LCMSMS Investigation of Tirzepatide with HALO® PCS C18

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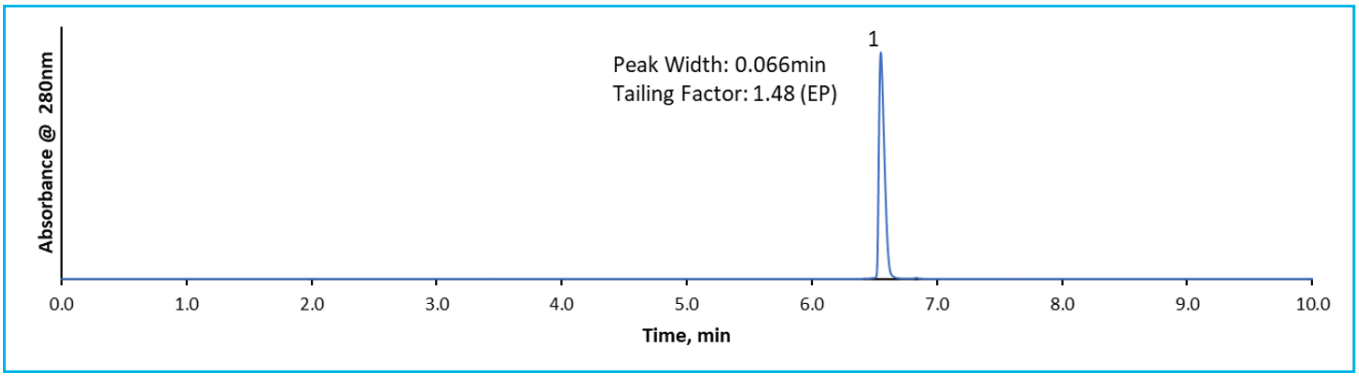

TEST CONDITIONS:

Column: HALO 160 Å PCS C18, 2.7µm, 2.1 x 100mm
Part Number: 92112-717
Mobile Phase A: H_2O + 0.1% Formic Acid
Mobile Phase B: Acetonitrile + 0.1% Formic Acid
Gradient:

Time	%B
0.0	20
2.0	20
10.0	80
12.0	80
12.1	20
15.0	20

Flow Rate: 0.3 ml/min
Pressure: 95 Bar @ 20%B
Temperature: 60 °C
Detection: PDA 280nm ; MS^1 and MS/MS
Injection Volume: 1 µl
Sample Solvent: 10mM Tris pH 7.8 in H_2O
Data Rate: UV 40Hz
LC System: Shimadzu Nexera X2
MS System: Thermo Q-Exactive HF

PEAK IDENTITIES

1. Tirzepatide

MS CONDITIONS:

Ion Mode: Positive Electrospray
Sheath Gas Flow: 35
Aux Gas Flow: 10
Sweep Gas: 2
Spray Voltage: 4 kV
Capillary Temperature: 320 °C
Aux Gas Heater Temp: 275 °C
S-Lens RF Level: 60%
***m/z* Scan Range:** 350-2000
MS1 Resolution: 120,000
DDA MS/MS Resolution: 30,000
AGC Target: $3x10^6$
Quad Isolation Window: *m/z* 2.0
Stepped NCE: 20, 30, and 40

GLP-1 agonists represent a rapidly growing market in biopharmaceuticals. These compounds represent a challenge for both chromatography and MS analysis due to their size and composition, particularly the use of lipidation to improve uptake and metabolism. This application demonstrates the capability of the HALO® PCS C18 column to maintain excellent peak profiles when weak ion pairing agents such as formic acid are required for LC/MS analysis. The HALO® PCS C18 represents an excellent choice for LCMS characterization of biologic pharmaceuticals.