

First Laureate Applied Research



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Project Title: The impact of chirality on drug analysis

Abstract:

Analysis of chiral pollutants by an achiral chromatographic assay does not provide the comprehensive information about their side effects as enantiomers of chiral pollutants may have different toxicities. Liquid chromatography (LC) including high-performance liquid chromatography (HPLC) and capillary electrophoresis (CE) has emerged as one of the best chromatographic methods used for the enantioselective analysis of pesticides and agrochemicals. In LC, different classes of the CSPs can be used with a variety of mobile phases. Wide choice of the mobile phases in LC also enhances the range of its applications. Liquid chromatographic methods can be used for the enantioselective analysis of the organochlorine pollutants by coupling it with many of the advance detection techniques such as mass spectrometer (MS), optical detectors etc. Therefore, due to the rapid advancement of the stereoselective LC, it is becoming a reliable modality. Several examples for the chiral analyses of these chiral agrochemicals have been presented.

A sound and uniform policy should be developed regarding the regulation of chirality of pesticides, insecticides, fungicides and other agrochemicals at international level. It is very urgent to develop certain guidelines before exposing the notorious chiral compounds to our environment. Therefore, the environmental authorities world wide should come forward on this issue and initiate a guideline and formulate a harmonical policy on the use of chiral agrochemicals.

Biography:

Professor Hassan Y. Aboul-Enein is the author and co-author of more than 690 publications in peer reviewed journals, 20 book chapters, more than 320 conferences and symposia presentations and 7 books. He is also on the editorial board of 24 journals such as Analytica Chimica Acta ,Chirality ,Critical Reviews in Analytical Chemistry, Journal of Separation Science, Chromatographia and Biomedical Chromatography to mention a few. He is a member of several scientific and professional societies and organizations, a member of the World Health Organization (WHO) expert advisory panel on the International Pharmacopeia and Pharmaceutical Preparations.