

Shodex IC Column



SHOWA DENKO EUROPE

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Shodex

Standard analysis

Column: SI-90 4E

Eluent: **1.8 mM Na_2CO_3**
1.7 mM NaHCO_3 ←

The eluent of
Dionex IonPac AS4A

(Isocratic)

Flow rate: 1.0 mL/min

Column temp.: 25°C

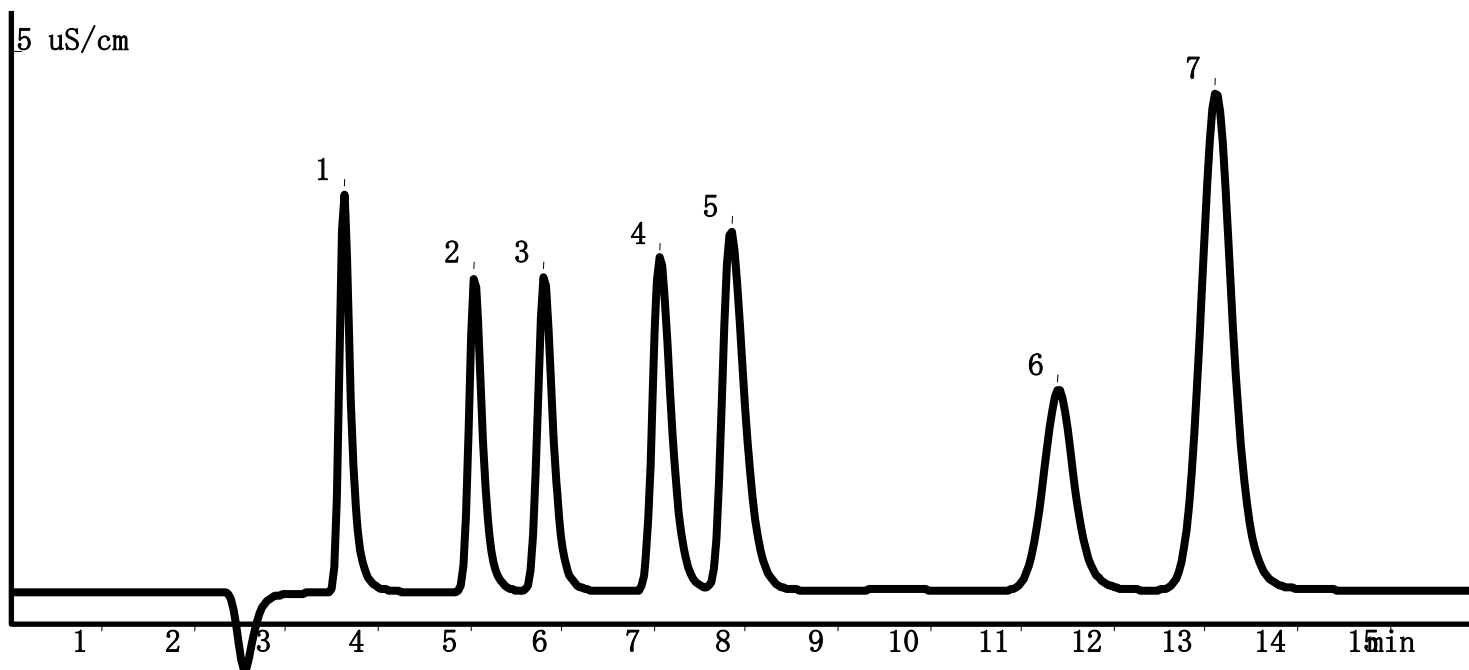
(Room temp.)

Column press.: **4 MPa** ←

Low column press.

Sample: 20 μL

1. F	2 mg/L
2..Cl	3 mg/L
3. NO_2	5 mg/L
4. Br	10 mg/L
5. NO_3	10 mg/L
6. PO_4	15 mg/L
7. SO_4	15 mg/L

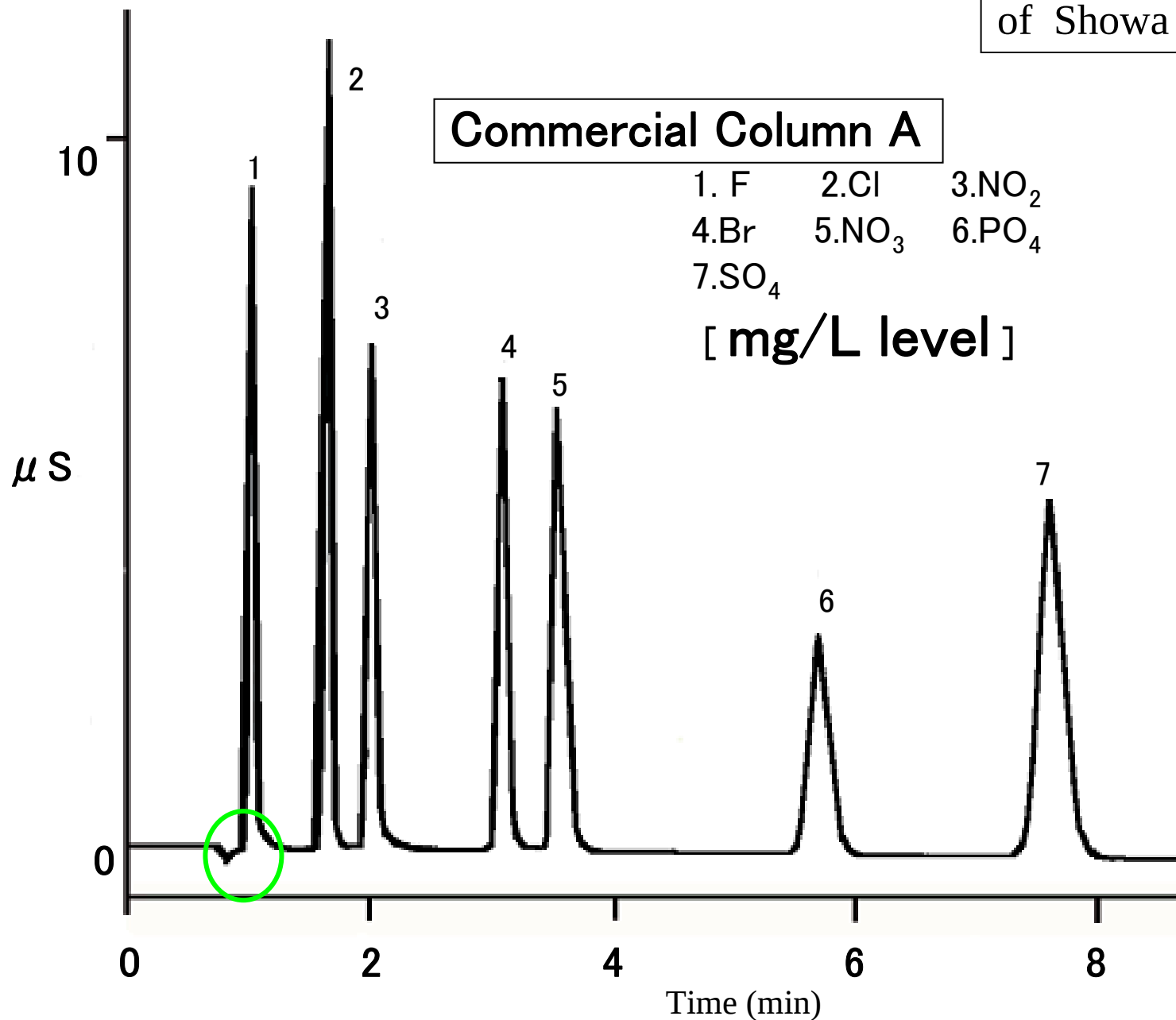


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Water dip and F ion peak

Under the conditions
of Showa Denko

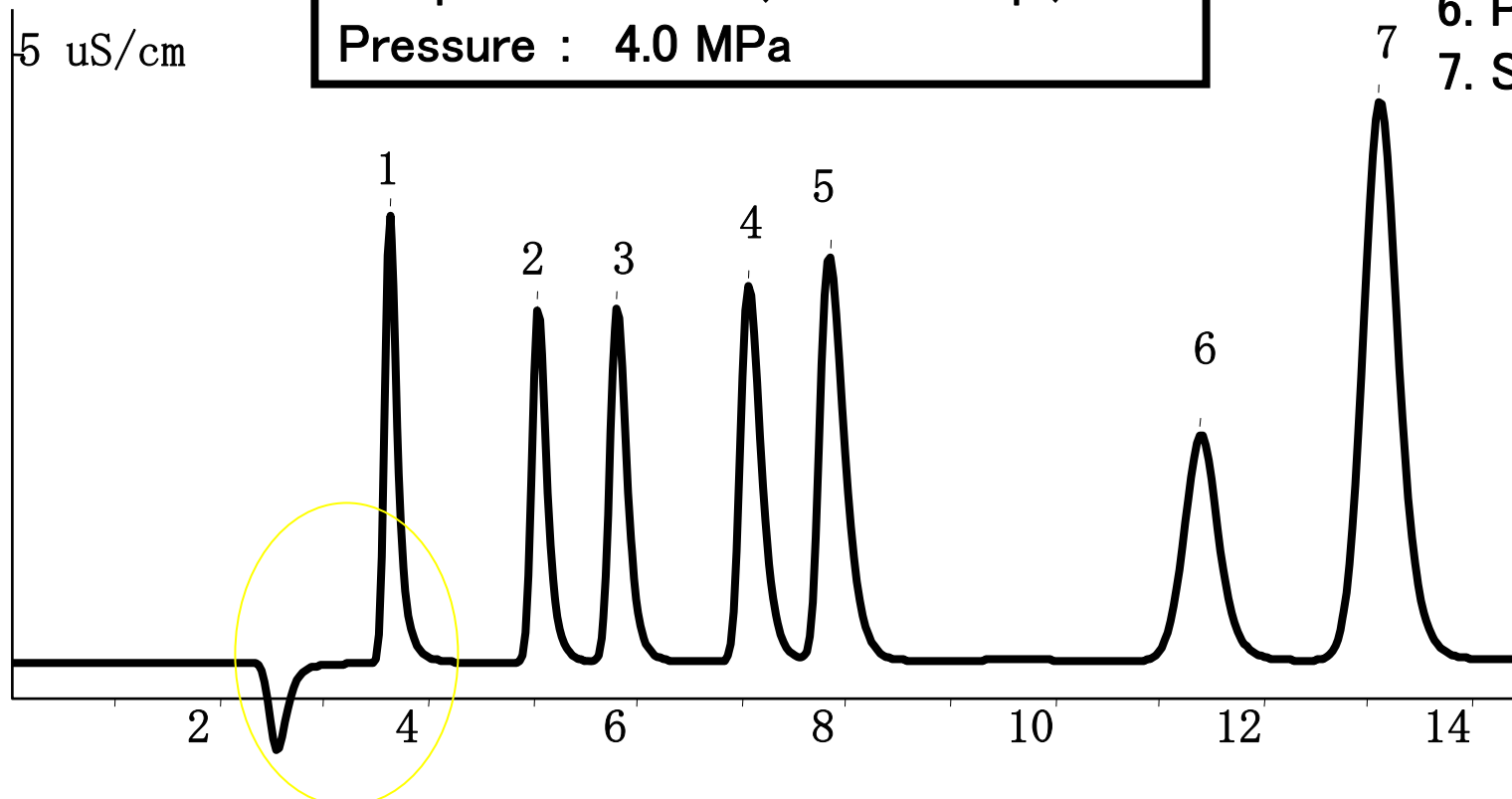


Separation of Water dip and F ion peak

Column : Shodex IC SI-90 4E
IC system : Metrohm Compact IC
Eluent : 1.8mM Na₂CO₃
 1.7mM NaHCO₃
Flow Rate : 1.0mL/min
Temp. : 25°C (Room Temp.)
Pressure : 4.0 MPa

Inj. Volume: 20 μ L

1. F	2 mg/L
2. Cl	3 mg/L
3. NO ₂	5 mg/L
4. Br	10 mg/L
5. NO ₃	10 mg/L
6. PO ₄	15 mg/L
7. SO ₄	15 mg/L



High-speed analysis

Instruments: **Metrohm Compact IC**

Column: **SI-90 4E**

Eluent : **1.8mM Na₂CO₃**
+ **1.7mM NaHCO₃**

Flow rate : **2.0ml/min**

Column temp. : **Room temp.**

Column press.: **8 MPa**

Sample : **20 μl**

1. F 2 mg/L

2.Cl 3 mg/L

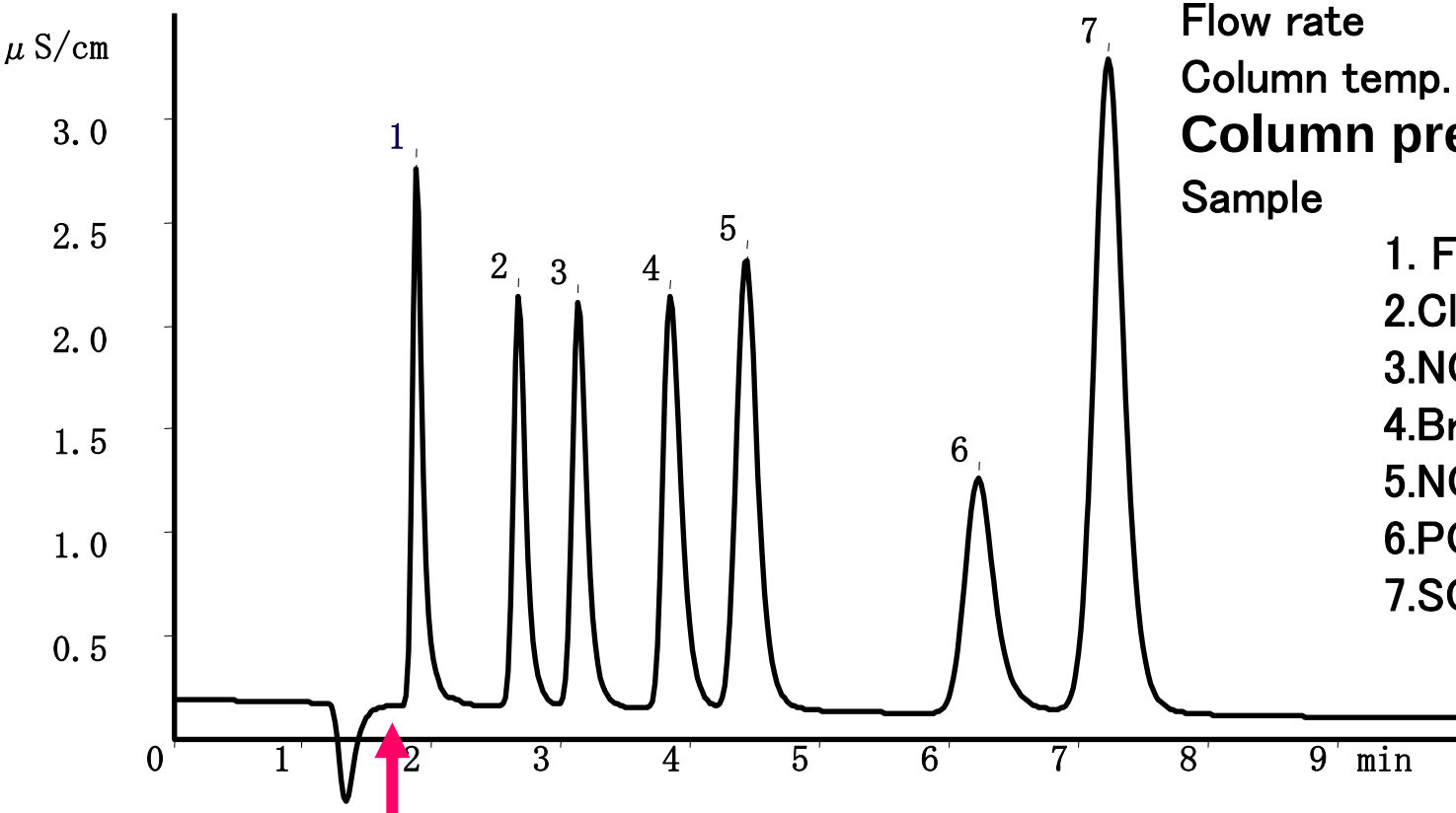
3.NO₂ 5 mg/L

4.Br 10 mg/L

5.NO₃ 10 mg/L

6.PO₄ 15 mg/L

7.SO₄ 15 mg/L



F- is separated from water dip even with high-speed analysis.

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Interchangeability with Dionex column

Instruments: **Dionex DX-500**

Column: **SI-90 4E**

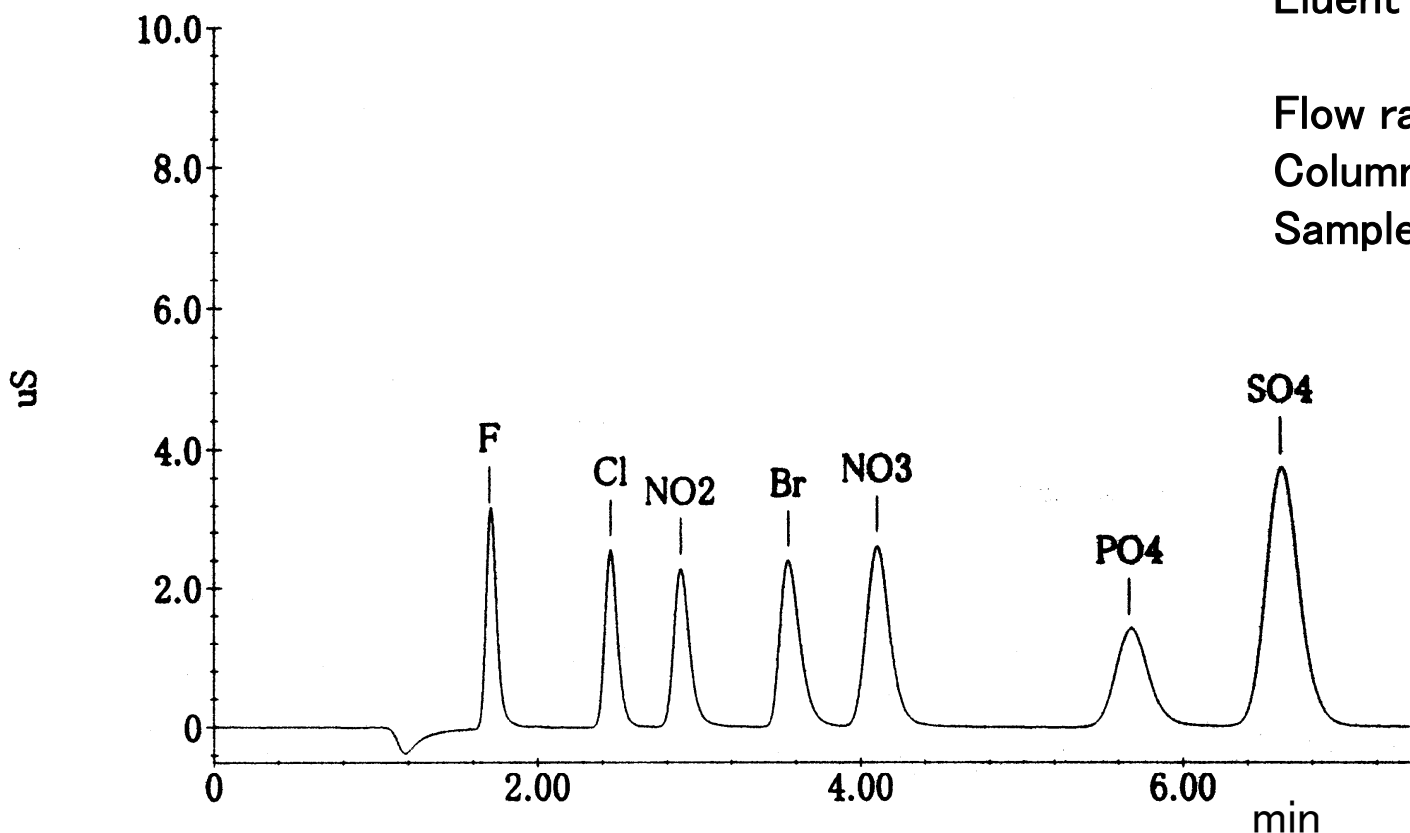
Eluent : **1.8mM Na₂CO₃**
+ **1.7mM NaHCO₃**

Flow rate : 2.0ml/min

Column temp. : Room temp.

Sample : 20 μ l

1. F	2 mg/L
2. Cl	3 mg/L
3. NO ₂	5 mg/L
4. Br	10 mg/L
5. NO ₃	10 mg/L
6. PO ₄	15 mg/L
7. SO ₄	15 mg/L



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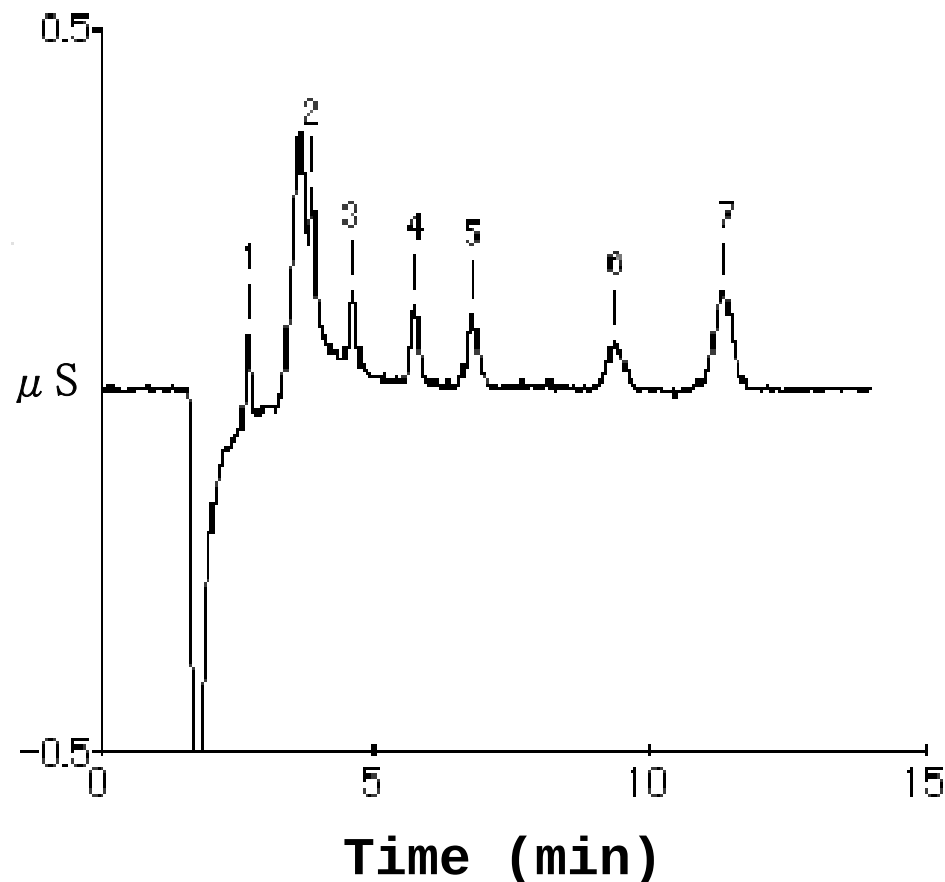
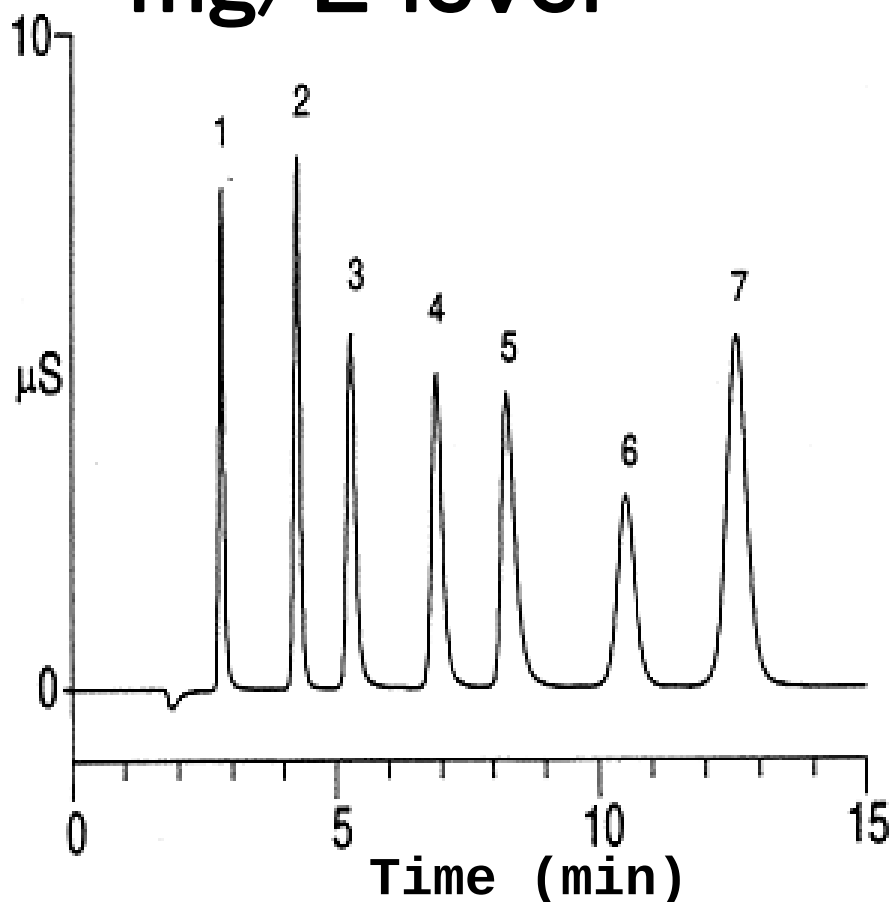
Carbonate System Peak



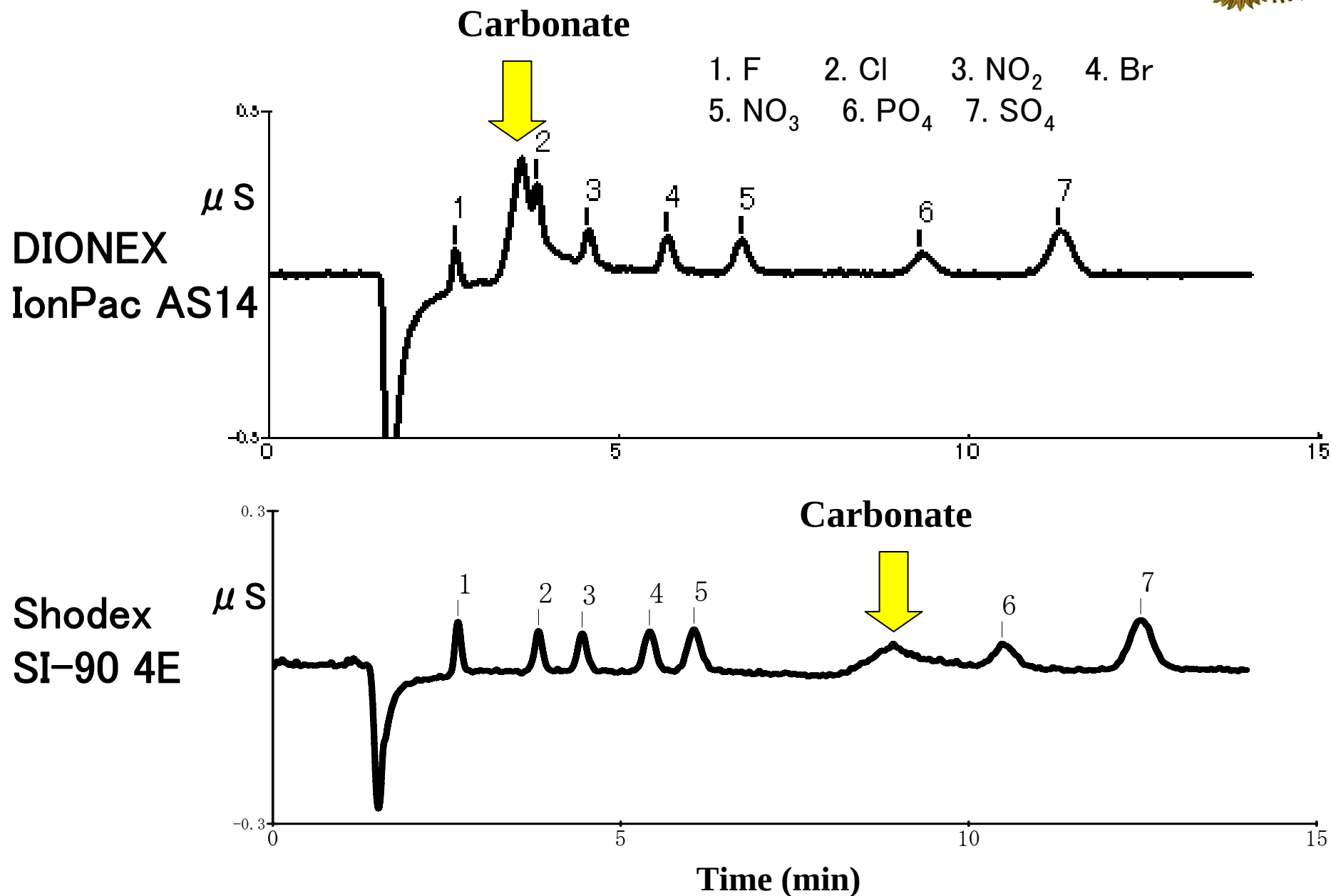
DIONEX IonPac AS14

1. F 2. Cl 3. NO₂ 4. Br
5. NO₃ 6. PO₄ 7. SO₄

mg/L level $\xrightarrow{\text{Dilute 1000 times}}$ **μ g/L level**



Comparison of Carbonate peak



Direct analysis of trace components

Column: SI-90 4E

Instruments: Metrohm Compact IC

Eluent: 1.8 mM Na_2CO_3
1.7 mM NaHCO_3

(Isocratic)

Flow rate: 1.0 mL/min

Column temp.: 25°C

(Room temp.)

Column press.: 4 MPa

Sample: 100 μL

1. F 2 $\mu\text{g/L}$

2. Cl 3 $\mu\text{g/L}$

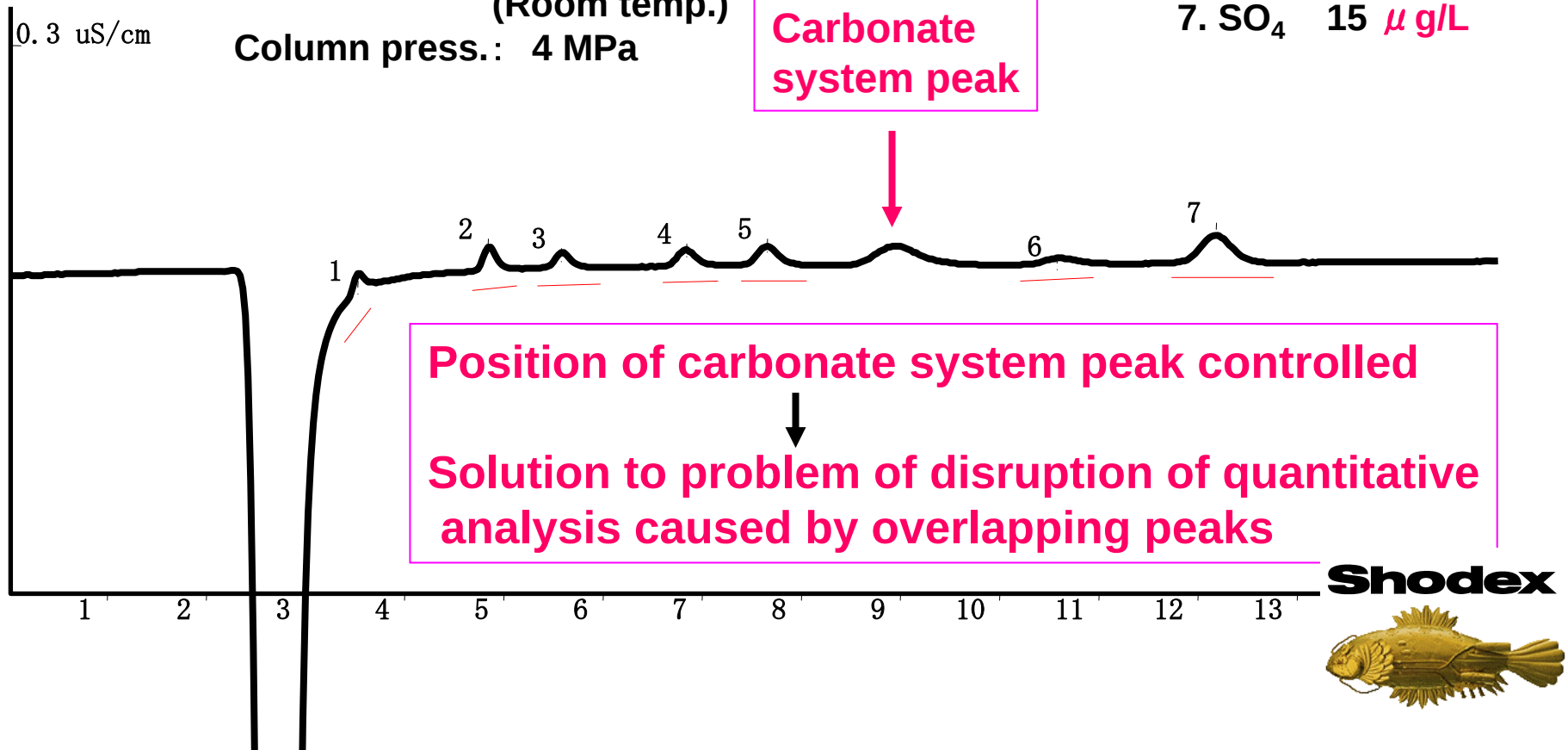
3. NO_2 5 $\mu\text{g/L}$

4. Br 10 $\mu\text{g/L}$

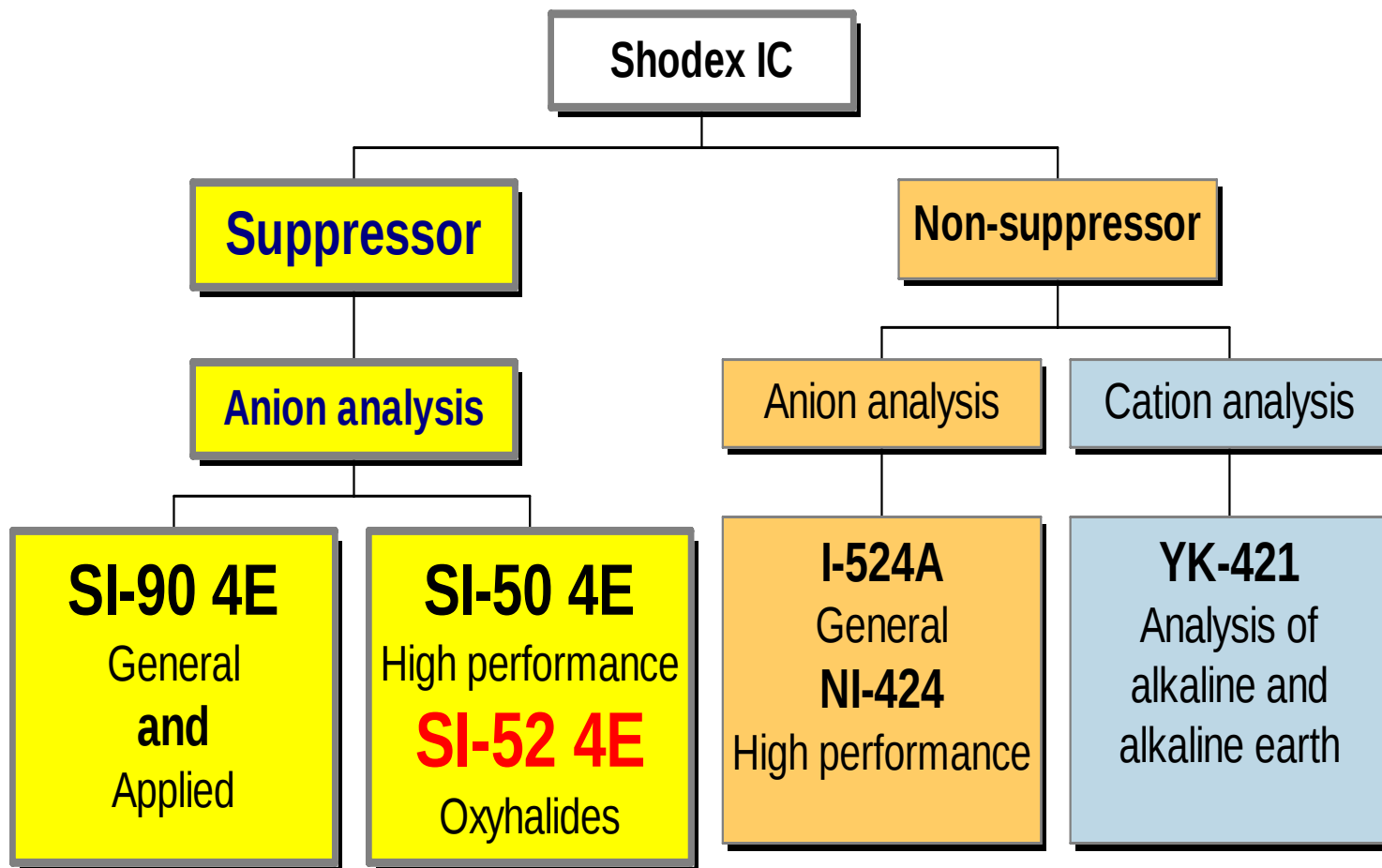
5. NO_3 10 $\mu\text{g/L}$

6. PO_4 15 $\mu\text{g/L}$

7. SO_4 15 $\mu\text{g/L}$



Position of new product **SI column series**



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