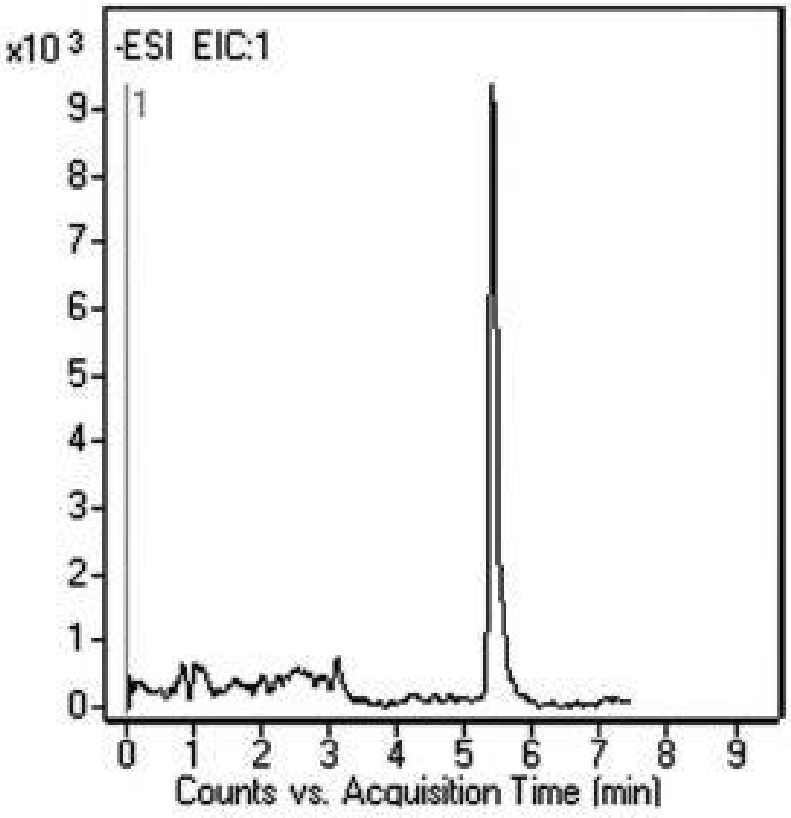
Zinc-EDTA Complex - AppNote

No Ion Pair Agents Needed

Using conventional analytical methods, retention of metal–EDTA complexes is accomplished using Ion Pair Reversed Phase Chromatography. However, the Ion Pair Agents used in the Mobile Phase are not compatible with Mass Spectrometry.

In this AppNote, only Formic Acid is needed in the Mobile Phase in order to obtain retention of a Zinc-EDTA complex. The figure shows an EIC of the analyte spiked in a soil extract matrix.



Peak:

Zn-EDTA complex 354.7 m/z

Method Conditions

Column: Cogent Diamond Hydride™, 4µm, 100Å
Catalog No.: 70000-15P-2
Dimensions: 2.1 x 150mm
Mobile Phase:

A: DI Water / 0.1% Formic Acid (v/v)
B: Acetonitrile / 0.1% Formic Acid (v/v)

Gradient:

Time *(minutes)*	%B
0	90
5	20
8	20
9	90

Post Time: 2 minutes
Flow rate: 0.4 mL/minute
Detection: ESI – NEG - Agilent 6210 MSD TOF Mass Spectrometer
Injection vol.: 1µL
Sample Preparation: A Soil sample was spiked with Zn-EDTA complex at a level of 2000µm. After extraction with DI Water (shaking for 24 hours), the sample was filtered using a 0.45µm Nylon Syringe Filter (MicroSolv Tech Corp.) and diluted with Acetonitrile 1:10 before injection.
t_0: 0.9 minutes

Note: *EDTA (Ethylenediaminetetracetic Acid) has been used to promote metal uptake from contaminated Soil. As such, the ESI-MS technique described here can be used for the determination of Zn-EDTA complexes in Soil samples.*

COGENT HPLC Columns™

Attachment

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