Stacking and Sweeping in Cyclodextrin-Modified MEKC for Chiral Separation of Hexaconazole, Penconazole and Myclobutanil

Publons ID	12662837
Wos ID	WOS:000274903300019
Doi	10.1365/s10337-009-1427-y
Title	Stacking and Sweeping in Cyclodextrin-Modified MEKC for Chiral Separation of Hexaconazole, Penconazole and Myclobutanil
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Publish Date	FEB 2010
Journal Name	CHROMATOGRAPHIA
Citation	21
Abstract	A CD-MEKC method for the on-line preconcentration and chiral separation of three chiral triazole fungicides, namely hexaconazole, penconazole and myclobutanil is reported. Simultaneous enantioseparation of the three triazole fungicides was successfully achieved by the CD-MEKC system containing 40 mM HP-gamma-CD + 50 mM SDS in 25 mM phosphate buffer (pH 3.0) solution. Stacking with a reverse migrating micelle (SRMM) and sweeping were then used in this study as two on-line preconcentration methods to enhance the concentration sensitivity. The results indicate that sweeping-CD-MEKC is superior to SRMM-CD-MEKC in terms of the sensitivity enhancement factor (SEF) of the three triazole fungicides ranging from 62- to 67-fold. This is the first report on the chiral separation of hexaconazole, penconazole and myclobutanil by SRMM-CD-MEKC and sweeping-CD-MEKC methods.
Publish Type	Journal
Publish Year	2010
Page Begin	305
Page End	309
Issn	0009-5893
Eissn	1612-1112
Url	https://www.webofscience.com/wos/woscc/full-record/WOS:000274903300019
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