YMC AMERICA,INC.

Organic/inorganic hybrid silica based HILIC column

YMC-Triart Diol-HILIC

1.9 µm, 3 µm, 5 µm

UHPLC - HPLC

Features:

- HILIC column based on a layered organic/inorganic hybrid silica
- Useful for a separation of polar and hydrophilic compounds
- Highly-improved chemical durability in high pH conditions
- Excellent versatility: wide usable pH range
- Excellent reproducibility: low nonspecific adsorption

Technical Highlights:

Base material:	Organic/inorganic hybrid silica
Stationary phase:	Dihydroxypropyl (USP L20)
Particle size:	1.9 µm, 3 µm, 5 µm
Pore size:	12 nm
pH range:	pH 2 ~ 10

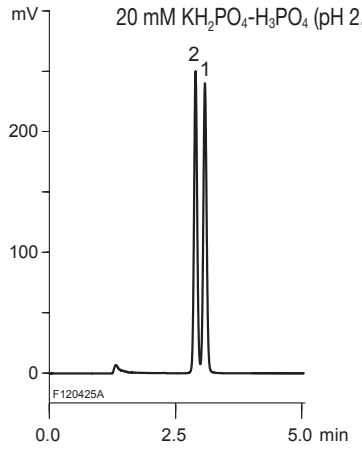
Description:

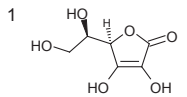
- YMC-Triart Diol-HILIC is a HILIC (hydrophilic interaction chromatography) column based on an organic/inorganic hybrid particle synthesized with a dihydroxypropyl group. Triart Diol-HILIC is ideal for a separation of polar and hydrophilic compounds which are not retained by reversed phase (C18, C8, and others) chromatography.
- Triart Diol-HILIC begins with an organic/inorganic hybrid base particle with excellent durability and usability across a wide pH range.
- Excellent reproducibility is achieved by the use of the dihydroxypropyl group - a neutral functional group exhibiting low nonspecific adsorption

Useful for Separation of Polar and Hydrophilic Compounds:

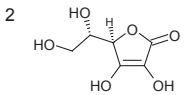
Comparison of Reversed Phase and HILIC mode Separations

Reversed Phase mode
YMC-Triart C18



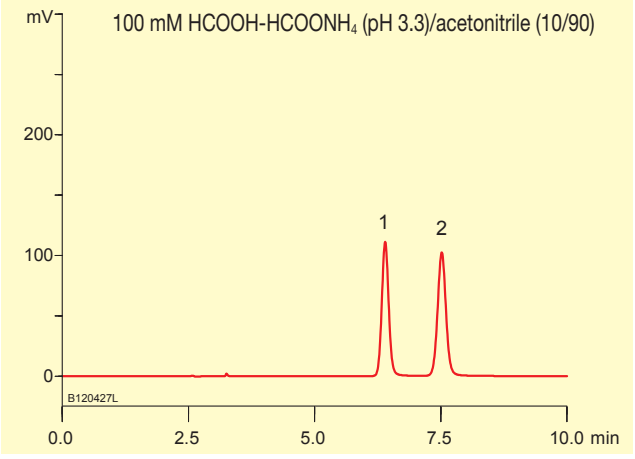


Erythorbic acid
(D-Isoascorbic acid)



L-Ascorbic acid

HILIC mode
YMC-Triart Diol-HILIC



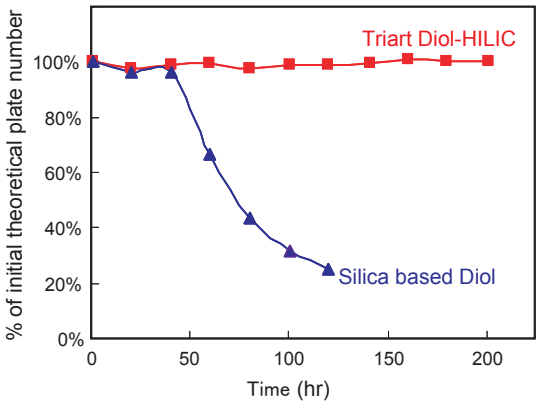
Conditions:

Column:	5 µm, 150 X 3.0 mmI.D.
Flow rate:	0.425 mL/min
Temperature:	40°C
Detection:	UV at 254 nm
Injection:	4 µL (0.05 mg/mL)

Triart C18 (reversed phase) shows very weak retention and poor resolution of L-Ascorbic acid and its stereoisomer (erythorbic acid) even with a 100% aqueous mobile phase. On the other hand, Triart Diol-HILIC shows strong retention and better resolution of these compounds with a mobile phase containing 90% organic solvent.

Excellent Durability at High pH and Elevated Temperature

[Durability in high pH (pH 11, 50°C)]



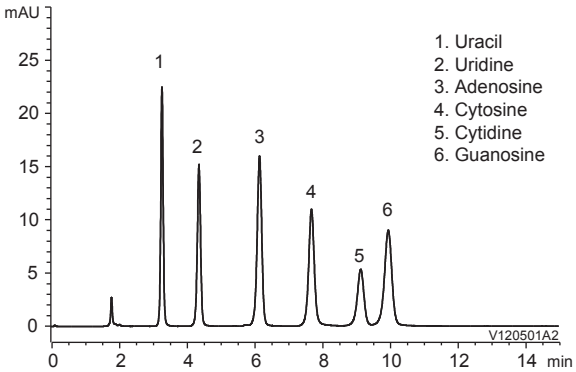
Triart Diol-HILIC is conservatively specified for use up to pH = 10.

An example of column performance lifetime at pH = 11 and 50°C is shown in the figure at left.

Triart Diol-HILIC has much longer stability under alkaline conditions than silica based diol columns.

Applications

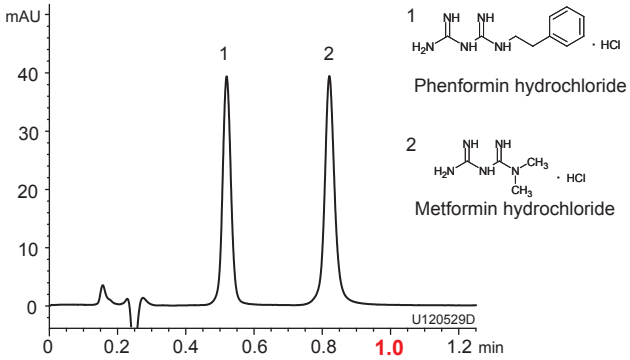
Nucleosides and Bases



Conditions:

Column:	YMC-Triart Diol-HILIC (5 µm, 12 nm) 150 X 3.0 mmI.D.
Eluent:	100 mM CH_3COONH_4/acetonitrile (10/90)
Flow rate:	0.425 mL/min
Temperature:	30°C
Detection:	UV at 254 nm
Injection:	2 µL (5 ~ 10 µg/mL)

Ultra Fast UHPLC Analysis of Diabetes Drugs



Conditions:

Column:	YMC-Triart Diol-HILIC (1.9 µm, 12 nm) 50 X 2.0 mmI.D.
Eluent:	100 mM HCOOH-HCOONH$_4$ (pH 3.7)/acetonitrile (10/90)
Flow rate:	0.8 mL/min
Temperature:	25°C
Detection:	UV at 235 nm
Injection:	2 µL (10 µg/mL)

Ordering Information

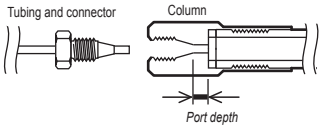
UHPLC columns

Particle size (µm)	Pore size (nm)	Column size I.D. X Length (mm)	Product code
1.9	12	2.0 X 50	TDH12SP9-0502PT
		2.0 X 100	TDH12SP9-1002PT
		3.0 X 50	TDH12SP9-0503PT
		3.0 X 100	TDH12SP9-1003PT

Analytical columns

Particle size (µm)	Pore size (nm)	Column size I.D. X Length (mm)	Product code
3	12	2.0 X 50	TDH12S03-0502WT
		2.0 X 100	TDH12S03-1002WT
		2.0 X 150	TDH12S03-1502WT
		3.0 X 50	TDH12S03-0503WT
		3.0 X 100	TDH12S03-1003WT
		3.0 X 150	TDH12S03-1503WT
		4.6 X 100	TDH12S03-1046WT
		4.6 X 150	TDH12S03-1546WT
5	12	2.0 X 150	TDH12S05-1502WT
		3.0 X 150	TDH12S05-1503WT
		4.6 X 150	TDH12S05-1546WT
		4.6 X 250	TDH12S05-2546WT

Connector and End Fittings



Last two letters of Product Code	Depth	Style of End Fitting
PT	ca. 2 mm / 0.09 inch	Parker (UPLC* compatible)
WT	ca. 3 mm / 0.13 inch	Waters

* UPLC is registered trademark of Waters Corporation.

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