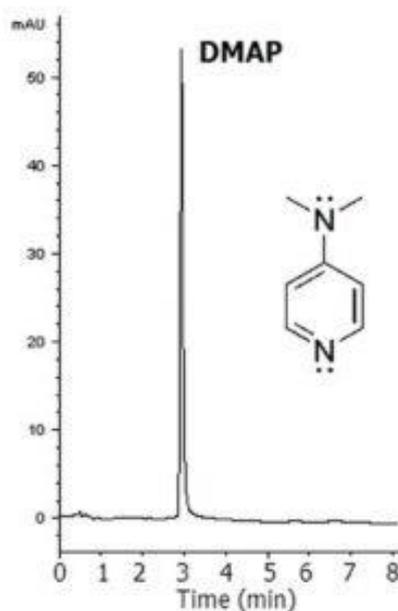


DMAP 4-Dimethylaminopyridine Analyzed by HPLC - AppNote

Analyzing the Catalyst, DMAP, 4-Dimethylaminopyridine by HPLC

This AppNote shows a rapid, reliable, Isocratic Reversed Phase, HPLC Method that was developed for the Analysis of an important Catalyst for many applications and industries: 4-Dimethylaminopyridine (*DMAP*).



Peak:
DMAP

Method Conditions

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

Catalog No.: 70000-7.5P

Dimensions: 4.6 x 75 mm

Mobile Phase:

90:10 Solvent A / Solvent B

A: DI Water / 0.05% TFA

B: Acetonitrile

Flow rate: 2.0 mL / minute

Detection: UV @ 280 nm

Injection vol.: 10 μL

Sample Preparation: 1 mg / mL prepared in 50:50 Solvent A / Solvent B.

Notes: DMAP is an important catalyst to many industries including the pharmaceutical industry which uses it to synthesize many new drugs. It is used in Picolinyl derivatization (esterification with Picolinic Acid) of steroids for LC-MS/MS analysis; the Ethyl Ether-Picolinyl derivatization provides an approximately 10-fold higher ESI response in the positive-LC-ESI-MS/MS (selected reaction monitoring; SRM) when compared to that of un-derivatized steroid molecules. Pre-Column derivatization of T-2 and HT-2 toxins (Fusarium Mycotoxins that can occur in cereals and cereal-based products) with fluorescent labeling reagents is carried out in Toluene with DMAP as a catalyst. 4-Dimethylaminopyridine is also used in accelerated synthesis of heroin from morphine. In comparison with classic acetylating procedures, reaction time is reduced from several hours at elevated temperatures to under 10 minutes at room temperature when DMAP is used as a catalyst.

This AppNote is also interesting in that the Column used was a Cogent Diamond Hydride™ which is typically used in ANP but in this case, is performing very well in Reversed Phase HPLC.



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