New Auxin Analogs. Possible Probes for Auxin Receptors

Elvia Reynoso-Herrera, Carlos Rius-Alonso, Martha Albores-Velasco*

Facultad de Química, U.N.A.M. 04510. México, D. F.
Fax: (5) 6223774. E-mail: malbores@servidor.unam.mx

* Author for correspondence and reprint requests

Z. Naturforsch. 54c, 1042–1048 (1999); received March 29/August 3, 1999

Auxin, Auxin Receptors, Molecular Modeling and 2,4-D Analogs

Based on structure-activity relationship studies, auxin analogs that can be covalently bound to a polymeric support are proposed. Molecular modeling studies were carried out by comparing different parameters of substituted phenoxyacetic acids with their auxin activity. A good correlation of the activity with the size and shape of the HOMO orbital of the acids was found. Accordingly, analogs with a substituent in the 5 position of the aromatic ring, capable to be bound to a polymeric matrix were synthesized and their auxin activity was evaluated with the wheat coleoptile elongation test. Compounds with a hydroxymethyl- and with a carboxymethoxy- substituent were active in this test. Their use as probes for the 2,4-D receptor is proposed.