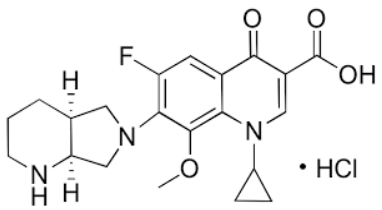
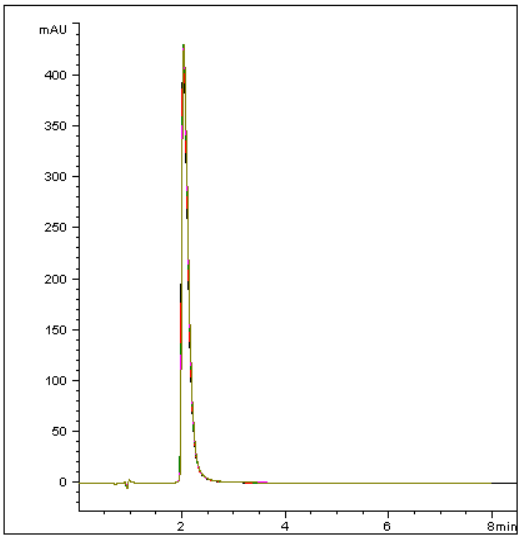
Moxifloxacin Hydrochloride

Simple and precise retention of antibiotic drug



Moxifloxacin hydrochloride



Notes: Moxifloxacin is a broad-spectrum antibiotic that is active against both Gram-positive and Gram-negative bacteria. It functions by inhibiting cell replication by preventing production of DNA gyrase, an enzyme which allows the untwisting required to replicate one DNA double helix into two. Notably the drug has 100 times higher affinity for bacterial DNA gyrase than for mammalian. It is marketed worldwide under the brand name Avelox for oral treatment.

Method Conditions

Column: **Cogent Diamond Hydride™**, 4µm, 100Å

Catalog No.: 70000-75P

Dimensions: 4.6 x 75 mm

Solvents: A: DI H_2O + 0.1% formic acid
B: Acetonitrile + 0.1% formic acid

Isocratic: 50% B

Injection vol.: 1µL

Flow rate: 1.0 mL/min

Detection: 220 nm

Sample: Moxifloxacin hydrochloride 2.0 mg/mL (Diluent: 50:50 Acetonitrile: DI Water)

Peak: 1. Moxifloxacin hydrochloride

Discussion

Moxifloxacin hydrochloride presents a challenging drug to retain on conventional HPLC columns in reversed phase. This drug requires the addition of buffers as well as ion pair reagents to aid in retention on regular reversed phase columns per the current USP method.

In this application note we demonstrate how the use of the Cogent Diamond Hydride™ column can retain this polar compound in a simple isocratic method. The antibiotic is easily retained, with good run-to-run precision, and possess symmetrical peak shape without the necessity of ion pairing reagents. (%RSD = 0.22, SD below 0.004.) This excellent repeatability is displayed in the five-run overlay chromatogram. Another benefit to this simple HPLC method is it can be quite readily transferred to LCMS.

MANUFACTURED BY:
MICROSOLV TECHNOLOGY CORPORATION
9158 Industrial Blvd NE
Leland, NC 28451
p: 1.732.380.8900
f: 1.910.769.9435
customers@mtc-usa.com
www.Cogent-HPLC.com