

Application Report 343

LC-MS Analysis of Benzodiazepines Using Ascentis™ C8

Four benzodiazepines are separated on Ascentis C8 and detected by mass spectrometry.

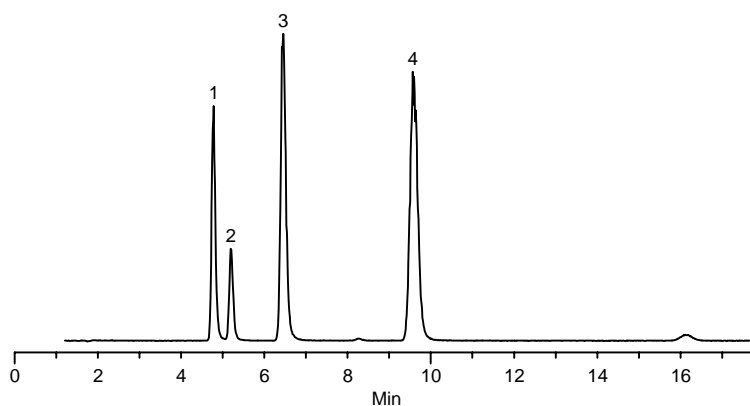
Key Words

LC-MS, Ascentis C8, drugs of abuse, 581402-U, C1277, 1622-61-3, D0899, 439-14-5, N3889, 146-22-5, D7282, 1088-11-5, 34967, benzodiazepines, clonazepam, diazepam, nitrazepam, desmethyldiazepam, 581402-U

Author: Carmen T. Santasania

Acquisition System: W2795

Notebook Reference: 1570-13



G003309

Conditions

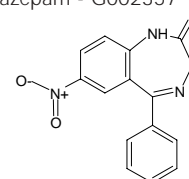
column: Ascentis C8, 15 cm x 2.1 mm I.D., 3 μ m particles (581402-U)
mobile phase: 55:45, 10 mM ammonium acetate (pH 6.98 unadjusted):acetonitrile
flow rate: 0.2 mL/min.
temp.: 35 $^{\circ}$ C
det.: MS, ESI (+), Selected Ion Recording Mode
injection: 5 μ L
sample: 1 μ g/mL each in 10 mM ammonium acetate (pH 6.98 unadjusted)

Peak IDs

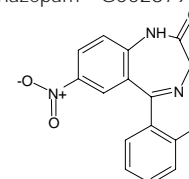
1. Nitrazepam (M+H)⁺= 282.08
2. Clonazepam (M+H)⁺= 316.04
3. Desmethyldiazepam (M+H)⁺= 271.05
4. Diazepam (M+H)⁺= 285.07

Structures

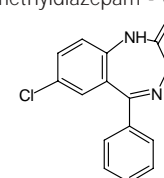
Nitrazepam - G002357



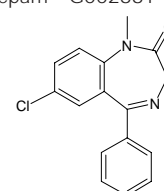
Clonazepam - G002879



Desmethyldiazepam - G003308



Diazepam - G002881



Ascentis is a trademark of Sigma-Aldrich Co.