

Supporting Information

Rapid detection of Fusarium wilt in Basil (*Ocimum* sp.) leaves by desorption electrospray ionization mass spectrometry (DESI MS) imaging

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Table S1- Identification of toxic metabolites of *Fusarium*/ *Alternaria* using database search

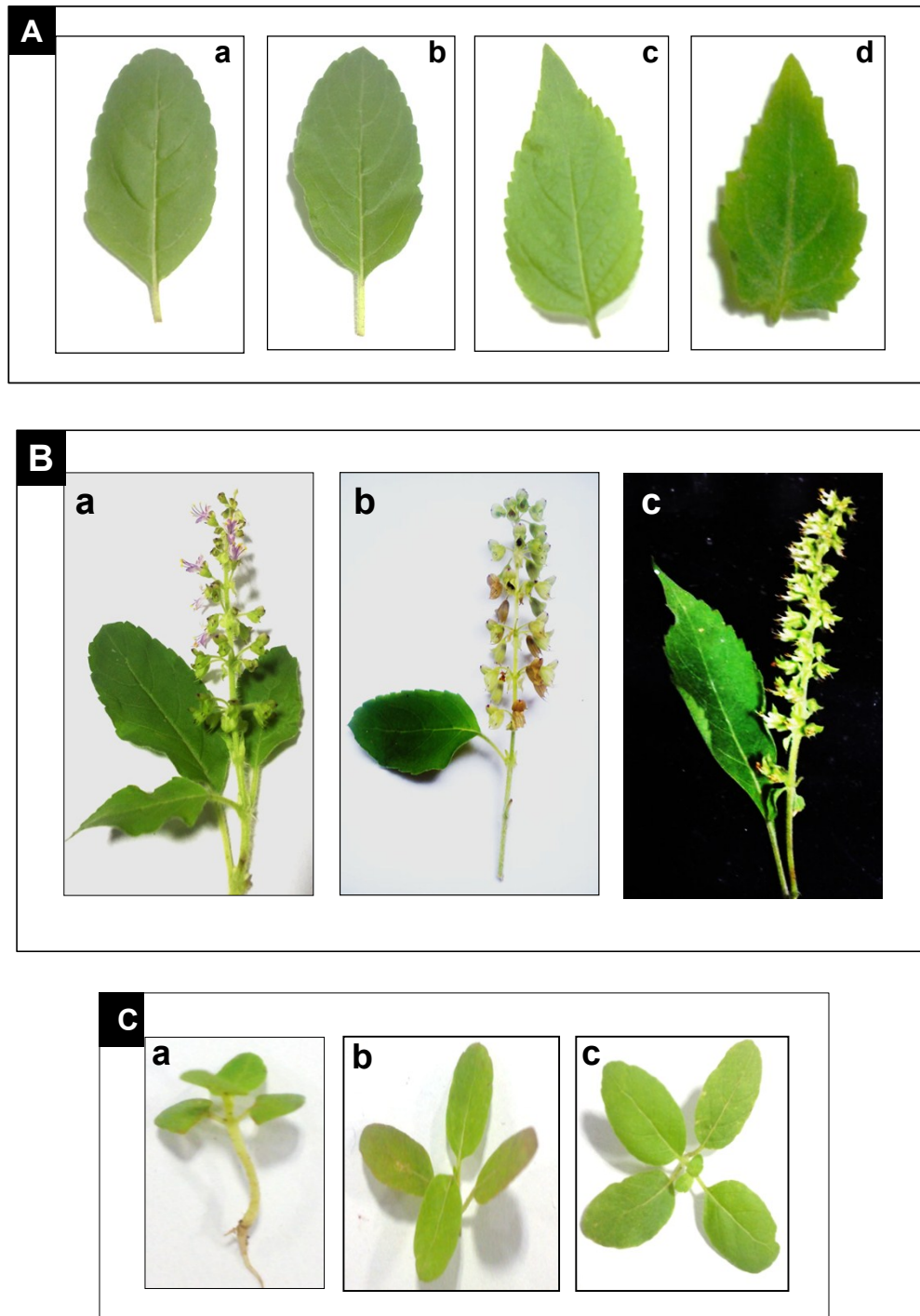


Fig. S1. Photographs of (A) detached healthy leaf in all selected plants showing differences in leaf margins for (a) *O. tenuiflorum*, (b) *O. basilicum*, (c) *O. gratissimum* and (d) *P. cablin*, (B) typical color of inflorescence used for identification of basil species (a) *O. tenuiflorum*, (b) *O. basilicum* and (c) *O. gratissimum* and (C) basil seedling (a) whole plant, (b) four leaved stage and (c) six leaved stage.

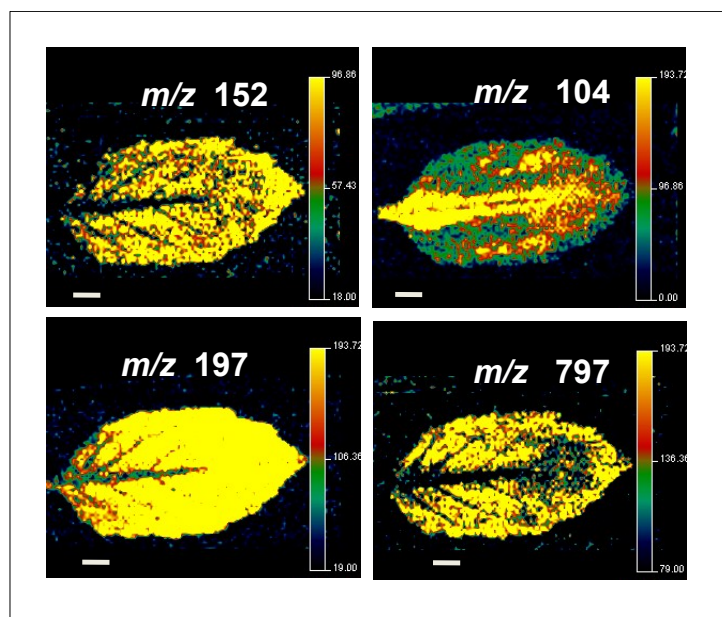


Fig S2. DESI MS images showing the spatial distribution of some molecular ions in basil leaf collected from the local market showing conspicuous leaf margin. The scale is uniform in all the images (5 mm).

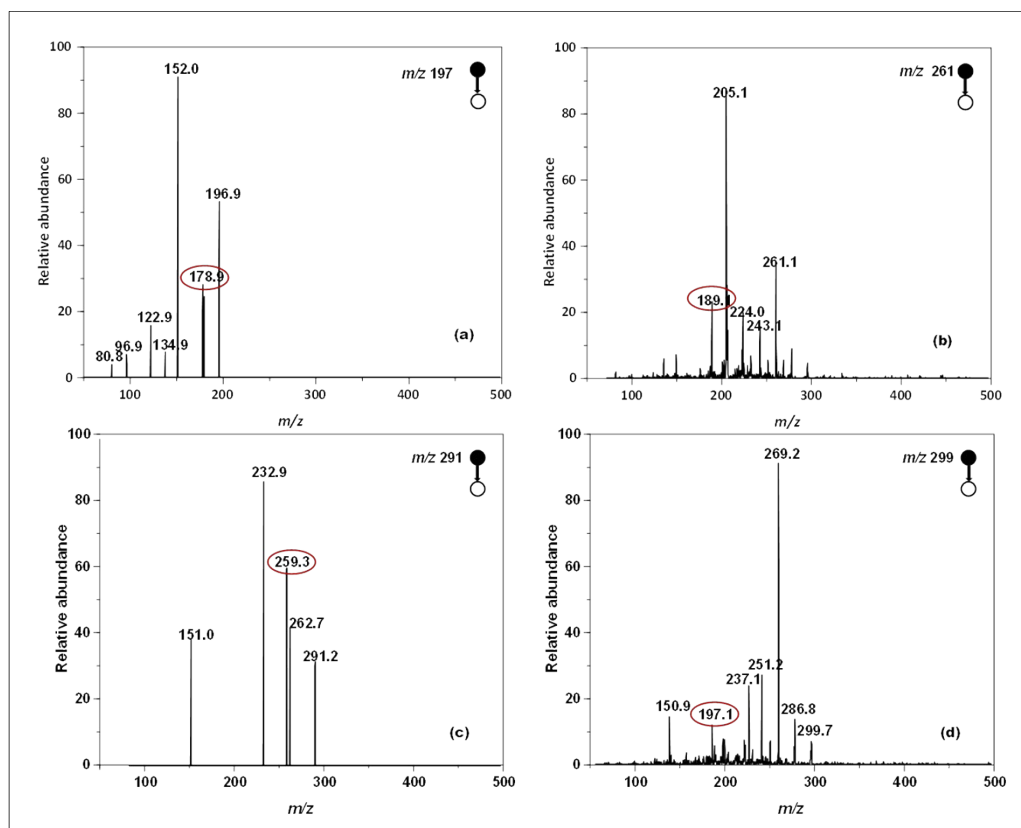
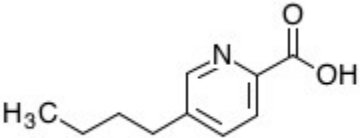
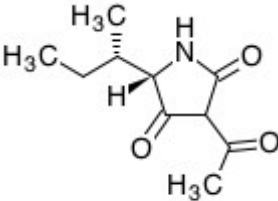
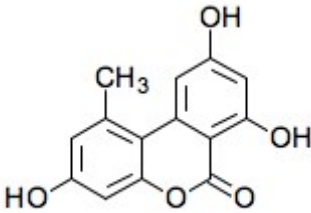
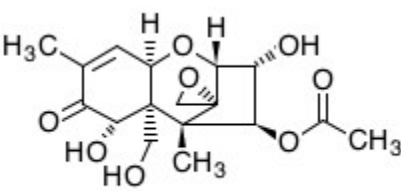
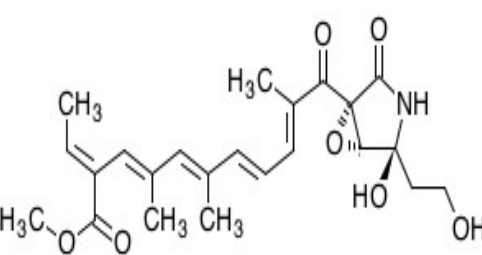


Fig S3. ESI MS tandem mass spectra showing the fragmentation pattern of selected toxic metabolites in contaminated basil leaf. Peaks encircled show their relationships.

Table S1: Identification of toxic metabolite ion peaks of *Fusarium* /*Alternaria* using database search

S.No	Name	Molecular weight	Structure from KEGG database (KEGG-Kyoto Encyclopedia of Genes and Genomes)	Database ID *,**
1.	Fusaric acid	179.2157	 C10146	C10146 MID- 68152
2.	Tenuazonic acid	197.231	 C08511	C08511 MID- 67032
3.	Alternariol	258.2262	 C16838	C16838 MID-71377
4.	Fusarenon-X	354.3518	 C19583	C19583 MID-73245
5.	Fusarin C	431.4789	 C19243	C19243 MID-72964

* C numbers for KEGG database (<http://www.kegg.jp/kegg/compound>) to get additional information on the metabolite(s) including chemical and physical properties, structures, reactions and associated biosynthetic pathways of formation etc.

**MID numbers for METLIN –Metabolite and Tandem MS database

(http://metlin.scripps.edu/metabo_advanced.php) to get additional information on the metabolite(s) including data on tandem mass spectra and structures for fragments.

References:

1. M. Kanehisa and S. Goto, *Nucleic Acids Res.*, 2000, **28**, 27-30.
2. C. A. Smith, G. O'Maille, E. J. Want, C. Qin, S. A. Trauger, T. R. Brandon, D. E. Custodio, R. Abagyan and G. Siuzdak, *Ther. Drug Monit.*, 2005, **27**, 747-751.