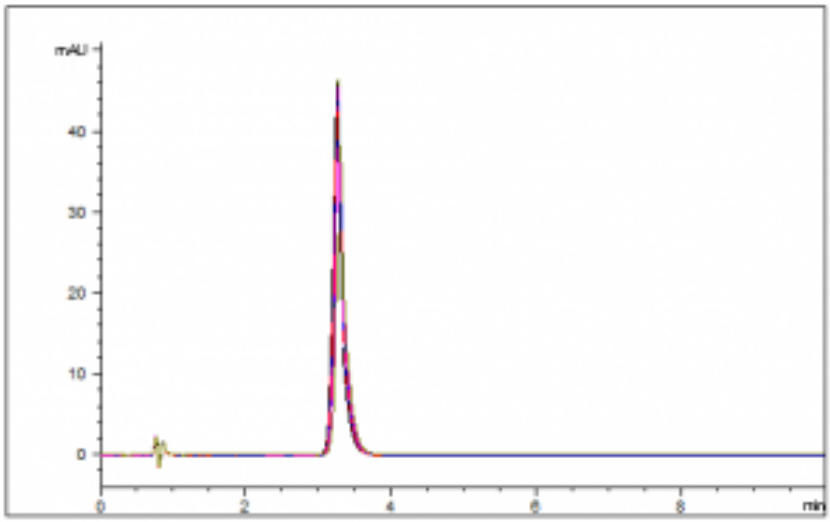
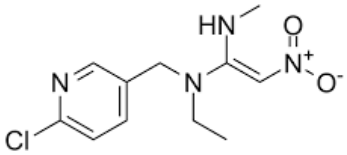
Nitenpyram, a neonicotinoid pesticide

A simple and reproducible method has been developed for analysis of Nitenpyram. The data below, *(an overlay of 5 chromatograms)* illustrates how the compound can be adequately retained with good precision and peak shapes using this straightforward method.

As this is an ANP method a low concentration of ammonium acetate is used in comparison to current published HILIC methods for Nitenpyram and neonicotinoid pesticides that require the use of 500mM ammonium acetate. This simple, easy to use method is easily transferrable to LCMS.





Peak:

Nitenpyram

Method Conditions:

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

Catalog No.: 70000-10P-2

Dimensions: 2.1mm x 100mm

Mobile Phase: (80:20) Acetonitrile / DI water with 0.1% formic acid.

Injection vol.: 1µL

Flow rate: 0.4mL / minute

Detection: UV @ 254nm

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Sample Preparation: 0.228 mg / mL Nitenpyram in 50:50 acetonitrile / DI water.

%RSD: <0.1%

t_0: 0.8 minutes

K': 3.18

Notes: Nitenpyram is an insecticide used in agriculture and veterinary medicine to kill external parasites of pets. It is a neonicotinoid, a neurotoxin that blocks neural messages and binds particularly tightly in the central nervous system of insects, causing rapid death.

Note 2: Capacity was determined using the following equation: $k = (t_R\text{-}t_0)/t_O$

- t_R = *Retention time of an analyte peak*
- t_O = *Retention time of non-retained peak*

COGENT HPLC Columns™

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