

T. ROSS KELLY
THOMAS A. AND MARGARET A. VANDERSLICE PROFESSOR OF
CHEMISTRY

Education

B.S. (Honors) Holy Cross College 1964
Ph.D. University of California, Berkeley 1968

Experience and Awards

Summer Research Chemist, Lawrence Radiation Laboratory, Livermore, CA 1964
N.S.F. Trainee, University of California, Berkeley 1965-68
N.I.H. Postdoctoral Fellow, Brandeis University 1968-69
Assistant Professor, Boston College 1969-74
Associate Professor, Boston College 1974-80
Professor, Boston College 1980-89
N.I.H. Research Career Development Award 1975-80
Member (ad hoc) N.I.H. Medicinal Chemistry, Bioorganic and Natural Products and Special Study Sections 1977-79
1981, 1983, 1986-88
1992, 1994
Visiting Associate Professor, University of California, Berkeley 1/78-3/78
Medicinal Chemist, Pfizer Inc., Groton, CT (sabbatical) 9/81-5/82
Chairman, Department of Chemistry, Boston College 7/83-6/86
Editor, Tetrahedron Symposia-in-Print #17 "Recent Aspects of Anthracycline Chemistry," Tetrahedron, 40, November 1984. 11/84
Member (regular) of Chemotherapy and Hematology "Study Section," American Cancer Society. 1984-85
Resigned because of time conflicts with departmental chairmanship.
Vanderslice Professor of Chemistry, Boston College 1989-2019
Journal of Organic Chemistry, Editorial Advisory Board 1996-2003
Arthur C. Cope Scholar Award (American Chemical Society) 1996
Regular Member NIH Medicinal Chemistry Study Section 1998-2002
Teacher of the Year Award, Phi Beta Kappa (Boston College Chapter) 2004
Fellow of the American Association of the Advancement of Science 2007
Created "A Scientist's Curiosity Cabinet" website 2014
120,000+ pageviews through March, 2021 2021
Gravitational Illusions 2021
(<https://www.youtube.com/watch?v=MBSRPuUibxk&t=24s>): this segment of A Scientist's Curiosity Cabinet went viral on YouTube in April and May, 2021, amassing in excess of 18,000,000 views.

Publications

- T. R. Kelly, "Cool project: Wood in nearly three dimensions," Fine Woodworking Blog, March 2, 2021 (to access, google [Fine Woodworking Blog] and scroll to March 2, 2021).
- T. R. Kelly, "Organic Chemistry and Tree Fruit: The Control of Ethylene-Induced Ripening of Fruit in Cold Storage Warehouses," Chemical Education Xchange, Saturday 12/19/2020 in Blogs.
- T. R. Kelly and M.L. Snapper "NEWS & VIEWS. A Molecular Assembler." *Nature* 2017, 549, 336-337.
- M.D. Markey and T. R. Kelly, "Synthesis of Cribrostatin 6." *J. Org. Chem.* 2008, 73, 7441-7443. This paper was highlighted by the Editors as a "Featured Article."
- M.D. Markey and T. R. Kelly, "Troubleshooting a Molecular Motor: A Remarkably Stable N-Acyl Pyridinium Salt." (invited paper) *Tetrahedron* 2008, 64, 8381-8388.
- M.D. Markey, Y. Fu, and T. R. Kelly, Synthesis of Santiagonamine." *Org. Lett.* 2007, 9, 3255-3257.
- T.R. Kelly, X. Cai, F. Damkaci, S.B. Panicker, B. Tu, S.M. Bushell, I. Cornella, M.J. Piggott, R. Salives, M. Cavero, Y. Zhao, S. Jasmin, "Progress toward a Rationally Designed, Chemically Powered Rotary Molecular Motor." *J. Am. Chem. Soc.* 2007, 129, 376-386.
- M.M. O'Malley, F. Damkaci and T.R. Kelly, "Synthesis of Pterocellin A." *Org. Lett.* 2006, 8, 2651-2652.
- T.R. Kelly, E.L. Elliott, R. Lebedev and J. Pagalday, Synthesis of the Pyrazolo[4,3-e][1,2,4]triazine Family of Natural Products: Nostocine A, Fluviol A, and Pseudoiodinine." *J. Am. Chem. Soc.* 2006, 128, 5646-5647.
- T.R. Kelly (Editor) "Molecular Machines," Topics in Current Chemistry, Springer Verlag, Heidelberg, 2005, Vol. 262.
- A. Scopton and T.R. Kelly, "Synthesis of HKI 0231B." *J. Org. Chem.* 2005, 70, 100004-10012.
- T.R. Kelly, "Molecular Motors: Synthetic DNA-Based Walkers Inspired by Kinesin." *Angew. Chem. Int. Ed.* 2005, 44, 4124-4127.
- E.L. Elliott, S. M. Bushell, M. Cavero, B. Tolan and T. R. Kelly, "Total Synthesis of Nigellicine and Nigeglanine Hydrobromide." *Org. Lett.* 2005, 7, 2449-2451.
- T.R. Kelly, X. Cai, B. Tu, E. L. Elliott, G. Grossmann and P. Laurent, "Asymmetric Synthesis of the AB Ring System of Lactonamycin." *Org. Lett.* 2004, 6, 4953-4956.
- A. Scopton and T. R. Kelly, "Synthesis of Azacridone A." *Org. Lett.* 2004, 6, 3869-3871.
- I. Cornella and T. R. Kelly, "Synthesis of Porritoxin," *J. Org. Chem.* 2004, 69, 2191-2193.
- S. Hou, T. Sagara, D. Xu, T. R. Kelly and E. Ganz, "Investigation of Triptycene-Based Surface-Mounted Rotors." *Nanotechnology* 2003, 14, 566-570.
- J.M. Beierle, E. B. Osimboni, C. Metallinos, Y. Zhao and T. R. Kelly, "Synthesis of Louisianin C." *J. Org. Chem.* 2003, 68, 4970-4972.
- T.R. Kelly and R. L. Lebedev, "Synthesis of Some Unsymmetrical Bridged Terpyridines." *J. Org. Chem.* 2002, 67, 2197-2205.

T.R. Kelly, A. Szabados and Y.-J. Lee, "Total Synthesis of Garcifuran B," *J. Org. Chem.* 1997, 64, 428.

T.R. Kelly, C. Martinez and R.J. Mears, "Synthesis of (Z)-3, 4-Dihydro-2-Oxo-3-(Phenyl-Methylene)-2H-1, 4-Benzoxazine-5-Carboxylic Acid, A Naturally Occuring Inhibitor of Glutathione S-Transferase," *Heterocycles.* 1997, 45, 87.

T.R. Kelly and F. Lang, "Total Synthesis of Dimethyl Sulfomycinamate," *J. Org. Chem.* 1996, 61, 4623.

T.R. Kelly and F. Lang, "Synthesis of Thiazole Compounds via Lithiation: An Unexpected Rearrangement," *Tetrahedron Lett.* 1995, 36, 9293.

T.R. Kelly and F. Lang, "Total Synthesis of Dimethyl Sulfomycinamate," *Tetrahedron Lett.* 1995, 36, 5319.

G. Bringmann, R. Gtz, P. A. Keller, R. Walter, P. Henschel, M. Schaffer, M. Stablein, T. R. Kelly, and M. R. Boyd, "First Total Synthesis of Korupensamines A and B," *Heterocycles.* 1994, 39, 503.

T.R. Kelly, A. Garcia, F. Lang, J.J. Walsh, K.V. Bhaskar, M.R. Boyd, R. Gtz, P.A. Keller, R. Walter, and G. Bringmann, "Convergent Total Synthesis of the Michellamines," *Tetrahedron Lett.* 1994, 34, 7621.

T.R. Kelly and M.H. Kim, "Relative Binding Affinity of Carboxylate and Its Isoteres: Nitro, Phosphate, Phosphonate, Sulfonate, and d-Lactone," *J. Am. Chem. Soc.* 1994, 116, 7072.

T.R. Kelly, M.C. Bowyer, K.V. Bhaskar, D. Bebbington, A. Garcia, F. Lang, M. Kim, and M.P. Jette, "A Molecular Brake," *J. Am. Chem. Soc.* 1994, 116, 3657-3658

T.R. Kelly, Z. Ma, and W. Xu, "Revision of the Structure of Alatinone to Emodin," *Phytochemistry*, 1994, 36, 253.

T.R. Kelly, "A Simple, Colorful Demonstration of Solubility and Acid/Base Extraction Using a Separatory Funnel," *J. Chem. Education.* 1993, 70, 848. (The journal's cover illustration is drawn from this article.)

T.R. Kelly, M.H. Kim, and A.D.M. Curtis, "Structure Correction and Synthesis of the Naturally Occurring Benzothiazinone BMY 40662," *J. Org. Chem.* 1993, 58, 5855.

T.R. Kelly, W. Xu, and J. Sundaresan, "Maxonine: Structure Correction and Synthesis," *Tetrahedron Lett.* 1993, 34, 6173.

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T.R. Kelly and J.J. Walsh, "The Synthesis of Cerpegin," *J. Org. Chem.* 1992, 57, 6657.

T.R. Kelly and M.H. Kim, "Synthesis of Schumanniphytine and Isoschumanniphytine," *J. Org. Chem.* 1992, 57, 1593.

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T.R. Kelly and P. Meghani, "Chiral Bismetallocenes with C₂ Symmetry," *J. Org. Chem.* 1990, 55, 3684.

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T.R. Kelly, J. Saha and R.R. Whittle, "Bostrycin: Structure Correction and Synthesis," *J. Org. Chem.* 1985, 50, 3679.

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T.R. Kelly, L. Ananthasubramanian, K. Borah, J.W. Gillard, R.N. Goerner, Jr., P.F. King, J.N. Lyding, W.-G. Tsang and J. Vaya, "An Efficient, Regiospecific Synthesis of (\pm)-Daunomycinone," *Tetrahedron Symposium in Print #17, Tetrahedron*, 1984, 40, 4569.

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T.R. Kelly, J. Vaya and L. Ananthasubramanian, "A Short Regiospecific Synthesis of (\pm)-Daunomycinone," *J. Am. Chem. Soc.* 1980, 102, 5983.

T.R. Kelly, J.A. Magee and F. Weibel, "The Synthesis of Chartreusin Aglycone," *J. Am. Chem. Soc.* 1980, 102, 798.

T.R. Kelly, "Anthracycline Synthesis" (an invited review), *Annual Reports in Medicinal Chemistry*, 14, 288 (1979).

T.R. Kelly, R.W. McNutt, Jr., M. Montury, N.P. Tosches, K.L. Mikolajczak, C.R. Smith, Jr. and D. Weisleder, "Preparation of Harringtonine from Cephalotaxine," *J. Org. Chem.* 1979, 44, 63.

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T.R. Kelly, "Regiochemical Control in the Diels-Alder Reactions of Substituted Naphthoquinones: Orientational Manipulation in the Synthesis of Anthraquinones," *Tetrahedron Lett.* 1978, 1387.

T.R. Kelly, H.M. Dali and W.-G. Tsang, "Lithium Thiomethoxide: A Convenient Mercaptide Reagent," *Tetrahedron Lett.* 1977, 3859.

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T.R. Kelly, "A Dramatic and Relevant Demonstration of Ring Strain," *J. Chem. Ed.* 1977, 54, 228.

T.R. Kelly, J.W. Gillard and R.N. Goerner, Jr., "Studies Directed Toward the Synthesis of Adriamycin: A Diels-Alder Approach," *Tetrahedron Lett.* 1976, 3873.

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T.R. Kelly and R.W. McNutt, "Cyclobutenones: Synthesis and Diels-Alder Reaction of 4,4-Dimethylcyclobut-2-enone," *Tetrahedron Lett.* 1975, 285.

K.L. Mikolajczak, C.R. Smith, Jr., D. Weisleder, T.R. Kelly, J.C. McKenna and P.A. Christenson, "Synthesis of Deoxyharringtonine," *Tetrahedron Lett.* 1974, 283.

T.R. Kelly, J.C. McKenna and P.A. Christenson, "Synthesis of the Acyl Portion of the Antitumor Alkaloid Harringtonine," *Tetrahedron Lett.* 1973, 3501.

T.R. Kelly, "On the Homo Diels-Alder Reaction of Substituted Norbornadienes as a Possible Route to Longicyclene. An Intramolecular Ene Reaction," *Tetrahedron Lett.* 1973, 437.

T.R. Kelly, "The Synthesis of Norketoagarofuran," *J. Org. Chem.* 1972, 37, 3393.

T.R. Kelly, T.E. Schmidt and J.G. Haggerty, "A Convenient Preparation of Methyl and Ethyl Glyoxylate," *Synthesis.* 1972, 544.

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