015
- Mukaiyama Award, 2014
- MacArthur Fellowship, 2013
- Royal Society of Chemistry Synthetic Organic Chemistry Award, 2013
- Fellow, Royal Society of Chemistry, 2013
- Fellow, AAAS, 2012 – Present
- ACS San Diego Section Distinguished Scientist Award, 2012

- ISHC Katritzky Heterocyclic Chemistry Award, 2011
- Thieme-IUPAC Prize in Synthetic Organic Chemistry, 2010
- ACS Award in Pure Chemistry, 2010
- Raymond and Beverly Sackler Prize in the Physical Sciences, 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)

- ACS Nobel Laureate Signature Award in Chemistry, 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
- College of Art and Sciences Scholarship, NYU 1995 – 1997

- Herman and Margaret Sokol Chemistry Fellowship, NYU, 1995 – 1997

Editorial Activities and Advisory Boards

1. International Advisory Board, *Angewandte Chemie*, 2014 – 2016
2. Advanced Synthesis and Catalysis Academic Advisory Board, 2014 – present
3. Editorial Advisory Board, *J. Am. Chem. Soc.*, 2015 – 2016
4. Editorial Advisory Board, *ACS Central Science*, 2015 – present
5. Associate Editor, *J. Am. Chem. Soc.*, 2016 – 2020
6. Editorial Advisory Board, *ACS Medicinal Chemistry Letters*, 2021 – present
7. Editorial Advisory Board, *Accounts of Chemical Research*, 2021 – present

Professional Activities

1. NIH Study Section Member, SBC-B, 2008 – 2012
2. 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 – 2011
5. Discussion Chair, GRC (Heterocycles), July 2006
6. Co-Chair, ACS Western Regional Meeting, 2007
7. Scripps Academic Advisory Committee, 2009 – Present
8. Shanghai Institute of Organic Chemistry, International Evaluation Committee Member, 2013

Scientific Advisory Boards

1. Eisai (Scientific Advisory Board), 2012 – present
2. AsymChem (Scientific Advisory Board), 2013 – 2022
3. Kemxtree (Scientific Advisory Board), 2015 – present
4. Quanta Therapeutics, Inc., 2018 – present
5. Alkermes, Inc 2021 – present
6. Nutcracker Therapeutics, Inc., 2021 – present
7. Hongene Biotech Corporation, 2023 – present
8. Sage Therapeutics, 2024 – present

Companies Co-Founded

1. Sirenas Marine Discovery
2. Galileo Biosciences
3. Vividion Therapeutics
4. Elsie Biotechnologies

Consulting Activities

1. Bristol-Myers Squibb (exclusive, all sites), 2005 – present
2. DuPont, 2007 – 2013
3. TetraPhase (Scientific Advisory Board and consultant), 2007 – 2009
4. TEVA, 2010 – 2016
5. Sirenas Marine Discovery (Co-founder and consultant), 2012 – present
6. Boehringer Ingelheim Pharmaceuticals, Inc., 2012 – 2021

7. Abide Therapeutics (Scientific Advisory Board and consultant), 2013 – 2022
8. AsymChem, 2013 – 2022
9. AstraZeneca, 2013 – 2016
10. Vividion Therapeutics (Co-founder and consultant), 2016 – present
11. Gilead, 2018 – present
12. Quanta Therapeutics, Inc., 2018 – present
13. Galileo Biosystems, Inc. 2020 – present
14. Syngenta Crop Protection AG, 2020 – 2022
15. Deep Valley Labs, 2020 - ?
16. Alkermes, Inc., 2020 – present
17. Sling Therapeutics, Inc., 2020 – 2021
18. Daros, Inc., 2020 – 2021
19. Aylam Pharmaceuticals, 2021 – present
20. polyARNA, Inc., 2022 – present
21. Elion Therapeutics (formerly Sfunga Therapeutics), 2023 – present
22. BASF Corporation, 2023 – present
23. Hongene Biotech Corporation, 2023 – present
24. Vertex Pharmaceuticals, 2023 – present
25. Sage Therapeutics, 2024 – present

Publications

1. Obexer, R.; Nassir, M.; Moody, E. R.; Baran, P. S.; Lovelock, S. L. Modern Approaches to Therapeutic Oligonucleotide Manufacturing. *Science* **2024**, 384, 6692, 174.

2. Gan, X.; Zhang, B.; Dao, N.; Bi, C.; Pokle, M.; Collins, M. R.; Tyrol, C. C.; Bolduc, P. N.; Nicastrì, M.; Kawamata, .; Baran, P. S.; Shenvi, R. Carbon Quaternization of Redox Active Esters and Olefins via Decarboxylative Coupling. *Science* **2024** 384, 6691, 113 – 118.
3. Laudadio, G.; Neigenfind, P.; Chebolu, R.; Blaszczak, V. D.; Maddirala, S. J.; Palkowitz, M. D.; Bolduc, P. N.; Nicastrì, M. C.; Puthukanoori, R. K.; Paraselli, B. R.; Baran, P. S. Synthesis of Unnatural Amino Acids via Ni/Ag Electrocatalytic Cross-Coupling. *Org. Lett.* **2024**, 26, 11, 2276 – 2281.
4. Smith, B. P.; Truax, N. J.; Pollatos, A. S.; Meanwell, M.; Bedekar, P.; Garrido-Castro, A. F.; Baran, P. S. Total Synthesis of Dragocins A–C via Electrochemical Cyclization. *Angew. Chem. Int. Ed.* **2024**, e202401107.
5. Neigenfind, P.; Massaro, L.; Péter, Á.; Degnan, A. P.; Emmanuel, M. A.; Oderinde, M. S.; He, C.; Peters, D.; El-Hayek Ewing, T.; Kawamata, Y.; Baran, P. S. Simplifying Access to Targeted Protein Degraders via Ni-Electrocatalytic Cross-Coupling. *Angew. Chem. Int. Ed.* **2023**, e202319856.
6. Sun, J.; Endo, H.; Emmanuel, M. A.; Oderinde, M. S.; Kawamata, Y.; Baran, P. S. Simplified Modular Access to Enantiopure 1,2-Aminoalcohols via Ni-Electrocatalytic Decarboxylative Arylation. *J. Am. Chem. Soc.* **2024**, 146, 9, 6209 – 6216.
7. Gao, Y.; Jiang, B.; Friede, N. C.; Hunter, A. C.; Boucher, D. G.; Minter, S. D.; Sigman, M. S.; Reisman, S. E.; Baran, P. S. Electrocatalytic Asymmetric Nozaki–Hiyama–Kishi Decarboxylative Coupling: Scope, Applications, and Mechanism. *J. Am. Chem. Soc.* **2024**, 146, 4872-4882.
8. Rubel, C. Z.; Cao, Y.; El-Hayek Ewing, T.; Laudadio, G.; Beutner, G. L.; Wisniewski, S. R.; Wu, X.; Baran, P. S.; Vantourout, J. C.; Engle, K. M. Electroreductive Synthesis of Nickel(0) Complexes. *Angew. Chem. Int. Ed.* **2024**, 63, e202311557.
9. Jiang, B.; Gao, Y.; Friede, N. C.; Hunter, A. C.; Boucher, D. G.; Minter, S. D.; Sigman, M. S.; Reisman, S. E.; Baran, P. S. Electrocatalytic Asymmetric Nozaki–Hiyama–Kishi Decarboxylative Coupling: Scope, Applications, and Mechanism. *ChemRxiv Preprint* **2023**
10. Schneider, F.; Guo, Y.; Lin, Y.-C.; Eberle, K.; Chiodi, D.; Greene, J.; Lu, C.; Baran, P. S. Total Synthesis of Dynobactin A. *Am. Chem. Soc.* **2024**, 146, 10, 6444–6448

11. Wang, Y.; Bi, C.; Kawamata, Y.; Grant, L.; Samp, L.; Richardson, P.; Zhang, S.; Harper, K.; Palkowitz, M.; Vasilopolous, A.; Collins, M.; Oderinde, M.; Tyrol, C.; LaChapelle, E.; Qiao, J.; Baran, P. S. Introducing N-X Anomeric Amides: Powerful Electrophilic Halogenation Reagents. *ChemRxiv Preprint* **2023**
12. Gao, Y.; Baran, P. S.; Ni-Catalyzed Enantioselective Decarboxylative Acylation: Rapid, Modular Access to α -Amino Ketones. *Angew. Chem. Int. Ed.* **2023**, 62, e20231520
13. Sofiadis, M.; Xu, D.; Rodriguez, A. J.; Nissl, B.; Clementson, S.; Peterson, N. N.; Baran, P. S. Convergent Total Synthesis of (-)-Cyclopamine. *J. Am. Chem. Soc.* **2023**
14. Kawamata, Y.; Baran, P. S. Rapid Alternating Polarity as a Unique Tool for Synthetic Electrochemistry. *ChemRxiv Preprint* **2023**
15. Laudadio, G.; Neigenfind, P.; Péter, A.; Rubel, C. Z.; Emmanuel, M. A.; Oderinde, M. S.; Ewing, T. E-H; Palkowitz, M. D.; Sloane, J. L.; Gillman, K. W.; Ridge, D.; Mandler, M. D.; Bolduc, P.; Nicastrì, M. C.; Zhang, B.; Clementson, S.; Petersen, N. N.; Martín-Gago, P.; Mykhailiuk, P.; Engle, K. M.; Baran, P. S. Ni-Electrocatalytic Decarboxylative Arylation to Access Quaternary Centers. *Angew. Chem. Int. Ed.* **2024**, e202314617
16. Nassir, M.; Ociepa, M.; Zhang, H.-J.; Grant, L.; Simmons, B.; Oderinde, M.; Kawamata, Y.; Cauley, A.; Schmidt, M.; Eastgate, M.; Baran, P. S. Stereocontrolled Radical Thiophosphorylation. *J. Am. Chem. Soc.* **2023**, 145, 28, 15088-15093
17. Garrido-Castro, A. F.; Hioki, Y.; Kusumoto, Y.; Hayashi, K.; Griffin, J.; Harper, K. C.; Kawamata, Y.; Baran, P. S. Scalable Electrochemical Decarboxylative Olefination Driven by Alternating Polarity. *Angew. Chem. Int. Ed.* **2023**, e202309157.
18. Gao, Y.; Zhang, B.; He, J.; Baran, P. S. Ni-Electrocatalytic Enantioselective Doubly Decarboxylative C(sp³)-C(sp³) Cross Coupling. *J. Am. Chem. Soc.* **2023**, 145, 21, 11518-11523.
19. Zhang, B.; He, J.; Gao, Y.; Levy, L.; Oderinde, M. S.; Palkowitz, M. D.; Murali Dhar, T. G.; Mandler, M. D.; Collins, M. R.; Schmidt, D. C.; Bolduc, P. N.; Chen, T.; Clementson, S.; Petersen, N.; Laudadio, G.; Kawamata, Y.; Baran, P. S. Radical Simplification of Complex Molecule Retrosynthesis Enabled by Electrocatalytic by Electrocatalytic Cross-Coupling of α -Substituted Carboxylic Acids. *Nature* **2023**, 623, 745-751

20. Bi, C.; Wang, Y.; He, C.; Baran, P. S. Enantioselective Total Synthesis of (+)-KB343. *J. Am. Chem. Soc.* **2023**, 145, 14, 7753 – 7757.
21. Tang, J.; Li, W.; Chiu, T.-Y.; Luo, Z.; Chong, C. T.; Wei, Q.; Martínez-Peña, F.; Gazaniga, N.; See, Y. Y.; Lairson, L. L.; Parker, C. G.; Baran, P. S. A Scalable Total Synthesis of Portimine A and B Reveals the Basis of Their Potent and Selective Anti-cancer Activity. *Nature* **2023**, 622, 507 – 513.
22. Zhang, H.-J.; Ociepa, M.; Nassir, M.; Zheng, B.; Lewicki, S. A.; Salmaso, V.; Babury, H.; Nagel, J.; Mirza, S.; Bueschbell, B.; Al-Hroub, H.; Perzanowska, O.; Lin, Z.; Schmidt, M. A.; Eastgate, M. D.; Jacobson, K. A.; Müller, C. E.; Kowalska, J.; Jemielity, J.; Baran, P. S. Stereocontrolled Access to Thioisosteres of Nucleoside Di- and Triphosphates. *Nat. Chem.* **2024**, 16, 249 – 258.
23. Hioki, Y.; Costantini, M.; Griffin, J.; Harper, K. C.; Merini, M. P.; Nissl, B.; Kawamata, Y.; Baran, P. S. Overcoming the Limitations of Kolbe Coupling via Waveform-Controlled Electrosynthesis. *Science* **2023**, 380, 6640, 81-87
24. He, C.; Wang, Y.; Bi, C.; Peters, D. S.; Gallagher, T. J.; Teske, J.; Chen, J. S.; Corsetti, R.; D'Onofrio, A.; Lewis, K.; Baran, P. S. Total Synthesis of Kibdelomycin. *Angew. Chemie. Int. Ed.* **2022**, 61, e2022061.
25. Laudadio, G.; Palkowitz, M. D.; Ewing, T. E.-H.; Baran, P. S. Decarboxylative Cross-Coupling: A Radical Tool In Medicinal Chemistry. *ACS Med. Chem. Lett.* **2022**, 13, 9, 1413 – 1420.
26. Lou, T. S.-B.; Kawamata, Y.; Ewing, T.; Correa-Otero, G. A.; Collins, M. R.; Baran, P. S. Scalable, Chemoselective Ni-Electrocatalytic Sulfinylation of Aryl Halides with SO₂. *Angew. Chemie. Int. Ed.* **2022**, 61, e2022080.
27. Lin, Y.-C.; Schneider, F.; Eberle, K. J.; Chiodi, D.; Nakamura, H.; Reisberg, S. H.; Chen, J.; Saito, M.; Baran, P. S. Atroposelective Total Synthesis of Darobactin A. *J. Am. Chem. Soc.* **2022**, 144, 32, 14458 – 14462.
28. Palkowitz, M. D., Laudadio, G.; Kolb, S.; Choi, J.; Oderinde, M. S.; Ewing, T. E.-H.; Bolduc, P.; Chen, T.; Zhang, H.; Cheng, P. T. W.; Zhang, B.; Mandler, M.; Richter, J. M.; Collins, M. R.; Schioldager, R. L.; T. G. M. Dhar; Vokits, B.; Zhu, Y.; Echeverria, P.-G.; Poss, M. A.; Shaw, S.; Clementson, S.; Petersen, N. N.; Mykhailiuk, P.; Baran, P. S. Overcoming Limitations in Decarboxylative Arylation via Ag-Ni Electrocatalysis. *J. Am. Chem. Soc.* **2022**, 144, 38, 17709 – 17720.

29. Gao, Y.; Zhang, B.; Levy, L.; Zhang, H. -J.; He, C.; Baran, P. S. Ni-Catalyzed Enantioselective Dialkyl Carbinol Synthesis via Decarboxylative Cross Coupling: Development, Scope, and Applications. *J. Am. Chem. Soc.* **2022**, 144, 24, 10992 – 11002.
30. Gnaim, S.; Gholap, S. P.; Ge, L.; Das, S.; Gutkin, S.; Green, O.; Shelef, O.; Hananya, N.; Baran, P. S.; Shabat, D. Modular Access to Diverse Chemiluminescent Dioxetan-Luminophores Through Convergent Synthesis. *Angew. Chem. Int. Ed.* **2022**, e202202187.
31. Hayashi, K.; Griffin, J.; Harper, K. C.; Kawamata, Y.; Baran, P. S. Chemoselective, Metal-free, (Hetero)Arene Electroreduction Enabled by Rapid Alternating Polarity. *J. Am. Chem. Soc.* **2022**, 144, 13, 5762 – 5768.
32. Kawamata, Y.; Ryu, K. A.; Hermann, G. N.; Sandahl, A.; Vantourout, J. C.; Olow, A. K.; Adams, L.-T., A.; Rivera-Chao, E.; Roberts, L. R.; Oslund, R. C.; Fadeyi, O. O.; Baran, P. S. Electroaffinity Labeling: A New Platform for Chemoproteomic-based Target Identification. *ChemRxiv Preprint* **2022**
33. Zhang, B.; Gao, Y.; Hioki, Y.; Oderinde, M. S.; Qiao, J. X.; Rodriguez, K. X.; Zhang, H.-J.; Kawmata, Y.; Baran, P. S. Ni-Electrocatalytic C(sp³)–C(sp³) Doubly Decarboxylative Coupling. *Nature* **2022**, 606, 313 – 318.
34. Gu, J.; Rodriguez, K. X.; Kanda, Y.; Yang, S.; Ociepa, M.; Wilke, H.; Abrishami, A. V.; Jørgensen, L.; Skak-Nielsen, T.; Chen, J. S.; Baran, P. S. Convergent Total Synthesis of (+)-Calcipotriol: A Scalable, Modular Approach to Vitamin D Analogs. *PNAS*, **2022**, 119, e2200814119.
35. Harwood, S. J.; Palkowitz, M. D.; Gannet, C. N.; Perez, P.; Yao, Z.; Sun, L.; Abruna, H. D.; Anderson, S. L.; Baran, P.S. Modular Terpene Synthesis Enabled by Mild Electrocatalytic Couplings. *Science*. **2022**, 375, 745 – 752.
36. Knouse, K. W.; Flood, D. T.; Vantourout, J. C.; Schmidt, M. A.; McDonald, I. M.; Eastgate, M. D.; Baran, P. S. Nature Chose Phosphates and Chemists Should Too: How Emerging P(V) Methods Can Augment Existing Strategies. *ACS Cent. Sci.* **2021**, 7, 1473 – 1485.
37. Gnaim, S.; Bauer, A.; Zhang, H.-J.; Chen, L.; Gannet, C.; Malapit, C. A.; Hill, D.; Vogt, D.; Tang, Tianhua, T.; Daley, R.; Hao, W.; Quertenmont, M.; Beck, W. D.; Kandahari, E.; Vantourout, J. C.; Echeverria, P.-G.; Abruna, H.; Blackmond, D.; Minter, S.; Reisman, S.; Sigman, M. S.; Baran, P. S. Cobalt-Electrocatalytic Hydrogen Atom Transfer for Functionalization of Unsaturated C-C Bonds. *Nature*, **2022**, 605, 687.

38. Ociepa, M.; Knouse, K. W.; He, D.; Vantourout, J. C.; Flood, D. T.; Padial, N. M.; Chen, J. S.; Sanchez, B. B.; Sturgell, E. J.; Zheng, B.; Qiu, S.; Schmidt, M. A.; Eastgate, M. D.; Baran, P. S. Mild and Chemoselective Phosphorylation of Alcohols Using a Psi-Reagent. *Org. Lett.* **2021**, *23*, 9337 – 9342.
39. Zhang, H.-J.; Chen, L.; Oderinde, M. S.; Edwards, J. T.; Kawamata, Y.; Baran, P. S. Chemoselective, Scalable Nickel-Electrocatalytic O-Arylation of Alcohols. *Angew. Chem. Int. Ed.* **2021**, *60*, 20700 – 20705.
40. Choi, J.; Laudadio, G.; Godineau, E.; Baran, P. S. Practical and Regioselective Synthesis of C4-Alkylated Pyridines. *J. Am. Chem. Soc.* **2021**, *143*, 11927 – 11933.
41. Maity, P.; Anandamurthy, A. S.; Shekarappa, V.; Vaidyanathan, R.; Zheng, B.; Zhu, J.; Schmidt, M. A.; Fox, R. J.; Knouse, K. W.; Vantourout, J. C.; Baran, P. S.; Eastgate, M. D. Synthesis of a Phosphorous Sulfur Incorporating Reagent for the Enantioselective Synthesis of Thiophosphates. *Org. Synth.* **2021**, *98*, 97-116.
42. Huang, Y.; Knouse, K. W.; Qiu, S.; Hao, W.; Padial, N. M.; Vantourout, J. C.; Zheng, B.; Mercer, S. E.; Lopez, J. O.; Narayan, R.; Olson, R. E.; Blackmond, D. G.; Eastgate, M. D.; Schmidt, M. A.; McDonald, I. M.; Baran, P. S. A P(V)-Platform for Oligonucleotide Synthesis. *Science*, **2021**, *373*, 1265 – 1270.
43. Kawamata, Y.; Hayashi, K.; Carlson, E.; Shaji, S.; Waldmann, D.; Simmons, B. J.; Edwards, J.; Zapf, C. W.; Saito, M.; Baran, P. S. Chemoselective Electrosynthesis Using Rapid Alternating Polarity. *J. Am. Chem. Soc.*, **2021**, *143*, 16580 – 16588.
44. Gao, Y.; Hill, D. E.; Hao, W.; McNicolas, B. J.; Vantourout, J. C.; Hadt, R. G.; Reisman, S. E.; Blackmond, D.; Baran, P. S. Electrochemical Nozaki – Hiyami – Kishi Coupling: Scope, Applications, and Mechanism. *J. Am. Chem. Soc.* **2021**, *143*, 9478 – 9488.
45. Barton, L. M.; Chen, L.; Blackmond, D.; Baran, P.S. Electrochemical Borylation of Carboxylic Acids. *Proc. Natl Sci.* **2021**, *118*, 34.
46. Saito, M.; Kawamata, Y.; Meanwell, M.; Navratil, R.; Chiodi, D.; Carlson, E.; Hu, P.; Chen, L.; Udyavara, S.; Kingston, C.; Tanwar, M.; Tyagi, S.; McKillan, B. P.; Gichinga, M. G.; Schmidt, M. A.; Eastgate, M. D.; Lamberto, M.; He, C.; Tang, T.; Malapit, C.; Sigman, M. S.; Minter, S. D.; Neurock, M.; Baran, P. S. N-Ammonium Ylide Mediators for Selective Electrochemical C–H Oxidation. *J. Am. Chem. Soc.* **2021**, *143*, 7859 – 7867.
47. Peters, D. S.; Pitts, C. R.; McClymont, K. S.; Stratton, T. P.; Bi, C.; Baran, P. S. Ideality in Context: Motivations for Total Synthesis. *Acc. Chem. Res.* **2021**, *54*, 605 – 617.

48. Gnaim, S.; Vantourout, J. C.; Serpier, F.; Echeverria, P.-G.; Baran, P. S. Carbonyl Desaturation: Where Does Catalysis Stand? *ACS Catal.* **2021**, 11, 883 – 892.
49. Hu, P.; Peters, B. K.; Malapit, C. A.; Vantourout, J. C.; Wang, P.; Li, J.; Mele, L.; Echeverria, P.-G.; Minter, S. D.; Baran, P. S. Electroreductive Olefin-Ketone Coupling. *J. Am. Chem. Soc.* **2020**, 142, 50, 20979–20986
50. Zhao, J.-X.; Chang, Y.; Elleraas, J.; Montgomery, T. P.; Spangler, J. E.; Nair, S. K.; Bel, D. M.; Gallego, G. M.; Mousseau, J. J.; Perry, M. A.; Collins, M. R.; Vantourout, J. C.; Baran, P. S. 1,2-Difunctionalized Bicyclo[1.1.1]pentanes: Long Sought After Bioisosteres for ortho/meta-Substituted Arenes. *Proc. Natl Sci.* **2020**, 118, 28.
51. Vantourout, J. C.; Adusumalli, S. R.; Knouse, K. W., Flood, D. T.; Ramirez, A.; Padial, N. M.; Istrate, A.; Maziarz, K.; deGruyter, J. N.; Merchant, R. R.; Qiao, J. X.; Schmidt, M. A.; Deery, M. J.; Eastgate, M. D.; Dawson, P. E.; Bernardes, G. J. L.; Baran, P. S. Serine-Selective Bioconjugation. *J. Am. Chem. Soc.* **2020**, 142, 41, 17236 – 17242.
52. Sheng, T.; Zhang, H. -J.; Shang, M.; He, C.; Vantourout, J. C.; Baran, P. S. Electrochemical Decarboxylative N-Alkylation of Heterocycles. *Org. Letters.* **2020**, 22, 7594 – 7598.
53. Chen, L.; Barton, L. M., Vantourout, J. C.; Xu, Y.; Chu, C.; Johnson, E. C.; Sabatini, J. J.; Baran, P. S. Electrochemical Cyclobutane Synthesis in Flow: Scaleup of a Promising Melt-Castable Energetic Intermediate. *Org. Process. Res. Dev.* **2020**, 25, 12, 2639 – 2645.
54. He, C.; Chu, H.; Stratton, T. P.; Kossler, D.; Eberle, K. J.; Flood, D. T.; Baran, P. S. Total Synthesis of Tagetitoxin. *J. Am. Chem. Soc.* **2020**, 142, 13683 – 13688.
55. Kanda, Y.; Ishihara, Y.; Wilde, N.; Baran, P.S. Two-Phase Total Synthesis of Taxanes: Tactics and Strategies. *J. Org. Chem.* **2020**, 85, 10293 – 10320.
56. Gnaim, S.; Takahira, Y.; Wilke, H. C.; Yao, Z.; Li, K.; Delbrayelle, D.; Echeverria, P. -G.; Vantourout, J. C.; Baran, P. S. Electrochemically Driven Desaturation of Carbonyl Compounds. *Nat Chem.* **2020**, 4, 367 – 372.
57. McClymont, K. S.; Wang, F.-Y.; Minakar, A.; Baran, P. S.; Total Synthesis of (–)-Maximiscin. *J. Am. Chem. Soc.* **2020**, 142, 19, 8608 – 8613.
58. Flood, D. T.; Knouse, K. W.; Vantourout, J. C.; Sanchez, B. B.; Sturgell, E. J.; Chen, J. S.; Baran, P. S.; Dawson, P. E. Synthetic Elaboration of Native DNA by RASS (SENDR) *ACS Cent Sci.* **2020**, 6, 10, 1789n – 1799.

59. Kanda, Y.; Nakamura, H.; Umemiya, S.; Puthukanoori, R. K.; Appala, V. R. M.; Gaddamanugu, G. K.; Paraselli, B. R.; Baran, P. S. Two-Phase Synthesis of Taxol®. *J. Am. Chem. Soc.* **2020**, *142*, 10526 – 10533.
60. Kawamata, Y.; Baran, P. S. Electrosynthesis: Sustainability Is Not Enough. *Joule*, **2020**, *4*, 701 – 704
61. Flood, D. T.; Kingston, C.; Vantourout, J. C.; Dawson, P. E.; Baran, P. S. DNA Encoded Libraries: A Visitor's Guide. *Isr. J. Chem.* **2020**, *60*, 268 – 280
62. Xu, D.; Rivas-Bascón, N.; Padial, N. M.; Knouse, K. W.; Zheng, B.; Vantourout, J. C.; Schmidt, M. A.; Eastgate, M. D.; Baran, P. S. Enantiodivergent Formation of C–P Bonds: Synthesis of P-Chiral Phosphines and Methyl-phosphonate Oligonucleotides. *J. Am. Chem. Soc.* **2020**, *142*, 5785 – 5792.
63. Flood, D. T.; Zhang, Z.; Fu, Z.; Zhao, Z.; Asai, S.; Sanchez, B.; Strugell, E. J.; Vantourout, J. C.; Richardson, P.; Flanagan, M. E.; Piotrowski, D. W.; Kölmel, D. K.; Wan, J.; Chang, Y.; Wang, Z.; Chen, J.; Baran, P. S.; Dawson, P. RASS-Enabled S/P–C and S–N Bond Formation for DEL Synthesis. *Angew. Chem. Int. Ed.* **2020**, doi:10.1002/anie.201915493
64. Reisberg, S. H.; Gao, Y.; Walker, A. S.; Helfrich, E. J. N.; Clardy, J.; Baran, P. S. Total synthesis reveals atypical atropisomerism in a small-molecule natural product, tryptorubin A. *Science* **2020**, *367*, 458 – 463.
65. Kingston, C.; Palkowitz, M. D.; Takahira, Y.; Vantourout, J. C.; Peters, B. K.; Kawamata, Y.; Baran, P. S. A Survival Guide for the "Electro-curious" *Acc. Chem. Res.* **2020**, *53*, 72 – 83.
66. Barton, L. M.; Edwards, J. T.; Johnson, E. C.; Bukowski, E. J.; Sausa, R. C.; Byrd, E. F. C.; Orlicki, J. A.; Sabatini, J. J.; Baran, P. S. Impact of Stereo- and Regiochemistry on Energetic Materials. *J. Am. Chem. Soc.* **2019**, *141*, 12531 – 12535.
67. Xiang, J.; Shang, M.; Kawamata, Y.; Lundberg, H.; Resiberg, S.; Chen, M.; Mykhailiuk, P.; Beutner, G.; Collins, M.; Davies, A.; Del Bel, M.; Gallego, G.; Spangler, J.; Starr, J. T.; Yang, S.; Blackmond, D.; Baran, P. S. Hindered Dialkyl Ether Synthesis via Electrogenated Carbocations. *Nature*. **2019**, *573*, 398 – 402.
68. Flood, D. T.; Asai, S.; Zhang, X.; Wang, J.; Yoon, L.; Adams, Z. C.; Dillingham, B. C.; Sanchez, B.; Vantourout, J. C.; Flanagan, M. E.; Piotrowski, D. W.; Richardson, P.; Green, S.; Shenvi, R.; Chen, J.; Baran, P. S.; Dawson, P. Expanding Reactivity in DNA-Encoded Library Synthesis via Reversible Binding of DNA to an Inert Quaternary Ammonium Support. *J. Am. Chem. Soc.* **2019**, *141*, 9998 – 10006.

69. Ni, S.; Padial, N. M.; Kingston, C.; Vantourout, J. C.; Schmitt, D. C.; Edwards, J. T.; Kruszyk, M.; Merchant, R. R.; Mykhailiuk, P. K.; Sanchez, B.; Yang, S.; Perry, M.; Gallego, G. M.; Mousseau, J. J.; Collins, M. R.; Cherney, R. J.; Lebed, P. S.; Chen, J. S.; Qin, T.; Baran, P. S. A Radical Approach to Anionic Chemistry: Synthesis of Ketones, Alcohols, and Amines. *J. Am. Chem. Soc.* **2019**, *141*, 6726 – 6739.
70. Takahira, Y.; Chen, M.; Kawamata, Y.; Mykhailiuk, P.; Nakamura, H.; Peters, B. K.; Reisberg, S. H.; Li, C.; Chen, L.; Hoshikawa, T.; Shibuguchi, T.; Baran, P. S. Electrochemical C(sp³)-H Fluorination. *Synlett*, **2019**, *30*, 1178-1182.
71. Kawamata, Y.; Vantourout, J. C.; Hickey, D. P.; Bai, P.; Chen, L.; Hou, Q.; Qiao, W.; Barman, K.; Edwards, M. A.; Garrido-Castro, A. F.; deGruyter, J. N.; Nakamura, H.; Knouse, K.; Qin, C.; Clay, K. J.; Bao, D.; Li, C.; Starr, J. T.; Garcia-Irizarry, C.; Sach, N.; White, H. S.; Neurock, M.; Minter, S. D.; Baran, P. S. Electrochemically Driven, Ni-Catalyzed Aryl Amination: Scope, Mechanism, and Applications. *J. Am. Chem. Soc.* **2019**, *141*, 6392 – 6402.
72. Peters, B. K.; Rodriguez, K. X.; Reisberg, S. H.; Beil, S. B.; Hickey, D. P.; Kawamata, Y.; Collins, M.; Starr, J.; Chen, L.; Udyavara, S.; Klunder, K.; Gorey, T. J.; Anderson, S. L.; Neurock, M.; Minter, S. D.; Baran, P. S. Scalable and Safe Synthetic Organic Electroreduction Inspired by Li-Ion Battery Chemistry. *Science*. **2019**, *363*, 838 – 845.
73. Shang, M.; Feu, K. S.; Vantourout, J. C.; Barton, L. M.; Osswald, H. L.; Kato, N.; Gagaring, K.; McNamara, C. W.; Chen, G.; Hu, L.; Ni, S.; Fernández-Canelas, P.; Chen, M.; Merchant, R. R.; Qin, T.; Schreiber, S.; Melillo, B.; Yu, J. –Q.; Baran, P. S. Modular Stereocontrolled C β -H/C α -C Activation of Alkyl Carboxylic Acids. *Proc Natl Acad Sci.* **2019**, *116*, 18, 8721 – 8727.
74. Nakamura, H.; Yasui, K.; Kanda, Y.; Baran, P. S. 11-Step Total Synthesis of Teleocidins B-1-B-4. *J. Am. Chem. Soc.* **2019**, *141* (4) 1494 – 1497.
75. Chen, T. –G.; Zhang, H.; Mykhailiuk, P. K.; Merchant, R. R.; Smith, C. A.; Qin, T.; Baran, P. S. Quaternary Centers via Ni-Catalyzed Cross-Coupling of Tertiary Carboxylic Acids and Aryl Zinc Reagents. *Angew. Chem. Int. Ed.* **2019**, *58*, 2454 – 2458
76. Chi, H.; Stratton, T. P.; Baran, P. S. Concise Total Synthesis of Herquelines B and C. *JACS.* **2019**, *141*, 29 – 32.
77. Kingston, C.; Wallace, M.; Allentoff, A. J.; deGruyter, J.; Chen, J.; Gong, S.; Bonacorsi, S. Jr.; Baran, P. S. Direct Carbon Isotope Exchange Through Decarboxylative Carboxylation. *JACS.* **2019**, *141*, (2) 774 – 779.
78. Smith, J.; Dixon, J.; deGruyter, J. N.; Baran, P. S. Alkyl Sulfinates: Radical Precursors Enabling Drug Discovery. *J. Med. Chem.* **2018**, ASAPs.

79. Ni, S.; Garrido-Castro, A. F.; Merchant, R. R.; deGruyter, J. N.; Schmitt, D. C.; Mousseau, J. J.; Gallego, G. M.; Yang, S.; Collins, M. R.; Qiao, J. X.; Yeung, K.; Langley, D. R.; Poss, M. A.; Scola, P. M.; Qin, T.; Baran, P. S. A General Amino Acid Synthesis Enabled by Innate Radical Cross-Coupling. *Angew. Chem. Int. Ed.* **2018**, *57*, 14560 – 14565.
80. Wang, J.; Shang, M.; Lundberg, H.; Feu, K. S.; Hecker, S. J.; Qin, T.; Blackmond, D. G.; Baran, P. S. Cu-Catalyzed Decarboxylative Borylation. *ACS Catal.* **2018**, *8*, 9537 – 9542.
81. Knouse, K. W.; deGruyter, J. N.; Schmidt, M. A.; Zheng, B.; Vantourout, J. C.; Kingston, C.; Mercer, S. E.; McDonald, I. M.; Olson, R. E.; Zhu, Y.; Hang, C.; Zhu, J.; Yuan, C.; Wang, W.; Park, P.; Eastgate, M. D.; Baran, P. S. Unlocking P(V): Reagents for Chiral Phosphorothioate Synthesis. *Science*, **2018**, *361*, 6408, 1234 – 1238.
82. Smith, J. M.; Hardwood, S. J.; Baran, P. S. Radical Retrosynthesis. *Acc. Chem. Res.* **2018**, *51*, 1807 – 1817.
83. Chen, T. –G.; Barton, L. M.; Lin, Y.; Tsien, J.; Kessler, D.; Bastida, I.; Asai, S.; Bi, C.; Chen, J. S.; Shan, M.; Fang, H.; Fang, F. G.; Choi, H. –W.; Hawkins, L.; Qin, T.; Baran, P. S. Building C(sp³)-rich Complexity by Combining Cycloaddition and C – C Cross Coupling Reactions. *Nature*. **2018**, *560*, 350 – 354.
84. Merchant, R. R.; Oberg, K. M.; Lin, Y.; Novak, A. J. E.; Felding, J.; Baran, P. S. Divergent Synthesis of Pyrone Diterpenes via Radical Cross Coupling. *J. Am. Chem. Soc.* **2018**, *140*, 7462 – 7465.
85. Wang, J.; Lundberg, H.; Asai, S.; Martin-Acosta, P.; Chen, J. S.; Brown, S.; Farrell, W.; Dushin, R. G.; O'Donnell, C. J.; Ratnayake, A. S.; Richardson, P.; Liu, Z.; Qin, T.; Blackmond, D. G.; Baran, P. S. Kinetically Guided Radical-Based Synthesis of C(sp³)- C(sp³) Linkages on DNA. *PNAS*. **2018**, *115*, E6404.
86. Baran, P. S. Natural Product Total Synthesis: As Exciting as Ever and Here to Stay. *J. Am. Chem. Soc.* **2018**, *140*, 4751 – 4755.
87. Chu, H.; Dunstl, G.; Felding, J.; Baran, P. S. Divergent synthesis of thapsigargin analogs. *Biorg. Med. Chem. Lett.* **2018**, *28*, 2705 – 2707.
88. Peters, D.; Romesberg, F. E.; Baran, P. S. Scalable Access to Arylomycins via C-H Functionalization Logic. *J. Am. Chem. Soc.* **2018**, *140*, 2072 – 2075.
89. Merchant, R. R.; Edwards, J. T.; Qin, T.; Kruszyk, M. M.; Bi, C.; Che, G.; Bao, D-H.; Qiao, W.; Sun, L.; Collins, M. R.; Gallego, G. M.; Mousseau, J. J.; Nuhant, P.; Baran, P. S. Modular Radical Cross-coupling with Sulfones enables access to sp³-rich (fluoro)alkylated scaffolds. *Science*, **2018**, *360*, 75 – 80.

90. Parker, C. G.; Kuttruff, C. A.; Galmozzi, A.; Jorgensen, L.; Yeh, C.-H.; Hermanson, D. J.; Wang, Y.; Artola, M.; McKerrall, S. J.; Joslyn, C. M.; Norremark, B.; Dunstl, G.; Felding, J.; Saez, E.; Baran, P. S.; Cravatt, B. F. Chemical Proteomics Identifies SLC25A20 as a Functional Target of the Ingenol Class of Actinic Keratosis Drugs. *ACS Cent. Sci.* **2017**, *3*, 1276 – 1285.
91. deGruyter, J. N.; Malins, L. R.; Wimmer, L.; Clay, K. J.; Lopez-Ogalla, J.; Qin, T.; Cornella, J.; Liu, Z.; Che, G.; Bao, D.; Stevens, J. M.; Qiao, J. X.; Allen, M. P.; Poss, M. A.; Baran, P. S. CITU: A Peptide and Decarboxylative Coupling Reagent, *Org. Lett.* **2017**, *18*, 6196.
92. Yan, M.; Kawamata, Y.; Baran, P. S. Synthetic Organic Electrochemical Methods since 2000: On the Verge of a Renaissance. *Chem. Rev.* **2017**, *117*, 13230.
93. Li, C.; Kawamata, Y.; Nakamura, H.; Vantourout, J. C.; Liu, Z.; Hou, Q.; Bao, D.; Starr, J. T.; Chen, J.; Yan, M.; Baran, P. S. Electrochemically Enabled, Ni-Catalyzed Amination, *Angew. Chem. Int. Ed.* **2017**, *56*, 13088 – 13093.
94. Yan, M.; Kawamata, Y.; Baran, P. S. Synthetic Organic Electrochemistry: Calling all Engineers, *Angew. Chem. Int. Ed.* **2017**, *56*, 2 – 9.
95. Trammell, R.; See, Y.; Herrmann, A. T.; Xie, N.; Diaz, D. E.; Siegler, M. A.; Baran, P. S. Garcia-Bosch, I. Decoding the Mechanism of Intramolecular Cu-Directed Hydroxylation of sp³ C-H Bonds, *J. Org. Chem.* **2017**, *82*, 7887 – 7904.
96. deGruyter, J. N.; Malins, L. R.; Baran, P. S. Residue-Specific Peptide Modification: A Chemist's Guide, *Biochemistry*, **2017**, *56*, 3863 – 3873.
97. Smith, J. M.; Qin, T.; Merchant, R. R.; Edwards, J. T.; Malins, L. R.; Liu, Z.; Che, G.; Shen, Z.; Shaw, S. A.; Eastgate, M. D.; Baran, P. S. Decarboxylative Alkynylation, *Angew. Chem. Int. Ed.* **2017**, *56*, 1 – 6.
98. Kawamata, Y.; Yan, M.; Liu, Z.; Bao, D. -H; Chen, J.; Starr, J.; Baran, P. S. Scalable, Electrochemical Oxidation of Unactivated C-H Bonds, *J. Am Chem Soc.* **2017**, *139*, 7448 – 7451.
99. Edwards, J. T.; Merchant, R. R.; McClymont, K. S.; Knouse, K. W.; Qin, T.; Malins, L. R.; Vokits, B.; Shaw, S. A.; Bao, D. H.; Wei, F. L.; Zhou, T.; Eastgate, M. D.; Baran, P. S. Decarboxylative Alkenylation, *Nature* **2017**, *545*, 213 – 218.
100. Li, C.; Wang, J.; Barton, L. M.; Yu, S.; Tian, M.; Peters, D. S.; Kumar, M.; Yu, A. W.; Johnson, K. A.; Chatterjee, A. K.; Yan, M.; Baran, P. S. Decarboxylative Borylation, *Science* **2017**, *356*, eaam7355.

101. Malins, L. R.; deGruyter, J. N.; Robbins, K. J.; Scola, P.N.; Eastgate, M.; Ghadiri, M. R.; Baran, P. S. Peptide Macrocyclization Inspired by Non-Ribosomal Imine Natural Products, *J. Am. Chem. Soc.* **2017**, *139*, 5233 – 5241.
102. Sandfort, F.; O'Neill, M. J.; Cornella, J.; Wimmer, L.; Baran, P. S. Alkyl-(Hetero)Aryl Bond Formation via Decarboxylative Cross-Coupling: A Systematic Analysis, *Angew. Chem. Int. Ed.* **2017**, *56*, 3319 – 3323.
103. Lopchuk, J. M.; Fjelbye, K.; Kawamata, Y.; Malins, L. R.; Pan, C. M.; Gianatassio, R.; Wang, J.; Prieto, L.; Bradowm J.; Brandt, T. A.; Collins, M. R.; Elleraas, J.; Ewanicki, J.; Farrell, W.; Fadeyl, O. O.; Gallego, G. M.; Mousseau, J. J.; Oliver, R.; Sach, N. W.; Smith, J. K.; Spangler, J. E.; Zhu, H.; Zhu, J.; Baran, P. S. Strain-Release Heteroatom Functionalization: Development, Scope, and Stereospecificity, *J. Am. Chem. Soc.* **2017**, *139*, 3209 – 3226.
104. Lo, J. C.; Kim, D.; Pan, C. M.; Edwards, J. T.; Yabe, Y.; Gui, J.; Qin, T.; Gutierrez, S.; Giacoboni, J.; Smith, M. W.; Holland, P. L.; Baran, P. S. Fe-Catalyzed C-C Bond Construction from Olefins via Radicals, *J. Am. Chem. Soc.* **2017**, *139*, 2484 – 2503.
105. Chu, H.; Smith, J.M.; Felding, J.; Baran, P.S. Scalable Synthesis of (-)-Thapsigargin, *ACS Cent. Sci.* **2017**, *3*, 47 – 51.
106. Qin, T.; Malins, L. R.; Edwards, J. T.; Merchant, R. R.; Novak, A. J. E.; Zhong, J. Z.; Mills, R. B.; Yan, M.; Yuan, C.; Eastgate, M. D.; Baran, P. S. Nickel-Catalyzed Barton Decarboxylation and Giese Reactions: A Practical Take on Classic Transforms, *Angew. Chem. Int. Ed.* **2016**, *129*, 266 – 271.
107. Tian, M.; Yan, M.; Baran, P. S. 11-Step Total Synthesis of Ariasamines, *J. Am. Chem. Soc.* **2016**, 14234 – 14237.
108. Yan, M.; Lo, J. C.; Edwards, J.T.; Baran, P. S. Radicals: Reactive Intermediates with Translational Potential, *J. Am. Chem. Soc.* **2016**, *138*, 12692 – 12714.
109. Toriyama, F.; Cornella, J.; Wimmer, L.; Chen, T.-G.; Dixon, D. D.; Creech, G.; Baran, P. S. Redox-Active Esters in Fe-Catalyzed C – C Coupling, *J. Am. Chem. Soc.* **2016**, 11132 – 11135.
110. Cernijenko, A.; Risgaard, R.; Baran, P. S. 11-Step Total Synthesis of (-) Maoecrystal V, *J. Am. Chem. Soc.* **2016**, *138*, 9425 – 9428.
111. Wang, J.; Qin, T.; Chen, T. G.; Wimmer, L.; Edwards, J. T.; Cornella, J.; Vokits, B.; Shaw, S. A.; Baran, P. S. Nickel-Catalyzed Cross Coupling of Redox-Active Esters with Boronic Acids, *Angew. Chem. Int. Ed.* **2016**, *55*, 9676-9679.

112. Horn, E. J.; Rosen, B. R.; Baran, P. S. Synthetic Organic Electrochemistry: An Enabling and Innately Sustainable Method, *ACS Cent. Sci* **2016**, *2*, 302 – 308.
113. Yuan, C.; Jin, Y.; Wilde, N. C.; Baran, P. S. Short, Enantioselective Total Synthesis of Highly Oxidized Taxanes, *Angew. Chem. Int. Ed.* **2016**, *55*, 8280-8284.
114. Martinez L. P.; Umemiya S.; Wengryniuk S. E.; Baran P. S. 11-Step Total Synthesis of Pallambins C and D, *J. Am. Chem. Soc.* **2016**, *138*, 24, 7536-7539.
115. Quesnelle, C. A.; Gill, P.; Kim, S. H.; Chen, L.; Zhao, Y.; Fink, B. E.; Saulnier, M.; Frennesson, D.; DeMartino, M. P.; Baran, P. S.; Gavai, A.V. A Practical Approach for Enantio- and Diastereocontrol in the Synthesis of 2,3-Disubstituted Succinic Acid Esters: Synthesis of the pan-Notch Inhibitor BMS-906024, *Synlett* **2016**, *27*, A-E.
116. Qin, T.; Cornella, J.; Li, C.; Malins, L. R.; Edwards, J. T.; Kawamura, S.; Maxwell, B. D.; Eastgate, M. D.; Baran, P.S. A General Alkyl-Alkyl Cross-coupling Enabled by Redox-active Esters and Alkylzinc Reagents, *Science* **2016**, *352*, 6287, 801 – 805.
117. Horn, E. J.; Rosen, B. R.; Chen, Y.; Tang, J.; Chen, K.; Eastgate, M.D.; Baran, P. S. Scalable and Sustainable Electrochemical Allylic C-H Oxidation, *Nature* **2016**, *533*, 7601, 77 – 81.
118. Kawamura, S.; Chu, H.; Felding, J.; Baran, P. S. Nineteen-Step Total Synthesis of (+)-Phorbol, *Nature* **2016**, *532*, 90 – 93.
119. Cornella, J.; Edwards, J. T.; Qin, T.; Kawamura, S.; Wang, J.; Pan, C. M.; Gianatassio, R.; Schmidt, M.; Eastgate, M. D.; Baran, P. S. Practical Ni-catalyzed Aryl-Alkyl Cross-coupling of Secondary Redox-active Esters, *J. Am. Chem. Soc.* **2016**, *138*, 2174–2177.
120. Gianatassio, R.; Lopchuk, J. M.; Wang, J.; Pan, C. M.; Malins, L. R.; Prieto, L.; Brandt, T. A.; Collins, M. R.; Gallego, G. M.; Sach, N. W.; Spangler, J. E.; Zhu, H.; Zhu, J.; Baran, P. S. Strain Release Amination, *Science* **2016**, *351*, 241 – 246.
121. O'Brien, A. G.; Luca, O. R.; Baran, P. S.; Blackmond, D. G. In Situ FTIR Spectroscopic Monitoring of Electrochemically Controlled Organic Reactions in a Recycle Reactor, *React. Chem. Eng.* **2016**, *1*, 90-95.
122. Jin, Y.; Yeh, C. H.; Kuttruff, C. A.; Jorgensen, L.; Dünstl, G.; Felding, J.; Natarajan, S. R.; Baran, P. S. C-H Oxidation of Ingenanes Enables Potent and Selective Protein Kinase C Isoform Activation, *Angew. Chem. Int. Ed.* **2015**, *54*, 14044 – 14048.

123. Feng, Y.; Holte, D.; Zoller, J.; Umemiya, S.; Simke, L. R.; Baran, P. S. Total Synthesis of Verruculogen and Fumitremorgin A Enabled by Ligand-Controlled C–H Borylation, *J. Am. Chem. Soc.* **2015**, *137*, 10160 – 10163.
124. Gui, J.; Pan, C-M.; Jin, Y.; Qin, T.; Lo, J. C.; Lee, B. J.; Spergel, S. H.; Mertzman, M. E.; Pitts, W. J.; La Cruz, T. E.; Schmidt, M. A.; Darvatkar, N.; Natarajan, S. R.; Baran, P. S. Practical Olefin Hydroamination with Nitroarenes, *Science* **2015**, *348*, 886 – 891.
125. Michaudel, Q.; Ishihara, Y.; Baran, P. S. Academia-Industry Symbiosis in Organic Chemistry, *Acc. Chem. Res.* **2015**, *48*, 712 – 721.
126. Renata, H.; Zhou, Q.; Dünstl, G.; Felding, J.; Merchant, R. R.; Yeh, C.-H.; Baran, P. S. Development of a Concise Synthesis of Ouabagenin and Hydroxylated Corticosteroid Analogues, *J. Am. Chem. Soc.* **2015**, *137*, 1330 – 1340.
127. Dao, H. T.; Li, C.; Michaudel, Q.; Maxwell, B. D.; Baran, P. S. Hydromethylation of Unactivated Olefins, *J. Am. Chem. Soc.* **2015**, *137*, 8046 – 8049.
128. Gavai, A.V.; Quesnelle, C.; Norris, D.; Han, W-C.; Gill, P.; Shan, W.; Balog, A.; Chen, K.; Tebben, A.; Rampulla, R.; Wu, D-R.; Zhang, Y.; Mathur, A.; White, R.; Rose, A.; Wang, H.; Yang, Z.; Ranasinghe, A.; D’Arienzo, C.; Gaurino, V.; Xiao, L.; Su, C.; Everlof, G.; Vinod, A.; Shen, D.R.; Cvijic, M.E.; Menard, K.; Wen, M-L.; Meredith, J.; Trainor, G.; Lombardo, L.J.; Olson, R.; Baran, P.S.; Hunt, J.T.; Vite, G.D.; Fischer, B.S.; Westhouse, R.A.; Lee, F.Y. Discovery of Clinical Candidate BMS-906024: A Potent Pan-Notch Inhibitor for the Treatment of Leukemia and Solid Tumors, *Med. Chem. Lett.* **2015**, *6*, 523 – 527.
129. Maimone, T.J.; Ishihara, Y.; Baran, P.S. Scalable Total Syntheses of (–)-Hapalindole U and (+)-Ambiguine H, *Tetrahedron.* **2015**, *71*, 3652 – 3665.
130. Ma, Z.; Wang, X.; Wang, X.; Rodriguez, R. A.; Moore, C. E.; Gao, S.; Tan, X.; Ma, Y.; Rheingold, A. L.; Baran, P. S.; Chen, C. Response to Comment on “Asymmetric Syntheses of Scepterin and Massadine and Evidence for Biosynthetic Enantiodivergence, *Science* **2015**, *349*, 149.
131. Shaw, S. A.; Balasubramanian, B.; Bonacorsi, S.; Cortes, J. C.; Cao, K.; Chen, B. C.; Dai, J.; Decicco, C.; Goswami, A.; Guo, Z.; Hanson, R.; Humphreys, W. G.; Lam, P.Y.S.; Li, W.; Mathur, A.; Maxwell, B.D.; Michaudel, Q.; Peng, L.; Pudzianowski, A.; Qiu, F.; Su, S.; Sun, D.; Tymiak, A.A.; Vokits, B.P.; Wang, B.; Wexler, R.; Wu, D.; Zhang, Y.; Zhao, R.; Baran, P.D. Synthesis of Biologically Active Piperidine Metabolites of Clopidogrel: Determination of Structure and Analyte Development, *J. Org. Chem.* **2015**, *80*, 7019 – 7032.

132. See, Y. Y., Herrmann, A. T., Aihara, Y., Baran, P. S. Scalable C-H Oxidation with Copper: Synthesis of Polyoxypregnanes, *J. Am. Chem. Soc.* **2015**, *137*, 13776 – 13779.
133. Hong, X.; Holte, D.; Goetz, D.; Baran, P.S. Houk, K. On the Mechanism, Reactivity and Selectivity of Ni-Catalyzed [4+4+2] Cycloadditions of Dienes and Alkynes, *J. Org. Chem.* **2014**, *79*, 12177 – 12184.
134. Lo, J.C.; Gui, J.; Yabe, Y.; Pan, C.-M.; Baran, P.S. Functionalized Olefin Cross-Coupling to Construct Carbon, *Nature* **2014**, *516*, 343 – 348.
135. Rodriguez, R.A.; Barrios Steed, D.; Kawamata, Y.; Su, S.; Smith, P.A.; Steed, T.C., Romesberg, F.E.; Baran, P.S. Axinellamines as Broad Spectrum Antibacterial Agents: Scalable Synthesis and Biology, *J. Am. Chem. Soc.* **2014**, *136*, 15403 – 15413.
136. Dao, H.T.; Baran, P.S. Quinone Diazides for Olefin Functionalization, *Angew. Chem. Int. Ed.* **2014**, *53*, 14382 – 14386.
137. Michaudel, Q.; Journot, G.; Regueiro-Ren, A.; Goswami, A.; Guo, Z.; Tulley, T.P.; Zou, L.; Ramabhadran, R.O.; Houk, K.N.; Baran, P.S. Improving Physical Properties via C–H Oxidation: Chemical and Enzymatic Approaches, *Angew. Chem. Int. Ed.* **2014**, *53*, 12091 – 12096.
138. Ma, Z.; Wang, X.; Rodriguez, R.A.; Moore, C.E.; Gao, S.; Tan, X.; Ma, Y.; Rheingold, A.L.; Baran, P.S.; Chen, C. Asymmetric Syntheses of Scepterin and Massadine and Evidence for Biosynthetic Enantiodivergence, *Science* **2014**, *346*, 219 – 224.
139. O'Brien, A.G.; Maruyama, A.; Inokuma, Y.; Fujita, M.; Baran, P.S.; Blackmond, D.G. Radical C–H Functionalization of Heteroarenes Under Electrochemical Control, *Angew. Chem. Int. Ed.* **2014**, *53*, 11868 – 11871.
140. Cherney, E.C.; Lopchuk, J.M.; Green, J.C.; Baran, P.S. A Unified Approach to *ent*-Atisane Diterpenes and Related Alkaloids: Synthesis of (–)-Methyl Atisenoate, (–)-Isoatisine, and the Hetidine Skeleton, *J. Am. Chem. Soc.* **2014**, *136*, 12592 – 12595.
141. Gianatassio, R.; Kawamura, S.; Eprile, C.L.; Foo, K.; Ge, J.; Burns, A.C.; Collines, M.R.; Baran, P.S. Simple Sulfinatate Synthesis Enables C–H Trifluoromethylcyclopropanation, *Angew. Chem. Int. Ed.* **2014**, *53*, 9851 – 9855.
142. Teufel, R.; Kaysser, L.; Villaume, M.T.; Diethelm, S.; Carbullido, M.K.; Baran, P.S.; Moore, B.S. One-Pot Enzymatic Synthesis of Merochlorin A and B, *Angew. Chem. Int. Ed.* **2014**, *53*, 11019 – 11022.
143. Rodriguez, R.A.; Pan, C.-M.; Yabe, Y.; Kawamata, Y.; Eastgate, M.D.; Baran, P.S. Palau'chlor: A Practical and Reactive Chlorinating Reagent, *J. Am. Chem. Soc.* **2014**, *136*, 6908 – 6911.

144. Rosen, B.R.; Werner, E.W.; O'Brien, A.G.; Baran, P.S. Total Synthesis of Dixiamycin B by Electrochemical Oxidation, *J. Am. Chem. Soc.* **2014**, *136*, 5571 – 5574.
145. McKerrall, S. J.; Jorgensen, L.; Kuttruff, C.A.; Ungeheuer, F.; Baran, P.S. Development of a Concise Synthesis of (+)-Ingenol, *J. Am. Chem. Soc.* **2014**, *136*, 5799 – 5810.
146. Foo, K.; Sella, E.; Thome, I.; Eastgate, M.D.; Baran, P.S. A Mild Ferrocene-catalyzed C–H Imidation of (Hetero)Arenes, *J. Am. Chem. Soc.* **2014**, *136*, 5279 – 5282.
147. Wilde, N.C.; Isomura, M.; Mendoza, A.; Baran, P.S. Two-Phase Synthesis of (–)-Taxuyunnanin D, *J. Am. Chem. Soc.* **2014**, *136*, 4909 – 4912.
148. Gui, J.; Zhou, Q.; Pan, C.-M.; Yabe, Y.; Burns, A.C.; Collins, M.R.; Ornelas, M.A.; Ishihara, Y.; Baran, P.S. A C–H Methylation Reaction of Heteroarenes Inspired by Radical SAM Methyl Transferase, *J. Am. Chem. Soc.* **2014**, *136*, 4853 – 4856.
149. Gutekunst, W. R.; Baran, P. S. Applications of C–H Functionalization Logic to Cyclobutane Synthesis, *J. Org. Chem.* **2014**, *79*, 2430 – 2452.
150. O'Hara, F.; Burns, A. C.; Collins, M. R.; Dalvie, D.; Ornelas, M.A.; Vaz, A.D.N.; Fujiwara, Y.; Baran, P. S. A Simple Litmus Test for Aldehyde Oxidase Metabolism of Heteroarenes, *J. Med. Chem.* **2014**, *57*, 1616 – 1620.
151. Lo, J. C.; Yabe, Y.; Baran, P.S. A Practical and Catalytic Reductive Olefin Coupling, *J. Am. Chem. Soc.* **2014**, *136*, 1304 – 1307.
152. Kuttruff, C.A.; Eastgate, M.D.; Baran, P.S. Natural Product Synthesis in the Age of Scalability, *Nat. Prod. Rep.* **2014**, *31*, 419 – 432.
153. Teufel, R.; Miyanaga, A.; Michaudel, Q.; Stull, F.; Louie, G.; Noel, J.P.; Baran, P.S.; Palfey, B.; Moore, B.S. Flavin-mediated dual oxidation controls an enzymatic Favorskii-type rearrangement, *Nature* **2013**, *503*, 552 – 556.
154. Zhou, Q.; Gui, J.; Pan, C.-M.; Albone, E.; Cheng, X.; Suh, E.M.; Grasso, L.; Ishihara, Y.; Baran, P.S. Bioconjugation by Native Chemical Tagging of C–H Bonds, *J. Am. Chem. Soc.* **2013**, *135*, 12994 – 12997.
155. O'Hara, F.; Blackmond, D. G.; Baran, P. S. Radical-based Regioselective C–H Functionalization of Heterocycles: Prediction, Scope and Tunability. *J. Am. Chem. Soc.* **2013**, *135*, 12122 – 12134.

156. Jørgensen, L.; McKerrall, S.J.; Kuttruff, C.A.; Ungeheuer, F.; Felding, J.; Baran, P.S. 14-step Synthesis of (+)-Ingenol from (+)-3-Carene. *Science* **2013**, *341*, 878 – 882.
157. Cherney, E.C.; Green, J.C.; Baran, P.S. Synthesis of *ent*-Kaurane and Beyerane Diterpenoids via Controlled Fragmentations of Overbred Intermediates. **2013**, *52*, 9019 – 9022.
158. Rosen, B.R.; Simke, L.R.; Thuy-Boun, P.S.; Dixon, D.D.; Yu, J.-Q.; Baran, P.S. C-H Functionalization Logic Enables Synthesis of (+)-Hongoquercin A and Related Compounds. **2013**, *52*, 7317 – 7320.
159. Zou, L.; Paton, R. S.; Eschenmoser, A.; Newhouse, T. R.; Baran, P. S.; Houk, K. N. Enhanced Reactivity in Dioxirane C–H Oxidations via Strain Release: A Computational and Experimental Study, *J. Org. Chem.* **2013**, *78*, 4037 – 4048.
160. Usui, I.; Lin, D.W.; Masuda, T.; Baran, P. S. Convergent Synthesis and Structural Confirmation of Phellodonin and Sarcodonin ϵ , *Org. Lett.* **2013**, *15*, 2080 – 2083.
161. O’Hara, F.; Baxter, R. D.; O’Brien, A.G.; Collins, M. R.; Dixon, J. A.; Fujiwara, Y.; Ishihara, Y.; Baran, P. S. Preparation and Purification of Zinc Sulphinate Reagents for Drug Discovery, *Nature Protocols.* **2013**, *8*, 1042 – 1047.
162. Ishihara, Y.; Mendoza, A.; Baran, P. S. Total Synthesis of Taxane Terpenes: Cyclase Phase, *Tetrahedron.* **2013**, *69*, 5685 – 5701.
163. Zhou, Q.; Ruffoni, A.; Gianatassio, R.; Fujiwara, Y.; Sella, E.; Shabat, D.; Baran, P.S. Direct Synthesis of Fluorinated Heteroarylether Bioisosteres, *Angew. Chem. Int. Ed.* **2013**, *52*, 3949 – 3952.
164. Wengryniuk, S.E.; Weickgenannt, A.; Relher, C.; Strotman, N.A.; Chen, K.; Eastgate, M.D.; Baran, P. S. Regioselective Bromination of Fused Heterocyclic *N*-Oxides, *Org. Lett.* **2013**, *15*, 792 – 795.
165. Renata, H.; Zhou, Q.; Baran, P. S. Strategic Redox Relay Enables A Scalable Synthesis of Ouabagenin, A Bioactive Cardenolide, *Science* **2013**, *339*, 59 – 63.
166. Mendoza, A.; Baran, P.S. Synthesis: A Constructive Debate – Practical Chemistry, *Nature* **2012**, *492*, 188 – 189.
167. Fujiwara, Y.; Dixon, J.A.; O’Hara, F.; Daa Funder, E.; Dixon, D.D.; Rodriguez, R.A.; Baxter, R.D.; Herlé, B.; Sach, N.; Collins, M.R.; Ishihara, Y.; Baran, P.S. Practical and Innate Carbon-Hydrogen Functionalization of Heterocycles, *Nature* **2012**, *492*, 95 – 100.

168. Karton-Lifshin, N.; Albertazzi, L.; Bendikov, M.; Baran, P.S.; Shabat, D. “Donor-Two-Acceptor” Dye Design: A Distinctive Gateway to NIR Fluorescence, *J. Am. Chem. Soc.* **2012**, *134*, 20412 – 20420.
169. Foo, K.; Usui, I.; Götz, D.C.; Werner, E.W.; Holte, D.; Baran, P.S. Scalable, Enantioselective Synthesis of Germacrenes and Related Sesquiterpenes Inspired by Terpene Cyclase Phase Logic, *Angew. Chem. Int. Ed.* **2012**, *51*, 11491 – 11495.
170. Voica, A.F.; Mendoza, A.; Gutekunst, W.R.; Fraga, J.O.; Baran, P.S. Guided Desaturation of Unactivated Aliphatics, *Nature Chem.* **2012**, *4*, 629 – 635.
171. Gutekunst, W.R.; Gianatassio, R.; Baran, P.S. Sequential C(sp³)–H Arylation and Olefination: Total Synthesis of the Proposed Structure of Pipericyclobutanamide A, *Angew. Chem. Int. Ed.* **2012**, *51*, 7507 – 7512.
172. Gulder, T.; Baran, P.S. Strained Cyclophane Natural Products: Macrocyclization at Its Limits, *Nat. Prod. Rep.* **2012**, *29*, 899 – 934.
173. Krenske, K.H.; Perry, E.W.; Jerome, S.V.; Maimone, T.J.; Baran, P.S.; Houk, K.N. Why a Proximity-Induced Diels–Alder Reaction Is So Fast, *Org. Lett.* **2012**, *14*, 3016 – 3019.
174. Lansdell, T.A.; Hewlett, N.M.; Skoumbourdis, A.P.; Fodor, M.D.; Seiple, I.B.; Su, S.; Baran, P.S.; Feldman, K.S.; Tepe, J.J. Palau’amine and Related Oroidin Alkaloids Dibromophakellin and Dibromophakellstatin Inhibit the Human 20S Proteasome, *J. Nat. Prod.* **2012**, *75*, 980 – 985.
175. Dixon, D.D.; Lockner, J.W.; Zhou, Q.; Baran, P.S. Scalable, Divergent Synthesis of Meroterpenoids via “Borono-sclareolide”, *J. Am. Chem. Soc.* **2012**, *134*, 8432 – 8435.
176. Köck, M.; Schmidt, G.; Seiple, I.B.; Baran, P.S. Configurational Analysis of Tetracyclic Dimeric Pyrrole-Imidazole Alkaloids Using a Floating Chirality Approach, *J. Nat. Prod.* **2012**, *75*, 127 – 130.
177. Michaudel, Q.; Thevenet, D.; Baran, P.S. Intermolecular Ritter-Type C–H Amination of Unactivated sp³ Carbons, *J. Am. Chem. Soc.* **2012**, *134*, 2547 – 2550.
178. Fujiwara, Y.; Dixon, J.; Rodriguez, R.A.; Baxter, R.D.; Dixon, D.D.; Collins, M.R.; Blackmond, D.G.; Baran, P.S. A New Reagent for Direct Difluoromethylation, *J. Am. Chem. Soc.* **2012**, *134*, 1494 – 1497.

179. Holte, D.; Götz, D.C.; Baran, P.S. An Approach to Mimicking the Sesquiterpene Cyclase Phase by Nickel-Promoted Diene/Alkyne Cooligomerization, *J. Org. Chem.* **2012**, *77*, 825 – 842.
180. Brueckl, T.; Baxter, R.D.; Ishihara, Y.; Baran, P.S. Innate and Guided C–H Functionalization Logic, *Acc. Chem. Res.* **2012**, *45*, 826 – 839.
181. Gutekunst, W.R.; Baran, P.S. Total Synthesis and Structural Revision of the Piperarborenines via Sequential Cyclobutane C–H Arylation, *J. Am. Chem. Soc.* **2011**, *133*, 19076 – 19079.
182. Mendoza, A.; Ishihara, Y.; Baran, P.S. Scalable, Enantioselective Taxane Total Synthesis, *Nature Chem.* **2011**, *4*, 21 – 25.
183. Lockner, J.W.; Dixon, D.D.; Risgaard, R.; Baran, P.S. Practical Radical Cyclizations with Arylboronic Acids and Trifluoroborates, *Org. Lett.* **2011**, *13*, 5628 – 5631.
184. Seiple, I.B.; Su, S.; Young, I.S.; Nakamura, A.; Yamaguchi, J.; Jorgensen, L.; Rodriguez, R.A.; O'Malley, D.P.; Gaich, T.; Köck, M.; Baran, P.S. Enantioselective Total Synthesis of (–)-Palau'amine, (–)-Axinellamines, and (–)-Massadines, *J. Am. Chem. Soc.* **2011**, *133*, 14710 – 14726.
185. Su, S.; Rodriguez, R.A.; Baran, P.S. Scalable, Stereocontrolled Total Synthesis of (±)-Axinellamines A and B, *J. Am. Chem. Soc.* **2011**, *133*, 13922 – 13925.
186. Ji, Y.; Brueckl, T.; Baxter, R.D.; Fujiwara, Y.; Seiple, I.B.; Su, S.; Blackmond, D.G.; Baran, P.S. Innate C–H Trifluoromethylation of Heterocycles, *PNAS* **2011**, *108*, 14411 – 14415.
187. Shi, J.; Manolikakes, G.; Yeh, C-H.; Guerrero, C.A.; Shenvi, R.A.; Shigehisa, H.; Baran, P.S. Scalable Synthesis of Cortistatin A and Related Structures, *J. Am. Chem. Soc.* **2011**, *133*, 8014 – 8027.
188. Fujiwara, Y.; Domingo, V.; Seiple, I.B.; Gianatassio, R.; Del Bel, M.; Baran, P.S. Practical C–H Functionalization of Quinones with Boronic Acids, *J. Am. Chem. Soc.* **2011**, *133*, 3292 – 3295.
189. Newhouse, T.R.; Baran, P.S. If C-H Bonds Could Talk – Selective C–H Bond Oxidation, *Angew. Chem. Int. Ed.* **2011**, *50*, 3362 – 3374.
190. Foo, K.; Newhouse, T.R.; Mori, I.; Takayama, H.; Baran, P.S. Total Synthesis-Guided Structure Elucidation of (+)-Psychotetramine, *Angew. Chem. Int. Ed.* **2011**, *50*, 2716 – 2719.

191. Cherney, E.C.; Baran, P.S. Terpenoid-Alkaloids: Their Biosynthetic Twist of Fate and Total Synthesis, *Isr. J. Chem.* **2011**, *51*, 391 – 405.
192. Gutekunst, W.R.; Baran, P.S. C–H Functionalization Logic in Total Synthesis, *Chem. Soc. Rev.* **2011**, *40*, 1976 – 1991.
193. Jessing, M.; Baran, P.S. Oxidative Coupling of Indoles with 3-Oxindoles, *Heterocycles* **2011**, *82*, 1739 – 1745. (Special Issue Dedicated to Professor Dr. Albert Eschenmoser on the occasion of his 85th birthday)
194. Lin, D.W.; Su, S.; Masuda, T.; Biskup, M.B.; Nelson, J.D.; Baran, P.S. Synthesis-Guided Structural Revision of the Sarcodonin, Sarcoviolin, and Hydnellin Natural Product Family, *J. Org. Chem.* **2011**, *76*, 1013 – 1030.
195. Schallenberger, M.A.; Newhouse, T.; Baran, P.S.; Romesberg, F.E. The Psychotrimine Natural Products Have Antibacterial Activity against Gram-positive Bacteria and Act via Membrane Disruption, *J. Antibiot.* **2010**, *63*, 685 – 687.
196. Seiple, I.B.; Su, S.; Rodriguez, R.A.; Gianatassio, R.; Fujiwara, Y.; Sobel, A.L.; Baran, P.S. Direct C–H Arylation of Electron-Deficient Heterocycles with Arylboronic Acids, *J. Am. Chem. Soc.* **2010**, *132*, 13194 – 13196.
197. Sella, E.; Weinstein, R.; Erez, R.; Burns, N.Z.; Baran, P.S.; Shabat, D. Sulfhydryl-based Dendritic Chain Reaction, *Chem. Comm.* **2010**, *46*, 6575 – 6577.
198. Ishihara, Y.; Baran, P.S. Two-Phase Terpene Total Synthesis: Historical Perspective and Application to the Taxol Problem, *Synlett* **2010**, *12*, 1733 – 1745. (Invited on occasion of the 2010 Thieme-IUPAC award)
199. Gaich, T.; Baran, P.S. Aiming for the Ideal Synthesis, *J. Org. Chem.* **2010**, *75*, 4657 – 4673. (Invited on occasion of the 2010 Pure Chemistry award)
200. Newhouse, T.; Lewis, C.A.; Eastman, K.J.; Baran, P.S. Scalable Total Syntheses of *N*-Linked Tryptamine Dimers by Direct Indole–Aniline Coupling: Psychotrimine and Kapakahines B and F, *J. Am. Chem. Soc.* **2010**, *132*, 7119 – 7137.
201. Chen, K.; Ishihara, Y.; Morón Galán, M.; Baran, P.S. Total Synthesis of Eudesmane Terpenes: Cyclase Phase, *Tetrahedron* **2010**, *66*, 4738 – 4744. (Special issue dedicated to the Tetrahedron Young Investigator Award winner in 2010, Prof. Brian M. Stoltz.)
202. Seiple, I.B.; Su, S.; Young, I.S.; Lewis, C.A.; Yamaguchi, J.; Baran, P.S. Total Synthesis of Palau'amine, *Angew. Chem. Int. Ed.* **2010**, *49*, 1095 – 1098.

203. Schultz, A.W.; Lewis, C.A.; Luzung, M.R.; Baran, P.S.; Moore, B.S. Functional Characterization of the Cyclomarin/Cyclomarazine Prenyltransferase CymD Directs the Biosynthesis of Unnatural Cyclic Peptides, *J. Nat. Prod.* **2010**, *73*, 373 – 377.
204. Cipres, A.; O'Malley, D.P.; Li, K.; Finlay, D.; Baran, P.S.; Vuori, K. Scepterin, a Marine Natural Compound, Inhibits Cell Motility in a Variety of Cancer Cell Lines, *ACS Chem. Biol.* **2010**, *5*, 195 – 202.
205. Chen, K.; Eschenmoser, A.; Baran, P.S. Strain-Release in C–H Bond Activation? *Angew. Chem. Int. Ed.* **2009**, *48*, 9705 – 9708.
206. Maimone, T.J.; Shi, J.; Ashida, S.; Baran, P.S. Total Synthesis of Vinigrol, *J. Am. Chem. Soc.* **2009**, *131*, 17066 – 17067.
207. Krawczuk, P.J.; Schöne, N.; Baran, P.S. A Synthesis of the Carbon Skeleton of Maoecrystal V, *Org. Lett.* **2009**, *11*, 4474 – 4476.
208. Newhouse, T.; Baran, P.S.; Hoffmann, R.W. The Economies of Synthesis, *Chem. Soc. Rev.* **2009**, *38*, 3010 – 3021.
209. Luzung, M.R.; Lewis, C.A.; Baran, P.S. Direct, Chemoselective *N-tert*-Prenylation of Indoles by C–H Functionalization, *Angew. Chem. Int. Ed.* **2009**, *48*, 7025 – 7029.
210. 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*, 9172 – 9173.
211. Burns, N.Z.; Jessing, M.; Baran, P.S. Total Synthesis of Haouamine A: The Indeno-tetrahydropyridine Core, *Tetrahedron* **2009**, *65*, 6600 – 6610. (Special issue dedicated to the Tetrahedron Prize winner in 2008, Prof. Larry E. Overman)
212. Chen, K.; Baran, P.S. Total Synthesis of Eudesmane Terpenes by Site-Selective C–H Oxidations, *Nature* **2009**, *459*, 824 – 828.
213. Newhouse, T.; Lewis, C.A.; Baran, P.S. Enantiospecific Total Syntheses of Kapakahines B and F, *J. Am. Chem. Soc.* **2009**, *131*, 6360 – 6361.
214. Shi, J.; Shigehisa, H.; Guerrero, C.A.; Shenvi, R.A.; Li, C.; Baran, P.S. Stereodivergent Synthesis of 17 α - and 17 β -Aryl Steroids: Application and Biological Evaluation of D-Ring Cortistatin Analogues, *Angew. Chem. Int. Ed.* **2009**, *48*, 4328 – 4331.
215. Burns, N.Z.; Baran, P.S.; Hoffmann, R.W. Redox Economy in Organic Synthesis, *Angew. Chem. Int. Ed.* **2009**, *48*, 2854 – 2867.
216. Young, I.S.; Baran, P.S. Protecting Group Free Synthesis as an Opportunity for Invention, *Nature Chem.* **2009**, *1*, 193 – 205.

217. 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.
218. 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**, *19*, 3808 – 3810. (Special issue dedicated to the Tetrahedron Young Investigator Award winner in 2009, Prof. Carlos F. Barbas, III)
219. Eastman, K.; Baran, P. S. A Simple Method for the Direct Arylation of Indoles, *Tetrahedron* **2009**, *65*, 3149 – 3154. (Special issue dedicated to the Tetrahedron Young Investigator Award winner in 2008, Prof. Justin Du Bois)
220. Weinstein, R.; Baran, P.S.; Shabat, D. Activity-Linked Labeling of Enzymes by Self-Immolative Polymers, *Bioconjugate Chem.* **2009**, *20*, 1783 – 1791.
221. Perry-Feigenbaum, R.; Baran, P.S.; Shabat, D. The Pyridinone-methide Elimination, *Org. Biomol. Chem.* **2009**, *7*, 4825 – 4828.
222. 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.
223. Su, S.; Seiple, I.B.; Young, I.; Baran, P.S. Total Synthesis of (±)-Massadine and Massadine Chloride, *J. Am. Chem. Soc.* **2008**, *130*, 16490 – 16491.
224. DeMartino, M.P.; Chen, K.; Baran, P.S. Intermolecular Enolate Heterocoupling: Scope, Mechanism, and Application, *J. Am. Chem. Soc.* **2008**, *130*, 11546 – 11560.
225. Newhouse, T.; Baran, P.S. Total Synthesis of (±)-Psychotrimine, *J. Am. Chem. Soc.* **2008**, *130*, 10886 – 10887.
226. 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.
227. 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.
228. O'Malley, D.P.; Yamaguchi, J.; Young, I.S.; Seiple, I.B.; Baran, P.S. Total Synthesis of (±)-Axinellamines A and B, *Angew. Chem. Int. Ed.* **2008**, *47*, 3581 – 3583.

229. 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.
230. Maimone, T.J.; Voica, A-F.; Baran, P.S. A Concise Approach to Vinigrol, *Angew. Chem. Int. Ed.* **2008**, *47*, 3054 – 3056.
231. Burns, N.Z.; Baran, P.S. On the Origin of the Haouamine Alkaloids, *Angew. Chem. Int. Ed.* **2008**, *47*, 205 – 208.
232. 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.
233. 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.]
234. Köck, M.; Grube, A.; Seiple, I.B.; Baran, P.S. The Pursuit of Palau'amine, *Angew. Chem. Int. Ed.* **2007**, *46*, 6586 – 6594.
235. Maimone, T.J.; Baran, P.S. Modern Synthetic Approaches to Terpenes, *Nature Chem. Bio.* **2007**, *3*, 396 – 407.
236. O'Malley, D.P.; Li, K.; Maue, M.; Zografos, A.L.; Baran, P.S. Total Synthesis of Dimeric Pyrrole-Imidazole Alkaloids: Sceptrin, Ageliferin, Nagelamide E, Oxysceptrin, Nakamuric Acid, and the Axinellamine Carbon Skeleton, *J. Am. Chem. Soc.* **2007**, *129*, 4762 – 4775.
237. Baran, P.S.; Maimone, T.J.; Richter, J.M. Total Synthesis of Marine Natural Products Without Using Protecting Groups, *Nature* **2007**, *446*, 404 – 408.
238. Baran, P.S.; Shenvi, R.A. Total Synthesis of (±)-Chartelline C, *J. Am. Chem. Soc.* **2006**, *128*, 14028 – 14029.
239. Baran, P.S.; DeMartino, M.P. Intermolecular Oxidative Enolate Heterocoupling, *Angew. Chem. Int. Ed.* **2006**, *45*, 7083 – 7086.
240. 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.
241. Northrop, B.H.; O'Malley, D.P.; Zografos, A.L.; Baran, P.S.; Houk, K. N. Mechanism of the Vinylcyclobutane Rearrangement of Sceptrin to Ageliferin and Nagelamide E, *Angew. Chem. Int. Ed.* **2006**, *45*, 4126 – 4130.

242. Baran, P.S.; Burns, N.Z. Total Synthesis of (±)-Haouamine A, *J. Am. Chem. Soc.* **2006**, *128*, 3908 – 3909.
243. Baran, P.S.; Li, K.; O'Malley, D.P.; Mitsos, C.A. Short, Enantioselective Total Synthesis of Sceptrin and Ageliferin by Programmed Oxaquadracyclane Fragmentation, *Angew. Chem. Int. Ed.* **2006**, *45*, 249 – 252.
244. 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)
245. 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).
246. 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.
247. 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.
248. 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.
249. 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.
250. 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.
251. 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.
252. 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.
253. Baran, P.S.; Zografos, A.L.; O'Malley, D.P. Short Total Synthesis of Sceptrin, *J. Am. Chem. Soc.* **2004**, *126*, 3726 – 3727.

254. Baran, P.S.; Guerrero, C.A.; Corey, E.J. The First Method for Protection-Deprotection of the Indole 2,3- π Bond, *Org. Lett.* **2003**, *5*, 1999 – 2001.
255. 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.
256. 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.
257. 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.
258. Nicolaou, K.C.; Montagnon, T.; Baran, P.S. HIO₃ and I₂O₅: 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]
259. 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 α,β -Unsaturated Carbonyl Compounds, *Angew. Chem. Int. Ed.* **2002**, *41*, 993.
260. 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.
261. 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.
262. 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.

263. 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.
264. 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.
265. 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.
266. 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.
267. Nicolaou, K.C.; Montagnon, T.; Ulven, T.; Baran, P.S.; Zhong, Y.-L.; Sarabla, F. Novel Chemistry of α -Sulfonated Ketones: Applications to the Solution and Solid Phase Synthesis of Privileged Heterocycle and Eneidyne Libraries, *J. Am. Chem. Soc.* **2002**, *124*, 5718 – 5728.
268. 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.
269. 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.
270. 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.
271. 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.
272. 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.
273. Nicolaou, K.C.; Baran, P.S.; Zhong, Y.-L. Novel Solution and Solid Phase Chemistry of α -Sulfonated Ketones Applicable to Combinatorial Chemistry, *J. Am. Chem. Soc.* **2000**, *122*, 10246 – 10248.

274. Nicolaou, K.C.; Zhong, Y.-L.; Baran, P.S. A New One-step Method for the Oxidation of Alcohols and Carbonyl Compounds to α,β -Unsaturated Systems, *J. Am. Chem. Soc.* **2000**, *122*, 7596 – 7597.
275. 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.
276. 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.
277. 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.
278. 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.
279. Baran, P.S.; Khan, A.U.; Schuster, D.I. Some Photophysical Properties of Nanotubes, *Fullerene Sci. Tech.* **1999**, *7*, 921 – 925.
280. 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.
281. Nicolaou, K.C.; Zhong, Y.-L.; Baran, P.S. New Synthetic Technology for the Rapid Construction of Novel Heterocycles- Part 2: The Reaction of IBX with Anilides and Related Compounds, *Angew. Chem. Int. Ed.* **2000**, *39*, 625 – 628.
282. 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.
283. 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.
284. 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.

285. 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 α -Diazo Ketones, *Org. Lett.* **1999**, *6*, 863 – 866.
286. 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*, 1699 – 1675.
287. 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.
288. 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 γ -Hydroxy Lactone Moiety of the CP Molecules, Synthesis of the CP-225,917 Core Skeleton, *Org. Lett.* **1999**, *1*, 63 – 66.
289. 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.
290. 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 C₆₀O, *Chem. Commun. (Cambridge)* **1998**, *22*, 2493 – 2494.
291. Safonov, I.G.; Baran, P.S.; Schuster, D.I. Synthesis and Photophysics of a Novel Porphyrin-C₆₀ Hybrid, *Tetrahedron Lett.* **1997**, *38*, 8133 – 8136.
292. 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.
293. 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

1. Nicolaou, K. C.; Zhong, Y.-L.; Baran, P.S. Formation of Heterocycles Using *o*-Iodoxy Benzoic Acid (IBX). PCT WO 01/14348/2001.

2. Nicolaou, K. C.; Zhong, Y.-L.; Baran, P.S. Polycycization Reaction. PCT, WO 01/07979/2001.
3. Chen, K.; Richter, J. M.; Baran, P. S. 1,3-Diol Synthesis via Controlled, Radical-Mediated C–H Functionalization. PCT WO 09/137691/2009.
4. Shi, J.; Shigehisa, H.; Guerrero, C. A.; Shenvi, R. A.; Baran, P. S. Stereoselective Synthesis of 17-Alpha-and 17-Beta-aryl Steroidal Compounds. PCT WO 09/137337/2009.
5. Avdagic, A., Baran, P. S. Processes for the Preparation of an Intermediate in the Synthesis of Eltrombopag. WO 2013/049605A1.
6. Shenvi, R. A.; Guerrero, C.A.; Shi, J.; Li, C. C.; Baran, P. S. Synthesis of (+)-Cortistatin A and related compounds. US Patent No: 8642766/2014.
7. Baran, P. S.; Akemi-Dixon, J.; Baxter, R.; Fujiwara, Y. Difluoromethylation of Unsaturated Compounds. US Patent No: 9,464,087/2016.
8. Baran, P. S. Difluoromethylation of Unsaturated Compounds, EP Patent No: 2785723/2016.
9. Valente, S.; Baran, P. S. Inhibitors of Retroviral Replication, US Patent No: 9,682,994/2017.
10. Romesberg, F. E.; Baran, P. S.; Peters, D. S. Synthesis of the Arylomycin Macrocylic Core. PCT, WO 17/214534/2017.
11. Aspuru-Guzik, A.; Gomez-Bombarelli, R.; Hirzel, T. D.; Aguilera-Iparraguirre, J.; Baran, P. S. Compounds for Organic Light Emitting Diode Materials. WO 2017/205425A1.
12. Baran, P. S.; Li, C.; Wang, J.; Chatterjee, A. K.; Kumar, M.; Yu, A. W.; Johnson, K. A.; Qin, T.; Shang, M. Cu and Ni-Catalyzed Decarboxylative Borylation. PCT WO 18/175173/2018.
13. Baran, P. S.; Chase, C. E.; Fang, F. G. Intermediates in the Synthesis of Eribulin and Related Methods of Synthesis. US Patent No. 10,676,481/2020.
14. Baran, P. S.; Horn, E.; Waldmann, D. Closure for an Electrochemical Vessel, Electrochemical Vessel and Laboratory Device. US Patent No. 10,656,118/2020.

15. Baran, P. S.; Li, C.; Wang, J.; Chatterjee, A. K.; Kumar, M.; Yu, A. W.; Johnson, K. A.; Qin, T.; Shang, M. Cu and Ni-Catalyzed Decarboxylative Borylation. US Patent Application Publication No. 2020/0024290.
16. Schmidt, M. A.; Zheng, B.; Knouse, K.; DeGruyter, J.; Eastgate, M. D.; Baran, P.; Ewing, W. R.; Olson, R. E.; McDonald, I. M. Novel Phosphorous (V)-Based Reagents, Processes for the Preparation Thereof, and Their Use in Making Stereo-Defined Organophosphorous (V) Compounds. US 2019/0322694.
17. Cohen, S. B.; Lu, D.; Barmare, F.; Usui, I.; Macherla, V.R. R.; Stout, E. P.; Beverage, J. N.; Esquenazi, E.; Jordan, P. A.; Baran, P. S.; Teijaro, J. R. Compounds for use in Anti-Cancer Immunotherapy. US Application # WO2020US34991A/2020-05-28.
18. Baran, P. S.; Vantourout, J. C.; Chen, T. -G.; Del-Brayelle, D.; Echeverria, P. G. Process for the Preparation of Silodosin. WO2021/205023 A1.

Educational Short Courses

1. Celgene, Heterocyclic Chemistry, **2009 – 2010**.
2. Genentech, Heterocyclic Chemistry, **2014**.
3. Boehringer Ingreheim, Heterocyclic Chemistry, **2021**

Books

1. Ishihara, Y.; Montero, A.; Baran, P.S. *The Portable Chemist's Consultant: A Survival Guide for Discovery, Process, and Radiolabeling*. Macintosh Publishing, 2013. (electronic book) Link: <https://itunes.apple.com/us/book/portable-chemists-consultant/id618463142?ls=1>

Book Chapters

1. Gianatassio, R.; Ishihara, Y.; Baran, P. S. Sodium 1,1-Difluoroethanesulfinate. In *Encyclopedia of Reagents for Organic Synthesis*; Paquette, L. A., Ed.; Wiley: Chichester, 2014, DOI: 10.1002/047084289X.rn01783.
2. Nicolaou, K. C.; Montagnon, T.; Baran, P. S.; Uyanik, M.; Ishihara, K. 1,2-Benziodoxol-3(1*H*)-one, 1-Hydroxy, 1-oxide. In *Encyclopedia of Reagents for Organic Synthesis*; Paquette, L. A., Ed.; Wiley: Chichester, 2014, DOI: 10.1002/047084289X.rn01787.
3. Gianatassio, R.; Ishihara, Y.; Baran, P. S. Zinc Difluoromethanesulfinate. In *Encyclopedia of Reagents for Organic Synthesis*; Paquette, L. A., Ed.; Wiley: Chichester, 2014, DOI: 10.1002/047084289X.rn01787.
4. Ishihara, Y.; Gianatassio, R.; Baran, P. S. Zinc Isopropylsulfinate. In *Encyclopedia of Reagents for Organic Synthesis*; Paquette, L. A., Ed.; Wiley: Chichester, 2014, DOI: 10.1002/047084289X.rn01785.
5. Ishihara, Y.; Gianatassio, R.; Baran, P. S. Zinc Trifluoromethanesulfinate. In *Encyclopedia of Reagents for Organic Synthesis*; Paquette, L. A., Ed.; Wiley: Chichester, 2014, DOI: 10.1002/047084289X.rn01786.
6. Pan, C.-M.; Ishihara, Y.; Baran, P. S. Zinc Palau'chlor. In *Encyclopedia of Reagents for Organic Synthesis*; Paquette, L. A., Ed.; Wiley: Chichester, 2016, DOI: 10.1002/047084289X.rn01901

Miscellaneous

1. Baran, P.S. Dead Ends and Detours. Direct Ways to Successful Total Synthesis. Book by Sierra, M.A.; de la Torre, M.C. *Angew. Chem. Int. Ed.* **2005**, *44*, 3338 – 3339. (Book Review)
2. Baran, P. S.; Maimone, T. J. Organic chemistry: A tuxedo for iodine atoms. *Nature* **2007**, *445*, 826-827.
3. McKerrall, S.; Baran, P.S. More Dead Ends and Detours. En Route to Successful Total Synthesis. Book by Sierra, M.A.; de la Torre, M.C.; Cossio, F.P. *Angew. Chem. Int. Ed.* **2014**, *53*, 1740. (Book Review)
4. Baran, P.S. Carlos F. Barbas, III (1964-2014). *Angew. Chem. Int. Ed.* **2014**, *53*, 9704 – 9705. (Obituary).
5. Smith, M. W.; Baran, P.S. As simple as [2+2]. *Science* **2015**, *349*, 925-926.
6. Villaume, M. T.; Baran P. S. Organic Chemistry: Reactivity tamed one bond at a time. *Nature* **2015**, *513*, 324-325.

- Farmer, M. E.; Baran, P. S. Organic Chemistry: A cure for catalyst poisoning. *Nature* **2015**, 524, 164-165.
- Yan, M; Baran, P. S. Drug Discovery: Fighting evolution with chemical synthesis. *Nature* **2016**, 533, 326-327.

Book Forewords

- Li, J.J. *From Lipitor to Viagra: Stories Behind the Drugs We Use*, Oxford Press, **2006**
- Li, J.J.; Limberakis, C.; Pflum, D.A. *Modern Organic Synthesis in the Laboratory*, Oxford Press, **2006**
- Li, J.J. *Name Reactions*, Springer, 3rd edition, **2006**
- Li, J.J. *Name Reactions*, Springer, 4th edition, **2009**

Named and Plenary Lectureships and Visiting Professorships

- Closs Lecturer, University of Chicago, Chicago, IL (January, 2005)
- Plenary Lecturer, Roche Excellence in Chemistry Symposium, Nutley, NJ (May, 2005)
- Visiting Professor, University of Strasbourg, Alsace, France (2 lectures, July, 2005)
- Plenary Lecturer, Amgen Young Investigators Symposium, Thousand Oaks, CA (September, 2005)
- Plenary Lecturer, GlaxoSmithKline Chemistry Scholars Symposium, Chapel Hill, NC (September, 2005)
- Plenary Lecturer, AstraZeneca Award & Symposium, Wilmington, DE (October, 2005)
- Foster Lecturer, University of New York, Buffalo, NY (December, 2005)
- Bristol-Myers Squibb Lecturer, Princeton University, Princeton, NJ (March, 2006)
- Novartis Lecturer, Boston University, Boston, MA (March, 2006)
- Pfizer Lecturer, Harvard University, Boston, MA (April, 2006)
- Plenary Lecturer, CMB Cyprus '06, Cyprus (May, 2006)
- Plenary Lecturer, Visions in Chemistry Symposium, Bridgewater, NJ (May, 2006)

13. Plenary Lecturer, Roche Symposium, University of Colorado, Denver, CO (June, 2006)
14. Plenary Lecturer, ORCHEM Conference, Bad Nauheim, Germany (September, 2006)
15. Plenary Lecturer, University of Western Ontario Symposium, Ontario, Canada (November, 2006)
16. Merck Frosst Lecturer, Merck Frosst, Montreal, Quebec, Canada (November, 2006)
17. Merck Frosst Lecturer, University of Toronto, Toronto, Ontario, Canada (November, 2006)
18. Plenary Lecturer, Hirata Memorial Lecture, Nagoya, Japan (February, 2007)
19. Abbott Lecturer, University of California, Berkeley, Berkeley, CA (March, 2007)
20. Roche Lecturer, Colorado State University, Fort Collins, CO (March, 2007)
21. National Fresenius Award Symposium, 23rd ACS Meeting, Chicago, IL (March, 2007)
22. Abbot Lecturer, University of California, Berkeley, Berkeley, CA (March, 2007)
23. Plenary Lecturer, Bürgenstock Conference on Stereochemistry, Geneva, Switzerland (April, 2007)
24. Keynote Speaker, Pfizer, Groton, CT (August, 2007)
25. Keynote Speaker, Pfizer Green Chemistry Symposia, La Jolla, CA (December, 2007)
26. National Fresenius Award Lecture, Purdue University, West Lafayette, IN (January, 2008)
27. Plenary Lecturer, Sheffield Stereochemistry Meeting, Sheffield, United Kingdom (January, 2008)
28. Abbott Lecturer, University of Kansas, Lawrence, KS (February, 2008)
29. Plenary Lecturer, Chemistry as a Life Sciences Symposium, Newark, NJ (March, 2008)
30. Abbott Lecturer, University of Notre Dame, Notre Dame, IN (April, 2008)
31. Plenary Lecturer, Lilly Symposium, Madrid, Spain (April, 2008)
32. Rothchild Lecturer, University of Rochester, Rochester, NY (May, 2008)
33. Plenary Lecturer, BOSS Symposium, Ghent, Belgium (July, 2008)
34. LEO Pharma Lecturer, Technical University of Denmark, Copenhagen, Denmark (July, 2008)
35. Novartis Lecturer, Novartis, Emeryville, CA (August, 2008)

36. Merck Lecturer, IASOC Conference, Ischia, Naples, Italy (September, 2008)
37. Merck-Frosst Lecturer, Université de Montréal, Montreal, Quebec, Canada (October, 2008)
38. Eli Lilly Lecturer, Yale University, New Haven, CT (November, 2008)
39. Novartis Lecturer, Cambridge University, Cambridge, United Kingdom (March, 2009)
40. Plenary Lecture, Munich Synthesis Fest, University of Munich, Munich, Germany (March, 2009)
41. Plenary Lecturer, 9th Bristol Synthesis Meeting, University of Bristol, Bristol, United Kingdom (March, 2009)
42. Distinguished Lecture Series, Genomics Institute of the Novartis Research Foundation, La Jolla, CA (March, 2009)
43. Sackler Prize Symposium, Tel Aviv University, Tel Aviv, Israel (May, 2009)
44. Plenary Lecture, National Organic Symposium, Boulder, CO (June, 2009)
45. Lecture Series, ICIQ Summer School, Tarragona, Spain (July, 2009)
46. Plenary Lecturer, Princeton American Chemical Society Symposium, Princeton, NJ (September, 2009)
47. Plenary Lecturer, Johnson Symposium, Stanford University, Palo Alto, CA (October 2009)
48. Plenary Lecturer, Welch Conference, Houston, TX (October, 2009)
49. Plenary Lecturer, IKCOC-11, Kyoto, Japan (November, 2009)
50. Japan Society for the Promotion of Science Fellowship Lecturer, University of Tokyo, Tokyo, Japan (November, 2009)
51. Plenary Lecturer, Visions in Organic Chemistry, Copenhagen, Denmark (January, 2010)
52. Plenary Lecturer, Frontiers in Biomedical Research Symposium, Indian Wells, CA (February, 2010)
53. Boehringer-Ingelheim Lecturer, University of Ottawa, Ontario, Canada (March, 2010)
54. Inaugural Lecturer of the Student Selected Seminar Series, Indiana University, Bloomington, IN (March, 2010)
55. Plenary Award Lecture, 239th National Meeting of the American Chemical Society, San Francisco, CA (March, 2010)
56. Francis Clifford Phillips Lecture, University of Pittsburgh, Pittsburgh, PA (April, 2010)
57. Plenary Lecturer, Balticum Organicum Syntheticum, Riga, Latvia (June, 2010)
58. Plenary Lecturer, IUPAC's 18th International Conference on Organic Synthesis, Bergen, Norway (August, 2010)

59. Keynote Lecturer, Gregynog Meeting, Wales, United Kingdom (September, 2010)
60. Life Science Lecturer, Bayer Schering Pharma AG, Berlin and Wuppertal, Germany (September, 2010)
61. Fuson Visiting Professor, University of Illinois, Urbana, IL (October, 2010)
62. Chemistry Graduate Student Society Distinguished Speaker, University of British Columbia, Vancouver, British Columbia, Canada (October, 2010)
63. Joel C. Huff Lecturer, Harvard University, Cambridge, MA (October, 2010)
64. Bristol-Myers Squibb Lecturer in Organic Chemistry, University of Michigan, Ann Arbor, MI (December, 2010)
65. Plenary Lecturer, Indian Organic Chemistry Conference, Goa, India (December, 2010)
66. Scynexis Lecturer, The University of North Carolina at Chapel Hill, Chapel Hill, NC (March, 2011)
67. Senior Speaker, American Chemical Society Meeting, Organic Division, Anaheim, CA (March, 2011)
68. AstraZeneca Distinguished Lecturer, Université de Sherbrooke, Sherbrooke, Quebec, Canada (May, 2011)
69. Plenary Lecturer, 17th European Symposium on Organic Chemistry, Crete, Greece (July, 2011)
70. AstraZeneca École Polytechnique Lecturer, Palaiseau, France (July, 2011)
71. Plenary Award Lecturer, 23rd International Congress on Heterocyclic Chemistry, Glasgow, Scotland (August, 2011)
72. Plenary Lecturer, 52nd American Society of Pharmacology Meeting, San Diego, CA (August, 2011)
73. Plenary Lecturer, 14th Brazilian Meeting on Organic Synthesis, Brasília, Brazil (September, 2011)
74. Plenary Lecturer, Symposium on Advanced Organic Synthesis and Catalysis, Hefei, China (October, 2011)
75. Keynote Lecturer, Vertex Day, University of California, Irvine, Irvine, CA (October, 2011)
76. Plenary Lecturer, 21st Symposium on Optically Active Compounds, Tokyo, Japan (November, 2011)
77. Plenary Lecturer, 13th Florida Heterocyclic and Synthetic Conference, Gainesville, FL (March, 2012)
78. Lecturer for the Frontiers in Chemistry Lecture Series, Case Western Reserve University, Cleveland, OH (March, 2012)
79. Lecturer, 2012 Medicinal Chemistry Colloquium Series, Gilead, Foster City, CA (March, 2012)
80. Lecturer for the Frontiers in Chemical Research Lecture Series, Texas A&M University, College Station, TX (April, 2012)
81. Plenary Lecturer, French American Chemical Society XIV Meeting, Nantasket, MA (June, 2012)

82. Plenary Lecturer, 24th Organic Chemistry Biannual Meeting of the Spanish Royal Chemical Society, San Sebastián, Spain (July, 2012)
83. Plenary Lecturer, RSEQ Organic Chemistry Symposium, Santiago de Compostela, Spain (July, 2012)
84. Plenary Lecturer, Gordon Research Conference, Organic Reaction and Processes, Smithfield, RI (July, 2012)
85. Plenary Lecturer, National American Chemical Society Meeting, Philadelphia, PA (August, 2012)
86. Plenary Lecturer, The 6th Takeda Science Foundation Symposium on Pharma Sciences, Osaka, Japan (September, 2012)
87. Howard Memorial Lecturer, Sydney University, University of New South Wales, Sydney, Australia (September, 2012)
88. Plenary Lecturer, 10th Lilly Research Awards for Graduate Students, Madrid, Spain (September, 2012)
89. Student Invited Speaker, Virginia Polytechnic Institute and State University, Blacksburg, VA (November, 2012)
90. Plenary Lecturer, Creativity Award Symposium for K.C. Nicolaou, NJ (November, 2012)
91. Plenary Lecturer, Novartis Chemical Sciences Lectureship, UT Southwestern Medical Center, Dallas, TX (December, 2012)
92. Student Invited Speaker, University of Houston, Houston, TX (December, 2012)
93. Lilly Lecturer 2013, Imperial College London, London, United Kingdom (January, 2013)
94. Samuel M. McElvian Academic Lecturer in Organic Chemistry, University of Wisconsin, Madison, WI (January, 2013)
95. Plenary Lecturer, E.B. Hershberg Award Symposium to honor Bruce Maryanoff, New Orleans, LA (April, 2013)
96. Plenary Lecturer, Bristol-Myers Squibb Symposium, Princeton, NJ (April, 2013)
97. Plenary Lecturer, Sackler Symposium, Tel Aviv, Israel (June, 2013)
98. Keynote Lecturer, Tetrahedron Conference, Vienna, Italy (June, 2013)
99. Plenary Lecturer, Synthesis in Organic Chemistry Symposium, University of Oxford, Oxford, United Kingdom (July, 2013)
100. Student Invited Organic Seminar Speaker, Harvard University, Cambridge, MA (August, 2013)
101. Plenary Lecturer, Princeton University, Princeton, NJ (September, 2013)
102. Plenary Lecturer, Pharmaron Symposium, Beijing, China (September, 2013)
103. Bristol-Myers Squibb Lecturer, Columbia University, New York, NY (January, 2014)

104. George Büchi Visiting Lecturer in Organic Chemistry for 2013-2014, Massachusetts Institute of Technology, Cambridge, MA (February, 2014)
105. Organic/Bristol-Myers Squibb Lecturer, U.C. Berkeley, Berkeley, CA (April, 2014)
106. Plenary Speaker, Institute of Chemical Research of Catalonia, Tarragona, Spain (July, 2014)
107. Plenary Lecturer, 2nd International Symposium on Natural Product Synthesis and Process Methods for Drug Manufacture, Nanjing University, China (September, 2014)
108. Mukaiyama Award Lecturer, The Committee of The Society of Synthetic Organic Chemistry, Fukuoka, Kyusyu, Japan (September, 2014)
109. 2014 Aldrich-UCLA Lecturer, Organic Colloquium, University of California, Los Angeles, Los Angeles, CA (October, 2014)
110. Plenary Lecturer, AbbVie Global Synthesis Summit, North Chicago, IL (October, 2014)
111. Plenary Speaker, Pauling Medal Award Symposium, Bellingham, WA (October, 2014)
112. The Ferrier Lecturer, Victoria University, Wellington, New Zealand (December, 2014)
113. Plenary Speaker, Royal Australian Chemical Institute National Congress, Adelaide, Australia (December, 2014)
114. 2015 5-College Lectures in Chemistry, Smith College, Northampton, MA (March, 2015)
115. Paul Gassman Memorial Seminar Speaker, Canisius College, Buffalo, NY (March, 2015)
116. Plenary Speaker, 32nd Annual HC Brown Lectures, Purdue University, West Lafayette, IN (April, 2015)
117. Morris S. Kharasch Visiting Professor, University of Chicago, Chicago, IL (April, 2015)
118. Bristol-Myers Squibb Lecturer, University of Pennsylvania, Philadelphia, PA (May, 2015)
119. College of Arts and Science Alumni Distinguished Service Award Recipient at the CAS Baccalaureate Graduation Ceremony, New York University, New York, NY (May, 2015)
120. Plenary Speaker, 15th Annual Symposium on Molecular Discovery, Boston University, Boston, MA (June, 2015)
121. Plenary Speaker, Yale University, New Haven, CT (June, 2015)
122. Plenary Speaker, Professor Stephen L. Buchwald's 60th Birthday, Massachusetts Institute of Technology, Cambridge, MA (August, 2015)
123. Plenary Speaker, International Society of Heterocyclic Chemistry Congress, Santa Barbara, CA (August, 2015)

124. Plenary Speaker, C&EN Virtual Symposium, Advances in Drug Discovery & Development, Virtual (September, 2015)
125. Plenary Speaker, 2015 Bristol-Myers Squibb Lecturer, Boston College, Chestnut Hill, MA (October, 2015)
126. Plenary Speaker, World ACD, San Diego, CA (October, 2015)
127. Bohlmann Lecturer, Institut für Chemie at the Technische Universität Berlin, Berlin, Germany (November, 2015)
128. Elias J. Corey Award for Outstanding Original Contribution in Organic Synthesis by a Young Investigator, Society's 251st ACS National Meeting, San Diego, CA (March, 2016)
129. Actelion Sandmeyer Lecturer, Actelion Pharmaceuticals Ltd., Allschwil, Switzerland (November, 2016)
130. EROS Reagent of the Year Lecturer, University of Basel, Basel, Switzerland (November, 2016)
131. Emanuel Merck Lectureship, TU Darmstadt, Darmstadt, Germany (May, 2017)
132. Keynote Speaker, Gordon Research Conference, New London, NH (August, 2017)
133. Plenary Speaker, IKA Works, Inc., ACS 254th National Meeting, Washington, D.C. (August, 2017)
134. Keynote Speaker, Pfizer, Groton, CT (October, 2017)
135. Keynote Speaker, Lilly Grantee Symposium, Indianapolis, IN (March, 2018)
136. Keynote Speaker, Gordon Research Conference, Newport, RI (June, 2018)
137. Tetrahedron Chair Lectureship, BOSS XVI, Brussels, Belgium "*Lecture: Studies in Natural Product Synthesis*" (July 2018)
138. Tetrahedron Chair Lectureship, BOSS XVI, Brussels, Belgium "*Lecture: Translational Chemistry - part 1*" (July, 2018)
139. Tetrahedron Chair Lectureship, BOSS XVI, Brussels, Belgium "*Lecture: Translational Chemistry - Part 2*" (July, 2018)
140. Tetrahedron Chair Lectureship, BOSS XVI, Brussels, Belgium "*Lecture: Electrifying Synthesis*" (July, 2018)
141. Keynote Speaker, The 44th Future Lecture Series, Beijing, China (September, 2018)
142. Keynote Speaker, 14th Winter Conference on Medicinal and Bioorganic Chemistry, Steamboat Springs, CO (January, 2019)
143. Inaugural Lecturer, 21st Annual Perspectives on Science, Point Loma Nazarene University, San Diego, CA (February, 2019)
143. Inhoffen Lecturer, Braunschweig, Germany (April, 2019)
144. Plenary Speaker, 9th Pacific Symposium on Radical Chemistry, Pacific Grove, CA (June, 2019)
145. Plenary Speaker, 20th European Symposium on Organic Chemistry, Vienna, Austria (July, 2019)

146. Keynote Speaker, Gordon Research Conference, Andover, NH (August, 2019)
147. Keynote Speaker, Karle Symposium, University of Michigan, Ann Arbor, MI (August, 2019)
148. Plenary Speaker, Drug Discovery Chemistry, Virtual (August 2020)
149. Keynote Speaker, OPT Congress, Oligonucleotide and Precision Therapeutics, Virtual (October 2020)
150. Plenary Speaker, 19th Annual CSCB, Virtual (December 2020)
151. Keynote Speaker, German Peptide Symposium, Virtual (March 2021)
152. Keynote Speaker, India-UK ISCC Mini-Symposium, Virtual (April 2021)
153. Plenary Speaker, ISySyCat2021, Virtual (August 2021)
154. Keynote Speaker, ECMNP-XII, Virtual (September 2021)
155. Plenary Speaker, University of Mexico, Virtual (December 2021)
156. Plenary Speaker, 142nd Annual Meeting of the Pharmaceutical Society of Japan, Virtual (March 2022)
157. Plenary Speaker, Swedish Chemical Society 2022, Virtual (June 2022)
158. Keynote Speaker, Curious2022 - Future Insight Conference, Virtual (July 2022)
159. Plenary Speaker, NZIC 2022, Virtual (November 2022)
160. Plenary Speaker, ETOC - Enabling Technologies for Organic Synthesis, Virtual (March 2023)
161. Plenary Speaker, University of Alberta, WCUCC, Virtual (May 2023)
162. Plenary Speaker, WCUCC, Virtual (May 2023)
163. Keynote Speaker, 15th EFMC-YSN MedChemBioOnline, Virtual (May 2023)
164. Plenary Speaker, 23-ICOS, Virtual (October 2023)
165. Keynote Speaker, Organic Process R&D Conference, San Diego, CA (March 2024)

Research Presentations

1. Pfizer, St. Louis, MO (March, 2004)
2. Gordon Research Conference, Heterocyclic Compounds, Newport, RI (July, 2004)

3. San Diego Section of American Chemical Society, La Jolla, CA (August, 2004)
4. Pfizer, Ann Arbor, MI (September, 2004)
5. University of Michigan, Ann Arbor, MI (September, 2004)
6. Microwave Assisted Organic Synthesis Symposium, La Jolla, CA (October, 2004)
7. University of California, Los Angeles, Los Angeles, CA (November, 2004)
8. DuPont, Wilmington, DE (November, 2004)
9. Abbott Laboratories, Chicago, IL (February, 2005)
10. University of California, Santa Cruz, Santa Cruz, CA (March, 2005)
11. Brandeis University, Boston, MA (April, 2005)
12. Millenium Pharmaceuticals, Cambridge, MA (April, 2005)
13. Novartis, Cambridge, MA (April, 2005)
14. Eisai Pharmaceuticals, Cambridge, MA (April, 2005)
15. University of California, Los Angeles, Los Angeles, CA (May, 2005)
16. Schuster Symposium, New York University, New York, NY (June, 2005)
17. National Science Foundation Synthesis Workshop, Lake Arrowhead, CA (June, 2005)
18. Eli Lilly and Co., Indianapolis, IN (July, 2005)
19. International Conference Heterocyclic Chemistry Lecture, Palermo, Italy (July, 2005)
20. GlaxoSmithKline, Philadelphia, PA (August, 2005)
21. Bristol-Myers Squibb Pharmaceutical Research Institute, Lawrenceville, NJ (September, 2005)
22. Bristol-Myers Squibb Pharmaceutical Research Institute, Hopewell, NJ (September, 2005)
23. Kyoto Pharmaceutical University, Kyoto, Japan (September, 2005)
24. Tokyo Institute of Technology, Tokyo, Japan (September, 2005)
25. Tokyo University of Science, Tokyo, Japan (September, 2005)

26. Pennsylvania State University, State College, PA (November, 2005)
27. Hoffmann La Roche, Palo Alto, CA (December, 2005)
28. University of Wisconsin, Madison, WI (January, 2006)
29. Bristol-Myers Squibb, Process Research, East Brunswick, NJ (January, 2006)
30. University of California, Santa Barbara, Santa Barbara, CA (February, 2006)
31. University of Illinois, Urbana, IL (February, 2006)
32. University of Texas, Dallas, TX (February, 2006)
33. Lexicon Pharmaceuticals, Princeton, NJ (March, 2006)
34. Merck Research Laboratories, Whitehouse Station, NJ (March, 2006)
35. Pfizer La Jolla, San Diego, CA (March, 2006)
36. University of Alabama, Tuscaloosa, AL (March, 2006)
37. University of Utah, Salt Lake City, UT (April, 2006)
38. Brigham Young University, Provo, UT (April, 2006)
39. Searle Scholars Annual Meeting, Chicago, IL (April, 2006)
40. Cytokinetics, Inc., San Francisco, CA (April, 2006)
41. Genentech, San Francisco, CA (April, 2006)
42. Stanford University, Palo Alto, CA (April, 2006)
43. Scios Pharmaceuticals, San Francisco, CA (April, 2006)
44. Gilead, San Francisco, CA (April, 2006)
45. University of California, Irvine, Irvine, CA (April, 2006)
46. Schering-Plough Research Institute, Kenilwood, NJ (May, 2006)
47. Scripps Institute of Oceanography, Fenical Symposium, San Diego, CA (June, 2006)
48. Gordon Research Conference, Newport, RI (July, 2006)

49. Tokushima Pre-symposium – Natural Product Chemistry, Tokushima, Japan (July, 2006)
50. IUPAC International Conference on Biodiversity and Natural Products, Kyoto, Japan (July, 2006)
51. IUPAC Post-symposium, Sendai, Japan (July, 2006)
52. Helsinki University of Technology, Espoo, Finland (September, 2006)
53. University of Marburg, Marburg, Germany (September, 2006)
54. Max-Planck-Institute, Mulheim/Ruhr, Germany (September, 2006)
55. Schering Berlin, Berlin, Germany (September, 2006)
56. Johnson & Johnson, La Jolla, CA (December, 2006)
57. Eli Lilly, Madrid, Spain (January, 2007)
58. Columbia University, New York, NY (February, 2007)
59. Texas A&M University, College Station, TX (March, 2007)
60. Massachusetts Institute of Technology, Cambridge, MA (March, 2007)
61. 1st Annual Chemistry Graduate Student Seminar, University of Connecticut, Storrs, CT (March, 2007)
62. University of Missouri, Columbia, MI (April, 2007)
63. Amgen, Cambridge, MA (April, 2007)
64. Boston College, Boston, MA (May, 2007)
65. Sepracor, Marlborough, MA (May, 2007)
66. Bristol-Myers Squibb Symposium, New Brunswick, NJ (May, 2007)
67. Heterocyclic Compounds Gordon Research Conference, Newport, RI (June, 2007)
68. GlaxoSmithKline, Madrid, Spain (July, 2007)
69. Natural Products Gordon Research Conference, Tilton, NH (July, 2007)
70. Boston American Chemical Society Symposium, Joulie 80th Birthday Celebration, Boston, MA (August, 2007)
71. Beckman Young Investigator Symposium, Irvine, CA (August, 2007)

72. CSS Symposium, Wyeth, Collegeville, PA (September, 2007)
73. Johnson & Johnson PRD, Spring House, PA (October, 2007)
74. Novartis, Cambridge, MA (October, 2007)
75. POCC, University of Pennsylvania, Philadelphia, PA (October, 2007)
76. DuPont, Newark, DE (October, 2007)
77. Schering-Plough, Cambridge, MA (October, 2007)
78. California Institute of Technology, Organic Chemistry Seminar, Pasadena, CA (November, 2007)
79. Sanofi-Aventis, Frankfurt, Germany (January, 2008)
80. Novartis, Basel, Switzerland (January, 2008)
81. Novartis, Vienna, Austria (January, 2008)
82. Novartis, Horsham, United Kingdom (January, 2008)
83. GlaxoSmithKline, Harlow, United Kingdom (January, 2008)
84. AstraZeneca R&D Charnwood, Loughborough, UK (January, 2008)
85. Instituto de Química Orgánica General, Madrid, Spain (January, 2008)
86. 13th Biennial Eli Lilly Grantee Symposium, Indianapolis, IN (March, 2008)
87. University of Southern California, Los Angeles, CA (March, 2008)
88. Searle Scholars Annual Meeting, Chicago, IL (April, 2008)
89. Memorial Sloan-Kettering Cancer Center, New York, NY (May, 2008)
90. Bristol-Myers Squibb Symposium, New Brunswick, NJ (May, 2008)
91. Merck, Boston, MA (May, 2008)
92. Pfizer, Sandwich, Kent, United Kingdom (July, 2008)
93. Merck, West Point, PA (August, 2008)
94. Amgen, San Francisco, CA (August, 2008)

95. Exelixis, San Diego, CA (September, 2008)
96. IRBM, Merck, Rome, Italy (September, 2008)
97. AstraZeneca, Boston, MA (October, 2008)
98. Takeda, San Diego, CA (November, 2008)
99. New York University, New York, NY (January, 2009)
100. Genomics Institute of the Novartis Research Foundation, La Jolla, CA (March, 2009)
101. Université Pierre et Marie Curie, Paris, France (March, 2009)
102. Lecture Series, Swiss Federal Institute of Technology, Lausanne, Switzerland (April, 2009)
103. Lecture Series, Swiss Federal Institute of Technology, Basel, Switzerland (April, 2009)
104. Lecture Series, Swiss Federal Institute of Technology, Geneva, Switzerland (April, 2009)
105. Vitae Pharmaceuticals, Fort Washington, PA (July, 2009)
106. Beckman Young Investigators Symposium, Irvine, CA (August, 2009)
107. Boehringer-Ingelheim Pharmaceuticals, Ridgefield, CT (October, 2009)
108. Northwestern University, Evanston, IL (February, 2010)
109. University of Minnesota, Minneapolis, MN (March, 2010)
110. Boehringer-Ingelheim, Laval, Quebec, Canada (March, 2010)
111. GlaxoSmithKline, Upper Merion, PA (March, 2010)
112. Heterocyclic Compounds Gordon Research Conference, Newport, RI (June, 2010)
113. Celgene Research, San Diego, CA (July, 2010)
114. Stereochemistry Gordon Research Conference, Newport, RI (August, 2010)
115. Bristol-Myers Squibb, Wallingford, CT (September, 2010)
116. Syngenta, Jealott's Hill, Berkshire, United Kingdom (September, 2010)
117. UCB Pharma, Slough, United Kingdom (September, 2010)

118. Firmenich, Geneva, Switzerland (September, 2010)
119. The University of Delaware, Newark, DE (October, 2010)
120. The University of Texas at Austin, Austin, TX (November, 2010)
121. L.S. Skaggs Biomedical Symposium, La Jolla, CA (November, 2010)
122. AstraZeneca, Mölndal, Sweden (January, 2011)
123. Pfizer, Cambridge, MA (May, 2011)
124. Abbott Laboratories, Abbott Park, IL (June, 2011)
125. Vertex Pharmaceuticals, San Diego, CA (June, 2011)
126. PA Biotech Center, Doylestown, PA (June, 2011)
127. Eisai, Boston, MA (August, 2011)
128. GlaxoSmithKline Scholar Symposium, Raleigh, NC (September, 2011)
129. The Scripps Research Institute, Scripps Florida, Jupiter, FL (September, 2011)
130. SIOC, Shanghai, China (October, 2011)
131. SIMM, Shanghai, China (October, 2011)
132. WUXI, Shanghai, China (October, 2011)
133. Novartis, Shanghai, China (October, 2011)
134. Albany Molecular Research Inc. Albany, NY (November, 2011)
135. Dow AgroSciences, Indianapolis, IN (March, 2012)
136. Merck Research Laboratories, Boston, MA (March, 2012)
137. Pfizer, San Diego, CA (May, 2012)
138. Millennium Pharmaceuticals, Boston, MA (June, 2012)
139. Broad Institute of MIT and Harvard, Cambridge, MA (July, 2012)
140. Merck Serono, Darmstadt, Germany (August, 2012)

141. Sanofi-Aventis, Frankfurt, Germany (August, 20102)
142. AsymChem Fall Symposium, Tianjin, China (October, 2012)
143. Shanghai Institute of Materia Medica, Chinese Academy of Sciences, Shanghai, China (October, 2012)
144. Jiaotong University, Shanghai, China (October, 2012)
145. 5th International Forum on Homogeneous Catalysis, SIOC, Shanghai, China (October, 2012)
146. 1st International Symposium of C-H Activation, Peking University, Beijing, China (October, 2012)
147. University of Chicago, Department Colloquium, Chicago, IL (December, 2012)
148. Dart NeuroScience, San Diego, CA (April, 2013)
149. 23rd Annual Meeting on Structural Biology, San Jose del Cabo, Mexico (May, 2013)
150. Merck, Rahway, NJ (July, 2013)
151. AstraZeneca, Alderley Park, UK (July, 2013)
152. GlaxoSmithKline, Stevenage, UK (July, 2013)
153. Eisai, United Kingdom (July, 2013)
154. Academia Sinica, Taiwan, China (September, 2013)
155. Asymchem Inc., Tianjin, China (September, 2013)
156. Boehringer-Ingelheim, Ridgefield, CT (October, 2013)
157. LEO Ingenol Science Day, LEO Pharma A/S, Ballerup, Denmark (February, 2014)
158. Celgene, San Diego, CA (March, 2014)
159. Marine Natural Products Gordon Research Conference, Ventura, CA (March, 2014)
160. "Advances in C-H Functionalization" Symposium, American Chemical Society National Meeting, Dallas, TX (March, 2014)
161. "MEDI Awards" Symposium, American Chemical Society National Meeting, Dallas, TX (March, 2014)
162. "Award Symposium to Honor Amir Hoveyda," American Chemical Society National Meeting, Dallas, TX (March, 2014)
163. Jewish Federation of San Diego FED Talks, San Diego, CA (March, 2014)

164. Bristol-Myers Squibb Symposium, Princeton, NJ (May, 2014)
165. Johnson & Johnson, San Diego, CA (June, 2014)
166. AstraZeneca, Waltham, MA (October, 2014)
167. Hewitt Foundation Symposium, San Diego, CA (January, 2015)
168. GlaxoSmithKline, King of Prussia, PA (March, 2015)
169. Temple University, Philadelphia, PA (May, 2015)
170. Teva Global Research and Development, West Chester, PA (May, 2015)
171. Gordon Research Conference, New London, NH (June, 2015)
172. San Diego Bio-Pharma Conference, San Diego, CA (June, 2015)
173. AstraZeneca, Waltham, MA (August, 2015)
174. Teva Pharmaceutical Scholars Symposium, Boston, MA (August, 2015)
175. Kevli Symposium, Boston, MA (August, 2015)
176. American Chemical Society, Boston, MA (August, 2015)
177. International Society of Heterocyclic Chemistry, Santa Barbara, CA (August, 2015)
178. Bristol-Myers Squibb Symposium, Princeton, NJ (September, 2015)
179. Northern Section of the ACS Process Symposium, Boston Harbor, MA (October, 2015)
180. Asymchem Inc., Tianjin, China (October, 2015)
181. SIOC, Shanghai, China (October, 2015)
182. WuHan University, WuHan, China (October, 2015)
183. Harvard University, Cambridge, MA (November, 2015)
184. Pacificchem Symposium on Strategies and Tactics in Complex Molecule Synthesis, Honolulu, HI (December, 2015)
185. C-H Functionalization Symposium, Pacificchem, Honolulu, HI (December, 2015)
186. Symposium on Innovative Strategies for the Synthesis of Nitrogen Heterocycles, Honolulu, HI (December, 2015)

187. Genentech, South San Francisco, CA (February, 2016)
188. Emory University, Novartis Lecture, Atlanta, GA (April, 2016)
189. Gilead Sciences, Inc., San Francisco, CA (August, 2016)
190. Inception Sciences, San Diego, CA (August, 2016)
191. Asymchem, Inc., Tianjin, China (October, 2016)
192. University of Basel, Basel, Switzerland (November, 2016)
193. Binghamton University, Binghamton, NY (December, 2016)
194. Student Invited Speaker, Duke University, Durham, NC (April, 2017)
195. Eli Lilly, Madrid, Spain (July, 2017)
196. Student Invited Speaker, 254th ACS National Meeting, Graduate Symposium (August, 2017)
197. Alkermes, Waltham, MA (August, 2017)
198. Blueprint Medicines, Cambridge, MA (August, 2017)
199. Celgene, Inc., Summit, NJ (August, 2017)
200. Asymchem, Inc., Tianjin, China (September, 2017)
201. Nankai University, Tianjin, China (September, 2017)
202. Yale University, New Haven, CT (October, 2017)
203. University of Delaware, Wilmington, DE (October, 2017)
204. Stockholm University, Stockholm, Sweden (January, 2018)
205. LEO Pharma, Copenhagen, Denmark (January, 2018)
206. H. Lundbeck A/S, Copenhagen, Denmark (January, 2018)
207. The Torkil Holm Symposium, Copenhagen, Denmark (January, 2018)
208. 255th ACS National Meeting, E.J Corey Symposium, New Orleans, LA (March, 2018)
209. Cornell University, Baker Symposium, Ithaca, NY (May, 2018)

210. Electrochemical Society, Seattle, WA (May, 2018)
211. University of CA, Los Angeles (June, 2018)
212. Merck, Rahway, NJ (June, 2018)
213. Novartis, San Diego, CA (June, 2018)
214. UCB Bio Pharma, Brussels, Belgium (July, 2018)
215. Syngenta, Jealott's Hill, UK (July, 2018)
216. GlaxoSmithKline, Stevenage, UK (July, 2018)
217. HitGen Ltd., Chengdu, China (September, 2018)
218. YingDe Lecture, Peking University, Beijing, China (September, 2018)
219. Asymchem, Inc., Tianjin, China (September, 2018)
220. Vertex, San Diego, CA (October, 2018)
221. 257th ACS National Meeting, Derek Horton Symposium, Orlando, FL (March, 2019)
222. 257th ACS National Meeting, Innovative Green Chemistry, Orlando, FL (March, 2019)
223. Beilstein Electrochemistry Symposium, Mainz, Germany (April, 2019)
224. Gordon Research Conference, Newport, RI (June, 2019)
225. IUPAC World Chemistry Congress, Paris (July, 2019)
226. 257th ACS National Meeting, Strained Ring Symposium, San Diego, CA (August, 2019)
227. 257th ACS National Meeting, Smissman Award, San Diego, CA (August, 2019)
228. Colorado State University, Williams Distinguished Lectureship, Fort Collins, CO (October, 2019)
229. IKA Works, EChem Webinar (April, 2020)
230. Cambridge University, Virtual Webinar (May, 2020)
231. Distinguished Lecture, Lawrence Berkeley National Laboratory, Virtual (September 2020)
232. Janssen Prize Scientific Lecture, Virtual (September 2020)

233. International Forum on Green Chemistry, Virtual (October 2020)
234. 3rd World Laureates Forum, Virtual (October 2020)
235. CiQUS, Virtual (November 2020)
236. KAIST, Virtual (November 2020)
237. ICBS2020, Virtual (November 2020)
238. ACS-SBQ, Virtual (November 2020)
239. Smisssman Lecture, Virtual (March 2021)
240. ICBMS Lyon, Virtual (March 2021)
241. MacLean Lecture, Virtual (May 2021)
242. University of Bristol, Bristol Chemical Synthesis Syngenta Award, Virtual (June 2021)
243. ACS Fall 2021 Meeting, Resilience of Chemistry, Virtual (August 2021)
244. Mitsubishi Chemical, Virtual (August 2021)
245. Sanofi, Virtual (September 2021)
246. ACSCVS, Virtual (September 2021)
247. Amgen, Inc., Virtual (September 2021)
248. USciences Bicentennial Symposium, Virtual (October 2021)
249. ICIQ PhD Day, Virtual (October 2021)
250. Bayer AG, Virtual (November 2021)
251. Clayton Heathcock Lecture, UC Berkeley, Virtual (November 2021)
252. Baylor University, Virtual (November 2021)
253. Masterclasses in Organic Synthesis, Seoul National University, Virtual (November 2021)
254. New Trends in Organic Synthesis, Virtual (November 2021)
255. AIMECS2021, University of Tokyo, Virtual (December 2021)

256. Electrochemistry in organic synthesis, KTH Royal Institute of Technology, Virtual (December 2021)
257. PacifiChem 2021, Virtual (December 2021)
258. Stauffer Lecturship, Stanford University, Virtual (February 2022)
259. McGill University, Virtual (February 2022)
260. University of Louisville, Virtual (February 2022)
261. Davidson College, Virtual (March 2022)
262. OPT Congress, Virtual (March 2022)
263. ACS Spring 2022, San Diego, CA (March 2022)
264. Royal Dutch Chemistry Symposium, Wageningen International Symposium, Virtual (April 2022)
265. Andrews University, Virtual (April 2022)
266. Evotec, Virtual (May 2022)
267. BOSS XVII - 17th Belgian Organic Synthesis Symposium, Namur, Belgium (July 2022)
268. ACS Fall 2022, Virtual (August 2022)
269. IRT 2022, Virtual (August 2022)
270. Washington University in St. Louis, Virtual (September 2022)
271. University of Nebraska, Virtual (September 2022)
272. Galapagos, Virtual (October 2022)
273. UCLA, Los Angeles, CA (October 2022)
274. PMI, Austin, TX (October 2022)
275. Amgen, Virtual (November 2022)
276. Alnylam Pharmaceuticals, Virtual (December 2022)
277. 2023 George A. Abbott Lectures in Chemistry, Virtual (March 2023)
278. International Solvay Institute, Virtual (April 2023)
279. Harvard University, Boston, MA (August 2023)
280. Kharkiv Chemical Seminar, Virtual (September 2023)

281. IKA Works, ElectraSyn Webinar (October, 2023)
282. Revolution Medicines, Virtual (October 2023)
283. Emory University, Virtual (March 2024)