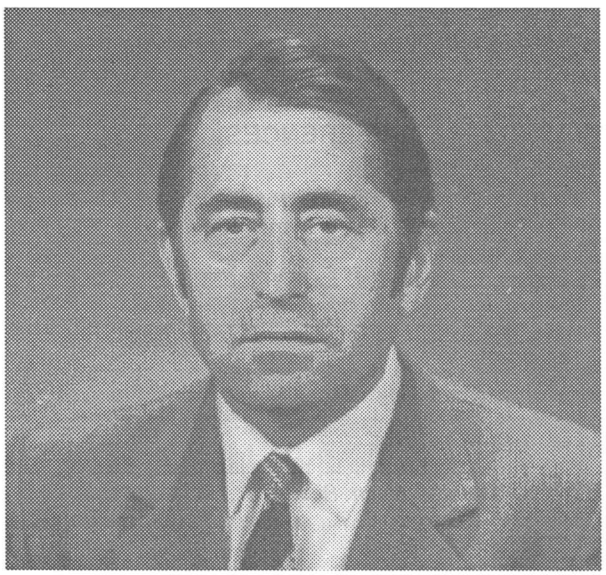
In Memoriam RNDr. Vojtech Bílik, DrSc.

We have learned with great sadness about the death of RNDr. *Vojtech Bílik*, DrSc., one of the foremost scientists of the Institute of Chemistry, Slovak Academy of Sciences, who established himself firmly in the community of carbohydrate chemists. Dr. Bílik passed after a long illness on June 5, 1994, shortly before his 65th birthday.



Dr. Bílik was born on July 16, 1929 in Šintava, Slovakia. He graduated in 1958 in organic chemistry from the Faculty of Natural Sciences, Comenius University in Bratislava. Since 1961 till his retirement in 1992 he was employed at the Institute of Chemistry. During early years he worked on trimethylsilylation of saccharides. On this subject he accomplished his PhD. thesis which was successfully defended in 1967.

Shortly after the doctoral work he became interested in a new project, interaction of saccharides with metal ions. He was the first to examine transformations of saccharides in the presence of molybdate ions which, at that time, were known to form complexes with polyhydroxy compounds. This outstanding idea led to the discovery of three new reactions catalyzed by molybdate ions:

1. **2(3)-Epimerization of aldoses** of various length, tetroses up to octoses, including uronic acids and 1,6-linked disaccharides. The reaction was first published in the paper: Bílik, V., Reactions of Saccharides Catalyzed by Molybdate Ions. II. Epimerization of D-Glucose and D-Mannose. *Chem. Zvesti 26*, 183 (1972). The reaction leads usually to an equilibrium of 2-epimeric aldoses in which predominates the aldose which is conformationally more stable.

2. **Stereoselective hydroxylation of glycals** leading to aldose with *cis* arrangement of the hydroxyl groups at carbon atoms C-2 and C-3. The first paper: Bílik, V. and Kučár, Š., Stereoselective Hydroxylation of Glycals. *Carbohydr. Res. 13*, 311 (1970).

3. **Oxidative decomposition of 1-deoxy-1-nitroalditols** to the corresponding aldoses. The first paper: Bílik, V., Oxydative Zersetzung der 1-Deoxy-1-nitroaldite zu Aldosen. X. *Collect. Czech. Chem. Commun. 39*, 1621 (1974).

The three molybdate-catalyzed reactions represent a new concept of saccharide transformations. Dr. Bílik summarized the results in his DrSc. thesis which was defended in 1981. The discovered reactions were also recognized internationally. The epimerization reaction was named the Bílik reaction (Angyal, S., *Carbohydr. Res. 73*, 9 (1979)) which documents an outstanding achievement of a Slovak scientist. The molybdate-catalyzed transformations of saccharides are experimentally very simple and this feature predetermined them for preparative purposes. The epimerization reaction in a combination with nitromethane synthesis and oxidative decomposition of nitroalditols offers a simple route to variety of rare saccharides. Particularly suitable are the reactions for preparation of radioactively labelled saccharides. Dr. Bílik left behind more than 80 original papers and 70 patents. This heritage has been used by the Institute of Chemistry for production of saccharides for commercial purposes. The scientific achievements of Dr. Bílik received several honours and awards. The most prestigious one was the State Prize of Klement Gottwald awarded to him in 1984.

In Dr. Bílik we are losing not only an established scientist, but also an outstanding man, a great character who will be severely missed by his family and his colleagues. We are losing a man who devoted his health and life to science. His work will live in his 11 graduate students and 5 doctoral students and in the carbohydrate laboratories all over the world. He will remain in our memory.

P. Biely