Supporting Information

In-situ analysis of Essential fragrant oil using a Portable Mass Spectrometer

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Summary of the Supporting Information

Gas Chromatography Mass Spectrometry experimental procedure.

Essential fragrant oils were analyzed using a 5977A quadrupole mass spectrometer (Agilent Technologies, Manchester, UK) equipped with a 7890B gas chromatograph (GC) system (Agilent Technologies, Manchester, UK). The gas chromatographic conditions used were the following: column HP-5MS-UI (30m x 0.250mm x 0.25um); He flow: 1 mL/min; Oven ramp: T1 = 60°C for 5 min to T2 = 340°C with temperature step rise 3°C/min. Essential fragrant oil components were first identified by comparison with a standard fragrance compounds mixture. Representative chromatograms obtained from the GC-MS analysis on standard mixtures are reported in Figure S1-S6. The areas related to

chromatographic peaks due to characteristic ions of the detected components of the essential fragrant oil samples (i.e. banana, targrine, papaya and blueberry muffin), obtained through the reconstructed ion current (RIC) were considered. Representative ion chromatograms obtained from the GC-MS analysis of real essential fragrant oils are shown in Figure S1- S4.

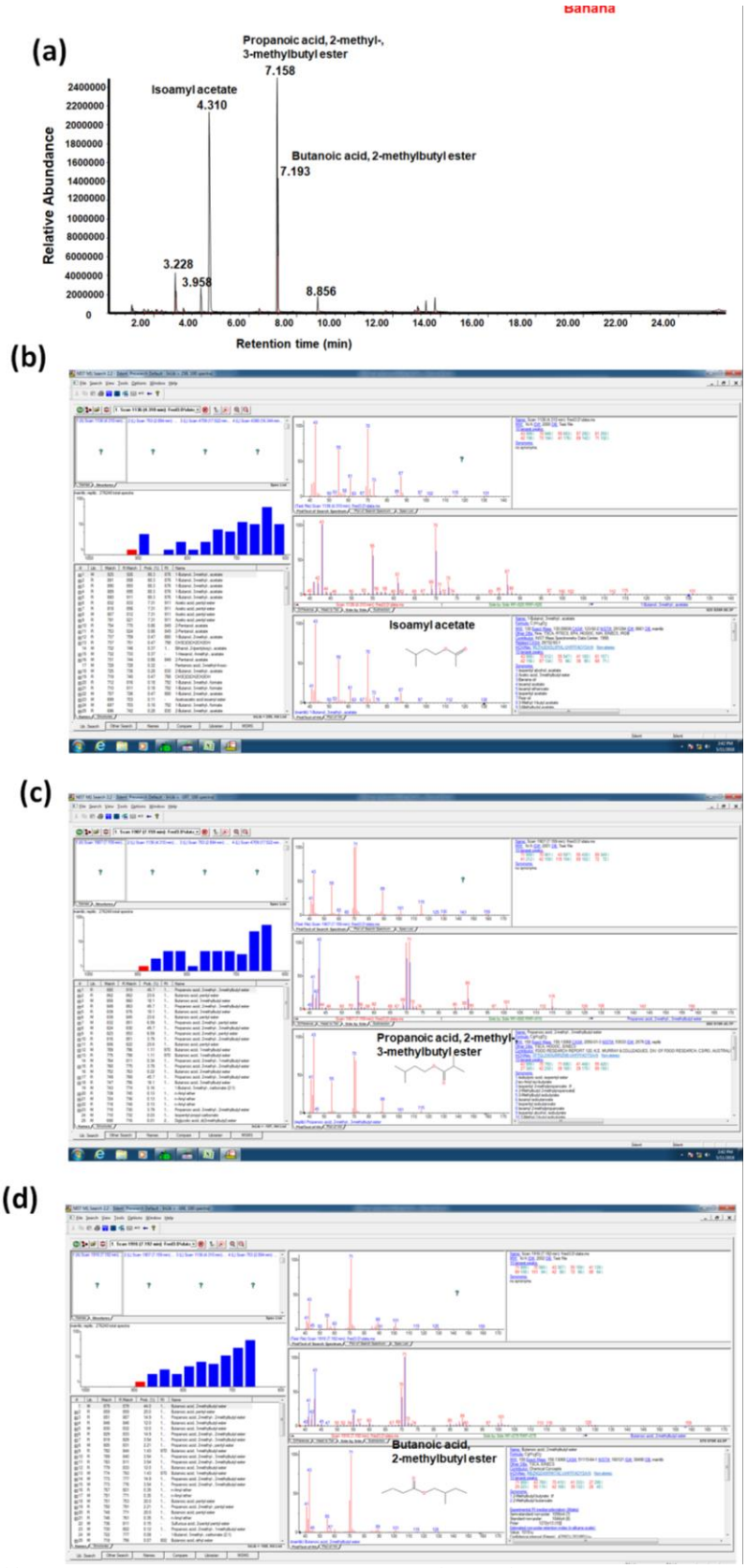

Figure S1. GC-MS analysis of fragrant essential oil; (a) representative chromatogram of banana fragrant essential oil. The chromatogram shows the ion peaks corresponding to the mass spectra of ; (b) isoamyl acetate, (c) propanoic acid, 2-methyl-,3methylbutyl ester, and (d) butanoic acid.

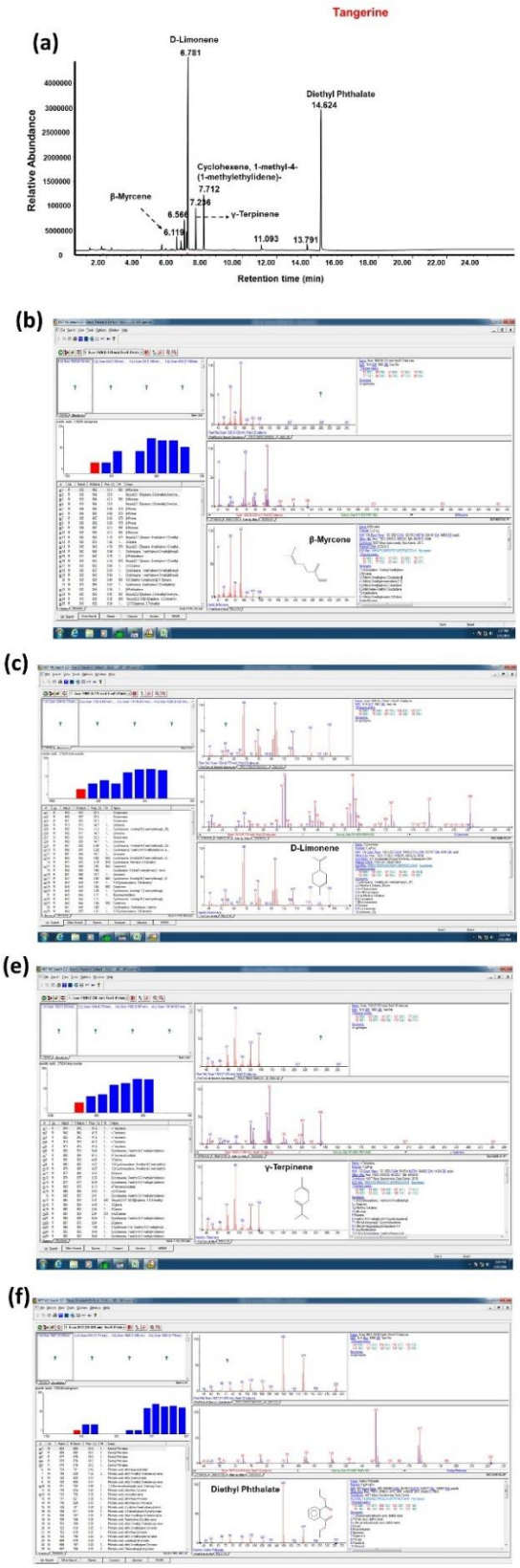

Figure S2. GC-MS analysis of fragrant essential oil; (a) representative chromatogram of tangerine fragrant essential oil. The chromatogram shows the ion peaks corresponding to the mass spectra of; (b) *β*-myrcene, (c) D-limonene, and (d) γ-terpine, (e) terpinolene and (f) diethyl phthalate.

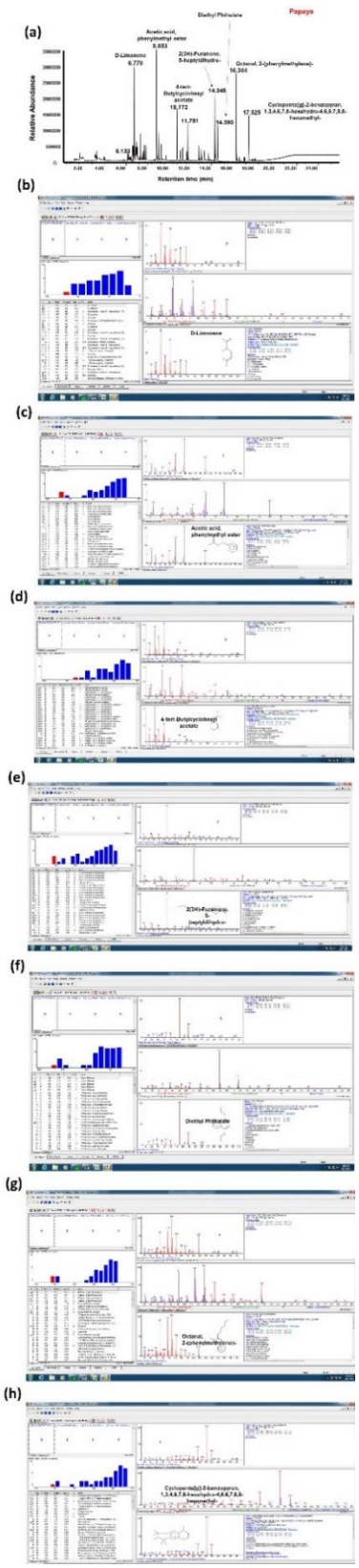

Figure S3. GC-MS analysis of fragrant essential oil; (a) representative chromatogram of papaya fragrant essential oil. The chromatogram shows the ion peaks corresponding to the mass spectra of; (b) D-limonene, (c) acetic acid phenylmethyl ester, (d) 4-*tert*-butylcylohexyl acetate, (e) 2(3H)-Furanone,5-

heptyldihydro , and (f) octanal, 2-(phenylmethylene), (g) Cyclopenta[g]-2-benzopyran, 1,3,4,6,7,8-hexahydro-4,6,6,7,8,8- hexamethyl- and (h) Octanal,2-(phenylmethylene).

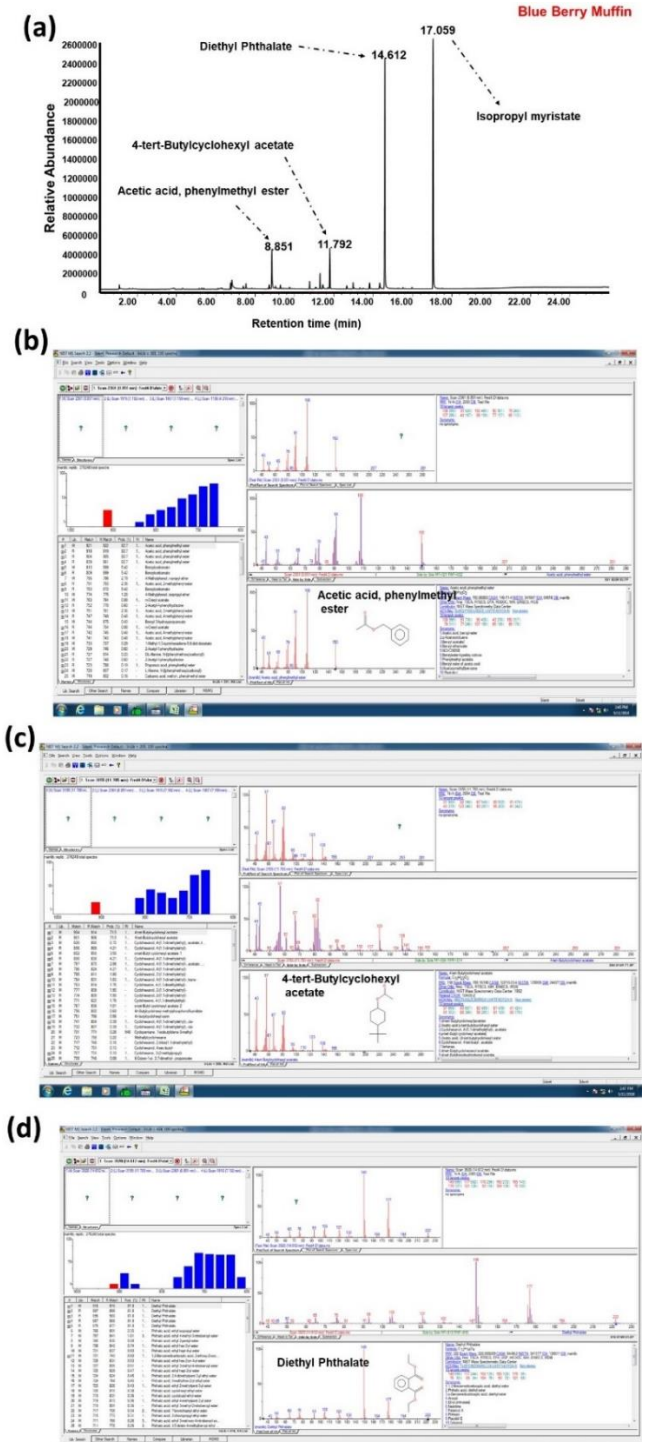

Figure S4. GC-MS analysis of fragrant essential oil; (a) representative chromatogram of blueberry muffin fragrant essential oil. The chromatogram shows the ion peaks corresponding to the mass spectra of; (b) acetic acid, 2-phenylmethyl ester, (c) 4-*tert*-butylcylohexyl acetate and (d) diethyl phthalate.