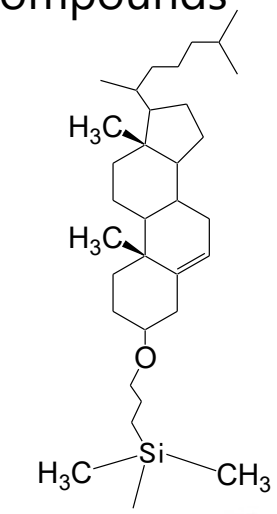
COSMOSIL

COSMOSIL / COSMOCORE
Cholester

HPLC column for epimers, cis-trans isomers and structural isomers

- Excellent Shape Selectivity
- Excellent Resolution of Structurally Similar Compounds
- Use under the Same Condition as C18



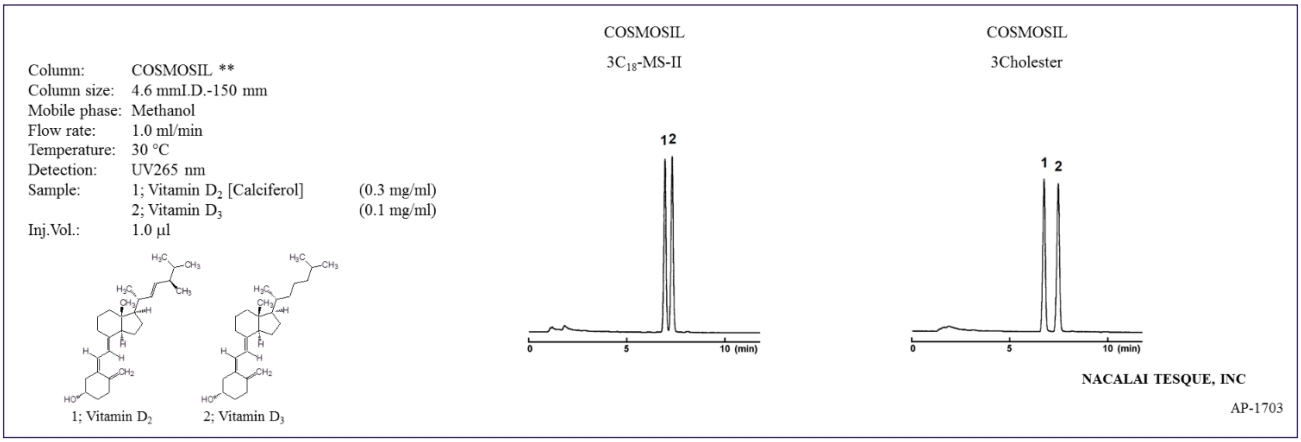
Physical characteristics

	COSMOCORE Cholester	COSMOSIL Cholester	
Silica Gel	Core-shell Silica Gel	High Purity Porous Spherical Silica	
Average Particle Size	2.6 µm	2.5 µm	3 µm, 5 µm
Average Pore Size	9 nm	13 nm	12 nm
Specific Surface Area	150 m^2/g	330 m^2/g	300 m^2/g
Stationary Phase	Cholesteryl Group		
End-capping	Near-perfect Treatment		
pH range	2 – 7.5		

COSMOSIL Cholester is a reversed phase HPLC column with Cholesteryl bonded silica packing material, which provides equivalent hydrophobicity like that of traditional ODS columns. However, Cholester offers strong stereoselectivity for hydrophobic compounds to yield unique and reproducible separation patterns following the same analytical conditions used with other ODS columns.

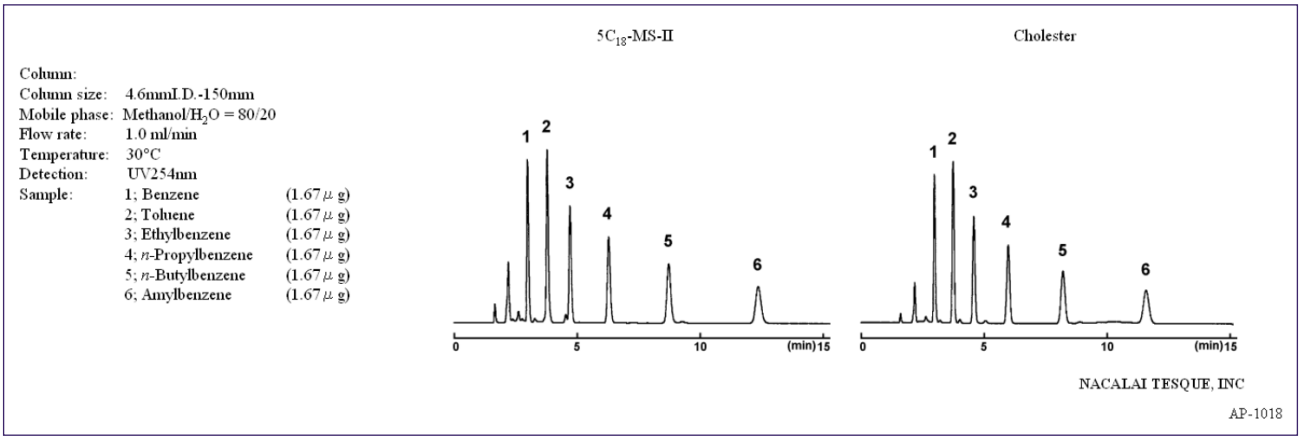
Improved separation

Cholesteryl bonded groups are very rigid structures and offer improved separation of compounds that are difficult to analyze with Alkyl Group bonded materials.

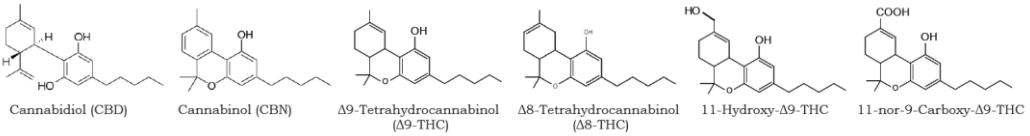


Comparison of hydrophobicity

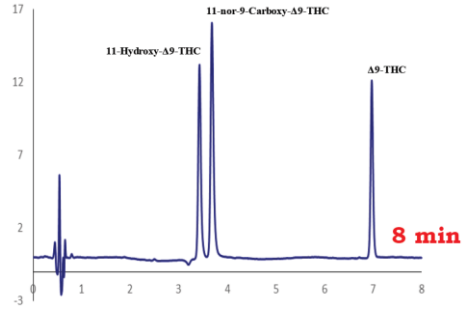
COSMOSIL Cholester provides the same hydrophobicity as ODS.



THC metabolites and other cannabinoids

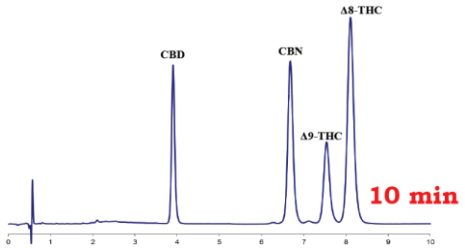


Δ9-THC Metabolites: 11-Hydroxy-Δ9-THC and 11-nor-9-Carboxy-Δ9-THC



Column:	COSMOCORE Cholester
Column Size:	2.1 mmI.D. x 100 mm, 2.6 µm Core-shell Particles
Mobile Phase:	linear Gradient A: 0.1% Acetic Acid in H2O, B: Acetonitrile, 0 min 12A:55B 8 min. 0A:100B
Flow Rate:	0.4 mL/min
Temperature:	30 ℃
Detection:	UV 220 nm

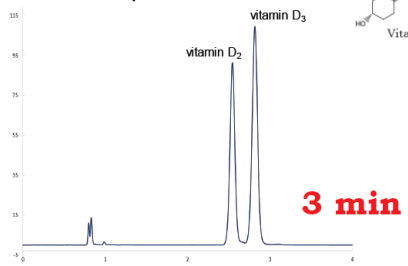
Cannabinoid: Δ8-THC and Δ9-THC Separation

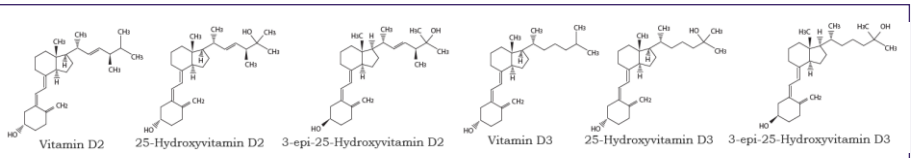


Column:	COSMOCORE Cholester
Column Size:	2.1 mmI.D. x 100 mm, 2.6 µm Core-shell Particles
Mobile Phase:	Isocratic 35:65 0.1% Acetic Acid: Acetonitrile
Flow Rate:	0.4 mL/min
Temperature:	30 ℃
Detection:	UV 220 nm

Vitamin D2 and D3; their 25-OH metabolites and C-3 epimers

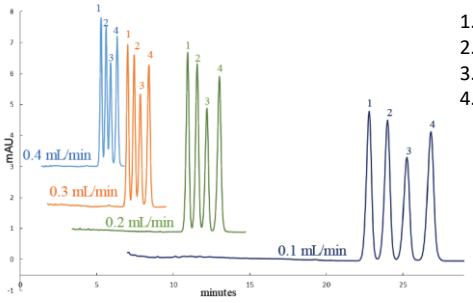
Vitamin D separation





Column:	COSMOCORE Cholester
Column Size:	2.1 mmI.D. x 150 mm, 2.6 µm Core-shell Particles
Mobile Phase:	Isocratic 100% Methanol
Flow Rate:	0.4 mL/min
Temperature:	30 ℃
Detection:	UV 265 nm

Vitamin D metabolite and epimer separation: Flow rate comparison



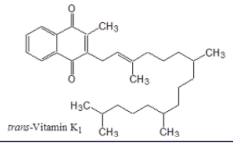
1. 25(OH) D3
2. epi-25(OH) D3
3. 25(OH) D2
4. epi-25(OH) D2

Column:	COSMOCORE Cholester
Column Size:	2.1 mmI.D. x 100 mm, 2.6 µm Core-shell
Mobile Phase:	Isocratic 20A:80B A: 0.1% Formic Acid in H2O B: Methanol
Flow Rate:	0.4 mL/min
Temperature:	50 ℃
Detection:	UV 265 nm

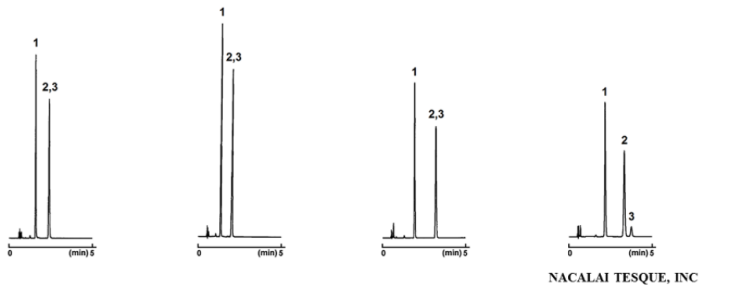
Vitamin K1 cis/trans isomers and K2

Column:
Column size: 2.1mmI.D.-100mm
Mobile phase: Methanol
Flow rate: 0.4 ml/min
Temperature: 40°C
Detection: UV280nm

Sample: 1; Vitamin K_2 [Menatetrenone] (0.50mg/ml)
2; *trans*-Vitamin K_1 (0.50mg/ml)
3; *cis*-Vitamin K_1
Inj. Vol: 0.5µl



trans-Vitamin K_1



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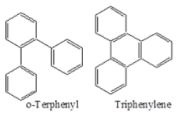
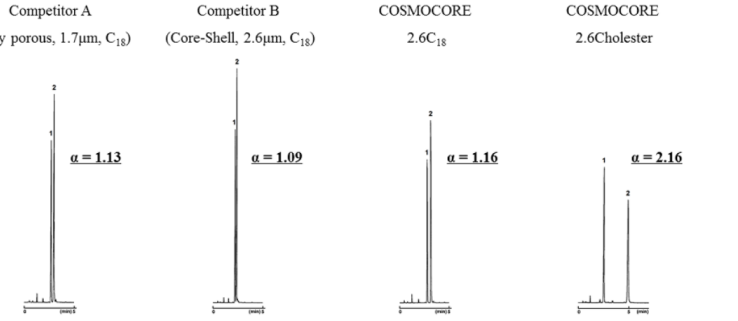
Characteristics of separation

■ Planarity selectivity

Column:
Column size: 2.1mmI.D.-100mm
Mobile phase: Acetonitrile/ H_2O = 70/30
Flow rate: 0.4 ml/min
Temperature: 40°C
Detection: UV254nm

Sample: 1; *o*-Terphenyl (0.25mg/ml)
2; Triphenylene (0.05mg/ml)
Inj. Vol: 0.5µl


o-Terphenyl Triphenylene



Planarity: o-Terphenyl < Triphenylene

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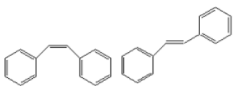
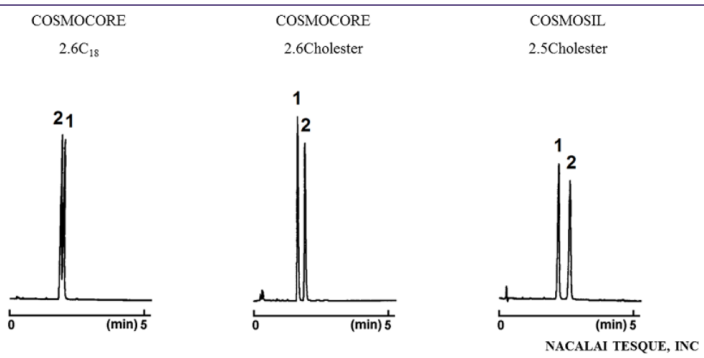
■ Geometrical isomers

Column:
Column size: (COSMOCORE) 2.1mmI.D.-50mm
(COSMOSIL) 2.0mmI.D.-50mm
Mobile phase: Acetonitrile/ H_2O = 60/40
Flow rate: 0.4 ml/min
Temperature: 40°C
Detection: UV254nm

Sample: 1; *cis*-Stilbene (0.1mg/ml)
2; *trans*-Stilbene (0.2mg/ml)
Inj. Vol: 0.5µl


cis-Stilbene *trans*-Stilbene



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Ordering information

For more information, please visit our website by scanning the QR code below.

COSMOSIL PBr
COSMOCORE PBr

COSMOSIL Cholester
COSMOCORE Cholester

COSMOSIL πNAP

COSMOSIL Application
(HPLC / UHPLC / SFC)

Nacalai USA
Innovations for Life Sciences.

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