

RevealX™ Technology in Impurity Isolation During Drug Purification

Reveleris® iES Flash Chromatography System

Introduction

Impurity isolation is critical during drug discovery.¹ The purity of samples is compromised at times to meet the demands of increasing high throughput screening. This can produce high false positive hit rates, resulting in waste of time and resources. Due to the stringent requirements from the ICH, all impurities need to be identified and reported, even at low levels.

Using the RevealX™ technology of the Reveleris® iES flash chromatography system, chromophoric and non-chromophoric target compounds are isolated using multiple detection technology and advanced signal processing to recognize peaks and collect compounds during chromatography.

Experimental

Run Conditions

Cartridge: Reveleris® C18 media 12g

Flow rate: 36 mL/min

Equilibration: 3.0 min

UV1 wavelength: 254 nm

UV2 wavelength: 220 nm

ELSD carrier: Iso-proponal

Injection type: Liquid

Solvent A: Water

Solvent B: Methanol

Gradient Method

Step	Time (min.)	%B
1	0	20
2	7	100
3	5	100



Results and Discussion

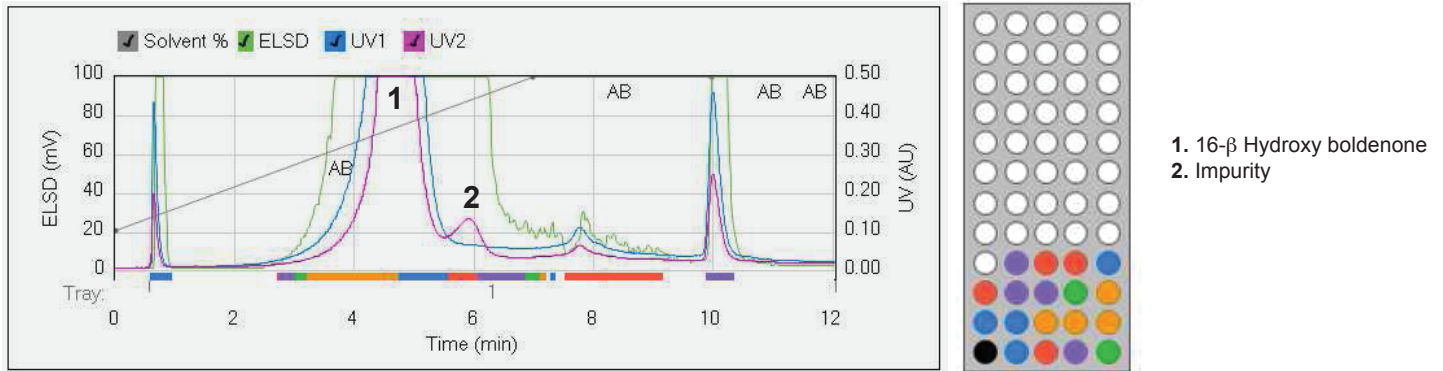


Figure 1: The Reveleris® iES system shows the co-elution of an impurity peak as detected by the RevealX™ technology. Due to the high ELSD response for 16-β Hydroxy boldenone, the non-chromophoric impurity component is detected only by the secondary wavelength of the UV detector at 220 nm.

Conclusion

Using the ELSD along with the dual UV detectors of the RevealX™ technology, isolation of impurities at low levels is possible during a chromatographic run.

References

1. Lead generation approaches in drug discovery; Rankovich, Z. and Morphy, R.; John Wiley & Sons, Inc. Hoboken, New Jersey, 2010.

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