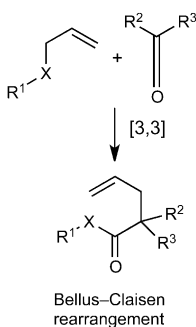
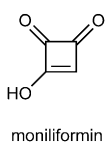
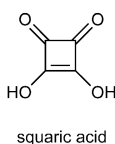
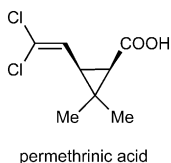




Daniel Belluš



## Daniel Belluš (1938–2011)

Professor Daniel Belluš died on September 18, 2011, at the age of 73. He was born in Trnava in the former Czechoslovakia on March 8, 1938. After high school in Trnava, he studied chemistry at the Slovak Technical University in Bratislava and received his Ph.D. in macromolecular chemistry in 1967. His work at the Slovak Academy of Sciences (1961–1967) and later as postdoctoral fellow with O. Jeger and K. Schaffner at the ETH Zürich (1967–1969) pioneered the field of organic photochemistry.<sup>[1]</sup> During his many years at Ciba-Geigy's Central Research Laboratories (CRL) in Basel (1969–1985), he made many outstanding and innovative contributions to the field of bioactive small-ring compounds,<sup>[2]</sup> including the synthesis of analogues of the natural insecticide pyrethrum,<sup>[3]</sup> of the mycotoxin moniliformin,<sup>[4]</sup> and of squaric acid.<sup>[5]</sup> In 1978 he discovered a new, broadly applicable reaction that allows ring enlargement by four carbons in one step,<sup>[6]</sup> a reaction which is now known as the Belluš-Claisen rearrangement. The 1980s, finally, were dedicated to copper-catalyzed reactions enabling the synthesis of numerous precursors of bioactive heterocycles. His review on this topic,<sup>[7]</sup> an elegant blend of creative synthetic thinking and thoughtful mechanistic analysis, became one of his most cited publications, especially after the emergence of copper-catalyzed atom-transfer radical polymerization techniques, that is, 10–15 years after Belluš' seminal paper was published. For his company, Ciba-Geigy, Daniel Belluš' discoveries paved the way to products generating millions of Swiss Francs in revenue.

After a series of fast promotions, Daniel Belluš became Head of Ciba-Geigy's CRL in Basel, Switzerland in 1981. It was under his leadership that CRL developed into a center of excellence in industrial research, thus attracting outstanding scientists and university graduates. He initiated R&D programs in several emerging fields, such as homogeneous catalysis, chiral chromatography, and enzyme-catalyzed reactions. In 1985, Daniel Belluš left Central Research to become Global Head of R&D of the Crop Protection Division of Ciba-Geigy, where he was responsible for 1600 scientists and staff in 14 countries. During his tenure, Ciba-Geigy introduced eleven new products in the world market. His decision to establish and vigorously pursue the new research project "Chirality in Crop Protection" revolutionized former paradigms.<sup>[8]</sup> Within a short time, this approach enabled Ciba-Geigy, and now Syngenta, to produce vastly improved environmentally sound crop-protection compounds.

In 1991, Daniel Belluš became Global Head of Ciba-Geigy's Corporate Research Units, thus

assuming responsibility for the direction of the company's basic research programs and collaborative strategic alliances worldwide in selected areas of bioorganic and medicinal chemistry, such as glycochemistry and antisense technology, as well as modern areas of material and bio-analytical science. Even during these years, along with his extensive top-managerial duties, Daniel Belluš always kept close ties to the laboratory, performing basic research on selected bio-oriented topics with two to three postdoctoral associates. Throughout his distinguished career, Daniel Belluš has always been very active as an author, as a teacher and lecturer at the University of Fribourg, Switzerland, and as a visiting professor, and he has served the chemistry community in many functions, be this as a member of scientific and managerial societies (for example as a board member of Swiss Chemical Society for many years), or on the advisory boards of numerous journals. Inevitably, a number of honors were awarded to Daniel Belluš, including three honorary Ph.D. titles.

It is difficult to separate Daniel Belluš from organic chemistry. But limiting my reflections to his excellence in science would not cover all aspects of our enduring friendship. Our roads crossed some 25 years ago because of chemistry, which has remained the cornerstone in our long lasting relationship. With his curiosity and tenacity, which are indispensable to open new doors to connect science with market needs, he will continue to be a role model of a successful scientist in the chemical industry. Daniel Belluš was a sharp and tireless chemist, but all those who ever had the privilege to work close to him also discovered a big-hearted man, full of humor and passion for science. His many colleagues have lost an affectionate companion and an exceptional chemist. Daniel Belluš is survived by his wife Miriam, his daughters Jelka and Suzanne, and three grandchildren.

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