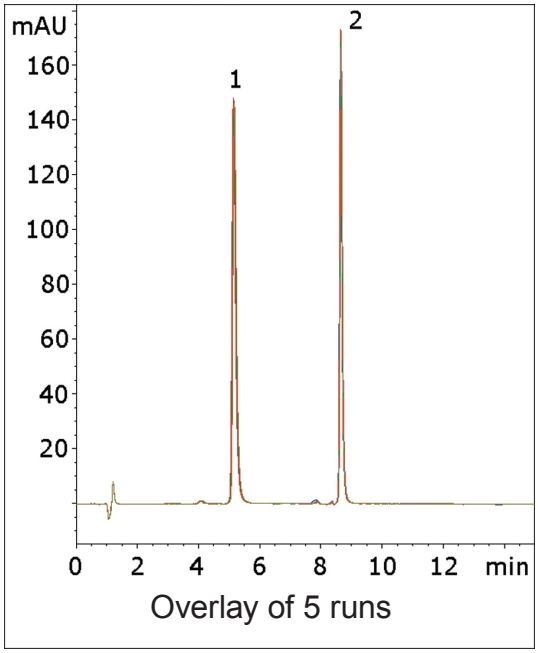
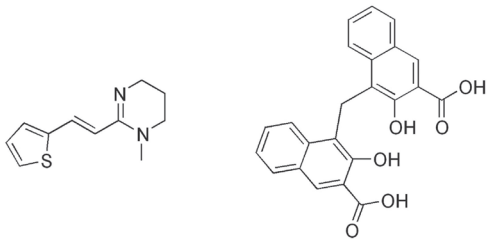
Pyrantel Pamoate

Robust separation with excellent peak shapes





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Note: The pyrantel pamoate combination is used as a deworming agent in both human and veterinary medicine. It acts as a depolarizing neuromuscular blocking agent. It is marketed under trade names such as Pin-X®, Pin-Rid® and Combatrin®.

Method Conditions

Column: **Cogent Phenyl Hydride™**, 4µm, 100Å

Catalog No.: 69020-7.5P

Dimensions: 4.6 x 75 mm

Mobile Phase: A: DI H_2O / 0.1% TFA (v/v)
B: Acetonitrile / 0.1% TFA (v/v)

Gradient:

time (min.)	%B
0	20
2	20
11	80
12	20

Post Time: 3 min

Injection vol.: 5µL

Flow rate: 1.0 mL/min

Detection: UV 288 nm

Sample: **Stock Solution:** 1.0 mg pyrantel pamoate was dissolved in a diluent of 95% acetonitrile / 5% DI H_2O / 0.2% 1N NaOH.
Working Solution: 100µL of the stock solution was diluted with 900µL of 95% acetonitrile / 5% DI H_2O.

Peaks: 1. Pyrantel
2. Pamoic Acid

t_0: 0.9 min

Discussion

The USP assay method for pyrantel pamoate uses a bare silica column with a mobile phase of acetonitrile, acetic acid, water and diethylamine (92.8: 3: 3: 1.2). Bare silica columns are often less robust than reversed phase columns due to the variable nature of the adsorbed water layer and/or the ion pair loading. In contrast, this method using the Cogent Phenyl Hydride, shows excellent repeatability for the analyte retention times as shown in the figure. Furthermore, it meets the USP system suitability for resolution ($R_s \geq 10$) and obtains high-efficiency symmetrical peaks for both compounds.

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