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New Method for Synthesis and Structure Determination

Scott Rychnovsky, PhD

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School of Physical Sciences
Department of Chemistry
University of California, Irvine
Irvine, CA

4:00 p.m. Monday April 9th, 2018
Wolfe Hall 1205

Scott Rychnovsky

Scott Rychnovsky attended the University of California, Berkeley where he worked with Paul A. Bartlett and received his B.S. in 1981. From 1981-1986 he worked under the tutelage of Gilbert Stork at Columbia University ultimately obtaining his PhD. He went on to conduct postdoctoral work, initially for David A. Evans at Harvard University from 1986-1987, then with Stuart L. Schreiber from 1987-1988 at Yale University. In 1988, he joined the faculty in the Department of Chemistry at the University of Minnesota where he began his independent career studying synthetic chemistry in combination with bioorganic chemistry examining olefin-directed hydrogenations, polyepoxide cyclizations, and epoxide couplings.

After quickly rising through the ranks to Associate Professor at University of Minnesota, Rychnovsky moved to the University of California, Irvine as a full Professor in 1995 where he has remained ever since. At UC Irvine, the Rychnovsky Group studies chemistry at the interface of biology with interests in Competing Enantioselective Conversion (CEC) Method, Approaches Towards the Synthesis of Substituted Pyridines, Natural Product Syntheses including targets such as Lycopodium Alkaloids, Batrachotoxin, and Phainanoid. Furthermore, they study in the growing area of Chemical Biology with programs that entail developing Chemical Cross-Linkers. The work emanating from Rychnovsky' s labs has had a major impact on various sub-sections of Chemical Biology.

To his credit, Scott has been selected for various national and international awards including: Arthur C. Cope Scholar Award,

Fresenius Award, Zeneca Chemistry Award, Searle Scholar Fellow, Camille and Henry Dreyfus Foundation Teacher-Scholar, Eli Lilly Fellow, Pfizer Research Award in Synthetic Organic Chemistry, Alfred P. Sloan Fellow, National Science Foundation Presidential Young Investigator Award, S. T. Li Prize for Achievements in Science and Technology, Fellow of the American Association for the Advancement of Science and a Fellow of the American Chemical Society. Furthermore, Scott remains to be an Associate Editor for the Journal of Organic Chemistry shaping science for the future and his industrious achievements include being a Co-Founder of Actavalon in 2015.

Prof. Rychnovsky has also been tireless in training students, having graduated a total of 68 PhDs, 10 MSs, and he has worked with 27 postdocs and 51 undergraduate students. To his credit, he has amassed close to 190 publications during a 30 year career.

Selected Recent Scientific Contributions

1. Heteroatom-directed Acylation of Secondary Alcohols to Assign Absolute Configuration. *J. Org. Chem.* **2018**, *83*, 2504-2515.
2. The Proteasome-Interacting Ecm29 Protein Disassembles the 26S Proteasome in Response to Oxidative Stress. *J. Biol. Chem.* **2017**, *292*, 16310-16320.
3. Concise Synthesis of (+)-Fastigiatine. *Chem. Sci.* **2016**, *7*, 188–190.
4. Gln40 Deamidation Blocks Structural Reconfiguration and Activation of SCF Ubiquitin Ligase Complex by Nedd8. *Nat. Commun.* **2015**, *6*, 10053.
5. Design of CID-Cleavable Protein Cross-linkers: Identical Mass Modifications for Simpler Sequence Analysis. *Org. Biomol. Chem.* **2015**, *13*, 9793–9807.
6. Nanomole-scale Assignment of Configuration for Primary Amines Using a Kinetic Resolution Strategy. *J. Am. Chem. Soc.* **2012**, *134*, 20318–20321.
7. Cholesterol through the looking glass: ability of its enantiomer to also elicit homeostatic responses. *J. Biol. Chem.* **2012**, *287*, 33897–33904.
8. Total Synthesis of the Cyanolide A Aglycon. *J. Am. Chem. Soc.* **2011**, *133*, 9727–9729.
9. Fully Substituted Carbon Centers By Diastereoselective Spirocyclization: Stereoselective Synthesis of (+)-Lepadiformine C. *J. Am. Chem. Soc.* **2010**, *132*, 9591–9593.
10. Formal Synthesis of (–)-Kendomycin Featuring a Prins-Cyclization to Construct the Macrocycle. *J. Am. Chem. Soc.* **2008**, *130*, 13177–13181.
11. Synthesis of the C31–C67 Fragment of Amphidinol 3. *Angew. Chem.,*

Int. Ed. **2006**, *45*, 7258–7262.
12. Racemization in Prins Cyclization Reactions. *J. Am. Chem. Soc.* **2006**, *128*, 13640–13648.

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