

Chiral Separation Column

<https://www.shodex.de/chiral-column-orpak-cdbs-453>

Features

CDBS-453

- Separates optical isomers by using their conformational compatibility differences
- Versatile column for chiral separation
- Fulfills USP-NF L45 requirements

• Standard column

Product Code	Product Name	Functional Group	Particle Size (µm)	Column Size (mm) I.D. x Length	Shipping Solvent
F7146003	ORpak CDBS-453	β-Cyclodextrin derivative	3	4.6 x 150	0.05 % CH ₃ COOH + 0.2 M NaCl aq./ CH ₃ CN = 95/5

Base Material: Silica

Pretreatment Column for Column Switching Method

<https://www.shodex.de/gpc-clean-up-columns>

Features

GF-4A

- High protein removal rate
- Removes surfactants well but is not suitable for trapping hydrophilic substances

• Column for column switching method

Product Code	Product Name	Particle Size (µm)	Pore Size (Å)	Column Size (mm) I.D. x Length	Shipping Solvent
F8700015	MSpak GF-4A	9	400	4.6 x 10	H ₂ O

Base Material: Polyvinyl alcohol

GPC Clean-up Columns

<https://www.shodex.de/gpc-clean-up-columns>

Features

EV

- Suitable for fractionation of residual pesticides in foods
- EV-2000 AC is used in Shoku-An No. 0124001 (January 24th, 2005, Japan) of the Pharmaceutical and Food Safety Bureau, MHLW, Section 2 "Simultaneous GC/MS (LC/MS) Analyses of Agricultural Chemicals in Livestock and Marine Products".
- EV2000AC-12F is used in Shoku-An No. 0226 (February 26th, 2015, Japan) of the Pharmaceutical and Food Safety Bureau, MHLW, Section 2 "LC/MS Analyses of Agricultural Chemicals in Livestock and Marine Products".

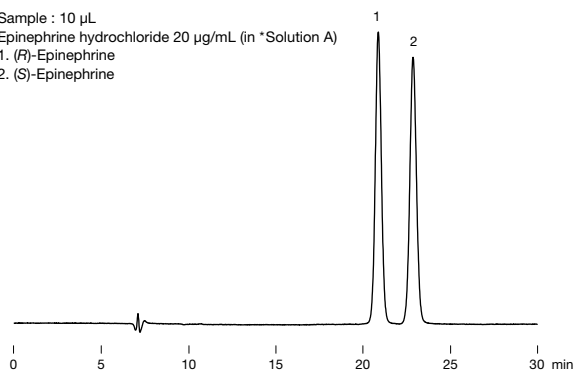
• GPC clean-up columns for residual pesticides in foods, etc.

Product Code	Product Name	Particle Size (µm)	Pore Size (Å)	Column Size (mm) I.D. x Length	Shipping Solvent
F6090006	CLNpak EV2000AC-12F	16	30	12.0 x 300	Acetone/Cyclohexane = 3/7
F6090007	CLNpak EV-G AC12C	16	(guard column)	12.0 x 100	Acetone/Cyclohexane = 3/7
F6090003	CLNpak EV-2000 AC	16	30	20.0 x 300	Acetone/Cyclohexane = 3/7
F6090004	CLNpak EV-G AC	16	(guard column)	20.0 x 100	Acetone/Cyclohexane = 3/7
F6090001	CLNpak EV-2000	16	30	20.0 x 300	Ethylacetate/Cyclohexane = 3/7
F6090002	CLNpak EV-G	16	(guard column)	20.0 x 100	Ethylacetate/Cyclohexane = 3/7
F6090005	CLNpak EV-200	16	30	2.0 x 150	Ethylacetate/Cyclohexane = 3/7

Base Material: Styrene divinylbenzene copolymer

Analysis of epinephrine injection proposed in USP-NF pharmacopeial forum

Sample : 10 μ L
 Epinephrine hydrochloride 20 μ g/mL (in *Solution A)
 1. (R)-Epinephrine
 2. (S)-Epinephrine

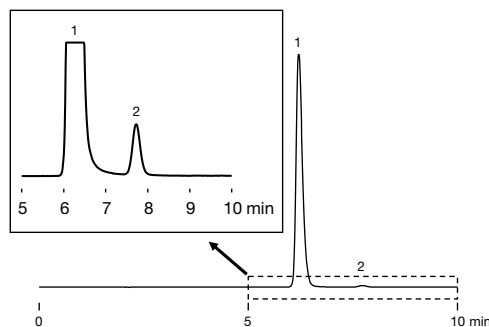


Column : Shodex ORpak CDBS-453
Eluent : *Solution A/CH₃CN = 99/1
Flow rate : 0.3 mL/min
Detector : UV (280 nm)
Column temp. : 25 °C

*Solution A : 0.75 g/L Ammonium acetate aqueous solution adjusted to pH4.0 with Glacial acetic acid

Impurity analysis of lamivudine according to USP-NF method

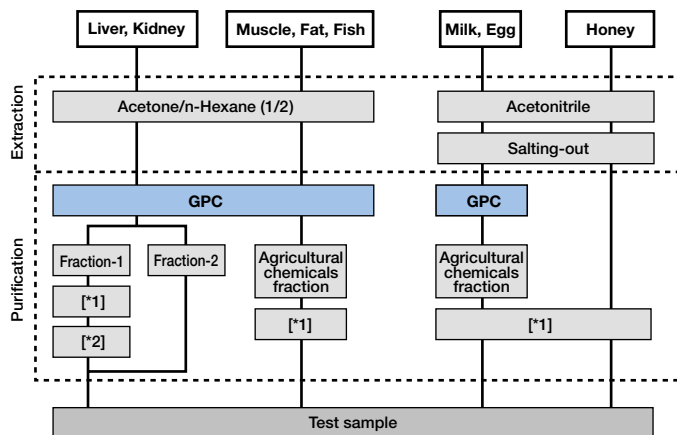
Sample : 10 μ L (System suitability solution)
 0.25 mg/mL USP Lamivudine resolution mixture A RS in water
 1. Lamivudine
 2. Lamivudine enantiomer



Column : Shodex ORpak CDBS-453
Eluent : Methanol and *Buffer (5 : 95)
 *Buffer: 7.7 g/L of Ammonium acetate in water
Flow rate : 1.0 mL/min
Detector : UV (270 nm)
Column temp. : 25 °C

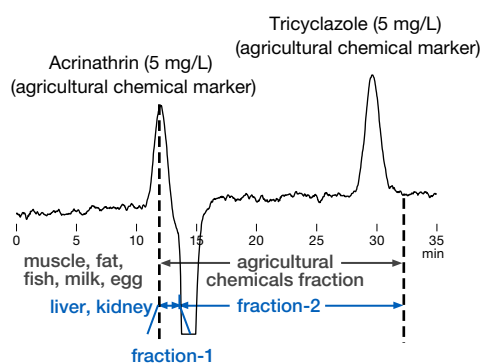
Sample preparation outline for simultaneous GC/MS and LC/MS analysis of agricultural chemicals in livestock and marine products (part 1)

[Outline]



GPC column : Shodex CLNpak EV-2000 AC + EV-G AC
 *1 Purification with ethylenediamine-N-propylsilyled silica gel mini-column
 *2 Purification with silica gel mini-column

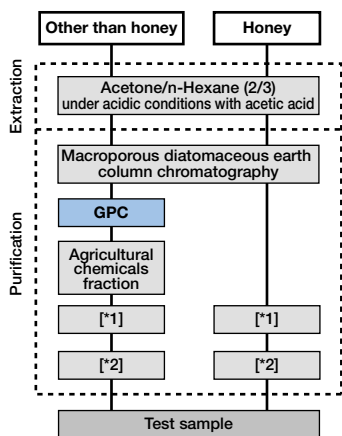
Fractionation of agricultural chemicals using EV-2000 AC



Column : Shodex CLNpak EV-G AC + EV-2000 AC
Eluent : Acetone/Cyclohexane = 1/4
Flow rate : 5.0 mL/min
Detector : UV (254 nm) (preparative type)
Column temp. : 40 °C
Injection vol. : 5 mL

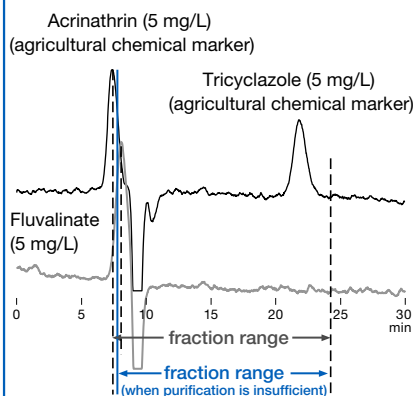
Sample preparation outline for simultaneous LC/MS analysis of agricultural chemicals in livestock and marine products (part 2)

[Outline]



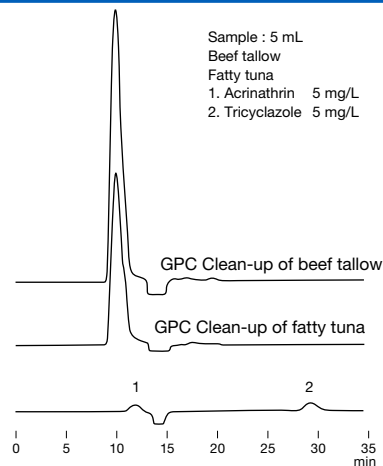
GPC column : Shodex CLNpak EV2000AC-12F + EV-G AC12C
 *1 Purification with trimethyl aminopropylsilyled silica gel mini-column
 *2 Purification with ethylenediamine-N-propylsilyled silica gel mini-column

Fractionation of agricultural chemicals using EV2000AC-12F



Column : Shodex CLNpak EV-G AC12C + EV2000AC-12F
Eluent : Acetone/Cyclohexane = 3/17
Flow rate : 3.0 mL/min
Detector : UV (254 nm) (preparative type)
Column temp. : 45 °C
Injection vol. : 2 mL

GPC clean-up of fatty tuna and beef tallow



Column : Shodex CLNpak EV-G AC + EV-2000 AC
Eluent : Acetone/Cyclohexane = 1/4
Flow rate : 5.0 mL/min
Detector : UV (254 nm) (preparative type)
Column temp. : 40 °C
Injection vol. : 5 mL