

# Application Report 343

## LC-MS Analysis of Benzodiazepines Using Ascentis™ C8

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

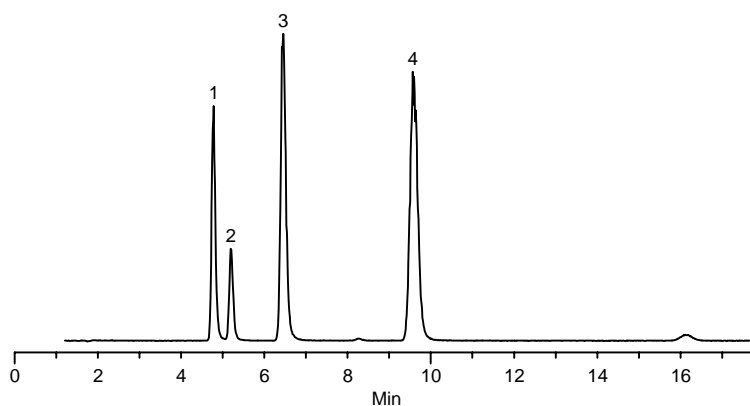
### Key Words

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

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Acquisition System: W2795

Notebook Reference: 1570-13



G003309

### Conditions

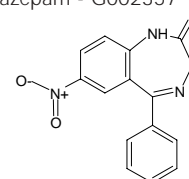
column: Ascentis C8, 15 cm x 2.1 mm I.D., 3  $\mu$ m particles (581402-U)  
mobile phase: 55:45, 10 mM ammonium acetate (pH 6.98 unadjusted):acetonitrile  
flow rate: 0.2 mL/min.  
temp.: 35 °C  
det.: MS, ESI (+), Selected Ion Recording Mode  
injection: 5  $\mu$ L  
sample: 1  $\mu$ g/mL each in 10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

### Peak IDs

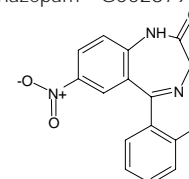
1. Nitrazepam (M+H)<sup>+</sup>= 282.08
2. Clonazepam (M+H)<sup>+</sup>= 316.04
3. Desmethyldiazepam (M+H)<sup>+</sup>= 271.05
4. Diazepam (M+H)<sup>+</sup>= 285.07

### Structures

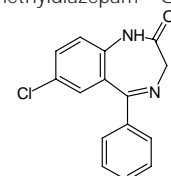
Nitrazepam - G002357



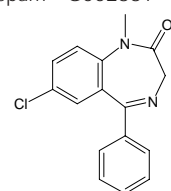
Clonazepam - G002879



Desmethyldiazepam - G003308



Diazepam - G002881



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