ChiralTek ChiralAMCE-2 Column Manual and Applications in HPLC and UPLC

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Context Directory

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Novel ChiralAMCE Chiral Columns for UPLC and HPLC

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 3μm for analytical columns). The column contains a unique complex chiral selector with two recognition moieties: amylose and cellulose.

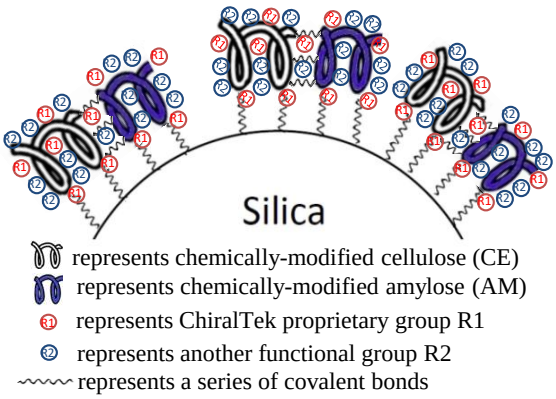
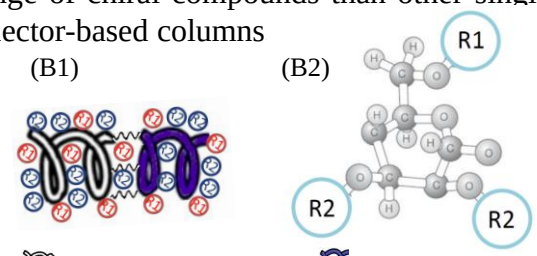


Figure (A). Schematic diagram of ChiralAMCE phase

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



： Cellulose (CE); ： Amylose (AM)

R1= ChiralTek proprietary group

ChiralAMCE-1： R2= Phenylcarbamate;
ChiralAMCE-2：R2= 3,5-Dimethylphenylcarbamate;
ChiralAMCE-3：R2= 3-Chloro-4-methyl-phenylcarbamate;
ChiralAMCE-4：R2= 3,5-Dichloro-phenylcarbamate;
ChiralAMCE-3：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 three 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). The I.D. of all the analytical column is 2mm only. ChiralAMCE analytical columns have five different lengths (50mm, 100mm, 150mm, 200mm, and 250mm). The photo of a widely-used ChiralCE-2 analytical column with 150mm length is shown below.

Figure (C). Typical photo of an analytical ChiralAMCE-2 column

Novel ChiralAMCE Chiral Columns for UPLC and HPLC

The ChiralAMCE columns can be used under multiple modes of mobile phase conditions: normal phase, revered 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 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.

Since packing particles and inner diameter (2 mm) of the ChiralAMCE analytical columns are quite small, a 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. Other information are listed in the following table:

Flow direction:	Arrow direction on the label
Pressure:	< 860 bar （~12500 psi ）
Temperature:	0 – 40 °C
Guard column:	Standard C18 or Diol column
LC mode:	HPLC or UPLC

Besides the above analytical columns packed with 2μm or 3μm particles, varies of semi-preparative and preparative-scale columns packed with 5μm or 10μm particles are available as well. Figure (D) shows some typical semi-preparative and preparative-scale ChiralAMCE-2 columns.

Figure (D). Typical photo of the semi-preparative and preparative ChiralAMCE-2 columns

Notes and applications

A wide range of chiral drug compounds were used to evaluate the enaniomeric separation performance of the ChiralAMCE-2 columns. Some of the typical chromograms for those tests are shown in this notes and applications.

The chromatographic separations were performed on Agilent 1100 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 different types of 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

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

Part number	*Type*	*Column Dimension*	*Remarks*
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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support@chiraltek-column.com

ChiralAMCE-2 Column Notes and Applications in HPLC and UPLC

Aminoglutethimide on ChiralAMCE-2 column

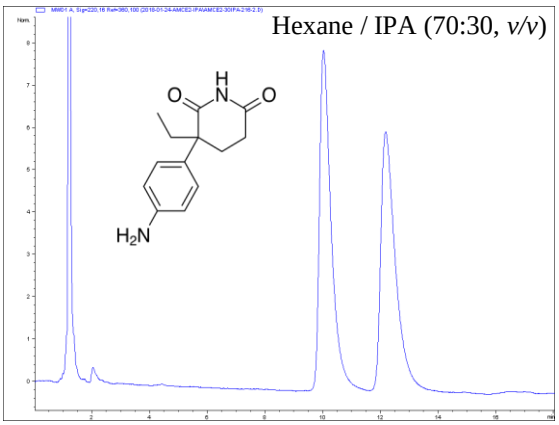

Figure (AMCE2)-1. Chiral separation of Aminoglutethimide on ChiralAMCE-2 column under normal phase condition.

Column:	ChiralAMCE-2
Dimension:	3μm, 150 ×2.1 mm I.D.
Part No.	873-AMCE2-03
LC Mode:	HPLC (Agilent1100)
Flow rate:	0.4 mL/min
Detection:	UV@220nm
Temperature:	Ambient

ChiralAMCE-2 Column Notes and Applications in HPLC and UPLC

Anisoin on ChiralAMCE-2 column

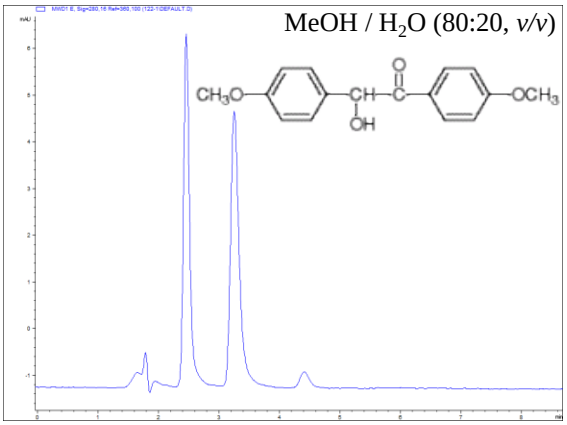

Figure (AMCE2)-2. Chiral separation of Anisoin on ChiralAMCE-2 column under reversed phase condition.

Column:	ChiralAMCE-2
Dimension:	3μm, 150 ×2.1 mm I.D.
Part No.	873-AMCE2-03
LC Mode:	UPLC (Agilent1290)
Flow rate:	0.25 mL/min
Detection:	UV@280nm
Temperature:	Ambient

ChiralAMCE-2 Column Notes and Applications in HPLC and UPLC

Chlormezanone on ChiralAMCE-2 column

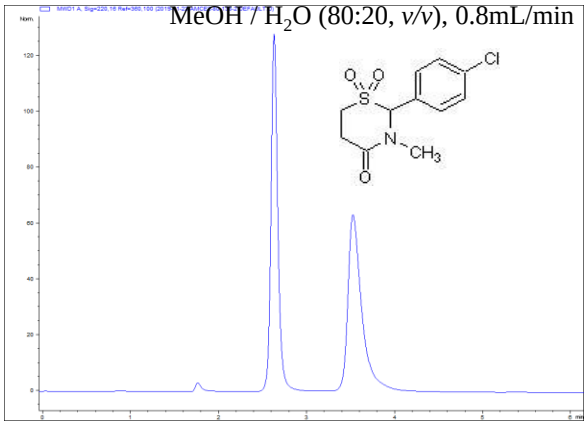

Figure (AMCE2)-3.Fast chiral separation of Chlormezanone on short ChiralAMCE-2 column using mixture of MeOH / H_2O as mobile phase

Column: ChiralAMCE-2
Dimension: 3μm, 100 ×4.6 mm I.D.
Part No. 8573-AMCE2-62
LC Mode: HPLC (Agilent1100)
Flow rate: 0.80 mL/min
Detection: UV@230nm
Temperature: Ambient

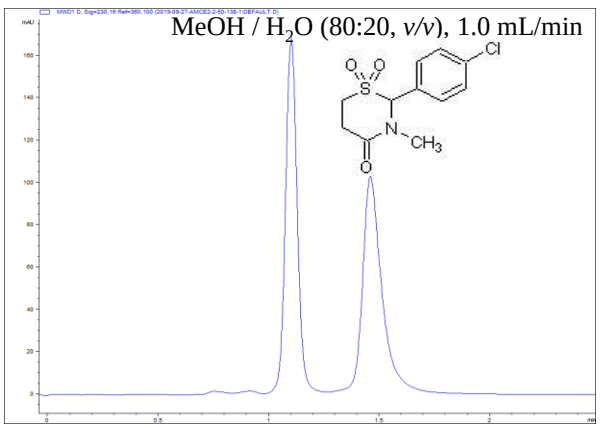

Figure (AMCE2)-4.Fast chiral separation of Chlormezanone within 1.6 min on short ChiralAMCE-2 column using mixture of MeOH / H_2O as mobile phase

Column: ChiralAMCE-2
Dimension: 3μm, 50 ×4.6 mm I.D.
Part No. 8573-AMCE2-61
LC Mode: HPLC (Agilent1100)
Flow rate: 1.0 mL/min
Detection: UV@230nm
Temperature: Ambient

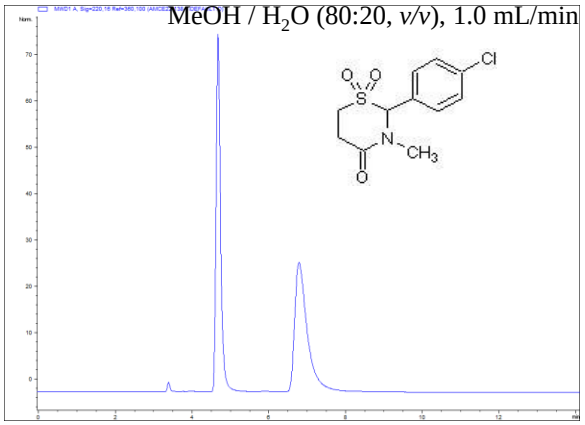

Figure (AMCE2)-5. Chiral separation of Chlormezanone on traditional size ChiralAMCE-2 column using mixture of MeOH / H_2O as mobile phase

Column: ChiralAMCE-2
Dimension: 5μm, 250 ×4.6 mm I.D.
Part No. 8975-AMCE2-05
LC Mode: HPLC (Agilent1100)
Flow rate: 1.0 mL/min
Detection: UV@220nm
Temperature: Ambient

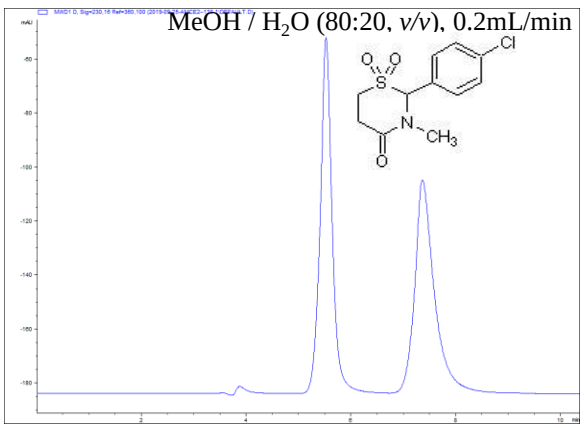

Figure (AMCE2)-6. Chiral separation of Chlormezanone on ChiralAMCE-2 column using mixture of MeOH / H_2O as mobile phase

Column: ChiralAMCE-2
Dimension: 3μm, 250 ×2.1 mm I.D.
Part No. 8573-AMCE2-05
LC Mode: HPLC (Agilent1100)
Flow rate: 0.20 mL/min
Detection: UV@220nm
Temperature: Ambient

ChiralAMCE-2 Column Notes and Applications in HPLC and UPLC

Chlormezanone on ChiralAMCE-2 column

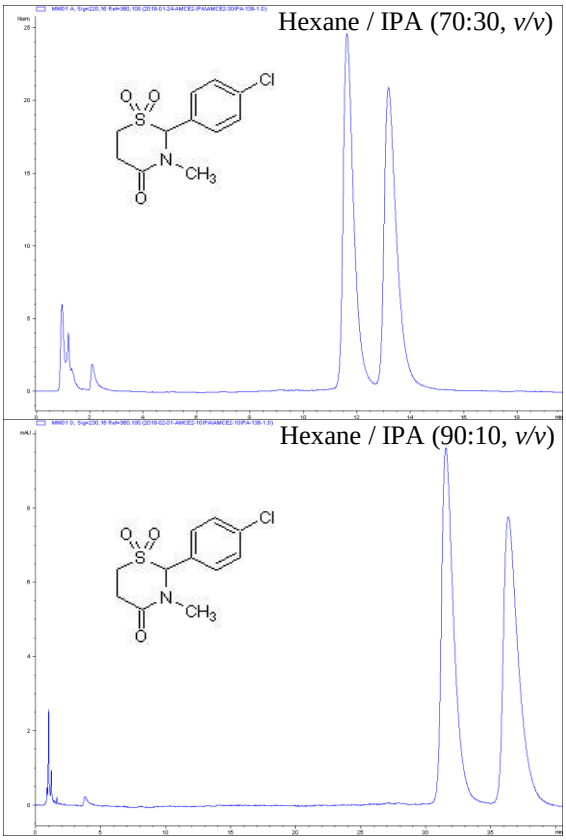

Figure (AMCE2)-7. Progressive chiral separation of Chlormezanone on ChiralAMCE-2 column as composition of mobile phase is varied under normal phase conditions.

Column:	ChiralAMCE-2
Dimension:	3μm, 150 ×2.1 mm I.D.
Part No.	873-AMCE2-03
LC Mode:	HPLC (Agilent1100)
Flow rate:	0.40 mL/min
Detection:	UV@230nm
Temperature:	Ambient

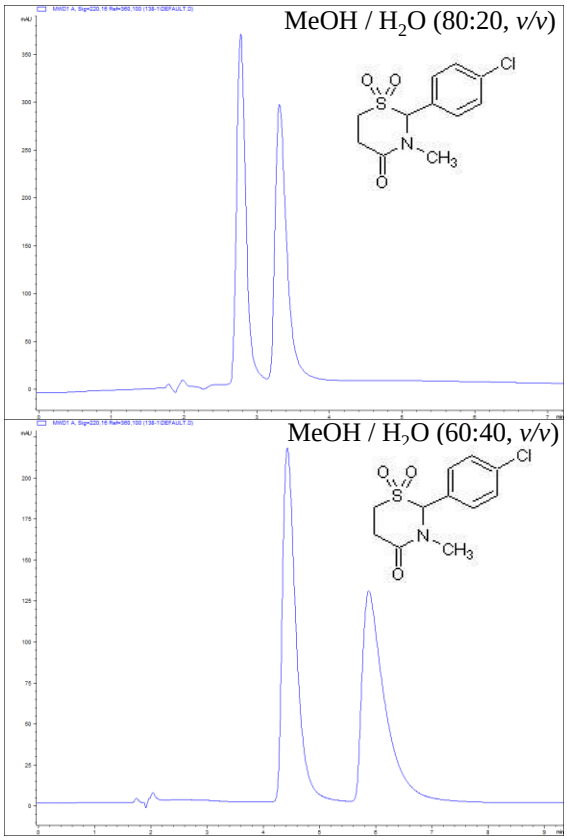

Figure (AMCE2)-8. Progressive chiral separation of Chlormezanone on ChiralAMCE-2 column as composition of mobile phase is varied under reversed phase conditions.

Column:	ChiralAMCE-2
Dimension:	3μm, 150 ×2.1 mm I.D.
Part No.	873-AMCE2-03
LC Mode:	UPLC (Agilent1290)
Flow rate:	0.25 mL/min
Detection:	UV@220nm
Temperature:	Ambient

ChiralAMCE-2 Column Notes and Applications in HPLC and UPLC

3,5-Dinitro-N-(1-phenylethyl)benzamide on ChiralAMCE-2 column

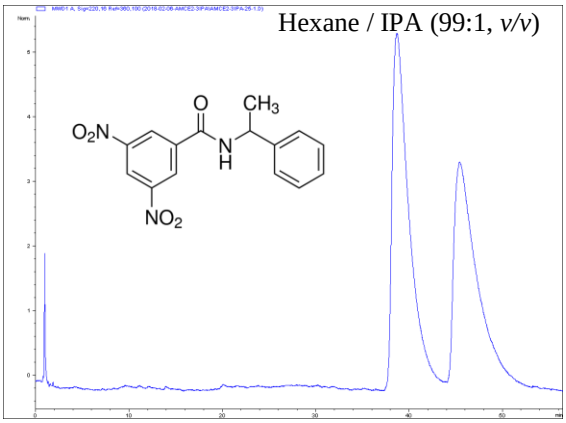

Figure (AMCE2)-9. Chiral separation of 3,5-Dinitro-N-(1-phenylethyl)benzamide on ChiralAMCE-2 column under normal phase condition.

Column:	ChiralAMCE-2
Dimension:	3μm, 150 ×2.1 mm I.D.
Part No.	873-AMCE2-03
LC Mode:	HPLC (Agilent1100)
Flow rate:	0.50 mL/min
Detection:	UV@220nm
Temperature:	Ambient

ChiralAMCE-2 Column Notes and Applications in HPLC and UPLC

1,3-Diphenylpropargyl alcohol on ChiralAMCE-2 column

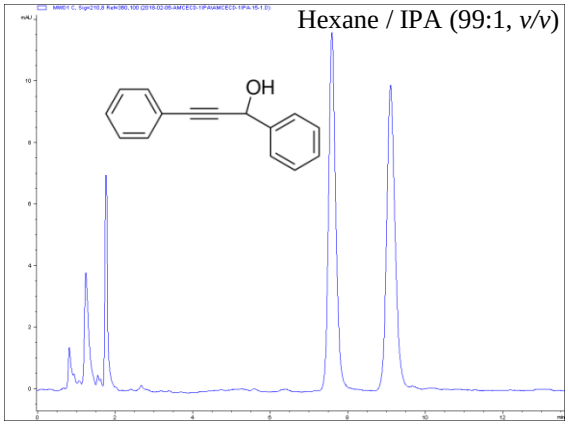

Figure (AMCE2)-10. Chiral separation of 1,3-Diphenylpropargyl alcohol on ChiralAMCE-2 column under normal phase conditions.

Column:	ChiralAMCE-2
Dimension:	3μm, 150 ×2.1 mm I.D.
Part No.	873-AMCE2-03
LC Mode:	HPLC (Agilent1100)
Flow rate:	0.50 mL/min
Detection:	UV@220nm
Temperature:	Ambient

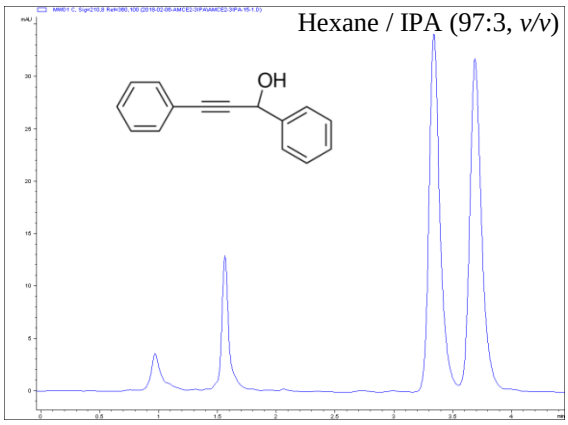

Figure (AMCE2)-11. Chiral separation of 1,3-Diphenylpropargyl alcohol on ChiralAMCE-2 column under normal phase conditions.

Column:	ChiralAMCE-2
Dimension:	3μm, 150 ×2.1 mm I.D.
Part No.	873-AMCE2-03
LC Mode:	HPLC (Agilent1100)
Flow rate:	0.50 mL/min
Detection:	UV@220nm
Temperature:	Ambient

ChiralAMCE-2 Column Notes and Applications in HPLC and UPLC

Flavanone on ChiralAMCE-2 column

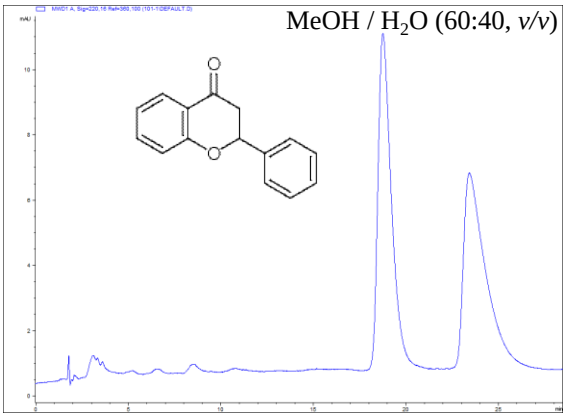

Figure (AMCE2)-12. Chiral separation of Flavanone on ChiralAMCE-2 column under reversed phase conditions.

Column:	ChiralAMCE-2
Dimension:	3μm, 150 ×2.1 mm I.D.
Part No.	873-AMCE2-03
LC Mode:	HPLC (Agilent1200)
Flow rate:	0.25 mL/min
Detection:	UV@220nm
Temperature:	Ambient

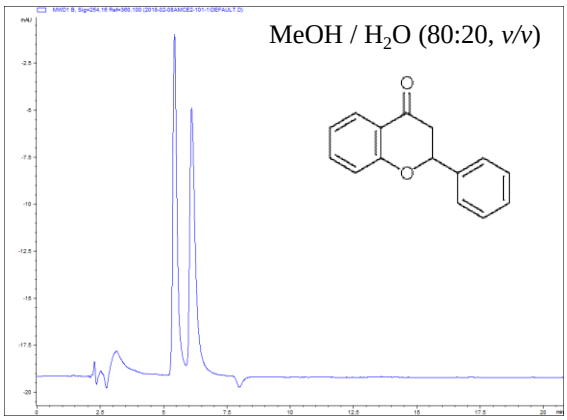

Figure (AMCE2)-13. Chiral separation of Flavanone on ChiralAMCE-2 column under reversed phase conditions.

Column:	ChiralAMCE-2
Dimension:	3μm, 150 ×2.1 mm I.D.
Part No.	873-AMCE2-03
LC Mode:	HPLC (Agilent1200)
Flow rate:	0.25 mL/min
Detection:	UV@220nm
Temperature:	Ambient

ChiralAMCE-2 Column Notes and Applications in HPLC and UPLC

Furoin on ChiralAMCE-2 column

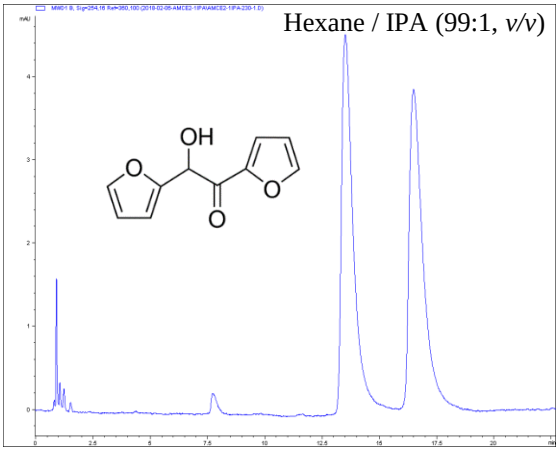

Figure (AMCE2)-14. Chiral separation of Furoin on ChiralAMCE-2 column under normal phase conditions.

Column:	ChiralAMCE-2
Dimension:	3μm, 150 ×2.1 mm I.D.
Part No.	873-AMCE2-03
LC Mode:	HPLC (Agilent1100)
Flow rate:	0.50 mL/min
Detection:	UV@230nm
Temperature:	Ambient

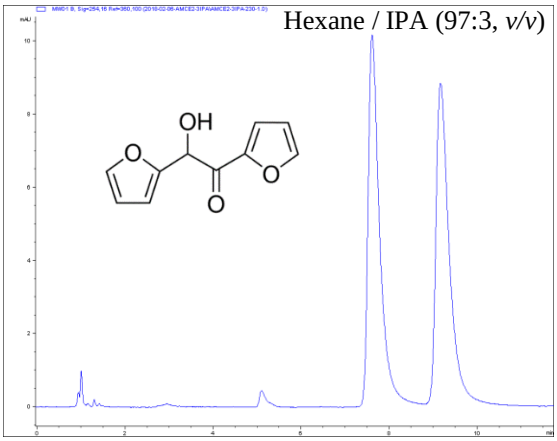

Figure (AMCE2)-15. Chiral separation of Furoin on ChiralAMCE-2 column under normal phase conditions.

Column:	ChiralAMCE-2
Dimension:	3μm, 150 ×2.1 mm I.D.
Part No.	873-AMCE2-03
LC Mode:	HPLC (Agilent1100)
Flow rate:	0.50 mL/min
Detection:	UV@230nm
Temperature:	Ambient

ChiralAMCE-2 Column Notes and Applications in HPLC and UPLC

Hesperetin on ChiralAMCE-2 column

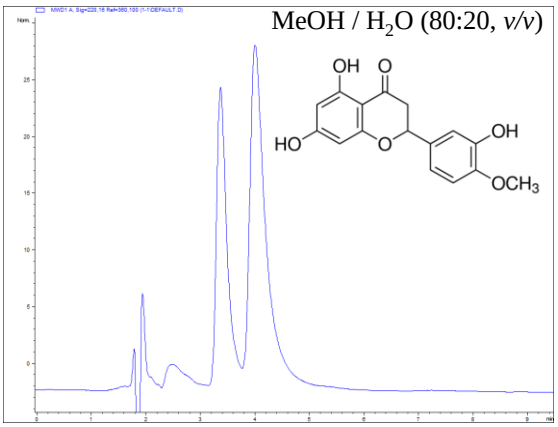

Figure (AMCE2)-16. Progressive chiral separation of Hesperetin on ChiralAMCE-2 column as composition of mobile phase is varied under reversed phase conditions.

Column:	ChiralAMCE-2
Dimension:	3μm, 150 × 2.1 mm I.D.
Part No.	873-AMCE2-03
LC Mode:	HPLC (Agilent1200)
Flow rate:	0.25 mL/min
Detection:	UV@220nm
Temperature:	Ambient

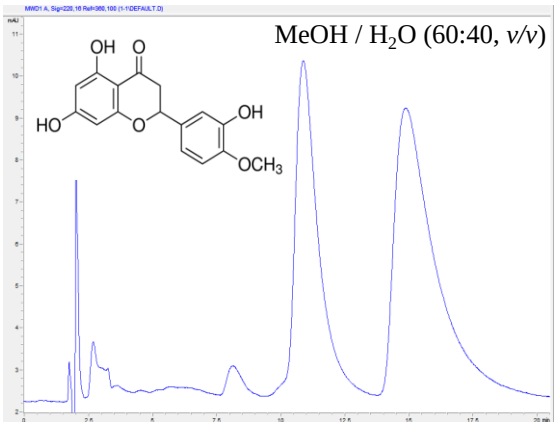

Figure (AMCE2)-17. Progressive chiral separation of Hesperetin on ChiralAMCE-2 column as composition of mobile phase is varied under reversed phase conditions.

Column:	ChiralAMCE-2
Dimension:	3μm, 150 × 2.1 mm I.D.
Part No.	873-AMCE2-03
LC Mode:	HPLC (Agilent1200)
Flow rate:	0.25 mL/min
Detection:	UV@220nm
Temperature:	Ambient

ChiralAMCE-2 Column Notes and Applications in HPLC and UPLC

4'-Hydroxyflavanone on ChiralAMCE-2 column

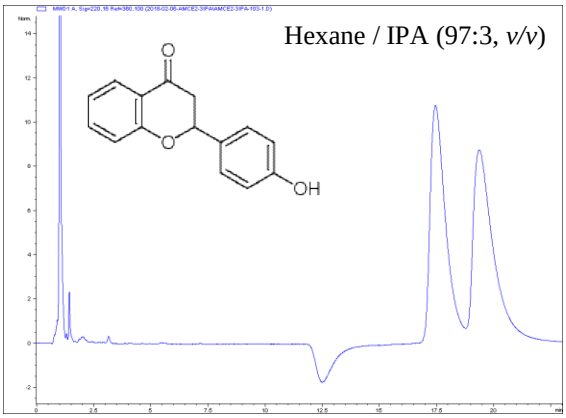

Figure (AMCE2)-18.Chiral separation of 4'-Hydroxyflavanone on ChiralAMCE-2 column under normal phase conditions.

Column:	ChiralAMCE-2
Dimension:	3μm, 150 ×2.1 mm I.D.
Part No.	873-AMCE2-03
LC Mode:	HPLC (Agilent1100)
Flow rate:	0.5 mL/min
Detection:	UV@220nm
Temperature:	Ambient

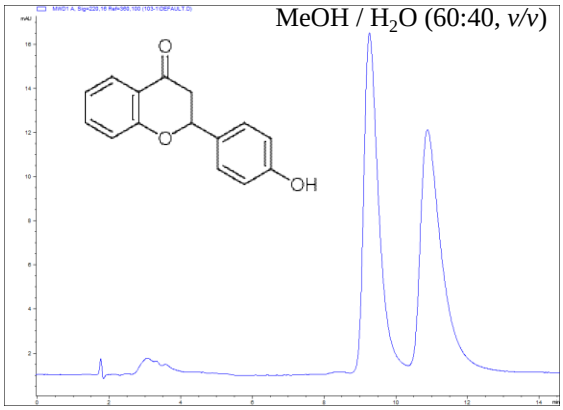

Figure (AMCE2)-19.Chiral separation of 4'-Hydroxyflavanone on ChiralAMCE-2 column d under reversed phase condition.

Column:	ChiralAMCE-2
Dimension:	3μm, 150 ×2.1 mm I.D.
Part No.	873-AMCE2-03
LC Mode:	HPLC (Agilent1200)
Flow rate:	0.25 mL/min
Detection:	UV@220nm
Temperature:	Ambient

ChiralAMCE-2 Column Notes and Applications in HPLC and UPLC

6-Methoxyflavanone on ChiralAMCE-2 column

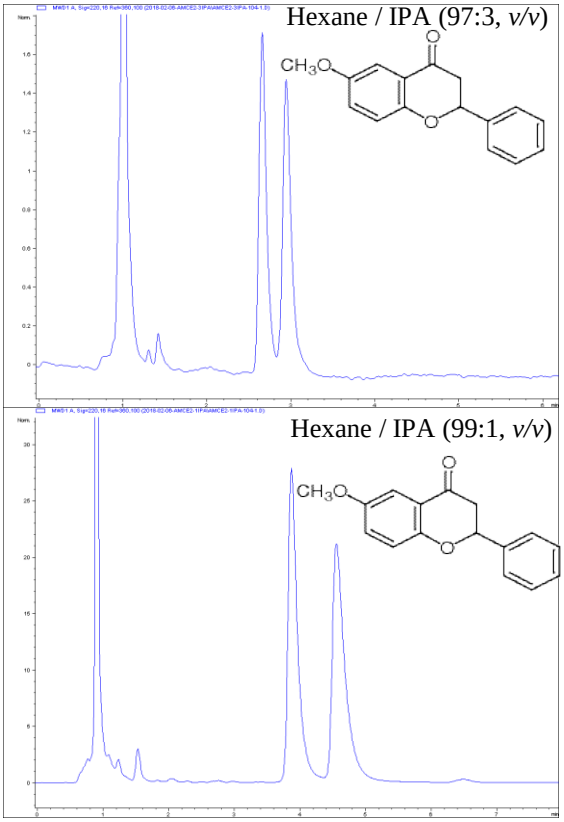

Figure (AMCE2)-20. Progressive chiral separation of 6-Methoxyflavanone on ChiralAMCE-2 column as composition of mobile phase is varied under normal phase conditions.

Column:	ChiralAMCE-2
Dimension:	3μm, 150 ×2 mm I.D.
Part No.	873-AMCE2-03
LC Mode:	HPLC (Agilent1100)
Flow rate:	0.6 mL/min
Detection:	UV@220nm
Temperature:	Ambient

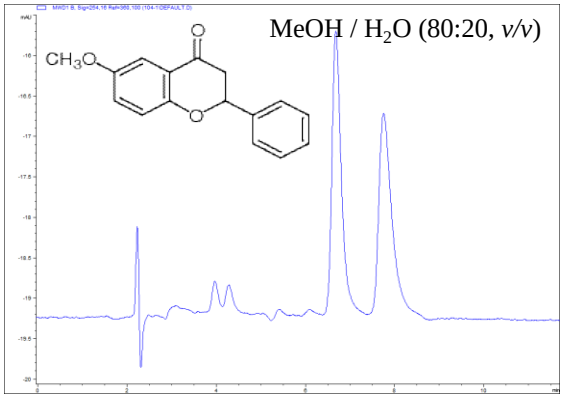

Figure (AMCE2)-21. Chiral separation of 6-Methoxyflavanone on ChiralAMCE-2 column under reversed phase condition.

Column:	ChiralAMCE-2
Dimension:	3μm, 150 ×2 mm I.D.
Part No.	873-AMCE2-03
LC Mode:	UPLC (Agilent1290)
Flow rate:	0.25 mL/min
Detection:	UV@254nm
Temperature:	Ambient

ChiralAMCE-2 Column Notes and Applications in HPLC and UPLC

1-(1-Naphthyl)ethanol on ChiralAMCE-2 column

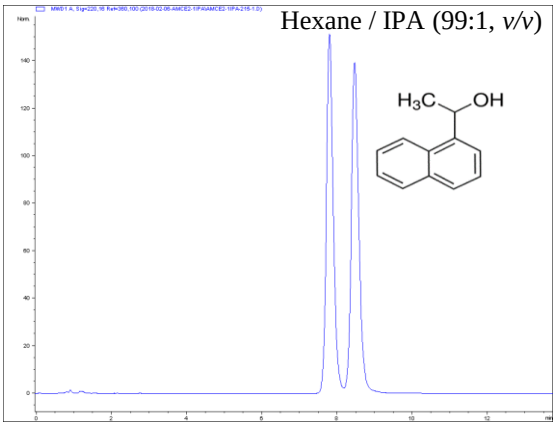

Figure (AMCE2)-22. Chiral separation of 1-(1-Naphthyl)ethanol on ChiralAMCE-2 column under normal phase conditions.

Column:	ChiralAMCE-2
Dimension:	3μm, 150 ×2.1 mm I.D.
Part No.	873-AMCE2-03
LC Mode:	HPLC (Agilent1100)
Flow rate:	0.50 mL/min
Detection:	UV@230nm
Temperature:	Ambient

ChiralAMCE-2 Column Notes and Applications in HPLC and UPLC

Ornidazole on ChiralAMCE-2 column

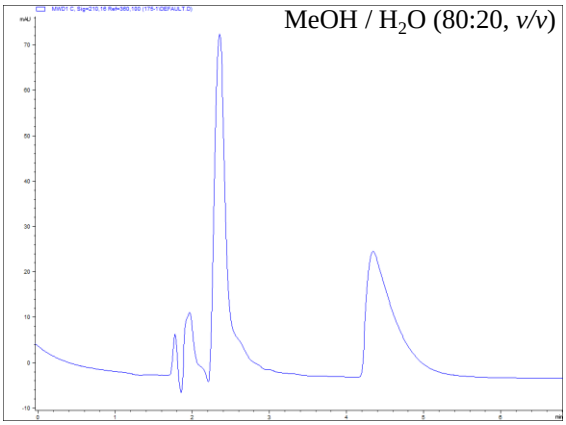

Figure (AMCE2)-23. Chiral separation of Ornidazole on ChiralAMCE-2 column under reversed phase condition.

Column:	ChiralAMCE-2
Dimension:	3μm, 150 ×2.1 mm I.D.
Part No.	873-AMCE2-03
LC Mode:	HPLC (Agilent1200)
Flow rate:	0.25 mL/min
Detection:	UV@210nm
Temperature:	Ambient

ChiralAMCE-2 Column Notes and Applications in HPLC and UPLC

2-Phenylbutyric Acid on ChiralAMCE-2 column

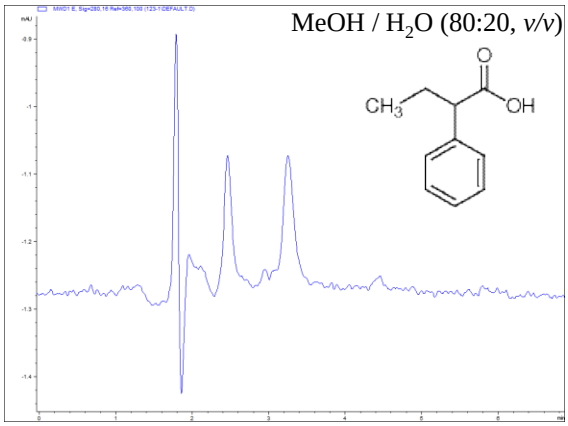

Figure (AMCE2)-24. Chiral separation of 2-Phenylbutyric Acid on ChiralAMCE-2 column under reversed phase condition.

Column:	ChiralAMCE-2
Dimension:	3μm, 150 ×2.1 mm I.D.
Part No.	873-AMCE2-03
LC Mode:	UPLC (Agilent1290)
Flow rate:	0.25 mL/min
Detection:	UV@280nm
Temperature:	Ambient

ChiralAMCE-2 Column Notes and Applications in HPLC and UPLC

Pioglitazone on ChiralAMCE-2 column

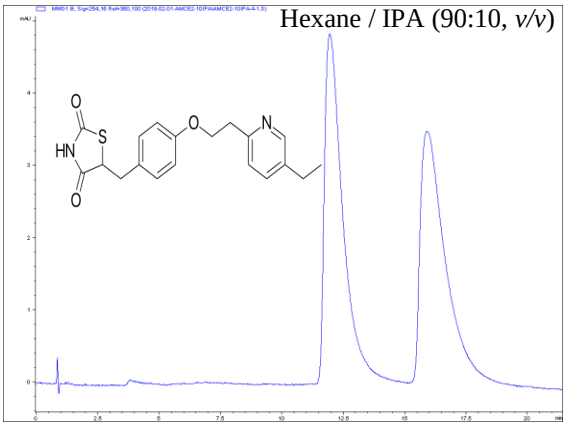

Figure (AMCE2)-25. Chiral separation of Pioglitazone on ChiralAMCE-2 column under normal phase conditions.

Column:	ChiralAMCE-2
Dimension:	3μm, 150 ×2.1 mm I.D.
Part No.	873-AMCE2-03
LC Mode:	HPLC (Agilent1100)
Flow rate:	0.50 mL/min
Detection:	UV@280nm
Temperature:	Ambient

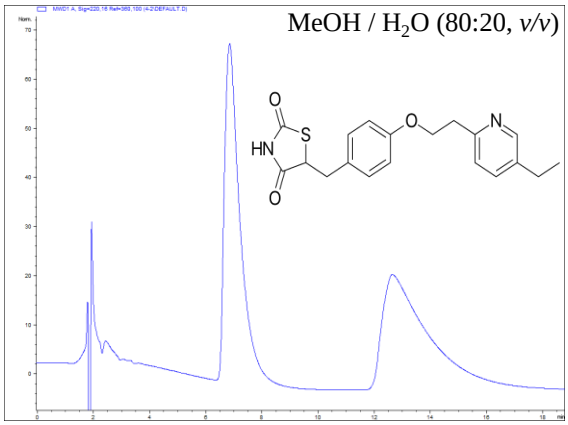

Figure (AMCE2)-26. Chiral separation of Anisoin on ChiralAMCE-2 column under reversed phase condition.

Column:	ChiralAMCE-2
Dimension:	3μm, 150 ×2.1 mm I.D.
Part No.	873-AMCE2-03
LC Mode:	HPLC (Agilent1200)
Flow rate:	0.25 mL/min
Detection:	UV@220nm
Temperature:	Ambient

ChiralAMCE-2 Column Notes and Applications in HPLC and UPLC

Praziquantel on ChiralAMCE-2 column

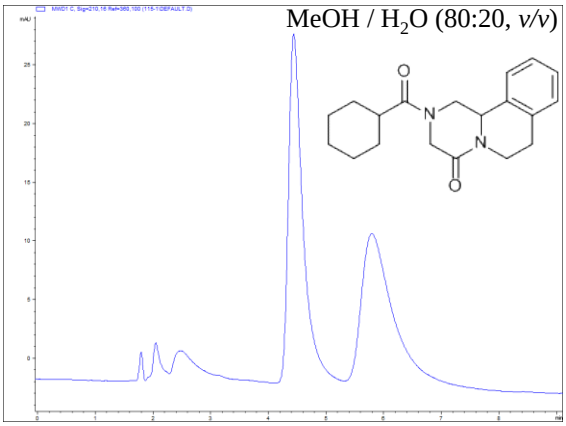

Figure (AMCE2)-27. Chiral separation of Praziquantel on ChiralAMCE-2 column under reversed phase condition.

Column:	ChiralAMCE-2
Dimension:	3μm, 150 ×2.1 mm I.D.
Part No.	873-AMCE2-03
LC Mode:	UPLC (Agilent1200)
Flow rate:	0.25 mL/min
Detection:	UV@210nm
Temperature:	Ambient

ChiralAMCE-2 Column Notes and Applications in HPLC and UPLC

Promethazine on ChiralAMCE-2 column

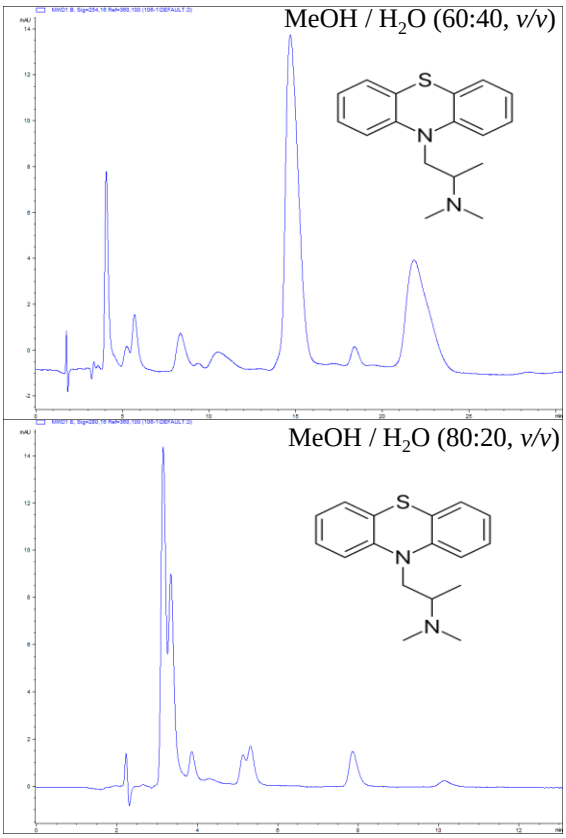

Figure (AMCE2)-28. Progressive chiral separation of Promethazine on ChiralAMCE-2 column as composition of mobile phase is varied under reversed phase conditions.

Column:	ChiralAMCE-2
Dimension:	3μm, 150 ×2.1 mm I.D.
Part No.	873-AMCE2-03
LC Mode:	UPLC (Agilent1290)
Flow rate:	0.25 mL/min
Detection:	UV@220nm
Temperature:	Ambient

ChiralAMCE-2 Column Notes and Applications in HPLC and UPLC

Thalidomide on ChiralAMCE-2 column

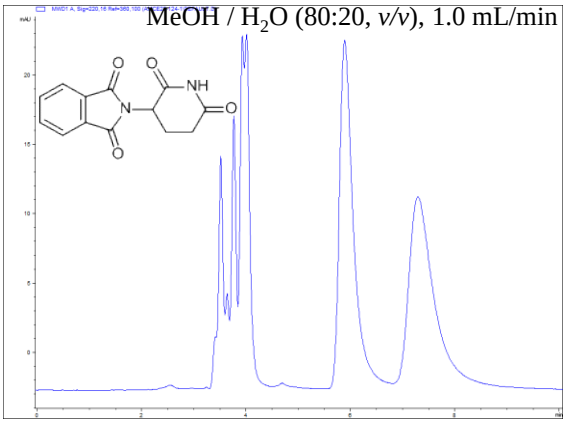

Figure (AMCE2)-29. Chiral separation of Thalidomide on ChiralAMCE-2 column using mixture of MeOH / H_2O as mobile phase

Column:	ChiralAMCE-2
Dimension:	5μm, 250 ×4.6 mm I.D.
Part No.	8975-AMCE2-05
LC Mode:	HPLC (Agilent1100)
Flow rate:	1.0 mL/min
Detection:	UV@220nm
Temperature:	Ambient

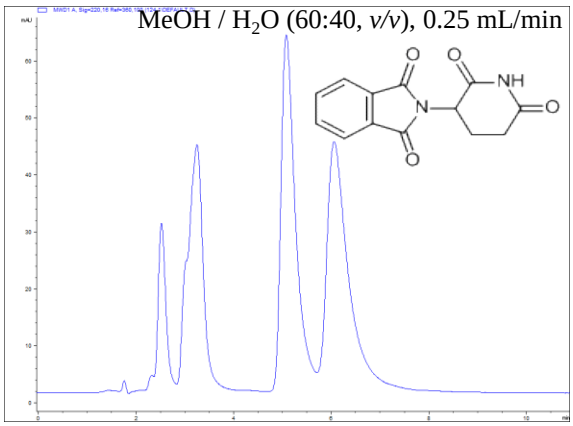

Figure (AMCE2)-30. Chiral separation of Thalidomide on ChiralAMCE-2 column using mixture of MeOH / H_2O as mobile phase

Column:	ChiralAMCE-2
Dimension:	3μm, 150 ×2.1 mm I.D.
Part No.	873-AMCE2-03
LC Mode:	HPLC (Agilent1200)
Flow rate:	0.25 mL/min
Detection:	UV@220nm
Temperature:	Ambient

ChiralAMCE-2 Column Notes and Applications in HPLC and UPLC

Trichloromethiazide on ChiralAMCE-2 column

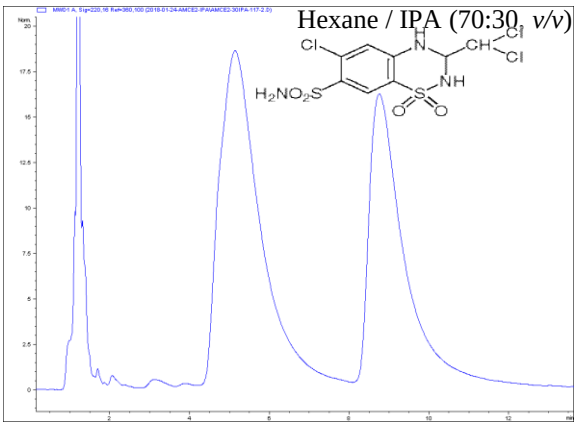

Figure (AMCE2)-31. Chiral separation of Trichloromethiazide on ChiralAMCE-2 column under normal phase condition.

Column:	ChiralAMCE-2
Dimension:	3μm, 150 × 2.1 mm I.D.
Part No.	873-AMCE2-03
LC Mode:	HPLC (Agilent1100)
Flow rate:	0.6 mL/min
Detection:	UV@210nm
Temperature:	Ambient

ChiralAMCE-2 Column Notes and Applications in HPLC and UPLC

Troger's Base on ChiralAMCE-2 column

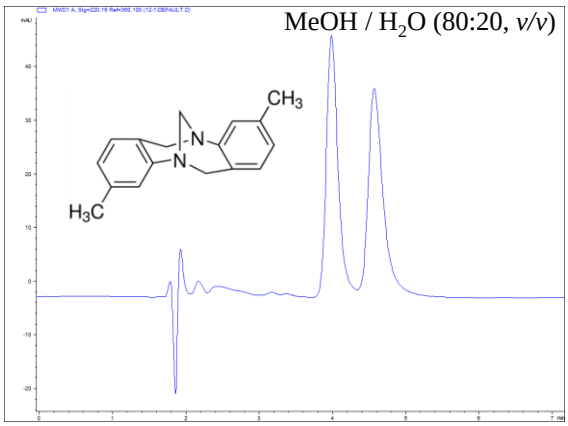

Figure (AMCE2)-32. Chiral separation of Troger's Base on ChiralAMCE-2 column under reversed phase condition.

Column:	ChiralAMCE-2
Dimension:	3μm, 150 ×2.1 mm I.D.
Part No.	873-AMCE2-03
LC Mode:	UPLC (Agilent1290)
Flow rate:	0.25 mL/min
Detection:	UV@220nm
Temperature:	Ambient

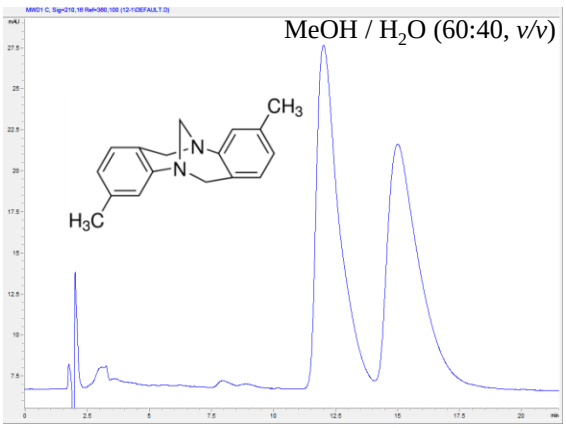

Figure (AMCE2)-33. Chiral separation of Troger's Base on ChiralAMCE-2 column under reversed phase condition.

Column:	ChiralAMCE-2
Dimension:	3μm, 150 ×2.1 mm I.D.
Part No.	873-AMCE2-03
LC Mode:	UPLC (Agilent1290)
Flow rate:	0.25 mL/min
Detection:	UV@220nm
Temperature:	Ambient

ChiralAMCE-2 Column Notes and Applications in HPLC and UPLC

Zearalenol on ChiralAMCE-2 column

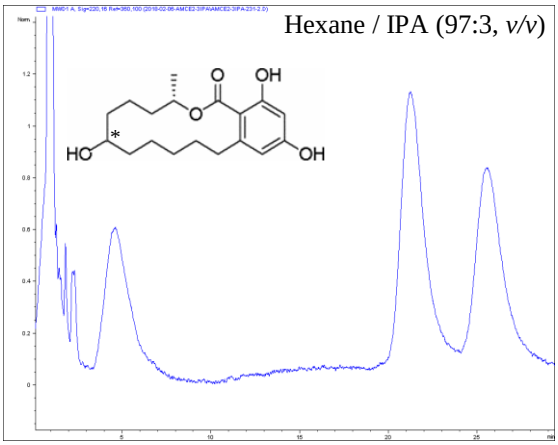

Figure (AMCE2)-34. Chiral separation of Zearalenol on ChiralAMCE-2 column under normal phase conditions.

Column:	ChiralAMCE-2
Dimension:	3μm, 150 ×2.1 mm I.D.
Part No.	873-AMCE2-03
LC Mode:	HPLC (Agilent1100)
Flow rate:	0.50 mL/min
Detection:	UV@220nm
Temperature:	Ambient