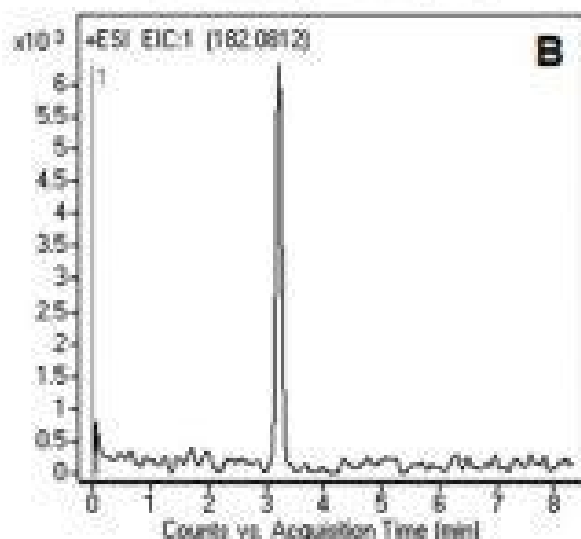
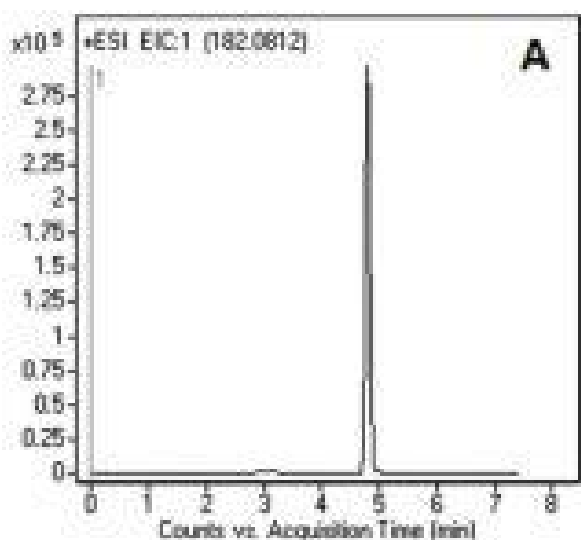


Tip for Promoting Analyte Ionization with LCMS – AppNote

Analyte Ionization using L-Tyrosine

Figures A and B show the Peak for L-Tyrosine obtained with two LCMS Methods. The analysis shown in *Figure B* was performed with a stronger ANP Solvent (DI Water) as component A of the Mobile Phase. The obtained Retention time was lower than in *Figure A*, as was the compound ionization.

An eluent containing 2-Propanol is a better choice for the analysis of this compound, since the ionization of L-Tyrosine is greater. In addition, the Solvents used in *Figure A* are recommended when biological samples are analyzed. As such, the Method can be directly transferred to the analysis of L-Tyrosine in plasma samples for monitoring of patients with Phenylketonuria.





Method Conditions

Column: Cogent Diamond Hydride™, 4μm, 100Å

Catalog No.: [70000-15P-2](#)

Dimensions: 2.1 x 150mm

Mobile Phase:

Figure A

A: 50% DI Water / 50% 2-Propanol / 0.1% Formic Acid v/v

B: Acetonitrile / 0.1% Formic Acid v/v

Figure B

A: DI Water / 0.1% Formic Acid v/v

B: Acetonitrile / 0.1% Formic Acid v/v

Gradient:

Time (minutes)	%B
0	90
4	30
6	30
7	90

Post Time: 3 minutes

Injection vol.: 1μL

Flow rate: 0.4mL / minute

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

Sample Preparation: 500mg L-Tyrosine capsule contents were dissolved in 500mL of 50:50 Water / Acetonitrile. The solution was shaken for 20 minutes and filtered through a disposable 0.45μm Nylon Syringe Filter (MicroSolv Tech Corp.). The sample for injection was diluted 1:100 with a 50:50 Solvent A / Solvent B mixture.

t₀: 0.9 minutes

Note: ANP Methods have an inherent advantage in LCMS over Reversed Phase Methods in terms of Sensitivity. This is because Acetonitrile is more volatile than Water and hence more readily removed in LCMS, and ANP Methods typically use a higher percentage of Acetonitrile in the Mobile Phase compared to Reversed Phase Methods.

Printed from the Chrom Resource Center

Copyright 2025, All Rights Apply

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