LC Technical Note

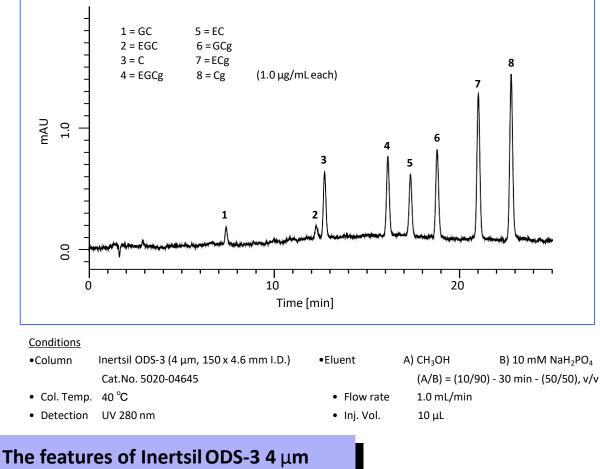
Analysis of Catechins in Soft Drink

LT023 GL Sciences Inc.

Catchins are antioxidant plant metabolites, which are a type of flavonoid. Recently, many studies reported that catechins provide several health benefits, such as antioxidant effect, reduction in atherosclerotic plaque, and cancer prevention.

This note describes a determination method for catechins. To achieve the separation of eight major catechins (catechin (C), catechin gallate (Cg), epicatechin (EC), epicatechin gallate (ECg), gallocatechin (GC), gallocatechin gallate (GCg), epigallocatechin gallate (EGCg)), 4 μm particle column which offers high separation efficiency was used. As a result, the catechins in soft drink were successfully separated and determined.





Low pressure : Compared with 3 μm particles, the column pressure is nearly half.

- High theoretical plate number
- : The number of theoretical plates increased by 15% when comparing from a 5 μ m column. (100,000 per meter is guaranteed)
- Economical : The column lifetime is long having nearly the same price of 5 μm columns.

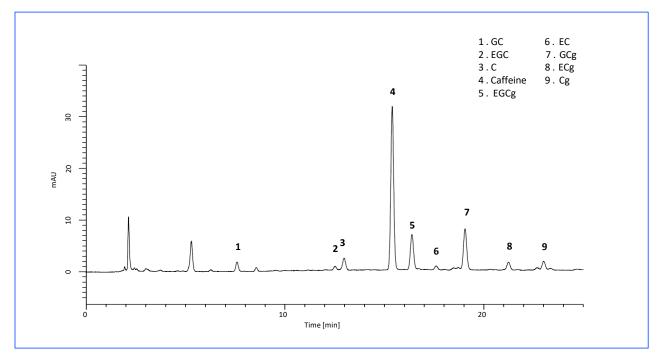
The 4 μ m column offers high separation efficiency with low pressure !!



Analyses of catechins and caffeine in soft drink samples

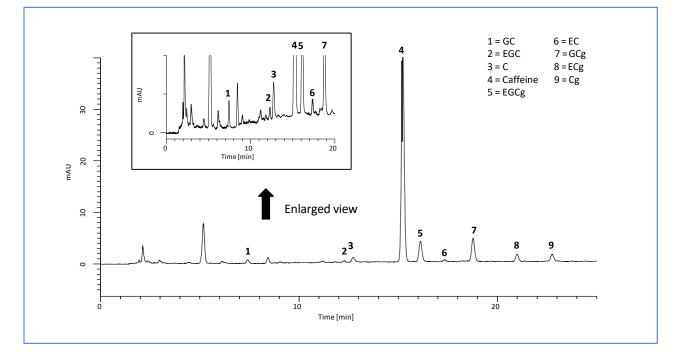
Green tea in PET bottle

 $<\!$ Sample pretreatment > The sample was filtrated with 0.45 μm membrane filter (GL CHROMATO DISK) and 10-fold diluted with water.



Oolong tea in PET bottle

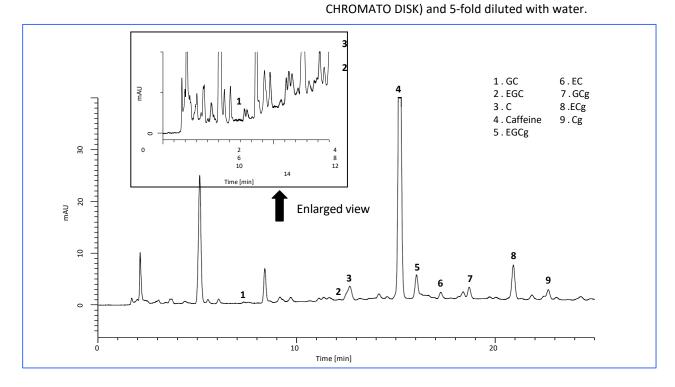
 $<\!$ Sample pretreatment > The sample was filtrated with 0.45 μm membrane filter (GL CHROMATO DISK) and 10-fold diluted with water.



Analyses of catechins and caffeine in soft drink samples

Black tea (straight) in PET bottle

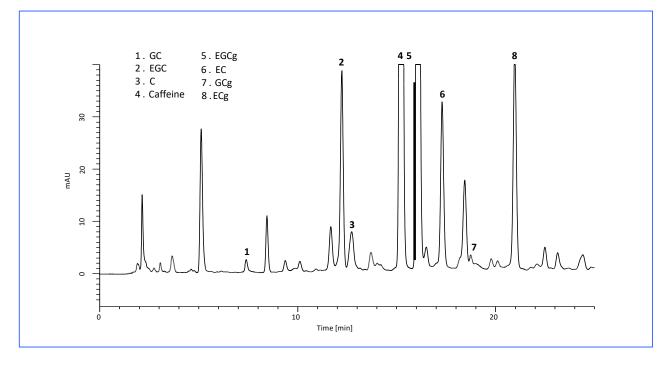
 $<\!\! Sample pretreatment\!\!>$ The sample was filtrated with 0.45 μm membrane filter (GL

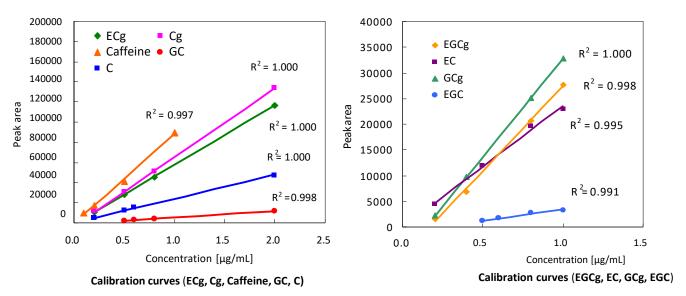


Extract from tea leaves

<Sample pretreatment>

To 5.0 g of tea leaves, 50 mL of boiled water was added. After waiting for 5.0 min, the solution was filtrated with 0.45 μm membrane filter (GL CHROMATO DISK) and 10-fold diluted with water.





Calibration curves (8 catechins and caffeine)

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