HALO®

FOOD / BEVERAGE

Separation of Common Catechins and Caffeine Found in Tea via LC-UV

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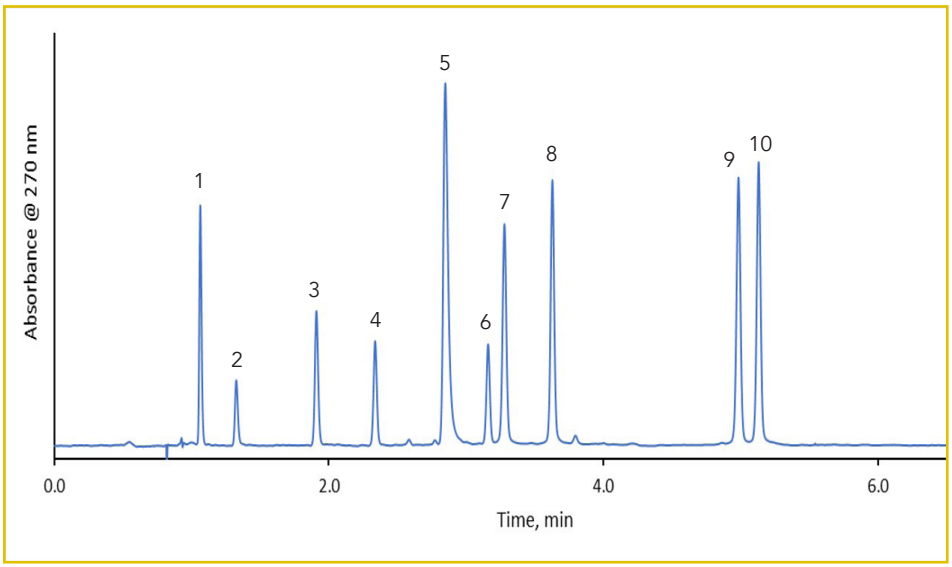

PEAK IDENTITIES

1. Gallic Acid
2. Gallocatechin
3. Epigallocatechin
4. Catechin
5. Caffeine
6. Epicatechin
7. Epigallocatechin Gallate
8. Gallocatechin Gallate
9. Epicatechin Gallate
10. Catechin Gallate

TEST CONDITIONS:

Column: HALO 90 Å LPH-C18 2.7 µm, 4.6 x150 mm
Part Number: 92824-716
Mobile Phase A: Water, 0.2% Formic Acid (pH: 2.45)
Mobile Phase B: Acetonitrile, 0.2% Formic Acid
Gradient:

Time	%B
0.0	10
0.5	10
6.0	23
7.0	23

Flow Rate: 1.8 mL/min
Pressure: 395 bar
Temperature: 40 °C
Detection: PDA, UV 270 nm
Injection Volume: 5 µL
Sample Solvent: 90/10 Water/ Acetonitrile
LC System: Shimadzu Nexera X2

Catechins belong to the subgroup of polyphenols called flavonoids. These compounds contain antioxidant properties and exist in food and medicinal plants, including tea. A UV separation of catechin and caffeine standards shows excellent resolution on a HALO® LPH-C18 column. This column is ideal for low pH separations due to its sterically protected ligand, preventing acid hydrolysis and reducing retention drift over time.