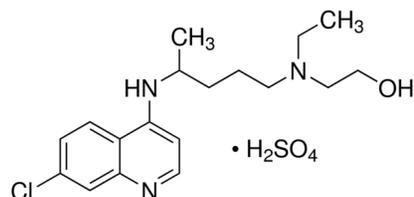
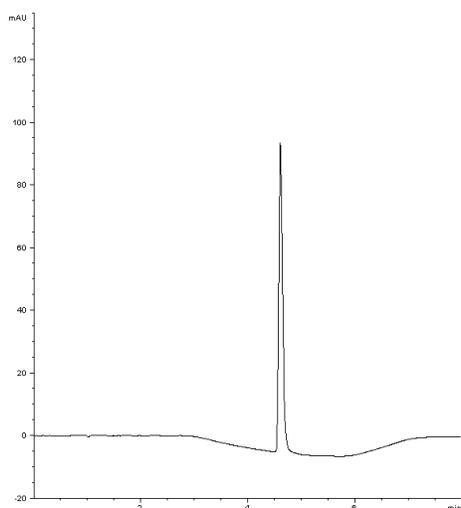


Hydroxychloroquine Sulfate

Detection and Retention Without the Use of Ion-Pairing Reagents



Hydroxychloroquine sulfate



Method Conditions

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

Catalog No.: 70000-75P

Dimensions: 4.6 x 75 mm

Solvents: A: DI H₂O/ 0.1% formic acid (v/v)

B: Acetonitrile/ 0.1% formic acid (v/v)

Gradient:	time (min.)	%B
	0	80
	1	80
	3	50
	4	50
	5	80
	8	80

Injection vol.: 1µL

Flow rate: 1.0 mL/min

Detection: 254nm

Sample: 0.1 mg/mL Hydroxychloroquine sulfate in 50:50 acetonitrile: DI H₂O

Peaks: 1. Hydroxychloroquine sulfate

Discussion

Hydroxychloroquine sulfate presents a few complexities to routine chromatographic analysis as the amine groups may interact with lone-silanols, causing peak tailing on regular silica columns. In typical reversed phased settings, buffers are needed in higher concentrations to aid in retention, as well as ion pair reagents. These additives can hinder coupling in mass spectrometry and also increases the likelihood of source contamination.

However, use of the Cogent Diamond Hydride™ column in ANP illustrates how Hydroxychloroquine sulfate can be readily retained, maintain good run-to-run precision, and possess excellent peak shape without ion pairing reagents. (%RSD = 0.09, SD below 0.004.) This method demonstrates an easy HPLC method that can be quite readily transferred to LCMS.

Notes: Hydroxychloroquine is an inexpensive antimalarial drug, now regarded as a safe and reasonably effective treatment for various autoimmune rheumatic diseases including systemic lupus erythematosus.