

NEKROLOG

OBITUARY

Zdenko Majerski

1937—1988

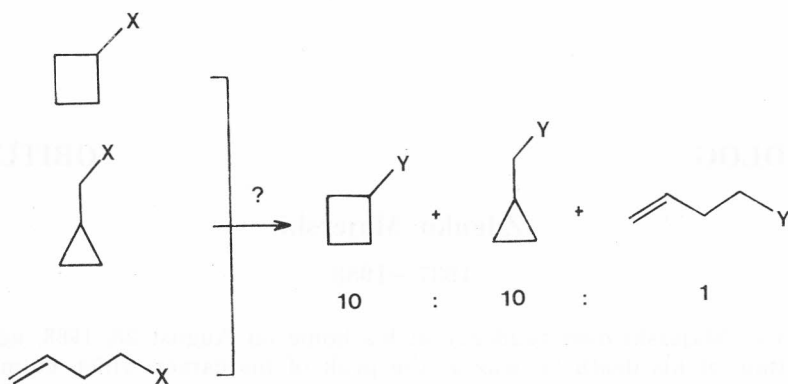
Zdenko Majerski died suddenly at his home on August 28, 1988, aged 51. At the time of his death he was at the peak of his career which culminated in the successful synthesis of a number of highly strained hydrocarbons, the so called propellanes. He found fascination in complex polycyclic structures of which adamantane is the prime representative. It was Dr. Majerski who brought this area of chemistry back to Zagreb, where it had originated in 1941 when Prelog and Seiwerth reported the first successful synthesis of this attractive hydrocarbon. He held a leading position among the relatively small number of internationally known organic chemists of his generation in this country and his passing away will be felt by our scientific community for many years to come.

Dr. Majerski was born in Daruvar, Croatia, on April 5, 1937, the son of Zlatko and Marinka Majerski. He leaves his wife Kata, also a chemist whom he married in 1973, and two sons Ivo (14) and Marko (9).

He received his Dipl. Ing. Chem. degree from the Faculty of Technology, University of Zagreb in 1963, followed by an M. Sc. degree in 1965 from the same institution. In 1967, after defending his thesis, entitled »Competitive Reactions of Two Nucleophiles with the Carbocation in the Solvolysis of Cyclopropylcarbinyll and Cyclobutyl Mesylates«, he was granted the degree of Doctor of Chemical Sciences at the University of Zagreb. At this time he was already associated with the physical organic chemistry group at the Rugjer Bošković Institute which remained his scientific home for the rest of his life. He spent 1968—1970 as a research associate at Princeton University with Professor Paul von R. Schleyer. He returned to the Rugjer Bošković Institute, worked as research associate from 1970—1973, senior research associate 1973—1980 and senior scientist (equivalent to full professor) from 1980 until his death in 1988.

Dr. Majerski began his scientific career at the time when in this country physical organic chemistry was at its beginning. The tantalizing and until these days not completely understood nature of the $C_4H_7^+$ ion involved in the rearrangement of cyclopropylcarbinyll, cyclobutyl, and homoallyl derivatives (Scheme) was at that time an important issue in the long lasting nonclassical ion controversy.

Dr. Majerski's first paper (his M. Sc. Thesis) and subsequent papers on this subject have been, from the time of their appearance until today, widely quoted in primary, as well as secondary publications and some recognized textbooks. It was this work which brought him the invitation to Princeton



Scheme

where, with his research supervisor Prof. Schleyer, he published three more papers on the same subject.

Early in his career he also became interested in theory and made some excursions into this area of chemistry. The contact with Prof. Randić and his group (Trinajstić, Klasinc) at the Ruđer Bošković Institute resulted in half-a-dozen papers dealing with diverse aspects of theoretical chemistry. One paper, with N. Trinajstić, deserves special attention because it elaborates the structures of various tetracycloalkanes some of which later became the subject of Dr. Majerski's synthetic studies.

However, it was the chemistry of adamantane which most attracted his interest. He had become familiar with this area of chemistry while at Princeton and remained faithful to it all his life. Returning from the States as an accomplished researcher he soon became head of the physicalorganic laboratory in the Department of Organic Chemistry and Biochemistry at the Ruđer Bošković Institute. There he fully developed his abilities and continued his work on adamantane chemistry thoroughly exploring this area synthetically and mechanistically. Some of the compounds synthesized in the course of this work are shown in Figure 1.

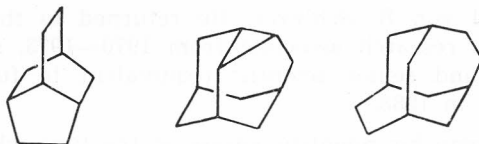


Figure 1.

Here we could list more than 30 publications by his group and also with collaborators from home and abroad (Schleyer, Osawa, Wolf, Škare). One of the fallouts of his work on the chemistry of adamantane-like compounds was the publication of the procedure for the preparation of 4-protoadamantanone in *Organic Synthesis*. Mechanistic and synthetic studies in this field evolved into investigations of more strained systems with the eventual entry into the chemistry of propellanes. In a remarkably short time he moved to the forefront of this field of chemistry and achieved international recognition

with the first successful synthesis of a stable 3,1,1-propellane. This highly strained structure is a representative of a family of compounds containing the so-called inverted carbon atom. Zdenko Majerski and his research group developed an extraordinary activity in this area, and between 1980 and 1988 about one dozen papers were published dealing with various synthetic and mechanistic aspects of newly synthesized propellanes (Figures 2). He was lucky to enjoy the help and collaboration of his wife Kata and references to their joint publications can be found in many reviews and reports.

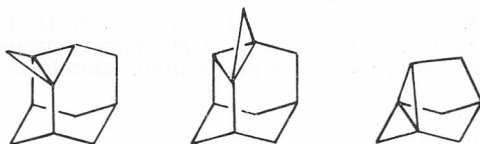


Figure 2.

These outstanding research accomplishments resulted in recognition in many forms. In 1983 he became the recipient of the Rugjer Bošković Award for creative work in organic chemistry. Invitations abroad followed and Majerski established contacts and collaboration with a number of colleagues, mainly from the USA (Gassman, Eaton, Fry, Stang). He lectured at many international and national gatherings and spoke in seminars at numerous universities in Europe and the USA. He also had an impact as a teacher of graduate courses at the University of Zagreb and was visiting professor at the University of Minnesota in 1985. He was a thorough and pedantic investigator always aiming at the highest standards, which he also applied to his students and collaborators. Chemistry was his occupation and hobby and considering the circumstances under which he had to work his achievements can be taken as an example for future generations.

D. SUNKO

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