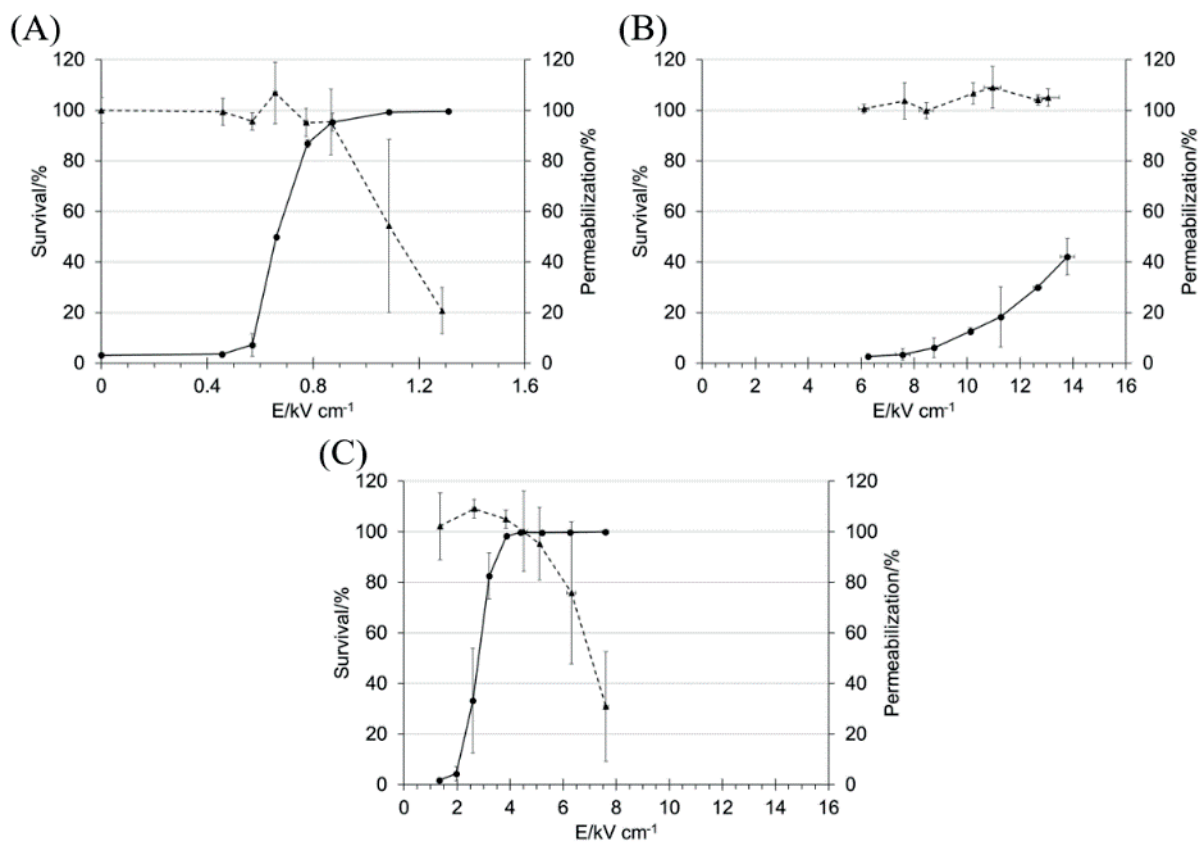


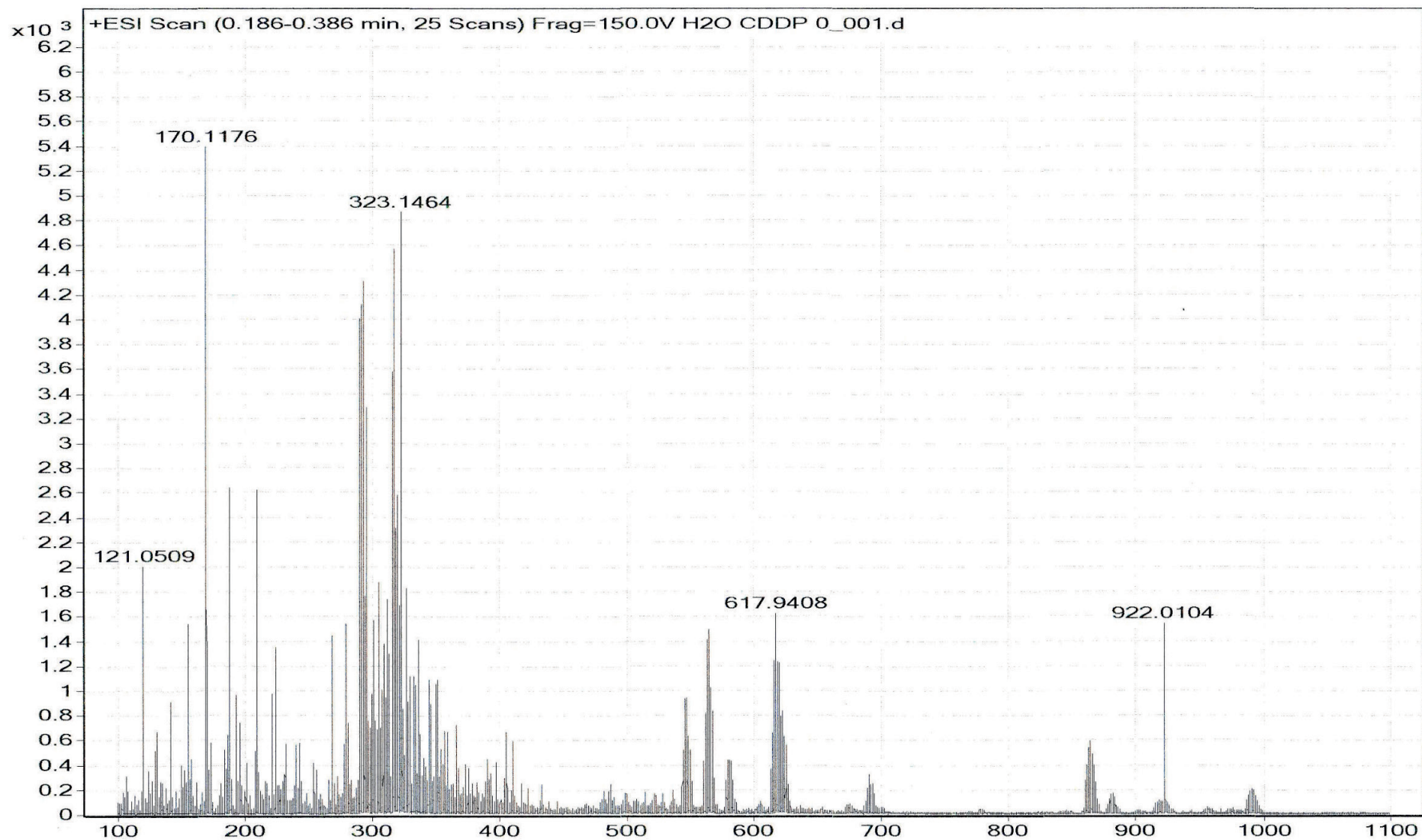
Nanosecond electric pulses are equally effective in electrochemotherapy with cisplatin as microsecond pulses

Angelika Vizintin, Stefan Markovic, Janez Scancar, Jerneja Kladnik, Iztok Turel, Damijan Miklavcic

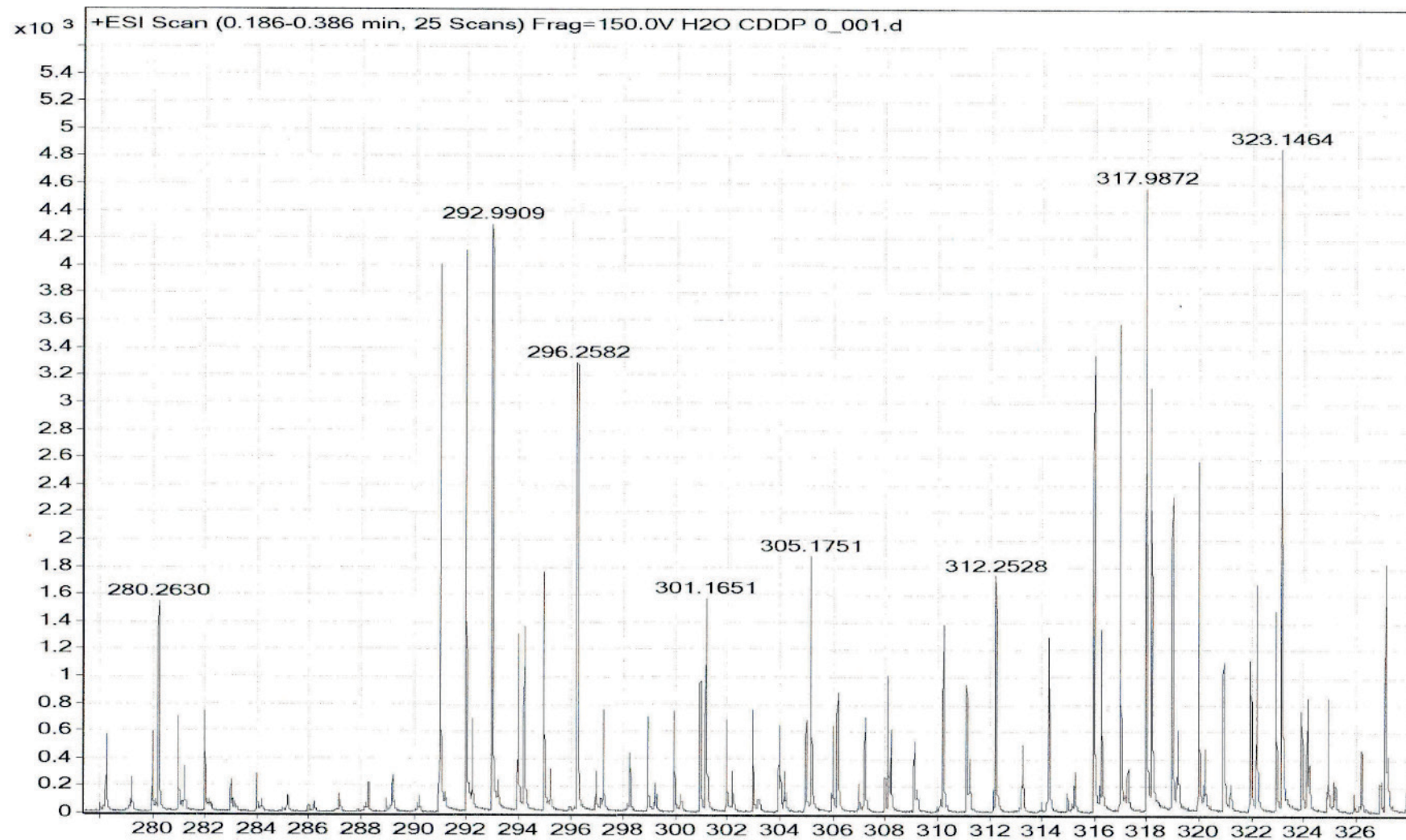
doi: 10.2478/raon-2022-0028



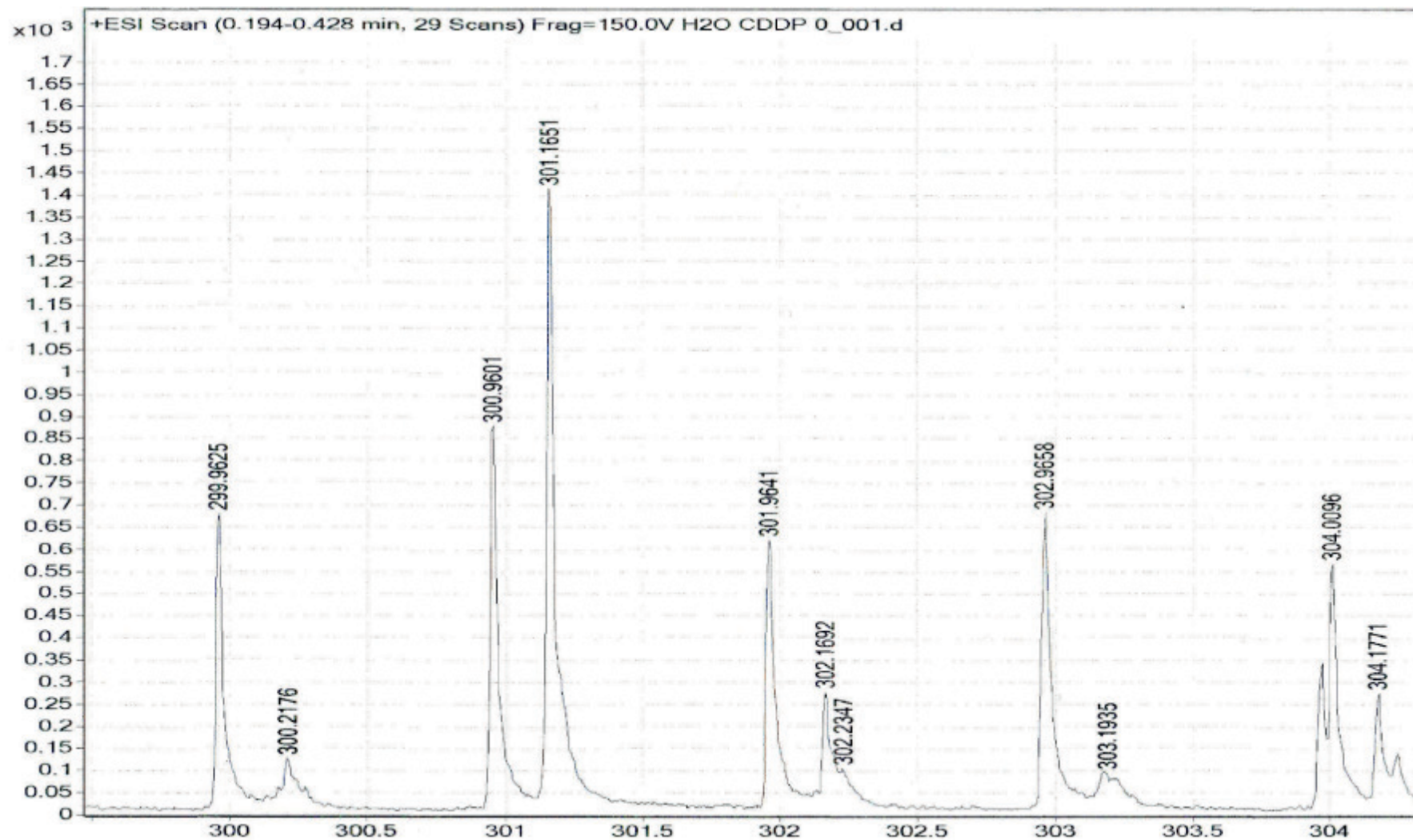
SUPPLEMENTAL FIGURE S1. Cell survival (triangles, dashed black line) and cell membrane permeabilization rate (circles, solid black line) of mouse skin melanoma B16F1 cells at different electric field strengths (E) after delivery of **(A)** 8 × 100 μs pulses, 1 Hz repetition rate, **(B)** 1 × 200 ns pulse, **(C)** 25 × 400 ns pulses, 10 Hz repetition rate. Cell survival was measured 72 h after treatment by the metabolic MTS assay, cell membrane permeabilization was determined as the proportion of cells fluorescing YO-PRO1 3 minutes after treatment. Bars represent standard deviation.



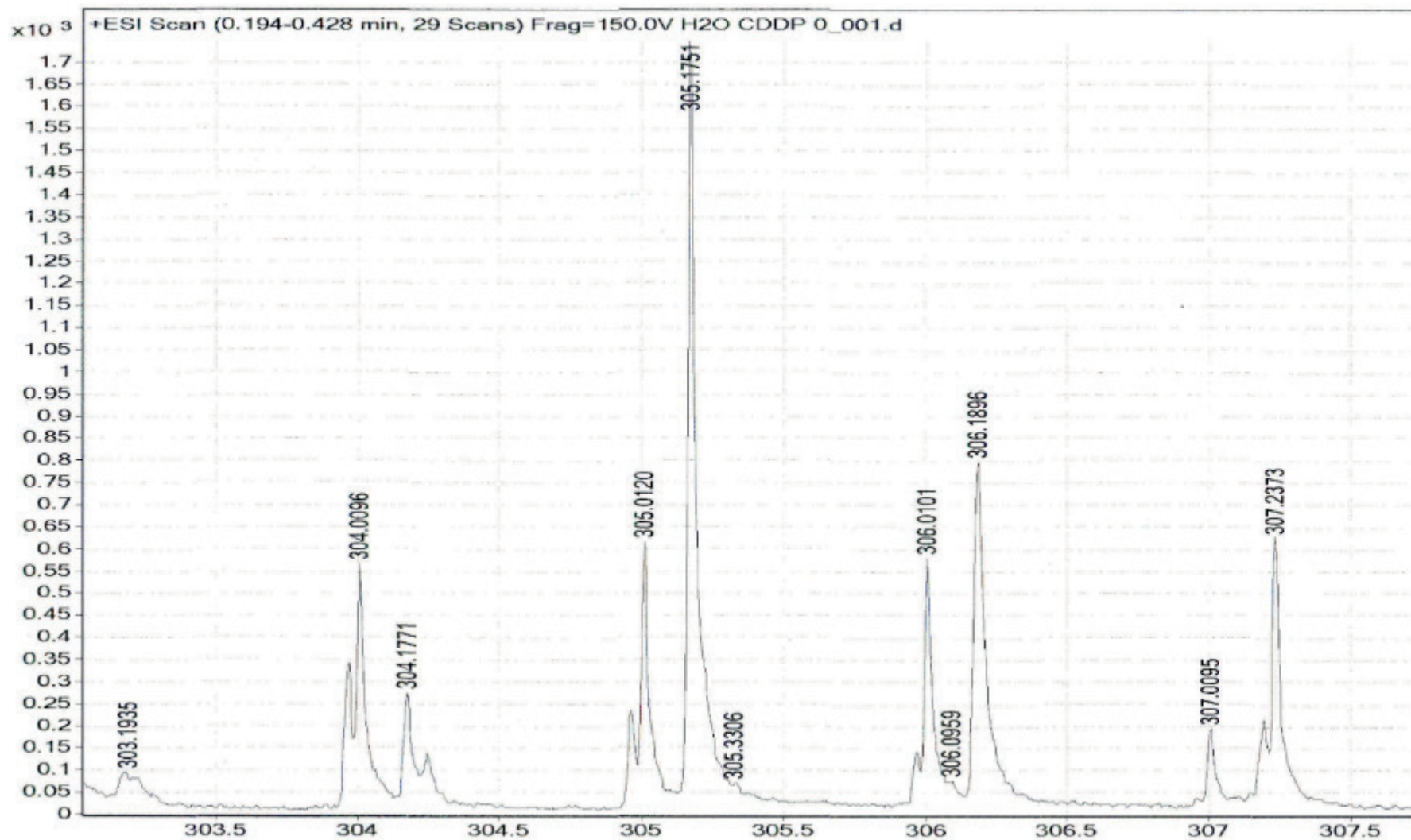
SUPPLEMENTAL FIGURE S2. Full-scan high-resolution mass spectrometry (HRMS) spectrum of cisplatin in water without application of electric pulses.



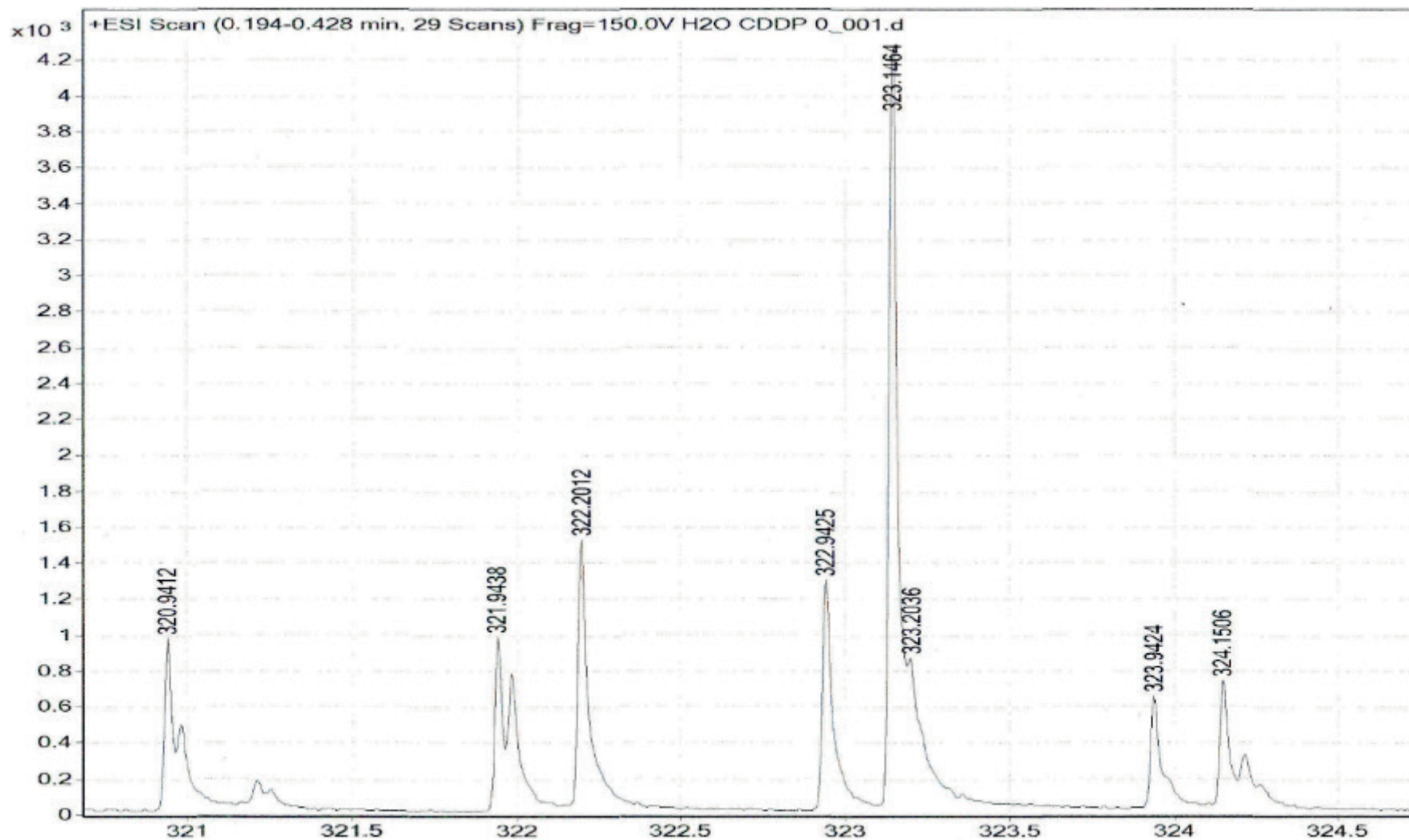
SUPPLEMENTAL FIGURE S3. Zoom-scan high-resolution mass spectrometry (HRMS) spectrum (m/z 280–326) of cisplatin in water without application of electric pulses with observed peaks for $[Pt(NH_3)_2(N_2)Cl]^+$ (m/z 292.9909) and $[M+NH_4]^+$ (m/z 317.9872).



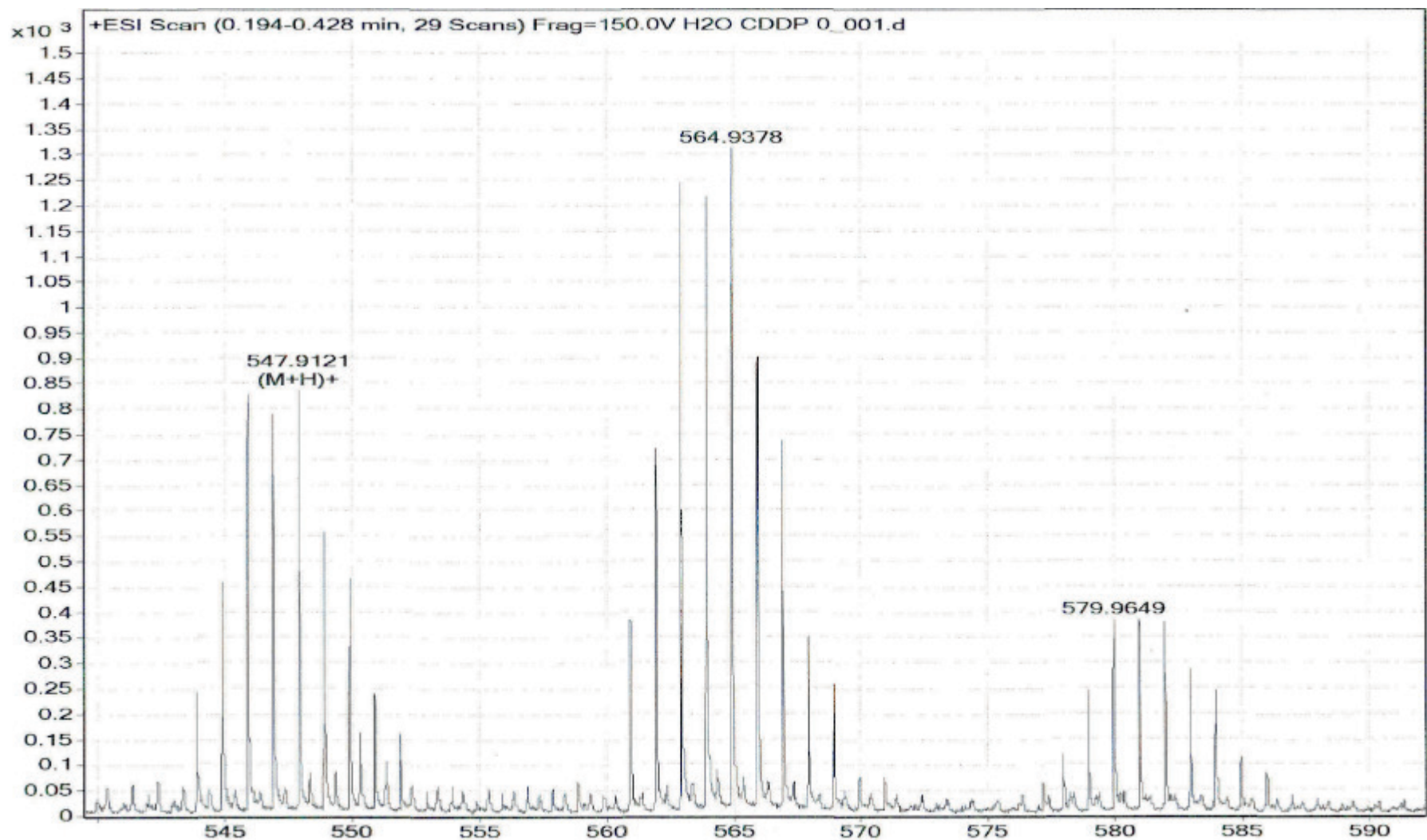
SUPPLEMENTAL FIGURE S4. Zoom-scan high-resolution mass spectrometry (HRMS) spectrum (m/z 300–304) of cisplatin in water without application of electric pulses with observed peak for $[M+H]^+$ (m/z 300.9601).



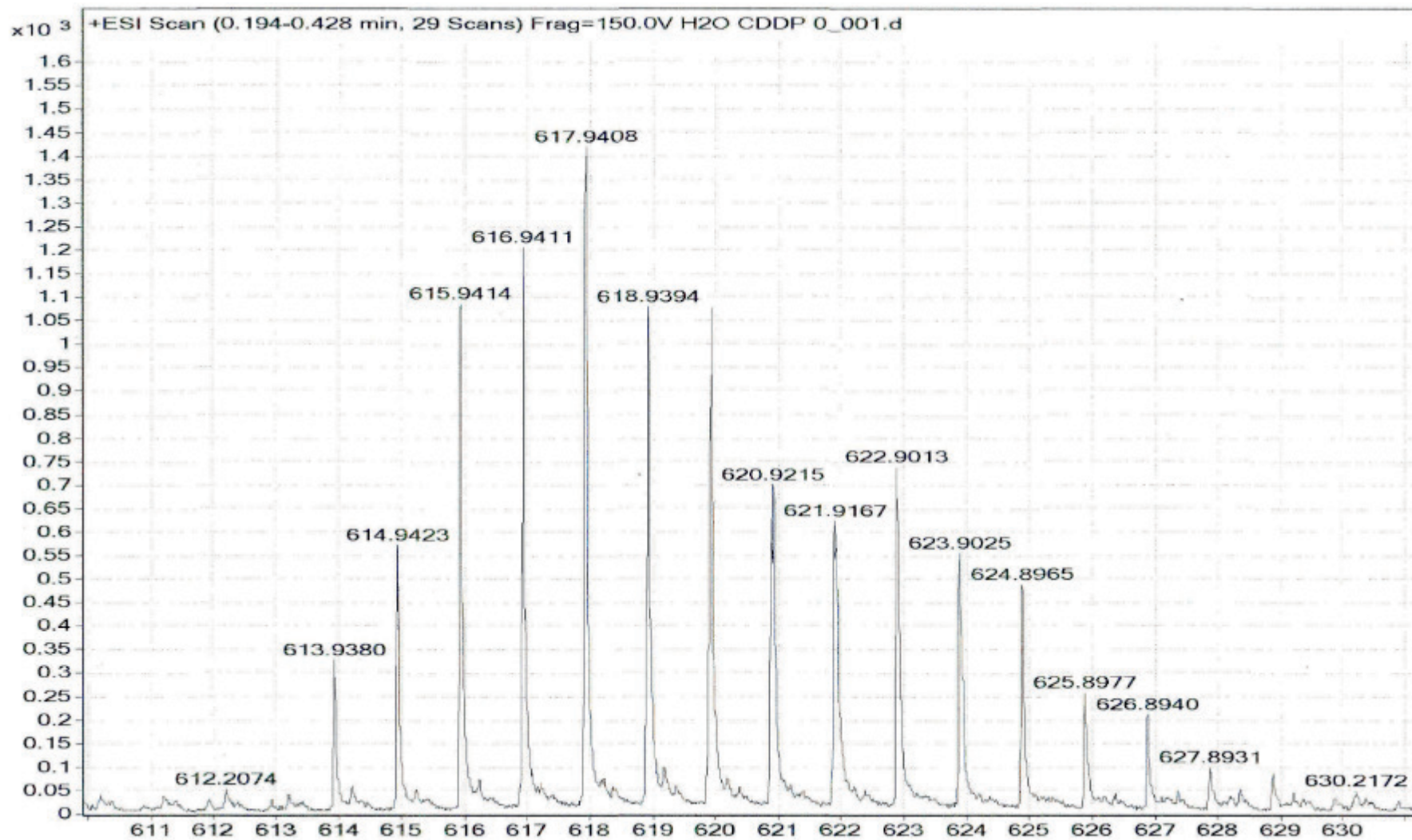
SUPPLEMENTAL FIGURE S5. Zoom-scan high-resolution mass spectrometry (HRMS) spectrum (m/z 303–307) of cisplatin in water without application of electric pulses with observed peak for $[\text{Pt}(\text{NH}_3)_2(\text{CH}_3\text{CN})\text{Cl}]^+$ (m/z 306.0101).



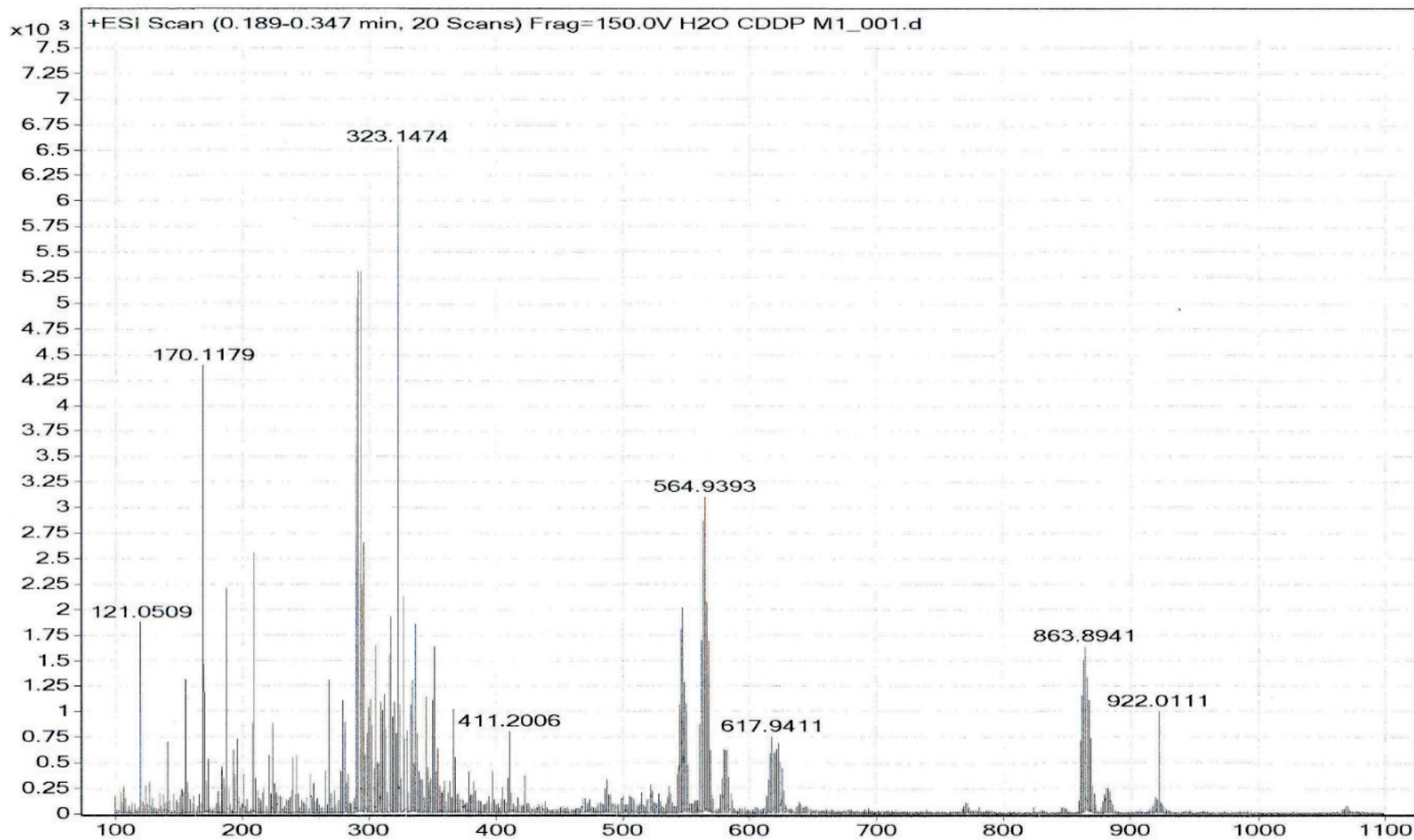
SUPPLEMENTAL FIGURE S6. Zoom-scan high-resolution mass spectrometry (HRMS) spectrum (m/z 321–324) of cisplatin in water without application of electric pulses with observed peak for $[M+Na]^+$ (m/z 322.9425).



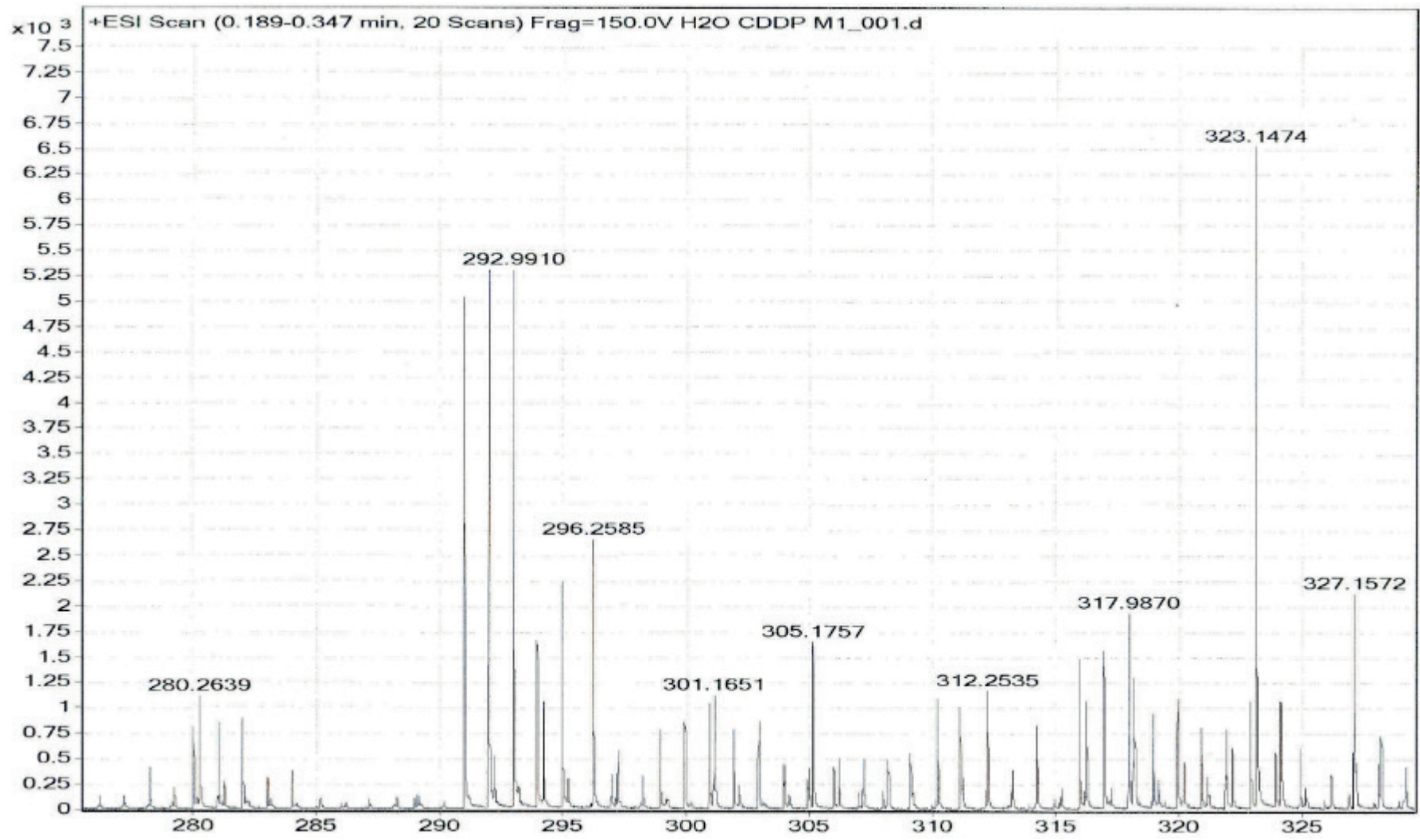
SUPPLEMENTAL FIGURE S7. Zoom-scan high-resolution mass spectrometry (HRMS) spectrum (m/z 540–590) of cisplatin in water without application of electric pulses with identified peaks for $[\text{Pt}(\text{NH}_3)_2\text{Cl}_2\cdot\text{Pt}(\text{NH}_3)\text{Cl}]^+$ (m/z 547.9121) and $[\text{Pt}(\text{NH}_3)_2\text{Cl}_2\cdot\text{Pt}(\text{NH}_3)_2\text{Cl}]^+$ (m/z 564.9378).



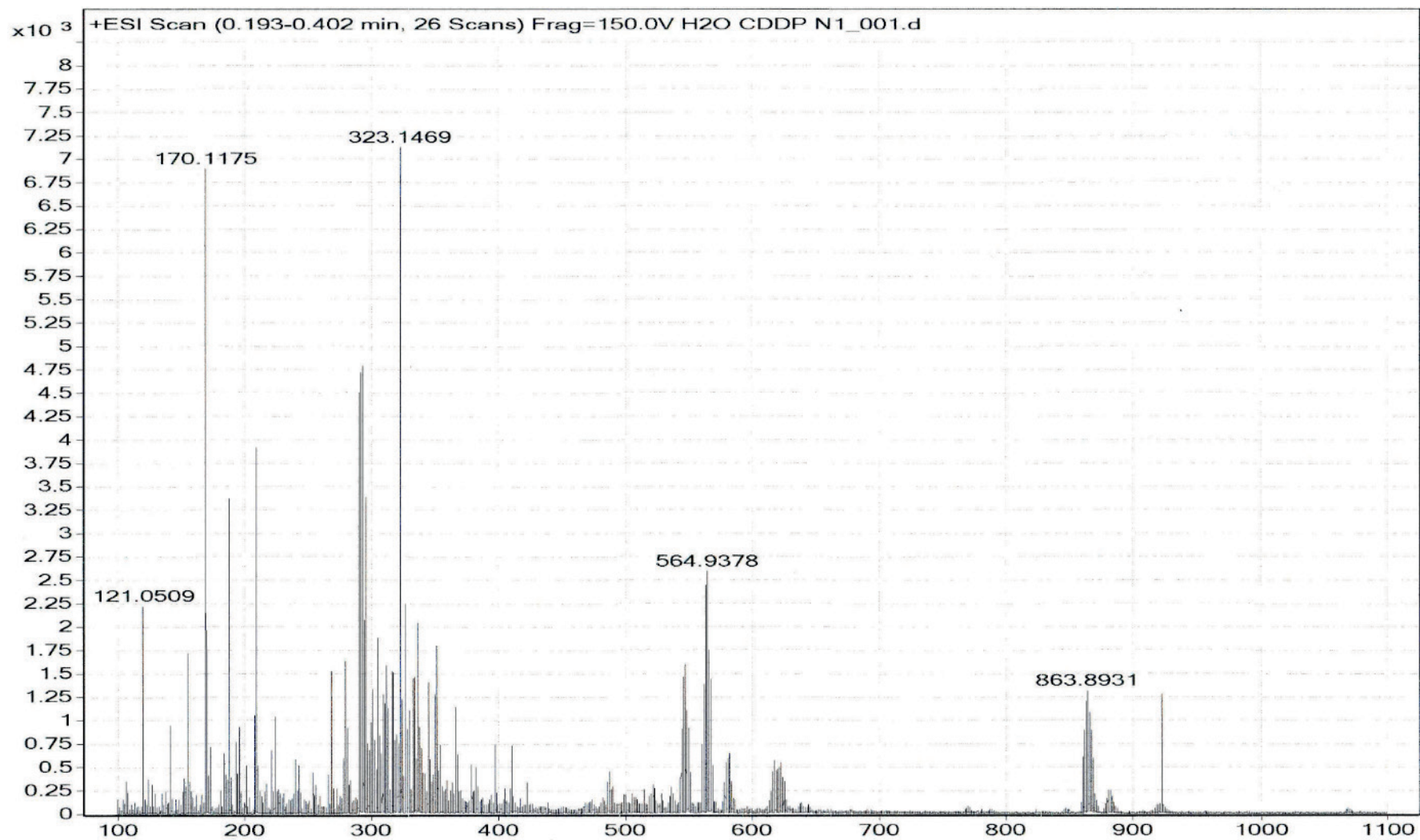
SUPPLEMENTAL FIGURE S8. Zoom-scan high-resolution mass spectrometry (HRMS) spectrum (m/z 610–630) of cisplatin in water without application of electric pulses with observed peak for $[2M+NH_4]^+$ (m/z 617.9408).



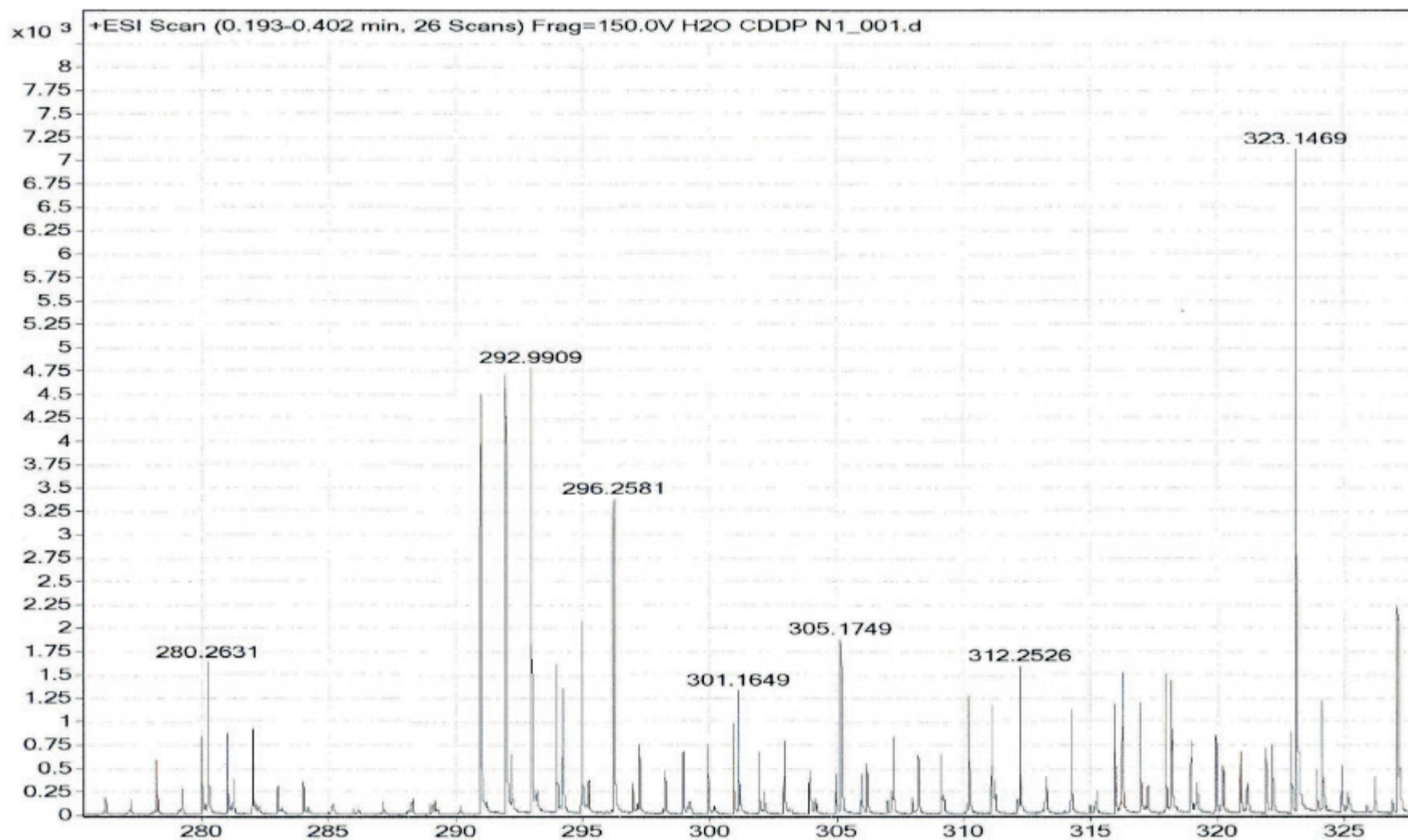
SUPPLEMENTAL FIGURE S9. Full-scan high-resolution mass spectrometry (HRMS) spectrum of cisplatin in water after microsecond pulses application.



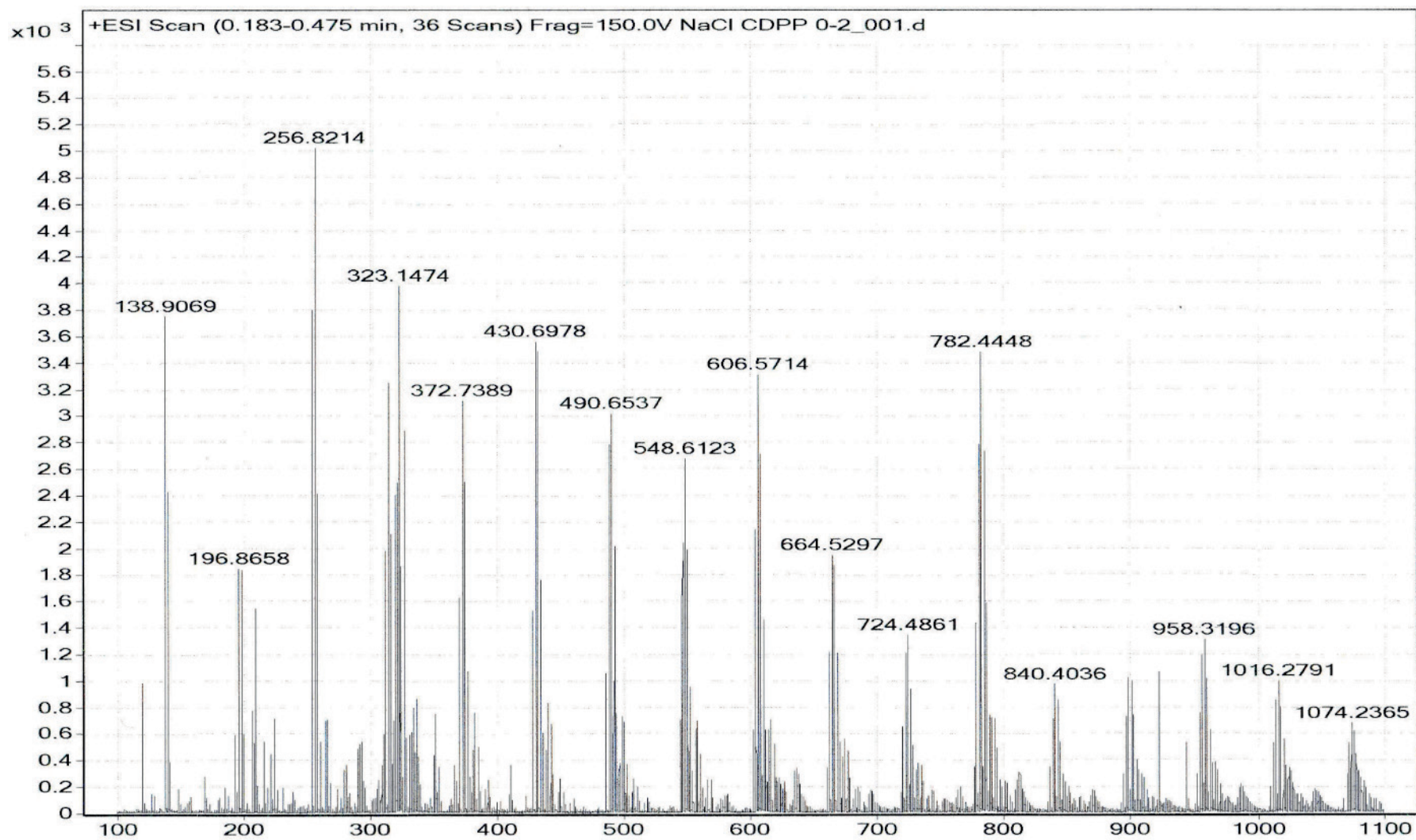
SUPPLEMENTAL FIGURE S10. Zoom-scan high-resolution mass spectrometry (HRMS) spectrum (m/z 275–330) of cisplatin in water after microsecond pulses application.



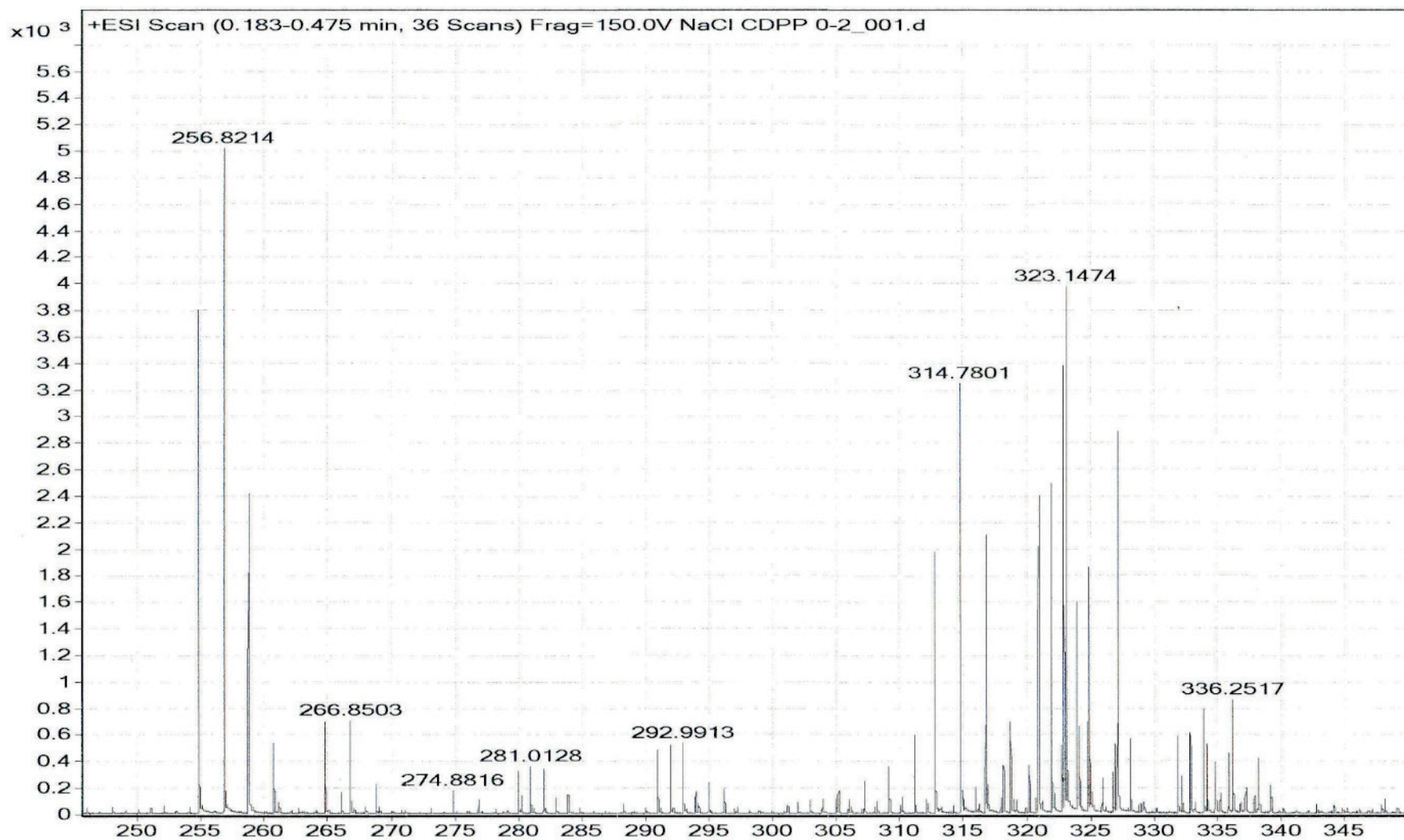
SUPPLEMENTAL FIGURE S11. Full-scan high-resolution mass spectrometry (HRMS) spectrum of cisplatin in water after nanosecond pulses application.



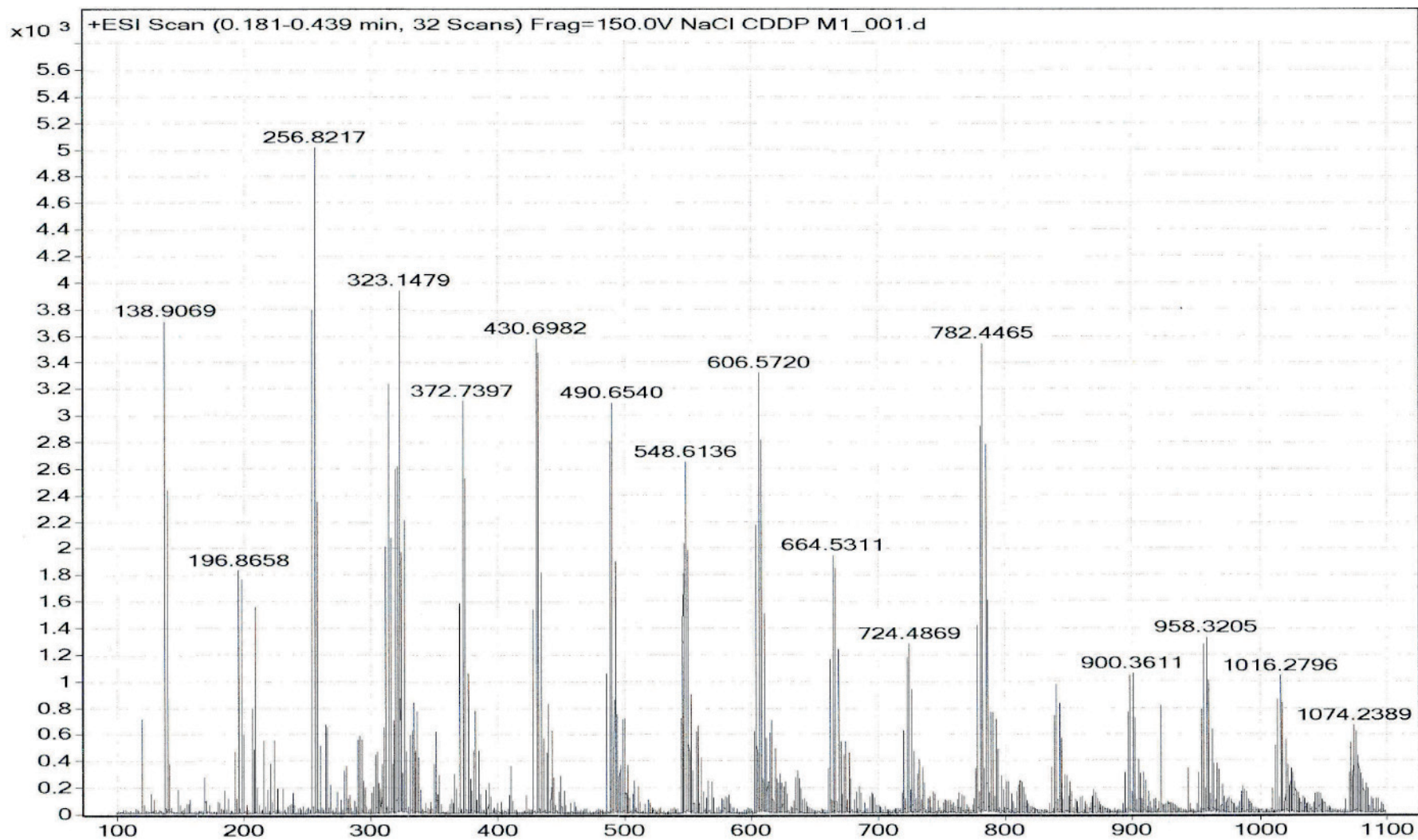
SUPPLEMENTAL FIGURE S12. Zoom-scan high-resolution mass spectrometry (HRMS) spectrum (*m/z* 275–330) of cisplatin in water after nanosecond pulses application.



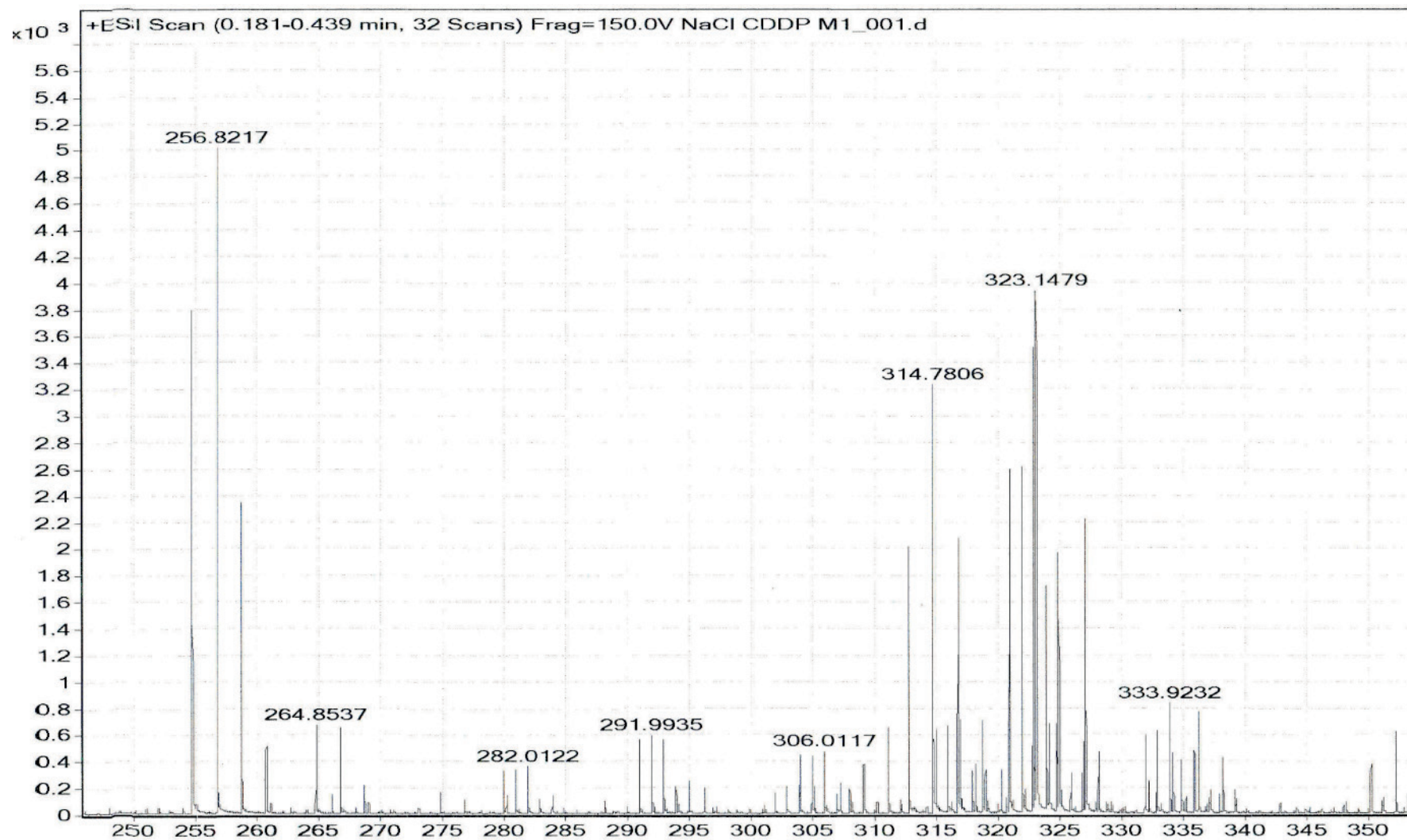
SUPPLEMENTAL FIGURE S13. Full-scan high-resolution mass spectrometry (HRMS) spectrum of cisplatin in saline without application of electric pulses.



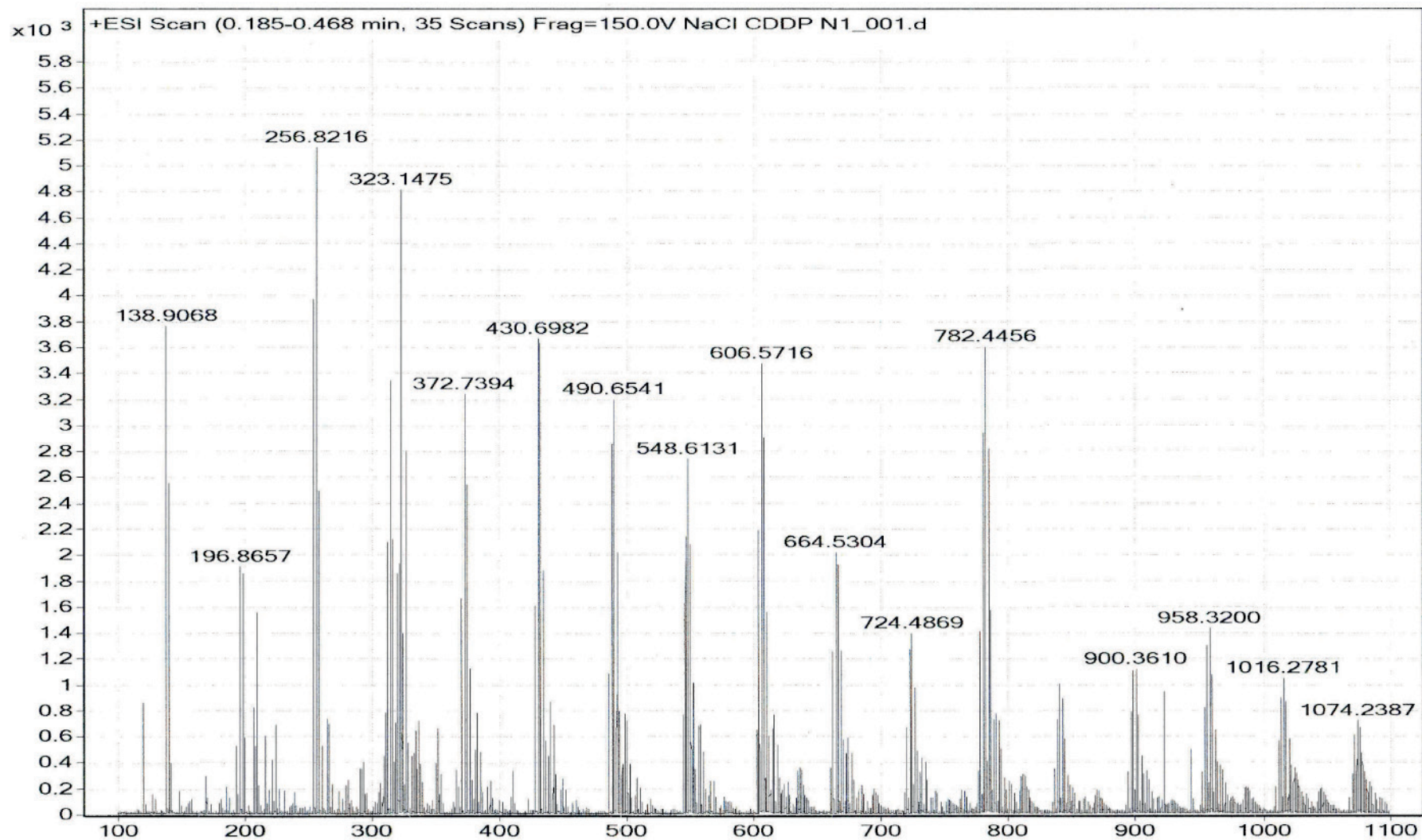
SUPPLEMENTAL FIGURE S14. Zoom-scan high-resolution mass spectrometry (HRMS) spectrum (m/z 250–345) of cisplatin in saline without application of electric pulses.



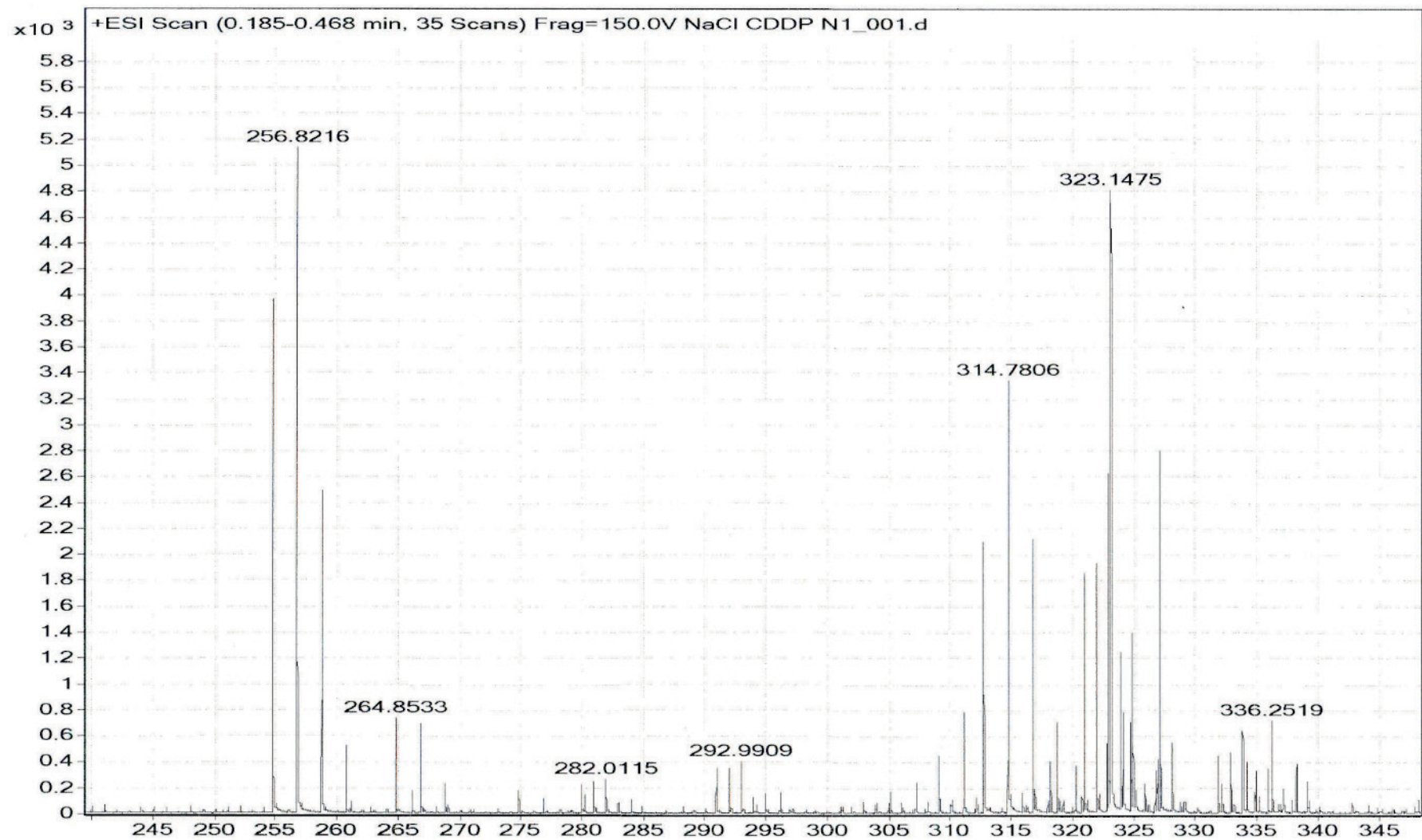
SUPPLEMENTAL FIGURE S15. Full-scan high-resolution mass spectrometry (HRMS) spectrum of cisplatin in saline after microsecond pulses.



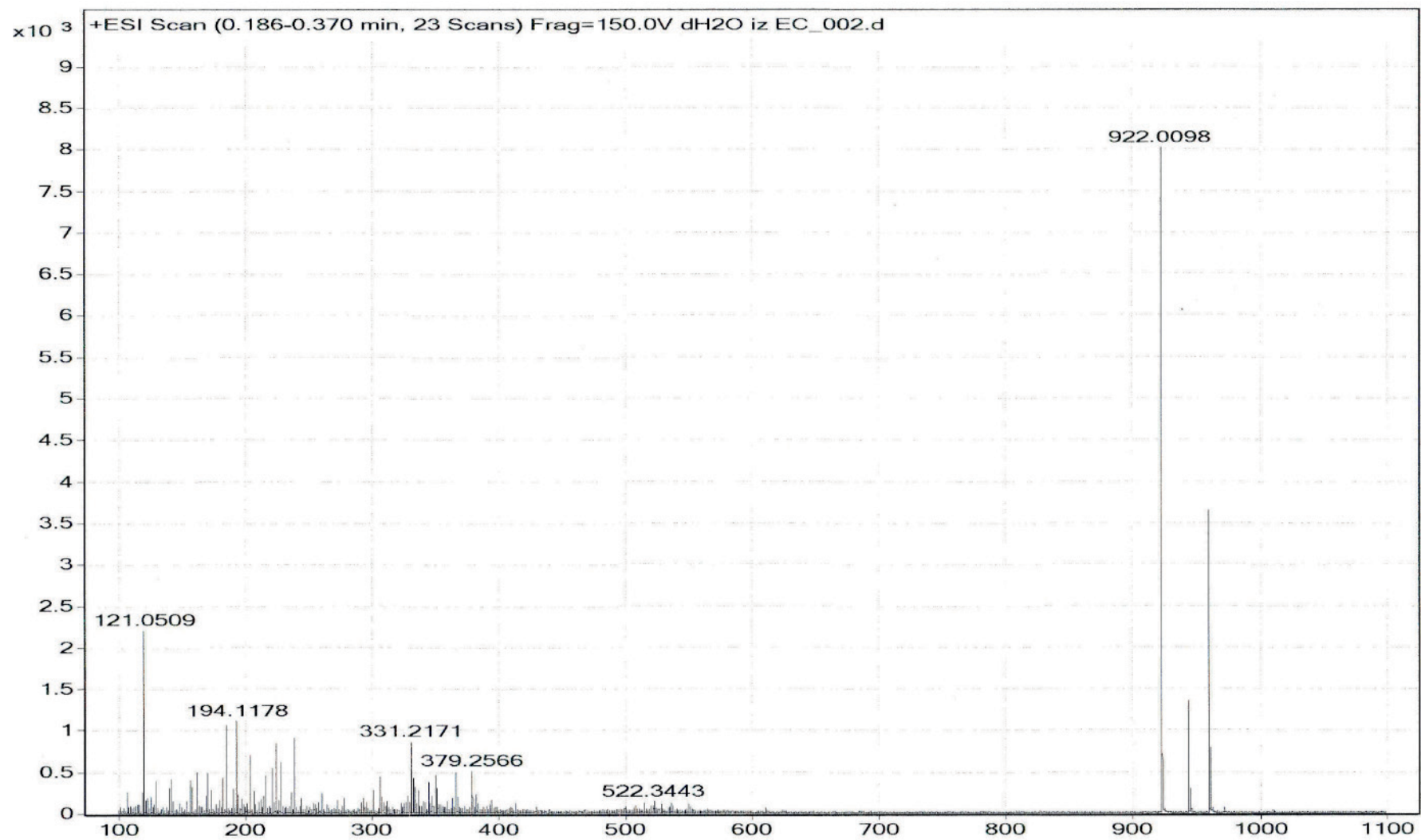
SUPPLEMENTAL FIGURE S16. Zoom-scan high-resolution mass spectrometry (HRMS) spectrum (m/z 250–350) of cisplatin in saline after microsecond pulses application.



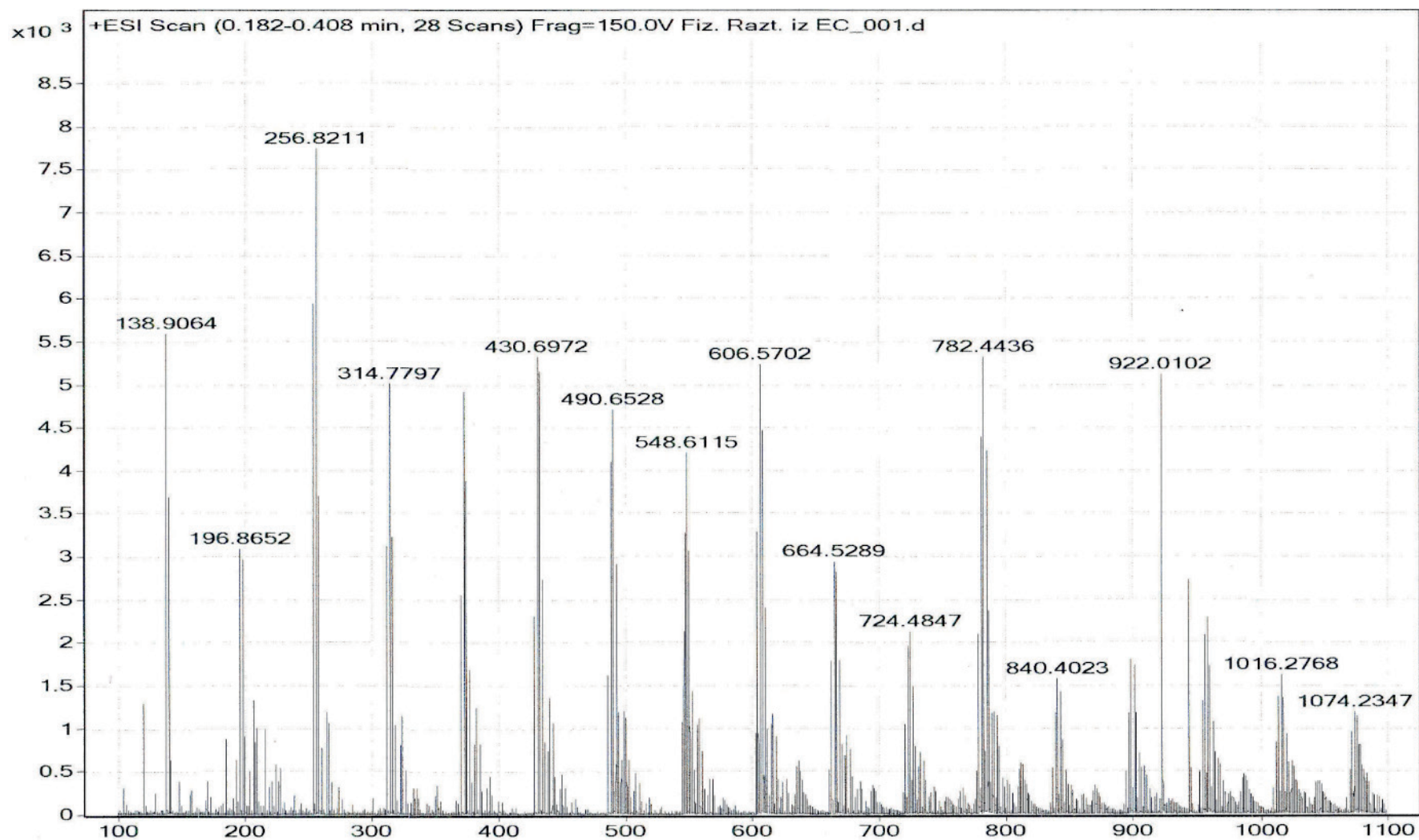
SUPPLEMENTAL FIGURE S17. Full-scan high-resolution mass spectrometry (HRMS) spectrum of cisplatin in saline after nanosecond pulses application.



SUPPLEMENTAL FIGURE S18. Zoom-scan high-resolution mass spectrometry (HRMS) spectrum (m/z 245–345) of cisplatin in saline after nanosecond pulses application.



SUPPLEMENTAL FIGURE S19. Full-scan high-resolution mass spectrometry (HRMS) spectrum of water from electroporation cuvette without application of electric pulses.



SUPPLEMENTAL FIGURE S20. Full-scan high-resolution mass spectrometry (HRMS) spectrum of saline from electroporation cuvette without application of electric pulses.