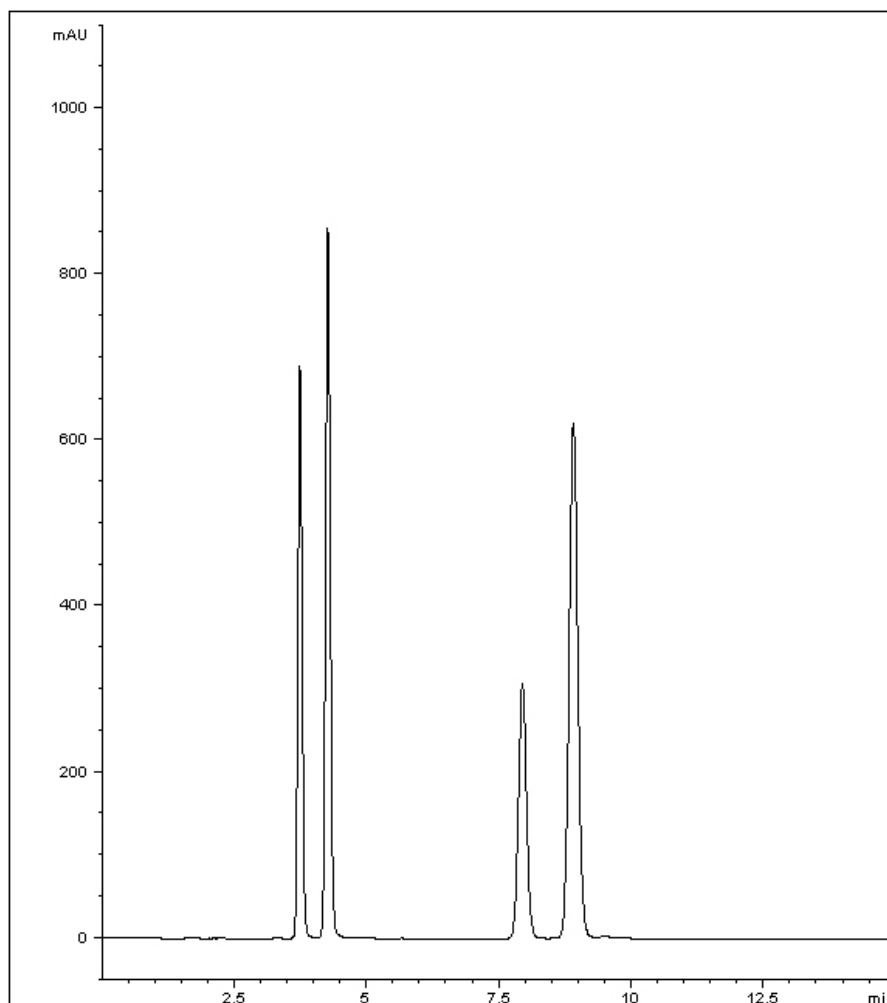


Sulfonamide Antibiotics Analyzed with HPLC- AppNote

Everyday Reliable & Precise Method

This Method offers great Resolution of a mixture of four Sulfa drugs. These Antibiotics are commonly used in both veterinary medicine and also employed to fight disease in honey bees. The importance of quantification is vital, as residues are often found in honey samples and are of concern to customers due to allergic reactions.



Peak:

1. Sulfapyridine
2. Sulfamerazine
3. Sulfamethoxazole
4. Sulfadoxin

Method Conditions:

Column: Cogent RP Phenyl Hexyl™, 5µm, 100Å

Catalog No.: 68539-15P

Dimensions: 4.6 x 150mm

Mobile Phase: 75:25 DI Water with 0.1% Formic Acid / Acetonitrile

Injection vol.: 5µL

Flow rate: 1.0mL / minute

Detection: UV @ 270nm

Sample Preparation: 0.25mg / mL of each analyte in 50:50 Acetonitrile / DI Water

Note: Introduced in the 1930's, Sulfonamide drugs paved the drug pathway as an antibiotic revolution in medicine. They were the first broadly effective antibacterials to be used systemically. Sulfonamides inhibit Dihydropteroate synthase (DHPS), an enzyme that is an essential nutrient and is critical for the synthesis of folate. Where mammals acquire folate from their diet, bacteria must synthesize this vitamin. Folate synthesis requires a chemical reaction between 2 molecules, DHPP and PABA, that is catalyzed by DHPS. Sulfonamides inhibit DHPS by binding to the active site. Once bacteria developed resistance, they were replaced by penicillin. Researchers found the bacteria resistant to sulfa drugs often have mutations in the DHPS enzyme.



Attachment

Sulfonamide Antibiotics Analyzed with HPLC pdf [Download File](#)

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