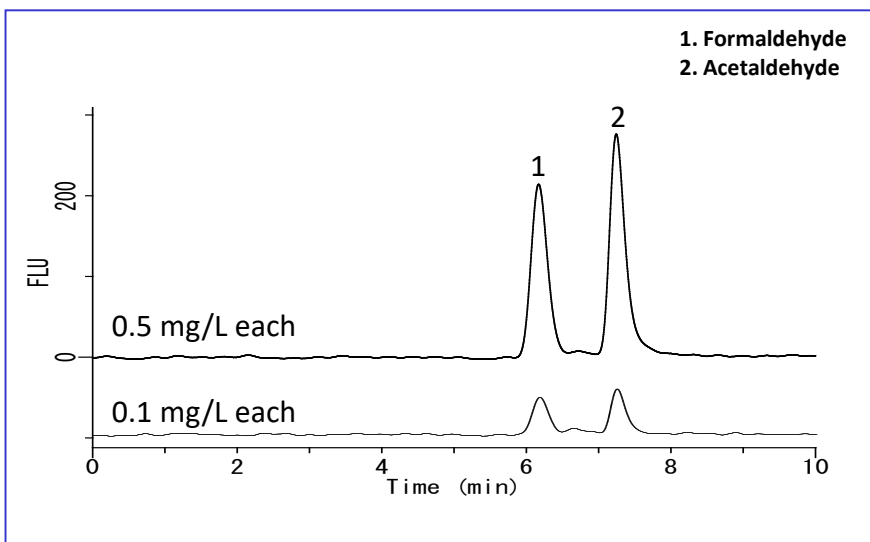


Detailed in this application is an example of the analysis of two aldehydes, formaldehyde and acetaldehyde. In Technical Notes No. 16 and No. 17, we introduced a post-column HPLC method using acetylacetone as a reaction solution. In this application note, two aldehydes were measured using 1,3-cyclohexanedione as a reaction solution.

(K.Suzuki)

Example: Measurement of standard**HPLC conditions**

Column : Inertsil CX
(5 μ m, 250 x 4.6 mm I.D.)

Eluent : A) 0.2 % H_3PO_4
B) CH_3CN
A / B = 98 / 2, v/v
(gradient mixer)

Flow rate : 0.7 mL/min

Column temperature : 40 $^{\circ}C$

Reaction solution : 1,3-cyclohexanedione
aqueous solution

Flow rate of the reagent : 0.3 mL/min

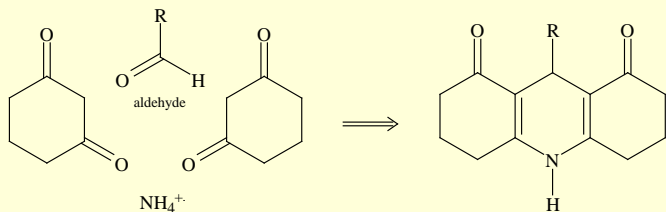
Detected : FL Ex 366 nm Em 440 nm

Injection volume : 100 μ L

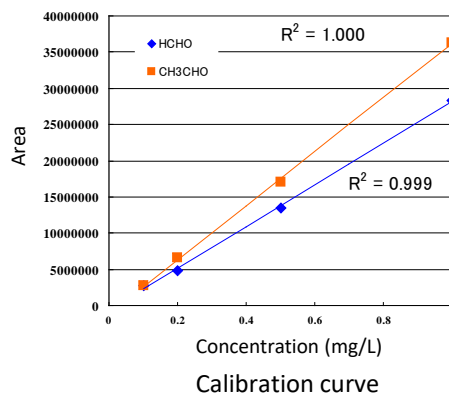
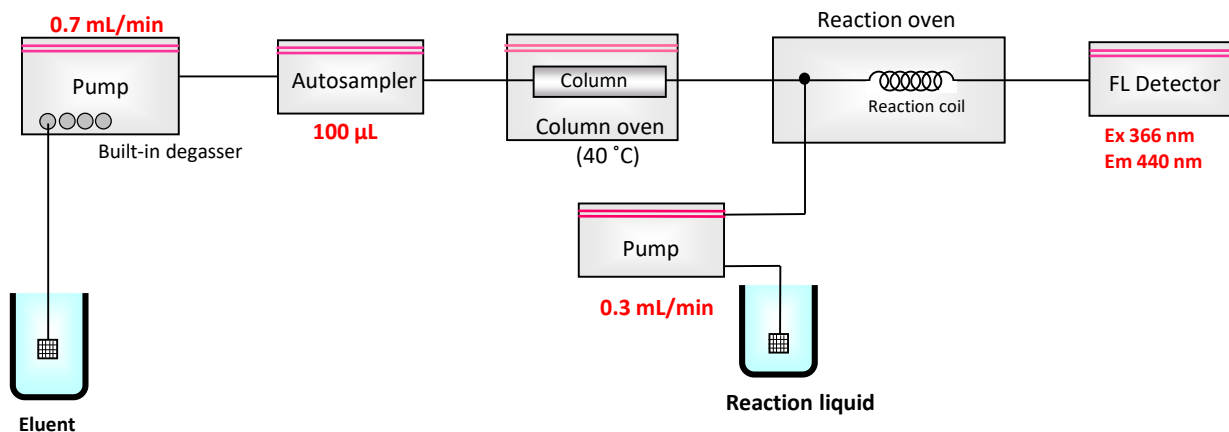
Note) 1,3-cyclohexanedione aqueous solution:
40 g ammonium acetate, 20 mL acetate,
1,3-cyclohexanedione 5 g, in ultrapure water
made up to a volume of 1 L

Postcolumn reaction

Aldehydes react with two molecules of 1,3-cyclohexanedione and one molecule of ammonium ion to form a fluorescent compound.

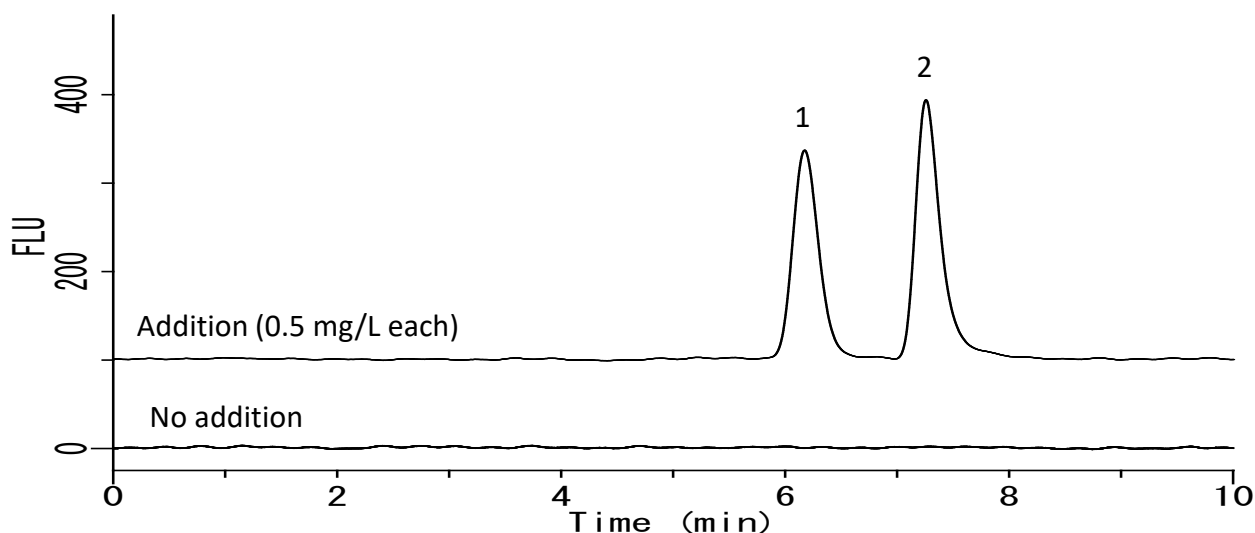


Structures are created using Chemistry 4-D Draw which is provided by ChemInnovation Software, Inc.

**Flow diagram**

Example: Measurement of tap water

1. Formaldehyde
2. Acetaldehyde



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