

Heinz Günther Viehe (1929–2010)

Heinz Günther Viehe, Emeritus Professor at the Université Catholique de Louvain (Belgium), passed away peacefully at his home of Beersel on October 2, 2010 at the age of 81. For almost 20 years, he had been suffering from Parkinson's disease and was confined to his house. He will be remembered as a master of the art of organic synthesis and a world-leading figure in synthetic methods.

Heinz Günther Viehe was born in 1929 in the Westphalian city of Bielefeld, where he went to school. In 1949, he moved to the Technische Universität Braunschweig for undergraduate studies. In 1951, he left Germany to spend a year at the Sorbonne in Paris, which was an unusual and daring move for a young German just after the second world war, but so typical of the warm-hearted and open-minded attitude he always showed in life. After this interesting though sometimes distressing experience, he went back to Braunschweig for graduate studies and obtained a doctorate degree in 1955 with *summa cum laude* in the laboratory of Professor Dr. F. Bohlmann, where he acquired a taste for the chemistry of acetylenic compounds. He then crossed the Atlantic to work at Harvard University with Professor R. B. Woodward. In 1957, he joined the newly created "European Research Associates" (ERA) laboratories in Brussels as a research scientist, and in 1964 he was promoted to head of department. This research institute quickly became a highly rated chemistry department as a result of the presence of a number of brilliant chemists, such as H. G. Viehe, J. Dale, L. Skattebøl, J. F. Oth, and G. Schroeder, who all developed into internationally renowned organic chemists in various European universities. In 1965, he completed his Habilitation at the University of Erlangen-Nürnberg. During this early period, he struck up a long-lasting friendship with one of us (L.G.), who readily convinced his colleagues from the chemistry department of the Université de Louvain (UCL) to offer him a professorship. He was appointed full professor at UCL in 1969, and was very instrumental in building a highly rated organic chemistry section at UCL and raising the level of synthetic chemistry in Belgium. He chaired the chemistry department of UCL from 1974 to 1976. He also held visiting professorships at the University of Liège and The Hebrew University in Jerusalem. H. G. Viehe published over 300 papers, patents, and books. His scientific contribution was acknowledged by his election to the prestigious Leopoldina Nationale Akademie der Wissenschaften in 1977.

The originality of Viehe's scientific achievements resulted from a vivid imagination combined

with a remarkable chemical intuition. He has been known worldwide for his pioneering contributions to the field of heterosubstituted alkynes, and in particular haloacetylenes, ynamines, and nitroacetylenes. In the early 1960s, he prepared and studied a series of novel haloacetylenes and metal haloacetylides. A consequence of this research was the remarkable discovery of the facile trimerization of *tert*-butylfluoroacetylene to give a mixture of valence isomers of *tert*-butylfluorobenzene: a prismane, a Dewar benzene, and a benzvalene.^[1] In this early period of his career, he also prepared a series of 1,2-dihaloethylenes and 1,4-difluoro- and 1,4-dichlorobutadiene, and unexpectedly found that in most cases, *cis* isomers were thermodynamically more stable than the corresponding *trans* isomers. However, the peak of the alkyne period of Viehe's scientific career was probably reached when he prepared the first representative of the ynamines.^[2] This seminal discovery paved the way for a number of new synthetic methods based on the reactions of these highly nucleophilic acetylenes with a wide variety of electrophilic reagents. This new class of reagents was also successfully used in peptide synthesis. In 1969, Viehe prepared the first representative of the highly electrophilic nitroacetylides.^[3]

Another significant contribution of Viehe's group to synthetic methodology was the preparation of the highly reactive, yet readily handled and crystalline phosgeniminium chloride.^[4] This molecule quickly became a standard laboratory reagent that could be used as an activated form of carbon dioxide. A flurry of papers appeared from Viehe's group and also others that demonstrated the usefulness of this reagent for the synthesis of nitrogen-containing unsaturated acyclic molecules and heterocycles.

Viehe's studies on highly functionalized unsaturated molecules led to new fundamental insights and a deepening of our understanding of reactivity, as brilliantly illustrated in 1978 by the discovery of the captodative effect on radical stabilization. Indeed, he demonstrated that radicals were readily formed on carbon atoms carrying both an electron-withdrawing and an electron-donating group.^[5] This discovery is a beautiful demonstration of the extraordinary chemical intuition of H. G. Viehe.

Viehe's many students and postdoctoral associates will remember him as an inspiring teacher and a great mentor. He directly supervised each co-worker and was a great inspiration to them. He was also an outstanding academic ambassador to industry. He had many productive collaborations with industry but was always able to maintain autonomous research programs. His co-workers have largely benefited from these interactions with industry.



Heinz Günther Viehe

Heinz was a wonderful though challenging colleague. He was very much liked by all of us: colleagues, associates, and students. We have lost a great scientist, a dear friend, and a man of exceptional stature. He will be greatly missed.

Léon Ghosez, Istvan Marko
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