

Reveleris® X2 Flash System

RevealX™ Technology Purifies Antioxidants in Caryophylli Flos (Dingxiang) Extract

Introduction

Cell membrane lipids can undergo peroxidation from free radicals, leading to cell death and causing several diseases such as atherosclerosis, diabetes, cancer, and ischemia-reperfusion injury¹. Naturally occurring plants tend to inhibit lipid peroxidation due to the presence of phenolic compounds, such as acid-phenols or flavonoids and their esters. Natural products, such as caryophylli flos, contain eugenol, which has been shown to carry such antioxidant properties.

Extraction Conditions:

Extract Type: Pulverized
Weight: 2g
Extraction Solvent: Ethanol
Solvent Volume: 20mL
Ultra-sonication: 30 min

Flash Chromatography Conditions:

Cartridge: Reveleris® silica 12g
Solvent A: Hexane
Solvent B: Ethyl acetate
Flow Rate: 25mL/min
UV1 Wavelength: 254nm
UV2 Wavelength: 280nm
Cartridge Equilibration: 5.0 min
Injection Type: Liquid

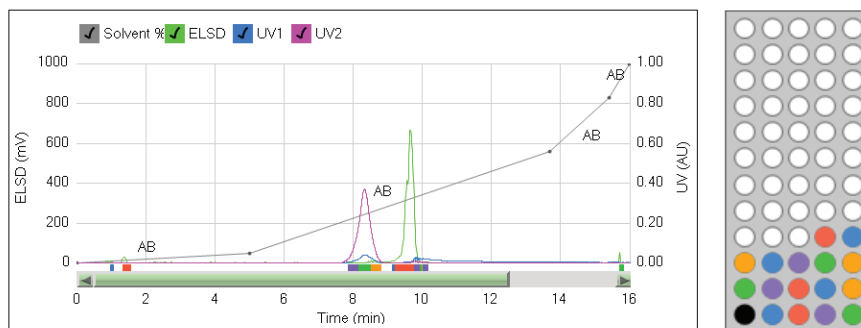


Figure 1: Separation of caryophylli flos extract shows the closely eluting non-chromophoric peak detected by the evaporative light scattering detector in the same run.

Gradient Table

Step	Time (min.)	%B
1	0.0	0
2	5.0	5
3	8.7	56
4	1.7	83
5	0.6	100

Conclusion

Natural product extracts have been shown to contain critical components that are both chromophoric and non-chromophoric. The Reveleris® flash chromatography system shows the benefits of RevealX™ technology in having multiple detection capabilities and integrated fraction collection for isolating compounds, helping to reduce post-run analysis time. The purification process can thus be more efficient and productive, even in the presence of low quantities of sample components.

References

- Ogata, M.; Hoshi, M.; Urano, S.; Endo, T.; Antioxidant activity of Eugenol and related monomeric and dimeric compounds; Chem. Phar. Bull. 48(10), 1467, (2000), pp. 1467-1469.

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