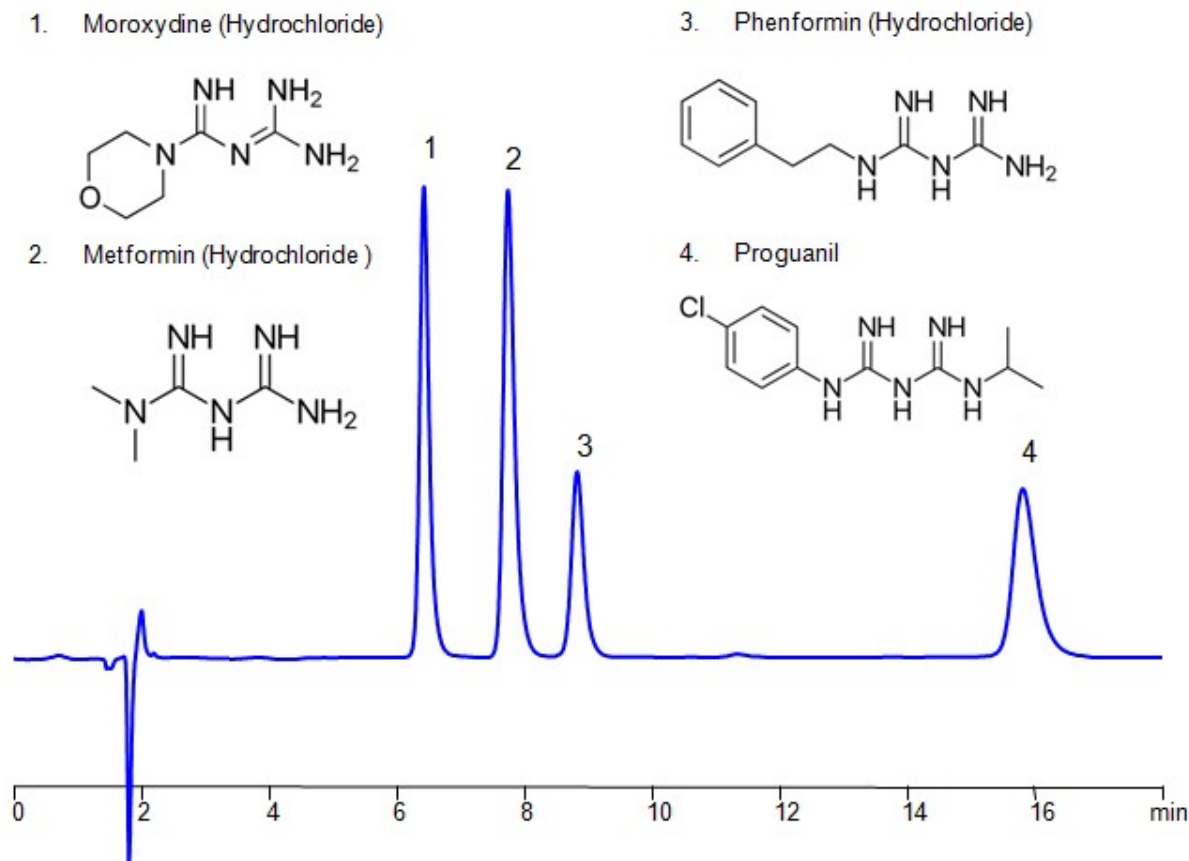


HPLC Method for Separation Biguanides such as Moroxydine, Metformin, Proguanil and Phenformin on Primesep 100 Column

<https://sielc.com/hplc-method-for-analysis-biguanides>

Chromatogram



Column:	Primesep 100
Column size:	4.6 × 150 mm, 5 µm
Column part number:	100-46.150.0510
Mobile phase:	MeCN/H ₂ O – 70/30%
Buffer:	AmFm pH 3.0 - 30 mM
Flow rate:	1.0 mL/min
Detection:	UV 240 nm

Description

Biguanides, including Moroxydine, Metformin, Proguanil, and Phenformin, are a group of organic compounds that share a common structural feature, namely the presence of two guanidine groups.

Moroxydine is an antiviral medication with the chemical formula C₆H₁₃N₅O. It is used in the treatment of influenza. It is believed to work through inhibiting the early stages of viral replication. You can find detailed UV spectra of Moroxydine and information about its various lambda maxima by visiting the following link.

Metformin is an oral antidiabetic medication with the chemical formula C₄H₁₁N₅. It is primarily used to treat type 2 diabetes. It works by reducing glucose production in the liver and improving insulin sensitivity in peripheral tissues. Metformin is one of the

most widely prescribed drugs for diabetes management. You can find detailed UV spectra of Metformin and information about its various lambda maxima by visiting the following link.

Proguanil is an antimalarial medication with the chemical formula $C_{11}H_{17}ClN_5$. It is often used in combination with other drugs, such as atovaquone. It is used for both prevention and treatment of malaria. Proguanil is a prodrug, and its active form inhibits the development of the malaria parasite in the liver. You can find detailed UV spectra of Proguanil and information about its various lambda maxima by visiting the following link.

Phenformin is an antidiabetic biguanide with the chemical formula $C_{10}H_{15}N_5$. It was previously used to treat type 2 diabetes. However, due to the risk of lactic acidosis (a serious side effect), it has been largely withdrawn from the market in many countries. You can find detailed UV spectra of Phenformin and information about its various lambda maxima by visiting the following link.

These biguanides exhibit various pharmacological activities, and while some are primarily used for antidiabetic purposes, others have applications in antiviral or antimalarial treatments. It's important to note that the safety and efficacy of these drugs depend on proper medical supervision and adherence to prescribed dosages.

Metformin, Proguanil hydrochloride, Phenformin, Moroxydine can be retained, separated and analyzed using a Primesep 100 mixed-mode stationary phase column. The analysis employs an isocratic method with a simple mobile phase comprising water, acetonitrile (MeCN), and ammonium formate as a buffer. This method allows for detection using UV at 240 nm

Method Parameters

Mobile Phase	MeCN/H ₂ O 70/30%
Buffer	AmFm pH 3.0 – 30 mM
Flow Rate	1.0 ml/min
Detection	UV 240 nm
Samples	1. 0.1 mg/ml2. 0.1 mg/ml3. 0.1 mg/ml4. 0.1 mg/ml
Injection volume	10 µl
LOD*	1. 7 ppb2. 7 ppb3. 17 ppb4. 18 ppb
Class of Compounds	Biguanides
Analyzing Compounds	Metformin,Proguanil hydrochloride,Phenformin,Moroxydine

HPLC Column Used

Primesep 100, 4.6 x 150 mm, 5 µm, 100 Å, dual ended

[Order this column at hplc-shop.de →](https://www.hplc-shop.de)