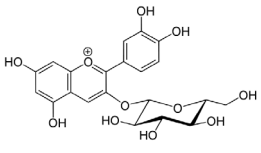
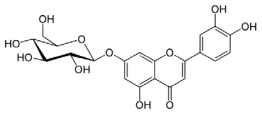
Glycosidic Constituents of Mesquite Flour

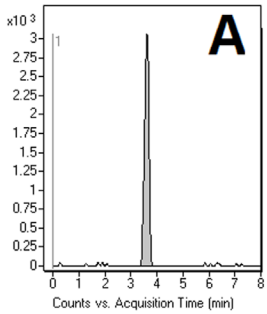
Cyanidine-3-Hexoside, Luteolin 7-O-Glucoside & Malvidin Dihexoside

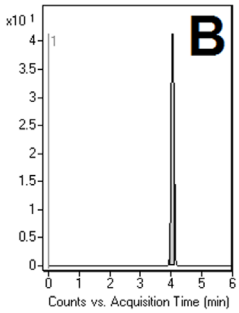


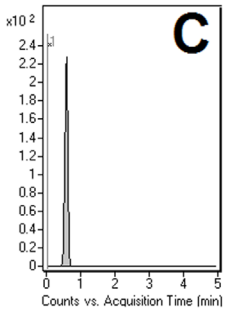
Cyanidine-3-hexoside



Luteolin 7-O-glucoside







Notes: Mesquite flour may have several advantages over wheat-based flour for certain types of people. Firstly, it is gluten-free, which may be pertinent to those with celiac disease or gluten sensitivity. For diabetics, its low glycemic index makes it a good source of carbohydrates that that can help keep blood sugar levels stable. It is also high in protein and dietary fiber.

Method Conditions

Column: **Cogent Phenyl Hydride™**, 4µm, 100Å

Catalog No.: 69020-50P-2

Dimensions: 2.1 x 50 mm

Solvents: A: DI H_2O/ 0.1% formic acid (v/v)
B: Acetonitrile/ 0.1% formic acid (v/v)

Gradient:

time (min.)	%B
0	90
10	50
12	50
18	20
20	20
21	90

Injection vol.: 1µL

Flow rate: 0.4mL/min

Detection: ESI – POS - Agilent 6210 MSD TOF mass spectrometer

Samples: Mesquite flour extracted in DI H_2O and 70/10 methanol/DI H_2O. Extracts were centrifuged and the supernatant was collected.

Peaks: 1. Cyanidine-3-hexoside (m/z = 450.116 $[M + H]^+$)
2. Luteolin 7-O-glucoside (m/z = 331.082 $[M + H]^+$)
3. Malvidin dihexoside (m/z = 449.108 $[M + H]^+$)

Discussion

Observed in mesquite flour extracts, these compounds are glycosidic flavones and anthocyanins. The glycoside moieties impart polar characteristics to the analytes, which makes them amenable to retention by the Aqueous Normal Phase (ANP) retention mode. In this application, the Cogent Phenyl Hydride column was used to obtain chromatographic separation. The same column can be used in the reversed phase mode as well, highlighting its versatility in the analysis of both hydrophilic and hydrophobic compounds. This allows a laboratory to get more productivity out of a single column, reducing costs by not having separate columns dedicated to hydrophobic and hydrophilic analyses.

MANUFACTURED BY:
MICROSOLV TECHNOLOGY CORPORATION

9158 Industrial Blvd NE
Leland, NC 28451

p: 1.732.380.8900
f: 1.910.769.9435

customers@mtc-usa.com
www.Cogent-HPLC.com