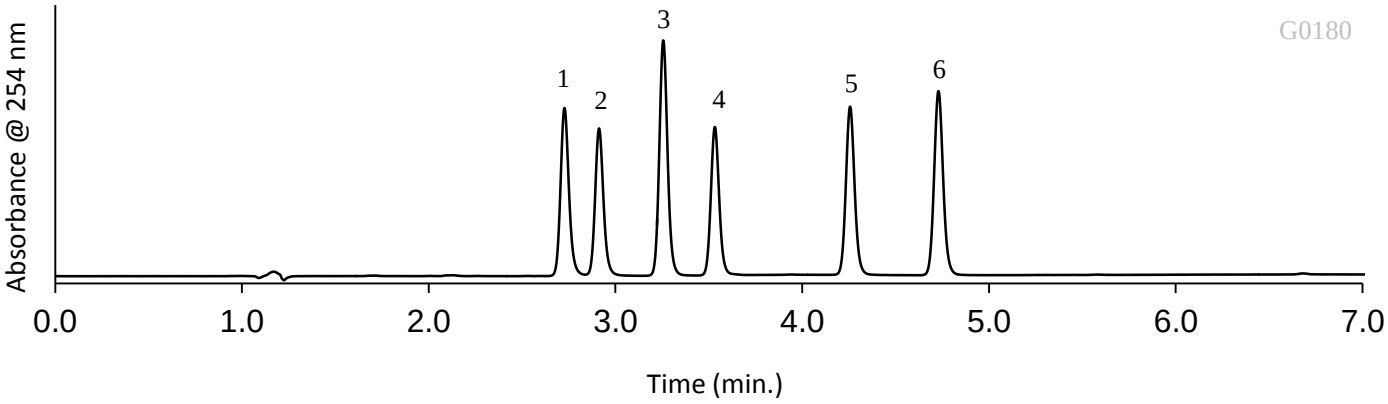
HALO® | Fused-Core® Particle Technology

Application Note: 186-BZ

Separation of Benzodiazepines on HALO® PFP, 5 µm



TEST CONDITIONS:

Column: HALO 90 Å PFP, 5 µm, 4.6 x 100mm
Part Number: 95814-609
Mobile Phase A: 25 mM Ammonium acetate pH: 5.5
Mobile Phase B: Acetonitrile
Gradient:

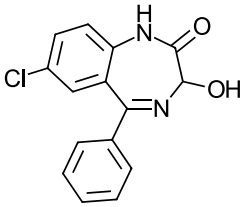
Time	%B
0.0	36
7.0	65

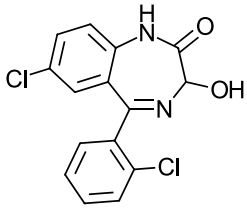
Flow Rate: 0.75 mL/min
Pressure: 46 bar
Temperature: 35°C
Detection: UV 254 nm
Injection Volume: 1.0 µL
Response Time: <0.12 sec
Flow Cell: 5 µl semi-micro
LC System: Agilent 1100

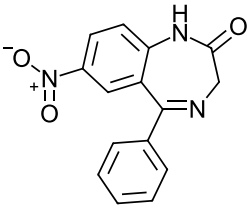
PEAK IDENTITIES:

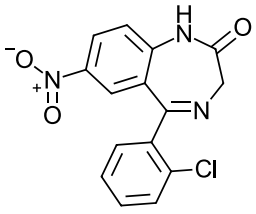
1. Oxazepam
2. Lorazepam
3. Nitrazepam
4. Clonazepam
5. Flunitrazepam
6. Diazepam

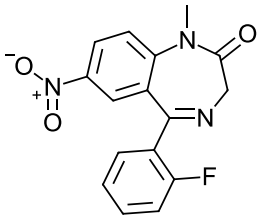
STRUCTURES:

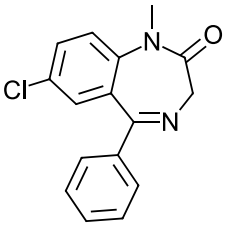

Oxazepam


Lorazepam


Nitrazepam


Clonazepam


Flunitrazepam

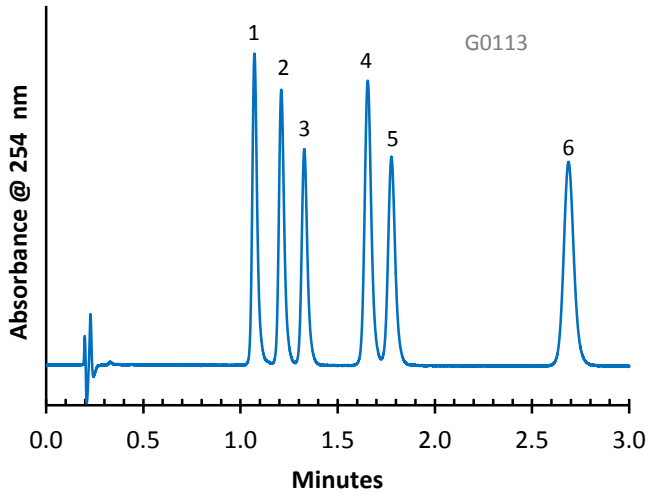

Diazepam

Benzodiazepines are a class of compounds known to be minor tranquilizers, which are mainly used to treat anxiety, insomnia, and seizures in people, as well as animals. A separation of six benzodiazepines is performed on a HALO® 5 µm PFP column.

FOR MORE INFORMATION OR TO PLACE AN ORDER, CONTACT:

Application Note: 129-BZ

Benzodiazepines Separation on HALO 2 Phenyl-Hexyl



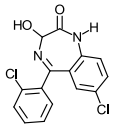
PEAK IDENTITIES:

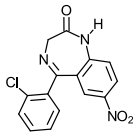
1. Lorazepam
2. Alprazolam
3. Clonazepam
4. Temazepam
5. Flunitrazepam
6. Diazepam

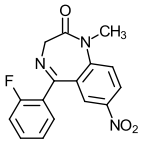
TEST CONDITIONS:

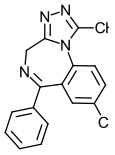
Columns: 2.1 x 50 mm, HALO 2 Phenyl-Hexyl
Part Number: 91812-406
Mobile Phase: 62.5/37.5-A/B
A= Water with 0.1% formic acid/
10 mM ammonium formate, pH 3.3
B= 80/20 Acetonitrile/Water with 0.1%
formic acid/10 mM ammonium formate
Flow Rate: 0.55 mL/min.
Pressure: 311 bar
Temperature: 35 °C
Detection: UV 254 nm, PDA
Injection Volume: 0.5 µL
Sample Solvent: 30/70-water/acetonitrile
Data Rate: 80 Hz
Response Time: 0.02 sec.
Flow Cell: 2 µL micro cell
LC System: Agilent 1200 SL

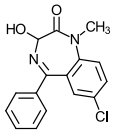
STRUCTURES:

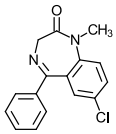

Lorazepam


Clonazepam


Flunitrazepam


Alprazolam


Temazepam


Diazepam

These six benzodiazepines are baseline resolved on a HALO 2 Phenyl-Hexyl column. The π-π interactions between the Phenyl-Hexyl phase and these anti-anxiety drugs help to enhance the separation.

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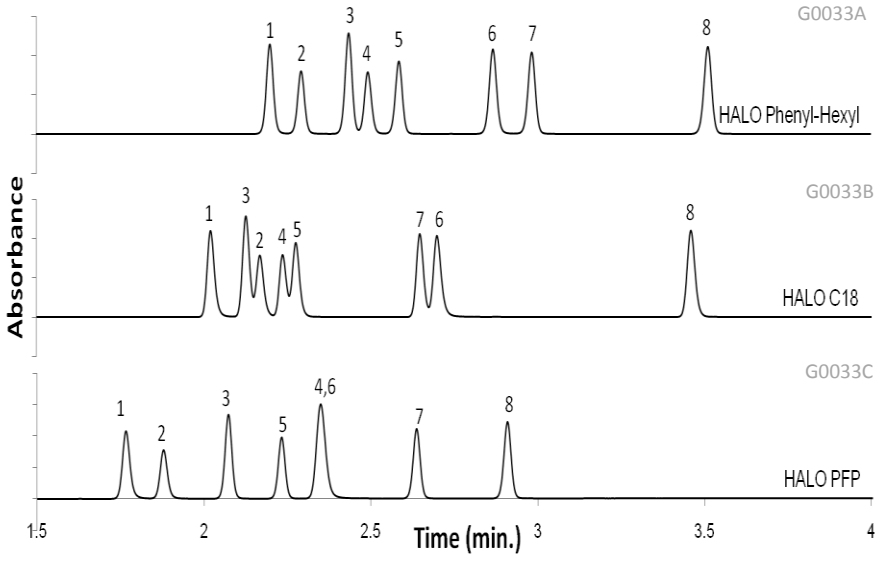
Application Note: 51-BZ

Separation of Benzodiazepines on HALO Phenyl-Hexyl, C18, and PFP Phases



PEAK IDENTITIES:

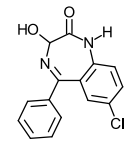
1. Oxazepam
2. Lorazepam
3. Nitrazepam
4. Alprazolam
5. Clonazepam
6. Temazepam
7. Flunitrazepam
8. Diazepam

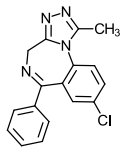
TEST CONDITIONS:

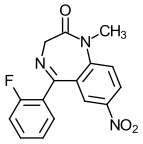
Columns: 4.6 x 50 mm, HALO Phenyl-Hexyl, C18, and PFP
Part Numbers: 92814-406, 92814-402, and 92814-409, respectively
Mobile Phase:
A= 25 mM Ammonium acetate in water (pH=5.8 not adjusted), B= Acetonitrile
Gradient from 34-63% B in 3.5 minutes
Flow Rate: 1.5 mL/min.
Pressure: 200 Bar
Temperature: 35°C
Detection: UV 254 nm, VWD
Injection Volume: 1.0 µL
Standard diluted with Acetonitrile and buffer
Response Time: <0.12 sec.
Flow Cell: 5 µL semi-micro
LC System: Agilent 1100
Gradient dwell volume= 0.88 mL

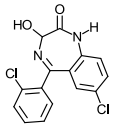
These separations of benzodiazepines on three different HALO Fused-Core HPLC stationary phases show the utility of having a variety of phases to optimize selectivity and/or to shorten analysis time.

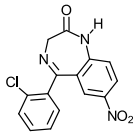
STRUCTURES:

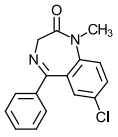

Oxazepam

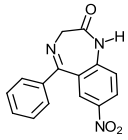

Alprazolam

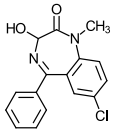

Flunitrazepam


Lorazepam


Clonazepam


Diazepam


Nitrazepam


Temazepam

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