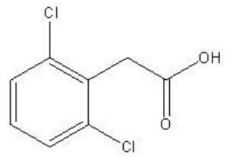
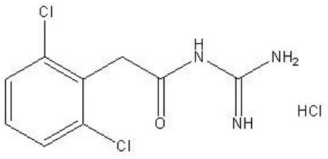
Guanfacine HCl and Degradants

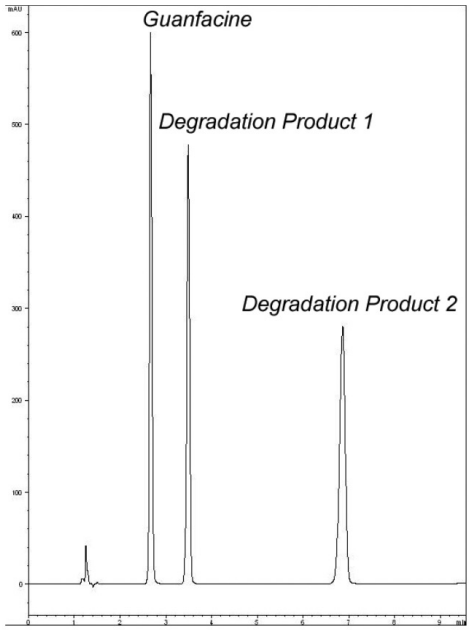
Stable Method and Column with Ion Pair Reagents

Degradant



Guanfacine





Notes: Guanfacine can be used to control high blood pressure by reducing the heart rate and relaxing blood vessels but also is prescribed for ADD and ADHD and sometimes for post-traumatic stress syndrome. Guanfacine has been known to reduce nightmares and flashbacks.

Method Conditions

Column: **Cogent Bidentate C18™**, 4µm, 100Å

Catalog No.: 40008-15P

Dimensions: 4.6 x 150 mm

Mobile Phase: 30% Acetonitrile/ 70% DI H_2O/ with conc phosphoric acid (1 mL/L), 1 g/L SDS

Temperature: 25°C

Injection vol.: 20µL

Flow rate: 1.5 mL/min

Detection: UV 220 nm

Peaks: 1. Guanfacine
2. Primary Degradant 1
3. Primary Degradant 2

Discussion

The US Pharmacopeia lists several known degradation products for Guanfacine. This figure shows a separation of a degraded Guanfacine drug substance. This method produces very efficient results but what is important to note is that this column is extremely stable under the very aggressive mobile phase conditions needed. Using columns based on silica hydride instead of ordinary silica offers not only stability but great compatibility with SDS (sodium dodecyl sulfate) and other ion pair reagents.

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