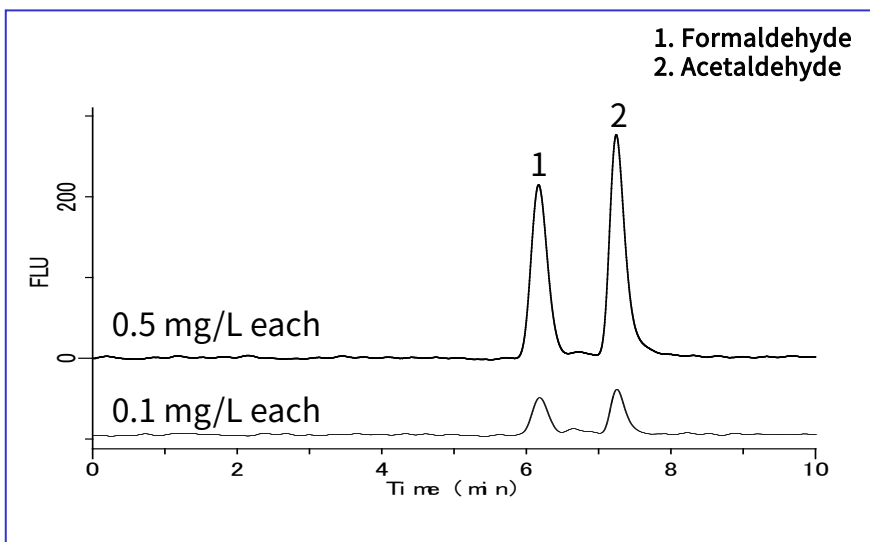


Detailed in this application is an example of the analysis of two aldehydes, formaldehyde and acetaldehyde. In Technical Notes No. 16 and No. 17, we introduced a post-column HPLC method using acetylacetone as a reaction solution. In this application note, two aldehydes were measured using 1,3-cyclohexanedione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

(K.Suzuki)

Example: Measurement of standard



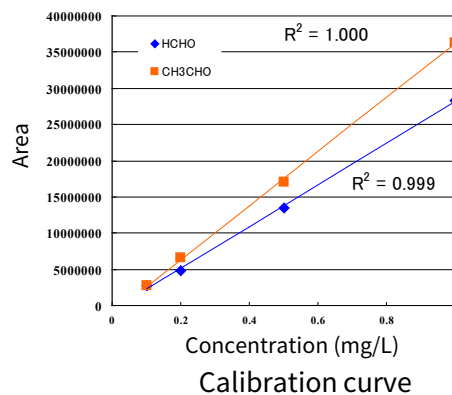
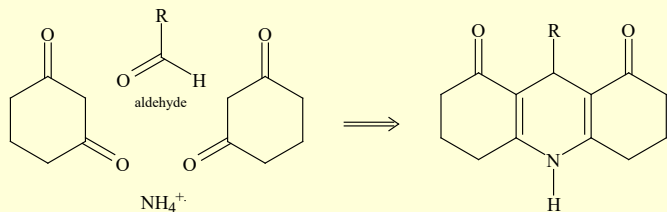
HPLC conditions

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

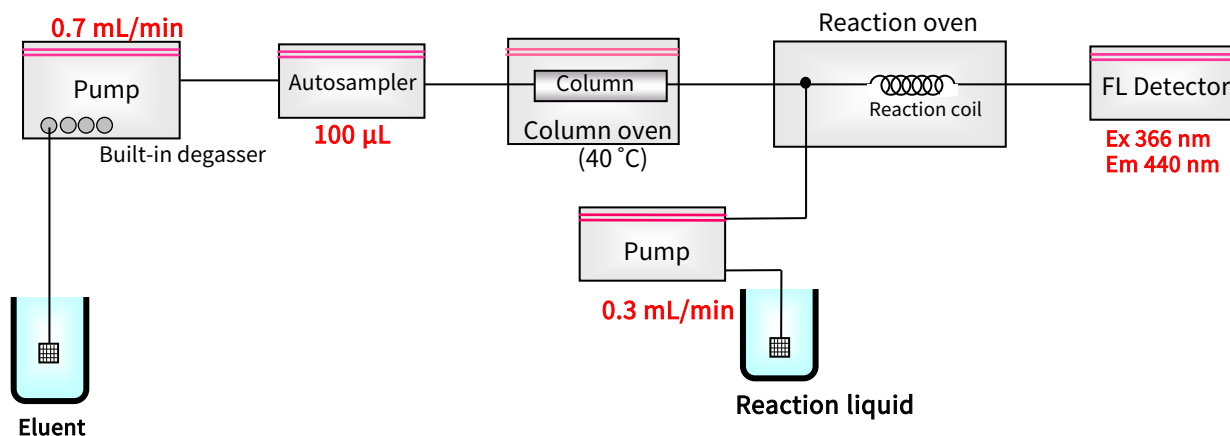
Note) 1,3-cyclohexanedione aqueous solution:
40 g ammonium acetate, 20 mL acetate,
1,3-cyclohexanedione 5 g, in ultrapure water
made up to a volume of 1 L

Postcolumn reaction

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

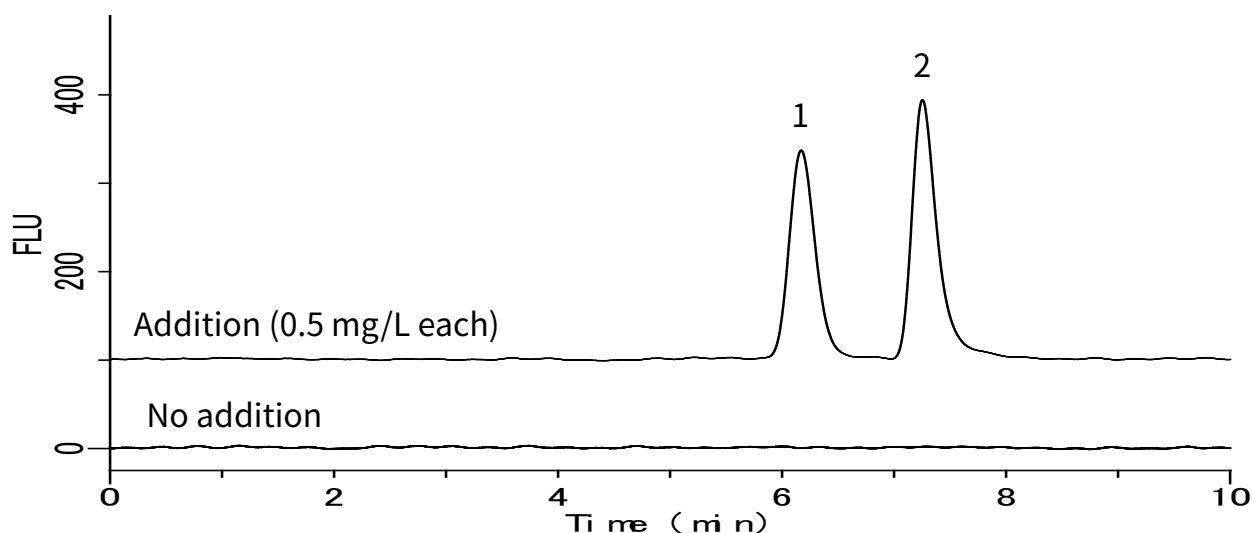


Flow diagram



Example: Measurement of tap water

1. Formaldehyde
2. Acetaldehyde



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