

Swiatoslaw Trofimenko (1931–2007)

Swiatoslaw Trofimenko, known to colleagues as “Jerry” and called by his close friends “Slawko”, passed away on February 26, 2007, at the age of 75 after a long illness that he had battled courageously and with great dignity for a number of years.



Born in the polyglot city of Lviv in western Ukraine, he became proficient in Ukrainian, Polish, German, and French by the age of eight. During the Second World War, his family moved westward, first to Poland, then to Austria and Germany, where Swiatoslaw received private lessons in piano and became an accomplished pianist. He was also tutored in English and went on to complete his secondary education with exceptionally high grades in a Displaced Persons Camp in Mittenwald, Germany.

After the Wesleyan University of Connecticut offered him a scholarship, he emigrated with his father to the United States. In 1955, he received there a BA degree with honors and high distinction in chemistry. He went on to earn a PhD at Northwestern University with Charles D. Hurd on the anomalous cyanoethylation of kojic acid. From 1958 to 1959, he conducted research as a postdoctoral fellow at Columbia University with Gilbert Stork, working on the total synthesis of lupeol. In 1959, he joined the DuPont Central Research Department in Wilmington, Delaware. Until 1970, his work at DuPont Central Research was exploratory research in cyanocarbons, polyformyl compounds, polyhedral boranes, diazepentalenes, boron chemistry, and pyrazole chemistry.

After some preliminary experiments, Trofimenko synthesized bis-, tris-, and tetrakis(pyrazolyl)borates^[1] by treating pyrazole with alkali-metal borohydrides.^[2] He then began to explore the coordination chemistry of these ligands with first-row transition-

metal ions. Some 200 pyrazolylborate ligands were prepared over the years and Trofimenko had a hand in making more than 100 of them. “I consider myself a gunsmith rather than a hunter,” Trofimenko said, preferring to make the ligands while others explored the chemistry that can be done with them. After retiring from DuPont, Trofimenko joined the Klaus H. Theopold research group at the Department of Chemistry and Biochemistry at the University of Delaware as a Visiting Scholar. There he continued his research on pyrazolylborates and wrote his book titled “Scorpionates: The Coordination Chemistry of Polypyrazolylborate Ligands”.^[3]

Swiatoslaw Trofimenko was a member of the American Chemical Society for over 50 years and served as officer in various capacities at the regional and national level. He was a Vice President and Learned Secretary of the Shevchenko Scientific Society of America and a full member of the Free Ukrainian Academy of Arts and Sciences in the USA. In addition to his book, he published over 150 papers and was granted 36 patents. To honor Swiatoslaw Trofimenko’s memory, the Department of Chemistry and Biochemistry at the University of Delaware established the “Trofimenko Memorial Prize”, to be awarded annually to a graduate student for creative inorganic synthesis.

One of the more important rewards for his scientific achievements was the award of the Wilmore Fellowship at the University of Melbourne. In 2003, the Division of Inorganic Chemistry sponsored a Symposium titled “Scorpionate Ligands—Thirty-Five Years Later” at the American Chemical Society National Meeting in New Orleans to celebrate 35 years of chemistry accomplished with pyrazolylborate and related tripodal ligands.^[4] A special issue of the journal *Polyhedron* was devoted to this symposium,^[5] where, on a hot afternoon, I met Trofimenko for the first time. I was very emotional because I had been waiting for this moment for nearly 20 years, since my supervisor, Flavio Bonati, had assigned me the topic for my thesis the synthesis of copper derivatives containing scorpionate ligands—the results of my work had to be presented in front of him and other important scientists.

At the conference, Jerry Trofimenko came towards me and, though he did not know me, shook my hand and said, “Hi Claudio. Welcome!” After my presentation, Jerry caught my eye and gave me the thumbs-up sign. During a dinner held in his honor, I invited him to visit Camerino to speak at the 3rd Conference on “Nitrogen Donor Ligands”. He was reluctant to accept, because he was already unwell and was unsure he could manage such a long and difficult journey. However, this reluctance was overcome by his desire to present his latest research and, more importantly, his overriding scientific curiosity and so he did participate in the conference I organized.

Our relationship was strengthened at that point and, subsequently, he sent me some ligands that he thought would be ideal for my research. Thus developed a regular correspondence. His suggestions were valuable, and he always showed the enthusiasm typical of a new researcher making a first discovery. Together, we planned the completion of his book on scorpionates but, unfortunately, time did not allow him to complete a second volume.

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- [1] Poly(pyrazolyl)borates (scorpionates) are a popular class of ligands because their versatility and user-friendliness. They combine some features of the cyclopentadienyl and β -diketonate ligands; the number of pyrazolyl groups and the substituents thereon or at the boron center can be easily modified to obtain ligands with different steric and electronic profiles.
- [2] S. Trofimenko, *J. Am. Chem. Soc.* **1966**, *88*, 1842–1844; S. Trofimenko, *Chem. Eng. News* **1967**, *72* (28 August).
- [3] S. Trofimenko, “Scorpionates, The coordination chemistry of Polypyrazolylborate Ligands”, World Scientific Publishing Company, ICP **1999**.
- [4] S. K. Ritter, *Chem. Eng. News* **2003**, *81*, 40–43.
- [5] S. Trofimenko, *Polyhedron* **2004**, *23*, 197–203.

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