

# 溶媒 — 医薬品残留溶媒

Column : SPB-5, 30 m x 0.53 mm ID, 5.0 μm

Cat. No. : 25347

Column : OVI-G43, 30 m x 0.53 mm ID, 3.0 μm

Cat. No. : 25396

Column : SUPELCOWAX 10, 30 m x 0.53 mm ID, 1.0 μm

Cat. No. : 25301-U

Oven: 40 (5 min.), 2 /min. to 200 (5 min.)

Inj.: 250

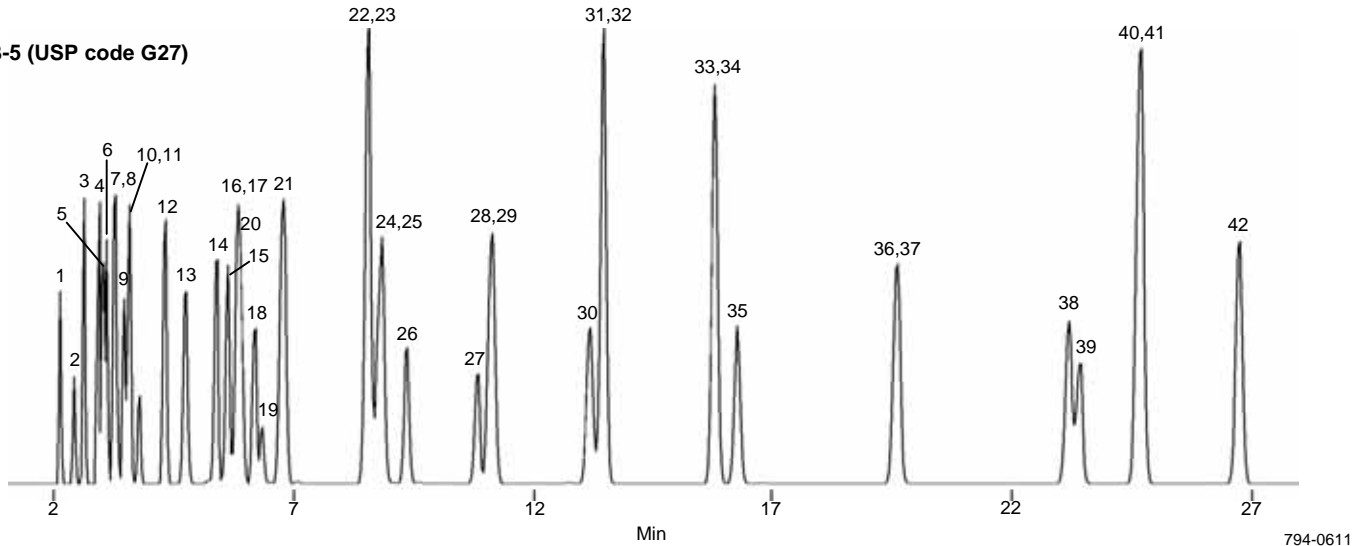
Det.: FID, 300

Carrier gas: Helium, 25 cc/min.

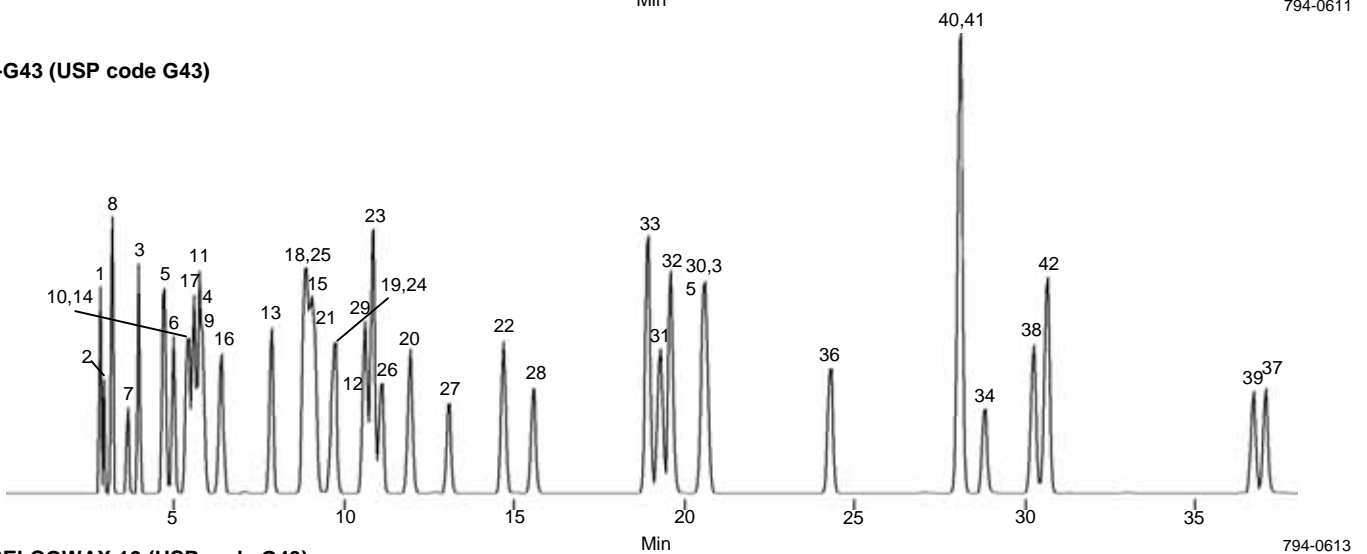
Injection : 0.2 μL, split 100 : 1

- |                                |                              |                                  |
|--------------------------------|------------------------------|----------------------------------|
| 1. Methanol                    | 15. Methyl ethyl ketone(MEK) | 29. Heptane                      |
| 2. Methyl formate              | 16. Isopropyl ether          | 30. Isopentanol                  |
| 3. Ethanol                     | 17. Hexane                   | 31. Methyl isobutyl ketone(MIBK) |
| 4. Acetonitrile                | 18. Ethyl acetate            | 32. Pyridine                     |
| 5. Acetone                     | 19. Chloroform               | 33. Toluene                      |
| 6. 2-Propanol                  | 20. Isobutanol               | 34. Dimethylformamide            |
| 7. Ethyl ether                 | 21. Tetrahydrofuran(THF)     | 35. Isobutyl acetate             |
| 8. Pentane                     | 22. 1-Butanol                | 36. n-Butyl acetate              |
| 9. Ethyl formate               | 23. Benzene                  | 37. Dimethylsulfoxide(DMSO)      |
| 10. Methylene chloride         | 24. Carbon tetrachloride     | 38. Methyl isoamyl ketone(MIAK)  |
| 11. t-Butanol                  | 25. Cyclohexane              | 39. Dimethylacetamide(DMA)       |
| 12. 2-Butanol                  | 26. Diethoxymethane          | 40. p-Xylene                     |
| 13. n-Propanol                 | 27. Trichloroethylene        | 41. m-Xylene                     |
| 14. Methyl t-butyl ether(MTBE) | 28. Dioxane                  | 42. o-Xylene                     |

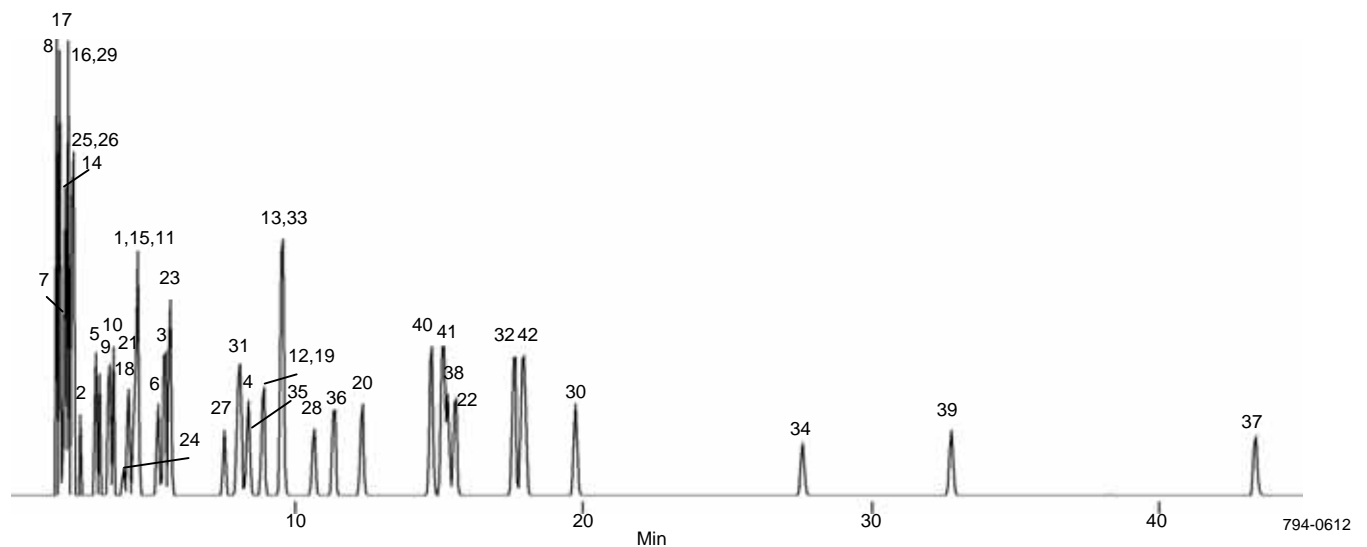
## SPB-5 (USP code G27)



## OVI-G43 (USP code G43)



## SUPELCOWAX 10 (USP code G43)



# 溶媒 – 医薬品残留溶媒, Class 1

Oven: 35 (15 min), 5 /min to 200

Inj.: 225

Det.: FID, 250

Carrier gas: Helium, 30cm/sec, constant

Injection: 1  $\mu$ L, split 33:1

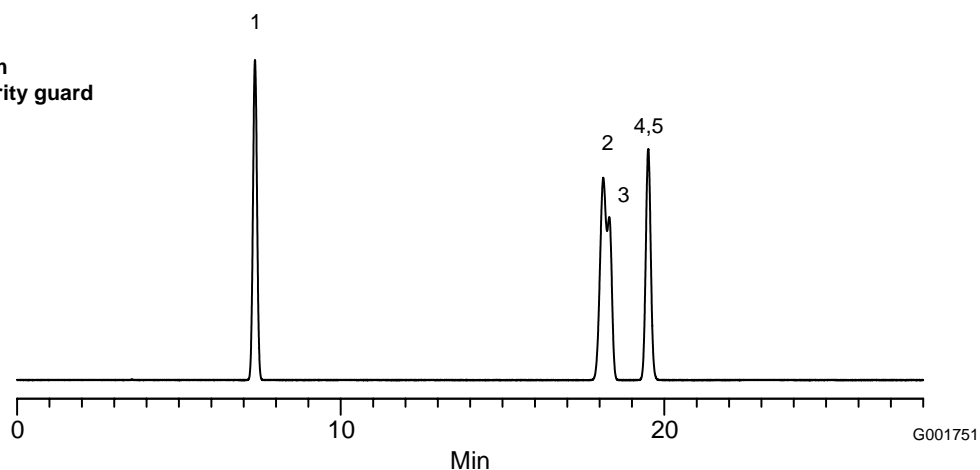
Liner: 4 mm ID single taper

Sample: Class I: 1000-5000ppm in DMSO (Cat. No. 861255)

Class I Identification	Concentration ( $\mu$ g/mL)	Retention Time		
		Equity-5	SUPELLOWAX 10	OVI-G43
1. 1,1-Dichloroethylene	4000	7.35	2.97	7.21
2. 1,1,1-Trichloroethane	5000	18.11	5.54	17.35
3. 1,2-Dichloroethane	2500	18.29	17.55	19.22
4. Carbon tetrachloride	2000	19.5	5.54	18.12
5. Benzene	1000	19.5	7.78	19.06

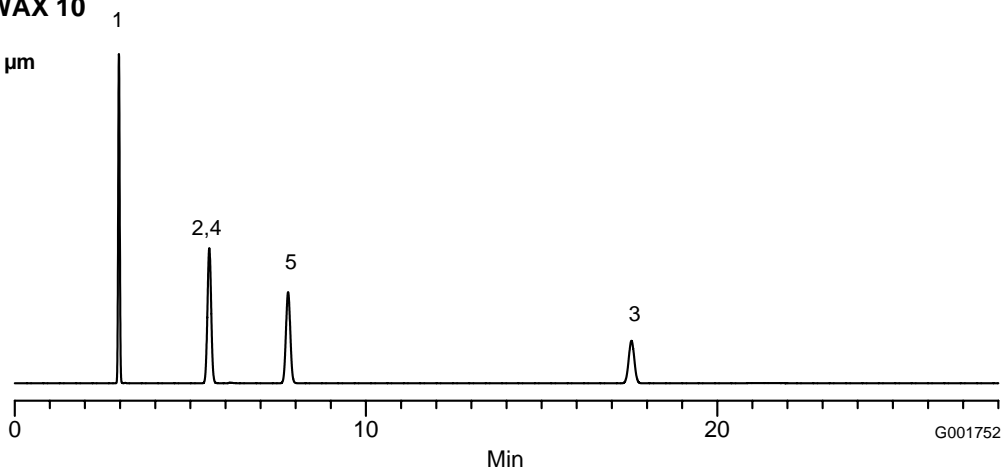
## Class 1 Solvents on Equity-5

Column: 30 m x 0.53 mm ID, 5.0  $\mu$ m  
w/ 5 m intermediate polarity guard  
Cat. No.: 28279-U



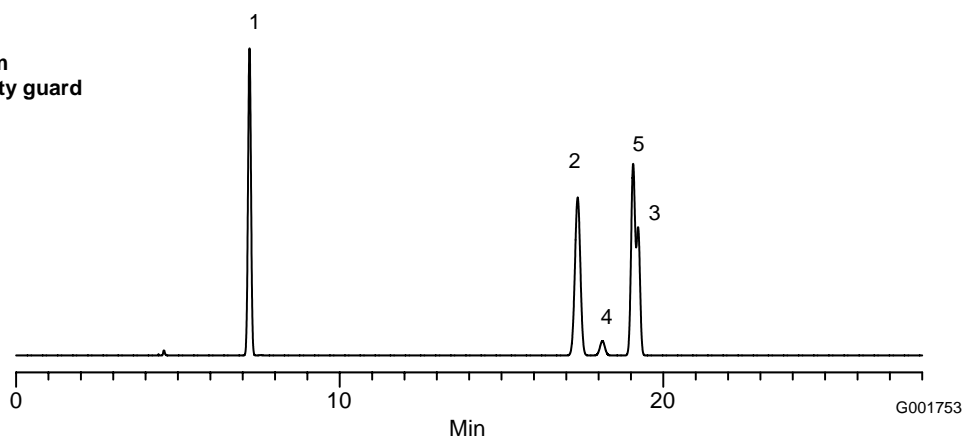
## Class 1 Solvents on SUPELLOWAX 10

Column: 30 m x 0.53 mm ID, 1.0  $\mu$ m  
Cat. No.: 25301-U



## Class 1 Solvents on OVI-G43

Column: 30 m x 0.53 mm ID x 3.0  $\mu$ m  
w/ 5 m intermediate polarity guard  
Cat. No.: 25396



# 溶媒 – 医薬品残留溶媒, Class 2

Oven: 35 (15 min), 5 /min to 200  
 Inj.: 225  
 Det.: FID, 250  
 Carrier gas: Helium, 30 cm/sec, constant

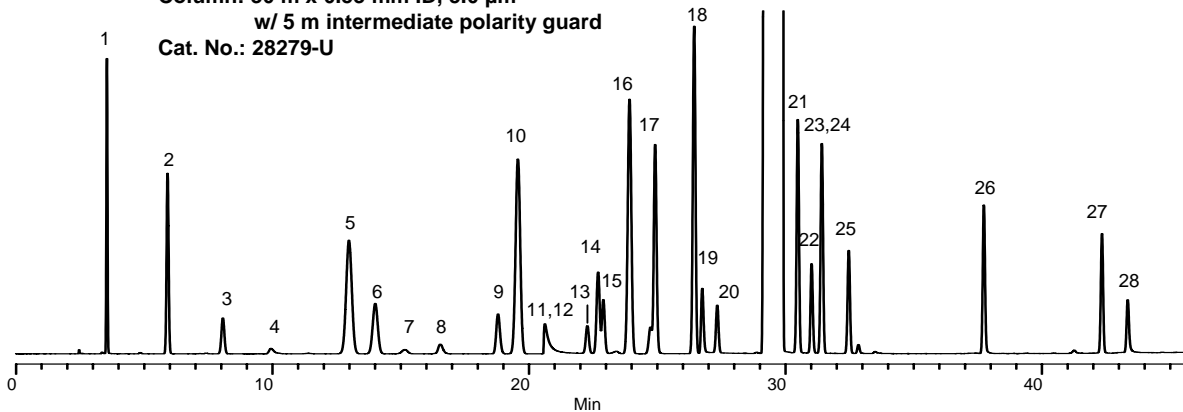
Injection: 1µL, split 33:1  
 Liner: 4mm ID single taper  
 Sample: Class II: (Cat. No. 861256) + n-Methylpyrrolidone, 250-1000ppm in DMSO

Class II				Class II			
Identification	Concentration (µg/mL)	Equity-5 Retention Time	SUPEL COWAX 10 Retention Time	Identification	Concentration (µg/mL)	Equity-5 Retention Time	SUPEL COWAX 10 Retention Time
1. Methanol	1000	3.54	6.04	15. 2-Ethoxyethanol	800	22.89	25.37
2. Acetonitrile	1000	5.91	11.80	16. Methylcyclohexane	1000	23.92	3.30
3. Methylene chloride	1000	8.06	7.60	17. Pyridine	1000	24.91	23.59
4. Nitromethane	250	9.94	22.91	18. Toluene	1000	26.44	14.28
5. Hexane	1000	12.98	2.24	19. Dimethylformamide	1000	26.75	28.99
6. cis-1,2-Dichloroethylene	1000	14.00	10.97	20. Methyl butyl ketone	250	27.33	18.01
7. Chloroform	300	15.16	13.28	21. Chlorobenzene	1000	30.48	25.15
8. 2-Methoxyethanol	250	16.54	23.59	22. Dimethylacetamide	1000	31.01	31.24
9. 1,2-Dimethoxyethane	500	18.79	7.06	23. m-Xylene	333	31.41	21.75
10. Cyclohexane	1000	19.56	2.87	24. p-Xylene	333	31.41	21.41
11. Ethylene glycol	1000	20.62	36.92	25. o-Xylene	333	32.46	23.83
12. Formamide	1000	20.62	40.49	26. n-Methylpyrrolidone	5000	37.73	38.07
13. Trichloroethylene	400	22.27	10.97	27. Tetralin	500	42.33	34.70
14. 1,4-Dioxane	1000	22.69	16.31	28. Sulfolane	800	43.34	49.53

*NI = not integrated* \*coelutes w/ solvent

## Class 2 Solvents on Equity-5

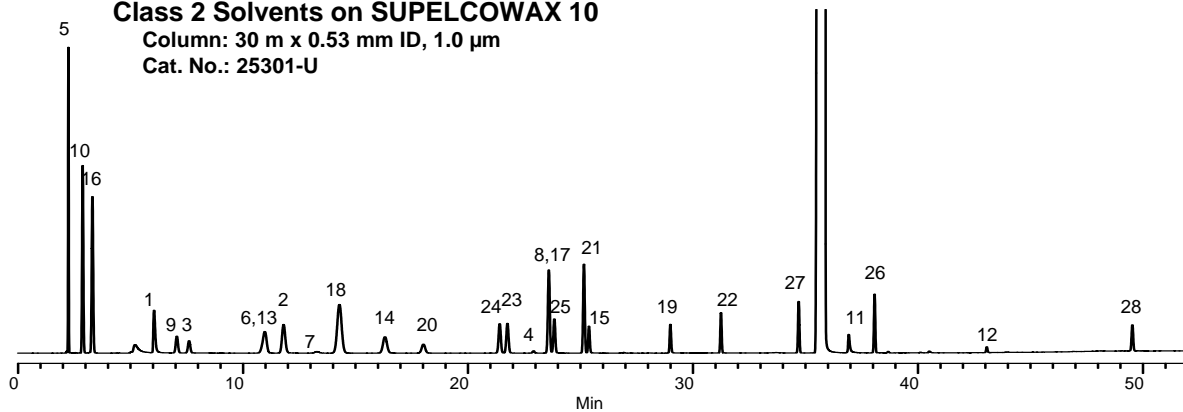
Column: 30 m x 0.53 mm ID, 5.0 µm  
 w/ 5 m intermediate polarity guard  
 Cat. No.: 28279-U



G001754

## Class 2 Solvents on SUPEL COWAX 10

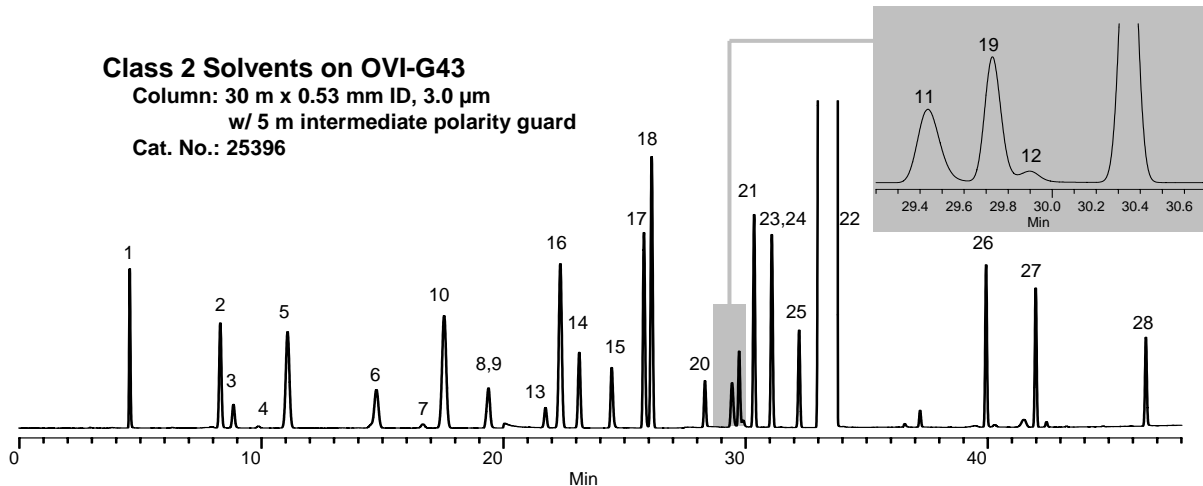
Column: 30 m x 0.53 mm ID, 1.0 µm  
 Cat. No.: 25301-U



G001755

## Class 2 Solvents on OVI-G43

Column: 30 m x 0.53 mm ID, 3.0 µm  
 w/ 5 m intermediate polarity guard  
 Cat. No.: 25396



G001756

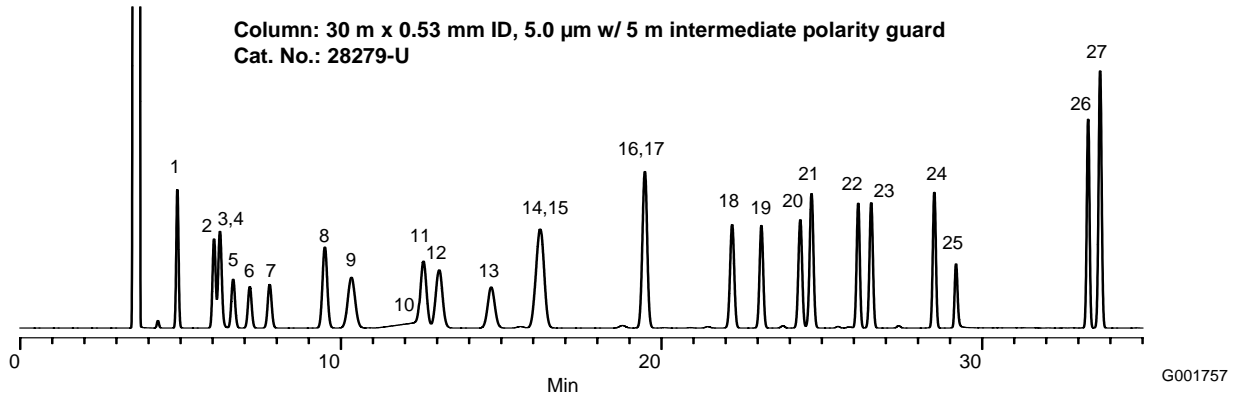
# 溶媒 - 医薬品残留溶媒, Class 3

Oven: 35 (15 min), 5 /min to 200  
 Inj.: 225  
 Det.: FID, 250  
 Carrier gas: Helium, 30 cm/sec, constant  
 Injection: 1 µL, split 33:1  
 Liner: 4 mm ID single taper  
 Sample: Class III: custom mix, approx. 3000 ppm in MeOH

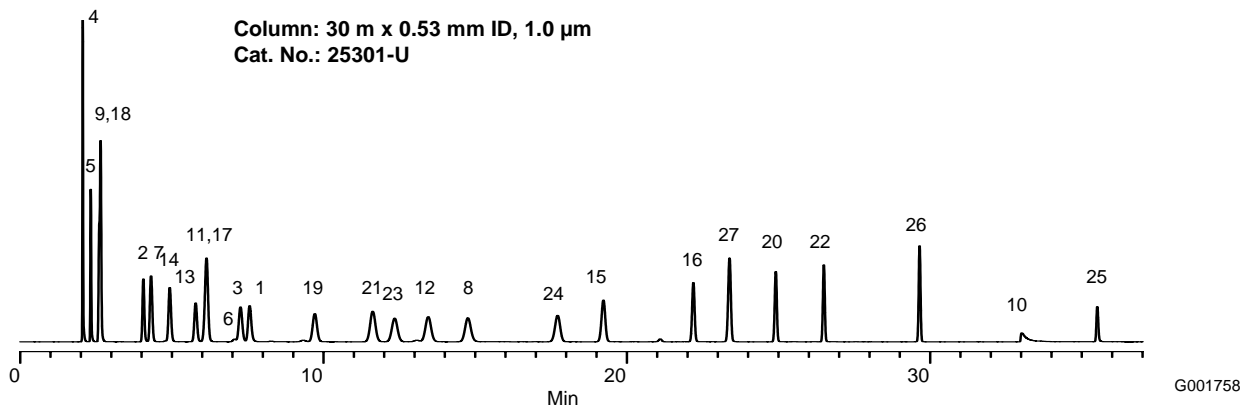
Class III					Class III				
Identification	Concentration (µg/mL)	Equity-5	SUPEL COWAX 10	OVI-G43	Identification	Concentration (µg/mL)	Equity-5	SUPEL COWAX 10	OVI-G43
1. Ethanol	3000	4.90	7.56	6.29	15. Iso-Butanol	3000	16.21	19.23	19.39
2. Acetone	3000	6.04	4.06	6.58	16. n-Butanol	3000	19.48	22.19	22.02
3. 2-Propanol	3000	6.23	7.26	7.92	17. Isopropyl acetate	3000	19.48	6.14	19.89
4. Pentane	3000	6.23	2.06	5.99	18. Heptane	3000	22.20	2.65	20.47
5. Ethyl ether	3000	6.64	2.32	6.29	19. Propyl acetate	3000	23.11	9.71	23.52
6. Ethyl formate	3000	7.16	7.06	7.39	20. Isoamyl alcohol	3000	24.33	24.91	26.16
7. Methyl acetate	3000	7.78	4.31	8.54	21. 4-Methyl-2-pentanone	3000	24.68	11.62	25.72
8. 1-Propanol	3000	9.50	14.76	12.60	22. n-Amyl alcohol	3000	26.13	26.49	27.73
9. Methyl-t-butyl ether	3000	10.33	2.65	9.92	23. Isobutyl acetate	3000	26.54	12.34	26.84
10. Acetic acid	3000	NI	33.02	21.53	24. Butyl acetate	3000	28.51	17.72	28.79
11. 2-Butanone	3000	12.57	6.14	15.01	25. Dimethyl sulfoxide	3000	29.18	35.51	33.02
12. sec-Butanol	3000	13.07	13.45	16.47	26. Anisole	3000	33.30	29.65	33.54
13. Ethyl acetate	3000	14.68	5.78	15.58	27. Cumene	3000	33.68	23.38	33.29
14. Tetrahydrofuran	3000	16.21	4.93	16.35					

NI = not integrated

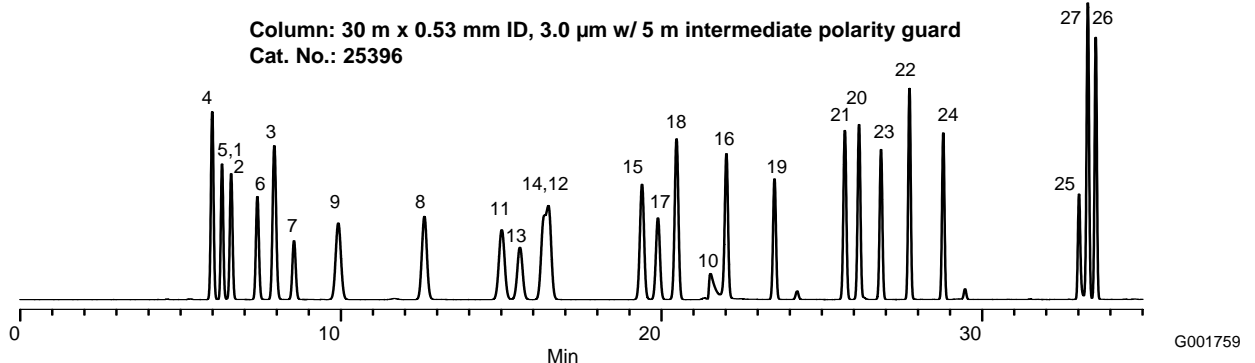
## Class 3 Solvents on Equity-5



## Class 3 Solvents on SUPEL COWAX 10



## Class 3 Solvents on OVI-G43



# 溶媒 – 医薬品残留溶媒 (USP467規定)

Column : OVI-G43, 30 m x 0.53 mm ID, 3.0  $\mu$ m (USP code G43)

Cat. No. : 25396

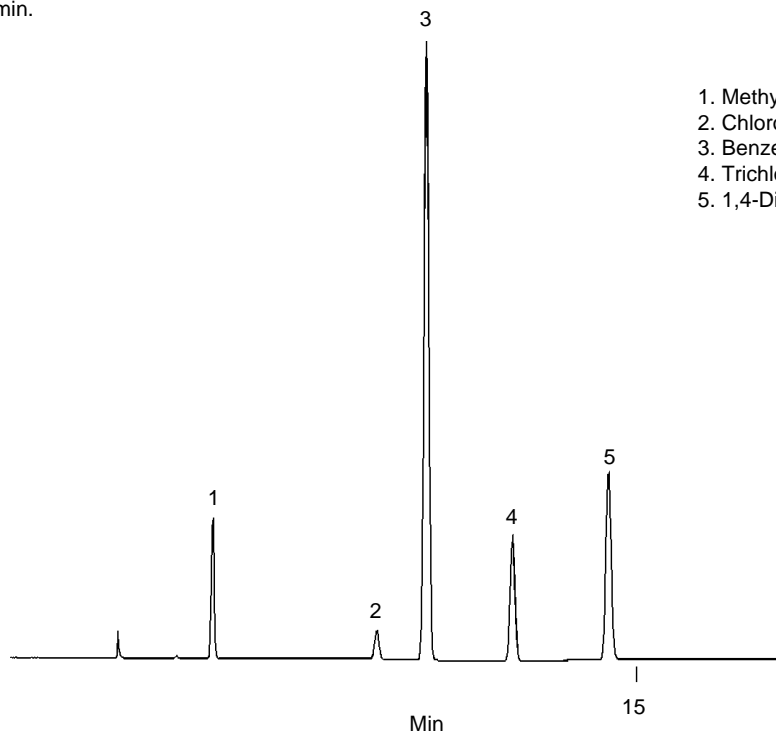
Oven : 40

Inj. : 140

Det. : FID, 260

Carrier gas: Helium, 35 cc/min.

Injection : 1.0  $\mu$ L, direct



1. Methylene chloride
2. Chloroform
3. Benzene
4. Trichloroethylene
5. 1,4-Dioxane

794-0790