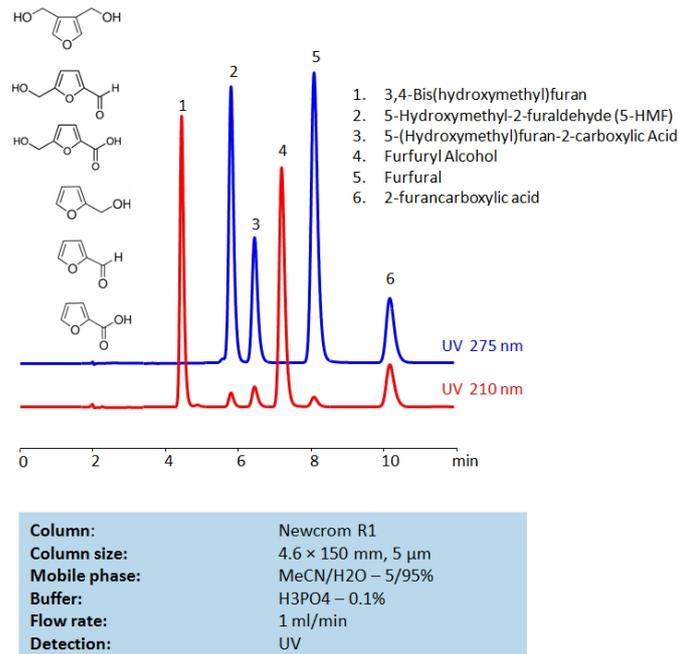


## HPLC Method for Substituted Furans Separation on Newcrom R1 column



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 C<sub>6</sub>H<sub>6</sub>O<sub>3</sub> . 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 C<sub>5</sub>H<sub>6</sub>O<sub>2</sub> . 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<sub>5</sub>H<sub>4</sub>O<sub>2</sub> . 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<sub>5</sub>H<sub>4</sub>O<sub>3</sub> . It is used primarily in the production of furoate esters, some of which are drugs and pesticides. As a flavoring, it is used for it's 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<sub>3</sub>PO<sub>4</sub>) buffer and using UV detection at 210 and 275 nm.

### Method Parameters

<b>Column</b>	Newcrom R1, 4.6 x 150 mm, 5 µm, 100 Å, dual ended
<b>Mobile Phase</b>	MeCN/H <sub>2</sub> O – 5/95%
<b>Buffer</b>	H <sub>3</sub> PO <sub>4</sub> – 0.1%
<b>Flow Rate</b>	1.0 mL/min
<b>Detection</b>	210, 275 nm

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