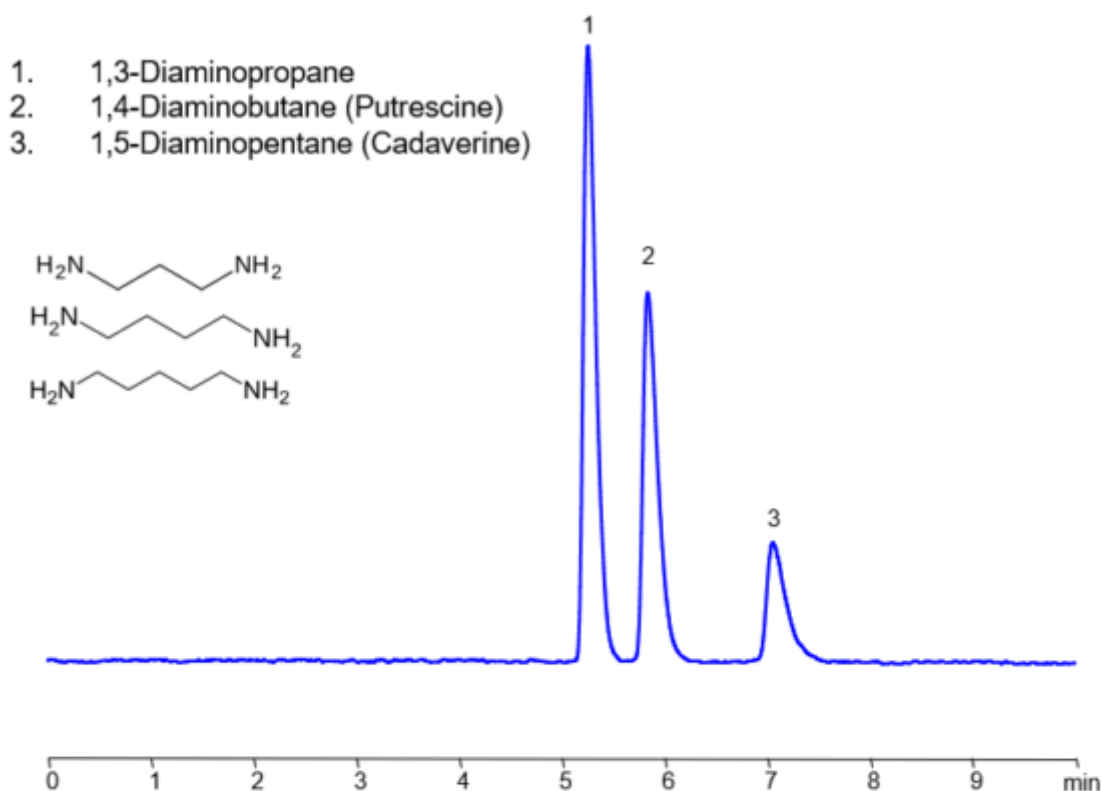


HPLC Method Separation of 1,3-Diaminopropane, 1,4-Diaminobutane (Putrescine) and 1,5-Diaminopentane (Cadaverine) on Primesep 200 Column

<https://sielc.com/hplc-determination-of-diamine>

Chromatogram



Column:	Primesep 200
Column size:	4.6 × 150 mm, 5 µm
Column part number:	200-46.150.0510
Mobile phase:	Ammonium Formate pH 3.0 – 40 mM in H ₂ O
Flow rate:	1.0 mL/min
Detection:	ELSD, 50C

Description

· Separation type: Liquid Chromatography Mixed-mode

1,3-Diaminopropane, or trimethylenediamine, is a diamine with the chemical formula $C_3H_{10}N_2$. It is the key heterocycle building block and precursor of the chemotherapy antineoplastic agents Piroxantrone and Losoxantrone. You can find detailed UV spectra of 1,3-Diaminopropane and information about its various lambda maxima by visiting the following link.

1,4-Diaminobutane, or Putrescine, is an organic compound with the chemical formula $C_4H_{12}N_2$. It is one of the main sources of the foul odor of rotting flesh. On the industrial scale, it is produced by the hydrogenation of succinonitrile as it has found use as a building block of Nylon 46. It has been proposed to be used as a biochemical marker for determination of how long a corpse has been decomposing. You can find detailed UV spectra of 1,4-Diaminobutane and information about its various lambda maxima by visiting the following link.

1,5-Diaminopentane , or Cadaverine , is an organic compound with the chemical formula $C_5H_{14}N_2$. It is a source of the foul odor of rotting flesh and since its produced by the decarboxylation of lysine, can be used as a biomarker for lysine metabolic deficiencies. You can find detailed UV spectra of 1,5-Diaminobutane and information about its various lambda maxima by visiting the following link.

These (putrid) diamines can be retained, analyzed, and separated on a Primesep 200 column using an isocratic analytical method with a simple mobile phase of water, Acetonitrile (MeCN), and an Ammonium formate (AmFm) ionic modifier. This analysis method can be detected with an Evaporative Light Scattering Detector (ELSD) or any other evaporative detection method (CAD, ESI-MS).

Method Parameters

Mobile Phase	H2O
Buffer	Ammonium formate pH 3.0 – 40 mM
Flow Rate	1.0 ml/min
Detection	ELSD, 50C
Peak Retention Time	5.2, 5.8, 7.2 min
Class of Compounds	Diamino
Analyzing Compounds	1,5-Diaminopentane (Cadaverine), 1,3-Diaminopropane, 1,4-Diaminobutane (Putrescine)

HPLC Column Used

Primesep 200, 4.6 x 100 mm, 5 µm, 100 A, dual ended

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