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Application News

SSI-LCMS-040

Liquid Chromatography Mass Spectrometry

High Sensitivity Detection of 50pg 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 50 pg injected with signal to noise (S/N) of at least 4058.00 and a % CV = 1.67.

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 50 pg on column all with at least a S/N ≥ 4058.00 with a % CV = 1.67 were obtained. Table 1 shows the results for the repeatability and sensitivity testing of Chloramphenicol while Figure 2 shows a representative chromatogram.

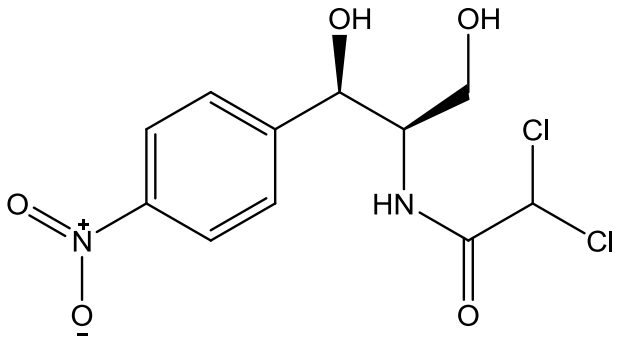

Figure 1. Chemical structure of chloramphenicol.

Peak#	m/z	Ret. Time	Area	S/N
1	321.00	1.810	4485	4058.00
2	321.00	2.496	4819	4280.00
3	321.00	3.178	4769	4176.00
4	321.00	3.867	4758	4182.00
5	321.00	4.555	4765	4230.00
6	321.00	5.234	4788	4236.00

Table 1. Results of the repeatability and sensitivity testing conducted using chloramphenicol. S/N ≥ 4058.00, %CV=1.67, n=6

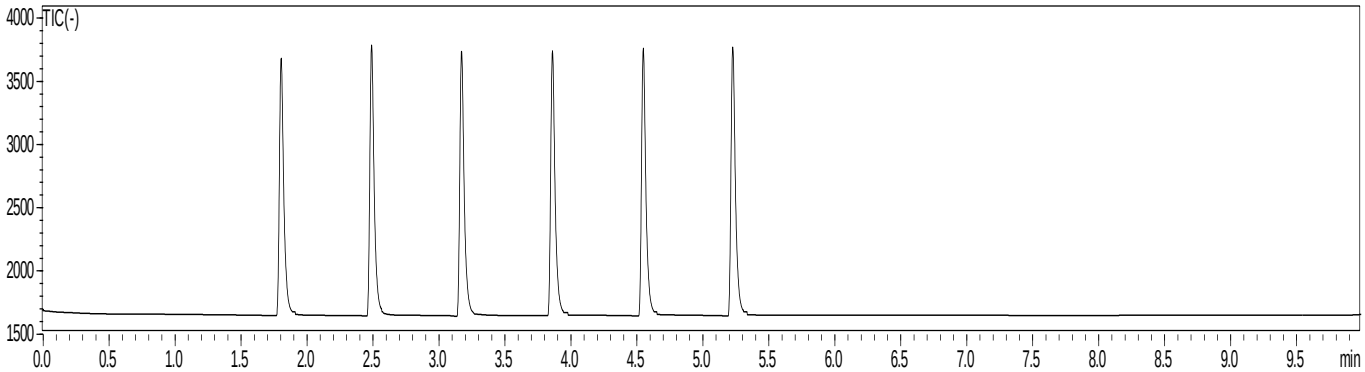

Figure 2. A representative chromatogram of 50pg of chloramphenicol.

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