

Analysis of Natural Compounds

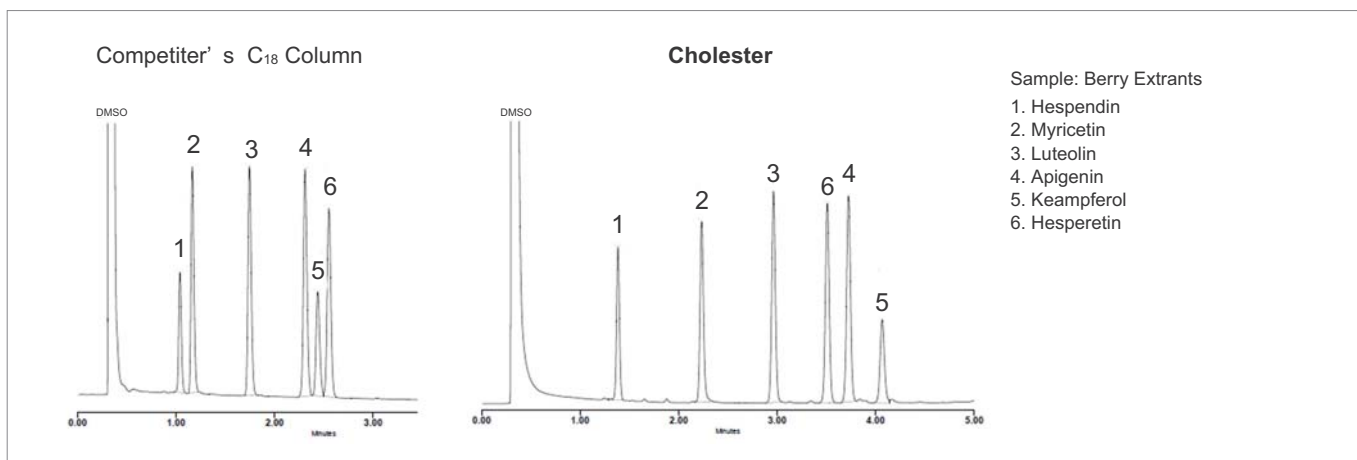
by COSMOSIL 2.5Cholester

Technical Note

The COSMOSIL Cholester is a useful column for the analysis of natural products. It can often be used as a direct replacement for traditional C₁₈ stationary phases, exhibiting the same hydrophobicity as C₁₈ for many compounds. In addition, the COSMOSIL Cholester column can provide improved selectivity for closely related compounds compared with C₁₈ stationary phases, particularly with geometrical or positional isomers.



• Comparison with competitor's C₁₈ Column



Additionally, the conditions for Ultra-High Performance Chromatography are more desirable than a traditional HPLC, using less solvent, pressure, smaller samples and saving valuable time.

• Column Comparison

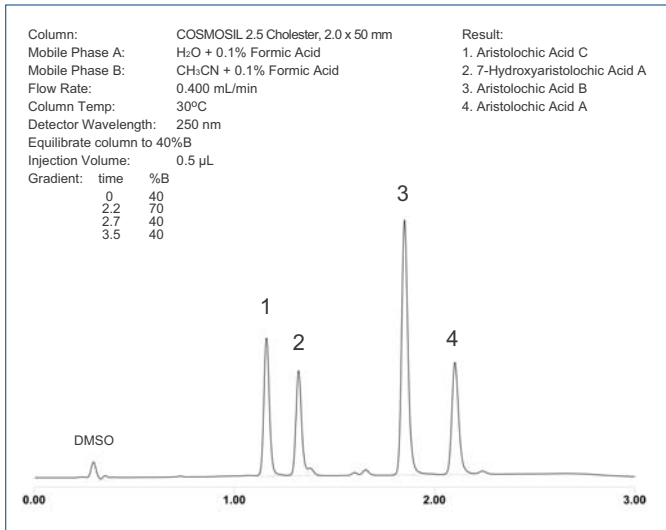
	Traditional C ₁₈	Cholester	Waters BEH C ₁₈
Dimensions	4.6 x 250 mm	2.0 x 50 mm	2.1 x 50 mm
Particle size	5 µm	2.5 µm	1.7 µm
Flow rate	0.8-1.5 ml/min	0.4 ml/min	0.2-0.6 ml/min
Back pressure	1000-5000 psi	2000 psi	4000-10000 psi
Run time	20-30 min	<10 min	2-6 min
Injection volume	10-50 µL	0.5 µL	0.5 µL

Application Index

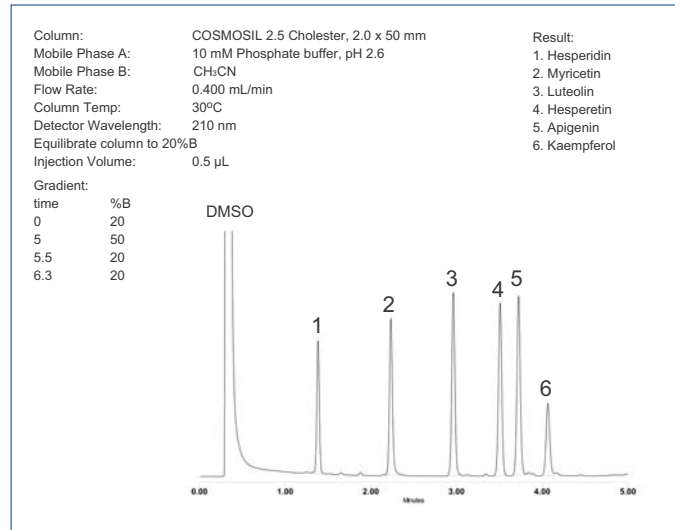
Aristolochic Acids	2	Citrus flavonoids	3
Berry flavonoids	2	Evodia	3
Buckthorn/Rhubarb	2	Grape Skin	3
Caffeic acid esters	2	Kudzu flavonoids	3
Camptothecins	2	Magnolia	4
Celery Standards (230nm)	2	Red Clover flavonoids	4
Celery Standards (260nm)	3	Skullcup	4
Chamomile	3	Soy flavonoids	4

Data courtesy of LKT Laboratories, Inc.

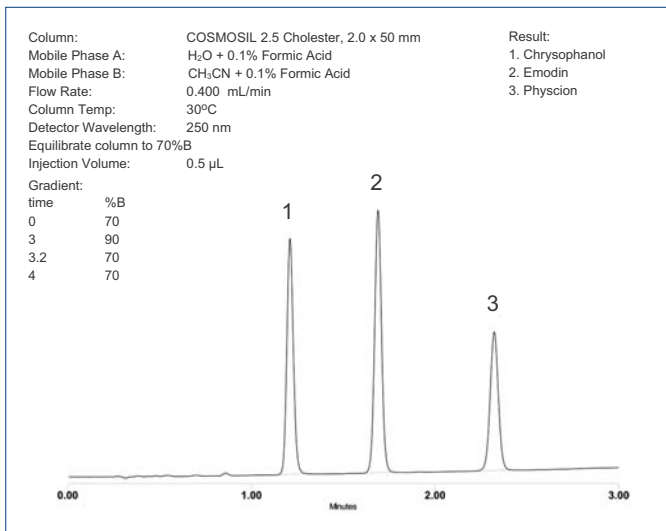
• Aristolochic Acids



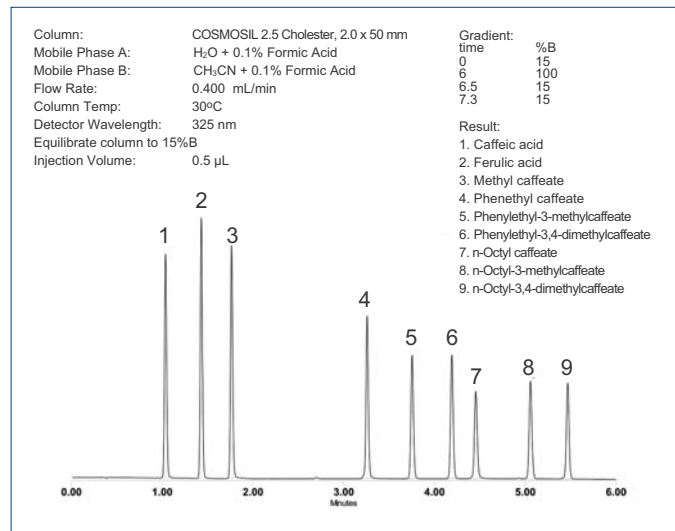
• Berry flavonoids



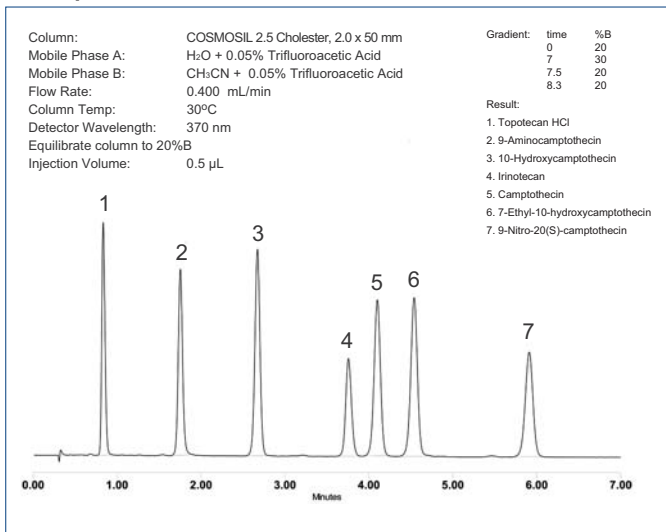
• Buckthorn/Rhubarb



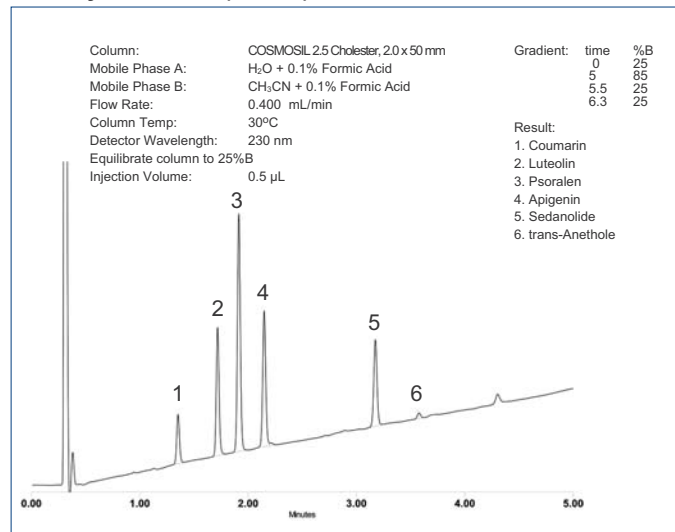
• Caffeic acid esters



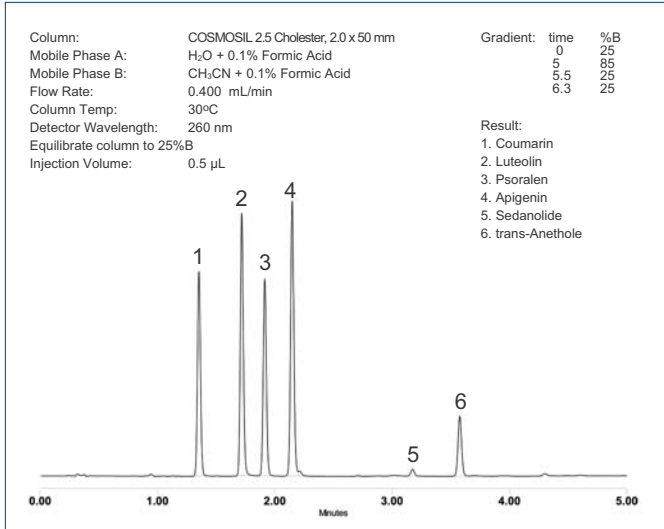
• Camptothecins



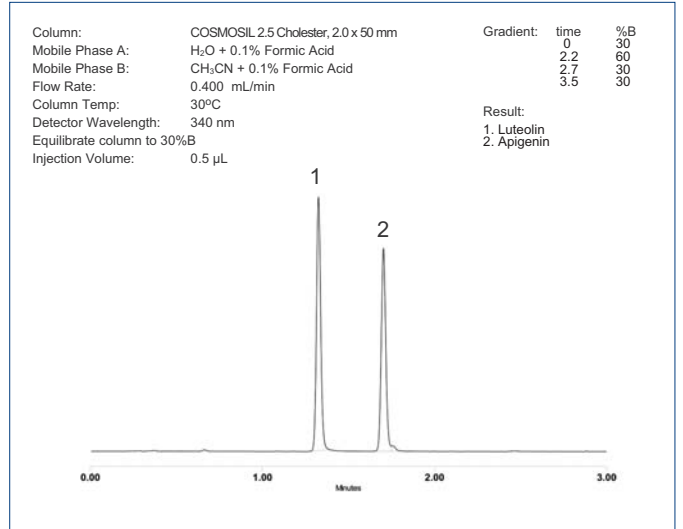
• Celery Standards (230nm)



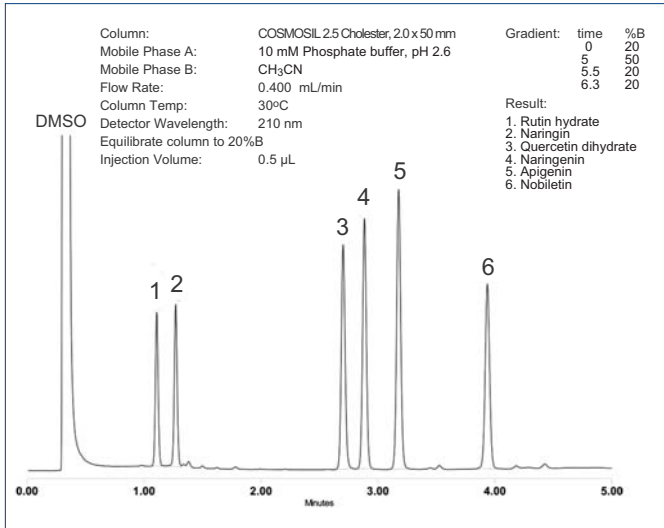
• Celery Standards (260nm)



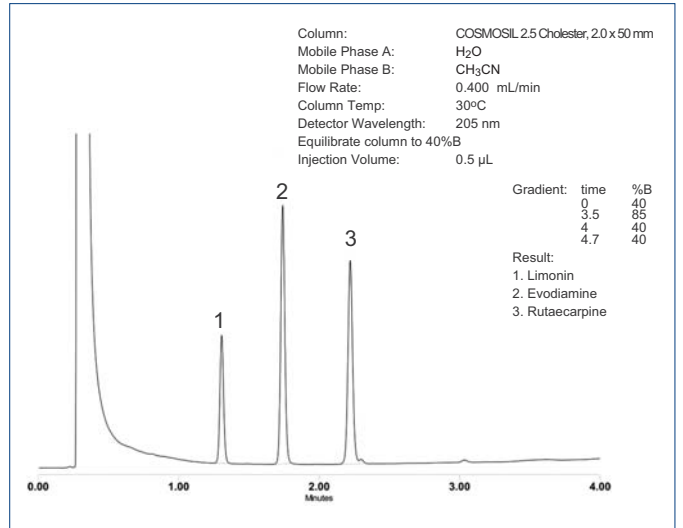
• Chamomile



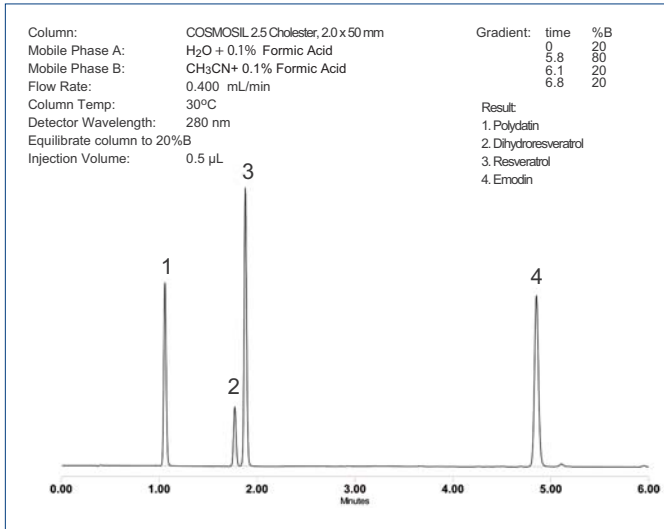
• Citrus flavonoids



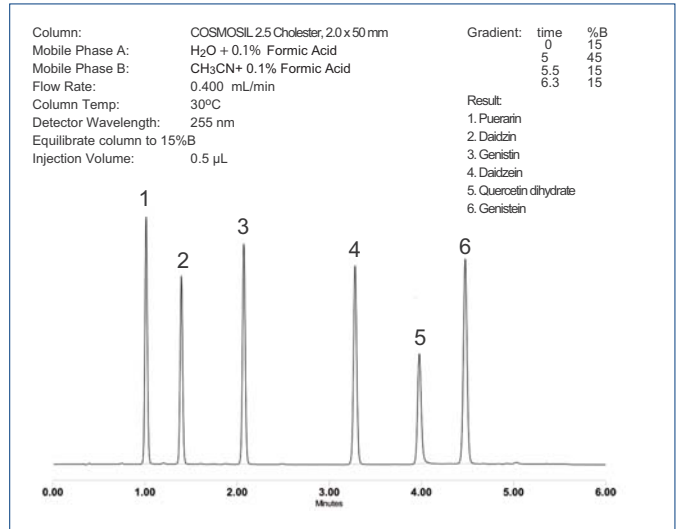
• Evodia



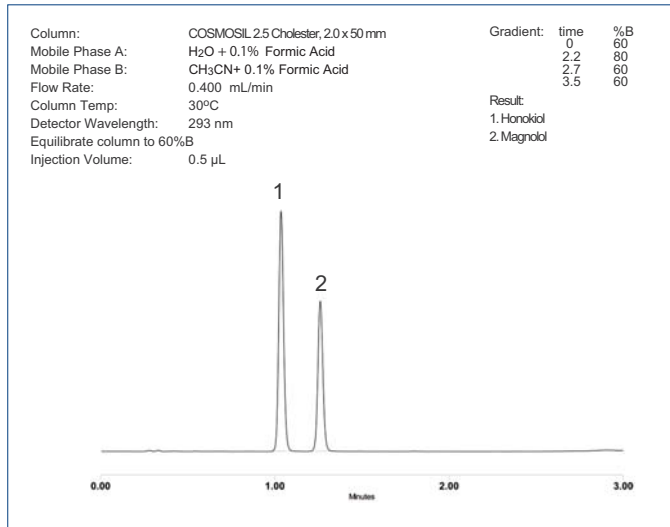
• Grape Skin



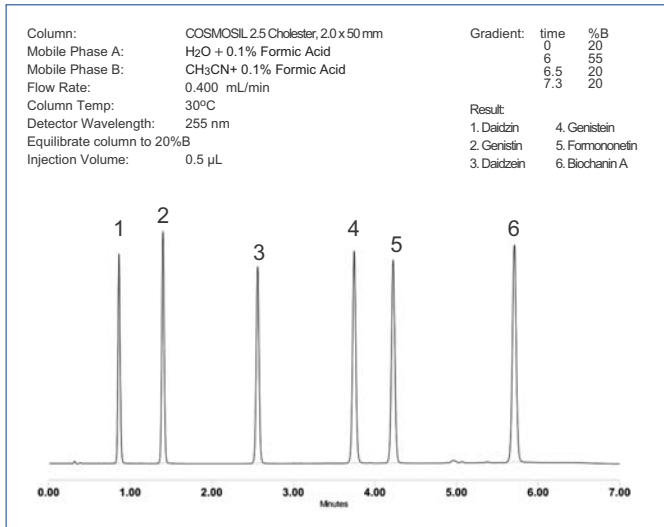
• Kudzu flavonoids



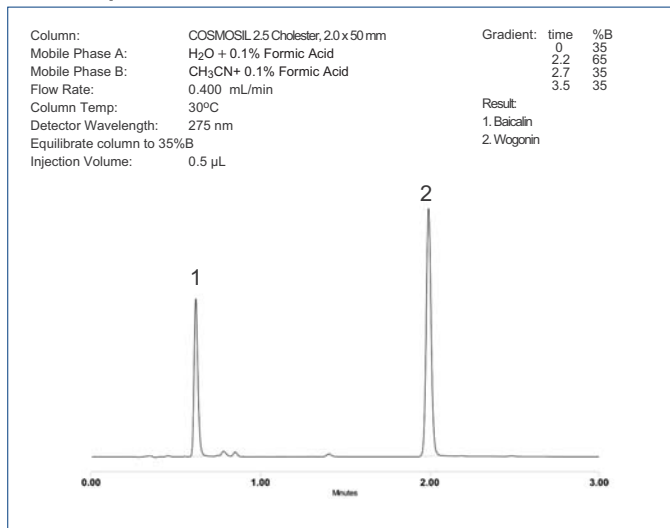
• Magnolia



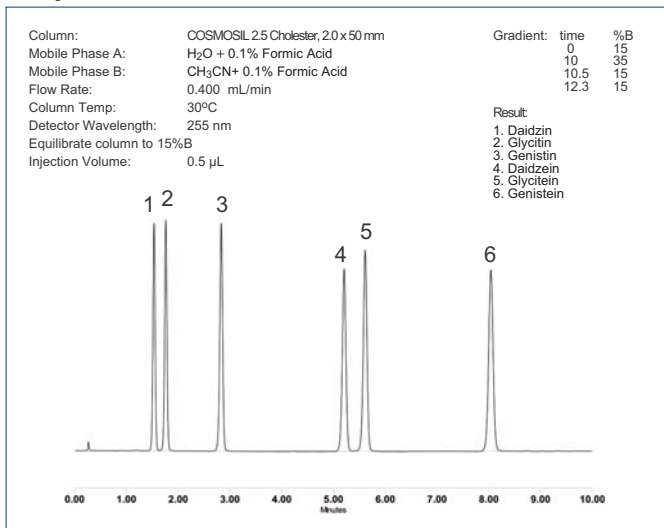
• Red Clover flavonoids



• Skullcup



• Soy flavonoids



Data courtesy of LKT Laboratories, Inc.

Ordering Information

COSMOSIL 2.5CholesterPacked Columns

Column Size	Product Number	Column Size	Product Number
2.0 mm I.D. x 50 mm	09000-01	3.0 mm I.D. x 50 mm	08997-01
2.0 mm I.D. x 75 mm	09047-11	3.0 mm I.D. x 75 mm	08998-91
2.0 mm I.D. x 100 mm	09048-01	3.0 mm I.D. x 100 mm	08999-81

“UHPLC Analytical Standards Kits with COSMOSIL Cholester Column” are available at LKT Laboratories, Inc. For more information please visit www.lktlabs.com

For research use only, not intended for diagnostic or drug use.

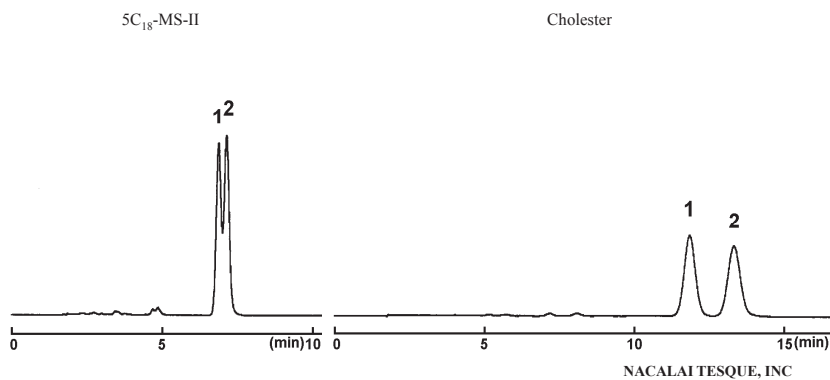
(3) Natural Compounds

• Carotenes

COSMOSIL Application Data

Column: 4.6mm I.D.-150mm
Mobile phase: Tetrahydrofuran/Methanol = 20/80
Flow rate: 1.0 ml/min
Temperature: 30°C
Detection: UV470nm

Sample: 1; α -Carotene
2; β -Carotene

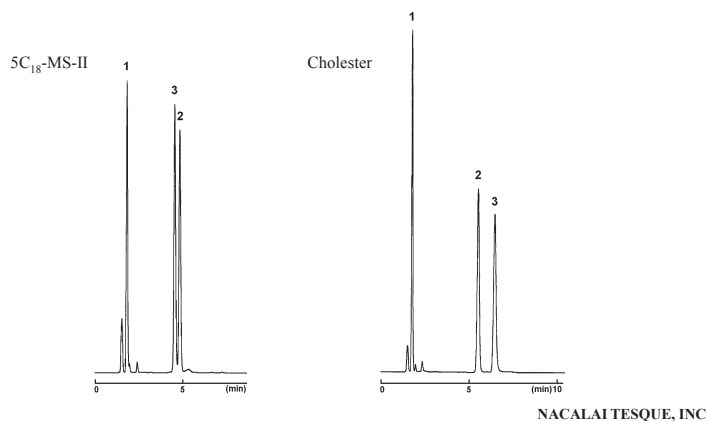


• Flavanones

COSMOSIL Application Data

Column: 4.6mm I.D.-150mm
Mobile phase: Acetonitrile/ 20mmol/l Phosphate Buffer(pH2.5) = 40/60
Flow rate: 1.0 ml/min
Temperature: 30°C
Detection: UV280nm

Sample: 1; Naringin (0.4 μ g)
2; Naringenin (0.2 μ g)
3; Apigenin (0.2 μ g)

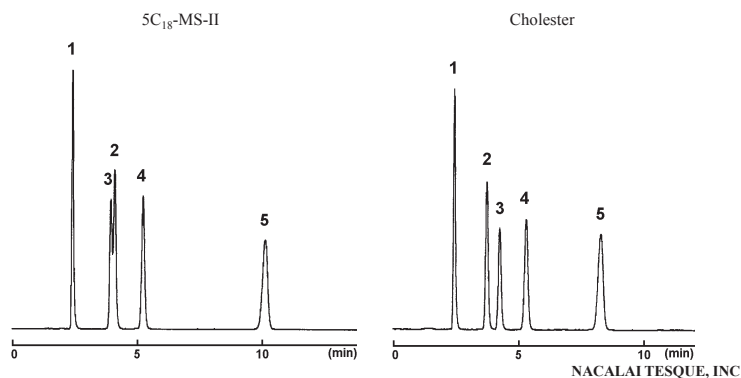


• Saikosaponins

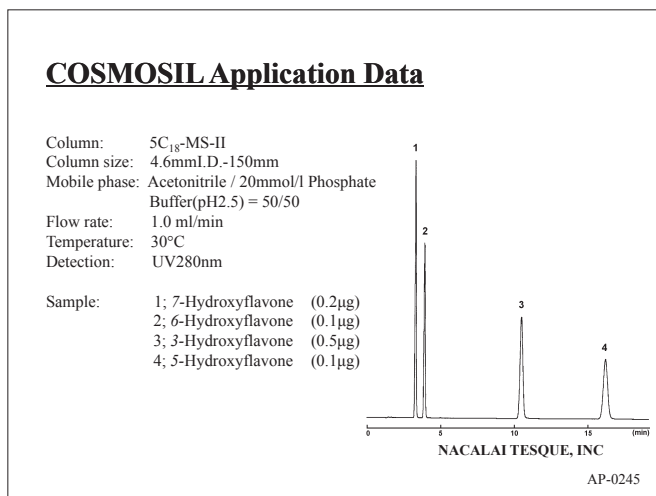
COSMOSIL Application Data

Column: 4.6mm I.D.-150mm
Mobile phase: Acetonitrile/ H₂O = 45/55
Flow rate: 1.0 ml/min
Temperature: 30°C
Detection: ELSD, Gain=6

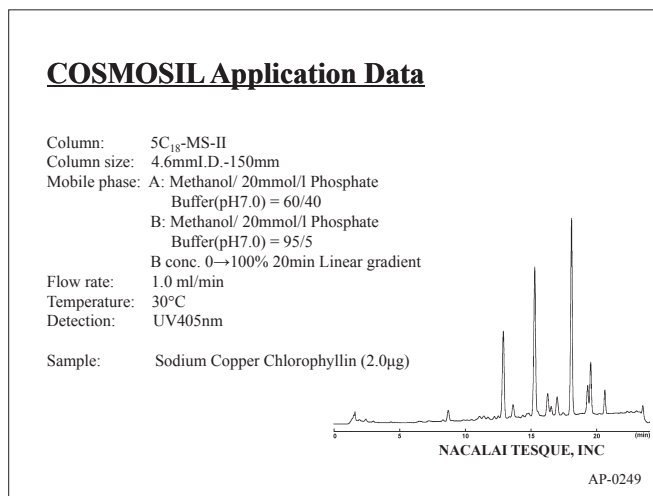
Sample: 1; Saikosaponin c (1.5 μ g)
2; Saikosaponin a (1.5 μ g)
3; Saikosaponin b₂ (1.5 μ g)
4; Saikosaponin b₁ (1.5 μ g)
5; Saikosaponin d (1.5 μ g)



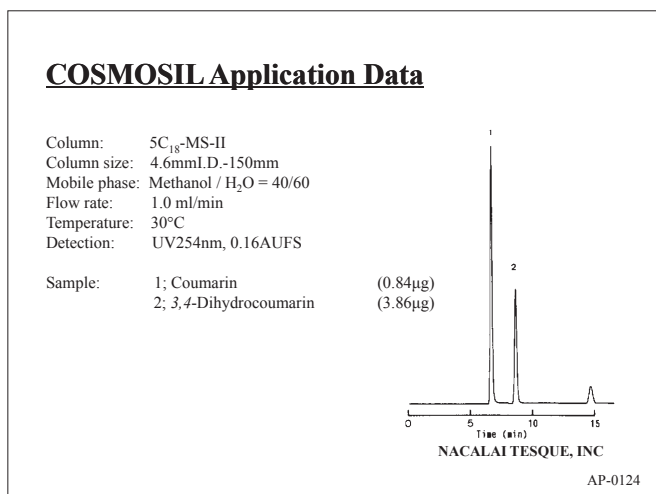
● Hydroxyflavones



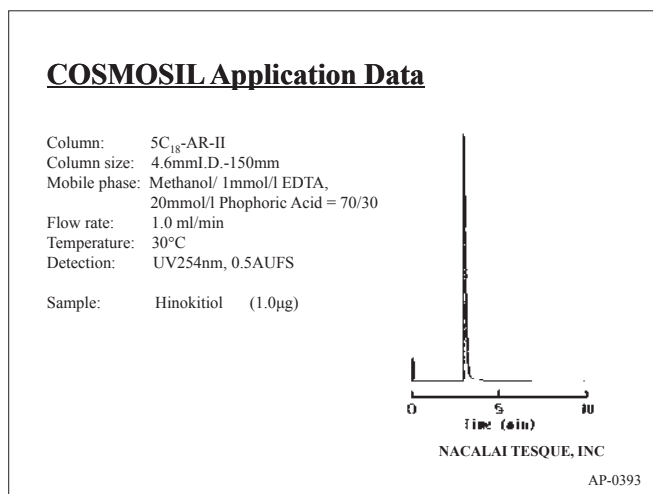
● Chlorophyll



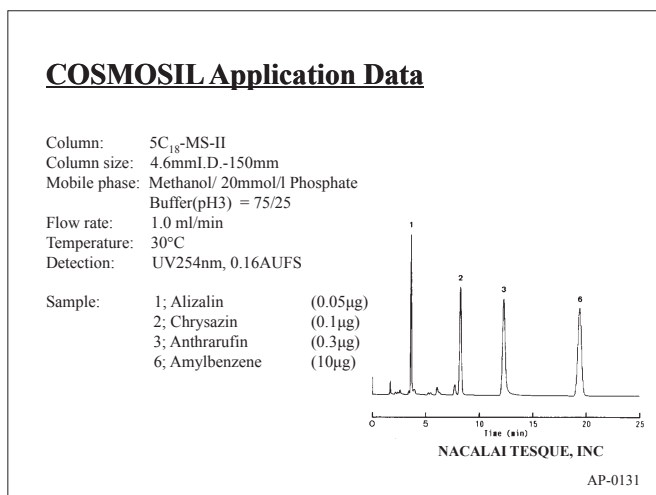
● Coumarins



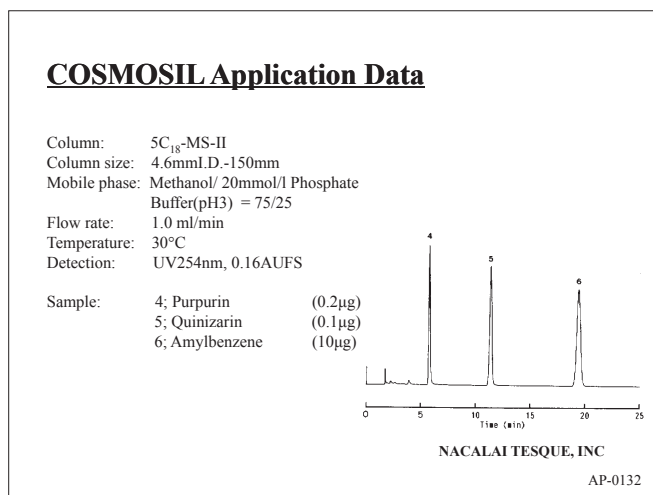
● Hinokitiol



● Anthraquinone Dyes



● Anthraquinone Dyes



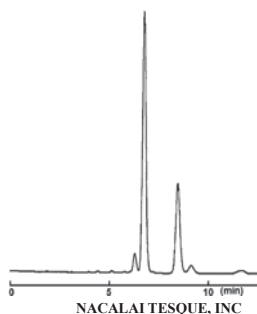
(3) Natural Compounds

● Capsaicin

COSMOSIL Application Data

Column: π NAP
Column size: 4.6mm I.D.-150mm
Mobile phase: Methanol/ H₂O = 70/30
Flow rate: 1.0 ml/min
Temperature: 30°C
Detection: UV280nm

Sample: Capsaicin (2.0 μ g)



NACALAI TESQUE, INC
AP-0298

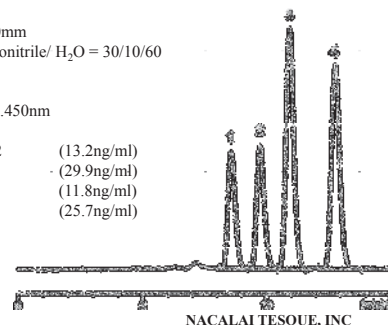
● Fungal Toxin

COSMOSIL Application Data

Column: 5C₁₈-AR-II
Column size: 4.6mm I.D.-150mm
Mobile phase: Methanol/ Acetonitrile/ H₂O = 30/10/60
Flow rate: 0.8 ml/min
Temperature: 40°C
Detection: Ex.365nm Em.450nm

Sample: 1; Aflatoxin G2 (13.2ng/ml)
2; Aflatoxin G1 (29.9ng/ml)
3; Aflatoxin B2 (11.8ng/ml)
4; Aflatoxin B1 (25.7ng/ml)

Inj. Vol. 20 μ l



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Data courtesy of a customer

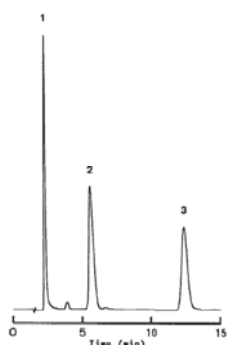
AP-1148

● Alkaloids

COSMOSIL Application Data

Column: 5C₁₈-MS-II
Column size: 4.6mm I.D.-150mm
Mobile phase: Methanol/ 20mmol/l Phosphate buffer(pH3) = 50/50
Flow rate: 1.0 ml/min
Temperature: 30°C
Detection: UV220nm

Sample: 1; Papaverine (0.17 μ g)
2; Aconitine (8.1 μ g)
3; Reserpine (1.7 μ g)



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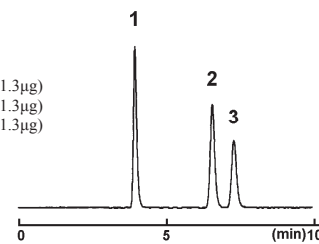
AP-0133

● Ginkgo Biloba

COSMOSIL Application Data

Column: 5C₁₈-MS-II
Column size: 4.6mm I.D.-150mm
Mobile phase: Methanol/ H₂O = 40/60
Flow rate: 1.0 ml/min
Temperature: 30°C
Detection: ELSD

Sample: 1; Ginkgolide C (1.3 μ g)
2; Ginkgolide A (1.3 μ g)
3; Ginkgolide B (1.3 μ g)



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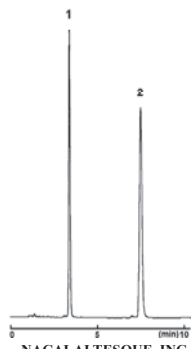
AP-1063

● Zingiberis Rhizoma

COSMOSIL Application Data

Column: 5C₁₈-MS-II
Column size: 4.6mm I.D.-150mm
Mobile phase: Acetonitrile/ H₂O = 60/40
Flow rate: 1.0 ml/min
Temperature: 30°C
Detection: UV225nm

Sample: 1; 6-Gingerol (0.31 μ g)
2; 6-Shogaol (0.13 μ g)



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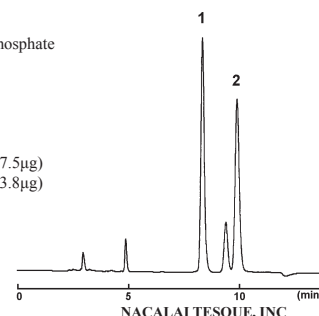
AP-1016

● Watermelon

COSMOSIL Application Data

Column: HILIC
Column size: 4.6mm I.D.-250mm
Mobile phase: Acetonitrile/ 20mmol/l Phosphate Buffer(pH7.0) = 70/30
Flow rate: 1.0 ml/min
Temperature: 30°C
Detection: UV210nm

Sample: 1; L-Citrulline (7.5 μ g)
2; L-(-)-Malic Acid (3.8 μ g)



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AP-1062