

Application News

SSI-LCMS-039

Liquid Chromatography Mass Spectrometry

High Sensitivity Detection of 10pg of Chloramphenicol using the LCMS-2020

Summary

Chloramphenicol response by ESI (-) was optimized using flow injection analysis (FIA). Isocratic LC conditions were applied to reproducibly detect 10 pg injected with signal to noise (S/N) of at least 350.00 and a % CV = 2.31.

Introduction

Chloramphenicol (**Figure 1**) is a broad-spectrum antibiotic useful for the treatment of a number of bacterial infections. Because of this, monitoring its presence is important.

Materials and Methods

FIA was used to optimize all source and instrument conditions. An optimized isocratic LC condition was established empirically and then six injections of 10 pg on column all with at least a S/N \geq 350.00 with a % CV = 2.31 were obtained. Table 1 shows the results for the repeatability and sensitivity testing of Chloramphenicol while Figure 2 shows a representative chromatogram.

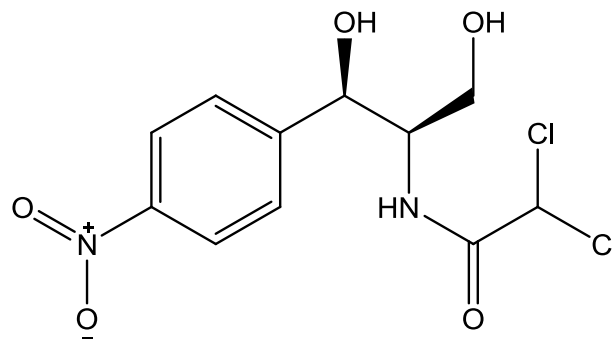


Figure 1. Chemical structure of chloramphenicol.

Peak#	m/z	Ret. Time	Area	S/N
1	321.00	3.380	3846	373.00
2	321.00	5.383	3825	368.50
3	321.00	7.382	3597	373.50
4	321.00	9.377	3407	350.00
5	321.00	11.400	3397	361.50
6	321.00	13.387	3484	372.50

Table 1. Results of the repeatability and sensitivity testing conducted using chloramphenicol. S/N \geq 350.00, %CV=2.31, n=6

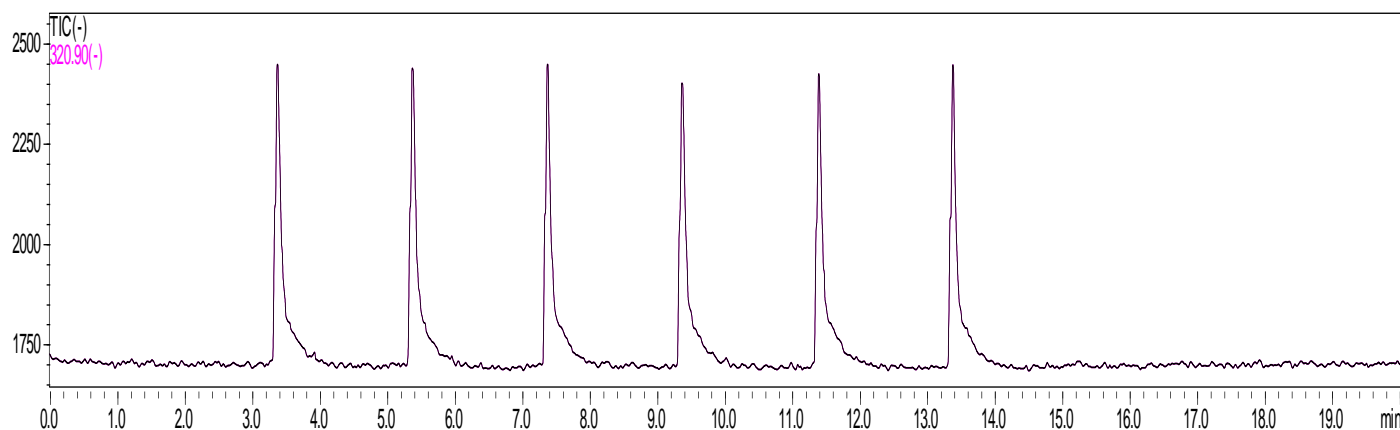


Figure 2. A representative chromatogram of 10pg of chloramphenicol.

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