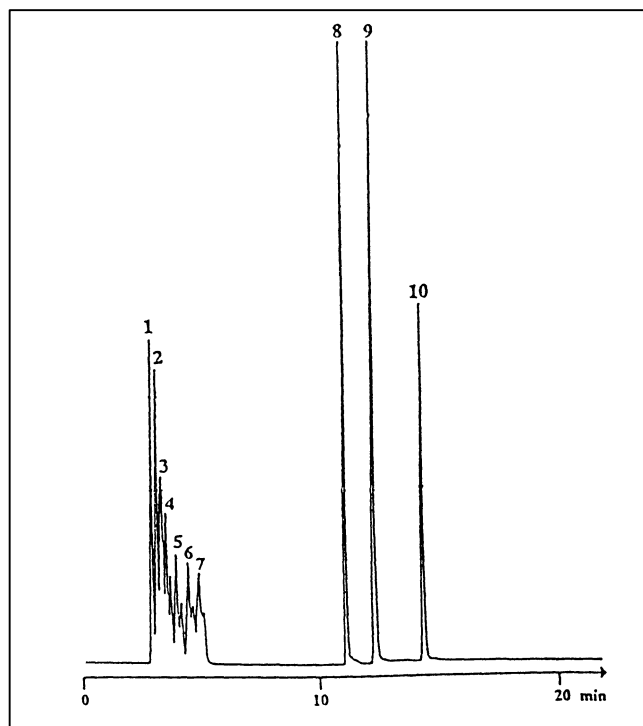


Analysis of commercial cyclodextrins using ELSD



1 glucose, 2 maltose, 3 maltotriose, 4 maltotetraos, 5 maltopentaose, 6 maltohexaose, 7 maltoheptaose, 8 β -CD, 9 DM- β -CD, 10 TM- β -CD.
J. liq. Chrom & rel. technol., 20(7), 1015-1035 (1997).

Cyclodextrins are used in various fields, such as in the manufacture of cosmetics, food technology, pharmaceutical industry, agrochemical production etc., for their ability to include different sized guest molecules. However, the analysis and the isolation in high purity of these cyclodextrins are a real problem. Various HPLC methods have been applied for maltodextrine and cyclodextrin analysis using aminopropyl-bonded column, aminocyano-bonded column, C8 and C18-bonded column, ion exchange column and recently graphitized carbon columns. Analysis difficulties of carbohydrates are caused by the limitations of the detection systems, due to the absence of UV chromophore groups in cyclodextrins. RI detector can not be used with gradient elution and suffers from a lack of sensitivity. ELSD which is an universal detector, more sensitive than RI detector (at least 100 times), is compatible with HPLC elution gradient. Also ELSD is a good choice for cyclodextrins analysis.

Chromatographic conditions :

Column : Zorbax Phenyl (250x4.6 mm)

Flow Rate : 1 ml/mn

Mobile phase A : H₂O

Mobile phase B : CH₃CN

Nebulizer temperature : 35°C

Evaporation temperature : 45°C

Pressure : 1 Bar

Gradient:

T	0	2	9	20	21
A%	100	100	40	0	100
B%	0	0	60	100	0

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