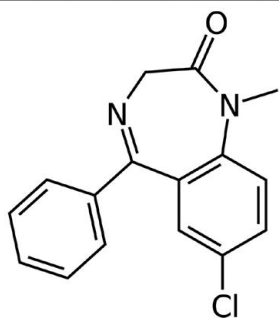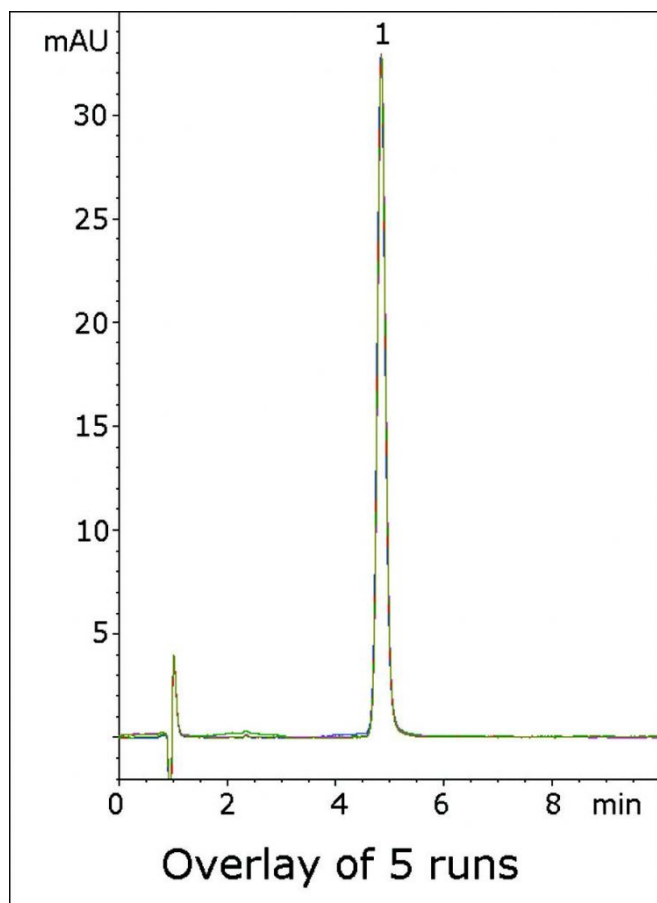# MICROSOLV

Diazepam Tablet Analyzed with HPLC – AppNote

Excellent Peak Shape and Precision for a Benzodiazepine Compound Valium®

This Isocratic Method shows how using 0.1% Trifluoroacetic Acid *(TFA)* in the Mobile Phase can produce a Peak with excellent Efficiency and Symmetry. In the USP Assay Method, System Suitability requires that a tailing factor of not more than 2.0 be obtained for the API, and this Method produces a Peak that is well within the Specification.

An overlay of Five consecutive chromatograms is shown in the Figure to illustrate the Precision and Robustness of the Method.

Overlay of 5 runs

Peak:

Diazepam

MICROSOLV

Method Conditions

Column: Cogent Bidentate C8™, 4µm, 100Å

Catalog No.: 40008-75P

Dimensions: 4.6 x 75mm

Mobile Phase: 70:30 DI Water / Acetonitrile with 0.1% Trifluoroacetic Acid *(TFA)* v/v

Injection vol.: 10µL

Flow rate: 1.0mL / minute

Detection: UV @ 254nm

Sample Preparation: 10mg of a ground Valium® tablet was added to a 10mL volumetric flask containing a portion of a 50:50 Acetonitrile / DI Water diluent. The flask was sonicated 10 minutes and diluted to mark. A portion was filtered with a 0.45µm Nylon Syringe Filter (MicroSolv Tech Corp.).

t0: 0.9 minutes

Note: Diazepam is a benzodiazepine used to treat conditions such as anxiety, muscle spasms, insomnia, seizures, and to control agitation caused by alcohol withdrawal. It is marketed as Valium® by Hoffmann-La Roche, although generic versions are currently available.

COGENT
HPLC Columns™

Attachment

No 190 Diazepam Tablet Analyzed with HPLC pdf 0.3 Mb

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