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Quantification of Fluoroquinolone Antibiotics with High Performance Liquid Chromatography Coupled UV/VIS Detection

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Poster Presentation P51

QUANTIFICATION OF FLUOROQUINOLONE ANTIBIOTICS WITH HIGH PERFORMANCE LIQUID CHROMATOGRAPHY COUPLED UV/VIS DETECTION

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Fluoroquinolones such as Ciprofloxacin, CiproÆ, are a class of widely used antibiotics that inhibit DNAGyrase of bacteria. These compounds are used in both human and veterinary medicines. Due to increasing number of antibiotic resistant bacterial strains, their presence in wastewaters and soil is important. The antibiotic, when administered, is not fully absorbed by the body; the excess is excreted. In the case of animals, the excess is excreted directly into the soil, while for humans the compounds enter the wastewater stream. If they are not removed in wastewater treatment, they may be released into the environment. The analytical method centered on reverse-phase high performance liquid chromatography on a C-18 column coupled with UV/Vis detection. The mobile phase was composed of acetonitrile and 25mM o-H3PO4. Fluoroquinolone compounds were visualized at 278nm. Solid phase extraction can be done using a mixed phase cation exchange cartridge and eluted with MeOH and o-H3PO4. These compounds are detected at such low levels, ng/L, that it becomes critical to avoid contamination; this study explores contamination possibilities.