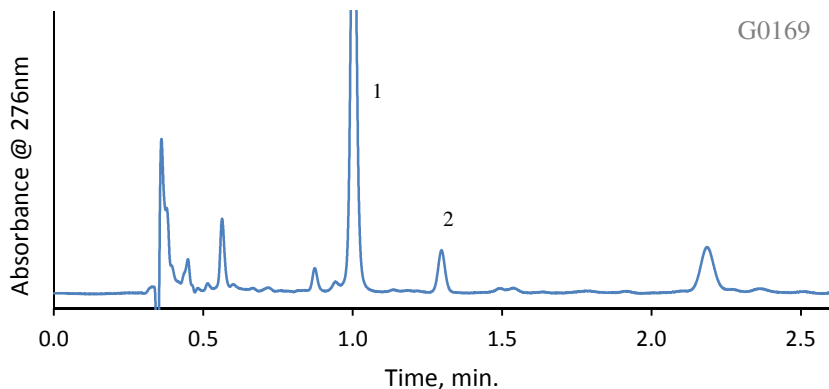


Application Note: 175-M

## Separation of Patulin and HMF on HALO® 90 Å Biphenyl



### PEAK IDENTITIES:

1. 5-(Hydroxymethyl) furfural
2. Patulin

### TEST CONDITIONS:

Column: HALO 90Å Biphenyl, 2.7  $\mu$ m, 2.1 x 100mm

Part Number: 92812-611

Mobile Phase A: water with 0.1% acetic acid

Mobile Phase B: acetonitrile with 0.1% acetic acid

Gradient:

Time	%B
0.0	5
2.6	90

Flow Rate: 0.6 mL/min

Initial Pressure: 285 bar

Temperature: 40°C

Detection: UV 276 nm, PDA

Injection Volume: 1.0  $\mu$ L

Sample: Apple Juice spiked with HMF and 50 ng/mL Patulin

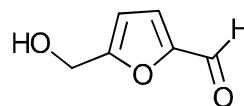
Data Rate: 100 Hz

Response Time: 0.025 sec

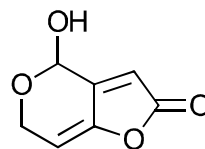
Flow Cell: 1  $\mu$ L

LC System: Shimadzu Nexera X2

### STRUCTURES:



5-(Hydroxymethyl) furfural



Patulin

In the United States the FDA maintains different limits for mycotoxins in many foods and beverages. Patulin, a mycotoxin that is produced from mold on a variety of fruits has a limit of 50  $\mu$ g/kg. For analysis, patulin was spiked into apple juice and the sample was cleaned up using solid phase extraction. Interfering analytes such as 5-(Hydroxymethyl) furfural (HMF) can make analysis more challenging. This separation shows the two compounds separated on a HALO® Biphenyl column with enough resolution to easily check for sample recovery.