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乳酸左氧氟沙星的飞行时间质谱裂解规律研究

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摘要 采用不同电子能量的 EI和不同反应气压力的 CI电离方式 ,研究了乳酸左氧氟沙星 (LL)的半水合物飞行时间质谱 (TOFMS)的裂解规律。结果表明 :乳酸左氧氟沙星难以产生喹诺酮特有的裂解产物 ;当电离能量为 25 e V时 ,所得 EI谱的碎片离子丰度明显大于 70 e V所得离子的丰度 ;当反应气由正常压力 1×10^{-2} Pa降低到 1×10^{-3} Pa时 ,CI谱中碎片离子丰度由极小变大 ,其强度与 EI(70 e V)所得离子丰度相当

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Study on Fragmentation Regularity of Levofloxacin Lactate by Time-of-Flight Mass Spectrometry

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Abstract Time of Flight Mass Spectrometry (TOF MS), with different electron energy for EI and different gas pressure for CI, of half aquo complex of levofloxacin lactate (LL) were studied. There was no molecular ion of LL as well as its half aquo complex in both EIMS and CIMS, but molecular ions with abundance of 100% of levofloxacin(LVFX) in both EI and CI + mass spectra were appeared. A prominent fragmentation rout of LVFX was an elimination of CO₂ from molecular ion at m/z 361, forming cation A at m/z 317, followed by the cleavage of piperazine ring creating cation B at m/z 246 and C at m/z 71. Further fragmentation pathway was the formation of cation D at m/z 231 from B. All the abundances of fragment measured under 25 eV in EI were greater than those under 70 eV. For CIMS with normal gas pressure (0.01 Pa), the abundance of + ion appears as 100%, whereas all of abundances of fragment ions were very small. When the gas pressure were reduced to 1×10^{-3} Pa, the abundance of + ion were reduced to 34%, whereas all of abundances of fragment ions in CIMS were increased as large as those from the normal EIMS.

Key words [mass spectrometry](#) [study on fragmentation regularity](#) [time of flight mass spectrometry \(TOFMS\)](#)[levofloxacin lactate](#) [levofloxacin](#)

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