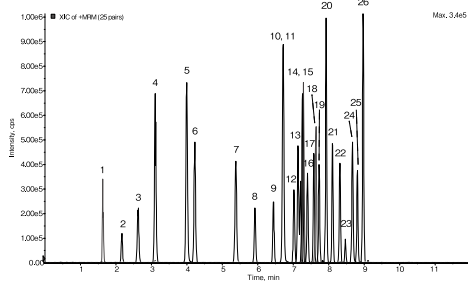


LC/MSによる農薬一斉分析 - 2 μm カラムによる高速分析
Simultaneous separation of pesticides by LC/MS - fast LC



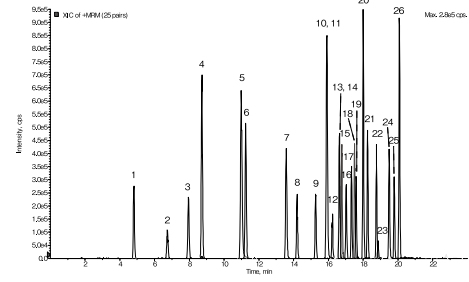
- | | |
|---|--|
| 1. Thiamethoxam (Q1/Q3 : 292.3/211.3) | 14. Chromafenozide (Q1/Q3 : 395.4/175.1) |
| 2. Clothianidin (Q1/Q3 : 250.3/169.1) | 15. Butafenacil (Q1/Q3 : 492.1/331.1) |
| 3. Chloridazon (Q1/Q3 : 222.3/77.0) | 16. Simeconazole (Q1/Q3 : 249.3/70.1) |
| 4. Thiocloprid (Q1/Q3 : 253.3/126.0) | 17. Cyazofamid (Q1/Q3 : 325.2/108.0) |
| 5. Thiabendazole (Q1/Q3 : 202.3/175.2) | 18. Naproanilide (Q1/Q3 : 292.3/171.3) |
| 6. Azamethiphos (Q1/Q3 : 325.2/183.0) | 19. Fenoxycarb (Q1/Q3 : 302.3/88.1) |
| 7. Dimethirimol (Q1/Q3 : 210.4/71.1) | 20. Anilofos (Q1/Q3 : 368.2/199.1) |
| 8. Isoxaflutole (Q1/Q3 : 360.2/251.1) | 21. Cyflufenamid (Q1/Q3 : 431.3/295.2) |
| 9. Pyrifthalid (Q1/Q3 : 319.3/139.1) | 22. Pyrazolynate (Q1/Q3 : 439.1/91.0) |
| 10. (E)-Ferimzone (Q1/Q3 : 255.4/91.1) | 23. Indoxacarb (Q1/Q3 : 528.1/203.2) |
| 11. (Z)-Ferimzone (Q1/Q3 : 255.4/91.1) | 24. Benzo fenap (Q1/Q3 : 431.2/105.1) |
| 12. Methoxyfenozide (Q1/Q3 : 369.4/149.3) | 25. Furathiocarb (Q1/Q3 : 383.3/195.2) |
| 13. Iprovalicarb (Q1/Q3 : 321.4/119.3) | 26. Cloquintocet-mexyl (Q1/Q3 : 336.3/238.2) |

Courtesy of J. Watanabe, TAKARA BIO INC.

(S080702B)

Column : YMC-UltraHT Pro C18 (2 μm, 12 nm)
75 × 2.0 mm I.D.
Eluent : A) 5 mM CH₃COONH₄ in water
B) 5 mM CH₃COONH₄ in methanol
15-40%B (0-0.5 min), 40%B (0.5-1.75 min), 40-50%B (1.75-3 min),
50-55%B (3-4 min), 55-95%B (4-8.75 min), 95%B (8.75-11 min)
Flow rate : 0.4 mL/min
Temperature : ambient
Detection : API5000, ESI, Positive, MRM
Injection : 3 μL (10 ng/mL)
Sample : Pesticide Mixture Standard Solution PL-7-2,
manufactured by Wako Pure Chemical Industries, Ltd.

LC/MSによる農薬一斉分析
Simultaneous separation of pesticides by LC/MS



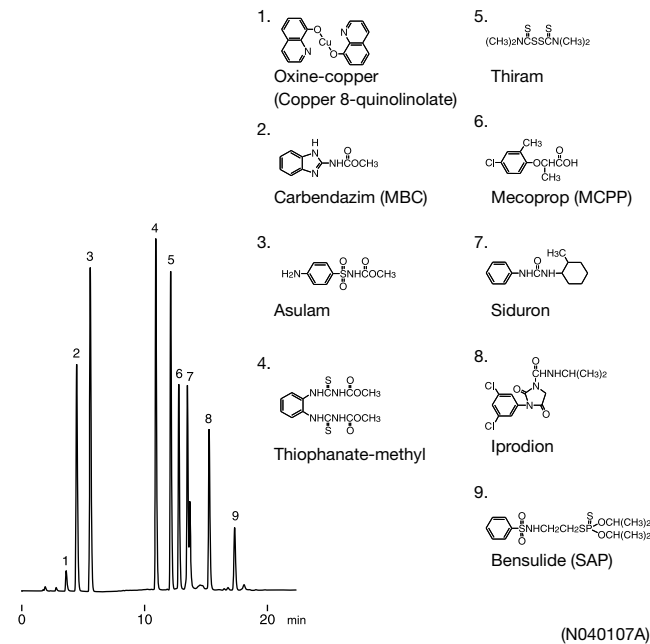
- | | |
|---|--|
| 1. Thiamethoxam (Q1/Q3 : 292.3/211.3) | 14. Chromafenozide (Q1/Q3 : 395.4/175.1) |
| 2. Clothianidin (Q1/Q3 : 250.3/169.1) | 15. Butafenacil (Q1/Q3 : 492.1/331.1) |
| 3. Chloridazon (Q1/Q3 : 222.3/77.0) | 16. Simeconazole (Q1/Q3 : 249.3/70.1) |
| 4. Thiocloprid (Q1/Q3 : 253.3/126.0) | 17. Cyazofamid (Q1/Q3 : 325.2/108.0) |
| 5. Thiabendazole (Q1/Q3 : 202.3/175.2) | 18. Naproanilide (Q1/Q3 : 292.3/171.3) |
| 6. Azamethiphos (Q1/Q3 : 325.2/183.0) | 19. Fenoxycarb (Q1/Q3 : 302.3/88.1) |
| 7. Dimethirimol (Q1/Q3 : 210.4/71.1) | 20. Anilofos (Q1/Q3 : 368.2/199.1) |
| 8. Isoxaflutole (Q1/Q3 : 360.2/251.1) | 21. Cyflufenamid (Q1/Q3 : 431.3/295.2) |
| 9. Pyrifthalid (Q1/Q3 : 319.3/139.1) | 22. Pyrazolynate (Q1/Q3 : 439.1/91.0) |
| 10. (E)-Ferimzone (Q1/Q3 : 255.4/91.1) | 23. Indoxacarb (Q1/Q3 : 528.1/203.2) |
| 11. (Z)-Ferimzone (Q1/Q3 : 255.4/91.1) | 24. Benzo fenap (Q1/Q3 : 431.2/105.1) |
| 12. Methoxyfenozide (Q1/Q3 : 369.4/149.3) | 25. Furathiocarb (Q1/Q3 : 383.3/195.2) |
| 13. Iprovalicarb (Q1/Q3 : 321.4/119.3) | 26. Cloquintocet-mexyl (Q1/Q3 : 336.3/238.2) |

Courtesy of J. Watanabe, TAKARA BIO INC.

(S080702A)

Column : YMC-Pack Pro C18 (3 μm, 12 nm)
150 × 2.0 mm I.D.
Eluent : A) 5 mM CH₃COONH₄ in water
B) 5 mM CH₃COONH₄ in methanol
15-40%B (0-1 min), 40%B (1-3.5 min), 40-55%B (3.5-6 min),
50-55%B (6-8 min), 55-95%B (8-17.5 min), 95%B (17.5-22 min)
Flow rate : 0.2 mL/min
Temperature : ambient
Detection : API5000, ESI, Positive, MRM
Injection : 3 μL (10 ng/mL)
Sample : Pesticide Mixture Standard Solution PL-7-2,
manufactured by Wako Pure Chemical Industries, Ltd.
LC/MSによる農薬等の一斉試験法1 (農産物) 準拠

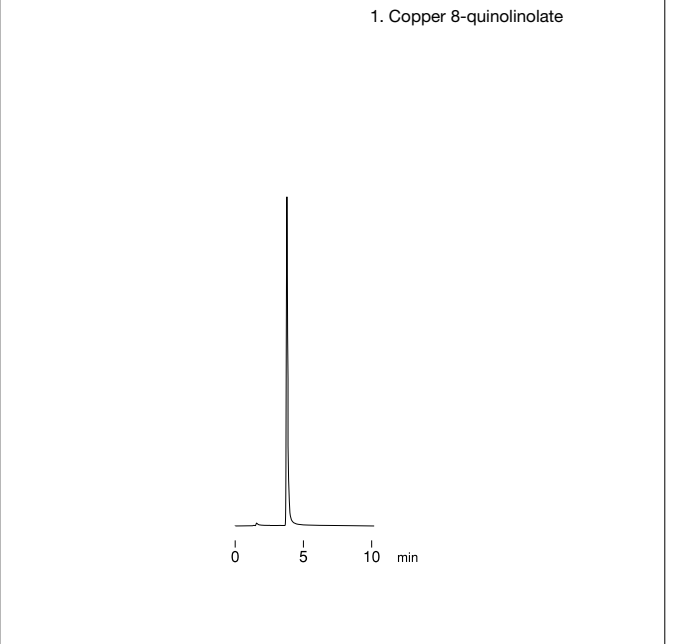
水質規制農薬 9 成分
Analysis of 9 pesticides



(N040107A)

Column : Hydrosphere C18 (5 μm, 12 nm)
150 × 4.6 mm I.D.
Eluent : A) 50 mM KH₂PO₄-H₃PO₄ (pH 3.0)
B) acetonitrile
15-65%B (0-10 min), 65%B (10-20 min)
Flow rate : 1.0 mL/min
Temperature : 40 °C
Detection : UV at 270 nm (0-6.5 min), 230 nm (6.5-20 min)
0.08 AUFS
Injection : 10 μL (10 μg/mL)

オキシシン銅
Copper 8-quinolinolate

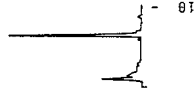


(A010717A)

Column : Hydrosphere C18 (5 μm, 12 nm)
150 × 2.0 mm I.D.
Eluent : acetonitrile/20 mM H₃PO₄ (5/95)
Flow rate : 0.2 mL/min
Temperature : 37 °C
Detection : UV at 250 nm, 0.32 AUFS
Injection : 2 μL (0.02 mg/mL)

ベンズリド
O,O-Di-isopropyl S-2-benzene-sulphonamidoethylphosphorodithioate

1. Bensulide



Column : YMC-Pack MB-ODS
150 × 2.1 mm I.D.
Eluent : acetonitrile/water (60/40)
Flow rate : 0.3 mL/min
Temperature : 30 °C
Detection : UV at 220 nm, 0.01 AUFS
Injection : 10 μL (1.0 mg/L)

(G910223E)

チウラム
Bis(dimethylthiocarbamoyl) disulfide

1. Thiram

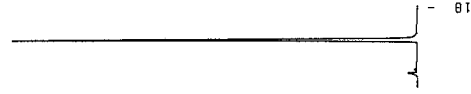


Column : YMC-Pack MB-ODS
150 × 2.1 mm I.D.
Eluent : acetonitrile/water (40/60)
Flow rate : 0.3 mL/min
Temperature : 30 °C
Detection : UV at 260 nm, 0.01 AUFS
Injection : 10 μL (2.0 mg/L)

(G910223D)

アシユラム
Methyl sulfanylylcarbamate

1. Asulam

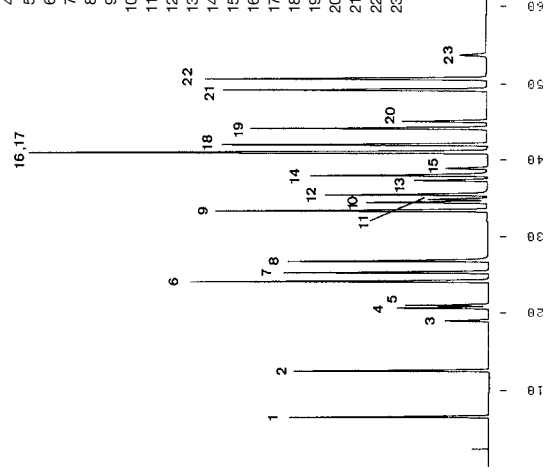


Column : YMC-Pack MB-ODS
150 × 2.1 mm I.D.
Eluent : THF/water/TFA (10/90/0.05)
Flow rate : 0.3 mL/min
Temperature : 30 °C
Detection : UV at 260 nm, 0.01 AUFS
Injection : 10 μL (1.0 mg/L)

(G910223C)

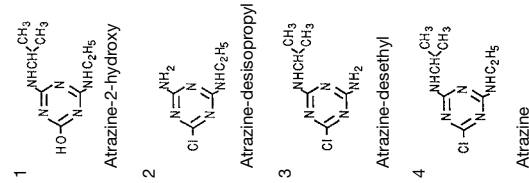
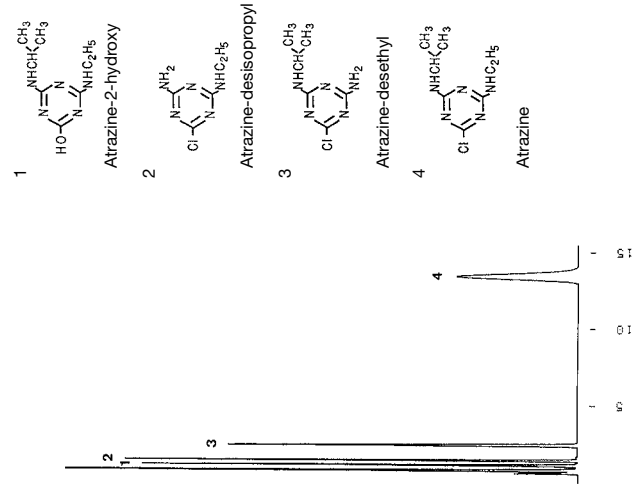
除草剤
Herbicides

1. Atrazine-desisopropyl
2. Atrazine-desethyl
3. Crimidine
4. Hexazinone
5. Metoxuron
6. Simazine
7. Cyanazine
8. Atraton
9. Atrazine
10. Isoproturon
11. Dhiuron
12. Prometon
13. Metobromuron
14. Terbumeton
15. Metazachlor
16. Ametryn
17. Sebuthylazine
18. Propazine
19. Terbutylazine
20. Linuron
21. Prometryn
22. Terbutyn
23. Metolachlor



Column : J'sphere ODS-H80 (4 μm, 8 nm)
250 × 4.6 mm I.D.
Eluent : A) acetonitrile/50 mM NH₄H₂PO₄ (20/80)
B) acetonitrile/50 mM NH₄H₂PO₄ (65/35)
0-100%B (0-60 min, linear)
Flow rate : 1.0 mL/min
Temperature : 37 °C
Detection : UV at 230 nm, 0.16 AUFS
Injection : 5 μL (0.04 mg/mL)

(O941018B)

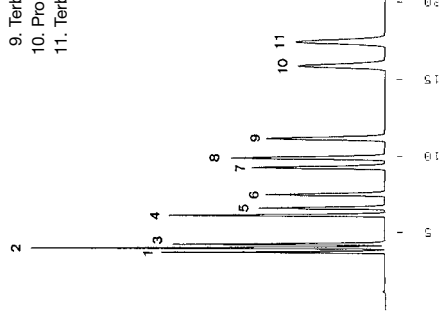
アトラジン誘導体
Atrazine derivatives

(O941020H)

Column : J'sphere ODS-H80 (4 μ m, 8 nm)
75 \times 4.6 mm I.D.
Eluent : acetonitrile/water/TFA (25/75/0.1)
Flow rate : 1.0 mL/min
Temperature : 37 $^{\circ}$ C
Detection : UV at 230 nm, 0.16 AUFS
Injection : 5 μ L (0.04 mg/mL)

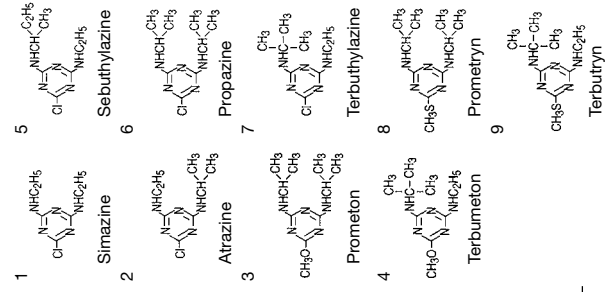
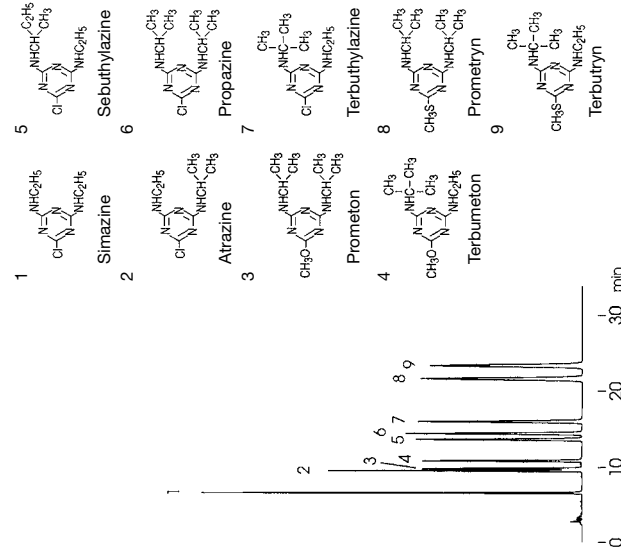
トリアジン系除草剤
Triazine herbicides

1. Cyanazine
2. Simazine
3. Atrazon
4. Atrazine
5. Prometon
6. Terbumeton
7. Sebutylazine
8. Propazine
9. Terbutylazine
10. Prometryn
11. Terbutryn



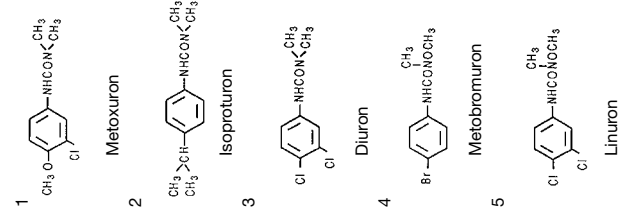
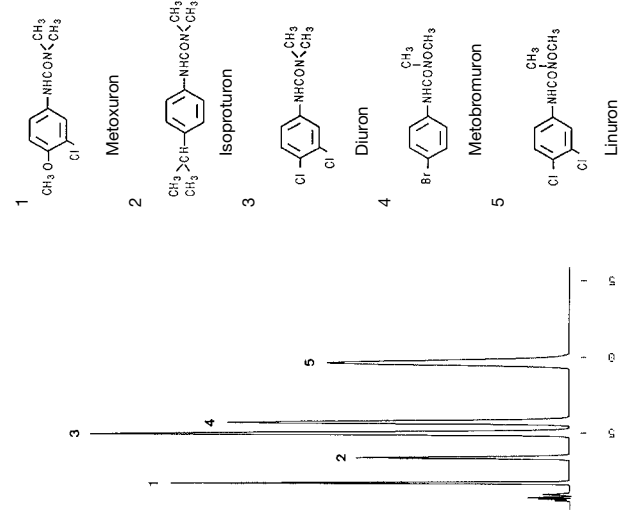
(O941102F)

Column : J'sphere ODS-H80 (4 μ m, 8 nm)
150 \times 4.6 mm I.D.
Eluent : acetonitrile/50 mM $\text{NH}_4\text{H}_2\text{PO}_4$ (45/55)
Flow rate : 1.0 mL/min
Temperature : 37 $^{\circ}$ C
Detection : UV at 230 nm, 0.32 AUFS
Injection : 5 μ L (0.05 mg/mL)

トリアジン系除草剤
Triazine herbicides

(A970210B)

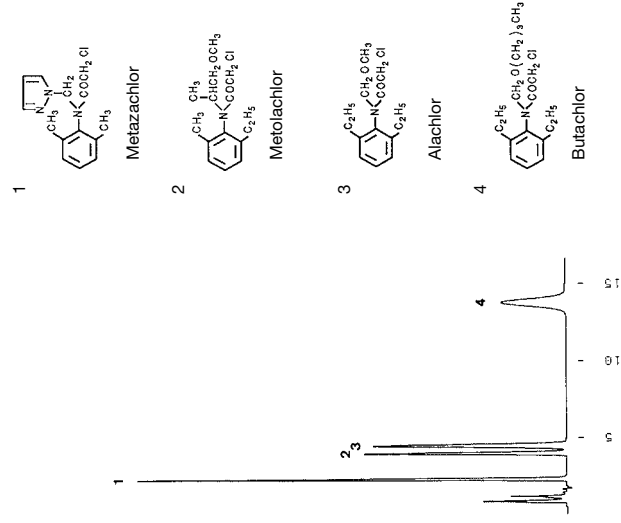
Column : YMC-Pack Pro C18 (5 μ m, 12 nm)
250 \times 4.6 mm I.D.
Eluent : acetonitrile/50 mM $\text{NH}_4\text{H}_2\text{PO}_4$ (45/55)
Flow rate : 1.0 mL/min
Temperature : 37 $^{\circ}$ C
Detection : UV at 230 nm, 0.32 AUFS
Injection : 5 μ L (0.05 mg/mL)

尿素系除草剤
Urea herbicides

(O941028B)

Column : J'sphere ODS-H80 (4 μ m, 8 nm)
75 \times 4.6 mm I.D.
Eluent : THF/water (30/70)
Flow rate : 1.0 mL/min
Temperature : 37 $^{\circ}$ C
Detection : UV at 260 nm, 0.16 AUFS
Injection : 4 μ L (0.2 mg/mL)

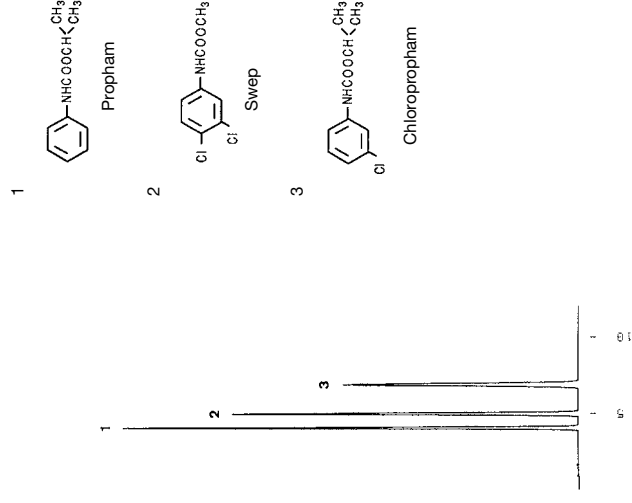
酸アミド系除草剤
Acid amide herbicides



Column : J'sphere ODS-M80 (4 μ m, 8 nm)
75 X 4.6 mm I.D.
Eluent : 2-propanol/THF/water (25/15/60)
Flow rate : 1.0 mL/min
Temperature : 37 $^{\circ}$ C
Detection : UV at 210 nm, 0.16 AUFS
Injection : 8 μ L (0.05 mg/mL)

(O941108C)

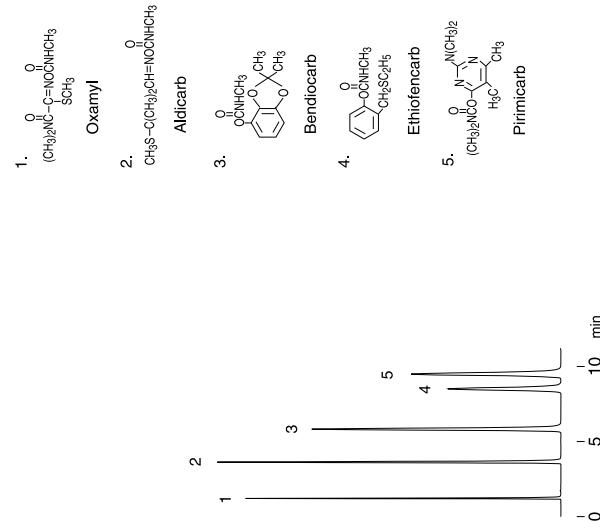
カルバメート系除草剤
Carbamate herbicides



Column : J'sphere ODS-L80 (4 μ m, 8 nm)
75 X 4.6 mm I.D.
Eluent : acetonitrile/water (45/55)
Flow rate : 1.0 mL/min
Temperature : 37 $^{\circ}$ C
Detection : UV at 240 nm, 0.16 AUFS
Injection : 5 μ L (0.08 mg/mL)

(O941124G)

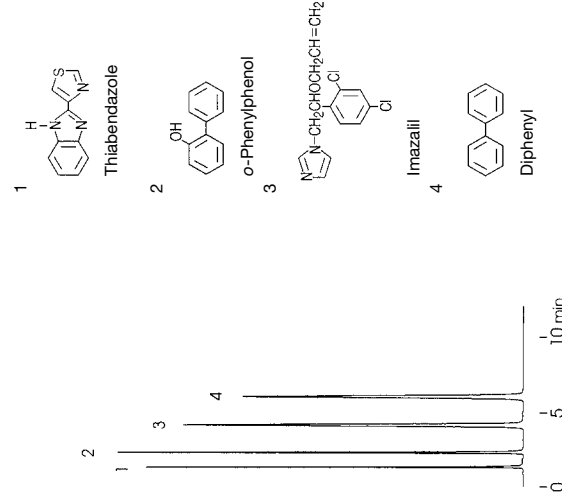
カルバメート系殺虫剤
Carbamate insecticides



Column : Hydrosphere C18 (3 μ m, 12 nm)
75 X 4.6 mm I.D.
Eluent : methanol/20 mM KH_2PO_4 (45/55)
Flow rate : 1.0 mL/min
Temperature : 30 $^{\circ}$ C
Detection : UV at 240 nm, 0.64 AUFS
Injection : 5 μ L (0.1 ~ 1.5 mg/mL)

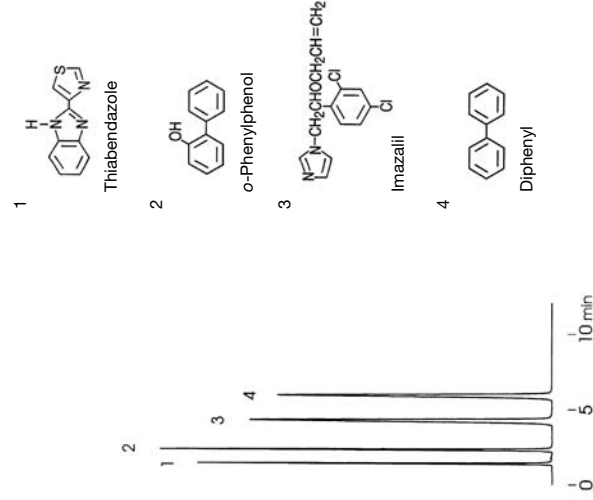
(J010220D)

防かび剤
Fungicides



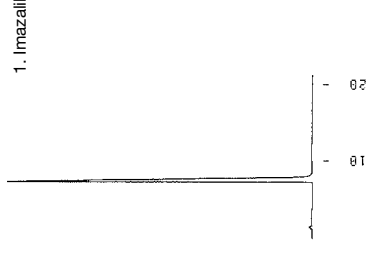
Column : YMC-Pack Pro C18 (5 μ m, 12 nm)
75 X 4.6 mm I.D.
Eluent : methanol/20 mM $\text{NH}_4\text{H}_2\text{PO}_4$ (70/30)
Flow rate : 1.0 mL/min
Temperature : 37 $^{\circ}$ C
Detection : UV at 230 nm, 0.32 AUFS
Injection : 10 μ L (0.02 ~ 0.20 mg/mL)

(A970217A)

防かび剤
Fungicides

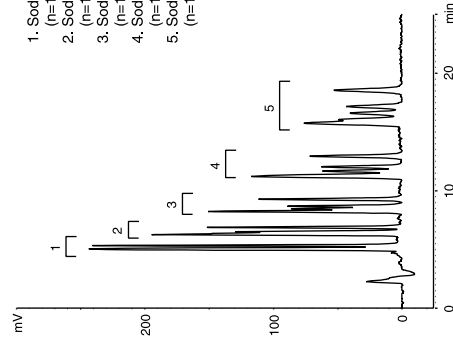
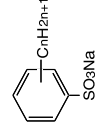
(A970219A)

Column : YMC-Pack ODS-A (5 μ m, 12 nm)
75 \times 4.6 mm I.D.
Eluent : methanol/20 mM $\text{NH}_4\text{H}_2\text{PO}_4$ (70/30)
Flow rate : 1.0 mL/min
Temperature : 37 $^\circ\text{C}$
Detection : UV at 230 nm, 0.32 AUFS
Injection : 10 μL (0.02 ~ 0.20 mg/mL)

イマザリル
Imazalil

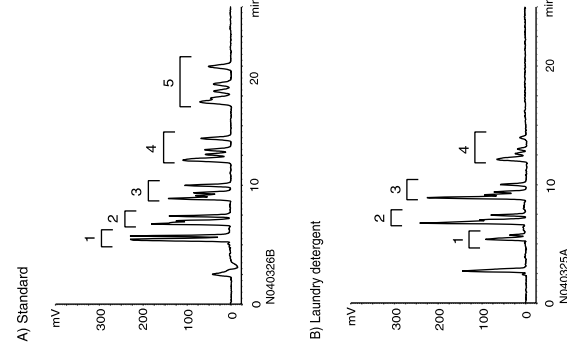
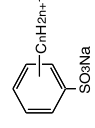
(B931007A)

Column : J'sphere ODS-M80 (4 μ m, 8 nm)
150 \times 4.6 mm I.D.
Eluent : acetonitrile/20 mM $\text{NH}_4\text{H}_2\text{PO}_4$ (60/50)
Flow rate : 1.0 mL/min
Temperature : 37 $^\circ\text{C}$
Detection : UV at 230 nm, 0.04 AUFS
Injection : 10 μL (0.05 mg/mL)

陰イオン界面活性剤
Anionic surfactants

(N040324D)

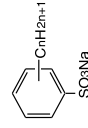
Column : YMC-Pack Pro C18 (5 μ m, 12 nm)
250 \times 4.6 mm I.D.
Eluent : acetonitrile/water (65/35) containing 0.1 M NaClO_4
Flow rate : 1.0 mL/min
Temperature : 40 $^\circ\text{C}$
Detection : FLS at Ex 221 nm, Em 284 nm
Injection : 20 μL (2.0 $\mu\text{g/mL}$)
(平成 15 年改正水質基準の検査方法準拠)

市販洗濯剤中の陰イオン界面活性剤
Anionic surfactants in a commercial laundry detergent

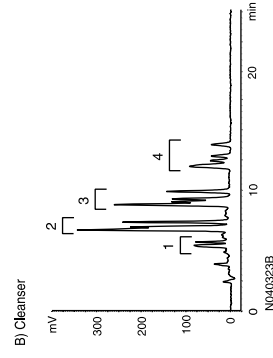
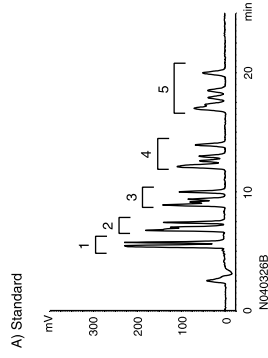
(N040325A)

Column : YMC-Pack Pro C18 (5 μ m, 12 nm)
250 \times 4.6 mm I.D.
Eluent : acetonitrile/water (65/35) containing 0.1 M NaClO_4
Flow rate : 1.0 mL/min
Temperature : 40 $^\circ\text{C}$
Detection : FLS at Ex 221 nm, Em 284 nm
Injection : 20 μL
Sample : A) 2.0 $\mu\text{g/mL}$
B) 25 $\mu\text{g/mL}$ (water solution of laundry detergent powder)

市販クレンジー中の陰イオン界面活性剤
Anionic surfactants in a commercial cleanser



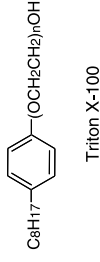
1. Sodium decylbenzenesulfonate (n=10)
2. Sodium undecylbenzenesulfonate (n=11)
3. Sodium dodecylbenzenesulfonate (n=12)
4. Sodium tridecylbenzenesulfonate (n=13)
5. Sodium tetradecylbenzenesulfonate (n=14)



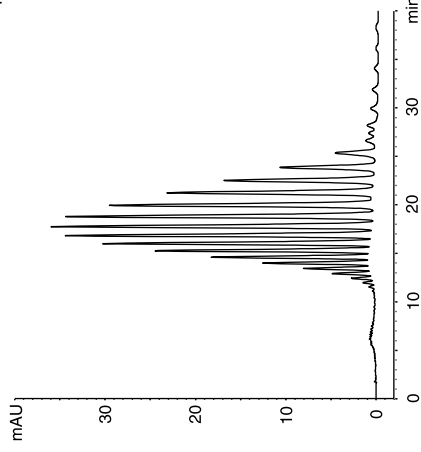
(N040323B)

Column : YMC-Pack Pro C18 (5 μ m, 12 nm)
 250 \times 4.6 mm I.D.
 Eluent : acetonitrile/water (65/35) containing 0.1 M NaClO₄
 Flow rate : 1.0 mL/min
 Temperature : 40 $^{\circ}$ C
 Detection : FLS at Ex 221 nm, Em 284 nm
 Injection : 20 μ L
 Sample : A) 2.0 μ g/mL
 B) 250 μ g/mL (water solution of powder cleanser)

非イオン性界面活性剤
Nonionic surfactants



Triton X-100

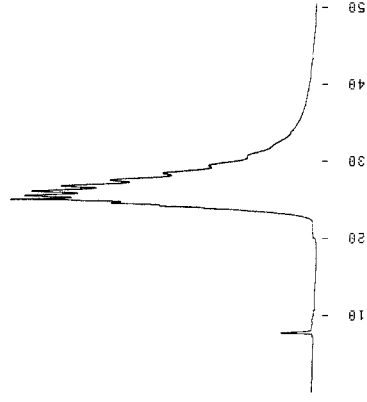


(N040308D)

Column : YMC-Pack Pro C18 RS (5 μ m, 8 nm)
 250 \times 4.6 mm I.D.
 Eluent : THF/acetonitrile/water (10/45/45)
 Flow rate : 1.0 mL/min
 Temperature : 25 $^{\circ}$ C
 Detection : UV at 254 nm
 Injection : 10 μ L (20 mg/mL)

非イオン性界面活性剤
Nonionic surfactants

1. Triton X-100

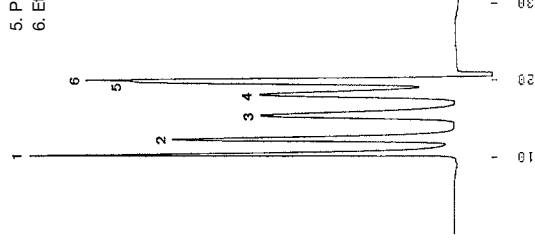


(G920109C)

Column : YMC-Pack Diol-120
 500 \times 8.0 mm I.D.
 Eluent : acetonitrile/water (10/90)
 Flow rate : 1.0 mL/min
 Temperature : ambient (23 $^{\circ}$ C)
 Detection : UV at 260 nm, 0.02 AUFS
 Injection : 15 μ L (5.0 mg/mL)
 Sample : Triton X-100

ポリエチレングリコール
Polyethyleneglycols

1. PEG #20,000 (MW 20,000)
2. PEG #6,000 (MW 8,400)
3. PEG #4,000 (MW 3,350)
4. PEG #1,000 (MW 1,000)
5. PEG #300 (MW 300)
6. Ethyleneglycol (MW 62)

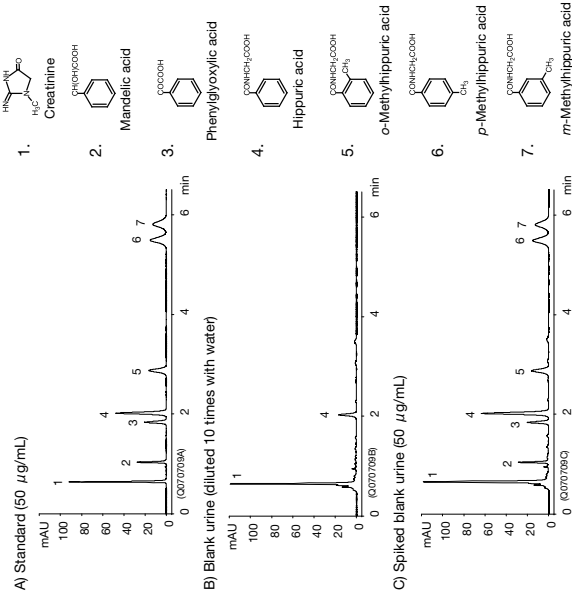


(G920123A)

Column : YMC-Pack Diol-120
 500 \times 8.0 mm I.D.
 Eluent : acetonitrile/water (10/90)
 Flow rate : 1.0 mL/min
 Temperature : ambient (22 $^{\circ}$ C)
 Detection : RI, 64 \times 10⁶ RIU/FS
 Injection : 100 μ L (1.67 mg/mL)

尿中の有機溶剤代謝物

Metabolites of organic solvents in human urine

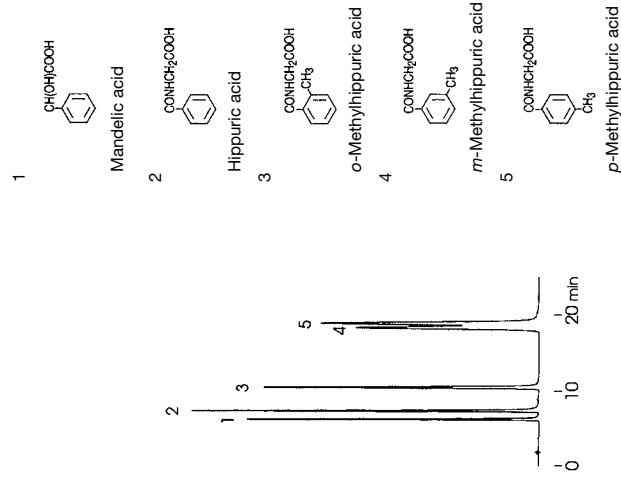


(Q070709C)

Column : YMC-UltraHT Hydrosphere C18 (2 μm , 12 nm)
 100 \times 2.0 mm I.D.
 Eluent : 20 mM $\text{CH}_3\text{COONH}_4/2$ -propanol (97/3)
 Flow rate : 0.4 mL/min
 Temperature : 35 $^\circ\text{C}$
 Detection : UV at 225 nm
 Injection : 1 μL

馬尿酸類

Hippuric and methylhippuric acids



(A961114A)

Column : YMC-Pack Pro C18 (5 μm , 12 nm)
 150 \times 4.6 mm I.D.
 Eluent : 20 mM $\text{NH}_4\text{H}_2\text{PO}_4\text{-H}_3\text{PO}_4$ (pH 3.2)/methanol (80/20)
 Flow rate : 1.0 mL/min
 Temperature : 37 $^\circ\text{C}$
 Detection : UV at 225 nm, 0.16 AUFS
 Injection : 10 μL (0.04 ~ 0.07 mg/mL)

馬尿酸類

Hippuric and methylhippuric acids

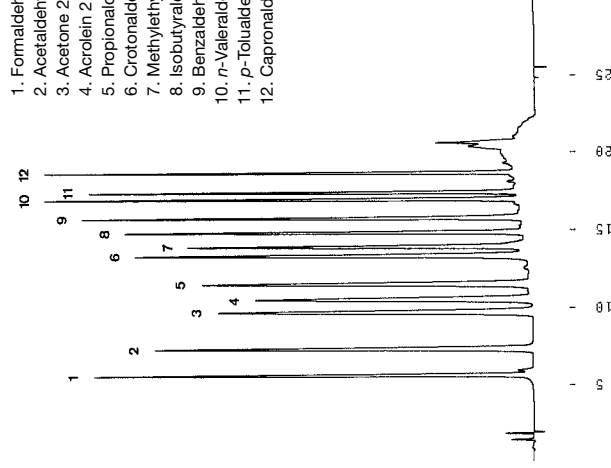


(A961119A)

Column : J'sphere ODS-M80 (4 μm , 8 nm)
 150 \times 4.6 mm I.D.
 Eluent : 20 mM $\text{NH}_4\text{H}_2\text{PO}_4\text{-H}_3\text{PO}_4$ (pH 3.2)/methanol (80/20)
 Flow rate : 1.0 mL/min
 Temperature : 37 $^\circ\text{C}$
 Detection : UV at 225 nm, 0.16 AUFS
 Injection : 10 μL (0.04 ~ 0.07 mg/mL)

アルデヒドおよびケトン類の2,4-DNPH誘導体

2,4-Dinitrophenylhydrazones of aldehydes and ketones

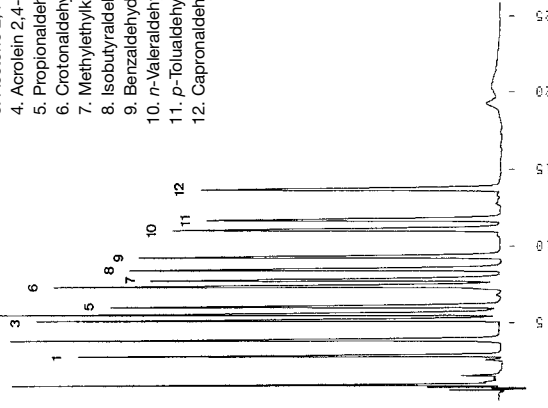


(T920302A)

Column : YMC-Pack C₈ (5 μm , 12 nm)
 150 \times 4.6 mm I.D.
 Eluent : A) tetrahydrofuran/water (10/90)
 B) acetonitrile
 35%B (0-7 min), 35-65%B (7-18 min, linear), 100%B (18-19 min),
 35%B (19-35 min)
 Flow rate : 1.5 mL/min
 Temperature : 30 $^\circ\text{C}$
 Detection : UV at 360 nm, 0.01 AUFS
 Injection : 11 μL (0.0025 mg/mL)

アルデヒドおよびケトン類の 2,4-DNPH 誘導体
2,4-dinitrophenylhydrazones of aldehydes and ketones

1. Formaldehyde 2,4-DNPH
2. Acetaldehyde 2,4-DNPH
3. Acetone 2,4-DNPH
4. Acrolein 2,4-DNPH
5. Propionaldehyde 2,4-DNPH
6. Crotonaldehyde 2,4-DNPH
7. Methylglyoxal 2,4-DNPH
8. Isobutyraldehyde 2,4-DNPH
9. Benzaldehyde 2,4-DNPH
10. n-Valeraldehyde 2,4-DNPH
11. p-Tolualdehyde 2,4-DNPH
12. Capronaldehyde 2,4-DNPH



(T931130D)

Column : J'sphere ODS-H80 (4 μ m, 8 nm)

Eluent : A) tetrahydrofuran/water (20/80)

B) acetonitrile/methanol (90/10)

Flow rate : 30-67%B (0-15 min, linear), 30%B (15-25 min)

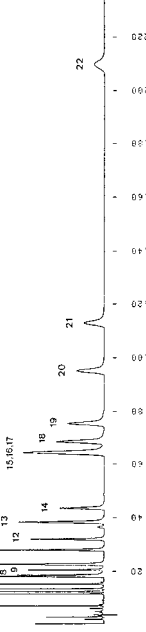
Temperature : 40 $^{\circ}$ C

Detection : UV at 360 nm, 0.01 AUFS

Injection : 15 μ L (0.001 mg/mL)

多環芳香族炭化水素
Polycyclic aromatic hydrocarbons

1. Benzene
2. Naphthalene
3. 7,12-Dimethylbenzo[*a*]anthracene
4. Acenaphthylene
5. Diphenyl
6. Fluorene
7. Naphthacene
8. Acenaphthene
9. Phenanthrene
10. Anthracene
11. Fluoranthene
12. Pyrene
13. Triphenylene
14. Chrysene
15. Perylene
16. Benzo[*e*]pyrene
17. Benzo[*b*]fluoranthene
18. Benzo[*k*]fluoranthene
19. Benzo[*a*]pyrene
20. Dibenzof[*a,h*]anthracene
21. Benzo[*g,h,i*]perylene
22. Coronene



(K930918A)

Column : J'sphere ODS-H80 (4 μ m, 8 nm)

Eluent : acetonitrile/water (65/35)

Flow rate : 1.0 mL/min

Temperature : 37 $^{\circ}$ C

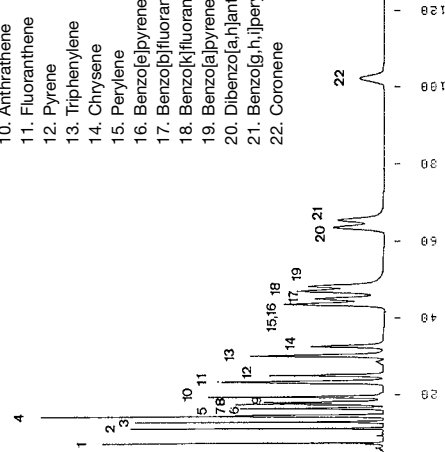
Detection : UV at 254 nm, 0.08 AUFS

Injection : 7 μ L

多環芳香族炭化水素

Polycyclic aromatic hydrocarbons

1. Benzene
2. Naphthalene
3. Acenaphthylene
4. 7,12-Dimethylbenzo[*a*]anthracene
5. Diphenyl
6. Fluorene
7. Acenaphthene
8. Naphthacene
9. Phenanthrene
10. Anthracene
11. Fluoranthene
12. Pyrene
13. Triphenylene
14. Chrysene
15. Perylene
16. Benzo[*e*]pyrene
17. Benzo[*b*]fluoranthene
18. Benzo[*k*]fluoranthene
19. Benzo[*a*]pyrene
20. Dibenzof[*a,h*]anthracene
21. Benzo[*g,h,i*]perylene
22. Coronene



(K930918B)

Column : J'sphere ODS-M80 (4 μ m, 8 nm)

Eluent : acetonitrile/water (65/35)

Flow rate : 1.0 mL/min

Temperature : 37 $^{\circ}$ C

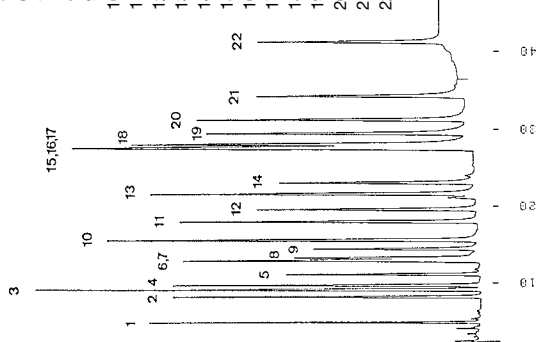
Detection : UV at 254 nm, 0.08 AUFS

Injection : 7 μ L

多環芳香族炭化水素

Polycyclic aromatic hydrocarbons

1. Benzene
2. Naphthalene
3. 7,12-Dimethylbenzo[*a*]anthracene
4. Acenaphthylene
5. Diphenyl
6. Fluorene
7. Naphthacene
8. Acenaphthene
9. Phenanthrene
10. Anthracene
11. Fluoranthene
12. Pyrene
13. Triphenylene
14. Chrysene
15. Perylene
16. Benzo[*e*]pyrene
17. Benzo[*b*]fluoranthene
18. Benzo[*k*]fluoranthene
19. Benzo[*a*]pyrene
20. Dibenzof[*a,h*]anthracene
21. Benzo[*g,h,i*]perylene
22. Coronene



(K930918C)

Column : J'sphere ODS-H80 (4 μ m, 8 nm)

Eluent : A) acetonitrile/water (50/50)

B) acetonitrile

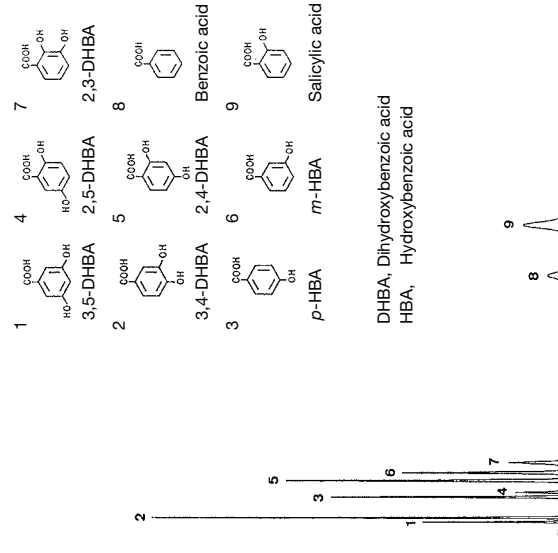
Flow rate : 30%B (0-5 min), 30-100%B (5-40 min), 100%B (40-50 min)

Temperature : 37 $^{\circ}$ C

Detection : UV at 254 nm, 0.08 AUFS

Injection : 7 μ L

ヒドロキシ安息香酸
Hydroxybenzoic acids

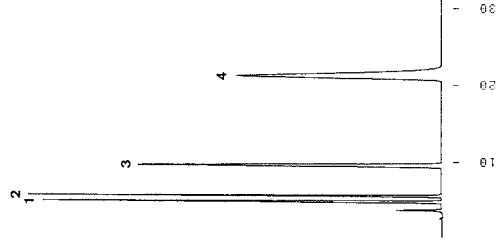
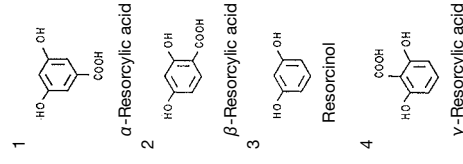


(0940530D)

Column : J'sphere ODS-H80 (4 μ m, 8 nm)
150 \times 4.6 mm I.D.
Eluent : acetonitrile/water/acetic acid (5/90/5)
Flow rate : 1.0 mL/min
Temperature : 37 $^{\circ}$ C
Detection : UV at 285 nm, 0.16 AUFS
Injection : 5 μ L (0.1 mg/mL)

DHBA, Dihydroxybenzoic acid
HBA, Hydroxybenzoic acid

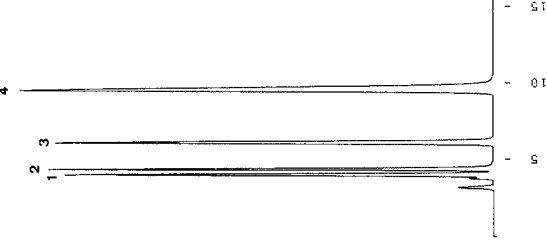
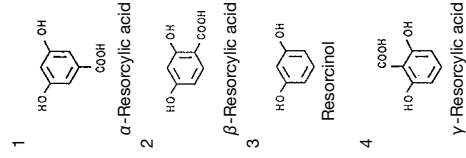
レゾルシン酸異性体
Resorcylic acid isomers



(0940607C)

Column : YMC-Pack C₈ (5 μ m, 12 nm)
150 \times 4.6 mm I.D.
Eluent : methanol/100 mM KH₂PO₄ (10/90)
Flow rate : 0.8 mL/min
Temperature : 37 $^{\circ}$ C
Detection : UV at 285 nm, 0.16 AUFS
Injection : 10 μ L (0.05 ~ 0.4 mg/mL)

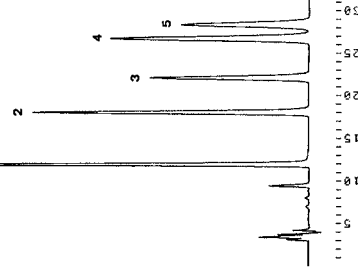
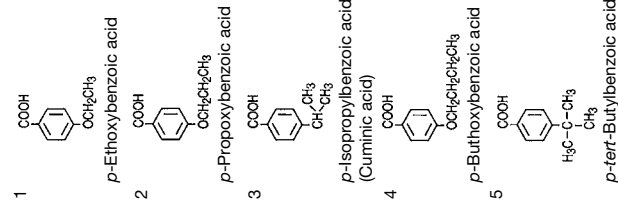
レゾルシン酸異性体
Resorcylic acid isomers



(0940606J)

Column : YMC-Pack Ph (5 μ m, 12 nm)
150 \times 4.6 mm I.D.
Eluent : methanol/100 mM KH₂PO₄ (10/90)
Flow rate : 0.8 mL/min
Temperature : 37 $^{\circ}$ C
Detection : UV at 285 nm, 0.16 AUFS
Injection : 10 μ L (0.05 ~ 0.4 mg/mL)

安息香酸誘導体
Benzoic acid derivatives

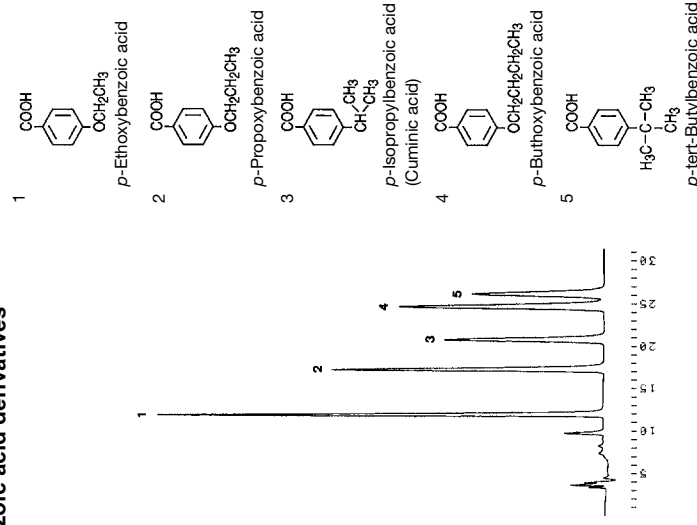


(0950511B)

Column : J'sphere ODS-M80 (4 μ m, 8 nm)
150 \times 4.6 mm I.D.
Eluent : tetrahydrofuran/water/acetic acid (40/60/1)
Flow rate : 0.5 mL/min
Temperature : ambient (26 $^{\circ}$ C)
Detection : UV at 260 nm, 0.32 AUFS
Injection : 10 μ L (0.04 ~ 0.2 mg/mL)

安息香誘導体

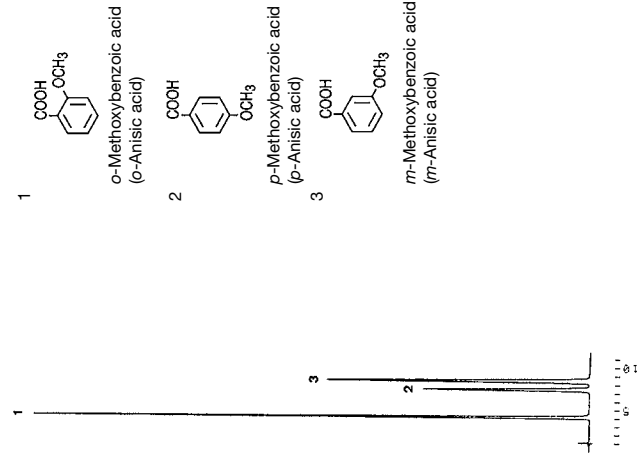
Benzoic acid derivatives



Column : J'sphere ODS-L80 (4 μ m, 8 nm)
150 \times 4.6 mm I.D.
Eluent : tetrahydrofuran/water/acetic acid (40/60/1)
Flow rate : 0.5 mL/min
Temperature : ambient (26 $^{\circ}$ C)
Detection : UV at 260 nm, 0.32 AUFS
Injection : 10 μ L (0.04 ~ 0.2 mg/mL)

(0950511C)

メトキシ安息香酸異性体
Methoxybenzoic acid isomers

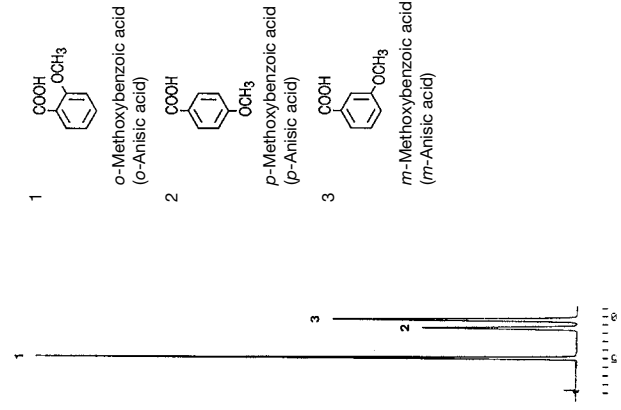


Column : J'sphere ODS-H80 (4 μ m, 8 nm)
75 \times 4.6 mm I.D.
Eluent : acetonitrile/water/acetic acid (20/80/1)
Flow rate : 1.0 mL/min
Temperature : ambient (25 $^{\circ}$ C)
Detection : UV at 285 nm, 0.16 AUFS
Injection : 10 μ L (0.17 mg/mL)

(0950508A)

メトキシ安息香酸異性体

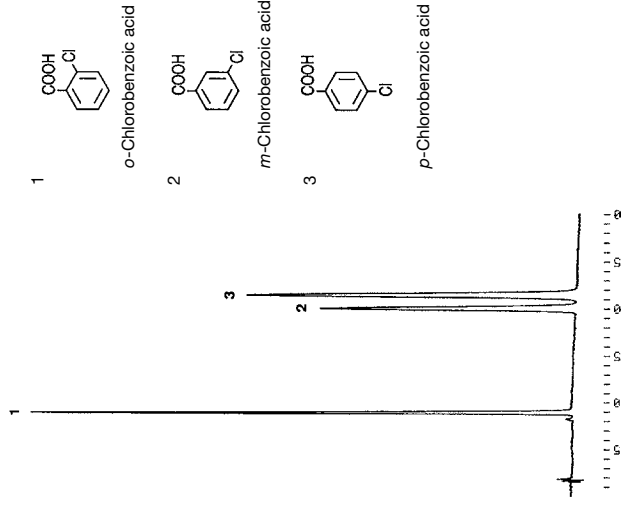
Methoxybenzoic acid isomers



Column : J'sphere ODS-M80 (4 μ m, 8 nm)
75 \times 4.6 mm I.D.
Eluent : acetonitrile/water/acetic acid (20/80/1)
Flow rate : 1.0 mL/min
Temperature : ambient (25 $^{\circ}$ C)
Detection : UV at 285 nm, 0.16 AUFS
Injection : 10 μ L (0.17 mg/mL)

(0950508B)

クロ安息香酸異性体
Chlorobenzoic acid isomers



Column : J'sphere ODS-H80 (4 μ m, 8 nm)
150 \times 4.6 mm I.D.
Eluent : acetonitrile/water/acetic acid (25/75/1)
Flow rate : 1.0 mL/min
Temperature : ambient (27 $^{\circ}$ C)
Detection : UV at 270 nm, 0.04 AUFS
Injection : 10 μ L (0.17 mg/mL)

(0950509B)