

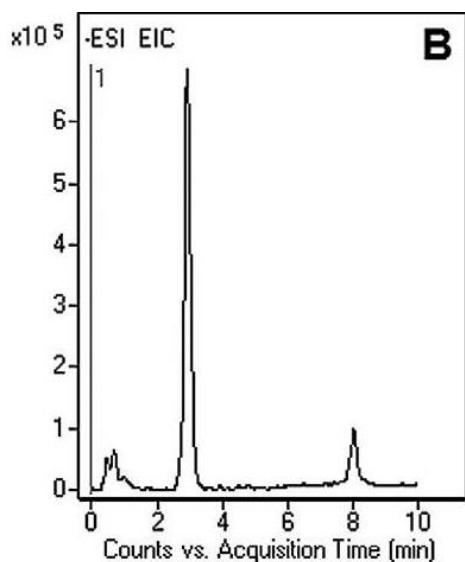
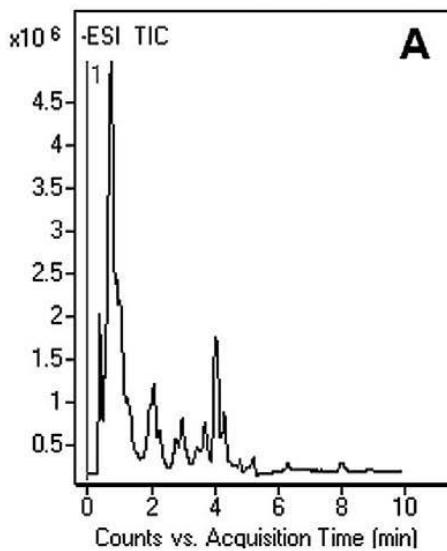


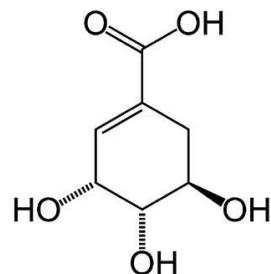
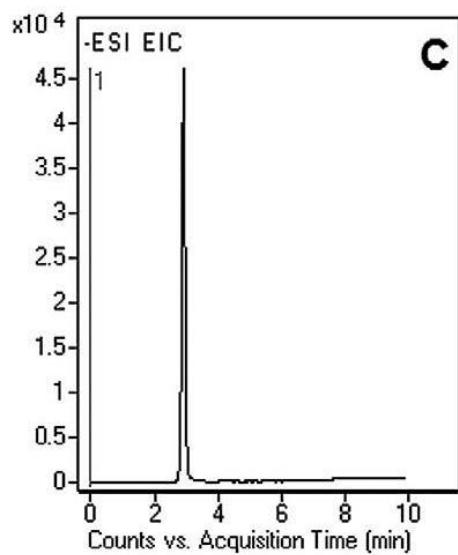
Shikimic Acid in Red Wine Analyzed with LCMS - AppNote

Red Wine Varietal Determined by Quantity of Shikimic Acid

This Application Note presents a Method for the analysis of Shikimic Acid in Red Wine. The main advantage of using this Method is its high Specificity (mass accuracy) of this compound, the short analysis time, fast Equilibration time between runs thus more throughput, and high Repeatability (%RSD < 0.7).

The Method can be used as an analytical tool to verify the varietal authenticity of Red Wine or for Shikimic Acid in pharmaceutical preparations.





Peaks:

Figure A: Red Wine (*Pinot Noir*): Total Ion Chromatogram (TIC)

Figure B: Shikimic Acid in Red Wine 173.0455 m/z : Extracted-Ion Chromatogram (EIC)

Figure C: Shikimic Acid Standard 173.0455 m/z : Extracted-Ion Chromatogram (EIC)

Method Conditions

Column: Cogent Diamond Hydride™, 4 μ m, 100 \AA

Catalog No.: [70000-05P-2](#)

Dimensions: 2.1 x 50mm

Mobile Phase:

A: 50% Methanol / 50% DI Water / 10mM Ammonium Acetate

B: 90% Acetonitrile / 10% DI Water / 10mM Ammonium Acetate

Gradient:

Time (minutes)	%B
0	95
1	95
5	50
8	50
10	95

Post Time: 5 minutes

Injection vol.: 1 μ L

Flow rate: 0.4mL / minute

Detection: ESI – NEG - Agilent 6210 MSD TOF Mass Spectrometer

Sample Preparation:

Red Wine: Filtered, 0.45 μ m Nylon Syringe Filter (MICROSOLV Tech Corp.). Sample for injection was diluted 1:1 using Solvent A / Solvent B mixture.

Standard: 0.1mg / mL in Methanol, diluted 1:100 for injection using 1:1 Solvent A / Solvent B mixture.

t₀ : 0.4 minutes

Note 1: *Shikimic Acid* comes from grape skin and is always present in wines and determination of its concentration can be used as a tool to differentiate between Red Wine varieties. *Shikimic Acid* is an intermediate molecule produced in the Shikimate pathway. It participates in the biosynthesis of Antocyanines.

Note 2: *Shikimic Acid* is a key ingredient in the production of Tamiflu®, an antiviral drug for Influenza Virus A and Swine-Origin Influenza (H1N1).



Attachment No 134 Shikimic Acid in Red Wine Analyzed with LCMS pdf 0.3 Mb [Download File](#)

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MicroSolv Technology Corporation

9158 Industrial Blvd. NE, Leland, NC 28451

Tel: (732) 380-8900

Fax: (910) 769-9435

Email: customers@mtc-usa.com

Website: www.mtc-usa.com