

Develosil TMS, C8, Ph, PhA, NH2

TMS, C8, Ph, PhA, CN, and NH2 are by the performance from which each differs, they show the separation which was occasionally superior to ODS, and give many information.

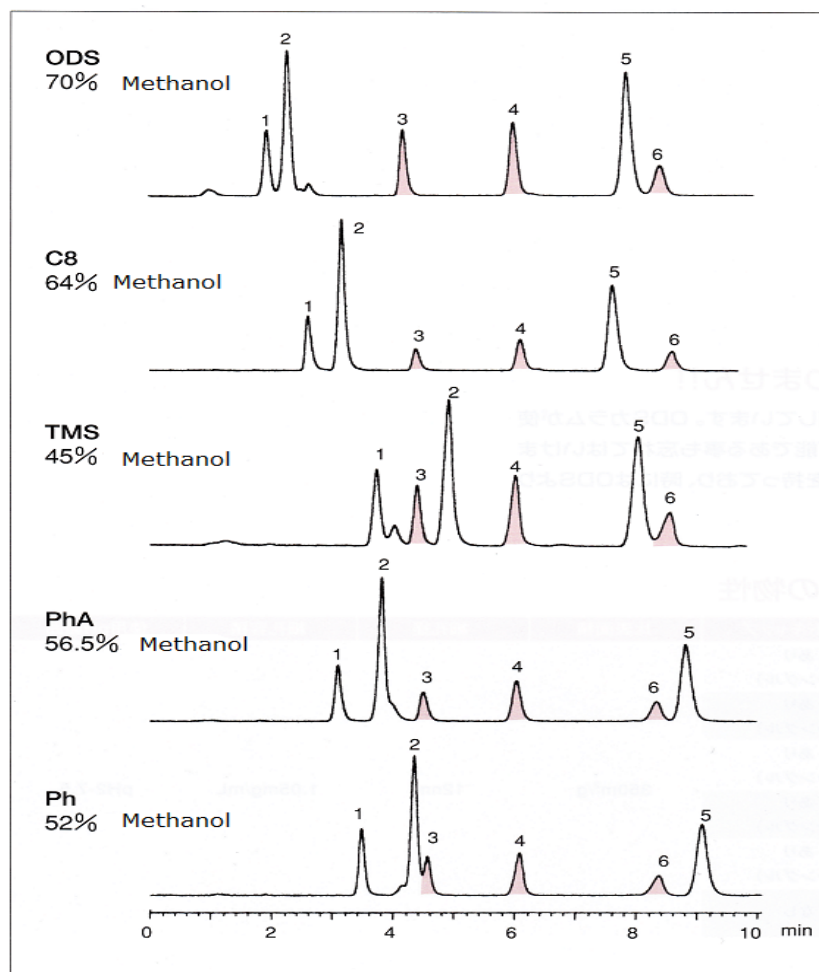
Physical Properties of Develosil TMS, C8, Ph, PhA, NH2

Column name	Ligand	Carbon	End capping	Surface area	Pore Diameter	Pore Volume	Range of pH
TMS	Methyl radical	4%	Yes (Single)	350m ² /g	12nm	1.05mL/g	pH2-7.5
C8	Octyl radical	12%	Yes (Single)				
Ph	Phenyl radical	9%	Yes (Single)				
PhA	Phenethyl radical	11%	Yes (Single)				
NH2	Aminopropyl radical	3%	NO				

A separation pattern which is different in ODS!!

Separation comparison at the time of being based on MeOH 70% in an ODS column
In each column, composition is changed so that the retention time of ethylbenzene may be 8.5 minutes.

Separation comparison of the stationary phase for reversed phases



Conditions:

Column	: Develosil® ODS-5 Develosil® C8-5 Develosil® TMS-5 Develosil® PhA-5 Develosil® Ph-5
Mobile phase	: MeOH/Water =70/30 (ODS-5) =64/36 (C8-5) =45/55 (TMS-5) =56.5/43.5 (PhA-5) =52/48 (Ph-5)
Flow rate	: 1.0ml/min
Temperature	: 40°C
Detection	: UV254nm
Sample	: 1.Methyl 4-hydroxybenzoate 2.Ethyl 4-hydroxybenzoate 3.Benzene / 4.Toluene 5.Naphthalene / 6.Ethyl benzene

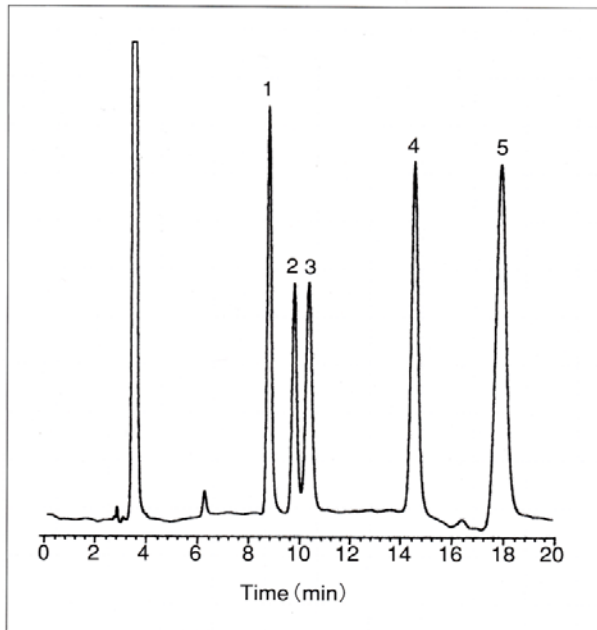
C8 and TMS adjust retention time by increasing water composition with the length of an alkyl chain in comparison with ODS. If it is the same terms, since retention becomes short, it can also be shortened of time only by changing a column.

And, a part of TMS, Ph, and PhA have changed an elution order. Combination holds the influence of a pi electron like naphthalene greatly by using the column of Ph or PhA.

It becomes possible although the width of separation is expanded more by using a column with these features properly.

Analysis of sugar

I am understood widely as HILIC, but this origin is the analysis of the saccharide using the amino column now



Conditions;

Column	: Develosil® NH ₂ -5
Mobile phase	: Acetonitrile/Water=75/25
Flow rate	: 1.0ml/min
Temperature	: 30°C
Detection	: RI
Sample	: 1.Fructose / 2.Sorbitol / 3.Glucose 4.Sucrose / 5.Maltose



10060 Carroll Canyon Rd., Ste 100
San Diego, CA 92131
Phone: (858) 800-2433
info@develosil.us
www.develosil.us

Develosil TMS,UG, C8-UG, Ph-UG, CN-UG

The effect of the double end cap can solve the problems of the conventional residual silanol group and is not exaggeration even if I say the current mainstream.

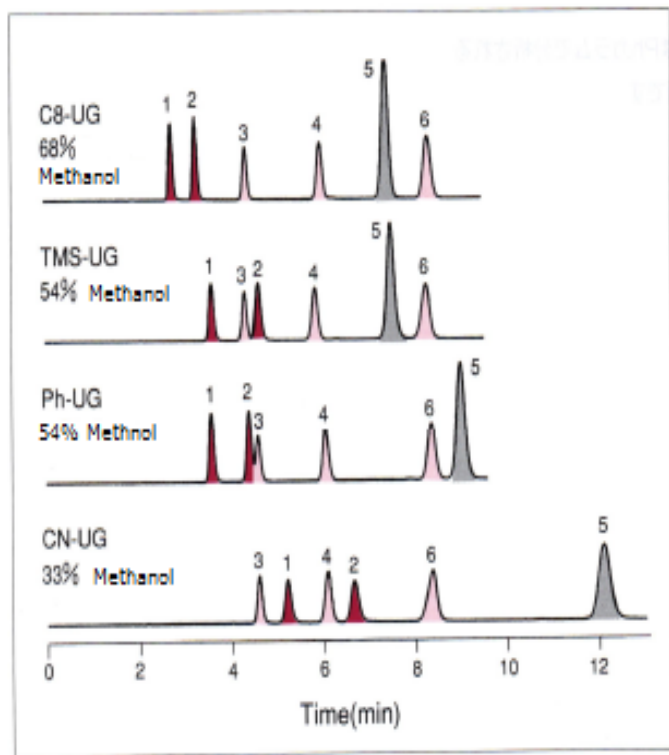
Physical Properties of Develosil TMS-UG, C8-UG, Ph-UG, CN-UG

Column name	Ligand	Carbon	End capping	Surface area	Pore Diameter	Pore Volume	Range of pH
TMS-UG	Methyl radical	4.5%	Yes (Double)	300m ² /g	14nm	1.05mL/g	pH2-7.5
C8-UG	Octyl radical	11%	Yes (Double)				
Ph-UG	Phenyl radical	8%	Yes (Double)				
CN-UG	Cyanopropyl group	7%	Yes (Double)				

Use is various. It is a part to a separation improvement.

Composition is adjusted so that ethylbenzene may be eluted to 8.5min. The hydrophobicity of a column is in a high tendency, so that a methanol ratio is high.

Separation comparison by a standard sample



Conditions;	
Column	Develosil C8-UG-5 Develosil TMS-UG-5 Develosil Ph-UG-5 Develosil CN-UG-5
Mobile phase	MeOH / Water = 6/32 (C8-UG-5) = 54/46 (TMS-UG-5) = 54/46 (Ph-UG-5) = 33/67 (CN-UG-5)
Flow rate	1.0ml/min
Temperature	30°C
Detection	UV254nm
Sample	1. Methyl 4-hydroxybenzoate 2. Ethyl 4-hydroxybenzoate 3. benzene / 4. Toluene / 5. Naphlene 6. Ethyl benzene

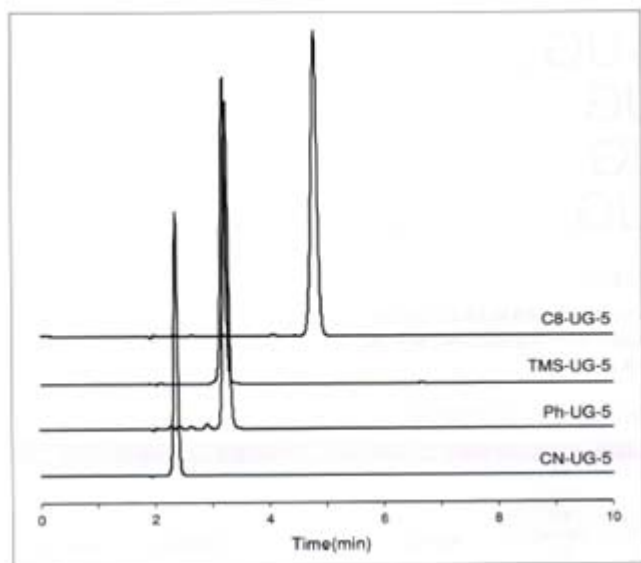
Develosil C8-UG-5 becomes the same elution order as an ODS column.

Retention turns into retention equivalent to an alkyl chain.

The sequence which TMS-UG, Ph-UG, and CN-UG elute differs. And a peculiar result is drawn.

Since an elution order is changeable in a column even if it is the same reversed phase system, the width of a use is expanded.

Separation comparison of capsaicin



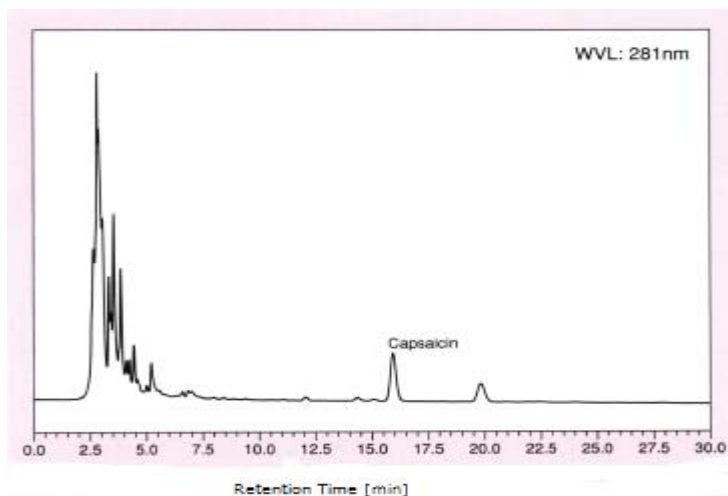
Conditions;	
Column	Develosil C8-UG-5
	Develosil TMS-UG-5
	Develosil Ph-UG-5
	Develosil CN-UG-5
Mobile phase	MeOH / Water =70/30
Flow rate	1.0ml/min
Temperature	40°C
Detection	UV281nm
Sample	1.Capsaicin

The example of separation of the capsaicin by the same terms.

It is in the tendency which shows such strong retention that hydrophobicity is high.

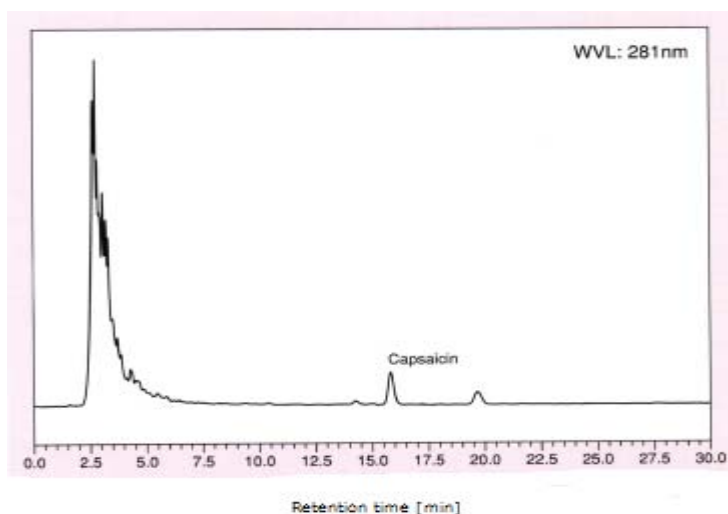
Although capsaicin is analyzed in Ph column in many cases, also in ODS with hydrophobicity, or C30, analysis is possible.

Analysis of the capsaicin in Tabasco



Conditions;	
Column	Develosil Ph-UG-5
Size	4.6 x 250 mm
Mobile phase	ACN/0.1% H ₃ PO ₄ =40/60
Flow rate	1.0ml/min
Temperature	40°C
Detection	UV281nm
Sample	Tabasco

Analysis of the capsaicin in red pepper



Conditions;	
Column	Develosil Ph-UG-5
Size	4.6 x 250 mm
Mobile phase	ACN/0.1% H ₃ PO ₄ =40/60
Flow rate	1.0ml/min
Temperature	40°C
Detection	UV281nm
Sample	Red Pepper



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