

ChiralTek ChiralAMCE-5 Column Manual and Applications in HPLC& UPLC

Version 2.1

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Context Directory

1. Copyright and Disclaimer Statement · · · · ·	3	4'-Hydroxyflavanone · · · · ·	31
2. Introduction · · · · ·	4	2-(1-Hydroxyethyl)naphthalene · · · · ·	33
3. Order Information · · · · ·	6	Lansoprazole · · · · ·	35
4. Notes and Applications for		2-Methoxy-2-phenylethanol · · · · ·	36
Aminoglutethimide · · · · ·	8	6-Methoxyflavanone · · · · ·	37
Anisoin · · · · ·	9	Methyl mandelate · · · · ·	39
Benzoin · · · · ·	10	Naringenin · · · · ·	40
Bicalutamide · · · · ·	11	Nisoldipine · · · · ·	41
Bifonazole · · · · ·	12	Ornidazole · · · · ·	42
1,1'-Bi-2-Naphthol · · · · ·	13	2-Phenylcyclohexanone · · · · ·	43
Carbinoxamine · · · · ·	14	1-Phenyl-1-propanol · · · · ·	44
4-Chlorobenzoin · · · · ·	15	1-Phenyl-2-propanol · · · · ·	45
4-Chromanol · · · · ·	17	3-Phenylphthalide · · · · ·	46
Chlormezanone · · · · ·	18	Pioglitazone · · · · ·	48
Cobalt(III) acetylacetonate · · · · ·	22	Praziquantel · · · · ·	49
3,5-Dinitro-N-(1-phenylethyl)benzamide · · ·	23	Promethazine · · · · ·	50
Equol · · · · ·	25	Rosiglitazone · · · · ·	51
Flavanone · · · · ·	26	Stilbene Oxide · · · · ·	52
Furoin · · · · ·	28	Thalidomide · · · · ·	53
Hesperetin · · · · ·	30	Troger's Base · · · · ·	56

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Novel ChiralAMCE Chiral Columns for UPLC and HPLC

2. Introduction

ChiralTek pioneered the manufacture of the first type of chemically-modified amylose-appended cellulose-bonded silica particles-packed chiral columns (ChiralAMCE) for both traditional HPLC and modern UPLC.

The ChiralAMCE particles (shown in figure (A)) were prepared through a specially-designed procedure by bonding the different functional groups-substituted amylose-appended cellulose (AMCE) onto surface of high-quality porous silica (2 μm or 3 μm for analytical columns). The column contains a unique complex chiral selector with two recognition moieties: amylose and cellulose.

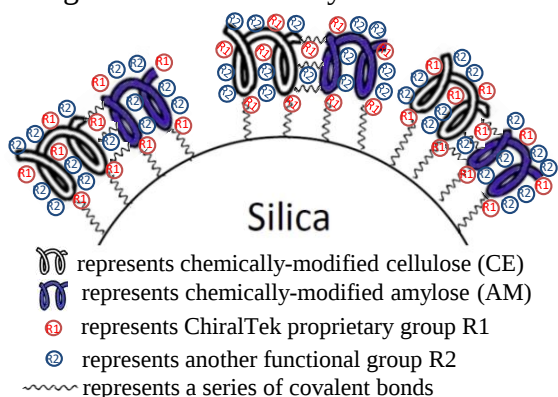
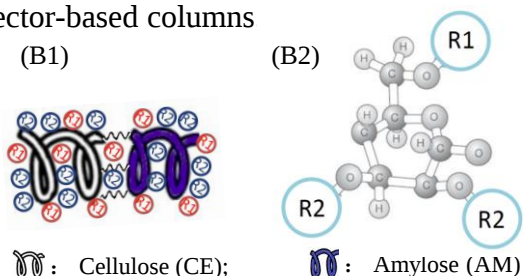


Figure (A). Schematic diagram of ChiralAMCE phase. Other manufacturers' columns contain a single type of chiral selector (e.g., only amylose or cellulose, etc). A single ChiralAMCE column can be used as two chiral columns with single chiral selector: one amylose column and a cellulose-based column. More ever, since the amylose and cellulose can form extra new chiral recognition structure in the novel amylose-appended cellulose selector, the chiralAMCE column can separate some chiral compounds which can not be recognized by either amylose-based or cellulose-based column. Therefore, a much wider range of chiral compounds be resolved on the novel ChiralAMCE columns than on amylose-based and cellulose-based columns.

Figure (B) shows the schematic structure of the novel chemically-modified amylose-appended cellulose complex selector and the general glucose unit in the ChiralAMCE column. Due

to the cooperative functioning of the amylose and cellulose moieties, the ChiralAMCE columns can provide different and generally better chiral separation abilities for a wider range of chiral compounds than other single selector-based columns



ChiralAMCE-1: R2= Phenylcarbamate;
ChiralAMCE-2: R2= 3,5-Dimethylphenylcarbamate;
ChiralAMCE-3: R2= 3-Chloro-4-methyl-phenylcarbamate;
ChiralAMCE-4: R2= 3,5-Dichlorophenylcarbamate;
ChiralAMCE-5: R2= 3-Chloro-5-methyl-phenylcarbamate

Figure (B). Schematic diagram of the AMCE complex chiral selector (B1) and general glucose unit (B2) of the ChiralAMCE phase

ChiralTek provides five types of ChiralAMCE columns: phenylcarbamate-amylose-appended cellulose-bonded silica particles-packed column (ChiralAMCE-1), 3,5-dimethylphenylcarbamate-amylose-appended cellulose-bonded silica packed chiral column (ChiralAMCE-2), and 3-chloro-4-methyl-phenylcarbamate-amylose-appended cellulose-bonded silica particles-packed chiral column (ChiralAMCE-3), 3,5-dichlorophenylcarbamate-amylose-appended cellulose-bonded silica packed chiral column (ChiralAMCE-4), and 3-Chloro-5-methyl-phenylcarbamate-amylose-appended cellulose-bonded silica packed chiral column (ChiralAMCE-5). The photo of a widely-used ChiralAMCE-5 analytical column for HPLC with dimension of 250mm $\times$ 4.6 mm $\times$ 5 μm is shown below.



Figure (C). Typical photo of a common analytical ChiralAMCE-5 column

Novel ChiralAMCE Chiral Columns for UPLC and HPLC

The ChiralAMCE columns can be used under multiple modes of mobile phase conditions: normal phase, reversed phase, and polar organic conditions. For use under reversed-phase conditions, the column need to be firstly flushed with methanol following by mobile phase until reaching a constant column pressure. Similarly, for use under normal phase conditions, the column need to be flushed with ethanol or isopropanol following by mobile phase until achieving a stable baseline signal. A common C18 guard column can be used for reversed-phase conditions and a Diol guard column can be used for normal phase conditions. If non-standard mobile phases are to be used, please contact ChiralTek for technical support.

When using ChiralAMCE columns with 2 μm or 3 μm particles, low flow rate (e.g., 0.1-0.3 mL/min) should be applied when used in traditional HPLC with highly viscous mobile phases in order to avoid high back pressure. However, there is no special flow rate limitation for use in UPLC.

Flow direction:	Arrow direction on the label
Pressure:	< 860 bar (~12500 psi , 2 or 3 μm , HPLC & UPLC)
	< 600 bar (~9000 psi , 5 μm , HPLC & SFC)
Temperature:	0 – 40 °C
Guard column:	Standard C18 or Diol column
Mode:	HPLC, SFC, or UPLC

Besides the above analytical columns packed with 2 μm or 3 μm particles, varies of semi-preparative and preparative-scale columns

packed with 5 μm or 10 μm particles are available as well. Figure (D) shows a typical semi-preparative chiral columns.



Figure (D). Photo of a typical semi-preparative ChiralAMCE-5 column

Notes and applications

A wide range of chiral drug compounds were used to evaluate the enantiomeric separation performance of the ChiralAMCE-5 columns packed with 3 μm or 5 μm particles. Some of the typical chromatograms for those tests are shown in this notes and applications.

The chromatographic separations were performed on Agilent 1100 & 1200 HPLC-UV, Shimadzu LC20 HPLC-UV or Agilent 1290 UPLC-UV system under both normal and reversed phase conditions.

ChiralTek provides two types of screening kits: ChiralKit-1 (3 different types of analytical columns) and ChiralKit-2 (6 analytical columns). ChiralTek also provide free screening tests for chiral separation if customer can provide the test compounds with clear chemical structure.

3. Order Information for ChiralAMCE Columns

<i>Part Number</i>	<i>Type</i>	<i>Dimension</i>	<i>Description</i>
872-AMCE1-01	ChiralAMCE-1	2 μ m, 120Å, 50 × 2.1mm	AMCE-1 bonded analytical column
872-AMCE1-02	ChiralAMCE-1	2 μ m, 120Å, 100 × 2.1mm	AMCE-1 bonded analytical column
872-AMCE1-03	ChiralAMCE-1	2 μ m, 120Å, 150 × 2.1mm	AMCE-1 bonded analytical column
873-AMCE2-01	ChiralAMCE-2	3 μ m, 120Å, 50 × 2.1mm	AMCE-2 bonded analytical column
873-AMCE2-02	ChiralAMCE-2	3 μ m, 120Å, 100 × 2.1mm	AMCE-2 bonded analytical column
8573-AMCE2-03	ChiralAMCE-2	3 μ m, 500Å, 150 × 2.1mm	AMCE-2 bonded analytical column
8573-AMCE2-04	ChiralAMCE-2	3 μ m, 500Å, 200 × 2.1mm	AMCE-2 bonded analytical column
8573-AMCE2-05	ChiralAMCE-2	3 μ m, 500Å, 250 × 2.1mm	AMCE-2 bonded analytical column
873-AMCE3-01	ChiralAMCE-3	3 μ m, 120Å, 50 × 2.1mm	AMCE-3 bonded analytical column
873-AMCE3-02	ChiralAMCE-3	3 μ m, 120Å, 100 × 2.1mm	AMCE-3 bonded analytical column
873-AMCE3-03	ChiralAMCE-3	3 μ m, 120Å, 150 × 2.1mm	AMCE-3 bonded analytical column
873-AMCE3-04	ChiralAMCE-3	3 μ m, 120Å, 200 × 2.1mm	AMCE-3 bonded analytical column
873-AMCE3-05	ChiralAMCE-3	3 μ m, 120Å, 250 × 2.1mm	AMCE-3 bonded analytical column
8973-AMCE4-03	ChiralAMCE-4	3 μ m, 1000Å, 150 × 2.1mm	AMCE-4 bonded analytical column
8973-AMCE4-04	ChiralAMCE-4	3 μ m, 1000Å, 200 × 2.1mm	AMCE-4 bonded analytical column
8973-AMCE4-05	ChiralAMCE-4	3 μ m, 1000Å, 250 × 2.1mm	AMCE-4 bonded analytical column
8973-AMCE5-01	ChiralAMCE-5	3 μ m, 1000Å, 50 × 2.1mm	AMCE-5 bonded analytical column
8973-AMCE5-02	ChiralAMCE-5	3 μ m, 1000Å, 100 × 2.1mm	AMCE-5 bonded analytical column
8973-AMCE5-03	ChiralAMCE-5	3 μ m, 1000Å, 150 × 2.1mm	AMCE-5 bonded analytical column
8973-AMCE5-04	ChiralAMCE-5	3 μ m, 1000Å, 200 × 2.1mm	AMCE-5 bonded analytical column
8973-AMCE5-05	ChiralAMCE-5	3 μ m, 1000Å, 250 × 2.1mm	AMCE-5 bonded analytical column
8975-AMCE2-05	ChiralAMCE-2	5 μ m, 1000Å, 250 × 4.6mm	AMCE-2 bonded analytical column
8975-AMCE5-05	ChiralAMCE-5	5 μ m, 1000Å, 250 × 4.6mm	AMCE-5 bonded analytical column
7905-AMCE5-14	ChiralAMCE-5	5 μ m, 1000Å, 200 × 10.0mm	AMCE-5 semi-preparative column
7910-AMCE5-25	ChiralAMCE-5	8 μ m, 1000Å, 250 × 20.0mm	AMCE-5 preparative column
7910-AMCE5-35	ChiralAMCE-5	8 μ m, 1000Å, 250 × 30.0mm	AMCE-5 preparative column

ChiralAMCE columns with other dimensions are also available. This manual may not be updated on time, please visit English website <http://chiraltek-column.com/Downloads.php> for downloading the latest version of full product manual and application notes for ChiralAMCE columns. Please call an international phone number (+65)-93656129 to directly contact ChiralTek technical support team in Singapore. You also can call a special local phone number (+86)-95040358310 in the mainland of China to directly contact ChiralTek support team in Singapore.

Order Information

<i>Part number</i>	<i>Type</i>	<i>Column Dimension</i>	<i>Remarks</i>
833-SK1-03	Screening Kit-1	3µm, 150 x 2.1mm	Chiral Separation Screening Kit-1 containing three different types of analytical columns.
833-SK2-03	Screening Kit-2	3µm, 150 x 2.1mm	Chiral Separation Screening Kit-2 containing six different types of analytical chiral columns.

Contact us:

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ChiralAMCE-5 Column Notes and Applications in HPLC and UPLC

Aminoglutethimide on ChiralAMCE-5 column

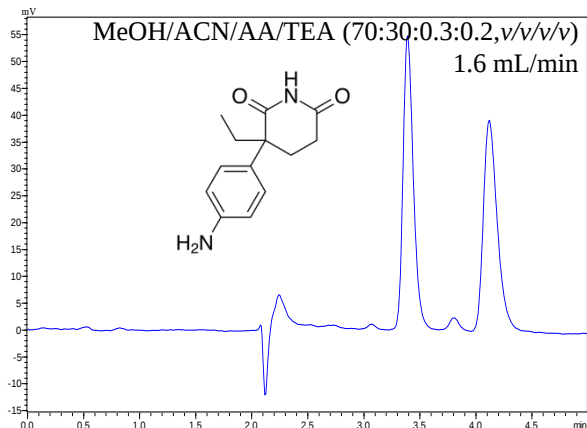


Figure (AMCE5)-1. Chiral separation of Aminoglutethimide on ChiralAMCE-5 column under polar organic condition using MeOH/ACN/AA/TEA as mobile phase

Column: ChiralAMCE-5
Dimension: 5 μ m, 250 $\times$ 4.6 mm I.D.
Part No. 8975-AMCE5-05
LC Mode: HPLC (Shimadzu LC20)
Flow rate: 1.6 mL/min
Detection: UV@220nm
Temperature: Ambient

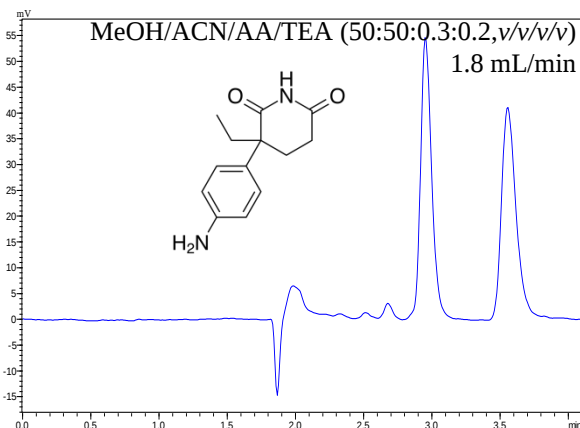


Figure (AMCE5)-2. Chiral separation of Aminoglutethimide on ChiralAMCE-5 column under polar organic condition using MeOH/ACN/AA/TEA as mobile phase

Column: ChiralAMCE-5
Dimension: 5 μ m, 250 $\times$ 4.6 mm I.D.
Part No. 8975-AMCE5-05
LC Mode: HPLC (Shimadzu LC20)
Flow rate: 1.6 mL/min
Detection: UV@220nm
Temperature: Ambient

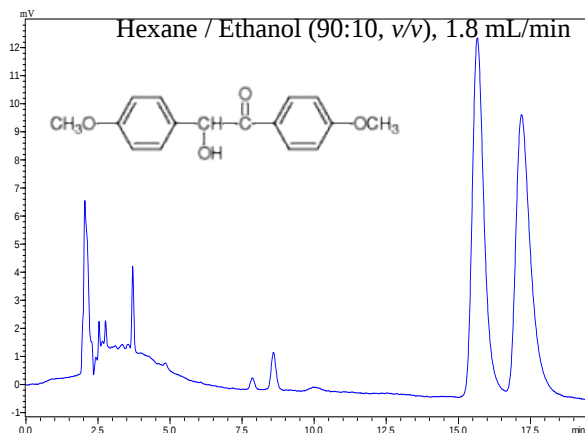
ChiralAMCE-5 Column Notes and Applications in HPLC and UPLC**Anisoin on ChiralAMCE-5 column**

Figure (AMCE5)-3. Chiral separation of Anisoin on ChiralAMCE-5 column under normal phase conditions using Hexane/Ethanol as mobile phases.

Column: ChiralAMCE-5
Dimension: 5 μ m, 250 $\times$ 4.6 mm I.D.
Part No. 8975-AMCE5-05
LC Mode: HPLC (Shimadzu LC20)
Flow rate: 1.8 mL/min
Detection: UV@220nm
Temperature: Ambient

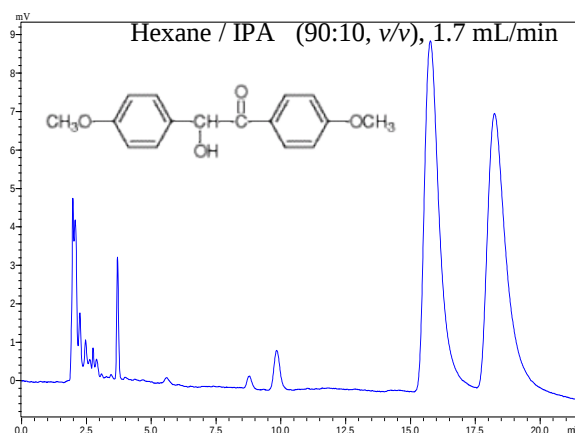


Figure (AMCE5)-4. Chiral separation of Anisoin on ChiralAMCE-5 column under normal phase conditions using Hexane/IPA as mobile phases.

Column: ChiralAMCE-5
Dimension: 5 μ m, 250 $\times$ 4.6 mm I.D.
Part No. 8975-AMCE5-05
LC Mode: HPLC (Shimadzu LC20)
Flow rate: 1.7 mL/min
Detection: UV@220nm
Temperature: Ambient

ChiralAMCE-5 Column Notes and Applications in HPLC and UPLC

Benzoin on ChiralAMCE-5 column

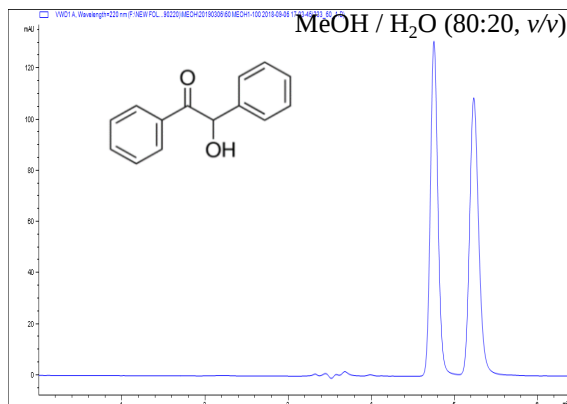


Figure (AMCE5)-5. Chiral separation of Benzoin on ChiralAMCE-5 column under reversed phase conditions using MeOH / H₂O as mobile phase.

Column: ChiralAMCE-5
Dimension: 5 μ m, 250 $\times$ 4.6 mm I.D.
Part No. 8975-AMCE5-05
LC Mode: HPLC (Agilent1200)
Flow rate: 1.0 mL/min
Detection: UV@220nm
Temperature: Ambient

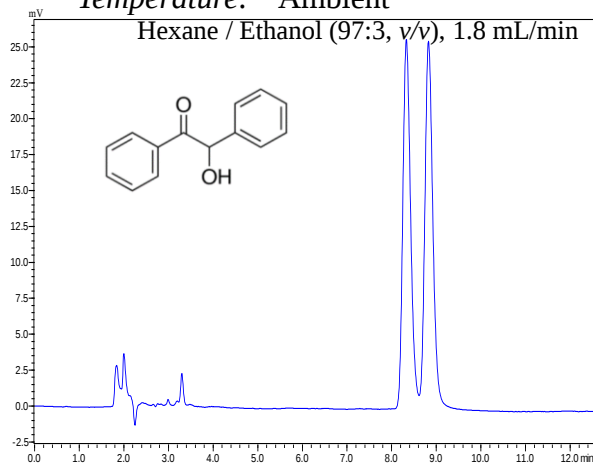


Figure (AMCE5)-6. Chiral separation of Benzoin on ChiralAMCE-5 column under normal phase conditions using Hexane/Ethanol as mobile phase.

Column: ChiralAMCE-5
Dimension: 5 μ m, 250 $\times$ 4.6 mm I.D.
Part No. 8975-AMCE5-05
LC Mode: HPLC (Shimadzu LC20)
Flow rate: 1.8 mL/min
Detection: UV@220nm
Temperature: Ambient

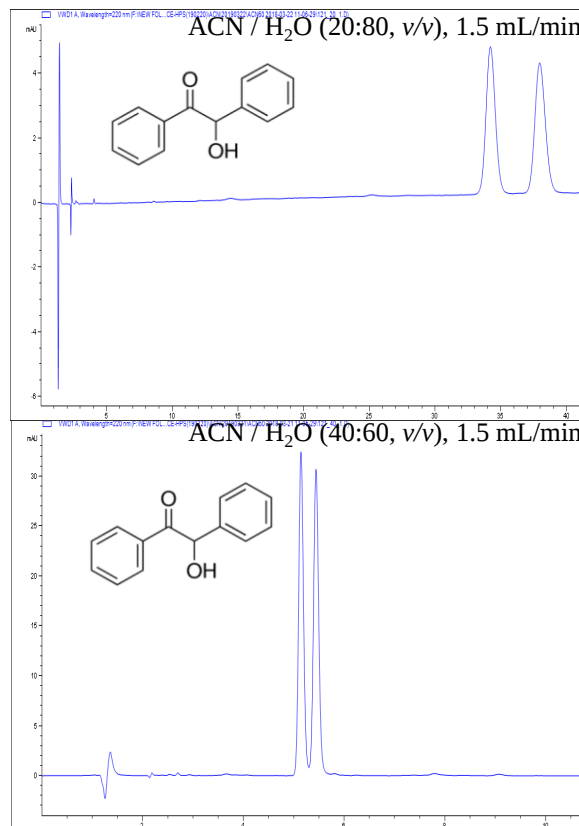


Figure (AMCE5)-7. Chiral separation of Benzoin on ChiralAMCE-5 column under reversed phase conditions using ACN / H₂O as mobile phase.

Column: ChiralAMCE-5
Dimension: 5 μ m, 250 $\times$ 4.6 mm I.D.
Part No. 8975-AMCE5-05
LC Mode: HPLC (Agilent1200)
Flow rate: 1.5 mL/min
Detection: UV@220nm
Temperature: Ambient

ChiralAMCE-5 Column Notes and Applications in HPLC and UPLC

Bicalutamide on ChiralAMCE-5 column

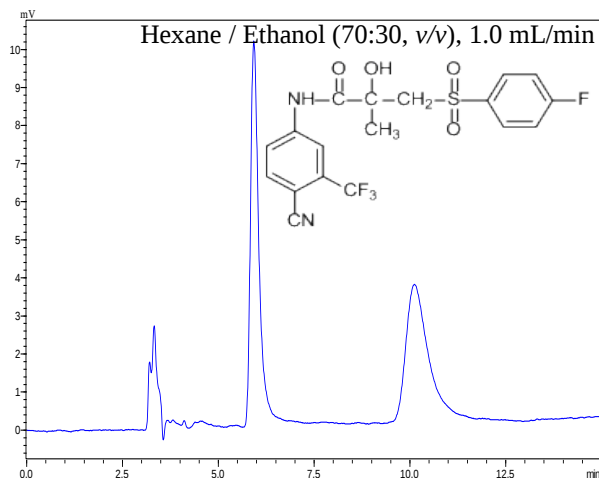


Figure (AMCE5)-8. Chiral separation of Bicalutamide on ChiralAMCE-5 column under normal phase conditions using Hexane/Ethanol as mobile phase.

Column: ChiralAMCE-5
Dimension: 5 μ m, 250 $\times$ 4.6 mm I.D.
Part No. 8975-AMCE5-05
LC Mode: HPLC (Shimadzu LC20)
Flow rate: 1.0 mL/min
Detection: UV@220nm
Temperature: Ambient

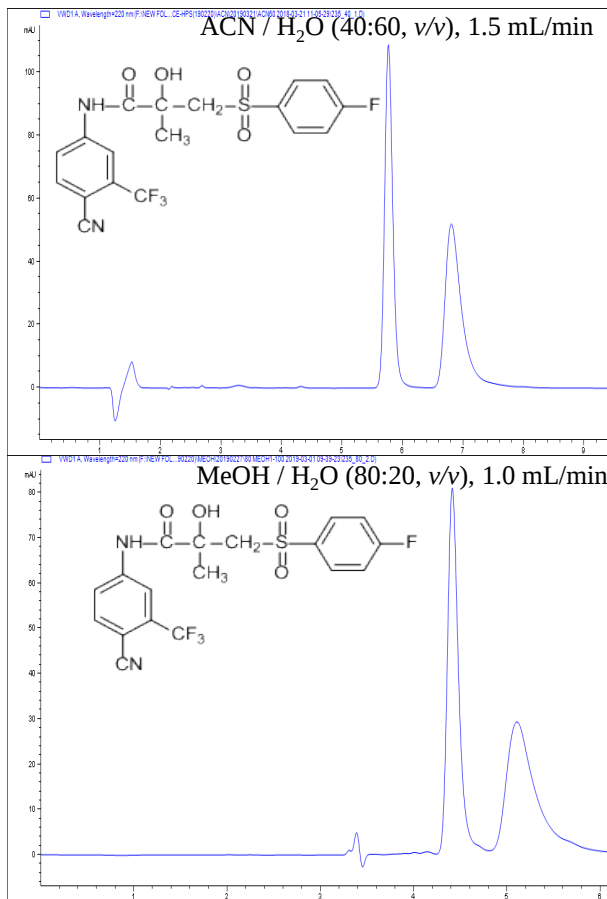


Figure (AMCE5)-9. Chiral separation of Bicalutamide on ChiralAMCE-5 column under reversed phase conditions using MeOH / H₂O and ACN / H₂O as mobile phases.

Column: ChiralAMCE-5
Dimension: 5 μ m, 250 $\times$ 4.6 mm I.D.
Part No. 8975-AMCE5-05
LC Mode: HPLC (Agilent1200)
Flow rate: 1.0 & 1.5 mL/min
Detection: UV@220nm
Temperature: Ambient

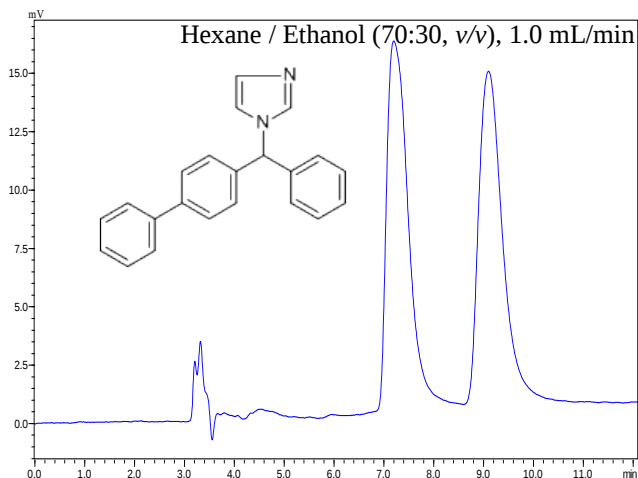
ChiralAMCE-5 Column Notes and Applications in HPLC and UPLC**Bifonazole on ChiralAMCE-5 column**

Figure (AMCE5)-10. Chiral separation of Bifonazole on ChiralAMCE-5 column under normal phase conditions using Hexane/Ethanol as mobile phase.

Column: ChiralAMCE-5
Dimension: 5 μ m, 250 $\times$ 4.6 mm I.D.
Part No. 8975-AMCE5-05
LC Mode: HPLC (Shimadzu LC20)
Flow rate: 1.0 mL/min
Detection: UV@220nm
Temperature: Ambient

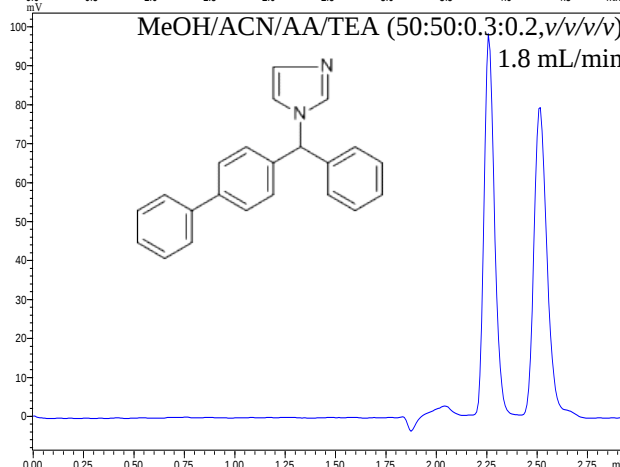
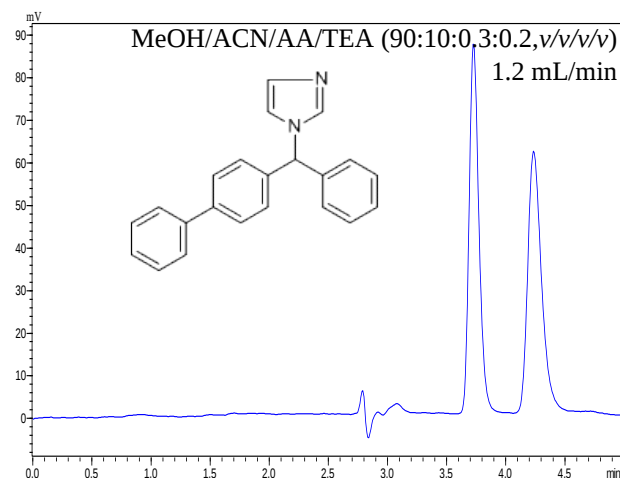


Figure (AMCE5)-11. Chiral separation of Bifonazole on ChiralAMCE-5 column under polar organic conditions using MeOH / H₂O MeOH/ACN/AA/TEA as mobile phases.

Column: ChiralAMCE-5
Dimension: 5 μ m, 250 $\times$ 4.6 mm I.D.
Part No. 8975-AMCE5-05
LC Mode: HPLC (Shimadzu LC20)
Flow rate: 1.2 & 1.8 mL/min
Detection: UV@220nm
Temperature: Ambient

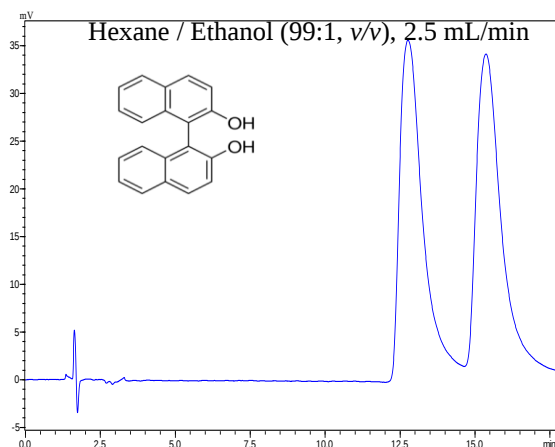
ChiralAMCE-5 Column Notes and Applications in HPLC and UPLC**1,1'-Bi-2-Naphthol on ChiralAMCE-5 column**

Figure (AMCE5)-12. Chiral separation of 1,1'-Bi-2-Naphthol on ChiralAMCE-5 column under normal phase conditions using Hexane/Ethanol as mobile phase.

Column: ChiralAMCE-5
Dimension: 5 μ m, 250 $\times$ 4.6 mm I.D.
Part No. 8975-AMCE5-05
LC Mode: HPLC (Shimadzu LC20)
Flow rate: 2.5 mL/min
Detection: UV@220nm
Temperature: Ambient

ChiralAMCE-5 Column Notes and Applications in HPLC and UPLC

Carbinoxamine on ChiralAMCE-5 column

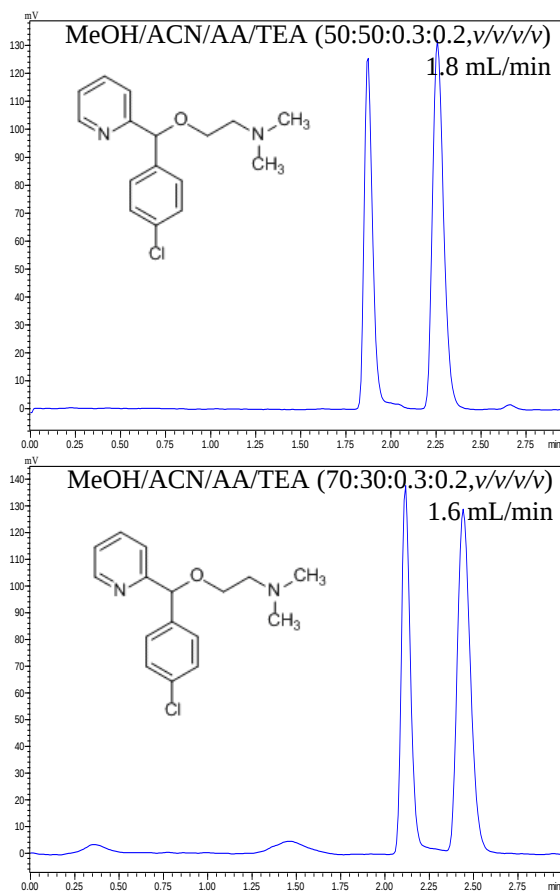


Figure (AMCE5)-13. Chiral separation of Carbinoxamine on ChiralAMCE-5 column under polar organic mode using MeOH/ACN/AA/TEA as mobile phase.

Column: ChiralAMCE-5
Dimension: 5 μ m, 250 $\times$ 4.6 mm I.D.
Part No. 8975-AMCE5-05
LC Mode: HPLC (Shimadzu LC20)
Flow rate: 1.6 & 2.5 mL/min
Detection: UV@220nm
Temperature: Ambient

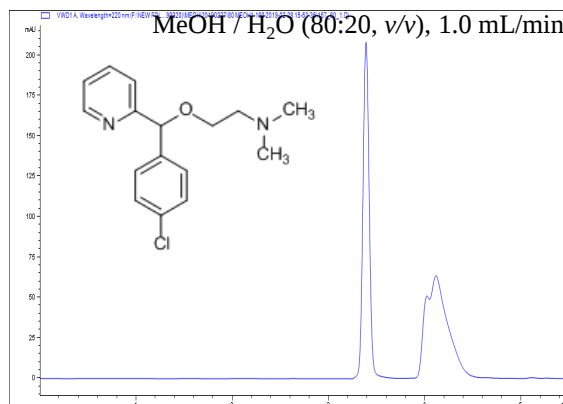


Figure (AMCE5)-14. Chiral separation of Carbinoxamine on ChiralAMCE-5 column under reversed phase conditions.

Column: ChiralAMCE-5
Dimension: 5 μ m, 250 $\times$ 4.6 mm I.D.
Part No. 8975-AMCE5-05
LC Mode: HPLC (Agilent1200)
Flow rate: 1.0 mL/min
Detection: UV@220nm
Temperature: Ambient

ChiralAMCE-5 Column Notes and Applications in HPLC and UPLC

4-Chlorobenzoin on ChiralAMCE-5 column

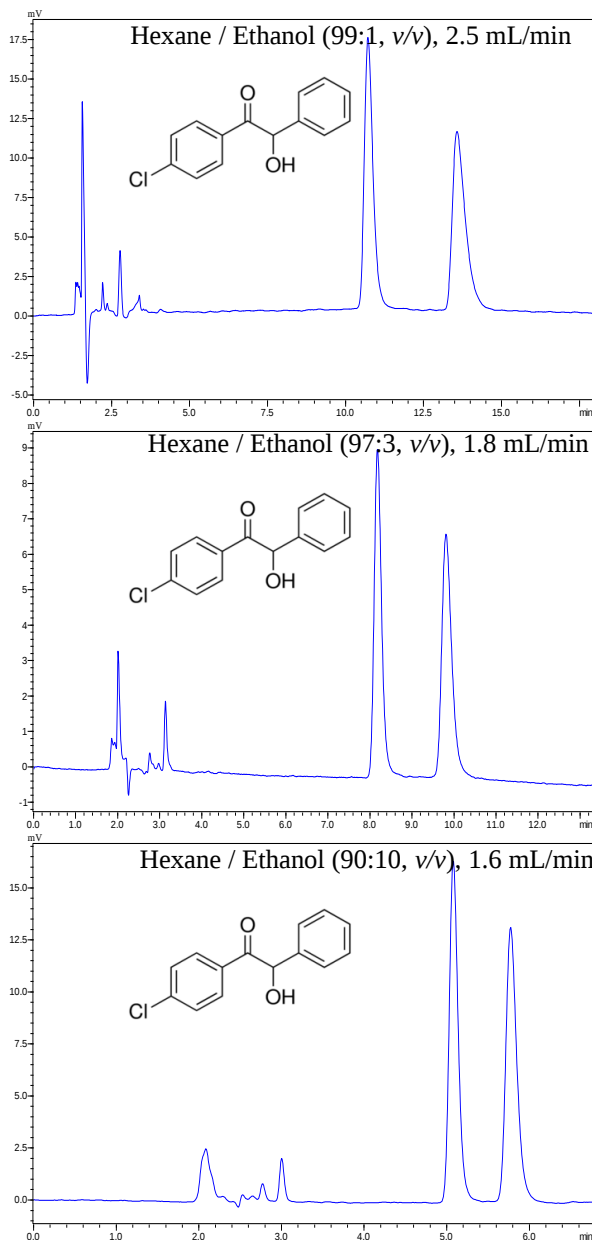


Figure (AMCE5)-15. Chiral separation of 4-Chlorobenzoin on ChiralAMCE-5 column under normal phase conditions using Hexane / Ethanol as mobile phase.

Column: ChiralAMCE-5
Dimension: 5 μ m, 250 $\times$ 4.6 mm I.D.
Part No. 8975-AMCE5-05
LC Mode: HPLC (Shimadzu LC20)
Flow rate: 1.6, 1.8 & 2.5 mL/min
Detection: UV@220nm
Temperature: Ambient

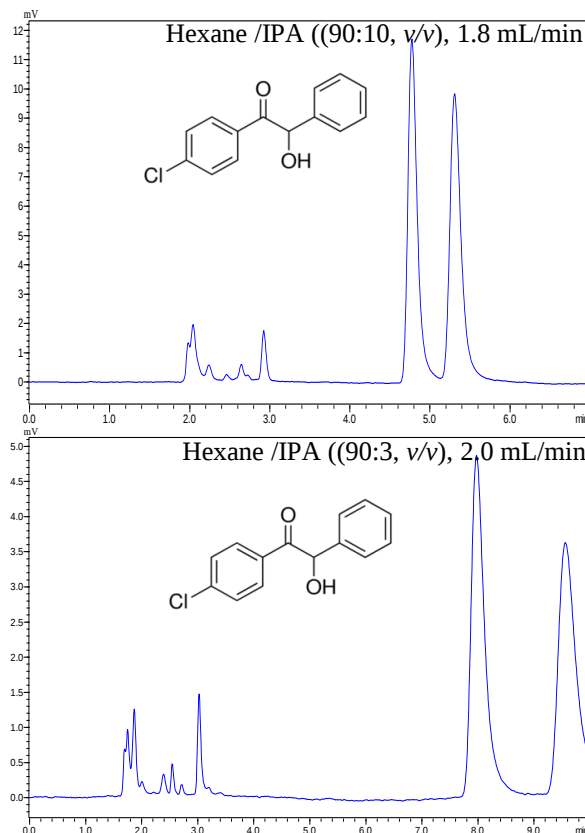


Figure (AMCE5)-16. Chiral separation of 4-Chlorobenzoin on ChiralAMCE-5 column under normal phase conditions using Hexane / IPA as mobile phase.

Column: ChiralAMCE-5
Dimension: 5 μ m, 250 $\times$ 4.6 mm I.D.
Part No. 8975-AMCE5-05
LC Mode: HPLC (Shimadzu LC20)
Flow rate: 1.8 & 2.0 mL/min
Detection: UV@220nm
Temperature: Ambient

ChiralAMCE-5 Column Notes and Applications in HPLC and UPLC

4-Chlorobenzoin on ChiralAMCE-5 column

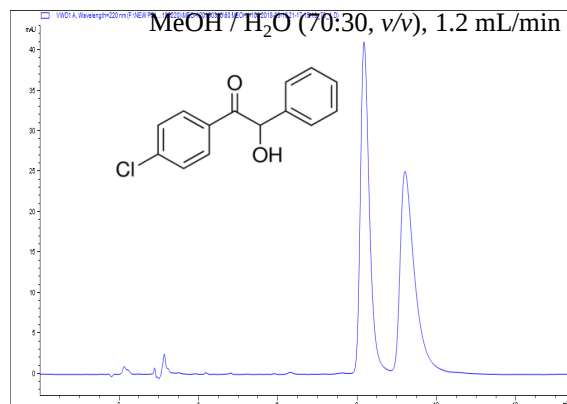


Figure (AMCE5)-17. Chiral separation of 4-Chlorobenzoin on ChiralAMCE-5 column under reversed phase conditions using MeOH / H₂O as mobile phase.

Column: ChiralAMCE-5
Dimension: 5 μ m, 250 $\times$ 4.6 mm I.D.
Part No. 8975-AMCE5-05
LC Mode: HPLC (Shimadzu LC20)
Flow rate: 1.2 mL/min
Detection: UV@220nm
Temperature: Ambient

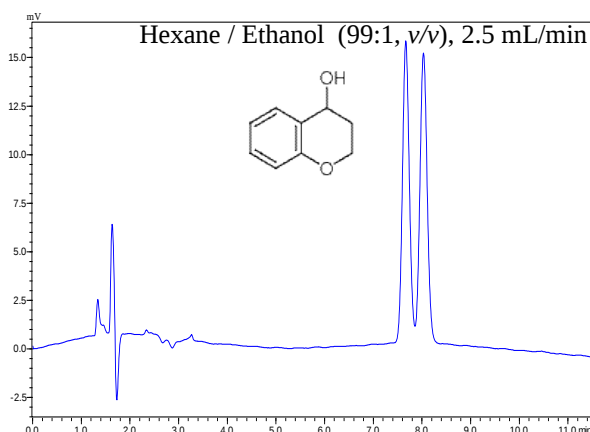
ChiralAMCE-5 Column Notes and Applications in HPLC and UPLC**4-Chromanol on ChiralAMCE-5 column**

Figure (AMCE5)-18. Chiral separation of 4-Chromanol on ChiralAMCE-5 column under normal phase conditions using Hexane / Ethanol as mobile phase.

Column: ChiralAMCE-5
Dimension: 5 μ m, 250 $\times$ 4.6 mm I.D.
Part No. 8975-AMCE5-05
LC Mode: HPLC (Shimadzu LC20)
Flow rate: 2.5 mL/min
Detection: UV@220nm
Temperature: Ambient

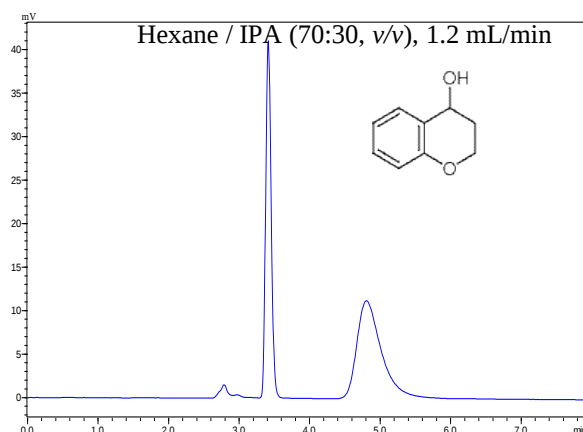


Figure (AMCE5)-19. Chiral separation of 4-Chromanol on ChiralAMCE-5 column under normal phase conditions using Hexane / IPA as mobile phase.

Column: ChiralAMCE-5
Dimension: 5 μ m, 250 $\times$ 4.6 mm I.D.
Part No. 8975-AMCE5-05
LC Mode: HPLC (Shimadzu LC20)
Flow rate: 1.2 mL/min
Detection: UV@220nm
Temperature: Ambient

ChiralAMCE-5 Column Notes and Applications in HPLC and UPLC

Chlormezanone on ChiralAMCE-5 column

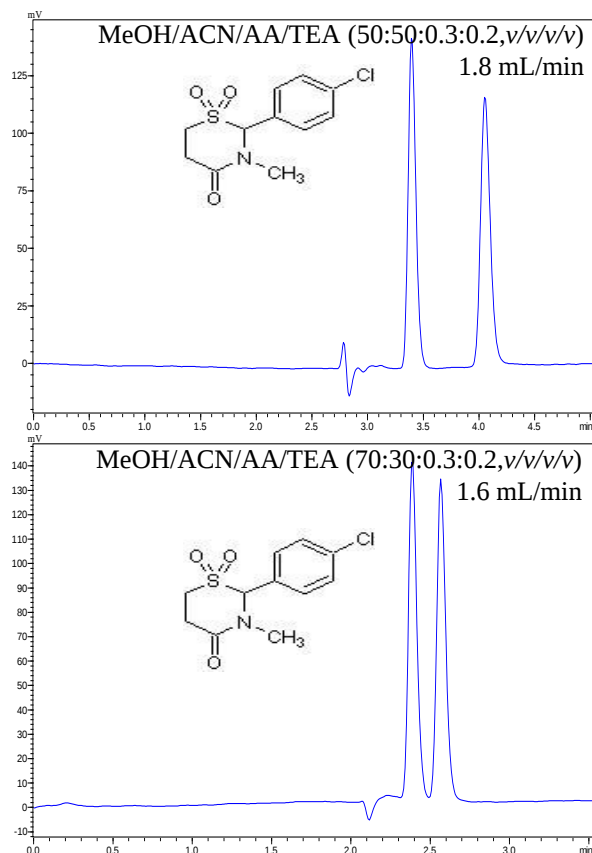


Figure (AMCE5)-20. Chiral separation of Chlormezanone on ChiralAMCE-5 column under polar organic conditions using MeOH/ACN/AA/TEA as mobile phase.

Column: ChiralAMCE-5
Dimension: 5 μ m, 250 $\times$ 4.6 mm I.D.
Part No. 8975-AMCE5-05
LC Mode: HPLC (Shimadzu LC20)
Flow rate: 1.6 & 1.8 mL/min
Detection: UV@220nm
Temperature: Ambient

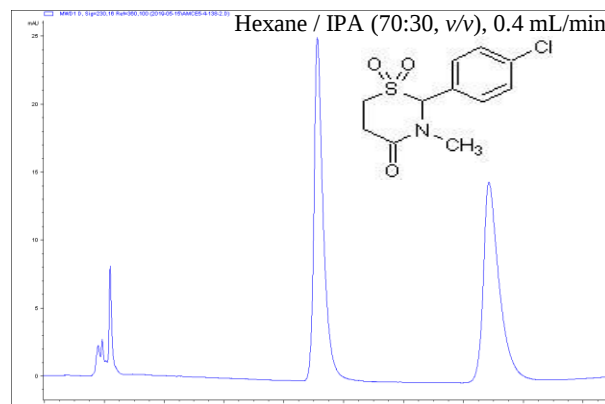


Figure (AMCE5)-21. Chiral separation of Chlormezanone on ChiralAMCE-5 column using Hexane / IPA as mobile phase.

Column: ChiralAMCE-5
Dimension: 3 μ m, 250 $\times$ 2.1 mm I.D.
Part No. 8973-AMCE5-05
LC Mode: UPLC (Agilent 1290)
Flow rate: 0.4 mL/min
Detection: UV@230nm
Temperature: Ambient

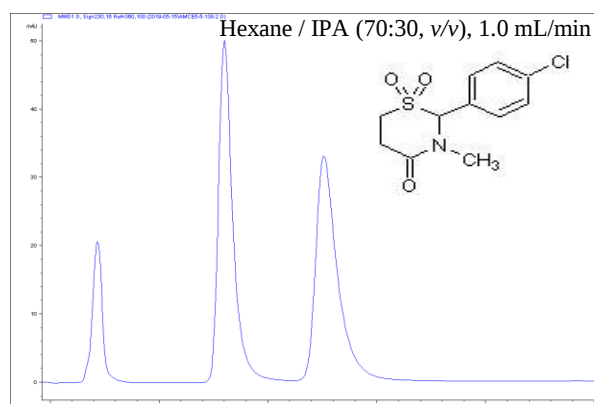


Figure (AMCE5)-22. Fast chiral separation of Chlormezanone within 1.5 min on ChiralAMCE-5 column using Hexane / IPA as mobile phase.

Column: ChiralAMCE-5
Dimension: 3 μ m, 50 $\times$ 2.1 mm I.D.
Part No. 8973-AMCE5-01
LC Mode: UPLC (Agilent 1290)
Flow rate: 1.0 mL/min
Detection: UV@230nm
Temperature: Ambient

ChiralAMCE-5 Column Notes and Applications in HPLC and UPLC

Chlormezanone on ChiralAMCE-5 column

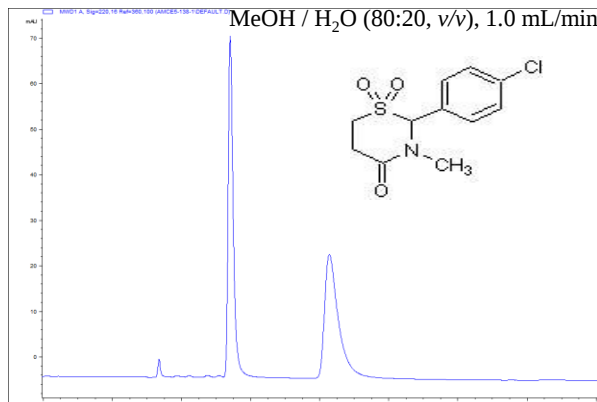


Figure (AMCE5)-23. Chiral separation of Chlormezanone on ChiralAMCE-5 column under reversed phase conditions using MeOH / H₂O as mobile phase.

Column: ChiralAMCE-5
Dimension: 5 μ m, 250 $\times$ 4.6 mm I.D.
Part No. 8975-AMCE5-05
LC Mode: HPLC (Shimadzu LC20)
Flow rate: 1.0 mL/min
Detection: UV@210nm
Temperature: Ambient

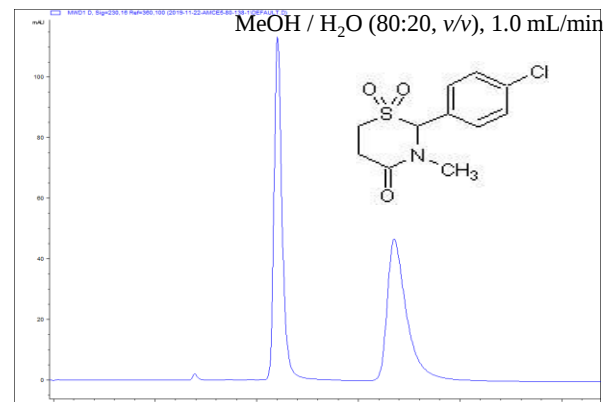


Figure (AMCE5)-24. Fast chiral separation of Chlormezanone on ChiralAMCE-5 column using MeOH / H₂O as mobile phase.

Column: ChiralAMCE-5
Dimension: 3 μ m, 100 $\times$ 4.6 mm I.D.
Part No. 8973-AMCE5-62
LC Mode: UPLC (Agilent 1290)
Flow rate: 1.0 mL/min
Detection: UV@230nm
Temperature: Ambient

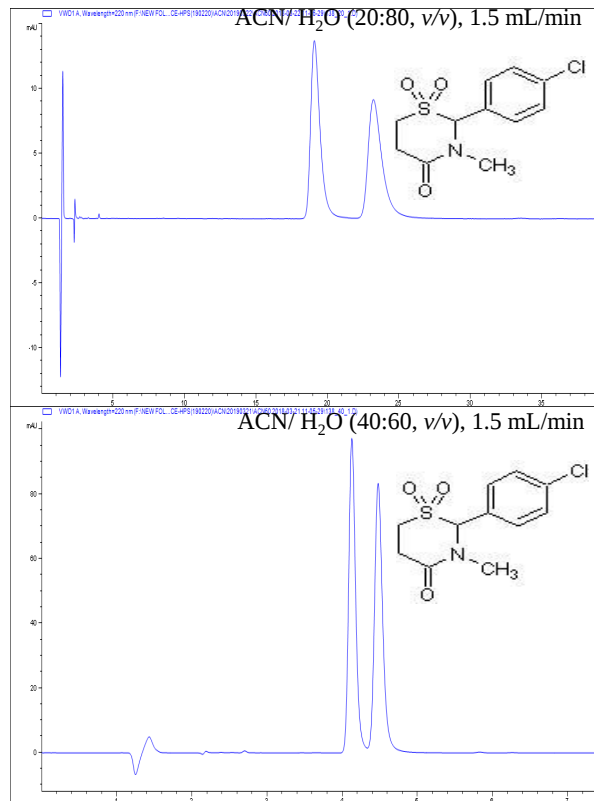


Figure (AMCE5)-25. Chiral separation of Chlormezanone on ChiralAMCE-5 column under reversed phase conditions using ACN / H₂O as mobile phase.

Column: ChiralAMCE-5
Dimension: 5 μ m, 250 $\times$ 4.6 mm I.D.
Part No. 8975-AMCE5-05
LC Mode: HPLC (Agilent1200)
Flow rate: 1.5 mL/min
Detection: UV@220nm
Temperature: Ambient

ChiralAMCE-5 Column Notes and Applications in HPLC and UPLC

Chlormezanone on ChiralAMCE-5 column

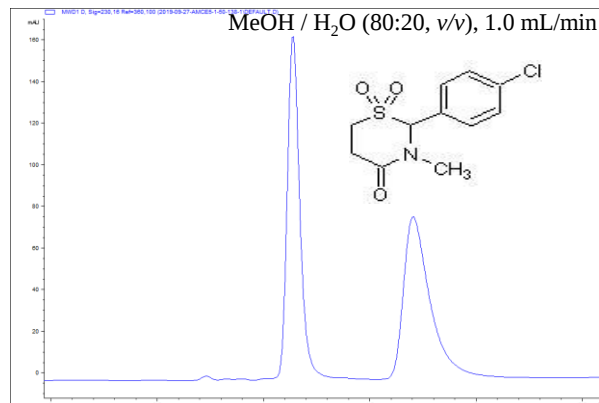


Figure (AMCE5)-26. Fast chiral separation of Chlormezanone on ChiralAMCE-5 column under reversed phase conditions using MeOH / H₂O as mobile phase.

Column: ChiralAMCE-5
Dimension: 3 μ m, 50 $\times$ 4.6 mm I.D.
Part No. 8973-AMCE5-61
LC Mode: HPLC (Agilent1100)
Flow rate: 1.0 mL/min
Detection: UV@230nm
Temperature: Ambient

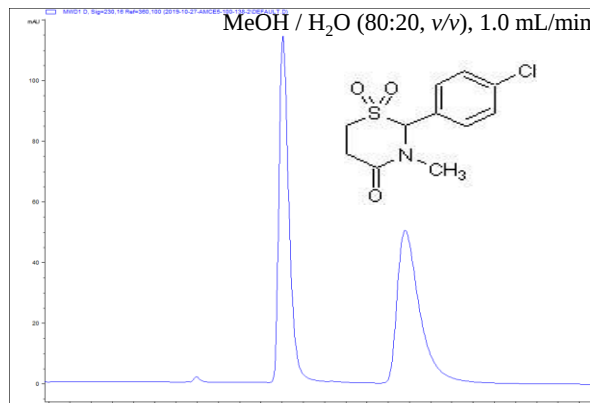


Figure (AMCE5)-27. Fast chiral separation of Chlormezanone on ChiralAMCE-5 column under reversed phase conditions using MeOH / H₂O as mobile phase.

Column: ChiralAMCE-5
Dimension: 3 μ m, 100 $\times$ 4.6 mm I.D.
Part No. 8973-AMCE5-62
LC Mode: HPLC (Agilent1100)
Flow rate: 1.0 mL/min
Detection: UV@230nm
Temperature: Ambient

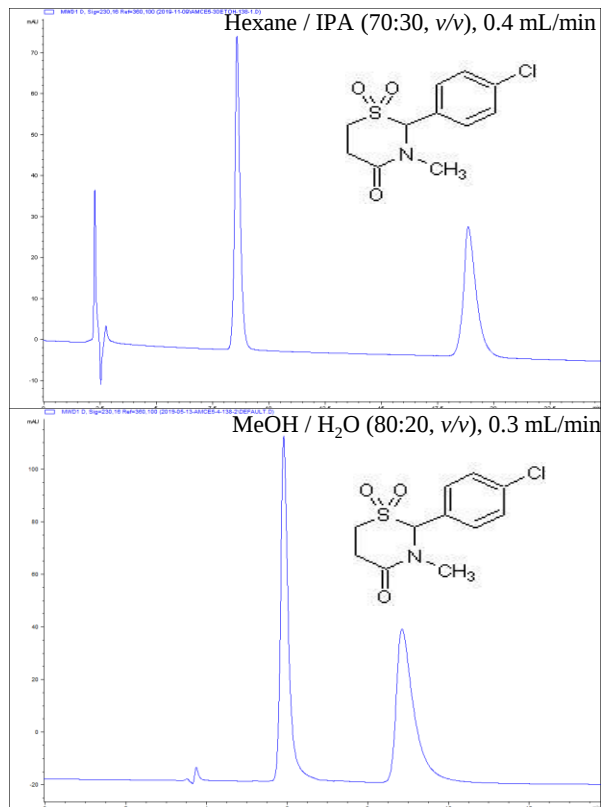
ChiralAMCE-5 Column Notes and Applications in HPLC and UPLC**Chlormezanone on ChiralAMCE-5 column**

Figure (AMCE5)-28. Chiral separation of Chlormezanone on the same single ChiralAMCE-5 column under both normal and reversed phase conditions.

Column: ChiralAMCE-5
Dimension: 3 μ m, 250 $\times$ 2.1 mm I.D.
Part No. 8973-AMCE5-05
LC Mode: UPLC (Agilent1290)
Flow rate: 0.4 and 0.3 mL/min
Detection: UV@230nm
Temperature: Ambient

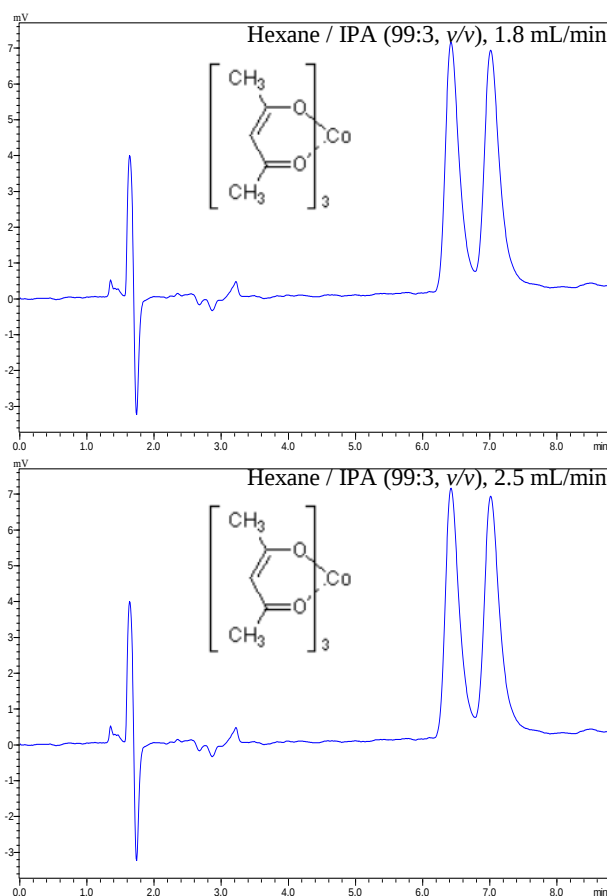
ChiralAMCE-5 Column Notes and Applications in HPLC and UPLC**Cobalt(III) acetylacetonate on ChiralAMCE-5 column**

Figure (AMCE5)-29. Chiral separation of Cobalt(III) acetylacetonate on ChiralAMCE-5 column under normal phase conditions using Hexane / IPA as mobile phase.

Column: ChiralAMCE-5

Dimension: 5 μ m, 250 $\times$ 4.6 mm I.D.

Part No. 8975-AMCE5-05

LC Mode: HPLC (Shimadzu LC20)

Flow rate: 1.8 & 2.5 mL/min

Detection: UV@220nm

Temperature: Ambient

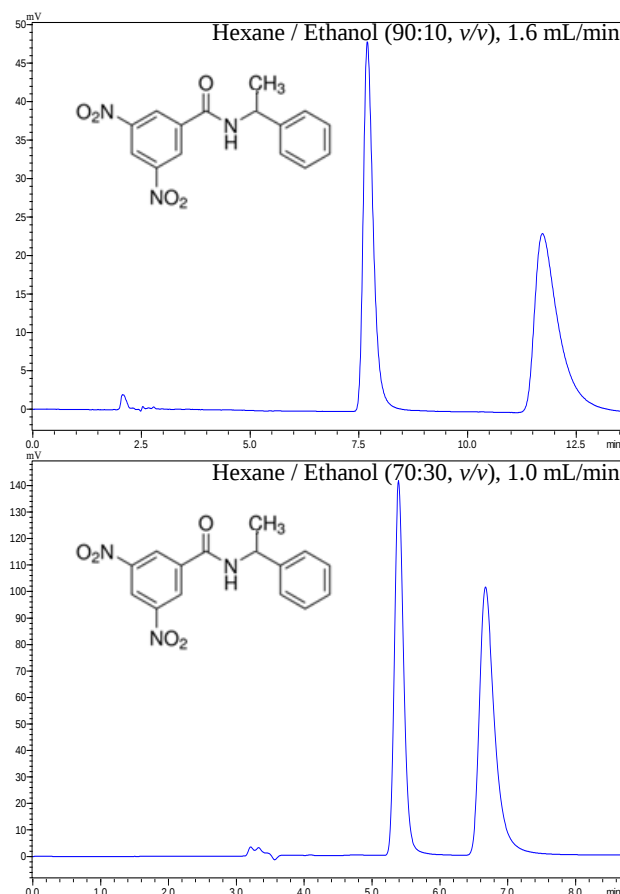
ChiralAMCE-5 Column Notes and Applications in HPLC and UPLC**3,5-Dinitro-N-(1-phenylethyl)benzamide on ChiralAMCE-5 column**

Figure (AMCE5)-30. Chiral separation of 3,5-Dinitro-N-(1-phenylethyl)benzamide on ChiralAMCE-5 column under normal phase conditions using Hexane / Ethanol as mobile phase.

Column: ChiralAMCE-5
Dimension: 5 μ m, 250 $\times$ 4.6 mm I.D.
Part No. 8975-AMCE5-05
LC Mode: HPLC (Shimadzu LC20)
Flow rate: 1.0 & 1.6 mL/min
Detection: UV@220nm
Temperature: Ambient

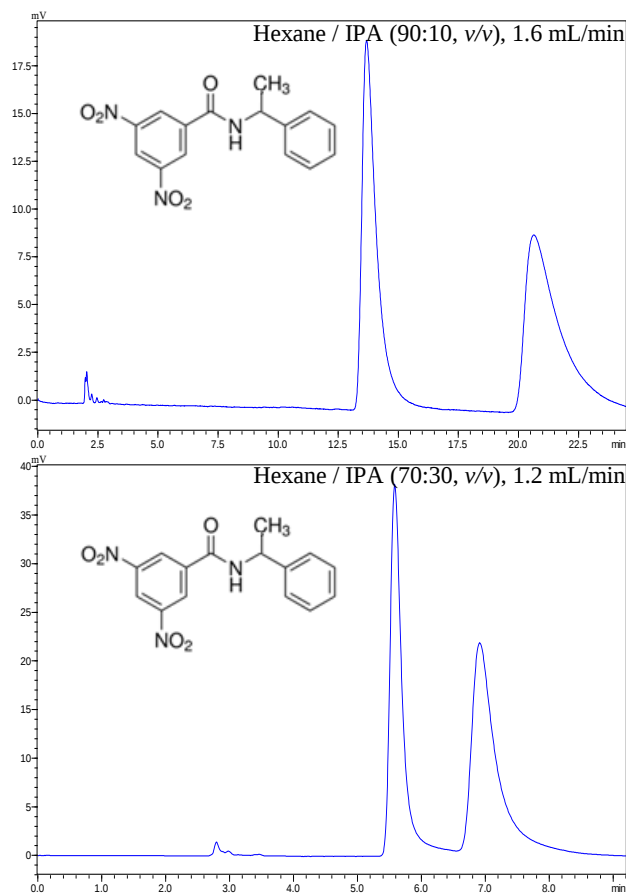


Figure (AMCE5)-31. Chiral separation of 3,5-Dinitro-N-(1-phenylethyl)benzamide on ChiralAMCE-5 column under normal phase conditions using Hexane / IPA as mobile phase.

Column: ChiralAMCE-5
Dimension: 5 μ m, 250 $\times$ 4.6 mm I.D.
Part No. 8975-AMCE5-05
LC Mode: HPLC (Shimadzu LC20)
Flow rate: 1.2 & 1.6 mL/min
Detection: UV@220nm
Temperature: Ambient

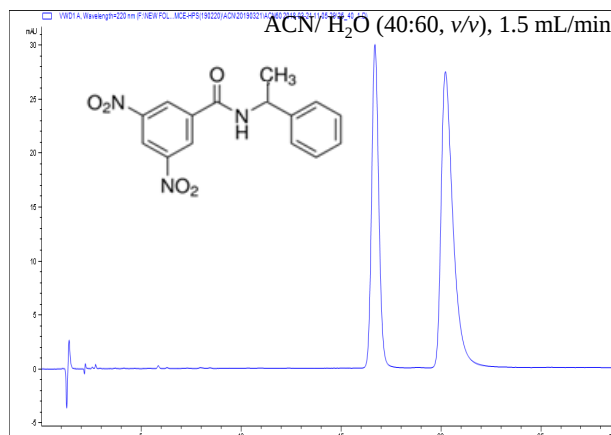
ChiralAMCE-5 Column Notes and Applications in HPLC and UPLC**3,5-Dinitro-N-(1-phenylethyl)benzamide on ChiralAMCE-5 column**

Figure (AMCE5)-32. Chiral separation of 3,5-Dinitro-N-(1-phenylethyl)benzamide on ChiralAMCE-5 column under reversed phase conditions using ACN/ H₂O as mobile phase.

Column: ChiralAMCE-5
Dimension: 5 μ m, 250 $\times$ 4.6 mm I.D.
Part No. 8975-AMCE5-05
LC Mode: HPLC (Agilent1200)
Flow rate: 1.5 mL/min
Detection: UV@220nm
Temperature: Ambient

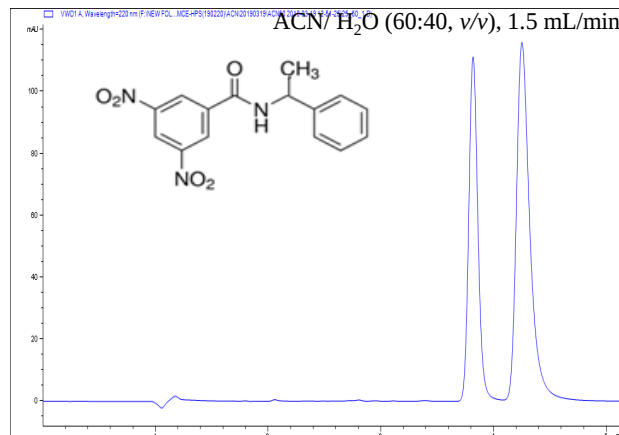


Figure (AMCE5)-33. Chiral separation of 3,5-Dinitro-N-(1-phenylethyl)benzamide on ChiralAMCE-5 column under reversed phase conditions using ACN/ H₂O as mobile phase.

Column: ChiralAMCE-5
Dimension: 5 μ m, 250 $\times$ 4.6 mm I.D.
Part No. 8975-AMCE5-05
LC Mode: HPLC (Agilent1200)
Flow rate: 1.5 mL/min
Detection: UV@220nm
Temperature: Ambient

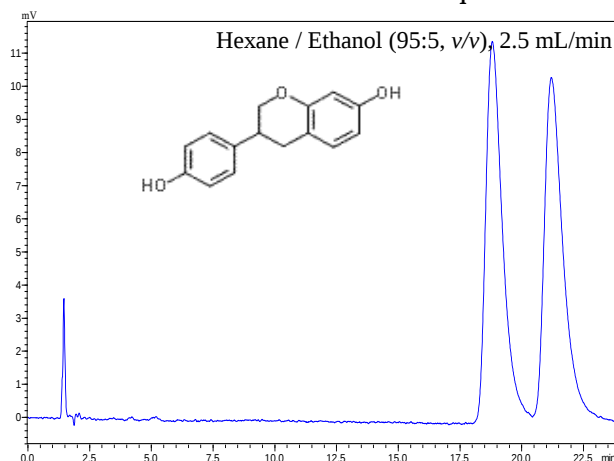
ChiralAMCE-5 Column Notes and Applications in HPLC and UPLC**Equol on ChiralAMCE-5 column**

Figure (AMCE5)-34. Chiral separation of Equol on ChiralAMCE-5 column under normal phase conditions using Hexane / Ethanol as mobile phase.

Column: ChiralAMCE-5
Dimension: 5 μ m, 250 $\times$ 4.6 mm I.D.
Part No. 8975-AMCE5-05
LC Mode: HPLC (Shimadzu LC20)
Flow rate: 2.5 mL/min
Detection: UV@220nm
Temperature: Ambient

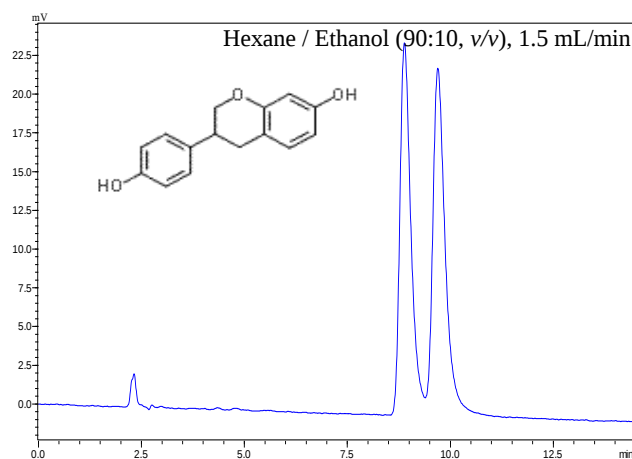


Figure (AMCE5)-35. Chiral separation of Equol on ChiralAMCE-5 column under normal phase conditions using Hexane / Ethanol as mobile phase.

Column: ChiralAMCE-5
Dimension: 5 μ m, 250 $\times$ 4.6 mm I.D.
Part No. 8975-AMCE5-05
LC Mode: HPLC (Shimadzu LC20)
Flow rate: 1.5 mL/min
Detection: UV@220nm
Temperature: Ambient

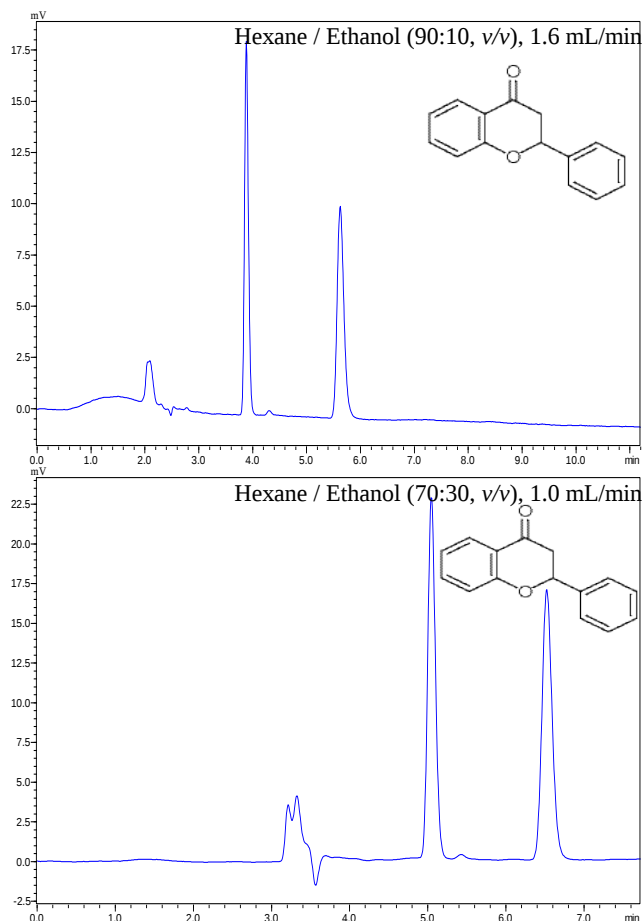
ChiralAMCE-5 Column Notes and Applications in HPLC and UPLC**Flavanone on ChiralAMCE-5 column**

Figure (AMCE5)-36. Chiral separation of Flavanone on ChiralAMCE-5 column under reversed phase conditions using Hexane / Ethanol as mobile phase.

Column: ChiralAMCE-5
Dimension: 5 μ m, 250 $\times$ 4.6 mm I.D.
Part No. 8975-AMCE5-05
LC Mode: HPLC (Shimadzu LC20)
Flow rate: 1.0 & 1.6 mL/min
Detection: UV@220nm
Temperature: Ambient

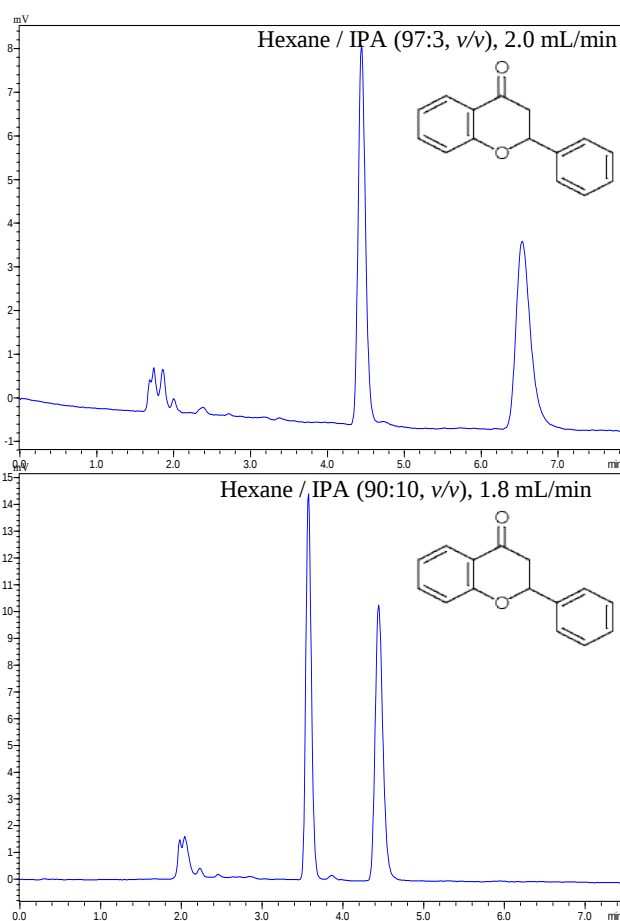


Figure (AMCE5)-37. Chiral separation of Flavanone on ChiralAMCE-5 column under reversed phase conditions using Hexane / IPA as mobile phase.

Column: ChiralAMCE-5
Dimension: 5 μ m, 250 $\times$ 4.6 mm I.D.
Part No. 8975-AMCE5-05
LC Mode: HPLC (Shimadzu LC20)
Flow rate: 1.8 & 2.0 mL/min
Detection: UV@220nm
Temperature: Ambient

ChiralAMCE-5 Column Notes and Applications in HPLC and UPLC

Flavanone on ChiralAMCE-5 column

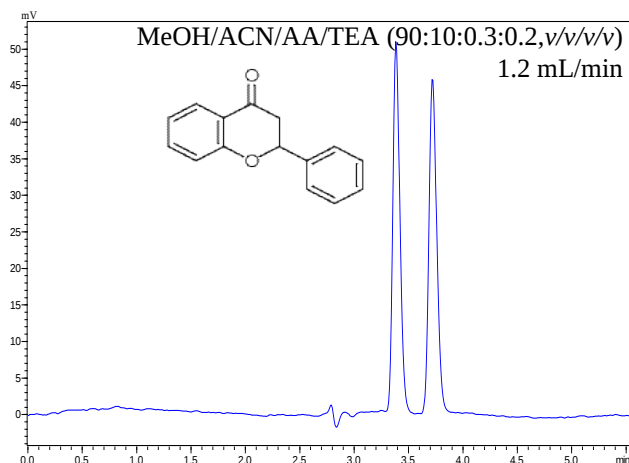


Figure (AMCE5)-38. Chiral separation of Flavanone on ChiralAMCE-5 column under polar organic mode using MeOH/ACN/AA/TEA as mobile phase.

Column: ChiralAMCE-5
Dimension: 5 μ m, 250 $\times$ 4.6 mm I.D.
Part No. 8975-AMCE5-05
LC Mode: HPLC (Shimadzu LC20)
Flow rate: 1.2 mL/min
Detection: UV@220nm
Temperature: Ambient

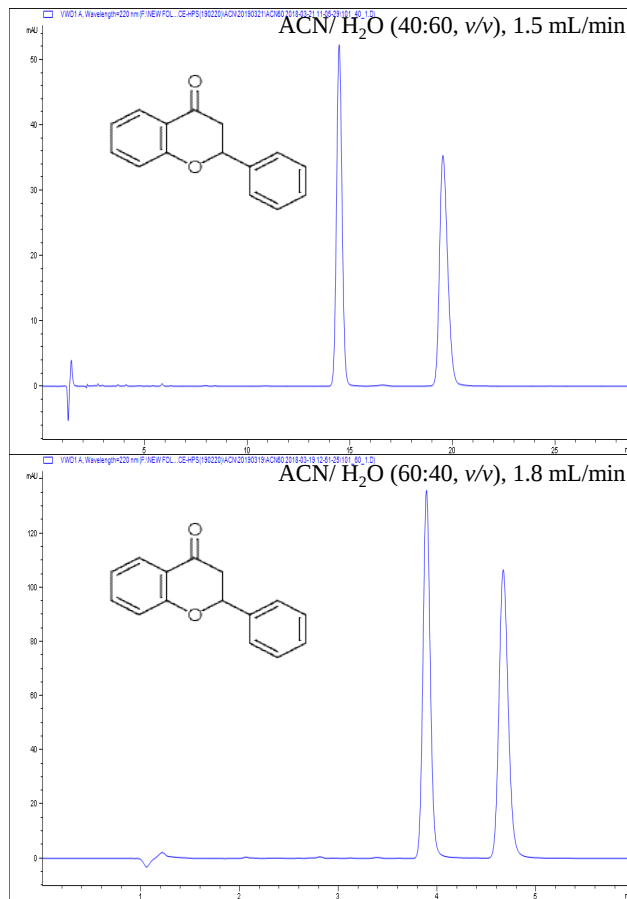


Figure (AMCE5)-39. Chiral separation of Flavanone on ChiralAMCE-5 column under reversed phase conditions using ACN / H₂O as mobile phase.

Column: ChiralAMCE-5
Dimension: 5 μ m, 250 $\times$ 4.6 mm I.D.
Part No. 8975-AMCE5-05
LC Mode: HPLC (Agilent1200)
Flow rate: 1.5 & 1.8 mL/min
Detection: UV@220nm
Temperature: Ambient

ChiralAMCE-5 Column Notes and Applications in HPLC and UPLC

Furoin on ChiralAMCE-5 column

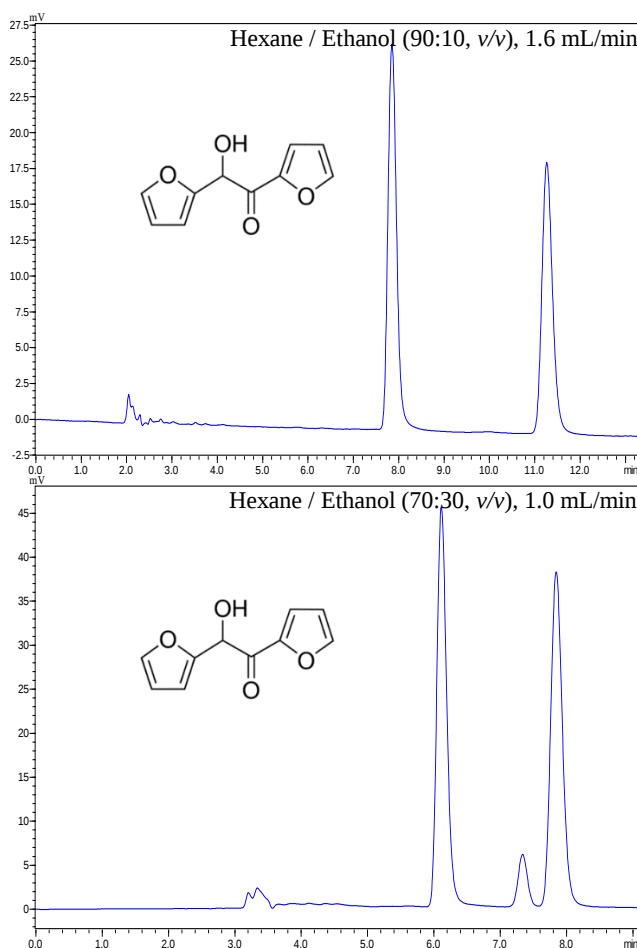


Figure (AMCE5)-40. Chiral separation of Furoin on ChiralAMCE-5 column under normal phase condition using Hexane / Ethanol as mobile phase.

Column: ChiralAMCE-5
Dimension: 5 μ m, 250 $\times$ 4.6 mm I.D.
Part No. 8975-AMCE5-05
LC Mode: HPLC (Shimadzu LC 20)
Flow rate: 1.0 & 1.6 mL/min
Detection: UV@220nm
Temperature: Ambient

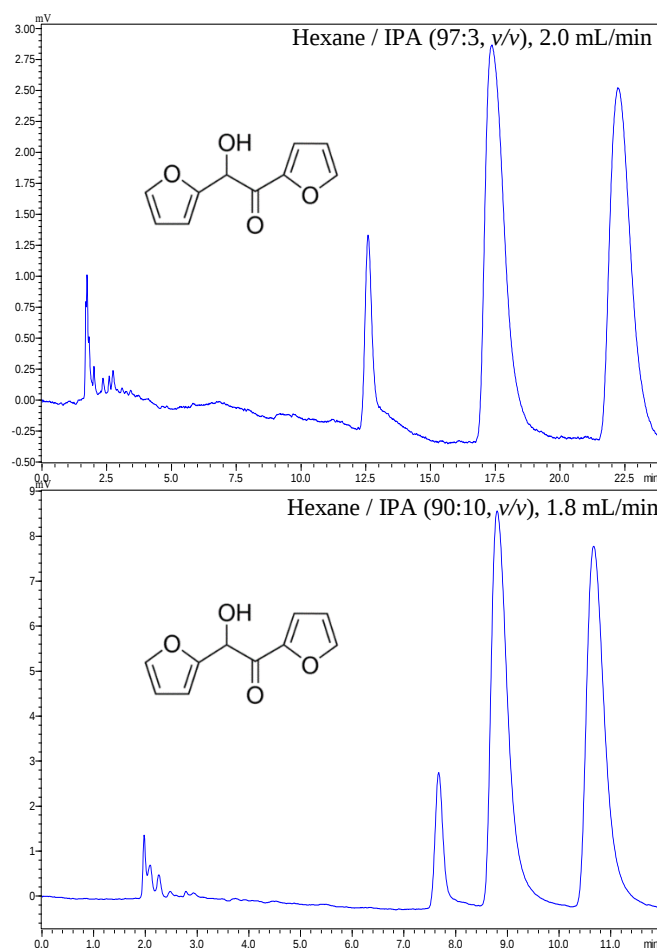


Figure (AMCE5)-41. Chiral separation of Furoin on ChiralAMCE-5 column under normal phase condition using Hexane / IPA as mobile phase.

Column: ChiralAMCE-5
Dimension: 5 μ m, 250 $\times$ 4.6 mm I.D.
Part No. 8975-AMCE5-05
LC Mode: HPLC (Shimadzu LC 20)
Flow rate: 1.8 & 2.0 mL/min
Detection: UV@220nm
Temperature: Ambient

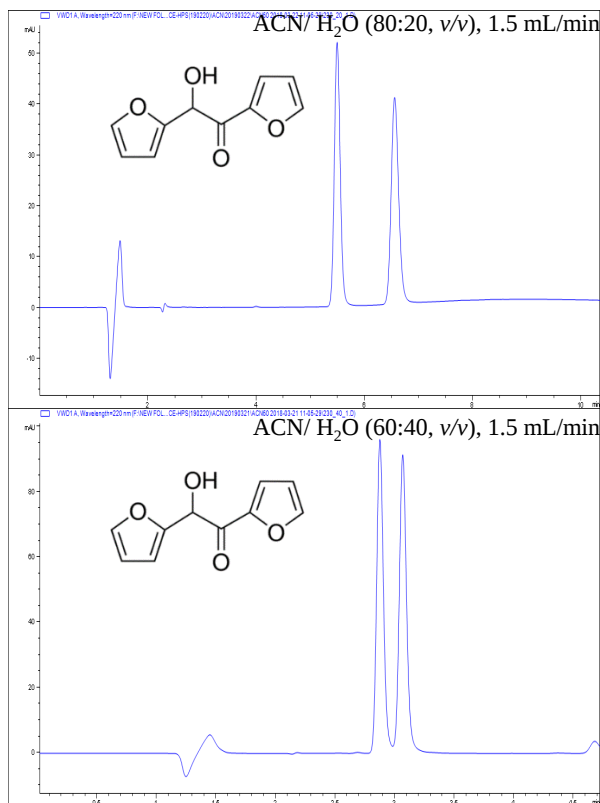
ChiralAMCE-5 Column Notes and Applications in HPLC and UPLC**Furoin on ChiralAMCE-5 column**

Figure (AMCE5)-42. Chiral separation of Furoin on ChiralAMCE-5 column under reversed phase conditions using ACN / H₂O as mobile phase.

Column: ChiralAMCE-5
Dimension: 5 μ m, 250 $\times$ 4.6 mm I.D.
Part No. 8975-AMCE5-05
LC Mode: HPLC (Agilent1200)
Flow rate: 1.5 mL/min
Detection: UV@220nm
Temperature: Ambient

ChiralAMCE-5 Column Notes and Applications in HPLC and UPLC

Hesperetin on ChiralAMCE-5 column

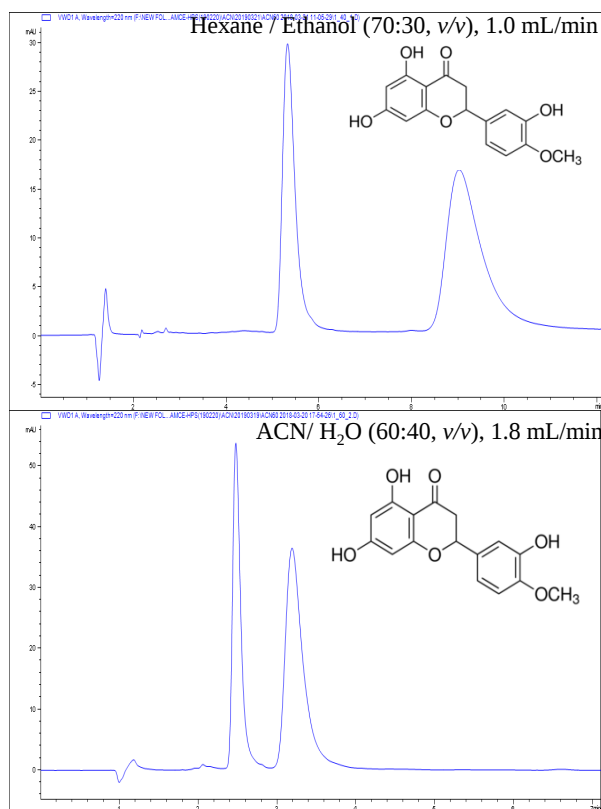


Figure (AMCE5)-43. Chiral separation of Hesperetin on ChiralAMCE-5 column under reversed phase conditions using ACN/ H₂O as mobile phases.

Column: ChiralAMCE-5
Dimension: 5 μ m, 250 $\times$ 4.6 mm I.D.
Part No. 8975-AMCE5-05
LC Mode: HPLC (Agilent1200)
Flow rate: 1.5 & 1.8 mL/min
Detection: UV@220nm
Temperature: Ambient

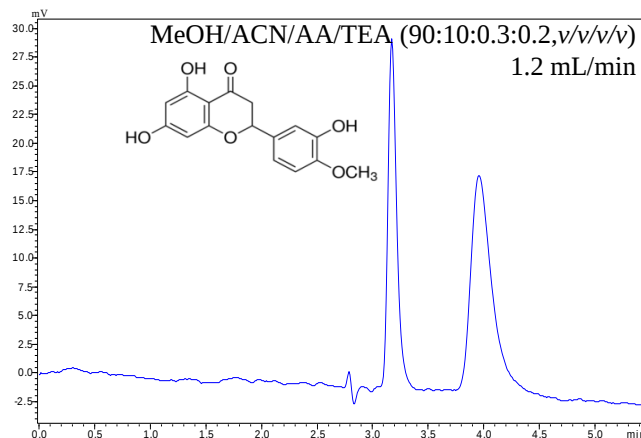


Figure (AMCE5)-44. Chiral separation of Hesperetin on ChiralAMCE-5 column under polar organic mode using MeOH/ACN/AA/TEA as mobile phase.

Column: ChiralAMCE-5
Dimension: 5 μ m, 250 $\times$ 4.6 mm I.D.
Part No. 8975-AMCE5-05
LC Mode: HPLC (Shimadzu LC 20)
Flow rate: 1.2 mL/min
Detection: UV@220nm
Temperature: Ambient

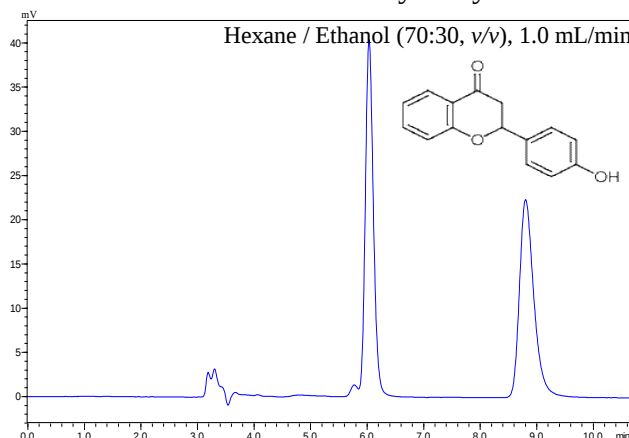
ChiralAMCE-5 Column Notes and Applications in HPLC and UPLC**4'-Hydroxyflavanone on ChiralAMCE-5 column**

Figure (AMCE5)-45. Chiral separation of 4'-Hydroxyflavanone on ChiralAMCE-5 column under normal phase conditions using Hexane / Ethanol as mobile phases.

Column: ChiralAMCE-5
Dimension: 5 μ m, 250 $\times$ 4.6 mm I.D.
Part No. 8975-AMCE5-05
LC Mode: HPLC (Shimadzu LC 20)
Flow rate: 1.0 mL/min
Detection: UV@220nm
Temperature: Ambient

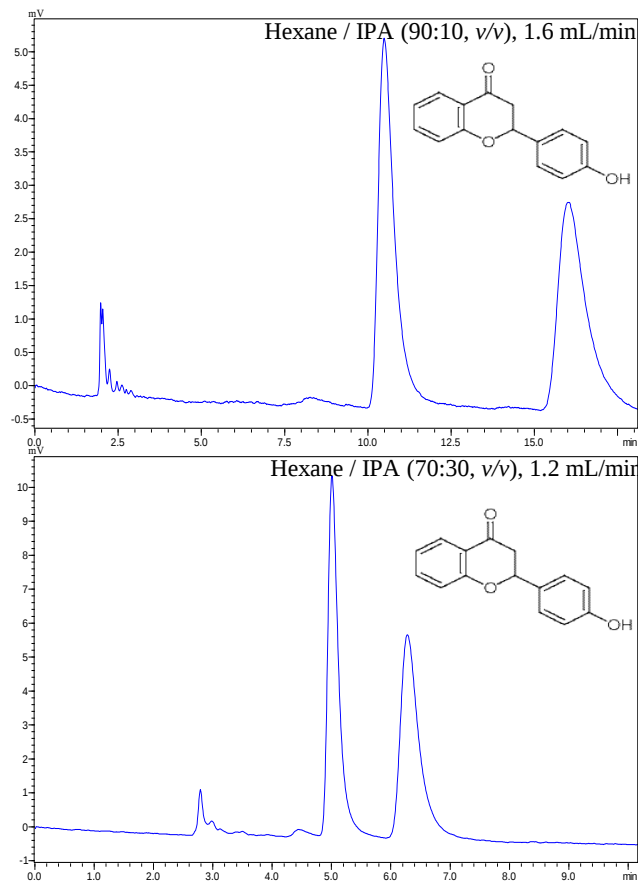


Figure (AMCE5)-46. Chiral separation of 4'-Hydroxyflavanone on ChiralAMCE-5 column under normal phase conditions using Hexane / IPA as mobile phases.

Column: ChiralAMCE-5
Dimension: 5 μ m, 250 $\times$ 4.6 mm I.D.
Part No. 8975-AMCE5-05
LC Mode: HPLC (Shimadzu LC 20)
Flow rate: 1.2 & 1.6 mL/min
Detection: UV@220nm
Temperature: Ambient

ChiralAMCE-5 Column Notes and Applications in HPLC and UPLC

4'-Hydroxyflavanone on ChiralAMCE-5 column

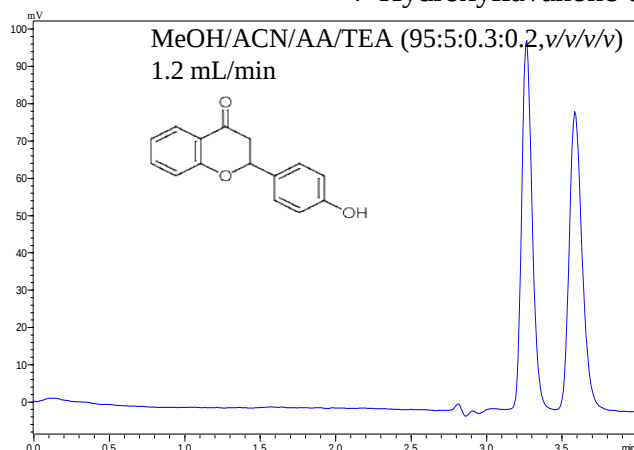


Figure (AMCE5)-47. Chiral separation of 4'-Hydroxyflavanone on ChiralAMCE-5 column under polar organic mode using MeOH/ACN/AA/TEA as mobile phase.

Column: ChiralAMCE-5
Dimension: 5 μ m, 250 $\times$ 4.6 mm I.D.
Part No. 8975-AMCE5-05
LC Mode: HPLC (Shimadzu LC 20)
Flow rate: 1.2 mL/min
Detection: UV@220nm
Temperature: Ambient

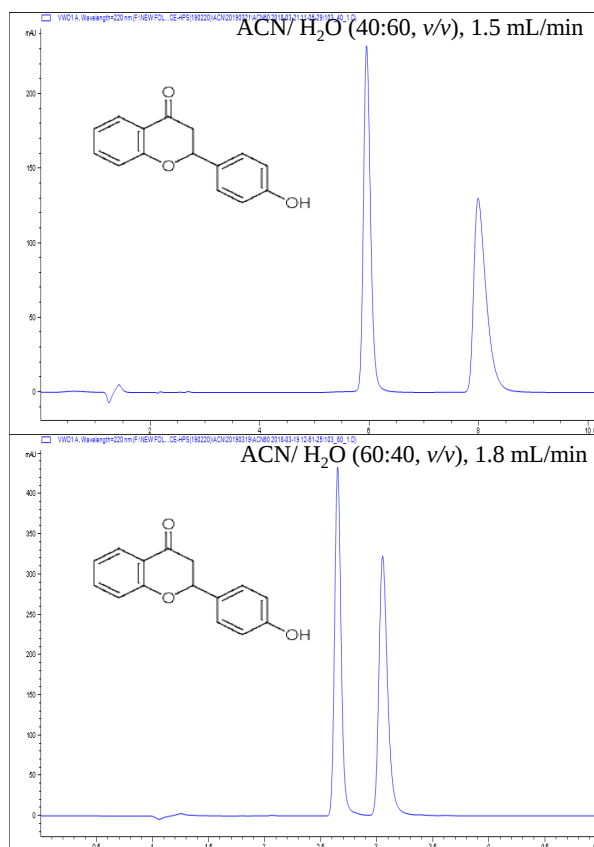


Figure (AMCE5)-48. Chiral separation of 4'-Hydroxyflavanone on ChiralAMCE-5 column under reversed phase conditions using ACN/ H₂O as mobile phases.

Column: ChiralAMCE-5
Dimension: 5 μ m, 250 $\times$ 4.6 mm I.D.
Part No. 8975-AMCE5-05
LC Mode: HPLC (Agilent1200)
Flow rate: 1.5 & 1.8 mL/min
Detection: UV@220nm
Temperature: Ambient

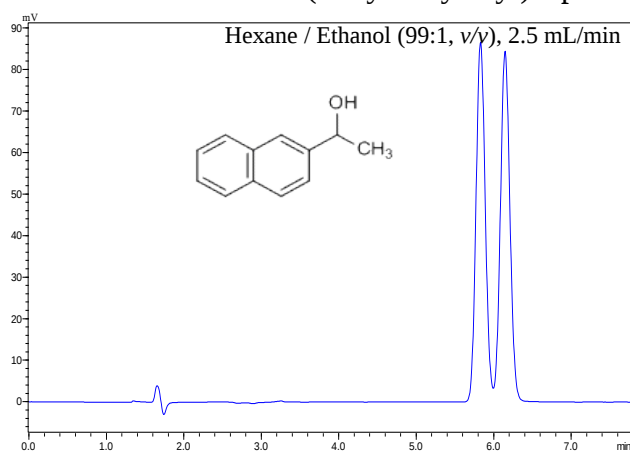
ChiralAMCE-5 Column Notes and Applications in HPLC and UPLC**2-(1-Hydroxyethyl)naphthalene on ChiralAMCE-5 column**

Figure (AMCE5)-49. Chiral separation of 2-(1-Hydroxyethyl)naphthalene on ChiralAMCE-5 column under normal phase condition using Hexane / Ethanol as mobile phase.

Column: ChiralAMCE-5
Dimension: 5 μ m, 250 $\times$ 4.6 mm I.D.
Part No. 8975-AMCE5-05
LC Mode: HPLC (Shimadzu LC 20)
Flow rate: 2.5 mL/min
Detection: UV@220nm
Temperature: Ambient

ChiralAMCE-5 Column Notes and Applications in HPLC and UPLC

Indoprofen on ChiralAMCE-5 column

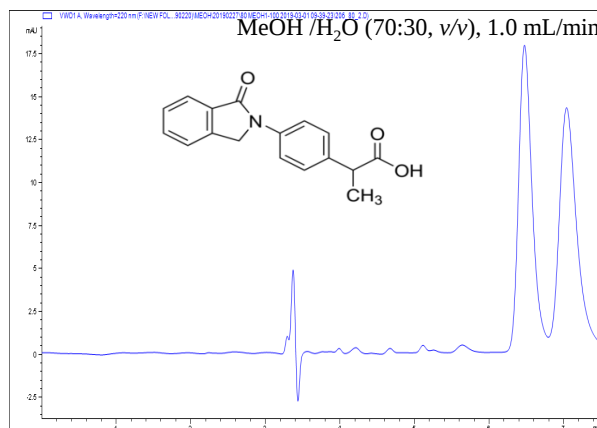


Figure (AMCE5)-50. Chiral separation of Indoprofen on ChiralAMCE-5 column under reversed phase condition using MeOH /H₂O as mobile phase.

Column: ChiralAMCE-5
Dimension: 5 μ m, 250 $\times$ 4.6 mm I.D.
Part No. 8975-AMCE5-05
LC Mode: HPLC (Agilent1200)
Flow rate: 1.0 mL/min
Detection: UV@220nm
Temperature: Ambient

ChiralAMCE-5 Column Notes and Applications in HPLC and UPLC

Lansoprazole on ChiralAMCE-5 column

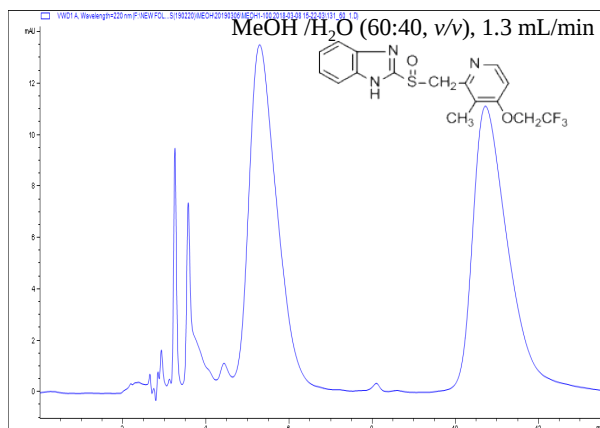


Figure (AMCE5)-51. Chiral separation of Lansoprazole on ChiralAMCE-5 column under reversed phase condition using MeOH /H₂O as mobile phase.

Column: ChiralAMCE-5
Dimension: 5 μ m, 250 $\times$ 4.6 mm I.D.
Part No. 8975-AMCE5-05
LC Mode: HPLC (Agilent1200)
Flow rate: 1.3 mL/min
Detection: UV@230nm
Temperature: Ambient

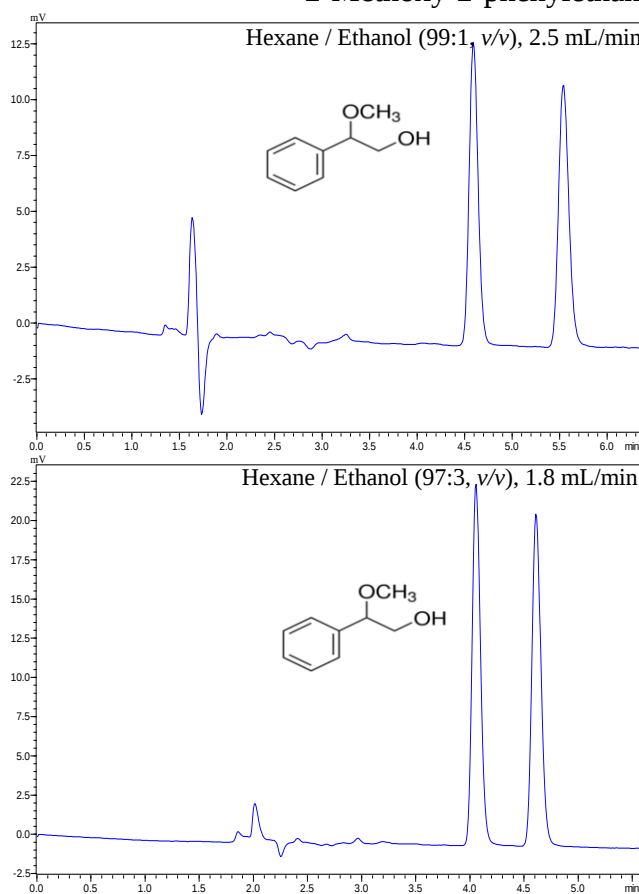
ChiralAMCE-5 Column Notes and Applications in HPLC and UPLC**2-Methoxy-2-phenylethanol on ChiralAMCE-5 column**

Figure (AMCE5)-52. Chiral separation of 2-Methoxy-2-phenylethanol on ChiralAMCE-5 column under normal phase condition using Hexane / Ethanol as mobile phases.

Column: ChiralAMCE-5
Dimension: 5 μ m, 250 $\times$ 4.6 mm I.D.
Part No. 8975-AMCE5-05
LC Mode: HPLC (Shimadzu LC 20)
Flow rate: 1.8 & 2.5 mL/min
Detection: UV@220nm
Temperature: Ambient

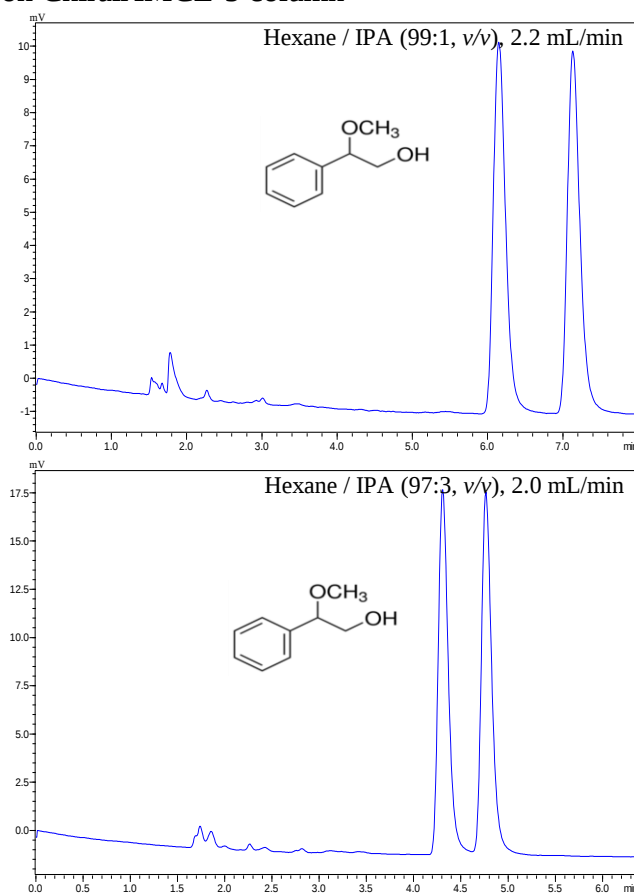


Figure (AMCE5)-53. Chiral separation of 2-Methoxy-2-phenylethanol on ChiralAMCE-5 column under normal phase condition using Hexane / IPA as mobile phases.

Column: ChiralAMCE-5
Dimension: 5 μ m, 250 $\times$ 4.6 mm I.D.
Part No. 8975-AMCE5-05
LC Mode: HPLC (Shimadzu LC 20)
Flow rate: 2.0 & 2.2 mL/min
Detection: UV@220nm
Temperature: Ambient

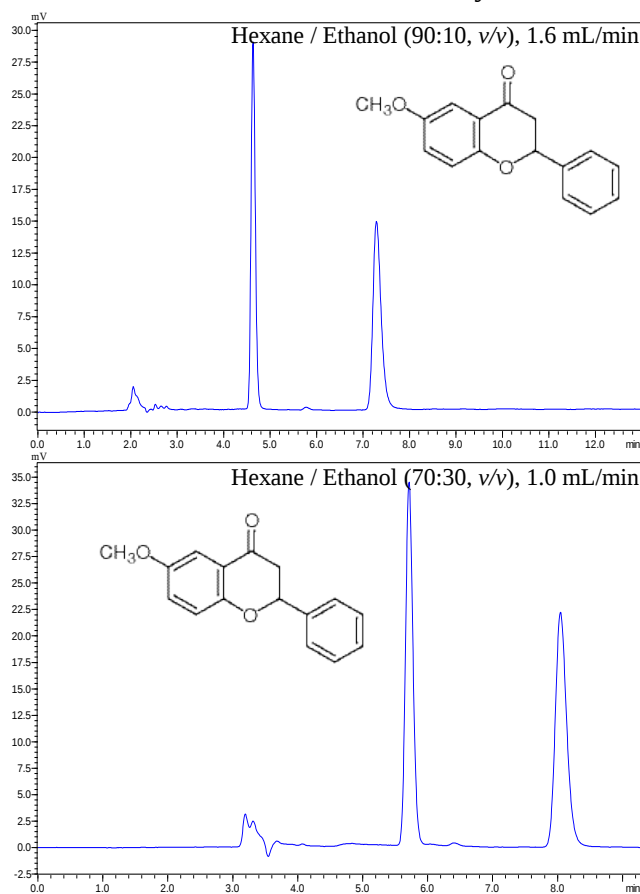
ChiralAMCE-5 Column Notes and Applications in HPLC and UPLC**6-Methoxyflavanone on ChiralAMCE-5 column**

Figure (AMCE5)-54. Chiral separation of 6-Methoxyflavanone on ChiralAMCE-5 column under normal phase condition using Hexane / Ethanol as mobile phases.

Column: ChiralAMCE-5
Dimension: 5 μ m, 250 $\times$ 4.6 mm I.D.
Part No. 8975-AMCE5-05
LC Mode: HPLC (Shimadzu LC 20)
Flow rate: 1.0 & 2.5 mL/min
Detection: UV@220nm
Temperature: Ambient

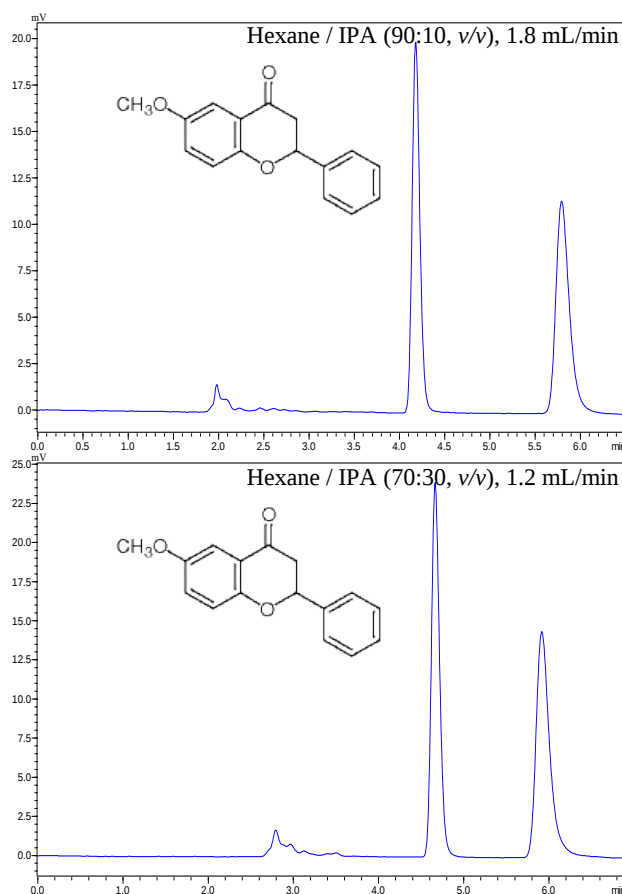


Figure (AMCE5)-55. Chiral separation of 6-Methoxyflavanone on ChiralAMCE-5 column under normal phase condition using Hexane / IPA as mobile phases.

Column: ChiralAMCE-5
Dimension: 5 μ m, 250 $\times$ 4.6 mm I.D.
Part No. 8975-AMCE5-05
LC Mode: HPLC (Shimadzu LC 20)
Flow rate: 1.2 & 1.8 mL/min
Detection: UV@220nm
Temperature: Ambient

ChiralAMCE-5 Column Notes and Applications in HPLC and UPLC

6-Methoxyflavanone on ChiralAMCE-5 column

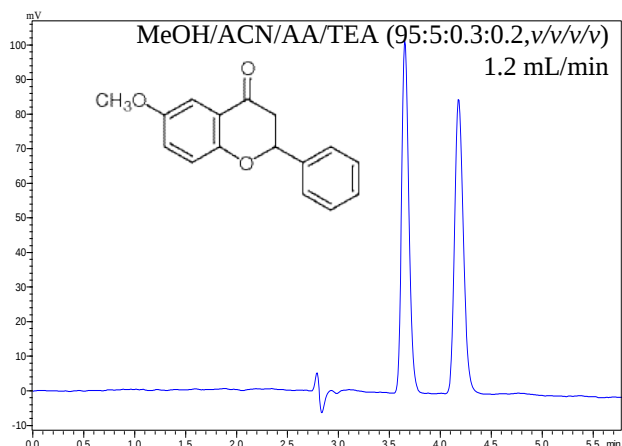


Figure (AMCE5)-56. Chiral separation of 6-Methoxyflavanone on ChiralAMCE-5 column under polar organic mode using MeOH/ACN/AA/TEA as mobile phase.

Column: ChiralAMCE-5
Dimension: 5 μ m, 250 $\times$ 4.6 mm I.D.
Part No. 8975-AMCE5-05
LC Mode: HPLC (Shimadzu LC 20)
Flow rate: 1.2 mL/min
Detection: UV@220nm
Temperature: Ambient

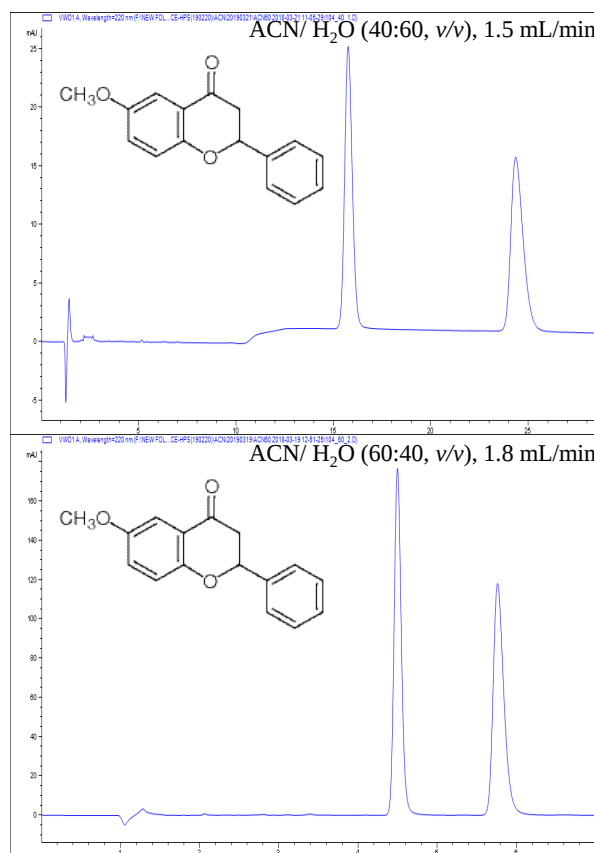


Figure (AMCE5)-57. Chiral separation of 6-Methoxyflavanone on ChiralAMCE-5 column under reversed phase condition using ACN / H₂O as mobile phase.

Column: ChiralAMCE-5
Dimension: 5 μ m, 250 $\times$ 4.6 mm I.D.
Part No. 8975-AMCE5-05
LC Mode: HPLC (Agilent1200)
Flow rate: 1.5 & 1.8 mL/min
Detection: UV@220nm
Temperature: Ambient

ChiralAMCE-5 Column Notes and Applications in HPLC and UPLC

Methyl mandelate on ChiralAMCE-5 column

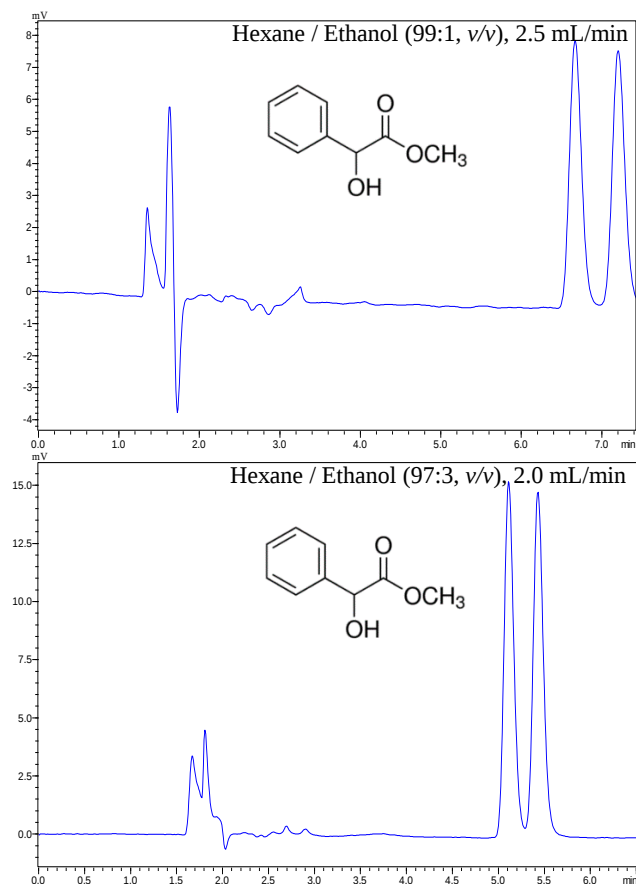


Figure (AMCE5)-58. Chiral separation of Methyl mandelate on ChiralAMCE-5 column under normal phase conditions using Hexane / Ethanol as mobile phases.

Column: ChiralAMCE-5
Dimension: 5 μ m, 250 $\times$ 4.6 mm I.D.
Part No. 8975-AMCE5-05
LC Mode: HPLC (Shimadzu LC 20)
Flow rate: 2.0 & 2.5 mL/min
Detection: UV@220nm
Temperature: Ambient

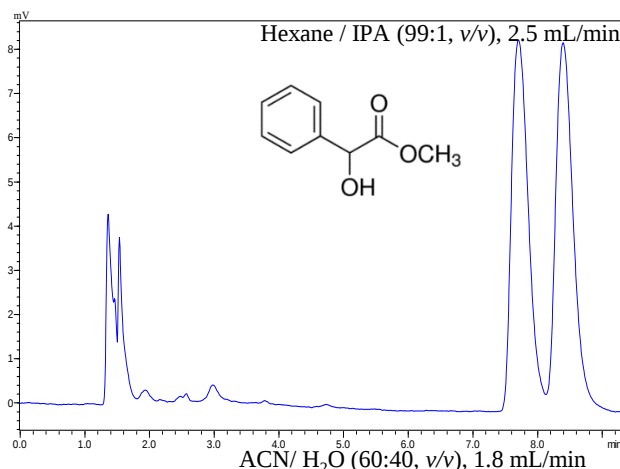


Figure (AMCE5)-59. Chiral separation of Methyl mandelate on ChiralAMCE-5 column under normal phase condition using Hexane / IPA as mobile phases.

Column: ChiralAMCE-5
Dimension: 5 μ m, 250 $\times$ 4.6 mm I.D.
Part No. 8975-AMCE5-05
LC Mode: HPLC (Shimadzu LC 20)
Flow rate: 2.5 mL/min
Detection: UV@220nm
Temperature: Ambient

ChiralAMCE-5 Column Notes and Applications in HPLC and UPLC

Naringenin on ChiralAMCE-5 column

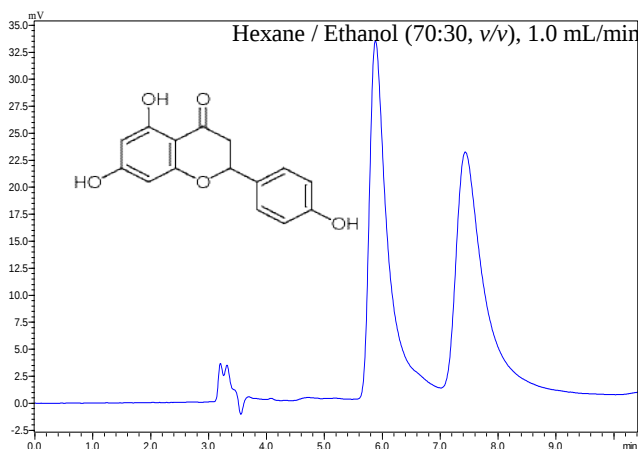


Figure (AMCE5)-60. Chiral separation of Naringenin on ChiralAMCE-5 column under normal phase condition using Hexane / Ethanol as mobile phase.

Column: ChiralAMCE-5
Dimension: 5 μ m, 250 $\times$ 4.6 mm I.D.
Part No. 8975-AMCE5-05
LC Mode: HPLC (Shimadzu LC 20)
Flow rate: 1.0 mL/min
Detection: UV@220nm
Temperature: Ambient

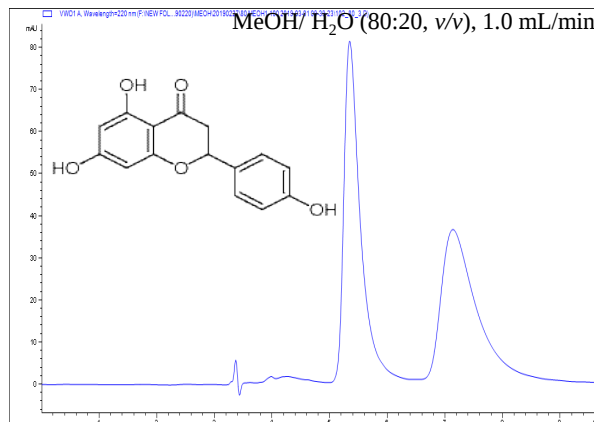


Figure (AMCE5)-61. Chiral separation of Naringenin on ChiralAMCE-5 column under reversed phase condition using MeOH/ H₂O as mobile phases.

Column: ChiralAMCE-5
Dimension: 5 μ m, 250 $\times$ 4.6 mm I.D.
Part No. 8975-AMCE5-05
LC Mode: HPLC (Agilent1200)
Flow rate: 1.0 mL/min
Detection: UV@220nm
Temperature: Ambient

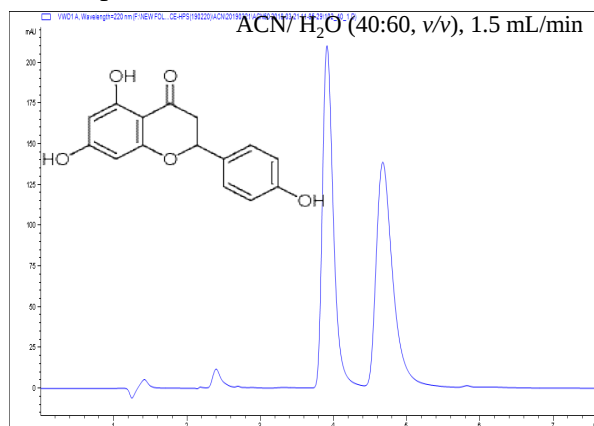


Figure (AMCE5)-62. Chiral separation of Naringenin on ChiralAMCE-5 column under reversed phase condition using ACN/ H₂O as mobile phase.

Column: ChiralAMCE-5
Dimension: 5 μ m, 250 $\times$ 4.6 mm I.D.
Part No. 8975-AMCE5-05
LC Mode: HPLC (Agilent1200)
Flow rate: 1.0 mL/min
Detection: UV@220nm
Temperature: Ambient

ChiralAMCE-5 Column Notes and Applications in HPLC and UPLC

Nisoldipine on ChiralAMCE-5 column

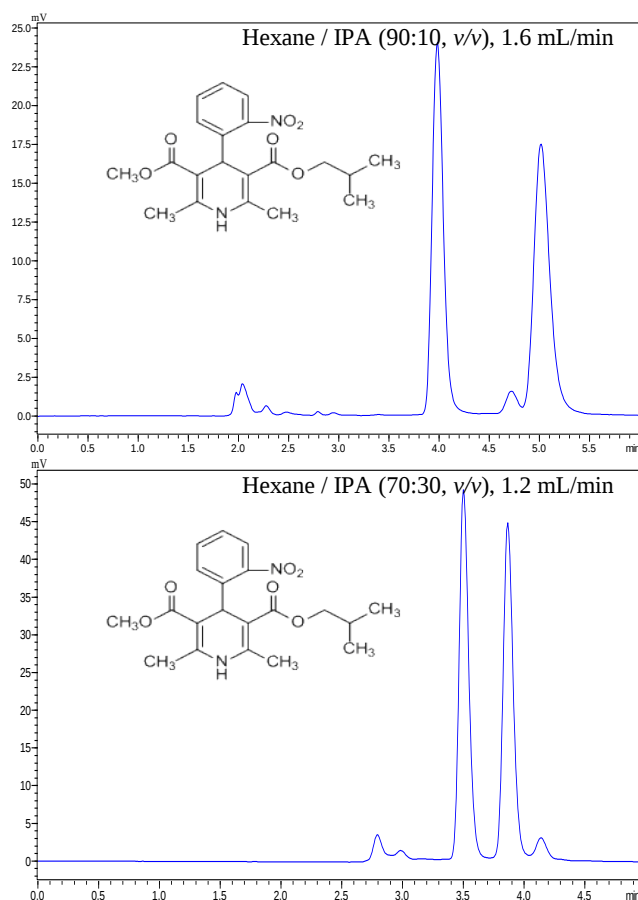
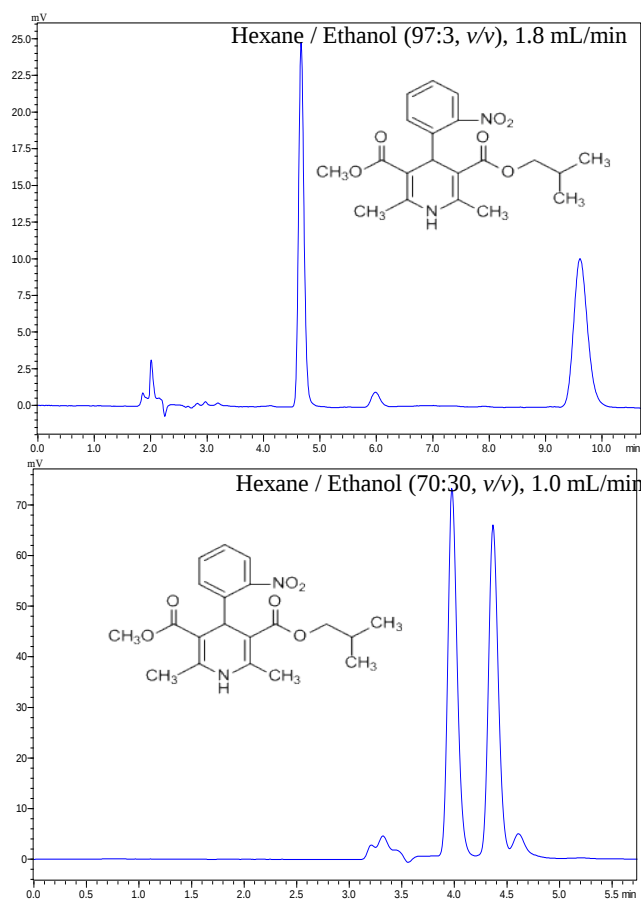


Figure (AMCE5)-63. Chiral separation of Nisoldipine on ChiralAMCE-5 column under normal phase condition using Hexane / Ethanol as mobile phases.

Column: ChiralAMCE-5
Dimension: 5 μ m, 250 $\times$ 4.6 mm I.D.
Part No. 8975-AMCE5-05
LC Mode: HPLC (Shimadzu LC 20)
Flow rate: 1.0 & 1.8 mL/min
Detection: UV@220nm
Temperature: Ambient

Figure (AMCE5)-64. Chiral separation of Nisoldipine on ChiralAMCE-5 column under normal phase condition using Hexane / IPA as mobile phases.

Column: ChiralAMCE-5
Dimension: 5 μ m, 250 $\times$ 4.6 mm I.D.
Part No. 8975-AMCE5-05
LC Mode: HPLC (Shimadzu LC 20)
Flow rate: 1.2 & 1.6 mL/min
Detection: UV@220nm
Temperature: Ambient

ChiralAMCE-5 Column Notes and Applications in HPLC and UPLC

Ornidazole on ChiralAMCE-5 column

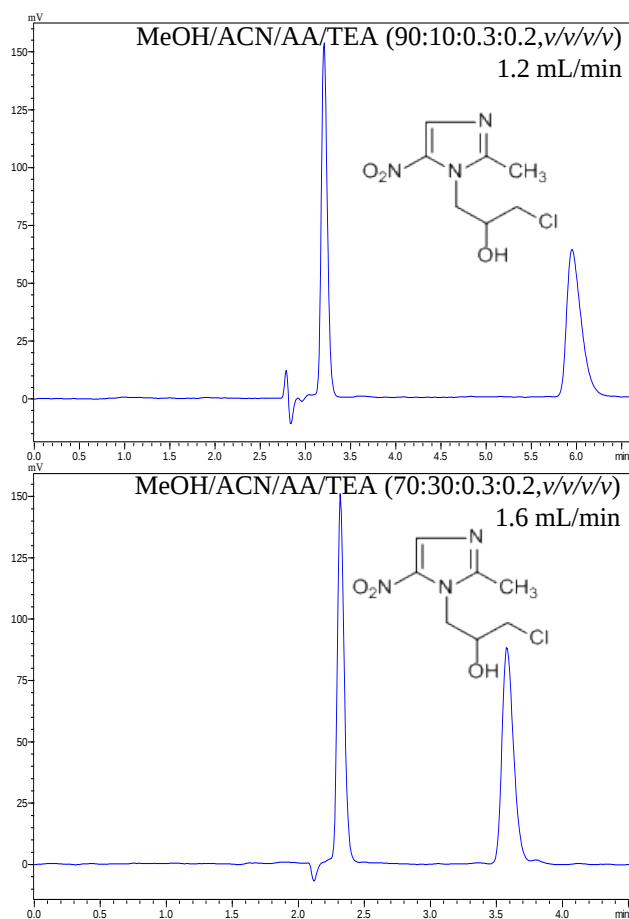


Figure (AMCE5)-65. Chiral separation of Ornidazole on ChiralAMCE-5 column under polar organic mode using MeOH/ACN/AA/TEA as mobile phases.

Column: ChiralAMCE-5
Dimension: 5 μ m, 250 $\times$ 4.6 mm I.D.
Part No. 8975-AMCE5-05
LC Mode: HPLC (Shimadzu LC 20)
Flow rate: 1.2 & 1.6 mL/min
Detection: UV@220nm
Temperature: Ambient

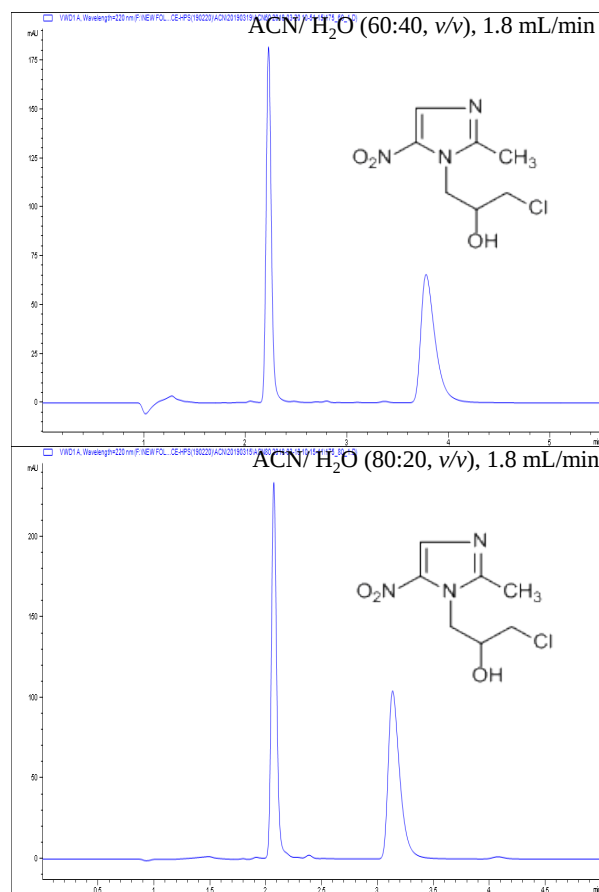


Figure (AMCE5)-66. Chiral separation of Ornidazole on ChiralAMCE-5 column under reversed phase condition using ACN/ H₂O as mobile phases.

Column: ChiralAMCE-5
Dimension: 5 μ m, 250 $\times$ 4.6 mm I.D.
Part No. 8975-AMCE5-05
LC Mode: HPLC (Shimadzu LC 20)
Flow rate: 1.8 mL/min
Detection: UV@220nm
Temperature: Ambient

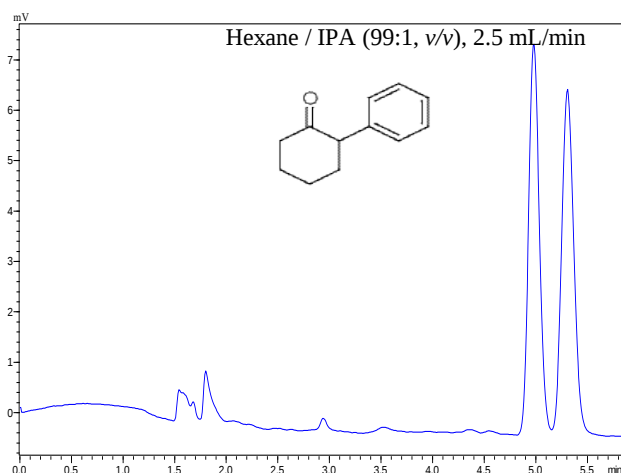
ChiralAMCE-5 Column Notes and Applications in HPLC and UPLC**2-Phenylcyclohexanone on ChiralAMCE-5 column**

Figure (AMCE5)-67. Chiral separation of 2-Phenylcyclohexanone on ChiralAMCE-5 column under normal phase condition using Hexane / Ethanol as mobile phases.

Column: ChiralAMCE-5
Dimension: 5 μ m, 250 $\times$ 4.6 mm I.D.
Part No. 8975-AMCE5-05
LC Mode: HPLC (Shimadzu LC 20)
Flow rate: 2.5 mL/min
Detection: UV@220nm
Temperature: Ambient

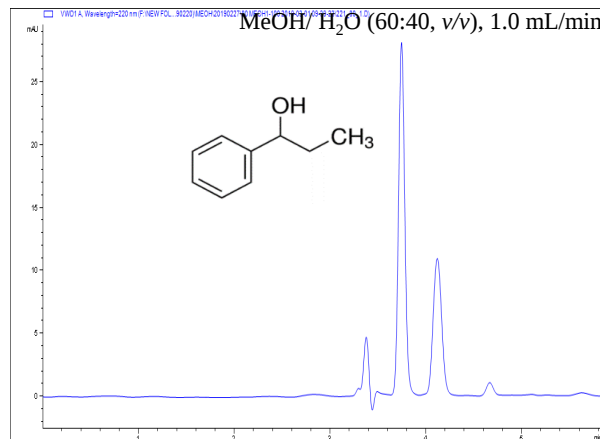
ChiralAMCE-5 Column Notes and Applications in HPLC and UPLC**1-Phenyl-1-propanol on ChiralAMCE-5 column**

Figure (AMCE5)-68. Chiral separation of 1-Phenyl-1-propanol on ChiralAMCE-5 column under reverse phase condition using Hexane / IPA as mobile phases.

Column: ChiralAMCE-5
Dimension: 5 μ m, 250 $\times$ 4.6 mm I.D.
Part No. 8975-AMCE5-05
LC Mode: HPLC (Shimadzu LC 20)
Flow rate: 1.0 mL/min
Detection: UV@220nm
Temperature: Ambient

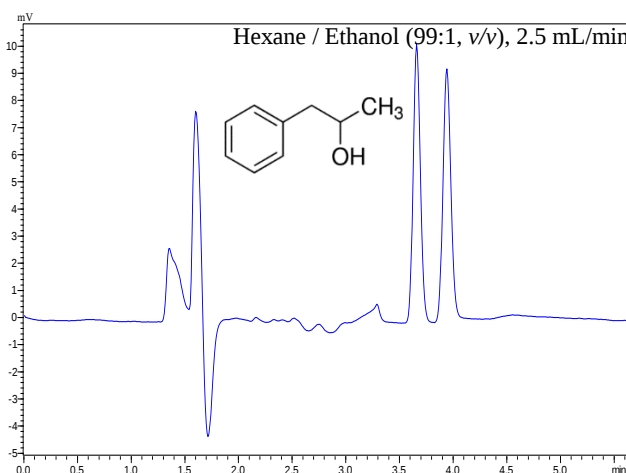
ChiralAMCE-5 Column Notes and Applications in HPLC and UPLC**1-Phenyl-2-propanol on ChiralAMCE-5 column**

Figure (AMCE5)-69. Chiral separation of 1-Phenyl-2-propanol on ChiralAMCE-5 column under normal phase condition using Hexane / Ethanol as mobile phase.

Column: ChiralAMCE-5
Dimension: 5 μ m, 250 $\times$ 4.6 mm I.D.
Part No. 8975-AMCE5-05
LC Mode: HPLC (Shimadzu LC 20)
Flow rate: 2.5 mL/min
Detection: UV@220nm
Temperature: Ambient

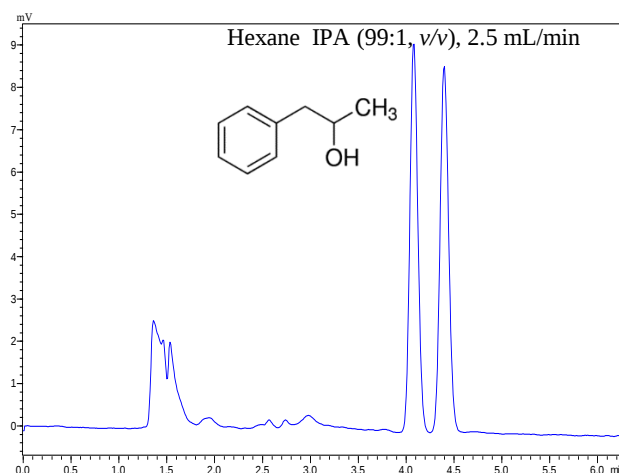


Figure (AMCE5)-70. Chiral separation of 1-Phenyl-2-propanol on ChiralAMCE-5 column under normal phase condition using Hexane / IPA as mobile phase.

Column: ChiralAMCE-5
Dimension: 5 μ m, 250 $\times$ 4.6 mm I.D.
Part No. 8975-AMCE5-05
LC Mode: HPLC (Shimadzu LC 20)
Flow rate: 2.5 mL/min
Detection: UV@220nm
Temperature: Ambient

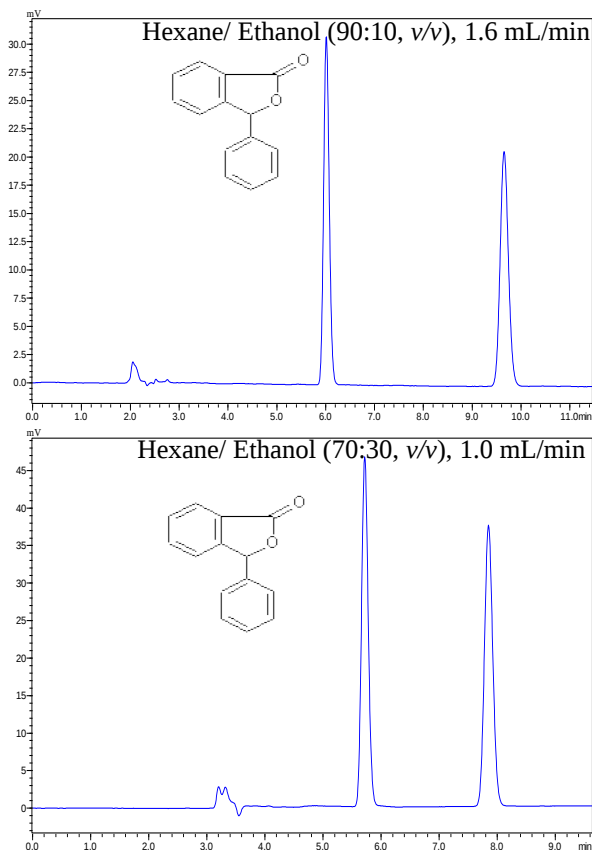
ChiralAMCE-5 Column Notes and Applications in HPLC and UPLC**3-Phenylphthalide on ChiralAMCE-5 column**

Figure (AMCE5)-71. Chiral separation of 3-Phenylphthalide on ChiralAMCE-5 column under normal phase condition using Hexane/ Ethanol as mobiles.

Column: ChiralAMCE-5
Dimension: 5 μ m, 250 $\times$ 4.6 mm I.D.
Part No. 8975-AMCE5-05
LC Mode: HPLC (Shimadzu LC20)
Flow rate: 1.0 & 1.6 mL/min
Detection: UV@220nm
Temperature: Ambient

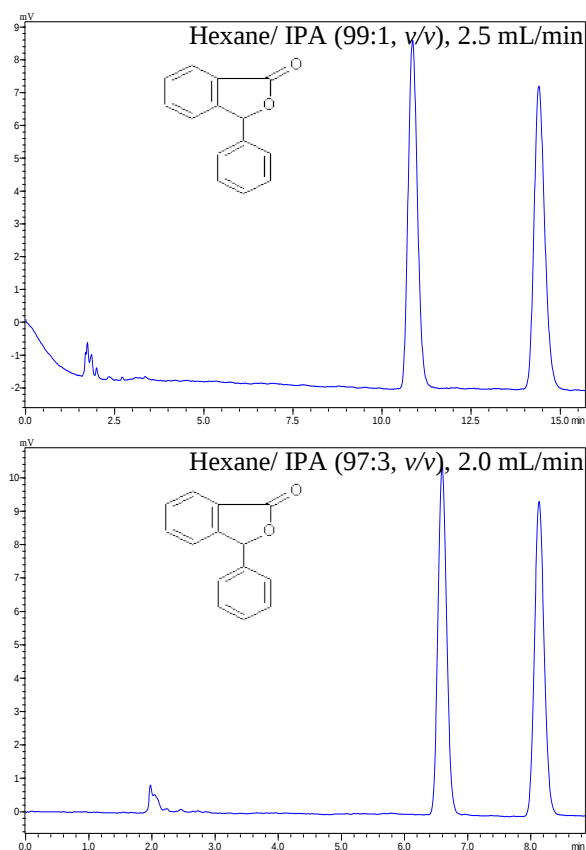


Figure (AMCE5)-72. Chiral separation of 3-Phenylphthalide on ChiralAMCE-5 column under normal phase condition using Hexane/ IPA as mobiles.

Column: ChiralAMCE-5
Dimension: 5 μ m, 250 $\times$ 4.6 mm I.D.
Part No. 8975-AMCE5-05
LC Mode: HPLC (Shimadzu LC20)
Flow rate: 2.0 & 2.5 mL/min
Detection: UV@220nm
Temperature: Ambient

ChiralAMCE-5 Column Notes and Applications in HPLC and UPLC

3-Phenylphthalide on ChiralAMCE-5 column

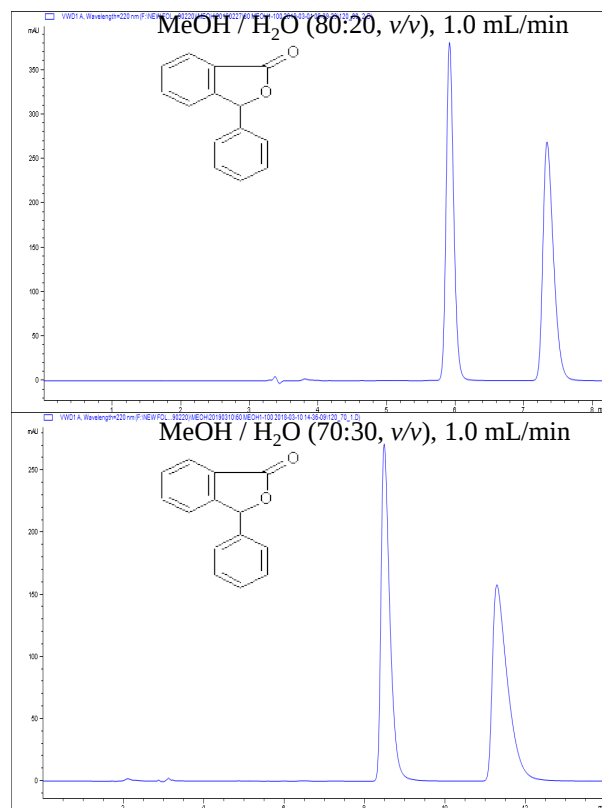


Figure (AMCE5)-73. Chiral separation of 3-Phenylphthalide on ChiralAMCE-5 column under reversed phase condition using of MeOH/H₂O as mobile phase.

Column: ChiralAMCE-5
Dimension: 5 μ m, 250 $\times$ 4.6 mm I.D.
Part No. 8975-AMCE5-05
LC Mode: HPLC (Agilent1200)
Flow rate: 1.0 mL/min
Detection: UV@220nm
Temperature: Ambient

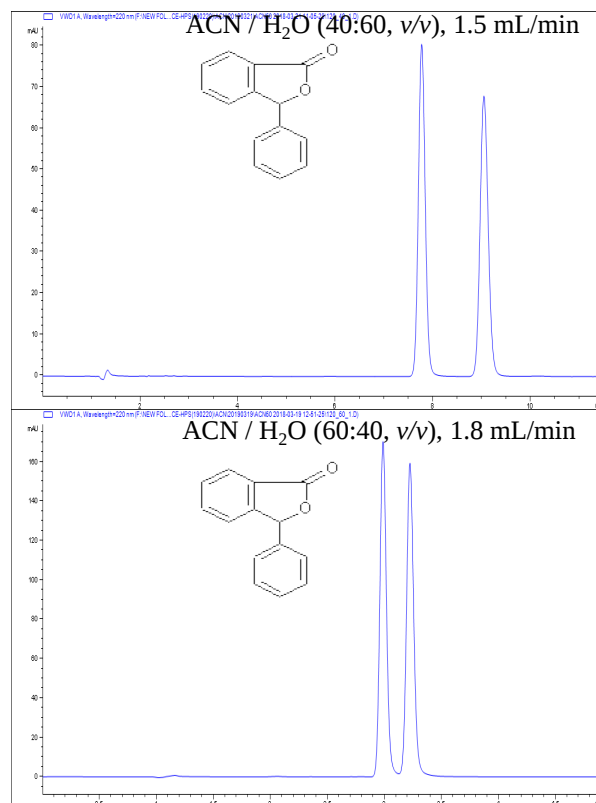


Figure (AMCE5)-74. Chiral separation of 3-Phenylphthalide on ChiralAMCE-5 column under reversed phase condition using of ACN/H₂O as mobile phase.

Column: ChiralAMCE-5
Dimension: 5 μ m, 250 $\times$ 4.6 mm I.D.
Part No. 8975-AMCE5-05
LC Mode: HPLC (Agilent1200)
Flow rate: 1.5 & 1.8 mL/min
Detection: UV@220nm
Temperature: Ambient

ChiralAMCE-5 Column Notes and Applications in HPLC and UPLC

Pioglitazone on ChiralAMCE-5 column

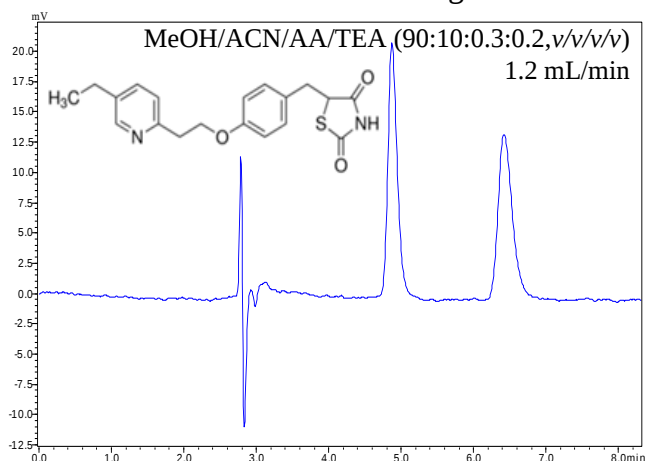


Figure (AMCE5)-75. Chiral separation of Pioglitazone on ChiralAMCE-5 column under polar organic mode using MeOH/ACN/AA/TEA as mobile phases.

Column: ChiralAMCE-5
Dimension: 5 μ m, 250 $\times$ 4.6 mm I.D.
Part No. 8975-AMCE5-05
LC Mode: HPLC (Shimadzu LC 20)
Flow rate: 1.2 mL/min
Detection: UV@220nm
Temperature: Ambient

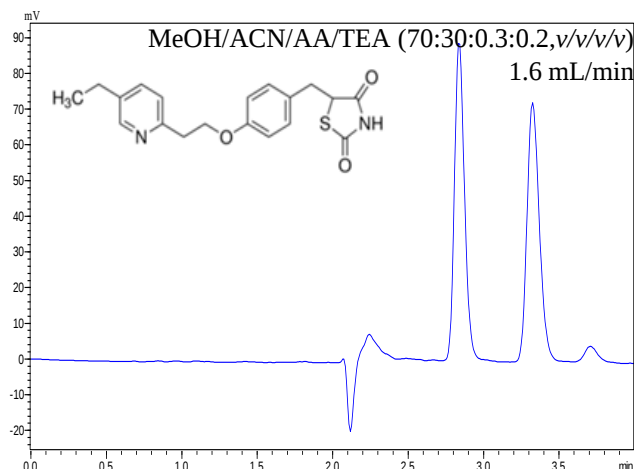


Figure (AMCE5)-76. Chiral separation of Pioglitazone on ChiralAMCE-5 column under polar organic mode using MeOH/ACN/AA/TEA as mobile phases.

Column: ChiralAMCE-5
Dimension: 5 μ m, 250 $\times$ 4.6 mm I.D.
Part No. 8975-AMCE5-05
LC Mode: HPLC (Shimadzu LC 20)
Flow rate: 1.6 mL/min
Detection: UV@220nm
Temperature: Ambient

ChiralAMCE-5 Column Notes and Applications in HPLC and UPLC

Praziquantel on ChiralAMCE-5 column

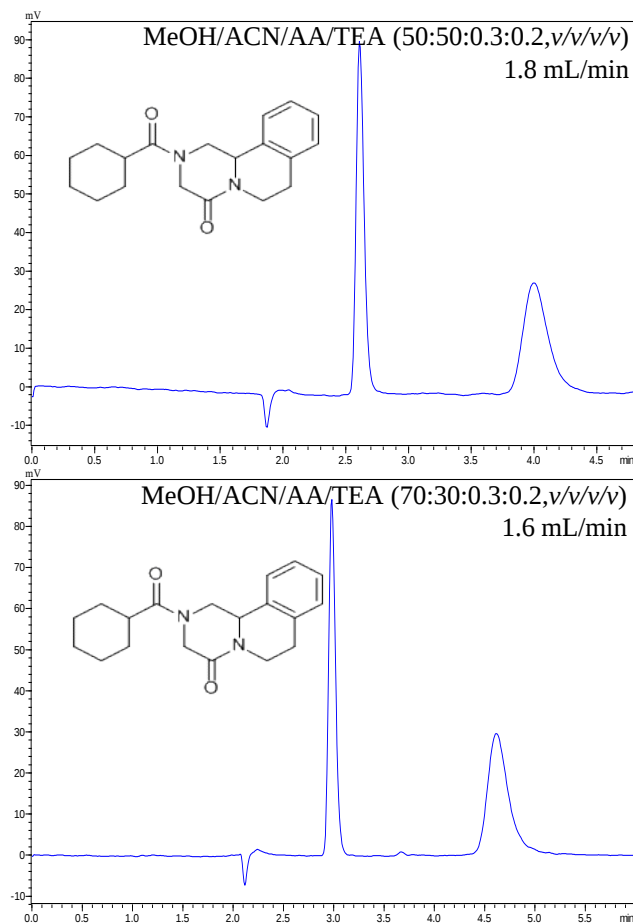


Figure (AMCE5)-77. Chiral separation of Praziquantel on ChiralAMCE-5 column under polar organic mode using MeOH/ACN/AA/TEA as mobile phases.

Column: ChiralAMCE-5
Dimension: 5 μ m, 250 $\times$ 4.6 mm I.D.
Part No. 8975-AMCE5-05
LC Mode: HPLC (Shimadzu LC 20)
Flow rate: 1.6 & 1.8 mL/min
Detection: UV@220nm
Temperature: Ambient

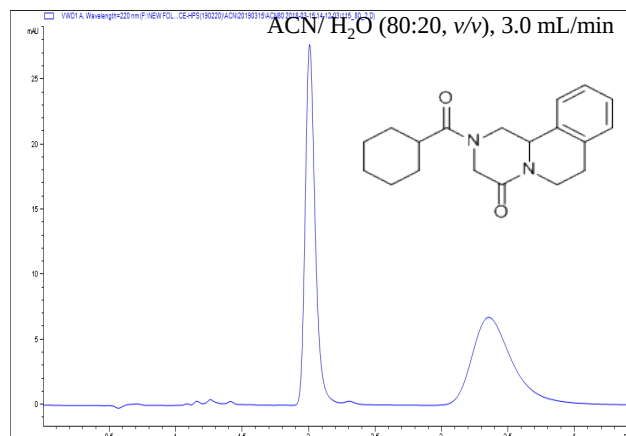


Figure (AMCE5)-78. Chiral separation of Praziquantel on ChiralAMCE-5 column under reverse phase conditions using ACN/ H₂O as mobile phase.

Column: ChiralAMCE-5
Dimension: 5 μ m, 250 $\times$ 4.6 mm I.D.
Part No. 8975-AMCE5-05
LC Mode: HPLC (Agilent 1100)
Flow rate: 3.0 mL/min
Detection: UV@220nm
Temperature: Ambient

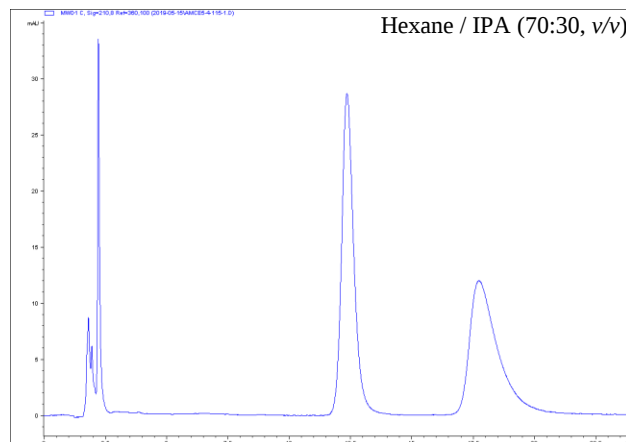


Figure (AMCE5)-79. Chiral separation of Praziquantel on ChiralAMCE-5 column using Hexane / IPA as mobile phase.

Column: ChiralAMCE-5
Dimension: 3 μ m, 250 $\times$ 2.1 mm I.D.
Part No. 8973-AMCE5-05
LC Mode: HPLC (Agilent 1100)
Flow rate: 0.4 mL/min
Detection: UV@220nm
Temperature: Ambient

ChiralAMCE-5 Column Notes and Applications in HPLC and UPLC

Promethazine on ChiralAMCE-5 column

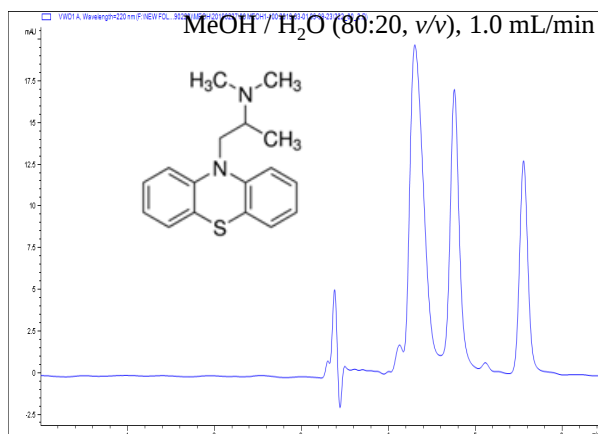


Figure (AMCE5)-80. Chiral separation of Promethazine on ChiralAMCE-5 column under reverse phase condition using MeOH / H₂O as mobile phase.

Column: ChiralAMCE-5
Dimension: 5 μ m, 250 $\times$ 4.6 mm I.D.
Part No. 8975-AMCE5-05
LC Mode: HPLC (Agilent 1200)
Flow rate: 1.0 mL/min
Detection: UV@220nm
Temperature: Ambient

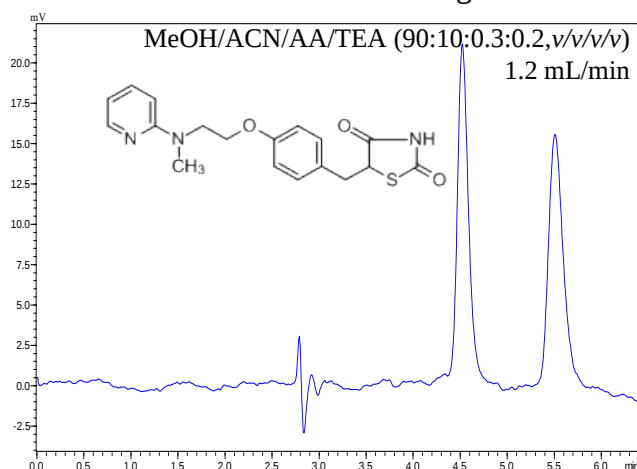
ChiralAMCE-5 Column Notes and Applications in HPLC and UPLC**Rosiglitazone on ChiralAMCE-5 column**

Figure (AMCE5)-81. Chiral separation of Rosiglitazone on ChiralAMCE-5 column under polar organic mode using MeOH/ACN/AA/TEA as mobile phase.

Column: ChiralAMCE-5
Dimension: 5 μ m, 250 $\times$ 4.6 mm I.D.
Part No. 8975-AMCE5-05
LC Mode: HPLC (Shimadzu LC 20)
Flow rate: 1.2 mL/min
Detection: UV@220nm
Temperature: Ambient

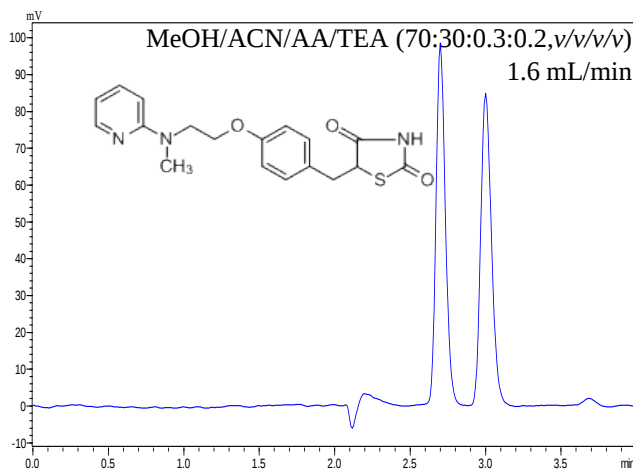


Figure (AMCE5)-82. Chiral separation of Rosiglitazone on ChiralAMCE-5 column under polar organic mode using MeOH/ACN/AA/TEA as mobile phase.

Column: ChiralAMCE-5
Dimension: 5 μ m, 250 $\times$ 4.6 mm I.D.
Part No. 8975-AMCE5-05
LC Mode: HPLC (Shimadzu LC 20)
Flow rate: 1.6 mL/min
Detection: UV@220nm
Temperature: Ambient

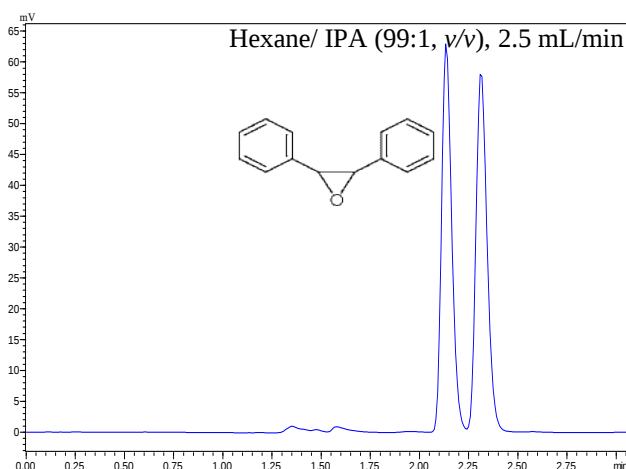
ChiralAMCE-5 Column Notes and Applications in HPLC and UPLC**Stilbene Oxide on ChiralAMCE-5 column**

Figure (AMCE5)-83. Chiral separation of Stilbene Oxide on ChiralAMCE-5 column under normal phase condition using Hexane/ IPA as mobile phase.

Column: ChiralAMCE-5
Dimension: 5 μ m, 250 $\times$ 4.6 mm I.D.
Part No. 8975-AMCE5-05
LC Mode: HPLC (Shimadzu LC 20)
Flow rate: 2.5 mL/min
Detection: UV@220nm
Temperature: Ambient

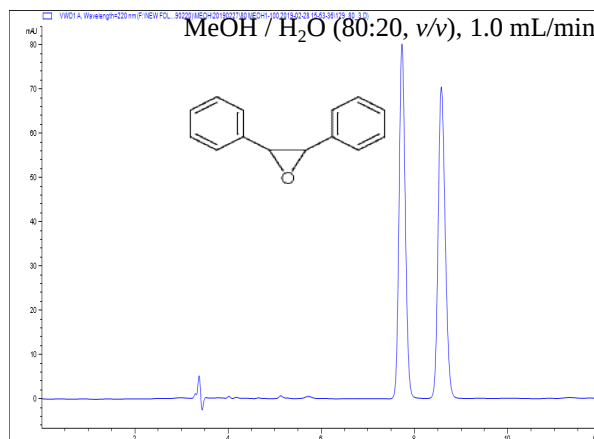


Figure (AMCE5)-84. Chiral separation of Stilbene Oxide on ChiralAMCE-5 column under reversed phase condition using MeOH / H₂O as mobile phase.

Column: ChiralAMCE-5
Dimension: 5 μ m, 250 $\times$ 4.6 mm I.D.
Part No. 8975-AMCE5-05
LC Mode: HPLC (Agilent1200)
Flow rate: 1.0 mL/min
Detection: UV@220nm
Temperature: Ambient

ChiralAMCE-5 Column Notes and Applications in HPLC and UPLC

Thalidomide on ChiralAMCE-5 column

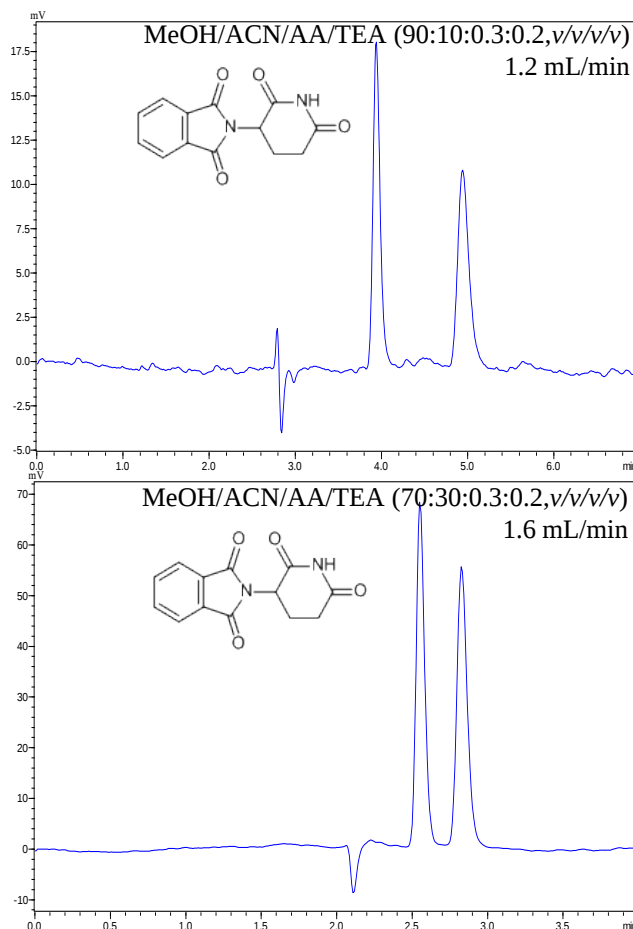


Figure (AMCE5)-85. Chiral separation of Thalidomide on ChiralAMCE-5 column under polar organic mode using MeOH/ACN/AA/TEA as mobile phases.

Column: ChiralAMCE-5
Dimension: 5 μ m, 250 $\times$ 4.6 mm I.D.
Part No. 8975-AMCE5-05
LC Mode: HPLC (Shimadzu LC 20)
Flow rate: 1.2 & 1.6 mL/min
Detection: UV@220nm
Temperature: Ambient

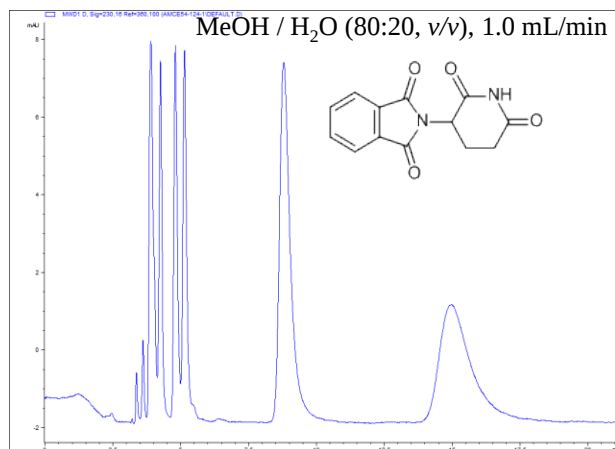


Figure (AMCE5)-86. Chiral separation of Thalidomide (last two peaks) on ChiralAMCE-5 column under reversed phase condition using MeOH / H₂O as mobile phase.

Column: ChiralAMCE-5
Dimension: 5 μ m, 250 $\times$ 4.6 mm I.D.
Part No. 8975-AMCE5-05
LC Mode: HPLC (Agilent1200)
Flow rate: 1.0 mL/min
Detection: UV@230nm
Temperature: Ambient

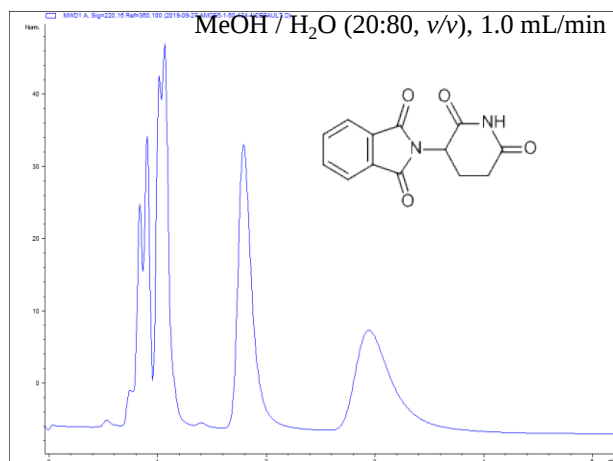
ChiralAMCE-5 Column Notes and Applications in HPLC and UPLC**Thalidomide on ChiralAMCE-5 column**

Figure (AMCE5)-87. Fast chiral separation of Thalidomide on ChiralAMCE-5 column under reversed phase condition using MeOH / H₂O as mobile phase.

Column: ChiralAMCE-5
Dimension: 3 μ m, 50 $\times$ 4.6 mm I.D.
Part No. 8973-AMCE5-61
LC Mode: HPLC (Agilent1100)
Flow rate: 1.0 mL/min
Detection: UV@220nm
Temperature: Ambient

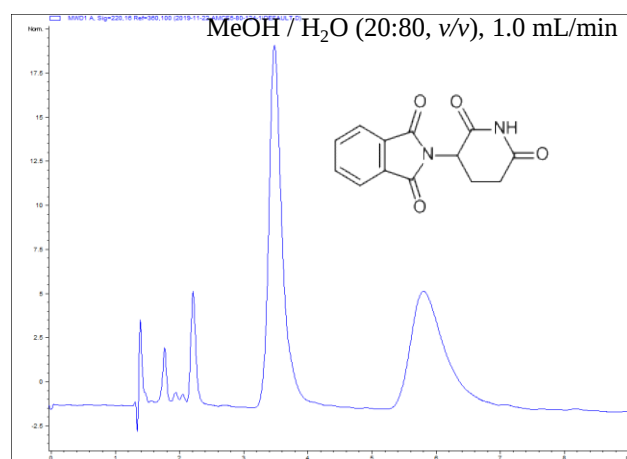


Figure (AMCE5)-88. Fast chiral separation of Thalidomide on ChiralAMCE-5 column under reversed phase condition using MeOH / H₂O as mobile phase.

Column: ChiralAMCE-5
Dimension: 3 μ m, 100 $\times$ 4.6 mm I.D.
Part No. 8973-AMCE5-62
LC Mode: HPLC (Agilent1100)
Flow rate: 1.0 mL/min
Detection: UV@220nm
Temperature: Ambient

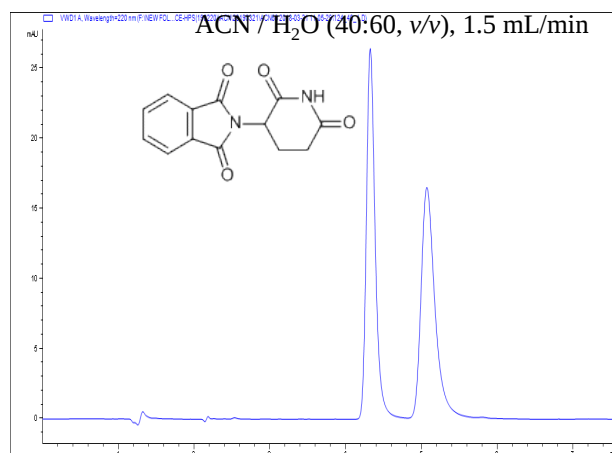
ChiralAMCE-5 Column Notes and Applications in HPLC and UPLC**Thalidomide on ChiralAMCE-5 column**

Figure (AMCE5)-89. Chiral separation of Thalidomide on ChiralAMCE-5 column under reversed phase condition using ACN / H₂O as mobile phase.

Column: ChiralAMCE-5
Dimension: 5 μ m, 250 $\times$ 4.6 mm I.D.
Part No. 8975-AMCE5-05
LC Mode: HPLC (Agilent1200)
Flow rate: 1.5 mL/min
Detection: UV@220nm
Temperature: Ambient

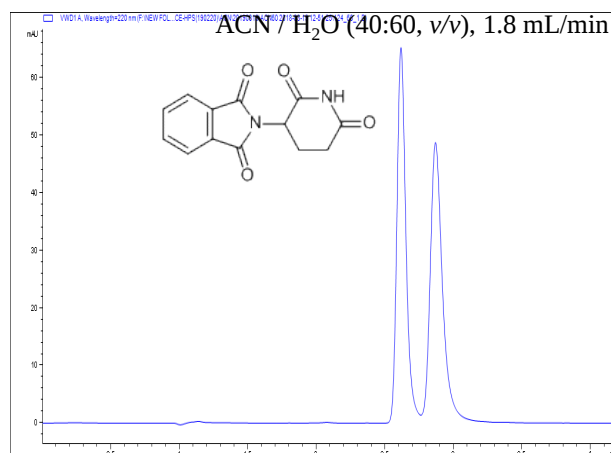


Figure (AMCE5)-90 Chiral separation of Thalidomide on ChiralAMCE-5 column under reversed phase condition using ACN / H₂O as mobile phase.

Column: ChiralAMCE-5
Dimension: 5 μ m, 250 $\times$ 4.6 mm I.D.
Part No. 8975-AMCE5-05
LC Mode: HPLC (Agilent1200)
Flow rate: 1.8 mL/min
Detection: UV@220nm
Temperature: Ambient

ChiralAMCE-5 Column Notes and Applications in HPLC and UPLC

Troger's Base on ChiralAMCE-5 column

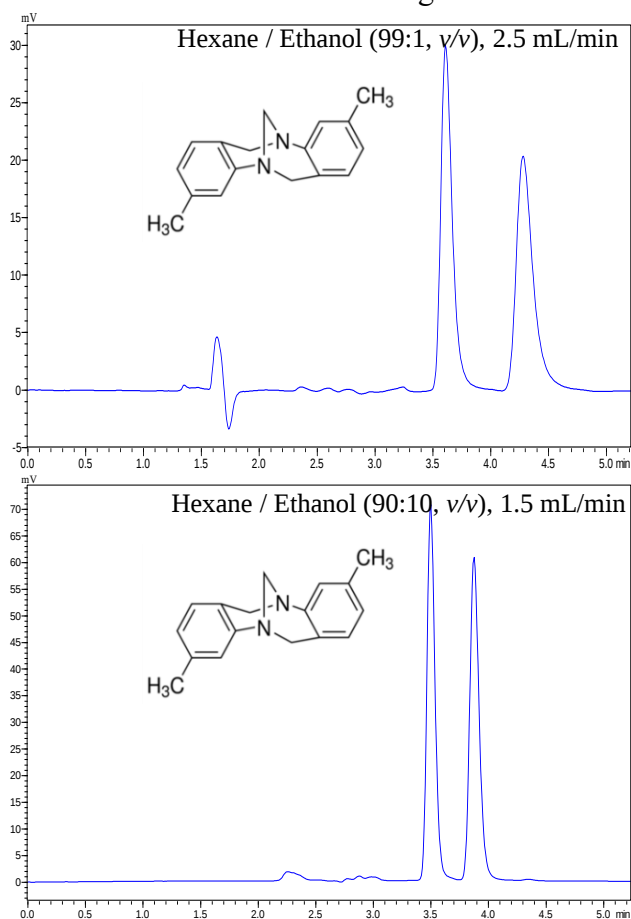


Figure (AMCE5)-91. Chiral separation of Troger's Base on ChiralAMCE-5 column under normal phase condition using Hexane / Ethanol as mobile phases.

Column: ChiralAMCE-5
Dimension: 5 μ m, 250 $\times$ 4.6 mm I.D.
Part No. 8975-AMCE5-05
LC Mode: HPLC (Shimadzu LC 20)
Flow rate: 1.5 & 2.5 mL/min
Detection: UV@220nm
Temperature: Ambient

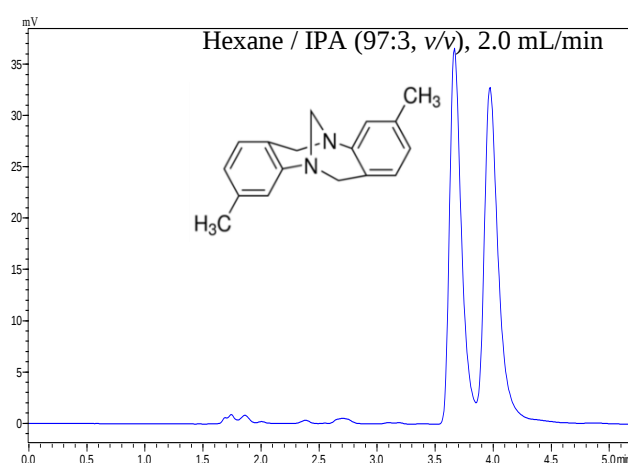


Figure (AMCE5)-92. Chiral separation of Troger's Base on ChiralAMCE-5 column under normal phase condition using Hexane / Ethanol as mobile phases.

Column: ChiralAMCE-5
Dimension: 5 μ m, 250 $\times$ 4.6 mm I.D.
Part No. 8975-AMCE5-05
LC Mode: HPLC (Shimadzu LC 20)
Flow rate: 2.0 mL/min
Detection: UV@220nm
Temperature: Ambient

ChiralAMCE-5 Column Notes and Applications in HPLC and UPLC

Troger's Base on ChiralAMCE-5 column

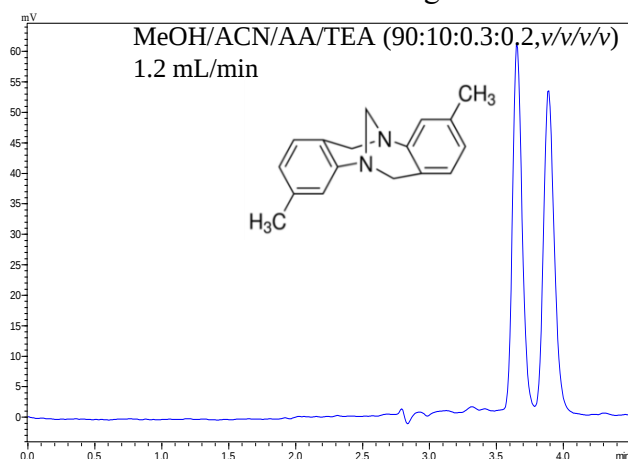


Figure (AMCE5)-93. Chiral separation of Troger's Base on ChiralAMCE-5 column under polar organic mode using MeOH/ACN/AA/TEA as mobile phase.

Column: ChiralAMCE-5
Dimension: 5 μ m, 250 $\times$ 4.6 mm I.D.
Part No. 8975-AMCE5-05
LC Mode: HPLC (Shimadzu LC 20)
Flow rate: 1.2 mL/min
Detection: UV@220nm
Temperature: Ambient

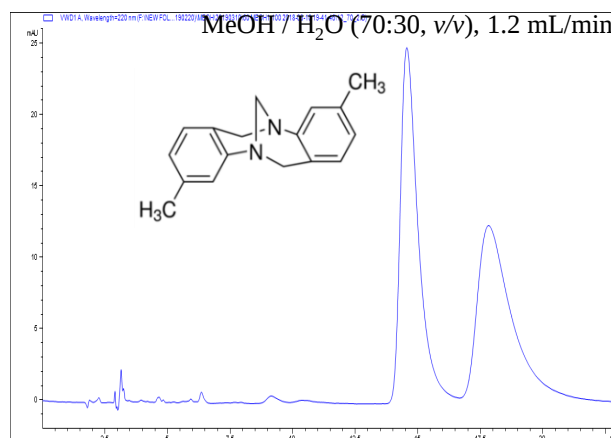


Figure (AMCE5)-94. Chiral separation of Troger's Base on ChiralAMCE-5 column under reverse phase condition using MeOH / H₂O as mobile phases.

Column: ChiralAMCE-5
Dimension: 5 μ m, 250 $\times$ 4.6 mm I.D.
Part No. 8975-AMCE5-05
LC Mode: HPLC (Agilent 1200)
Flow rate: 1.2 mL/min
Detection: UV@220nm
Temperature: Ambient

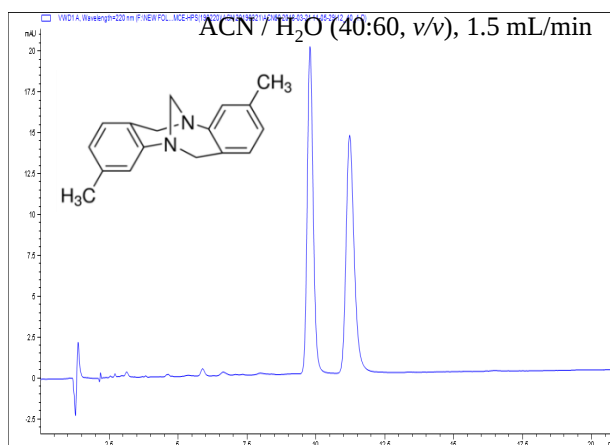
ChiralAMCE-5 Column Notes and Applications in HPLC and UPLC**Troger's Base on ChiralAMCE-5 column**

Figure (AMCE5)-95. Chiral separation of Troger's Base on ChiralAMCE-5 column under reversed phase using ACN / H₂O as mobile phase.

Column: ChiralAMCE-5
Dimension: 5 μ m, 250 $\times$ 4.6 mm I.D.
Part No. 8975-AMCE5-05
LC Mode: HPLC (Shimadzu LC 20)
Flow rate: 1.5 mL/min
Detection: UV@220nm
Temperature: Ambient

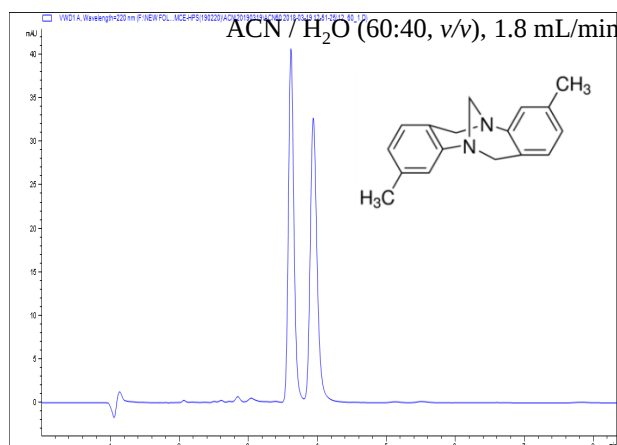


Figure (AMCE5)-96. Chiral separation of Troger's Base on ChiralAMCE-5 column under reversed phase using ACN / H₂O as mobile phase.

Column: ChiralAMCE-5
Dimension: 5 μ m, 250 $\times$ 4.6 mm I.D.
Part No. 8975-AMCE5-05
LC Mode: HPLC (Agilent 1200)
Flow rate: 1.8 mL/min
Detection: UV@220nm
Temperature: Ambient