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PROFESSIONAL APPOINTMENTS

- 5/15–present **Chairman, Member, and Laboratory Head**, Chemical Biology Program, Sloan Kettering Institute for Cancer Research, Memorial Sloan Kettering Cancer Center (MSKCC)
- 10/12–5/15 **Member (tenured) and Laboratory Head**, Molecular Pharmacology & Chemistry Program, Sloan Kettering Institute for Cancer Research, MSKCC.
- 3/08–10/12 **Associate Member and Laboratory Head**
- 5/02–3/08 **Assistant Member and Laboratory Head**
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- 4/13–present **Tri-Institutional Professor**, The Rockefeller University, and Weill Cornell Medical College (secondary appointments).
- 3/08–4/13 **Tri-Institutional Associate Professor**
- 3/03–3/08 **Tri-Institutional Assistant Professor**
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- 5/02–present **Director** (2012–present), **Associate Director** (2012), **Advisory Committee** (2003–present), and **Faculty Member** (2002–present), Tri-Institutional PhD Program in Chemical Biology, Sloan Kettering Institute for Cancer Research, The Rockefeller University, and Weill Cornell Medical College.
- 10/02–present **Faculty Member (Professor**, 2013–present; **Associate Professor**, 2008–2013; **Assistant Professor**, 2002–2008), Pharmacology Program, Weill Graduate School of Medical Sciences, Cornell University.
- 1/04–present **Faculty Member**, Gerstner Sloan Kettering Graduate School of Biomedical Sciences, MSKCC.
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- 9/02–present **Faculty Member** (2002–present) and **Executive Committee** (2014–present), Experimental Therapeutics Center, MSKCC.
- 1/10–present **Faculty Member** (2010–present) and **Executive Committee** (2011–2014), Center for Molecular Imaging and Nanotechnology (2014–present), Nanotechnology Center (2010–2014), MSKCC
- 2/10–present **Faculty Member**, Lucille Castori Center for Microbes, Inflammation and Cancer, MSKCC

EDUCATION AND TRAINING

- 9/00–4/02 **Postdoctoral Research Fellow** (with Prof. Samuel J. Danishefsky), Laboratory of Bioorganic Chemistry, Sloan Kettering Institute for Cancer Research, MSKCC. *Total synthesis of guanacastepene A and synthetic studies toward spiroxin A.*
- 9/95–8/00 **Ph. D. in Chemistry** (with Prof. Stuart L. Schreiber), Department of Chemistry and Chemical Biology, Harvard University. *Diversity-oriented synthesis targeted to chemical genetics.*
- 6/95–8/95 **Summer Research Intern** (with Dr. David A. Oare), Bioorganic Chemistry Department, Genentech, Inc. *Solid phase synthesis of peptide β -turn mimics.*
- 9/91–6/95 **B. S. in Chemistry with Distinction and Honors** (with Prof. Dale G. Drueckhammer), Department of Chemistry, Stanford University. *Enzymatic dynamic kinetic resolution of α -substituted propionate thioesters.*

TEACHING ACTIVITIES

- 9/12–present **Chemical Biology Seminar Course** (Faculty Moderator), Tri-Institutional PhD Program in Chemical Biology. *Topics:* Papers by chemical biology seminar speakers at MSKCC, The Rockefeller University, and Weill Cornell.
- 3/12–present **Lab Management Series** (Faculty Moderator), MSKCC. *Topic:* Lab Leadership (Developing a Team)
- 9/11–present **Principles of Chemical Biology** (Lecturer), Tri-Institutional PhD Program in Chemical Biology and The Rockefeller University. *Topics:* chemistry and biosynthesis of peptides and oligonucleotides.
- 12/08–present **Responsible Conduct of Research** (Facilitator), MSKCC. *Topics:* authorship, publication, & peer review; conflicts of interest, collaboration & mentoring
- 9/02–present **Pharmacology I: Chemical Biology** (Co-Course Director 2003–2012; Lecturer 2002–present), Pharmacology Program, Weill Cornell Graduate School of Medical Sciences. *Topics:* organic reaction mechanisms, biological and laboratory synthesis of primary and secondary metabolites, combinatorial chemistry.
- 4/03–present **Pharmacology IV: Molecular Pharmacology of Cancer** (Lecturer), Pharmacology Program, Weill Cornell Graduate School of Medical Sciences. *Topic:* natural product anti-cancer agents.
- 12/06 **Cancer Biology Core Course** (Lecturer), Cancer Biology Graduate Program, Gerstner Sloan Kettering Graduate School of Biomedical Sciences, MSKCC. *Topic:* cell cycle inhibitors
- 9/03–9/04 **Frontiers in Biomedical Science** (Lecturer), Tri-Institutional MD–PhD Program. *Topic:* small molecule inhibition of protein–protein interactions.

FELLOWSHIPS AND SCHOLARSHIPS

- 2007–2009 Alfred P. Sloan Research Fellow
- 2005–2007 James D. Watson Investigator, NYSTAR
- 2001–2002 Damon Runyon Cancer Research Foundation Postdoctoral Fellowship
- 2000 American Cancer Society Postdoctoral Fellowship (declined)

2000	NIH National Research Service Award Postdoctoral Fellowship (declined)
1998–1999	Roche Graduate Fellowship in Organic Chemistry
1995–1998	National Defense Science and Engineering Graduate Fellowship
1995	NSF Graduate Fellowship (declined)
1994	Pfizer Summer Undergraduate Fellowship in Synthetic Organic Chemistry
1991–1995	National Merit Scholarship
1991–1992	Robert Byrd Honors Scholarship

HONORS AND AWARDS

2013	Dean's Award for Excellence in Teaching and Mentoring, Weill Cornell Medical College
2010	Boyer Award in Basic Research, MSKCC
2009, 2011	Kavli Fellow, National Academy of Sciences
1995–1996	Certificate of Distinction in Teaching, Harvard University
1995	Phi Beta Kappa
1995	Marsden Prize in Chemistry, Stanford University
1991–1992	President's Award for Academic Excellence, Stanford University
1991–1992	Jordan Scholar, Stanford University
1991–1992	Scholar Athlete Award, Stanford University

OTHER PROFESSIONAL ACTIVITIES

2015–present	External Advisory Board, EU Protein Conjugates Educational Training Network
2014–present	External Advisory Board, Institute for Research in Biomedicine, Barcelona
2014–present	Scientific Advisory Board, Tri-Institutional Therapeutics Discovery Institute
2013	<i>Ad hoc</i> Member, NIH Special Emphasis Panel Study Sections – ZRC1 IDM-N02 (Topics in Development of Drugs Against Infectious Diseases); ZAI1 LR-M-J1 (NIAID Centers of Excellence in Translational Research)
2012	<i>Ad hoc</i> Member, NIH Special Emphasis Panel Study Section – ZRG1 BCMB-R02 (BCMB Member Conflicts)
2012–present	Editorial Advisory Board, <i>Diversity-Oriented Synthesis</i>
2011–present	Editorial Advisory Board, <i>Current Chemical Biology</i>
2011–present	Editorial Advisory Board, <i>Combinatorial Chemistry and High-Throughput Screening</i>
2010–2011	Organizing Committee, 4th Indo-U.S. Kavli Frontiers of Science Symposium
2010	<i>Ad hoc</i> Member, NIH Synthetic and Biological Chemistry B Study Section
2009–2011	Scientific Advisory Board, Dart Neuroscience LLC
2009	Member, NSF Science and Technology Center Site Visit Committee
2008	Member, NIH Special Emphasis Panel Study Sections – ZRG1 IFCN-K52 (Molecular Libraries Probe Production Center Network); ZRG1 BCMB-B03 (BCMB Member Conflicts)
2007–present	Scientific Consultant, Gerson Lehrman Group
2007–present	Editorial Advisory Board, <i>Current Molecular Pharmacology</i>
2007	<i>Ad hoc</i> Reviewer, NSF Division of Chemistry
2006–present	Member, NYAS Chemical Biology Discussion Group Steering Committee
2006–2007	Scientific Consultant, ThinkEquity Partners LLC
2006	Scientific Consultant, Prof. Arti K. Rai, Duke Law School
2006	<i>Ad hoc</i> Member, NIH Synthetic and Biological Chemistry B Study Section
2005–present	Advisory Board, Tri-Institutional Training Program in Chemical Biology
2005	Scientific Consultant, Lilly Ventures
2004–present	Member, New York Academy of Sciences
2004	Member, Acfas – Association francophone pour le savoir, Canada
2003	Scientific Advisory Board, Québec Combinatorial Chemistry Consortium

2003 Scientific Advisory Board, CHI Diversity Oriented Synthesis Conference
2002–present Member, Harvey Society
1996–2011 Member, American Association for the Advancement of Science
1996–present Member, American Chemical Society

PEER REVIEWER

Accounts of Chemical Research, ACS Chemical Biology, ACS Combinatorial Sciences, ACS Medicinal Chemistry Letters, Angewandte Chemie, Beilstein Journal of Organic Chemistry, Bioorganic & Medicinal Chemistry, Bioorganic & Medicinal Chemistry Letters, ChemBioChem, Chemistry & Biology, Chemical Communications, Chemical Reviews, Chemical Society Reviews, Diversity-Oriented Synthesis, Journal of the American Chemical Society, Journal of Chemical Education, Journal of Combinatorial Chemistry, Journal of Medicinal Chemistry, Journal of Organic Chemistry, Molecular BioSystems, Nature, Nature Biotechnology, Nature Chemical Biology, Nature Chemistry, Nature Communications, Neuron, Organic & Biomolecular Chemistry, Organic Letters, Proceedings of the National Academy of Sciences USA, Synlett, Tetrahedron, Tetrahedron Letters

PERSONAL INFORMATION AND ACTIVITIES

Born in Rochester, New York Second language: French (conversational)

SCUBA Diving – FFESSM Brevet Élémentaire (1989); PADI Advanced Open Water Diver (2004); PADI Enriched Air/Nitrox Diver (2005); PADI Wreck Diver (2006); PADI Deep Diver (2006); Emergency First Responder (CPR/AED/First Aid) (2008); PADI Rescue Diver (2008); PADI Search & Recovery Diver (2009).

Road Racing & Track – MSKCC Corporate Challenge Team (2002–present; Co-Captain 2003–present); Warren Street Social & Athletic Club (2003–present); New York Road Runners Club (2001–2012); Stanford University Varsity Track Team (1991–1992); New York City Marathon finisher (2003).

National Center for Missing & Exploited Children – Advisory Board, Manhattan Affiliate Office (2003–2007); Volunteer, New York Branch/Adam Walsh Child Resource Center (1987–1991).

Music and Theater – *Stanford University Band* – Treasurer (1993–94), Public Relations Director (1992–93), Trombone Section Leader (1992–94). *Music Director/Conductor* – “Once on this Island” (1995), “Anything Goes” (1995), “Big Game Gaieties” (1994), “Anything Goes” (1994), “Sweet Charity” (1993), “Boanthropy” (1992).

PUBLICATIONS

Independent

- 43) Matarlo, J. S.[†]; Evans, C. E.[†]; Sharma, I.; Lavaud, L. J.; Ngo, S. C.; Shek, R.; Rajashankar, K. R.; French, J. B.; Tan, D. S.*; Tonge, P. J.* “Mechanism of MenE inhibition by acyl-adenylate analogues and discovery of novel antibacterial agents.” *Biochemistry* **2015**, 54, in press; doi: 10.1021/acs.biochem.5b00966
- 42) Stratton, C. F.; Newman, D. J.; Tan, D. S.* “Cheminformatic comparison of approved drugs from natural product versus synthetic origins.” *Bioorg. Med. Chem. Lett.*, **2015**, 25, in press; doi: 10.1016/j.bmcl.2015.07.014 (*Recent Advances in Medicinal Chemistry and Chemical Biology Symposium-in-Print*).
- 41) Wenderski, T. A.; Stratton, C. F.; Bauer, R. A.; Kopp, F.; Tan, D. S.* “Principal component analysis as a tool for library design: a case study investigating natural products, brand-name drugs, natural product-like libraries, and drug-like libraries.” *Methods Mol. Biol.* **2015**, 1263, 225–242.
- 40) Davis, T. D.; Gerry, C. J.; Tan, D. S.* “A general platform for systematic quantitative evaluation of small-molecule permeability in bacteria.” *ACS Chem. Biol.* **2014**, 9, 2535–2544.
- Highlighted in *ACS Chem. Biol.* **2014**, 9, 2433.
- 39) Sharma, I.; Wurst, J. M.; Tan, D. S.* “Solvent-dependent divergent functions of Sc(OTf)₃ in stereoselective epoxide-opening spiroketalizations.” *Org. Lett.* **2014**, 16, 2474–2477.
- 38) Lun, S.; Guo, H.; Adamson, J.; Cisar, J. S.; Davis, T. D.; Sundaram Chavadi, S.; Warren, J. D.; Quadri, L. E. N.*; Tan, D. S.*; Bishai, W. R.* “Pharmacokinetic and *in vivo* efficacy studies of the mycobactin biosynthesis inhibitor salicyl-AMS in mice.” *Antimicrob. Agents Chemother.* **2013**, 57, 5138–5140.
- 37) Sharma, I.; Tan, D. S.* “Diversifying complexity.” *Nat. Chem.* **2013**, 5, 157–158. (*Invited News & Views*)
- 36) Bauer, R. A.; Wenderski, T. A.; Tan, D. S.* “Biomimetic diversity-oriented synthesis of benzannulated medium rings via ring expansion.” *Nat. Chem. Biol.* **2013**, 9, 21–29.
- 35) Wurst, J. M.; Verano, A. L.; Tan, D. S.* “Stereoselective synthesis of acortatarins A and B.” *Org. Lett.* **2012**, 14, 4442–4445.
- 34) Kopp, F.[†]; Stratton, C. F.[†]; Akella, L. B.; Tan, D. S.* “A diversity-oriented synthesis approach to macrocycles via oxidative ring expansion.” *Nat. Chem. Biol.* **2012**, 8, 358–365.
- Highlighted in *SciBX* **2012**, 5, doi: 10.1038/scibx.2012.348
- 33) Lu, X.; Zhou, R.; Sharma, I.; Li, X.; Kumar, G.; Swaminathan, S.; Tonge, P. J.*; Tan, D. S.* “Stable analogues of OSB-AMP: Potent inhibitors of MenE, the *o*-succinylbenzoate-CoA synthetase from bacterial menaquinone biosynthesis.” *ChemBioChem* **2012**, 13, 129–136.
- 32) Wurst, J. M.; Liu, G.; Tan, D. S.* “Hydrogen-bonding catalysis and inhibition by simple solvents in the stereoselective epoxide-opening spirocyclization of glycol epoxides to form spiroketals.” *J. Am. Chem. Soc.* **2011**, 133, 7916–7925.
- 31) Moura-Letts, G.; DiBlasi, C. M.; Bauer, R. A.; Tan, D. S.* “Solid-phase synthesis and chemical space analysis of a 190-membered alkaloid/terpenoid-like library.” *Proc. Natl. Acad. Sci. USA* **2011**, 108, 6745–6750.

- 30) Bauer, R. A.; DiBlasi, C. M.; Tan, D. S.* “The *tert*-butylsulfinamide lynchpin in transition metal-mediated multiscaffold library synthesis.” *Org. Lett.* **2010**, *12*, 2084–2087.
- 29) Bauer, R. A.; Wurst, J. M.; Tan, D. S.* “Expanding the range of ‘druggable’ targets with natural product-based libraries: An academic perspective.” *Curr. Opin. Chem. Biol.* **2010**, *14*, 308–314. (Invited review)
- 28) Olsen, S. K.; Capili, A. D.; Lu, X.; Tan, D. S.*; Lima, C. D.* “Active site remodelling accompanies thioester bond formation in the SUMO E1.” *Nature* **2010**, *463*, 906–912.
- Highlighted in *Nature* **2010**, *463*, 889–890; *Chem. Eng. News* **2010**, 88(Feb 22), 7; *Nat. Rev. Mol. Cell. Biol.* **2010**, *11*, 161; *Nat. Chem. Biol.* **2010**, *6*, 247; *Structure* **2010**, *18*, 419–421; *ACS Chem. Biol.* **2010**, *5*, 352; *Faculty of 1000 Biology* (article ID 2390957).
- 27) Lu, X.; Olsen, S. K.; Capili, A. D.; Cisar, J. S.; Lima, C. D.*; Tan, D. S.* “Designed semisynthetic protein inhibitors of Ub/Ubl E1 activating enzymes.” *J. Am. Chem. Soc.* **2010**, *132*, 1748–1749.
- Highlighted in *Chem. Eng. News* **2010**, 88(Feb 22), 7; *Nat. Rev. Mol. Cell. Biol.* **2010**, *11*, 161; *Nat. Chem. Biol.* **2010**, *6*, 247; *ACS Chem. Biol.* **2010**, *5*, 352; *Faculty of 1000 Biology* (article ID 2638963).
- 26) Liu, G.; Wurst, J. M.; Tan, D. S.* “Stereoselective synthesis of benzannulated spiroketals: Influence of the aromatic ring on reactivity and conformation.” *Org. Lett.* **2009**, *11*, 3670–3673.
- 25) Lu, X.; Zhang, H.; Tonge, P. J.*; Tan, D. S.* “Mechanism-based inhibitors of MenE, an acyl-CoA synthetase involved in bacterial menaquinone biosynthesis.” *Bioorg. Med. Chem. Lett.* **2008**, *18*, 5963–5966 (Special Issue in honor of Prof. Benjamin F. Cravatt, 2008 Tetrahedron Young Investigator Award).
- 24) Cisar, J. S.; Tan, D. S.* “Small molecule inhibition of microbial natural product biosynthesis – An emerging antibiotic strategy.” *Chem. Soc. Rev.* **2008**, *37*, 1320–1329 (Invited review).
- 23) Ferreras, J. A.; Stirrett, K. L.; Lu, X.; Ryu, J.-S.; Soll, C. E.; Tan, D. S.; Quadri, L. E. N.* “Mycobacterial PGL virulence factor biosynthesis: Mechanism and small-molecule inhibition of polyketide chain initiation.” *Chem. Biol.* **2008**, *15*, 51–61.
- Highlighted in *Chem. Biol.* **2008**, *15*, xi; *Start-Up: Emerging Medical Ventures* **2008**, Jan 1.
- 22) Cisar, J. S.; Ferreras, J. A.; Soni, R. K.; Quadri, L. E. N.*; Tan, D. S.* “Exploiting ligand conformation in selective inhibition of non-ribosomal peptide synthetase amino acid adenylation with designed macrocyclic small molecules.” *J. Am. Chem. Soc.* **2007**, *129*, 7752–7753.
- Highlighted in *Faculty of 1000 Biology* (article ID 1087363).
- 21) Shang, S.; Iwadare, H.; Macks, D. E.; Ambrosini, L. M.; Tan, D. S.* “A unified approach to polyketides having both skeletal and stereochemical diversity.” *Org. Lett.* **2007**, *9*, 1895–1898.
- 20) Moilanen, S. B.; Potuzak, J. S.; Tan, D. S.* “Stereocontrolled synthesis of spiroketals via Ti(Oi-Pr)₄-mediated kinetic spirocyclization of glycol epoxides with retention of configuration.” *J. Am. Chem. Soc.* **2006**, *128*, 1792–1793.
- Highlighted in *Nature* **2006**, *439*, 512.
- 19) Potuzak, J. S.; Moilanen, S. B.; Tan, D. S.* “Stereocontrolled synthesis of spiroketals via a remarkable methanol-induced kinetic spirocyclization reaction.” *J. Am. Chem. Soc.* **2005**, *127*, 13796–13797.

- 18) Tan, D. S.* “Diversity-oriented synthesis: Exploring the intersections between chemistry and biology.” *Nature Chem. Biol.* **2005**, *1*, 74–84. (Invited review)
 - Highlighted in *Nature Chem. Biol.* **2005**, *1*, 61.
- 17) Ferreras, J. A.; Ryu, J.-S.; Di Lello, F.; Tan, D. S.*; Quadri, L. E. N.* “Small molecule inhibition of siderophore biosynthesis in *Mycobacterium tuberculosis* and *Yersinia pestis*.” *Nature Chem. Biol.* **2005**, *1*, 29–32.
 - Highlighted in *Nature* **2005**, 435, 389; *Nature Chem. Biol.* **2005**, *1*, 1; *Chem. Eng. News*, **2005**, 83(May 30), 13; *Mercosur Económico*, June 13, 2005.
- 16) DiBlasi, C. M.; Macks, D. E.; Tan, D. S.* “An acid-stable *tert*-butyldiarylsilyl (TBDAS) linker for solid-phase organic synthesis.” *Org. Lett.* **2005**, *7*, 1777–1780.
 - Highlighted in *Lett. Org. Chem.* **2005**, *2*, 668–669.
- 15) Shang, S.; Tan, D. S.* “Advancing chemistry and biology through diversity-oriented synthesis of natural product-like libraries.” *Curr. Opin. Chem. Biol.* **2005**, *9*, 248–258. (Invited review)
- 14) Moilanen, S. B.; Tan, D. S.* “Enantioselective synthesis of *erythro*-4-deoxyglycals as scaffolds for target- and diversity-oriented synthesis: New insights into glycal reactivity.” *Org. Biomol. Chem.* **2005**, *3*, 798–803.
- 13) Tan, D. S. “Current progress in natural product-like libraries for discovery screening.” *Comb. Chem. High-Throughput Screen.* **2004**, *7*, 631–643. (Invited review)
- 12) Potuzak, J. S.; Tan, D. S.* “Synthesis of C1-alkyl and C1-acylglycals from glycals using a *B*-alkyl Suzuki–Miyaura cross coupling approach.” *Tetrahedron Lett.* **2004**, *45*, 1797–1801.
- 11) Potuzak, J. S.; Moilanen, S. B.; Tan, D. S.* “Discovery and applications of small molecule probes for studying biological processes.” *Biotechnol. Genet. Eng. Rev.* **2004**, *21*, 11–78. (Invited review)
- 10) Tan, D. S. “Sweet surrender to chemical genetics.” *Nat. Biotechnol.* **2002**, *20*, 561–563. (Invited News & Views)

Postdoctoral, Graduate, and Undergraduate

- 9) Mandal, M.; Yun, H.; Dudley, G. B.; Lin, S.; Tan, D. S.; Danishefsky, S. J.* “Total synthesis of guanacastepene A: A route to enantiomeric control.” *J. Org. Chem.* **2005**, *70*, 10619–10637 (Cover article).
- 8) Tan, D. S.; Dudley, G. B.; Danishefsky, S. J.* “Synthesis of the functionalized tricyclic skeleton of guanacastepene A: A tandem epoxide-opening β -elimination/Knoevenagel cyclization.” *Angew. Chem. Int. Ed.* **2002**, *41*, 2185–2188.
- 7) Lin, S.; Dudley, G. B.; Tan, D. S.; Danishefsky, S. J.* “A stereoselective route to guanacastepene A through a surprising epoxidation.” *Angew. Chem. Int. Ed.* **2002**, *41*, 2188–2191.
- 6) Dudley, G. B.; Tan, D. S.; Kim, G.; Tanski, J. M.; Danishefsky, S. J.* “Remarkable stereoselectivity in the alkylation of a hydroazulenone: Progress toward the total synthesis of guanacastepene.” *Tetrahedron Lett.* **2001**, *42*, 6789–6791.
- 5) Tan, D. S.; Schreiber, S. L.* “A mercury-catalyzed transesterification cyclization leading to fused cyclic polyethers.” *Tetrahedron Lett.* **2000**, *41*, 9509–9513 (Special Issue in honor of Prof. Harry A. Wasserman).

- 4) Tan, D. S.*; Burbaum, J. J.* “Ligand discovery using encoded combinatorial libraries.” *Curr. Opin. Drug Discovery Dev.* **2000**, *3*, 439–453. (Invited review)
- 3) Tan, D. S.; Foley, M. A.; Stockwell, B. R.; Shair, M. D.; Schreiber, S. L.* “Synthesis and preliminary evaluation of a library of polycyclic small molecules for use in chemical genetic assays.” *J. Am. Chem. Soc.* **1999**, *121*, 9073–9087.
- 2) Tan, D. S.; Foley, M. A.; Shair, M. D.; Schreiber, S. L.* “Stereoselective synthesis of over two million compounds having structural features both reminiscent of natural products and compatible with miniaturized cell-based assays.” *J. Am. Chem. Soc.* **1998**, *120*, 8565–8566.
• Highlighted in *Science* **1998**, *282*, 2157–2161; *Chem. Eng. News*, **1999**, *77*(Jul 26), 44–46.
- 1) Tan, D. S.; Günter, M. M.; Drueckhammer, D. G.* “Enzymatic resolution coupled with substrate racemization using a thioester substrate.” *J. Am. Chem. Soc.* **1995**, *117*, 9093–9094.

Prof. David Y. Gin Laboratory (prepared under my supervision, March 22, 2011 – present)

- 8) Walkowicz, W. W.; George, C.; Ragupathi, G.*; Tan, D. S.*; Gin, D. Y. “Modifications of the central glycosidic linkage in *Quillaja* saponin analogues result in striking modification of adjuvant activity.” submitted.
- 7) Fernández-Tejada, A.*; Tan, D. S.*; Gin, D. Y. “Versatile strategy for the synthesis of linear oligosaccharide domain variants of *Quillaja* saponin vaccine adjuvants.” *ChemComm* **2015**, *51*, 13949–13952; Correction: *ChemComm* **2015**, *51*, 14410.
- 6) Fernández-Tejada, A.*; Chea, E. K.; George, C.; Gardner, J. R.; Livingston, P. O.; Ragupathi, G.*; Tan, D. S.*; Gin, D. Y. “Design, synthesis, and immunologic evaluation of novel vaccine adjuvant conjugates based on QS-21 and tucaresol.” *Bioorg. Med. Chem.* **2014**, *22*, 5917–5923.
- 5) Pla, D.*; Tan, D. S.*; Gin, D. Y. “5-(Methylthio)tetrazoles as versatile synthons in the stereoselective synthesis of polycyclic pyrazolines via photoinduced intramolecular nitrile imine–alkene 1,3-dipolar cycloaddition.” *Chem. Sci.* **2014**, *5*, 2407–2415.
- 4) Fernández-Tejada, A.; Chea, E. K.; George, C.; Pillarsetty, N.; Gardner, J. R.; Livingston, P. O.; Ragupathi, G.*; Lewis, J. S.*; Tan, D. S.*; Gin, D. Y. “Development of a minimal saponin vaccine adjuvant based on QS-21.” *Nat. Chem.* **2014**, *6*, 635–643.
• Highlighted in *Chem. Eng. News* **2014**, *92*(Jun 9), 11; *SciBX* **2014**, *7*, doi: 10.1038/scibx.2014.750
- 3) Shi, Y.*; Wilmot, J. T.; Nordstrøm, L. U.; Tan, D. S.*; Gin, D. Y. “Total synthesis, relay synthesis, and structural confirmation of the C18-norditerpenoid alkaloid neofinaconitine.” *J. Am. Chem. Soc.* **2013**, *135*, 14313–14320.
• Highlighted in *Angew. Chem. Int. Ed.* **2014**, *53*, 924–926; *Synfacts* **2013**, *9*, 1264; *Org. Chem. Highlights* **2014**, May 5, <http://www.organic-chemistry.org/Highlights/2014/05May.shtm>
- 2) Gauthier, N. P.*; Soufi, B.; Walkowicz, W. E.; Pedicord, V. A.; Mavrikakis, K. J.; Macek, B.; Gin, D. Y.; Sander, C.*; Miller, M. L.* “Cell-selective labeling using amino acid precursors for proteomic studies of multicellular environments.” *Nat. Methods* **2013**, *10*, 768–773.
- 1) Chea, E. K.; Fernández-Tejada, A.; Damani, P.; Adams, M. M.; Gardner, J. R.; Livingston, P. O.*; Ragupathi, G.*; Gin, D. Y. “Synthesis and preclinical evaluation of QS-21 variants leading to simplified vaccine adjuvants and mechanistic probes.” *J. Am. Chem. Soc.* **2012**, *134*, 13448–13457.

BOOK CHAPTER

- 1) Tan, D. S. "Diversity-Oriented Synthesis." In *Chemical Biology*; Schreiber, S. L.; Kapoor, T. M.; Wess, G., Eds.; Wiley-VCH: Weinheim, Germany, 2007; Vol. 2, Ch. 9, pp 483–518.

PATENTS AND PATENT APPLICATIONS***Independent***

- 9) Tan, D. S. et al. "Anthranilyl-adenosinemonosulfamate analogues and uses thereof." **US Prov. Patent Appl. TBD**, filed Oct 1, 2015.
- 8) Tan, D. S. et al. "Inhibitors of menaquinone biosynthesis." **US Prov. Patent Appl. TBD**, filed Oct 1, 2015.
- 7) Gin, D. Y.; Chea, E. K.; Fernández-Tejada, A.; Tan, D. S.; Lewis, J. S.; Gardner, J. R.; Pillarsetty, N. "Minimal saponin analogues, synthesis, and use thereof." **US Patent Appl. PCT/US2015/33567**, filed June 1, 2015.
- 6) Tan, D. S.; Quadri, L. E. N.; Ryu, J.-S.; Cisar, J. S.; Ferreras, J. A.; Lu, X. "Anti-microbial agents and uses thereof." **US Patent No. 8,946,188**, issued Feb 3, 2015.
- 5) Tan, D. S.; Quadri, L. E. N.; Ryu, J.-S.; Cisar, J. S.; Ferreras, J. A.; Lu, X. "Anti-microbial agents and uses thereof." **US Patent No. 8,461,128**, issued June 11, 2013.
 - Highlighted in *Expert Opin. Ther. Patents* **2007**, 17, 221.
- 4) Tan, D. S.; DiBlasi, C. M.; Macks, D. E. "Linkers for solid phase organic synthesis." **US Prov. Patent Appl. 60/663,175**, filed Mar 18, 2005.

Graduate

- 3) Schreiber, S. L.; Shair, M. D.; Tan, D. S.; Foley, M. A.; Stockwell, B. R. "Synthesis of combinatorial libraries of compounds reminiscent of natural products." **US Patent No. 7,109,377**, issued Sep 19, 2006.
- 2) Schreiber, S. L.; Shair, M. D.; Tan, D. S.; Foley, M. A.; Stockwell, B. R. "Synthesis of combinatorial libraries of compounds reminiscent of natural products." **US Patent No. 6,448,443**, issued Sep 10, 2002.
- 1) Schreiber, S. L.; Shair, M. D.; Borchardt, A. J.; You, A. J.; Huang, J.; Foley, M.; Tan, D.; Whitesides, G.; Jackman, R. J. "Droplet assay system for screening combinatorial libraries." (a) **US Patent Appl. 08/951,930**, filed Oct 15, 1997; (b) **PCT Intl. Patent Appl. PCT/US1997/019,110**, filed Oct 15, 1997, published Apr 23, 1998 as WO/1998/016,830.

CONFERENCE ABSTRACTS (ORAL PRESENTATIONS)

- 4) Tan, D. S. "Ring expansion approaches to macrocycle and medium ring library synthesis." Invited presentation in *Macrocycles in Small-Molecule Drug Discovery* at the 248th National Meeting of the American Chemical Society, San Francisco, CA, August 2014; Paper COMP 187.
- 3) Tan, D. S. "Diversity and design: New chemical probes for biology and medicine." Invited presentation at Symposium in Memory of Dr. David Y. Gin at the 243rd National Meeting of the American Chemical Society, San Diego, CA, March 2012; Paper CARB 63.

- 3) Tan, D. S. "Natural product-based libraries for chemical biology and drug discovery." Invited presentation in Diversity Oriented Synthesis at Pacificchem 2010, Honolulu, HI, December 2010, Paper 1739.
- 2) Tan, D. S. "Following Nature's lead: New strategies for diversity-oriented synthesis." Presented at the 226th National Meeting of the American Chemical Society, New York, NY, September 2003; Paper ORGN 331.
- 1) Tan, D. S.; Foley, M. A.; Shair, M. D.; Schreiber, S. L. "Stereoselective synthesis of over two million compounds having structural features both reminiscent of natural products and compatible with miniaturized cell-based assays." Presented at the 216th National Meeting of the American Chemical Society, Boston, MA, August 1998; Paper ORGN 230.

INVITED SEMINARS

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| 12/5/16 | Genentech, Immunology & Infectious Diseases Seminar Series, South San Francisco, CA |
| Aug 2016 | EMBO Conference Chemical Biology 2016, EMBL Heidelberg, Germany |
| 2015 | Gilead Sciences, Foster City, CA |
| 2015 | Dow AgroSciences, Indianapolis, IN |
| 11/11/15 | Bristol-Myers Squibb, Process R&D Chemistry, New Brunswick, NJ |
| 11/10/15 | Bristol-Myers Squibb, Discovery Chemistry, Lawrenceville, NJ |
| 10/8/15 | University of Tennessee, Knoxville, Department of Chemistry |
| 8/14/15 | Ehwa Womans University, College of Pharmacy, Seoul, Korea |
| 8/13/15 | 1 st International Symposium on Challenges in Chemical Biology, Seoul National University, Seoul, Korea |
| 8/11/15 | 45 th IUPAC World Chemistry Conference, Busan, Korea |
| 7/28/15 | American Society of Pharmacognosy Annual Meeting, Copper Mountain, CO |
| 7/12/15 | Innovative Medicines Initiative TRANSLOCATION Annual Meeting, Bremen, Germany |
| 6/11/15 | Merck Research Laboratories, Kenilworth, NJ |
| 12/9/14 | University of Texas Southwestern Medical Center, Department of Biochemistry |
| 10/24/14 | University of Central Florida, Burnett School of Biomedical Sciences |
| 10/16/14 | The Rockefeller University, Evnin Chemical Biology Seminar Series |
| 8/12/14 | 248 th ACS National Meeting, San Francisco, CA |
| 5/22/14 | CHI Chemical Biology for Target Validation Conference, Boston, MA |
| 4/21/14 | MSKCC, SKI Scientific Colloquium |
| 12/4/13 | Vanderbilt Institute of Chemical Biology, Vanderbilt University |
| 10/31/13 | University of Pennsylvania, Dept. of Chemistry, Biol. Chemistry Seminar Series |
| 10/11/13 | Frontier Sciences on New Drug Discovery Symposium, Tsinghua University, Beijing, China |
| 8/1/13 | Gordon Research Conference, Natural Products, Andover, NH |
| 6/3/13 | Gordon Research Conference, High-Throughput Chemistry & Chemical Biology, New London, NH |
| 5/2/13 | New York City Emerging Technologies Summit, Mt. Sinai School of Medicine |
| 4/19/13 | Cubist Pharmaceuticals, Lexington, MA |
| 3/21/13 | Cell Press Microbes and Cancer LabLinks Symposium, Columbia University |
| 12/11/12 | Mount Sinai School of Medicine, Department of Structural and Chemical Biology |
| 11/26/12 | City University of New York, City College, Department of Chemistry |
| 11/8/12 | National Cancer Institute, Frederick, MD |

5/30/12 Merck Research Laboratories, Rahway, NJ
4/13/12 New York University, Department of Chemistry
3/27/12 David Y. Gin Memorial Symposium, 243rd ACS National Mtg, San Diego, CA

9/19/11 University of Colorado, Boulder, Department of Chemistry and Biochemistry
5/9/11 City Univ. of New York, Queens College, Dept. of Chemistry and Biochemistry
4/22/11 U. Michigan, 31st Symposium in Pharmacol. Sci. & Biorelated Chem. (keynote)
4/18/11 4th Indo-US Kavli Frontiers of Science Symposium, Irvine, CA
4/7/11 Northwestern University, Department of Chemistry
3/29/11 EMBO Methods in Chemical Biology Course, EMBL Heidelberg, Germany
3/23/11 Society of Chemical Industry Symposium, London, UK
3/17/11 Broad Institute of Harvard & MIT, Chemical Biol. & Novel Therapeutics Prog.

12/19/10 Pacificchem 2010, Diversity-Oriented Synthesis Symposium, Honolulu, HI
11/19/10 The George Washington University, Department of Chemistry
6/23/10 Gordon Research Conference, High-Throughput Chemistry & Chemical Biology, Les Diablerets, Switzerland
4/28/10 University of Toledo, Department of Chemistry

11/12/09 21st US Kavli Frontiers of Science Symposium, Irvine, CA
9/19/09 3rd Nature Chemical Biology Symposium, Boston, MA
8/16/09 Gordon Research Conference, Tuberculosis Drug Development, U. Oxford, UK
5/7/09 AstraZeneca Research & Development, Boston, MA
3/13/09 St. Jude Children's Research Hospital, Dept. of Chemical Biology & Therapeut.
3/1/09 3rd Indo-US Kavli Frontiers of Science Symposium, Agra, India
2/9/09 AACR-ACS Chemistry in Cancer Research Conference, New Orleans, LA

12/15/08 MSKCC, Department of Surgery, Research Conference Seminar Series
9/12/08 Eli Lilly UK, Erl Wood Manor, Windlesham, Surrey, UK
9/11/08 University of York, Department of Chemistry, UK
9/10/08 University College London, Department of Chemistry, UK
9/9/08 University of Cambridge, Department of Chemistry, UK
8/31/08 Gordon Research Conference, Combinatorial Chemistry, Univ. of Oxford, UK
8/29/08 University of Southampton, School of Chemistry, UK
2/26/08 University of Colorado, Boulder, Department of Chemistry and Biochemistry

12/11/07 Smith College, Department of Chemistry
11/13/07 Duke University, Department of Chemistry
10/10/07 ACS 41st Western Regional Meeting, San Diego, CA
7/28/07 2nd USA-UK Synthesis Workshop 'Young Guns II', San Francisco, CA
5/18/07 University of Pittsburgh, Department of Chemistry
4/27/07 University of Chicago, Department of Chemistry
3/30/07 Hamilton College, Department of Chemistry
3/8/07 SUNY Stony Brook, Department of Chemistry
2/14/07 Johns Hopkins School of Medicine, Dept. of Pharmacology & Mol. Sciences
2/8/07 UCLA, Department of Chemistry and Biochemistry
2/7/07 California Institute of Technology, Division of Chemistry & Chem. Engineering
2/1/07 University of Illinois at Urbana-Champaign, Department of Chemistry
1/12/07 The Scripps Research Institute, Department of Chemistry

12/4/06 Harvard University, Dept. of Chemistry & Chemical Biol., Eli Lilly Symposium
11/15/06 Yale University, Department of Chemistry
10/25/06 University of California, Irvine, Department of Chemistry
10/18/06 Wayne State University, Department of Chemistry

10/17/06 University of Michigan, Department of Chemistry
10/16/06 Pfizer Global Research & Development, Ann Arbor, MI
10/3/06 University of Wisconsin–Madison, Department of Chemistry
9/7/06 Columbia University, Department of Chemistry
8/2/06 Gordon Research Conference, Bioorganic Chemistry, University of Oxford, UK
7/25/06 Eli Lilly, Indianapolis, IN
6/2/06 NSF Workshop on Organic Synthesis, Holderness, NH
5/26/06 PS183 5th Grade Science Workshop, MSKCC
5/17/06 University of Minnesota, Chemical Biology Initiative Workshop
4/28/06 Abbott Laboratories, Abbott Park, IL
3/24/06 City University of New York, Hunter College, Department of Chemistry
2/23/06 MSKCC, SKI Scientific Colloquium

11/8/05 University of Delaware, Chemistry–Biology Interface Seminar Series
10/21/05 University of Kansas, 11th Annual Chemical Biology Symposium (keynote)
8/24/05 Gordon Research Conference, Combinatorial Chemistry, Andover, NH
4/18/05 The Rockefeller University, Monday Lecture Series
3/28/05 University of Toledo, Department of Chemistry
3/3/05 MSKCC, Translational Research Seminar Series

12/08/04 IBC Target-Based Compound Libraries Symposium, San Diego, CA
5/13/04 Université de Montréal, Département de Chimie
3/09/04 City Univ. of New York, Queens College, Dept. of Chemistry and Biochemistry

11/15/03 Cornell Institute for Biology Teachers (keynote)
4/15/03 Cornell University, Weill Medical College, Department of Pharmacology
3/20/03 Cornell University, Department of Chemistry and Chemical Biology
3/14/03 City University of New York, Brooklyn College, Department of Biology

12/10/02 New York University, Department of Chemistry