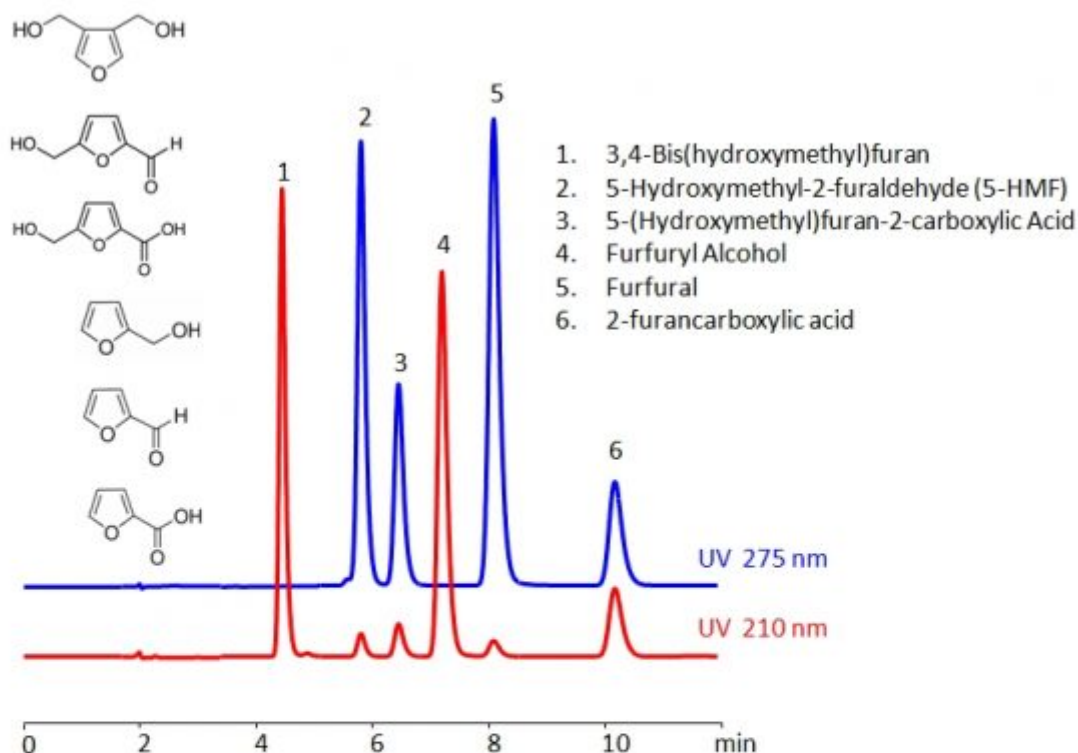


HPLC Method for Substituted Furans Separation on Newcrom R1 column

<https://sielc.com/substituted-furans-separation-on-newcrom-r1>

Chromatogram



Column:	Newcrom R1
Column size:	4.6 × 150 mm, 5 µm
Mobile phase:	MeCN/H ₂ O – 5/95%
Buffer:	H ₃ PO ₄ – 0.1%
Flow rate:	1 ml/min
Detection:	UV

Description

High Performance Liquid Chromatography (HPLC) Method for Analysis of 5-Hydroxymethyl-2-furaldehyde (5-HMF) , Furfuryl alcohol , Furfural , 2-Furancarboxylic acid , 3,4-Bis(hydroxymethyl)furan , 5-Hydroxymethyl-2-furancarboxylic acid .

Furan is a chemical contaminant that forms in some foods during traditional heat treatment techniques, such as cooking, jarring, and canning.

5-Hydroxymethyl-2-furaldehyde (5-HMF), also known as Hydroxymethylfurfural , is an organic compound with the chemical formula C₆H₆O₃ . It can form in sugar-containing food when heated. Due to being considered a potential carcinogen, much research has gone into it's formation.

Furfuryl alcohol is a trapping agent with the chemical formula C₅H₆O₂ . It is used to synthesize ethyl levulinate, prepare colloidal microporous carbon spheres, and as a starting material to prepare cyclopentanone.

Furfural is an organic compound with the chemical formula $C_5H_4O_2$. It is found primarily in cooked or heated coffee and whole grain bread. It is used as a renewable chemical feedstock, which can be converted into a variety of useful chemicals.

2-Furancarboxylic acid is an organic compound with the chemical formula $C_5H_4O_3$. It is used primarily in the production of furoate esters, some of which are drugs and pesticides. As a flavoring, it is used for its sweet, oily, and earthy flavor.

5-Hydroxymethyl-2-furaldehyde (5-HMF), Furfuryl alcohol, Furfural, 2-Furancarboxylic acid, 3,4-Bis(hydroxymethyl)furan, 5-Hydroxymethyl-2-furancarboxylic acid can be retained and separated in HPLC using Newcrom R1 reverse-phase column. The analytical method's mobile phase consists of a gradient of acetonitrile (ACN) in water with phosphoric acid (H_3PO_4) buffer and using UV detection at 210 and 275 nm.

Method Parameters

Mobile Phase	MeCN/H ₂ O – 5/95%
Buffer	H ₃ PO ₄ – 0.1%
Flow Rate	1.0 ml/min
Detection	210, 275 nm
Class of Compounds	Hydrophilic, Acid, Aldehyde
Analyzing Compounds	5-Hydroxymethyl-2-furaldehyde (5-HMF), Furfuryl alcohol, Furfural, 2-Furancarboxylic acid, 3,4-Bis(hydroxymethyl)furan, 5-Hydroxymethyl-2-furancarboxylic acid

HPLC Column Used

Newcrom R1, 4.6 x 150 mm, 5 μ m, 100 Å, dual ended

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