supplementary material

Comprehensive Stability Analysis of Haloperidol: Insights from Advanced Chromatographic and Thermal Analysis

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Table S1. Results of the method linearity study.

Concentration (µg / mL)	Area ± SD	RSD (%)	Characteristics of the calibration curve
1	30.41 ±0.48	1.58	Equation of the curve
2.5	82.25 ±0.01	0.01	Y= 34.89 x – 11.02
5	160.6 ±2.83	1.76	Correlation coefficient (R)
10	313.95 ±2.57	0.82	R= 0.9995
25	880.46 ±6.58	1.51	Mean coefficient of variation (RSD)
50	1728.72 ± 0.90	0.05	RSD_{moy} = 0.96 % < 2 %

Table S2. Results of validation method.

Parameters	Results
Linearity range (µg/mL)	1 - 50
Equation of linearity	Y = 34.89 x – 11.02
Correlation coefficient (R)	0.9995
Precision	RSD = 1.05< 2%
Accuracy	RSD = 1.08< 2%
LOD (µg/mL)	0.21
LOQ (µg/mL)	0.64

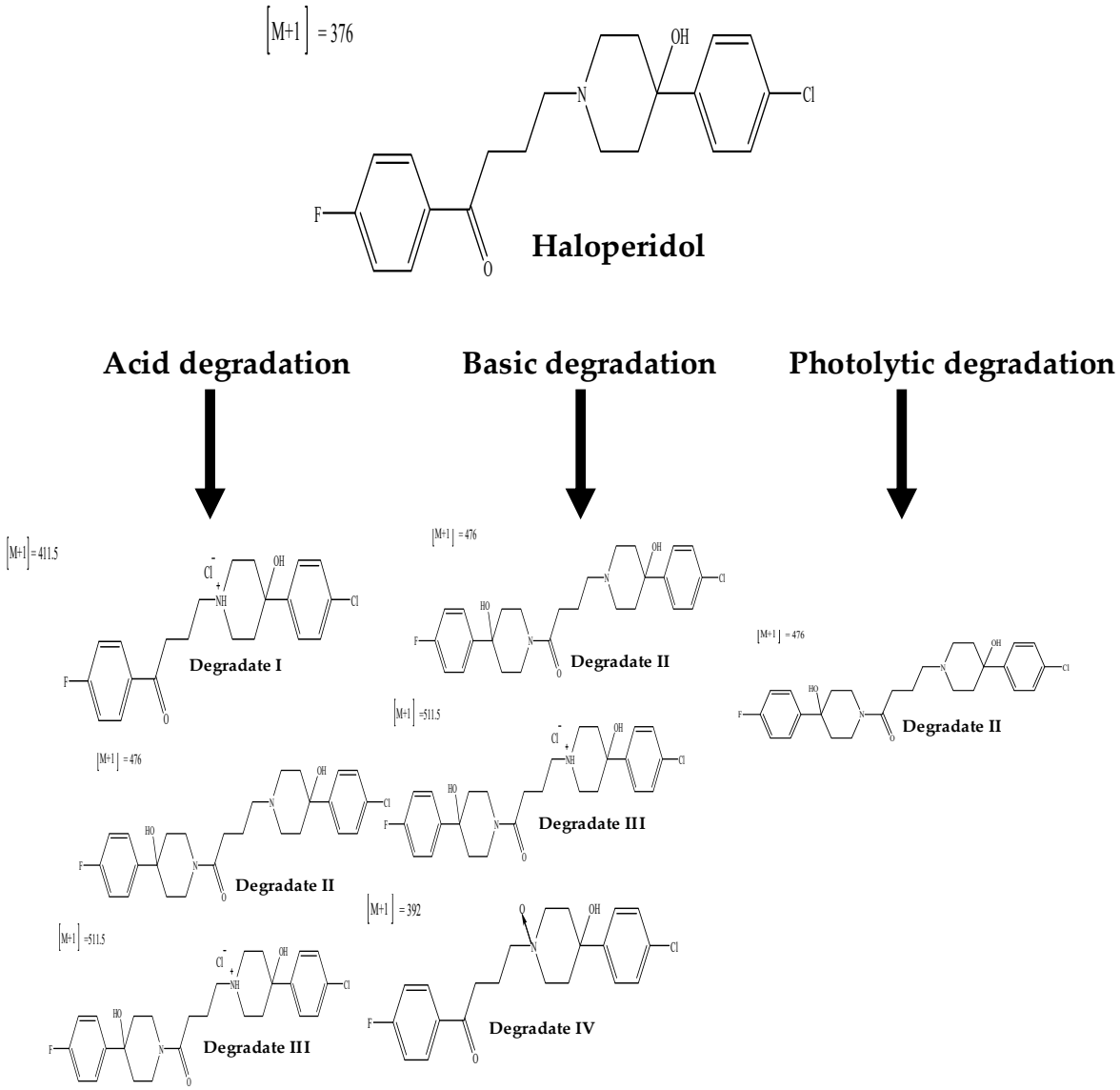


Figure S1. Possible degradation products of haloperidol.

Haloperidolhydrochlorid: 4-(4-Chloro-phenyl)-1-[4-(4-fluoto-phenyl)-4-oxo-butyl]-4-hydroxy-piperidinium; chloride

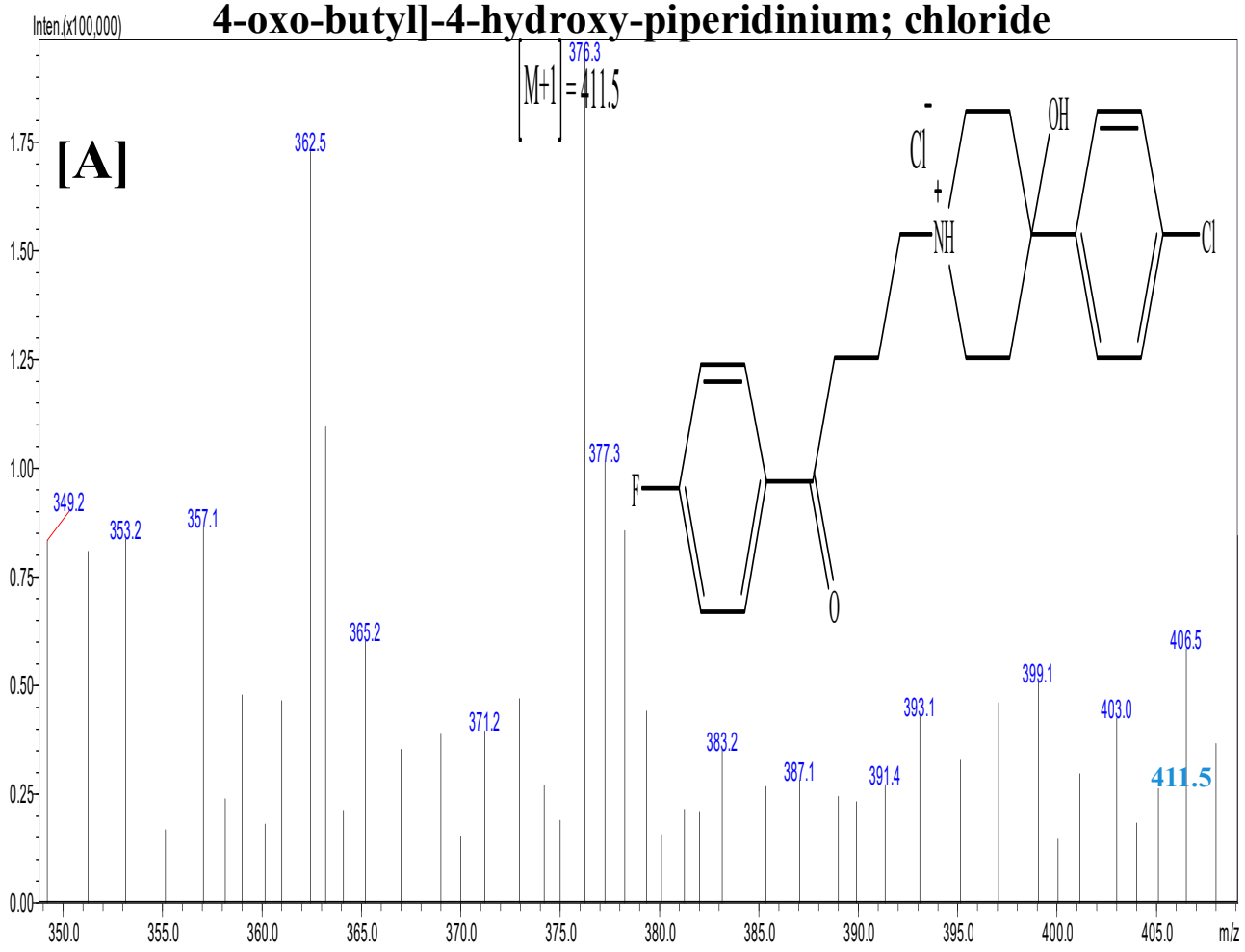


Figure S2. Mass spectrum of haloperidol degradation product [A] (haloperidol hydrochloride) and its fragmentation products.

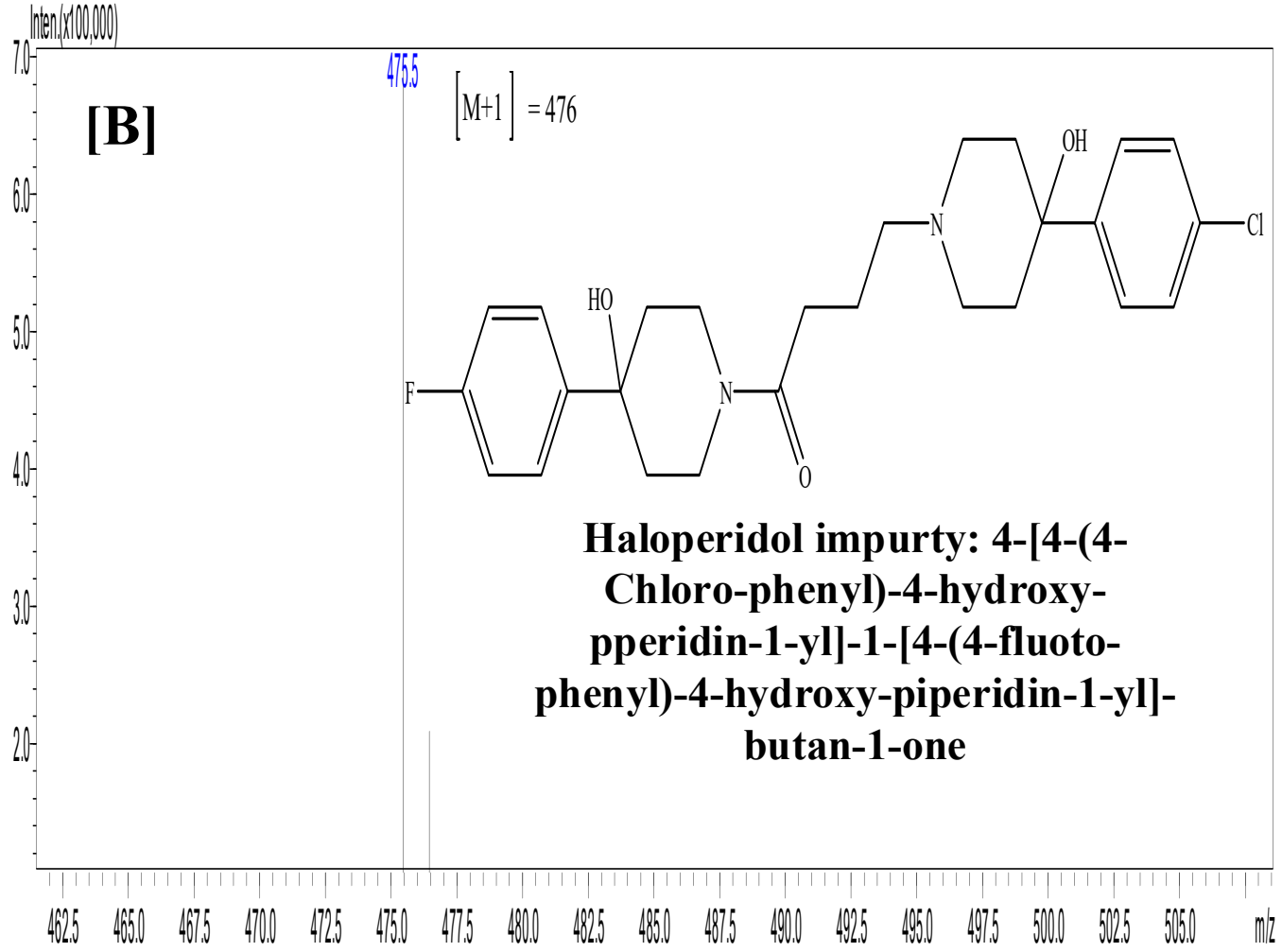


Figure S3. Mass spectrum of haloperidol degradation product [B] (Haloperidol impurity) and its fragmentation products.

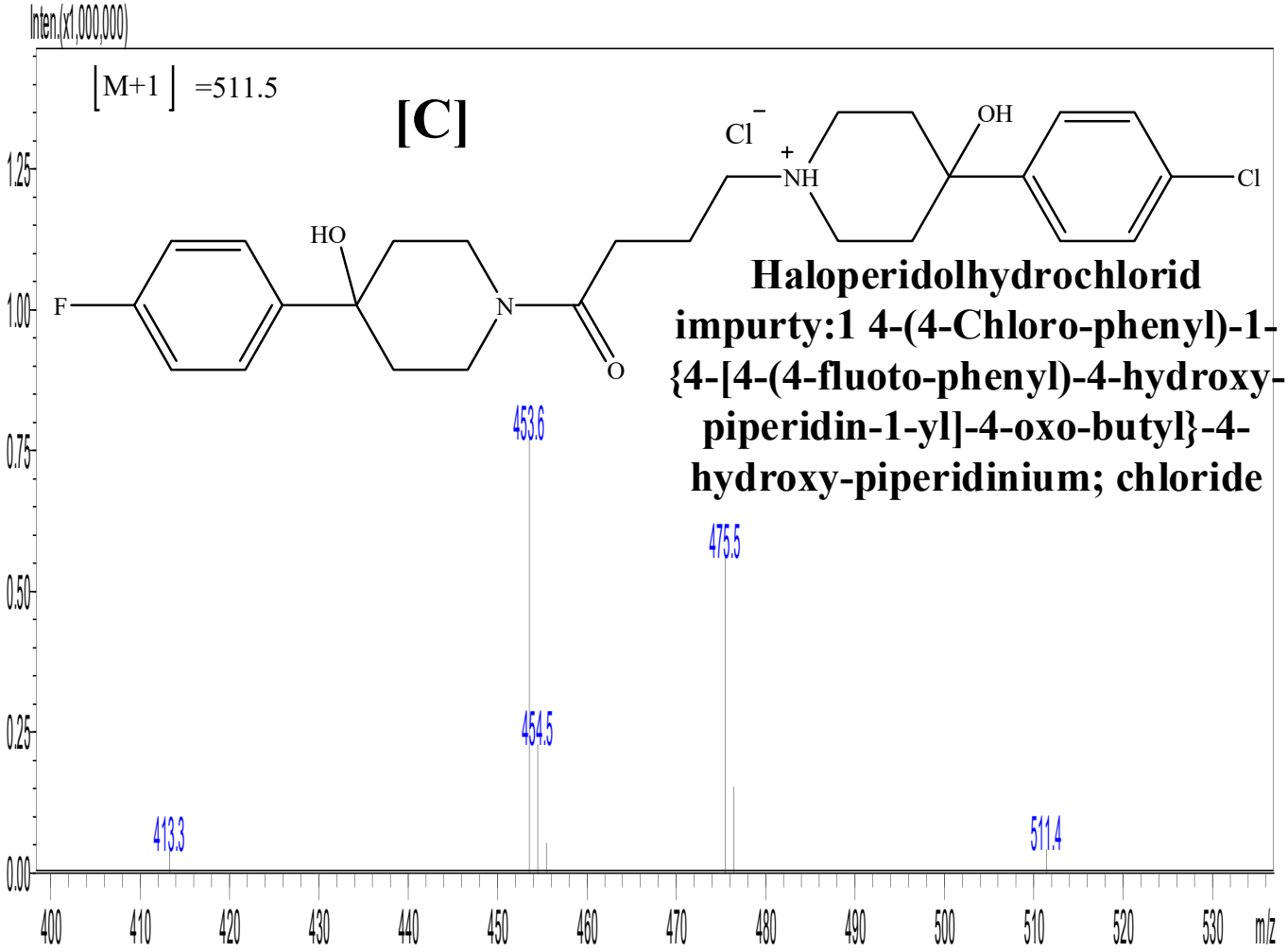


Figure S4. Mass spectrum of haloperidol degradation product [C] (haloperidol hydrochloride) and its fragmentation products.

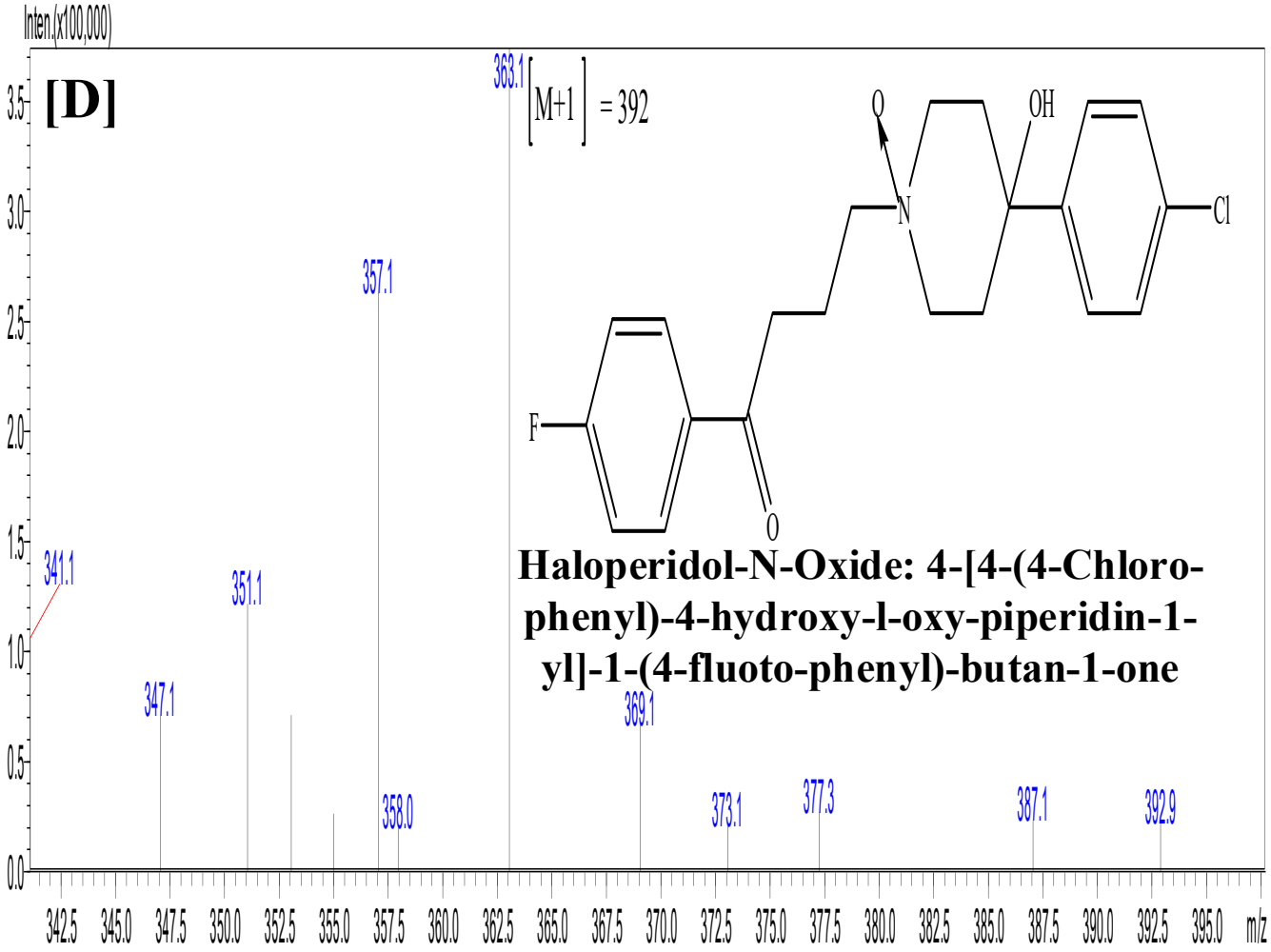


Figure S5. Mass spectrum of haloperidol degradation product [D] (haloperidol-N-Oxide) and its fragmentation products.

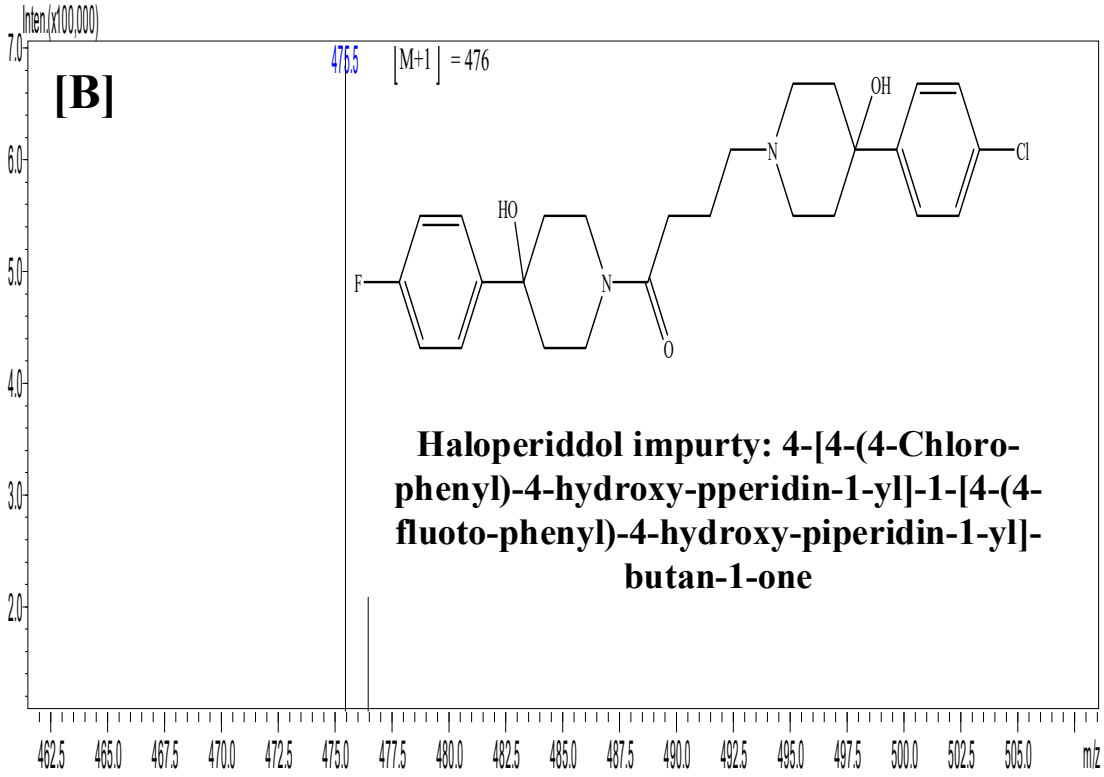


Figure S6. mass spectrum of haloperidol impurity [B].

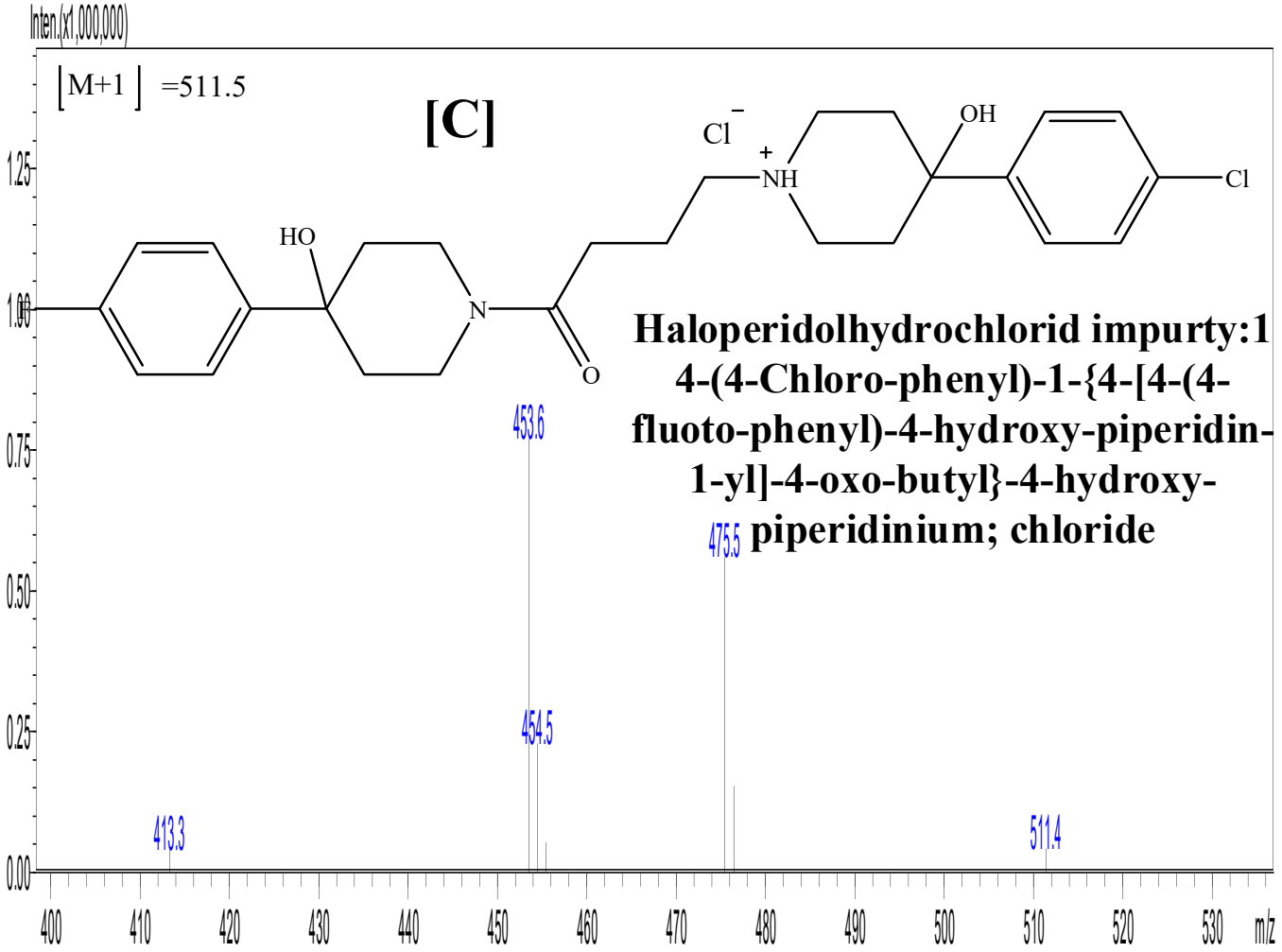


Figure S7. Mass spectrum of haloperidol degradation product [C] (haloperidol hydrochloride) and its fragmentation products.

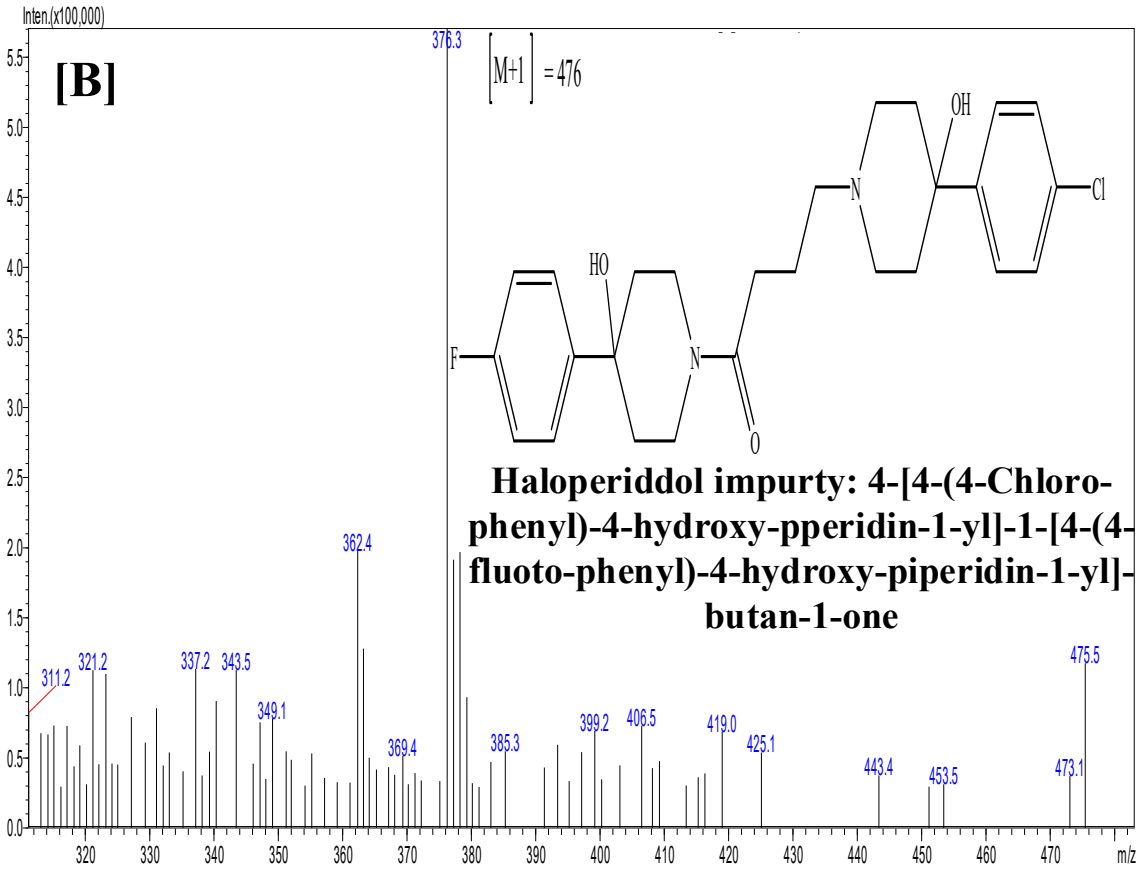


Figure S8. Mass spectrum of haloperidol degradation product [B] (haloperidol impurity) and its fragmentation products.