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) 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.

**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) MS$^2$ of m/z 641 [M-H]$^-$, in the negative ion mode, M represents steviolbioside/rubusoside (isomers), b) MS$^2$ of 677 [M+Cl]$^-$, in the negative ion mode, M represents steviolbioside/rubusoside (isomers), c) MS$^2$ of 971 [M+Cl]$^-$, in the negative ion mode, M represents rebaudioside F, d) MS$^2$ of m/z 1167, in the positive ion mode, e) MS$^2$ of m/z 1127, in the negative ion mode. Paper spray tandem mass spectra of rebaudioside D standard, f) MS$^2$ of 1167 [M+K]$^+$, in the positive ion mode, g) MS$^2$ 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.
**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) MS<sup>2</sup> of m/z 641 [M-H]<sup>-</sup>, in the negative ion mode, M represents steviolbioside/rubusoside (isomers), b) MS<sup>2</sup> of 677 [M+Cl]<sup>-</sup>, in the negative ion mode, M represents steviolbioside/rubusoside (isomers), c) MS<sup>2</sup> of 971 [M+Cl]<sup>-</sup>, in the negative ion mode, M represents rebaudioside F, d) MS<sup>2</sup> of m/z 1167, in the positive ion mode, e) MS<sup>2</sup> of m/z 1127, in the negative ion mode. Paper spray tandem mass spectra of rebaudioside D standard, f) MS<sup>2</sup> of 1167 [M+K]<sup>+</sup>, in the positive ion mode, g) MS<sup>2</sup> of 1127 [M-H]<sup>-</sup>, 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.