

Simultaneous enantioseparation of cyproconazole, bromuconazole, and diniconazole enantiomers by CD-modified MEKC

Publons ID	4140064
Wos ID	WOS:000267689900018
Doi	10.1002/elps.200800499
Title	Simultaneous enantioseparation of cyproconazole, bromuconazole, and diniconazole enantiomers by CD-modified MEKC
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Publish Date	JUN 2009
Journal Name	ELECTROPHORESIS
Citation	16
Abstract	<p>An efficient method for the simultaneous enantioseparation of cyproconazole, bromuconazole, and diniconazole enantiomers was developed by CD-modified MEKC using a dual mixture of neutral CDs as chiral selector. Three neutral CDs namely hydroxypropyl-beta-CD, hydroxypropyl-gamma-CD, and gamma-CD were tested as chiral selectors at different concentrations ranging from 10, 20, 30 and 40 mM, but enantiomers of the studied fungicides were not completely separated. The best dual chiral recognition mode for the simultaneous separation of cyproconazole, bromuconazole, and diniconazole enantiomers was achieved with a mixture of 27 mM hydroxypropyl-beta-CD and 3 mM hydroxypropyl-gamma-CD in 25 mM phosphate buffer (PH 3.0) containing 40 mM SDS to which methanol-acetonitrile (10%:5% v/v) was added as organic modifiers. The best separation was based on the appearance of 10 peaks simultaneously, with good resolution (R-s 1.1-15.9), and peak efficiency (N > 200000). Good repeatabilities in the migration time, peak area, and peak height were obtained in terms of RSD ranging from (0.72 to 1.06)%, (0.39 to 3.49)%, and (1.90 to 4.84)%, respectively.</p>
Publish Type	Journal
Publish Year	2009
Page Begin	1976
Page End	1982
Issn	0173-0835
Eissn	1522-2683
Url	https://www.webofscience.com/wos/woscc/full-record/WOS:000267689900018
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