SHISEIDO
FINE CHEMICALS

CAPCELL PAK UG

Certificate of Analysis

CAPCELL PAK C18 UG80 S-5
Lot 80V-11

Analysis of Silica gel		Specification	Result
Mean Particle Diameter	[μm]	4.80 - 5.20	4.88
Multi-point Nitrogen Sorption			
Median Pore Diameter	[nm]	7.50 - 9.50	8.37
Surface Area	[m^2/g]	320 - 370	336
Pore Volume	[mL/g]	0.85 - 1.00	0.91
Metal Contents*1	[ppm]		
Fe		< 5.0	0.3
Zn		< 5.0	0.1
Mg		< 5.0	0.1
Ti		< 5.0	0.2
Al		< 5.0	1.6
Na		< 5.0	n.d.

*1 ICP/AES
n.d. · · · not detected

Analysis of CAPCELL PAK C18 UG80 S-5			
Carbon Content	[%]	17.5 - 19.0	18.5

Chromatographic Results		
α (Toluene/Benzene)*2	2.14 - 2.18	2.14
α (Caffeine/Phenol)*2	0.27 - 0.31	0.30
α (Methyl benzoate/Toluene)*2	0.34 - 0.38	0.35
α (2-Ethylpyridine/Benzene)*2	0.27 - 0.31	0.28
α (Dimethylaniline/Toluene)*2	0.58 - 0.62	0.60
PA(Phenylacetylacetone/Naphthalene)*2 *3	> 0.50	0.60
α (Triphenylene/o-Terphenyl)*4	1.31 - 1.39	1.37

*2 See Fig.1 on reverse
*3 Peak area ratio
*4 Chromatographic conditions: Column; 4.6 mm I.D. x 150 mm, Flow rate; 1 mL/min, Mobile phase; Methanol/Water = 80/20, Injection volume; 7 μL, Detector; UV (254 nm), Temperature; 35 °C

Acid Resistance*5 *6	[%]	> 80.0	87.0
Alkali Resistance*5 *7	[%]	> 80.0	80.5

Chromatographic conditions: Column; 4.6 mm I.D. x 150 mm, Flow rate; 1 mL/min, Sample; 1000 ppm Benzylalcohol, Injection volume; 7 μL, Detector; UV (254 nm)
*5 Percentage of k at 20 hr over the initial k
*6 Mobile phase; Methanol/Water/TFA = 10/89/1 (pH 1.0), Temperature; 60 °C
*7 Mobile phase; 4 mmol/L Borate buffer/Methanol = 90/10 (pH 10), Temperature; 50 °C

Continued on reverse for further information

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7-5-5 GINZA, CHUO-KU, TOKYO 104-8010, JAPAN

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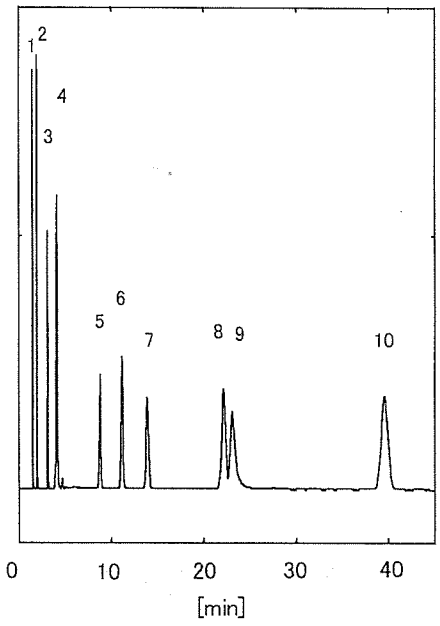

Fig.1 Standard Mixture

Chromatographic conditions
Column; 4.6 mm I.D. x 150 mm
Mobile phase; Methanol / Water = 50 / 50 (v/v)
Flow rate; 1.0 mL/min
Temperature; 40 ℃
Detector; UV (254 nm)
Injection volume; 7.0 μL
Sample;

1. Uracil
2. Caffeine
3. Phenol
4. 2-Ethylpyridine
5. Methylbenzoate
6. Benzene
7. N,N-Dimethylaniline
8. Toluene
9. Phenylacetylacetone
10. Naphthalene

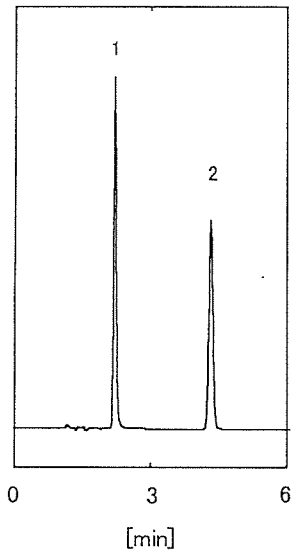

Fig.2 Pyridine / Phenol

Chromatographic conditions
Column; 4.6 mm I.D. x 150 mm
Mobile phase; Acetonitrile / Water
= 30 / 70 (v/v)
Flow rate; 1.0 mL/min
Temperature; 40 ℃
Detector; UV (254 nm)
Injection volume; 7.0 μL
Sample; 1. Pyridine
2. Phenol

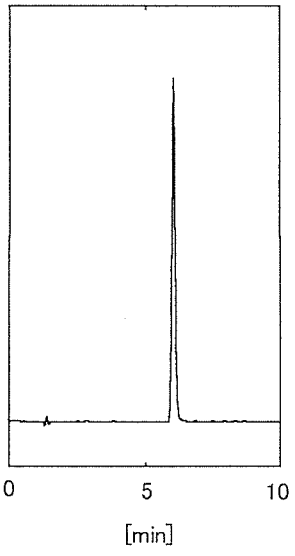

Fig.3 Coordination Compound

Chromatographic conditions
Column; 4.6 mm I.D. x 150 mm
Mobile phase;
20 mmol/L KH_2PO_4, 1 mmol/L EDTA-2Na,
Water / Acetonitrile = 60 / 40 (v/v)
Flow rate; 1.0 mL/min
Temperature; 40 ℃
Detector; UV (320 nm)
Injection volume; 7.0 μL
Sample; Hinokitiol (100 ppm)