

## Application News

SSI-LCMS-033

### Liquid Chromatography Mass Spectrometry

## High Sensitivity Detection of 1pg of Sulfadimethoxine using the LCMS-8050

### Summary

Sulfadimethoxine was optimized using flow injection analysis (FIA) on the LCMS-8050 triple quadrupole mass spectrometer using ESI positive ionization. Isocratic LC conditions were applied to reproducibly detect 1 pg on column with at least a signal to noise (S/N) = 23,672 and a % CV = 0.89.

### Introduction

Sulfadimethoxine (Figure 1) is a sulfonamide antibiotic used to treat a wide range of infections found in Animals and in humans in some parts of the world. Because of this its uses in humans and animals, 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 1 pg on column all with at least a S/N  $\geq$  23,672 with a % CV = 0.89 were obtained. Table 1 shows the results for the repeatability and sensitivity testing of chloramphenicol while Figure 2 shows a representative chromatogram.

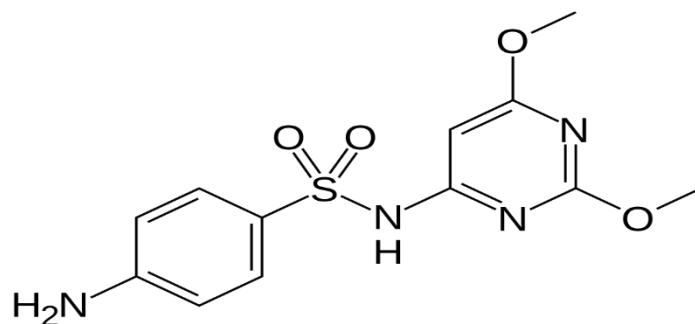


Figure 1. Chemical structure of sulfadimethoxine.

Peak#	m/z	Ret. Time	Area	S/N
1	310.90>156.00	6.85	53370	25096.84
2	310.90>156.00	8.598	52852	24611.53
3	310.90>156.00	10.349	53661	24819.68
4	310.90>156.00	12.098	53039	24198.10
5	310.90>156.00	13.849	52519	23672.04

Table 1. Results of the repeatability and sensitivity testing conducted using the sulfadimethoxine. S/N  $\geq$  23,672, %CV=0.89, n=6

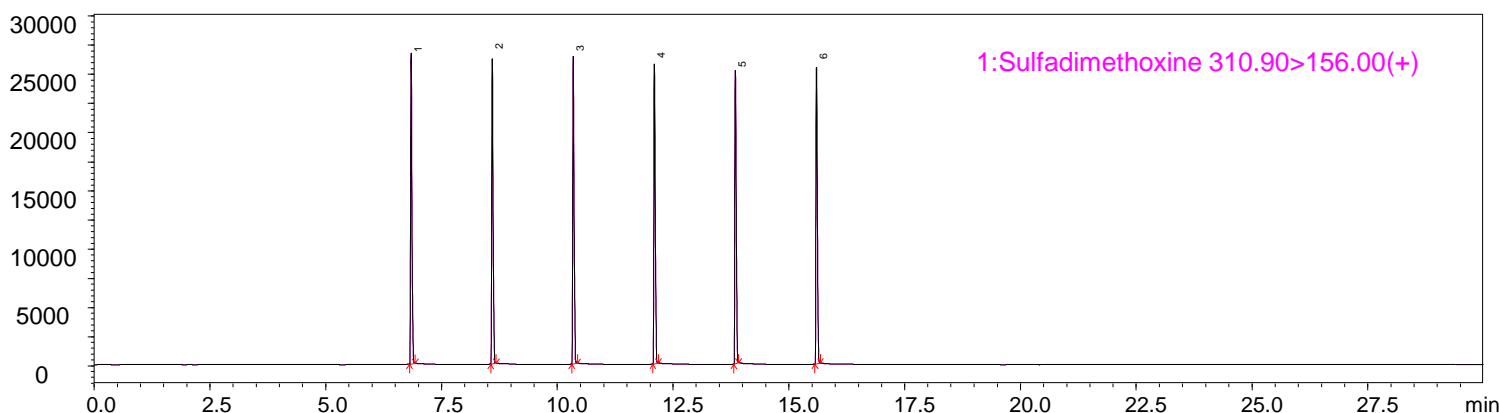


Figure 2. A representative chromatogram of 1pg of sulfadimethoxine. S/N  $\geq$  23,672, %CV = 0.89, n = 6

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First Edition: October, 2012