Professor Torbjörn Norin

A Tribute

Carl Torbjörn Norin was born in Örnsköldsvik, Sweden, on September 16, 1933. In 1959 he married Karin Ingegerd Anderson, and they have one son and two daughters. He graduated from the Royal Institute of Technology (KTH) in Stockholm with a M. Eng. in 1957, and obtained a D. Eng. in Organic Chemistry and Biochemistry from the same Institute in 1962. From 1961-1962 he conducted research at the Dyson Perrins Laboratory, Oxford University, and was awarded a D. Sc. in organic chemistry by KTH in 1964. After two years as an Assistant Professor at KTH and as Acting Professor of Organic Chemistry at the University of Umeä, he was appointed as Director of Research and Head of the Chemistry Department at the Swedish Forest Products Research Laboratory (STFI), serving from 1966-1972. From 1966-1969, he was also Head of the Wood Chemistry Laboratory at KTH, and in 1969 was appointed Professor of Organic Chemistry and Chairman of the Department of Organic Chemistry and Wood Chemistry. From 1993-1997, he served as Chairman of the Department of Chemistry. From 1969-1989, he served KTH in various other capacities, including as a member of the Board of Education of the School of Chemistry and the Faculty Board of the Royal Institute of Technology. In 1999 he retired, and is now an Emeritus Professor at KTH.

Since 1966, Professor Norin has been a highly influential figure in chemistry in Sweden, and has served on the boards of many national organizations. He has served on the Advisory Boards of the Swedish National Science Research Council (chemistry and ecology), the Swedish National Environmental Protection Board, the Swedish Council for Planning and Coordination of Research (phytochemistry), the Swedish Council for Forestry and Agricultural Research (cell biology and chemistry, as well as Vice Chairman of the Board), and the Karlshamns Science Foundation. He has been a member of the Board of Research Directors of the Swedish Forest Products Research Laboratory (Chairman, 1969-1973), as well as a member of the Boards of Directors of the Swedish Institute of Surface Chemistry (Chairman, 1989-2000), the Swedish Pulp and Paper Research Institute (1990-1997), the Sven and Dagmar Salén Foundation, the

"Bengt Lundquist Minne" Foundation, and the International Science Programs of Uppsala University. He was the President of the Swedish Chemical Society from 1989 to 1999, and he has served on the Board of Directors of KemaNobel AB (later merged with Akzo, Netherlands), Nobel Chemicals AB, and the scientific advisory board of AzkoNobel Surface Chemistry.

In addition, he has made significant contributions to international chemistry programs. From 1991 to 2006, he served as a member of the Technical Committee of the COST chemistry program (Commission of the European Community); from 1992 to 1995 he was chairman of the COST chemistry action D7 program on Molecular Recognition Chemistry (Supramolecular Chemistry), and later served as a member and coordinator of evaluation committees for various COST chemistry programs. In 1993, he served as a member of an evaluation committee on locust research for the United Nations Development Program, and from 1974 to 2003 as a member of the advisory board for natural products research of the International Foundation for Science (IFS).

Professor Norin has been a prominent member of the International Union of Pure and Applied Chemistry (IUPAC). He served as a member of the Division of Biomolecular and Organic Chemistry from 1989 to 2003, first as a co-opted member (1989 to 1995), then as a titular member (1995 to 2003), and in leadership roles as Vice President (1998-1999), President (2000-2001), and Past President (2002-2003). In addition, he was Vice-Chairman of the Subcommittee on Bioorganic Chemistry (1993-2000) and a Titular Member of the IUPAC Bureau (2000-2001), and is currently a member of the Subcommittee on Biomolecular Chemistry (2000-2007) and the Subcommittee on Green Chemistry (2000-2007).

He has been closely involved in several key IUPAC projects. He assisted IUPAC in establishing a web page on Green/Sustainable Chemistry which is one of the most important means for relating chemistry to social needs, and he continues to chair a task force on chemistry for biology aimed at strengthening the IUPAC role in efforts to support strong links between chemistry and biology, and the promotion of interdivisional and interdisciplinary activities within IUPAC in the field of biological chemistry. As a member of a task force on the molecular basis of biodiversity, conservation and sustained innovative utilization, he participated in meetings held in Amsterdam (The Netherlands), Bangkok (Thailand), Kunming (China), and Antalya (Turkey) involving national and international representatives of relevant organizations. Discussions focused on the recognition that the maintenance of biological diversity is a global concern with many developing countries being major centers of biological material of medical and economic value, and that international cooperation is essential in the innovative utilization of these bioresources. Discussions at these meeting resulted in the publication of a paper entitled The Molecular Basis of Biodiversity, Conservation, and Sustained Innovative Utilization which includes recommendations for ethical working practices in the context of international cooperation between academia and industry in the innovative utilization of bioresources [*Pure & Applied Chem*. **2002**, *74*, 697.]

Professor Norin's research spans a wide range of interests, including synthetic organic chemistry, asymmetric synthesis, enzymes in organic synthesis, biocatalysis, the chemistry of

natural products and biologically active compounds of natural origin, the chemistry and properties of surfactants, and chemical interactions and molecular recognition chemistry. He is author or co-author of more than 200 scientific publications and two textbooks. The breadth of his interests is reflected in the 21 selected publications listed below.

In 1966, Professor Norin received the Norblad-Ekstrands medal of the Swedish Chemical Society for outstanding contributions to research in chemistry, and in 1999 the Oscar Carlson medal for his contributions to the chemical sciences. He is a Fellow of the Royal Swedish Academy of Engineering Sciences and the Royal Swedish Academy of Sciences, and was Chairman of the Chemistry Section of the latter body between 1991 and 1999. He is also a Fellow of Academia Europaea, and since 1999 a foreign member of the Royal Norwegian Society of Science and Letters. He has been honored with awards of the medals of Kyoto University and the University of Helsinki.

It is an honor to pay tribute to a great scientist who has devoted his career to outstanding service of chemistry both nationally in his homeland of Sweden and internationally.

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Selected Publications

1. Norin, T. The Chemistry of the Natural Order Cupressales. 40. The Structure of Thujopsene and Hinokiic Acid. *Acta Chem. Scand.* **1961**, *15*, 1676.
2. Norin, T. The Absolute Configuration of the Thujane Group. *Acta Chem. Scand.* **1962,** *16*, 640.
3. Norin, T., Westfelt, L. Thin Layer, Column and Gas-Liquid Chromatography of Resin Acid Esters and Related Terpenes. *Acta Chem. Scand.* **1963**, *17*, 1828.
4. Bergquist, M. S., Norin, T. Steric Relationships in the Thujane Group. *Arkiv Kemi* **1964**, *22*, 137.
5. Forsén, S., Norin, T. Anisotropic Effects of Three-membered Rings in Proton Magnetic Resonance. *Tetrahedron Letters* **1964**, 2845.
6. Norin, T. Reduction of Conjugated Cyclopropyl Ketones with Lithium in Liquid Ammonia. *Acta Chem. Scand.* **1965**, *19*, 1289.

7. Djerassi, C. Klyne, W., Norin, T., Ohloff, G., Klein, E. Optical Rotatory Dispersion Curves of Cyclopropyl- and Epoxyketones. *Tetrahedron* **1965**, *21*, 163.
8. Erdtman, H., Norin, T. The Chemistry of the Order Cupressales. In: *Fortschritte der Chemie Organischer Naturstoffe*, Zechmeister, L. ed.; Springer-Verlag; **1966**, Vol. 24, p. 206.
9. Norin, T. Some Aspects of the Chemistry of the Order Pinales. *Phytochemistry* **1972**, *11*, 1231.
10. Mjöberg, P. J., Norin, T., Weber, M. An Interpretation of Kinetic Data for Cyclopropyl-Assisted Solvolysis in a 3-Bicyclo[3.1.0]hexyl System Using Spectroscopic Information. *Acta Chem. Scand.* **1975**, *B29*, 1039.
11. Borg-Karlson, A.-K., Norin, T., Talvitie, A. Configurations and Conformations of Torreyol (δ-Cadinol), α-Cadinol, T-Muurolol and T-Cadinol. *Tetrahedron* **1981**, *37*, 425.
12. Byström, S., Högberg, H.-E., Norin, T. Chiral Synthesis of (2*S*,3*S*,7*S*)-3,7-Dimethylpentadecan-2-yl Acetate and Propionate, Potential Sex Pheromone Constituents of the Pine Saw-Fly *Neodiprion sertifer* (Geoff.). *Tetrahedron* **1981**, *37*, 2249.
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15. Lindström, M., Norin, T., Sjödin, K. Plant Constituents as Signals for Aggregation and Attack of Pest Insects. *Pure & Applied Chem.* **1990**, *62*, 1329.
16. Hult, K., Norin, T. Enantioselectivity of Some Lipases - Control and Prediction. *Pure & Appl. Chem.* **1992**, *64*, 1129.
17. Norin, T. Chiral Chemodiversity and its Role for Biological Activity. Some Observations from Studies on Insect/Insect and Insect/Plant Relationships. *Pure & Applied Chemistry* **1996**, *68*, 2043.
18. Hæffner, F., Norin, T. Molecular modelling of Lipase Catalysed Reactions. Prediction of Enantioselectivities. *Bull. Chem. Pharm.* **1999**, *47*, 591.
19. Norin, T., Pheromones and Kairomones for Control of Pest Insects. Some Current Results from a Swedish Research Program. *Pure & Applied Chem*, **2001**, *73*, 607.
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