

Reveleris® X2 Flash System

Isolation and Purification of Catechins from Green Tea Extract

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® X2 automated flash chromatography instrument and Reveleris® reversed-phase cartridges can ease the process.

Flash Chromatography Conditions:

12 gram Reveleris™ RP C18 cartridge

Flow Rate: 30mL/min

Cartridge Equilibration: 3 min.

Slope Detection: Low

ELSD Threshold: 3mV

UV Threshold: 0.02AU

UV1 Wavelength: 254nm

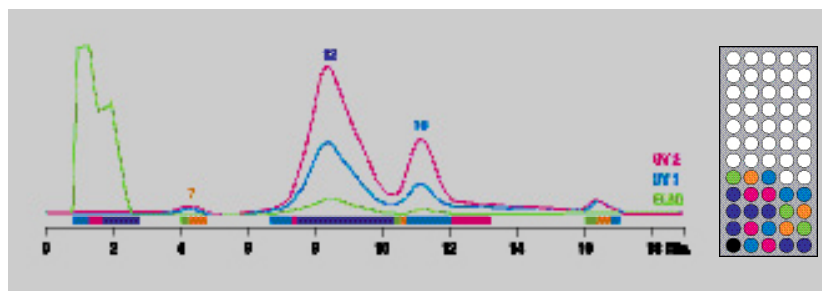
UV2 Wavelength: 280nm

Injection Type: Liquid

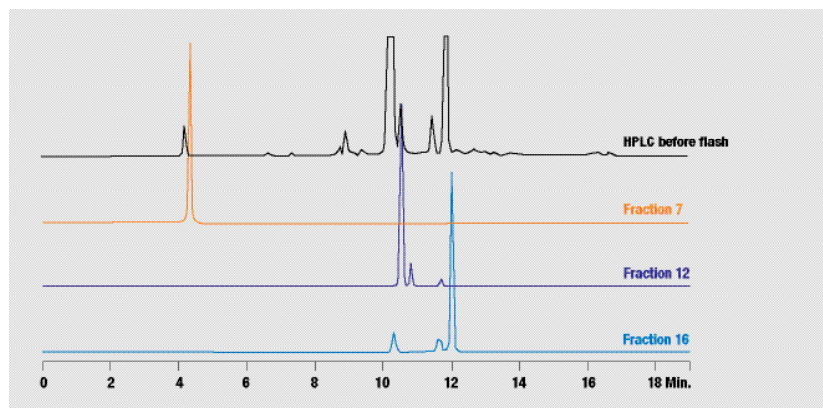
Solvent A: 0.5% Formic acid in Water

Solvent B: Methanol

| | | | | | | | | |
|-----------|-------|---|---|----|-----|-----|----|----|
| Gradient: | Time: | 0 | 2 | 15 | 16 | 17 | 18 | 19 |
| | %B: | 0 | 0 | 50 | 100 | 100 | 0 | 0 |



Separation of catechins in green tea by flash chromatography.



HPLC Chromatograms of green tea fractions collected by Reveleris® X2 flash chromatography.

Conclusion

Using the proposed procedure with the Reveleris® X2 flash instrument and Reveleris® flash cartridges, the separation and isolation of the various catechins in green tea extract can be easily achieved.

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