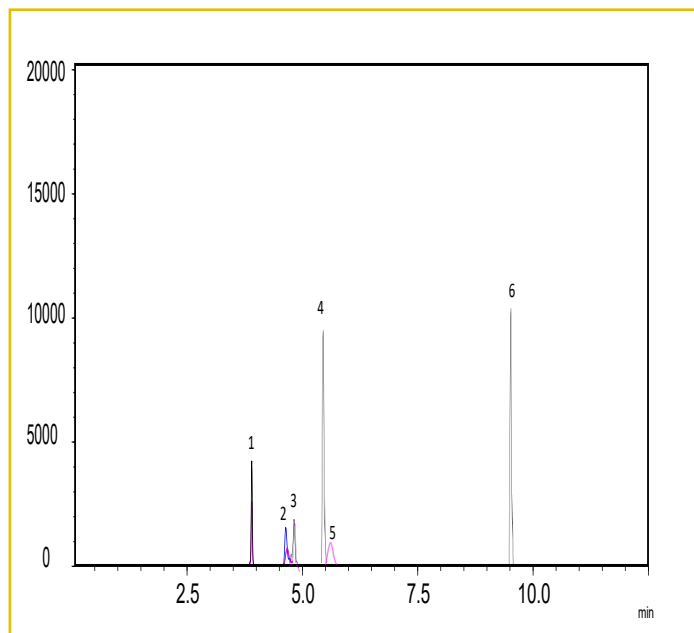




LCMS Screening Comparison of Mycotoxins in Craft and Home Brewed Beers

256-M

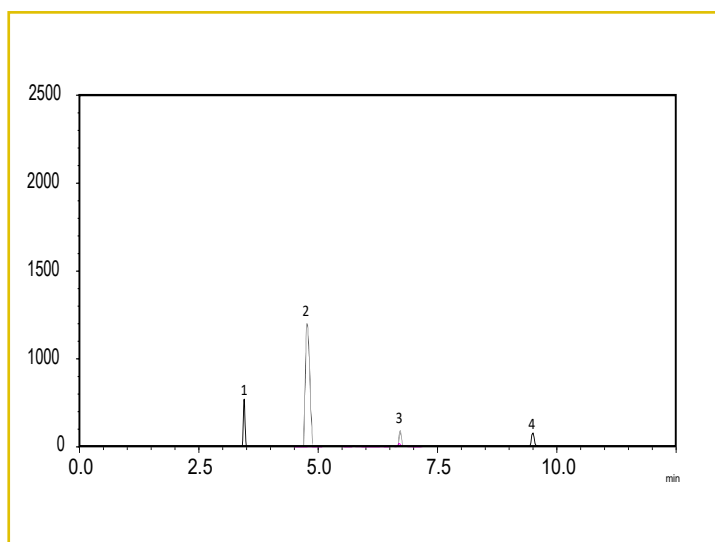


Craft Brewed Beer

Peak Id	Mycotoxin	Retention Time (min)	Precursor Ion	Product Ion
1	T-2 Toxin	3.95	489.2	245.1
2	Aflatoxin G2	4.65	331.1	189.2
3	15-acetylde-oxynivalenol	4.88	339.1	321.1
4	Aflatoxin B2	5.52	315.1	287.1
5	Aflatoxin M1	5.75	329.1	273.3
6	Zearalenone	9.55	319.1	283.2

Home Brewed Beer

Peak Id	Mycotoxin	Retention Time (min)	Precursor Ion	Product Ion
1	T-2 Toxin	3.95	489.2	245.1
2	15-acetylde-oxynivalenol	4.88	339.1	321.1
3	Aflatoxin M1	5.75	329.1	273.3
4	Zearalenone	9.55	319.1	283.2





TEST CONDITIONS:

Analytical Column: HALO 90 Å PFP, 2.7 µm, 2.1 x 100 mm

Part Number: 92812-609

Mobile Phase A: Water, 5 mM Ammonium Formate, 0.1 % Formic Acid

Mobile Phase B: Methanol, 0.1% Formic Acid

Gradient:

TIME	%B
0	0
0.5	14
2	14
3	60
3.5	60
8	100
10	100
10.5	0
12.5	End

Flow Rate: 0.4 mL/min

Pressure: 290 bar

Temperature: 40 °C

Injection Volume: 7.0 µL

Sample Solvent: 49/50/1 ACN/H₂O/Acetic acid

Detection: +ESI MS/MS

LC System: Shimadzu Nexera X2

ESI LCMS System: Shimadzu LCMS-8040

Mycotoxin contamination can have serious health implications. Although there are no set regulatory limits for mycotoxins in beer, most governments have clear levels for mycotoxins in various types of grain and animal feed. For example, in the United States, most levels are in the mid to high ppb range. Despite relatively low levels of mycotoxin activity in the beer, given the propensity for people to indulge in excessive drinking, and the cumulative effects of the toxicity of these compounds, excessive consumption would lead to a cumulative toxic effect, which warrants further analysis and regulation.

Beer analysis can be challenging due to matrix effects and interference, often resulting in low sensitivity and ambiguous results; therefore, it is critical to have a column that has superior performance. The HALO 90 Å PFP can not only meet these challenges, but exceed them by demonstrating superior performance and sensitivity, making it an ideal column to be used in environmental, and, specifically, mycotoxin analysis.

