

Reveleris® iES Isolates Aminosugar, Acarbose, along with its Sugar Components

Reveleris® iES Flash Chromatography System

Introduction

Acarbose, an inhibitor of α -glucosidase, is used in the treatment of diabetic patients due to its significant effect in lowering blood glucose.¹ Further development of this drug with voglibose than valienamine leads to a more potent drug that has been found to be more effective as an enzyme inhibitor than acarbose.

Experimental

Run Conditions

Cartridge: Reveleris® amino 12g

Flow rate: 36 mL/min

Equilibration: 10.0 min

Run length: 15.0 min

UV1 wavelength: 220 nm

UV2 wavelength: 254 nm

ELSD carrier: Iso-propanol

Solvent A: Water with 0.1% TFA

Solvent B: Acetonitrile

Gradient Method

Step	Time (min.)	%B
1	0	90
2	1	90
3	7	70
4	7	70



Results and Discussion

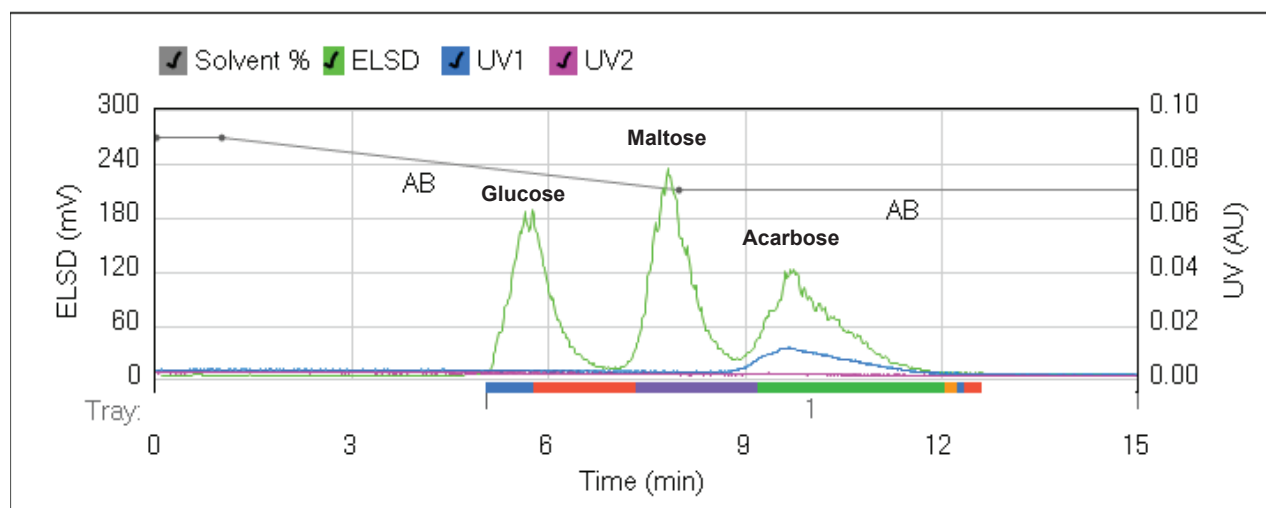
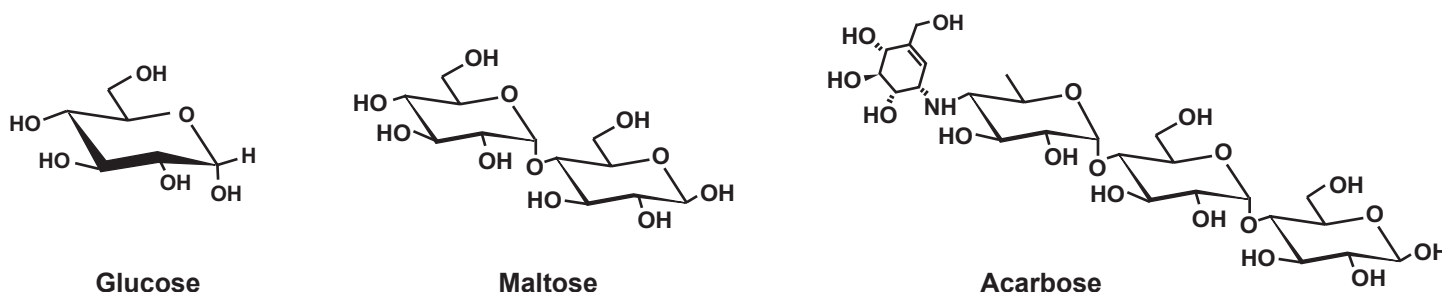


Figure 1: Using the ELSD of the RevealX™ technology, all three compounds can be detected during separation



Conclusion

Using the Reveleris® amino phase cartridge and the RevealX™ technology, acarbose (25mg) can be purified from its sugar components, glucose and maltose, during its synthesis. Using the dual detection with UV and ELSD along with the iES sensitivity of the Reveleris® instrument, both non-chromophoric and low levels of these compounds can be detected and isolated during a single run.

References

1. Medicinal natural products; a biosynthetic approach, 3rd edition; Dewick, P.; John Wiley & Sons, Inc., Hoboken, New Jersey, 2009.

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