

Supplementary Information

Direct Analysis of Steviol Glycosides from
Stevia Leaves by Ambient Ionization Mass
Spectrometry from Whole Leaf

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Supplementary Data:

Figure S-1 Positive ion mode leaf spray mass spectrum of fresh *Stevia* leaf recorded under nitrogen to avoid the oxygen in the air. No oxidation products of *Stevia* glycosides are observed from full scan mass spectrum.

Figure S-2 a) Positive ion mode LTP mass spectrum for fresh untreated *Stevia* leaf. No *Stevia* glycosides are observed directly from full scan mass spectrum. b) Positive ion mode paper spray mass spectrum for a piece of *Stevia* leaf on paper.

Figure S-3 a) MS² and b) MS³ spectra of 787 [M-H]⁻, M represents dulcoside A, which is not observed directly in the negative ion mode full scan leaf spray mass spectrum of fresh *Stevia* leaves.

Figure S-4 Leaf spray tandem mass spectra of fresh *Stevia* leaves to verify the presence of *Stevia* glycosides which are not observed directly from full scan mass spectrum. a) MS² of *m/z* 641 [M-H]⁻, in the negative ion mode, M represents steviolbioside/rubusoside (isomers), b) MS² of 677 [M+Cl]⁻, in the negative ion mode, M represents steviolbioside/rubusoside (isomers), c) MS² of 971 [M+Cl]⁻, in the negative ion mode, M represents rebaudioside F, d) MS² of *m/z* 1167, in the positive ion mode, e) MS² of *m/z* 1127, in the negative ion mode. Paper spray tandem mass spectra of rebaudioside D standard, f) MS² of 1167 [M+K]⁺, in the positive ion mode, g) MS² of 1127 [M-H]⁻, in the negative ion mode, M represents rebaudioside D.

Figure S-5 Positive ion mode leaf spray mass spectra of *Stevia* leaf in different conditions, a) dehydrated *Stevia* Leaf and b) stalk of *Stevia* Leaf.

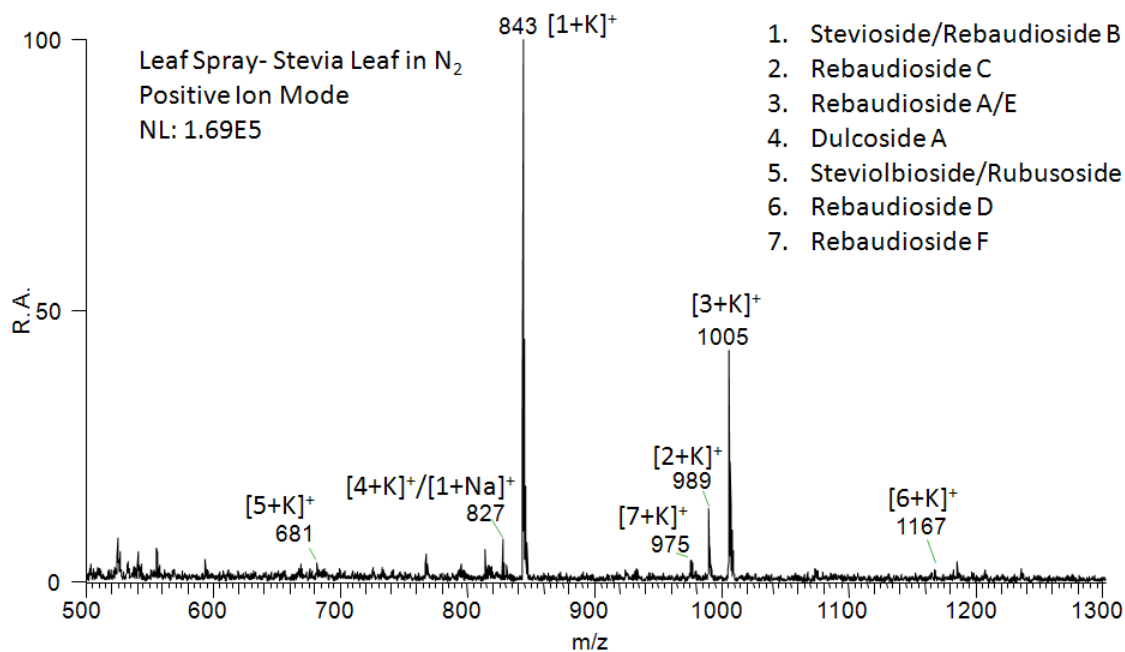


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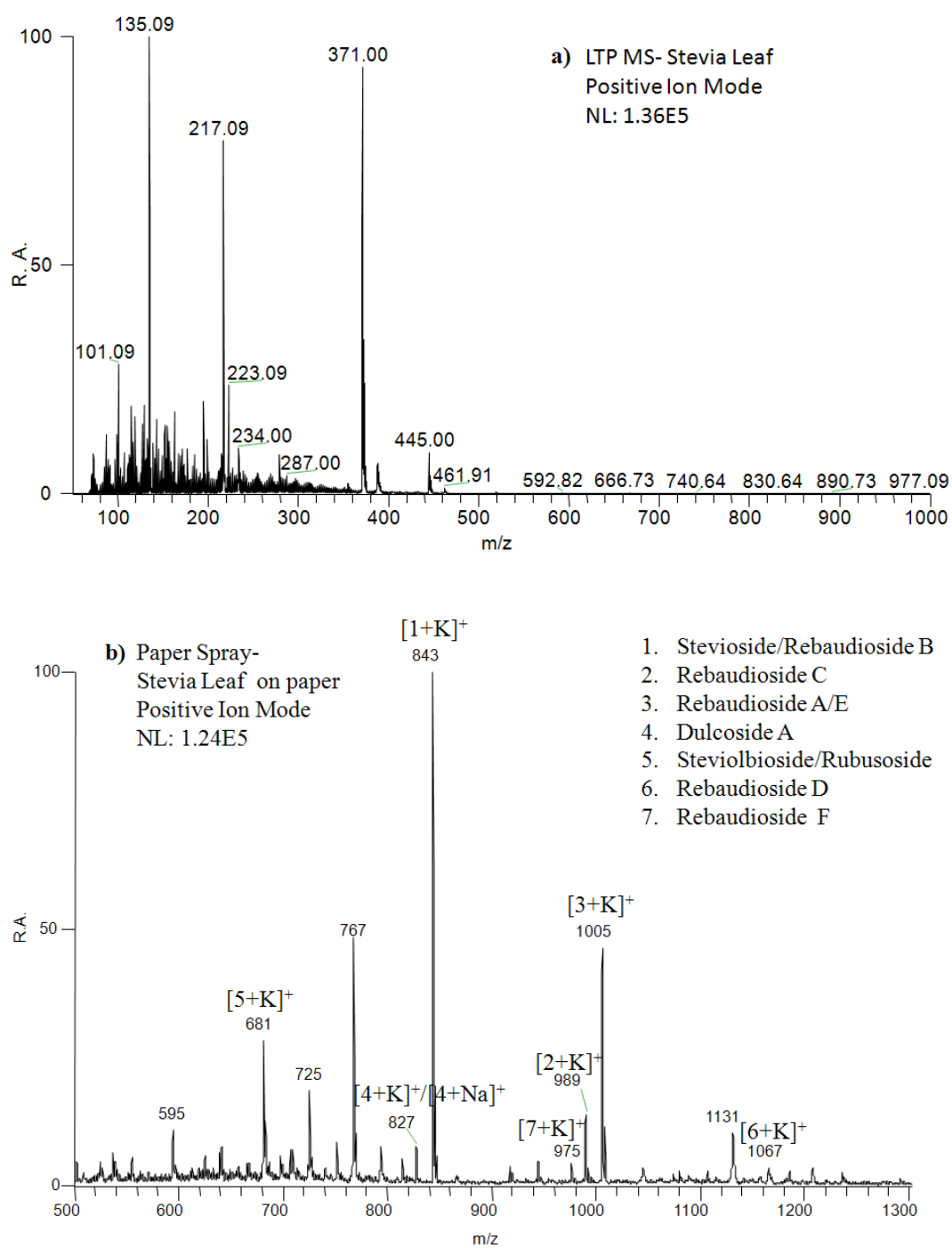


Figure S-2 a) Positive ion mode LTP mass spectrum for fresh untreated *Stevia* leaf. No *Stevia* glycosides are observed directly from full scan mass spectrum. b) Positive ion mode paper spray mass spectrum for a piece of *Stevia* leaf on paper.

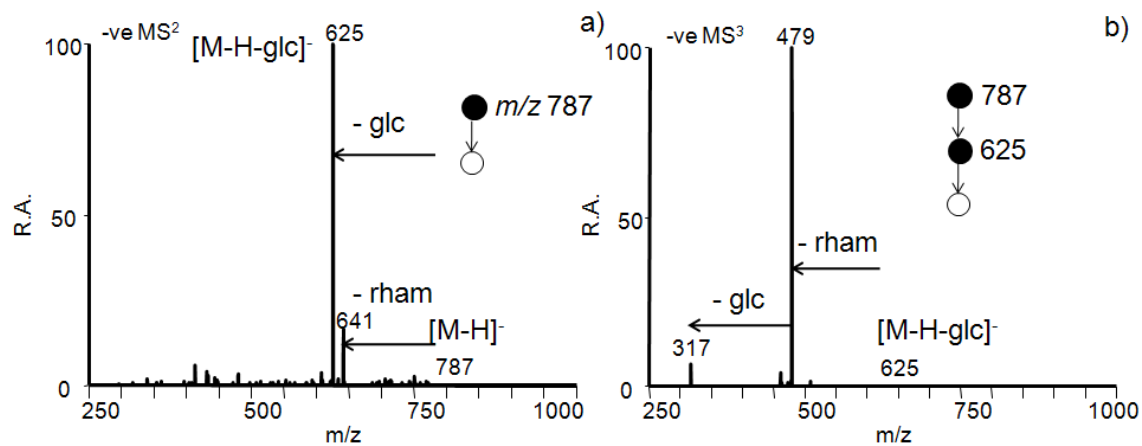


Figure S-3 a) MS^2 and b) MS^3 spectra of 787 $[M-H]^-$, M represents dulcoside A, which is not observed directly in the negative ion mode full scan leaf spray mass spectrum of fresh *Stevia* leaves.

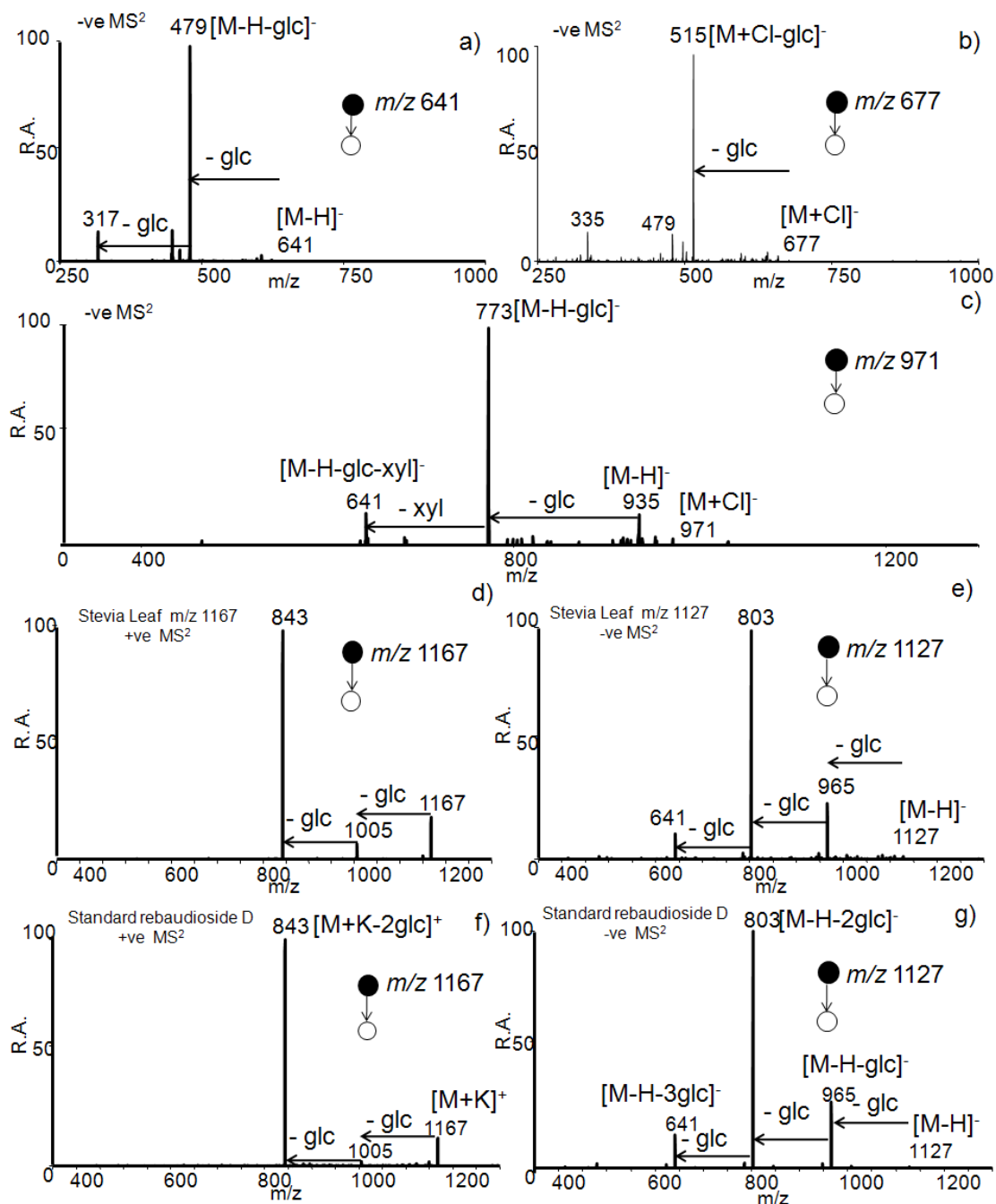


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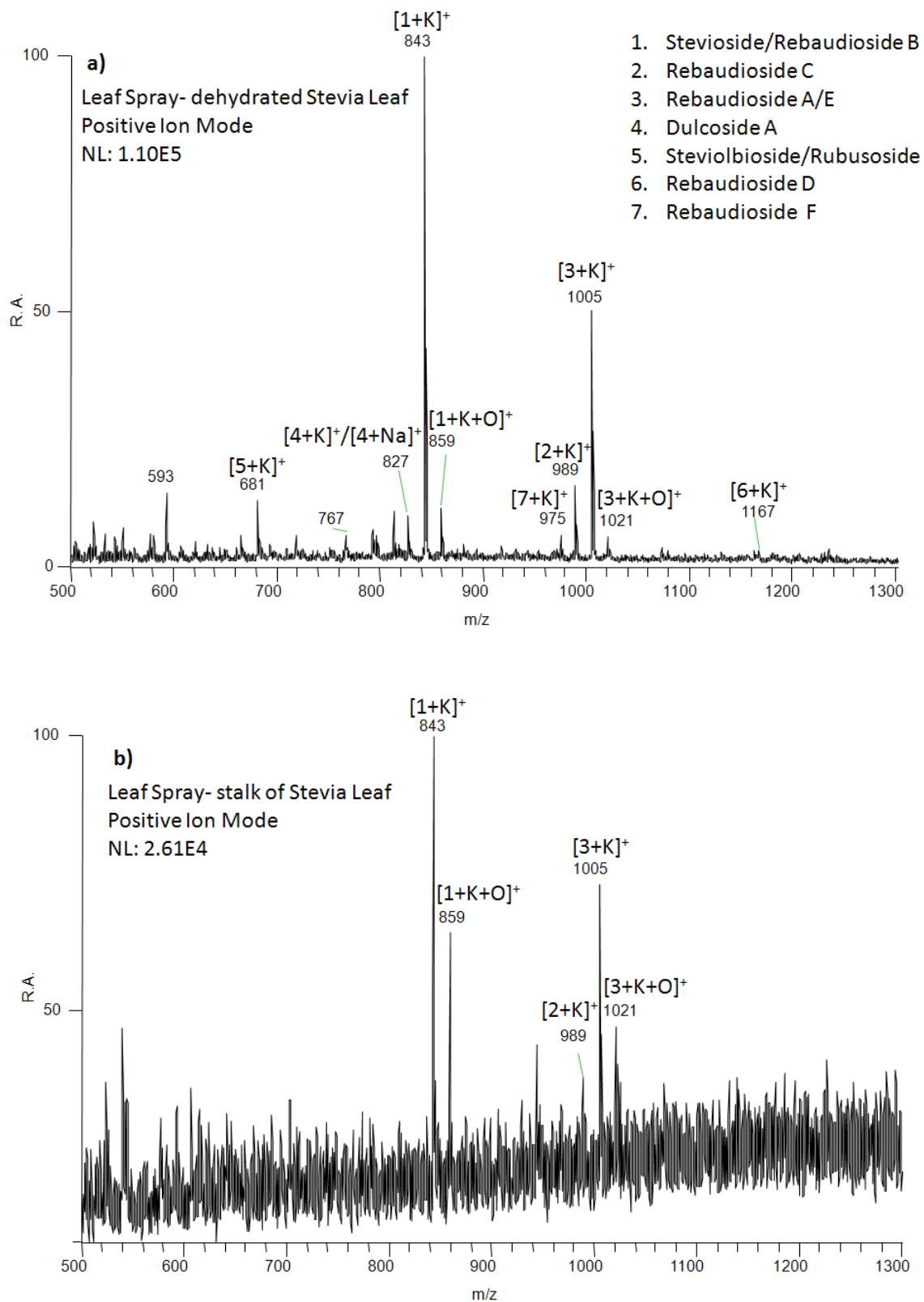


Figure S-5 Positive ion mode leaf spray mass spectra of Stevia leaf in different conditions, a) dehydrated Stevia Leaf and b) stalk of Stevia Leaf.