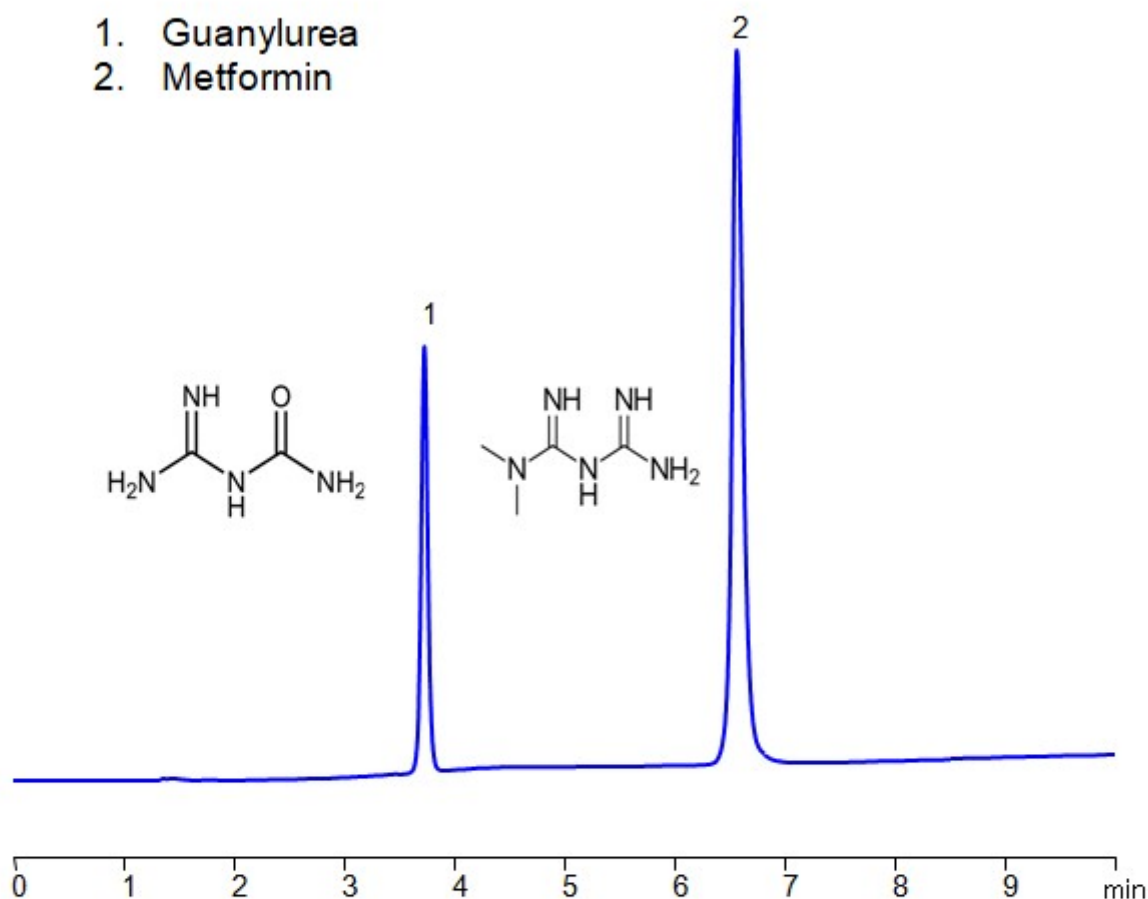


HPLC Method for Separation of Guanylurea and Metformin on Primesep 100 Column

https://sielc.com/hplc-method-for-analysis-of-guanylurea_metformin

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 – 30/70%
Buffer:	Gradient H ₂ SO ₄ - 0.1-0.5%, 10 min
Flow rate:	1.0 mL /min
Detection:	UV 200 nm

Description

· HPLC Method for Analysis of Guanylurea , Metformin on Primesep 100 Column by SIELC Technologies

Guanylurea is a known degradation product of metformin with the formula C₂H₆N₄O . When metformin undergoes biotransformation in the body, one of the metabolic pathways leads to the formation of guanylurea. This process is a part of the

pharmacokinetics of metformin, where the drug is metabolized and eventually excreted from the body.

The conversion of metformin to guanylurea is significant for a few reasons:

Pharmacokinetics : Understanding the metabolism of metformin, including its conversion to guanylurea, is important for comprehending its action in the body, its elimination, and any potential metabolite-related effects.

Environmental Impact : The presence of pharmaceuticals and their metabolites, like guanylurea from metformin, in the environment (especially in water sources) has become a topic of environmental concern. This is because these compounds can have effects on aquatic life and potentially re-enter the human water supply.

Safety and Efficacy : Knowing the metabolites of a drug helps in assessing its safety and efficacy. While guanylurea is not known to have significant pharmacological effects in the context of metformin's use as a diabetes medication, its identification is essential for a complete understanding of the drug's profile.

Guanylurea , Metformin can be retained, separated and analyzed on a Primesep 100 mixed-mode stationary phase column using an analytical method with a simple mobile phase of water, Acetonitrile (MeCN), and a sulfuric acid as a buffer. This analysis method can be detected using UV at 200 nm.

Method Parameters

Mobile Phase	MeCN/H ₂ O – 30/70%
Buffer	Gradient H ₂ SO ₄ -0.1-0.5%, 10 min
Flow Rate	1.0 ml/min
Detection	UV 200 nm
Sample	Guanylurea phosphate 0.2 mg/ml in H ₂ O and 1,1-Dimethylbiguanide hydrochloride 0.2 mg/ml in H ₂ O
Class of Compounds	Ureas
Analyzing Compounds	Guanylurea, Metformin

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)