

Isolation and Purification of Catechins from Green Tea Extract

Reveleris® iES Flash Chromatography System

Introduction

Over the last few decades, green tea has been subjected to many scientific and medical studies to determine the extent of its long-purported health benefits, with research centering on polyphenols, particularly the catechins, in green tea. Isolation and purification of natural products

is a challenging, tedious, and lengthy process requiring multiple steps and a large amount of organic solvent. The use of the Reveleris® automated flash chromatography instrument and Reveleris® reversed-phase cartridges can ease the process.

Experimental

Run Conditions

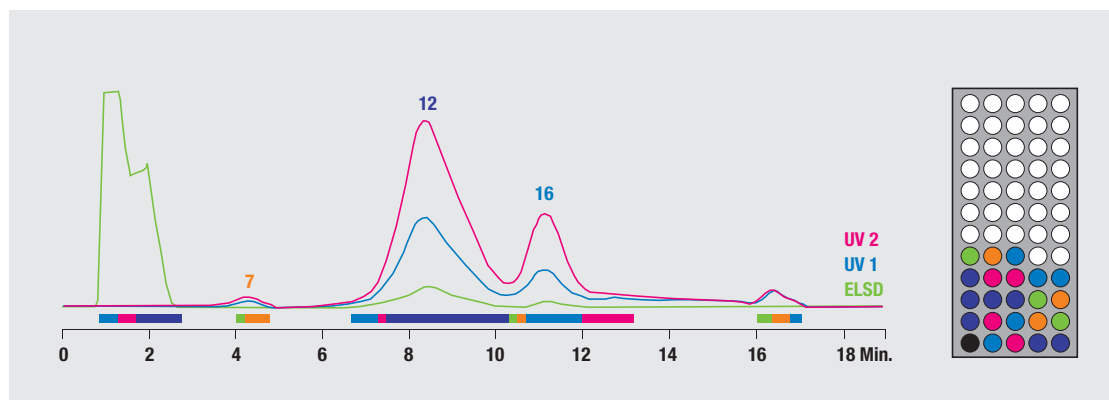
Cartridge: Reveleris® RP C18 12g
Flow rate: 30 mL/min
Equilibration: 3.0 min
Slope dection: Low
ELSD threshold: 3 mV
UV threshold: 0.02 AU
UV1 wavelength: 254 nm
UV2 wavelength: 280 nm
ELSD carrier: Iso-proponal
Injection type: Liquid
Solvent A: 0.5% Formic acid in Water
Solvent B: Methanol

Gradient Method

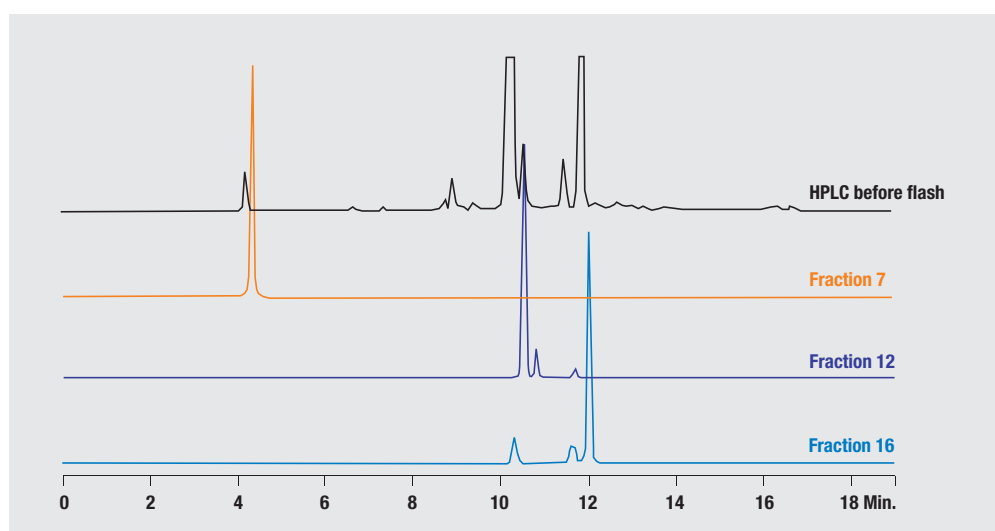
Step	Time (min.)	%B
1	0	0
2	2	0
3	13	50
4	1	100
5	1	100
6	1	0
7	1	0



Results and Discussion



Separation of catechins in green tea by flash chromatography.



HPLC Chromatograms of green tea fractions collected by Reveleris® flash chromatography.

Conclusion

Using the proposed procedure with the Reveleris® instrument and Reveleris® RP cartridges, the separation and isolation of the various catechins in green tea extract can be easily achieved.

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