Lessons from Chemical and Biological Investigations of Peptides Built from Homologated Proteinogenic Amino Acids

Dieter Seebach

Laboratorium für Organische Chemie, Departement für Chemie und Angewandte Biowissenschaften, ETH-Zürich, Hönggerberg, HCI H331, CH-8093 Zürich, Schweiz Email: seebach@org.chem.ethz.ch

After a brief introduction outlining the preparation of β -amino acids and their assembly to β -peptides, the surprising properties of these novel peptides are described. The insertion of a simple CH₂-group into each and every residue of a peptide with proteinogenic side chains opens a door into a new world with similarities and, at the same time, fundamental differences of structures and physiological properties. The journey into this world was only possible by hard-core organic synthesis.

