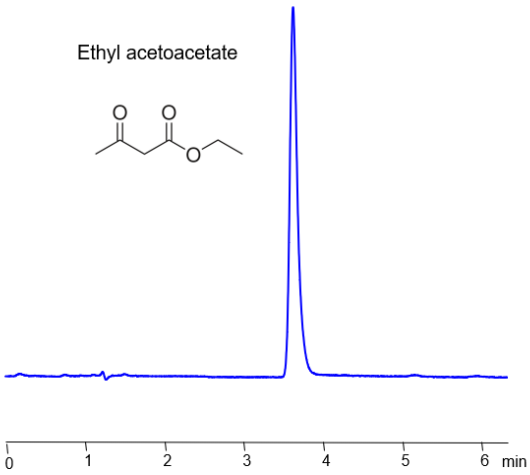
HPLC Method for Analysis of Ethyl acetoacetate on Newcrom R1 Column



Column:	Newcrom R1
Column size:	3.2 × 100 mm, 5 µm, 100A
Column part number:	NR1-32.100.0510
Mobile phase:	MeCN/H_2O – 20/80%
Buffer:	None
Flow rate:	0.5 mL/min
Detection:	UV 200 nm

Separation type: Liquid Chromatography Mixed-mode

Ethyl acetoacetate (EAA) is an organic compound used in various applications, including as a starting material in organic synthesis and as a flavoring agent. It's a type of chemical compound known as an ester, which means it contains a carbonyl group adjacent to an ether group.

In terms of structure, EAA contains two main parts: an ethyl group (a carbon and two hydrogens, CH3CH2-) and an acetoacetate group (CH3C(=O)CH2C(=O)O-).

In organic chemistry, EAA is known for its role in the Claisen condensation and other reactions where it behaves as an active methylene compound. An active methylene compound is a compound that contains a methylene group (CH2) adjacent to one or more electron-withdrawing groups, such as a carbonyl group, which can make the hydrogen atoms on the methylene group acidic and easily removed.

As a flavoring agent, it's used in foods and beverages to impart apple and pear flavors.

Ethyl acetoacetate can be retained and analyzed on a reverse-phase Newcrom R1, 3.2 x 100 mm, 5 µm, 100 Å, dual ended column with a mobile phase consisting of water and Acetonitrile (MeCN). This analysis method can be detected with an Evaporative Light Scattering Detector (ELSD) or any other evaporative detection method (CAD, ESI-MS).

LOD was determined for this combination of instrument, method, and analyte, and it can vary from one laboratory to another even when the same general type of analysis is being performed.

AugustaChrom - Dr. Roland Kießwetter
Tel.: +49 821 599 783 70
Fax: +49 821 599 783 71
E-Mail: info@hplc-shop.de

Method Parameters

Column	Newcrom R1, 3.2 x 100 mm, 5 µm, 100 Å, dual ended
Mobile Phase	MeCN/H2O -20/80%
Buffer	None
Flow Rate	0.5 mL/min
Detection	UV 200 nm
Limit of Detection	6 ppb
Injection Volume	1 µl

Quelle: https://sielc.com/hplc-separation-of-ethylacetoacetate