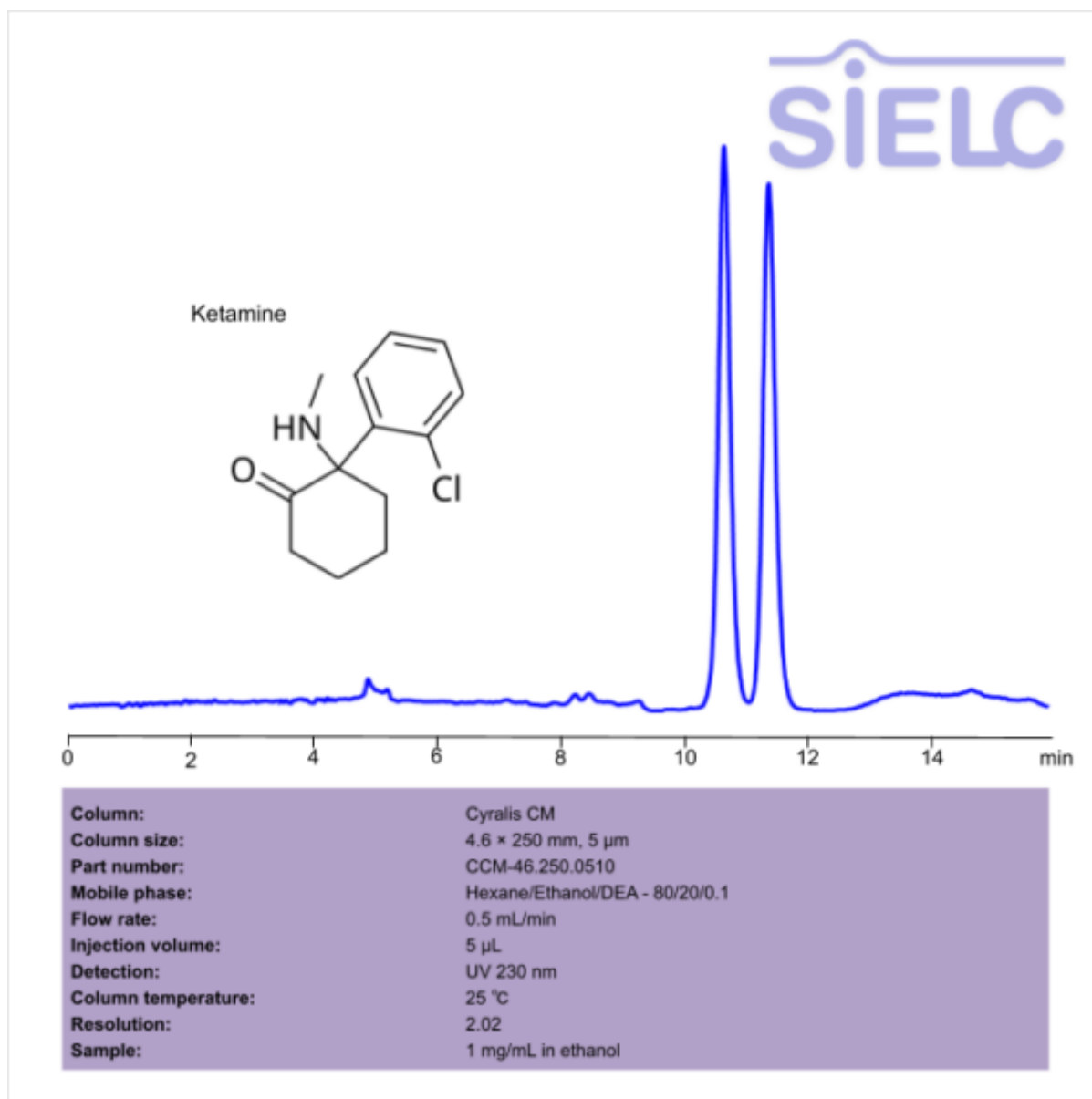


HPLC Chiral Separation of Ketamine Enantiomers on Cyralis CM Column

<https://sielc.com/hplc-chiral-method-for-analysis-of-ketamine-2>

Chromatogram



Description

· High Performance Liquid Chromatography (HPLC) Method for Analysis of Ketamine .

Ketamine , also known as (RS)-2-(2-chlorophenyl)-2-(methylamino)cyclohexanone , is a medication with the chemical formula $C_{13}H_{16}ClNO$. It is primarily used for induction and maintenance of anesthesia in both humans and animals. It is classified as an arylcyclohexylamine. It has a unique mechanism of action, acting primarily as an antagonist of the N-methyl-D-aspartate (NMDA) receptor, which is involved in pain transmission and synaptic plasticity. Beyond its primary anesthetic use, ketamine has also been investigated for its rapid-acting antidepressant effects and is used in certain treatment-resistant cases of depression. Due to its potential for misuse and the hallucinogenic effects it can produce at sub-anesthetic doses, ketamine is also classified as a controlled substance in many countries. You can find detailed UV spectra of Ketamine and information about its various lambda maxima by visiting the following link.

This application describes a normal-phase chiral HPLC method for the separation of Ketamine enantiomers using SIELC's Cyralis CM chiral column. Cyralis CM is a cellulose-based chiral stationary phase (CSP) designed for enantiomeric separations, optical purity testing, chiral impurity analysis, and stereoisomer characterization in pharmaceutical, chemical, agrochemical, and fine chemical applications. For best results, the sample should be prepared fresh for analysis. Additional peaks come from impurities within the original mixture.

Ketamine can be retained and analyzed using the Cyralis CM stationary phase column. The analysis utilizes an isocratic method with a mobile phase consisting of Hexane, Ethanol, and DEA. Detection is performed using UV.

Method Parameters

Mobile Phase	Hexane/Ethanol/DEA- 80/20/0.1%
Flow Rate	1.0 mL/min
Detection	UV 230 nm
Resolution	2.02
Class of Compounds	Medication
Analyzing Compounds	Ketamine

HPLC Column Used

Cyralis CM, 4.6 x 250 mm, 5 µm, 100 Å, normal phase

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