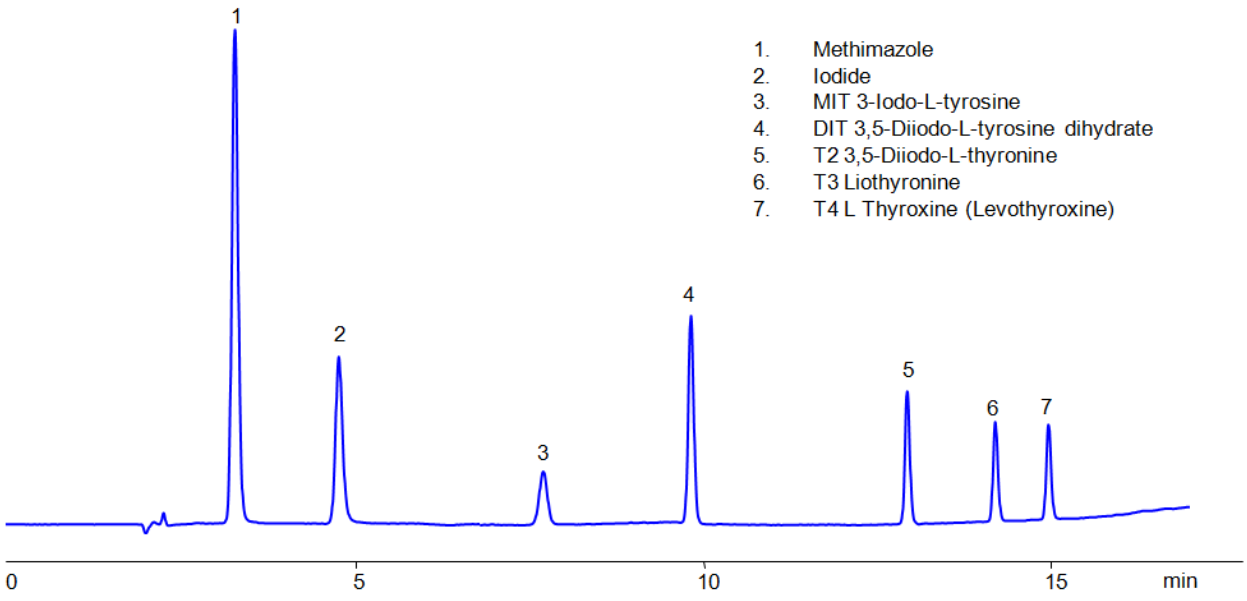
HPLC Method for Analysis of Iodide and Thyroid Hormones

https://sielc.com/hplc-method-for-analysis-of-iodine-and-thyroids

Chromatogram



Column:	**Primesep D**
Column size:	4.6 × 150 mm, 5µm
Mobile phase:	Gradient MeCN
Buffer:	Gradient TFA
Flow rate:	1 ml/min
UV detection:	230 nm

Time, min	%MeCN	%H2O	%TFA
0.00	02	98	0.4
3.00	02	98	0.4
15.00	55	45	0.2
17.00	55	45	0.2

Description

High Performance Liquid Chromatography (HPLC) Method for Analysis of Iodine , Methimazole , Levothyroxine (T4) , 3,5-Diiodo-L-thyronine (T2) , 3,5-Diiodo-L-tyrosine dihydrate (DIT) , 3-Iodo-L-tyrosine (MIT) , Liothyronine (T3) , Iodide

Iodine is an important element in production of thyroid hormones, T3 and T4, which are essential regulators of organism's metabolism. The glands' concentration of Iodide, hormones T3 and T4, along with their precursors: 3,5-Diiodo-L-thyronine (T2), 3,5-Diiodo-L-tyrosine (DIT), and 3-Iodo-L-tyrosine (MIT) can now be studied simultaneously with this HPLC method. In order to analyze the hydrophobic hormones along with iodide (a very polar inorganic ion) a special mixed-mode column, Primesep D, was used. This column provides both strong hydrophobic and anion exchange properties. The Primesep D silica-bonded ligand is comprised of a long alkyl chain and an embedded amino functional group. The TFA was used as an ionic modifier to provide stable acidic pH and sufficient ion strength for the mobile phase. The mobile phase composition is suitable for UV, MS, ELSD, and CAD detection.

Method Parameters

Mobile Phase	MeCN
Buffer	TFA
Flow Rate	1.0 ml/min

Detection	UV, 230 nm
Class of Compounds	Drug, Hydrophilic, Ionizable, Supplements
Analyzing Compounds	Iodine,Methimazole,Levothyroxine (T4),3,5-Diiodo-L-thyronine (T2),3,5-Diiodo-L-tyrosine dihydrate (DIT),3-Iodo-L-tyrosine (MIT),Liothyronine (T3),Iodide

HPLC Column Used

Primesep D, 4.6 x 150 mm, 5 µm, 100 A, dual ended

Order this column at hplc-shop.de →