

## Differentiation of Five Pine Species Cultivated in Brazil Based on Chemometric Analysis of their Volatiles Identified by Gas Chromatography-Mass Spectrometry

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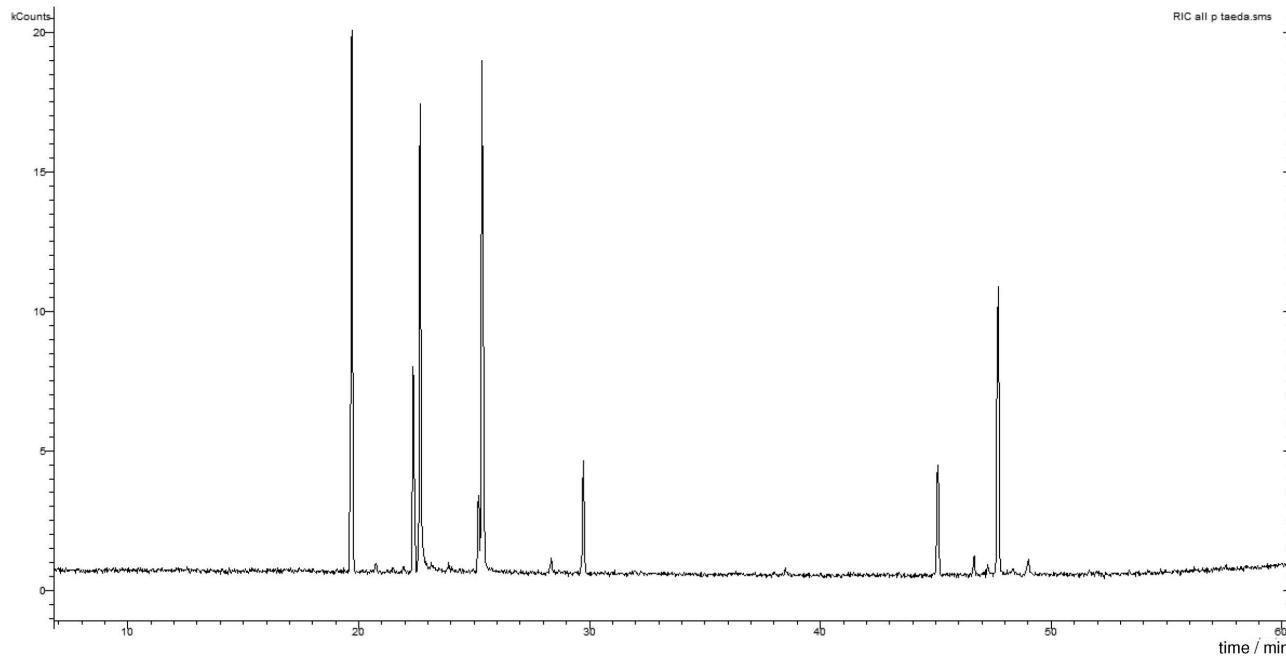


Figure S1. Chromatogram of the volatiles emitted by *P. taeda*.

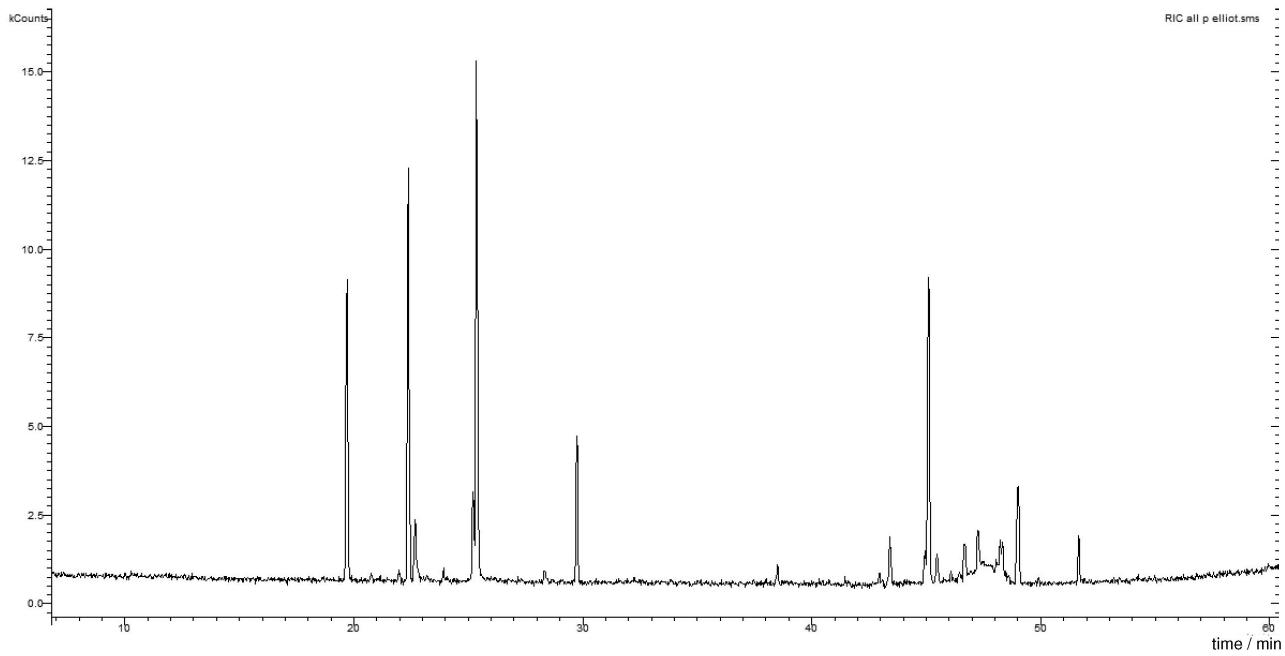


Figure S2. Chromatogram of the volatiles emitted by *P. elliottii*.

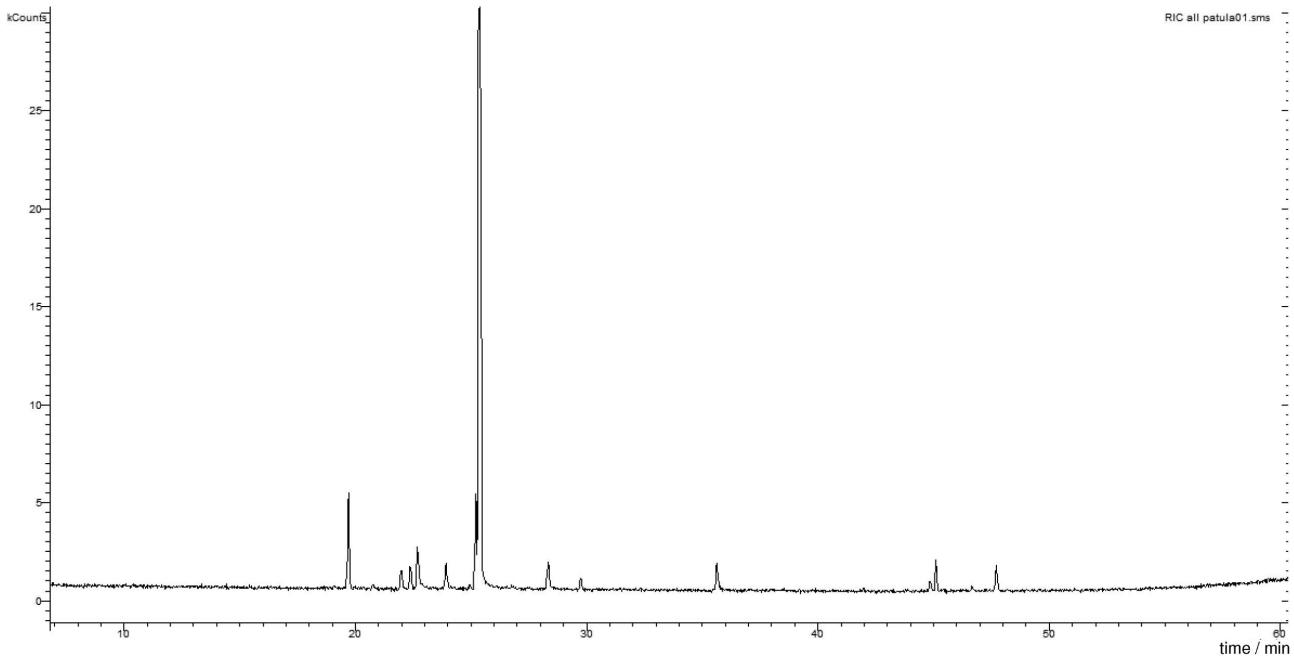
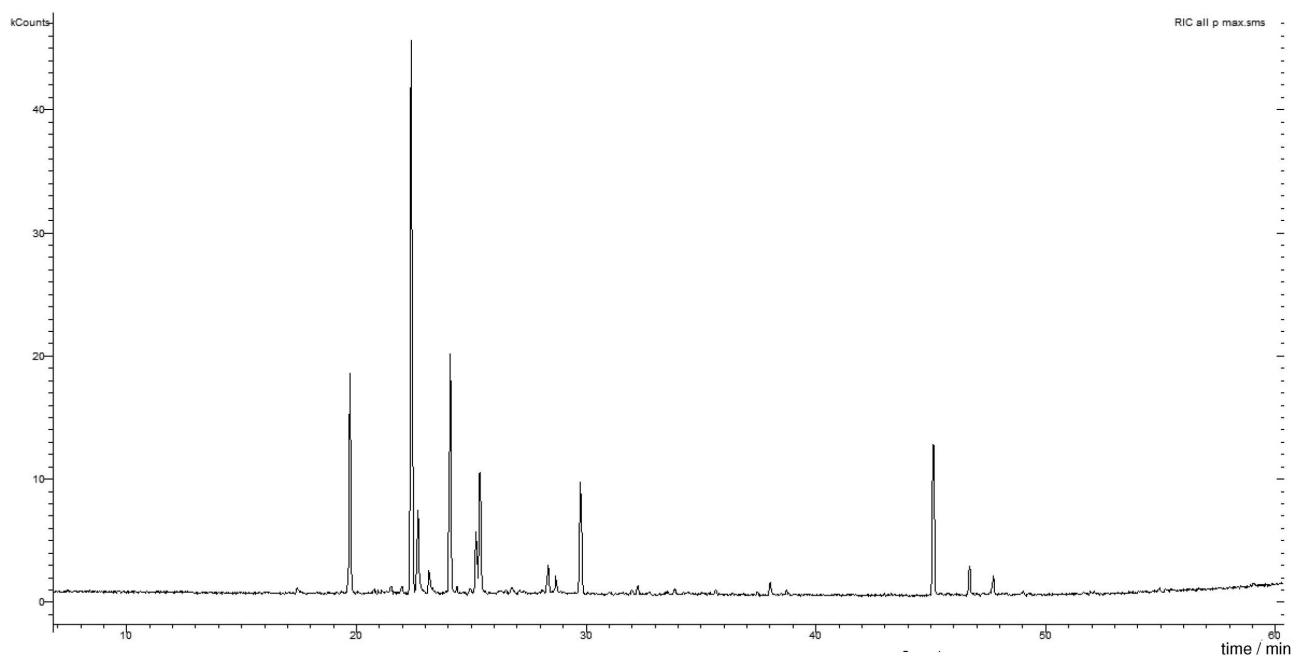
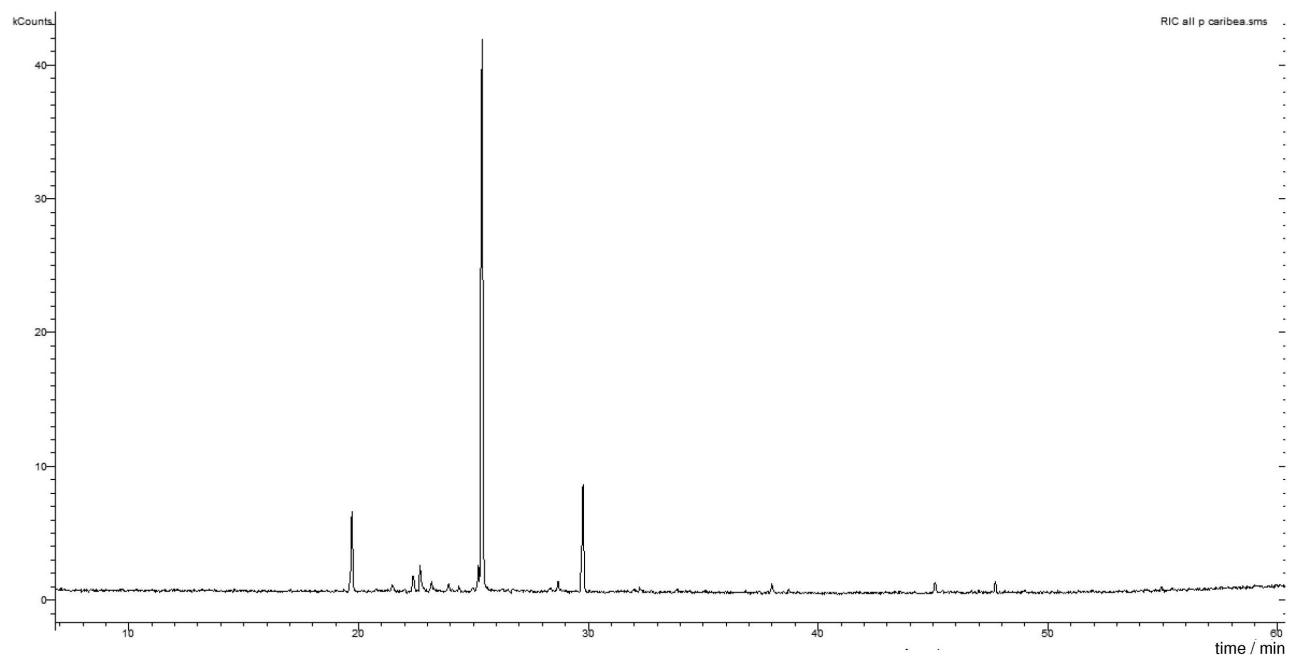


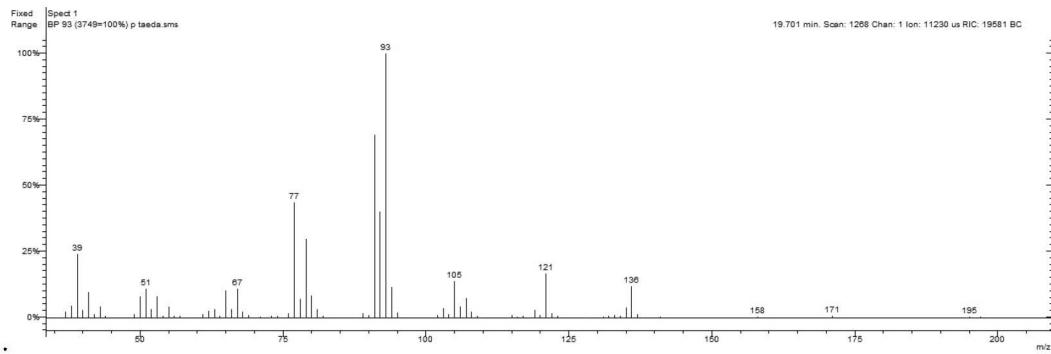
Figure S3. Chromatogram of the volatiles emitted by *P. patula*.



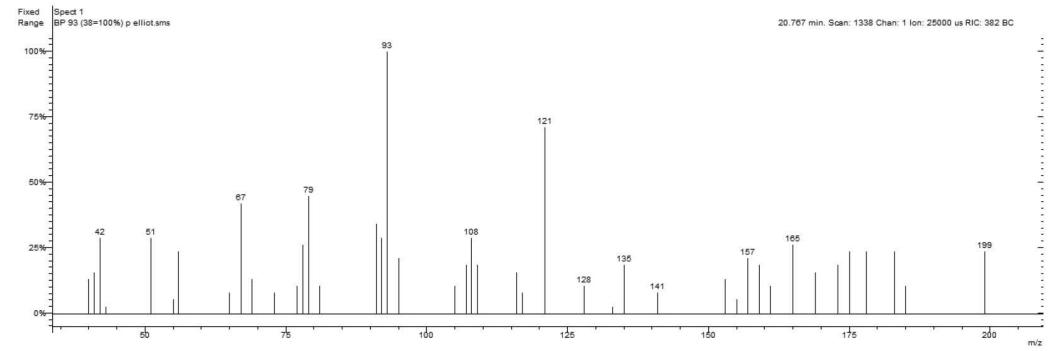
**Figure S4.** Chromatogram of the volatiles emitted by *P. maximinoi*.



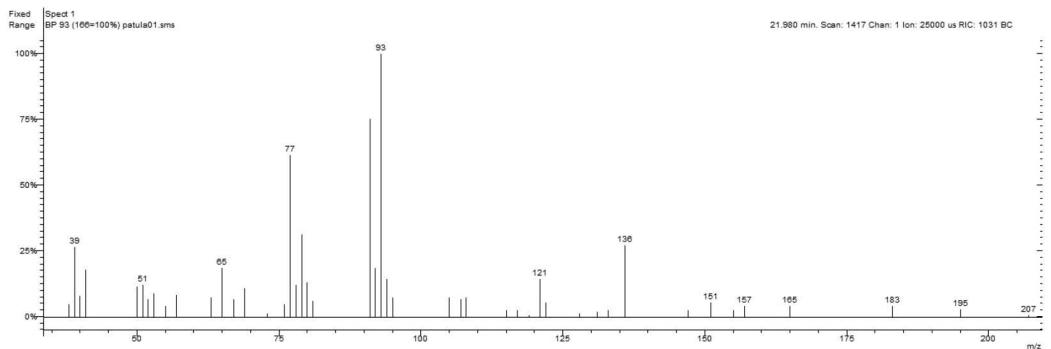
**Figure S5.** Chromatogram of the volatiles emitted by *P. caribaea*.



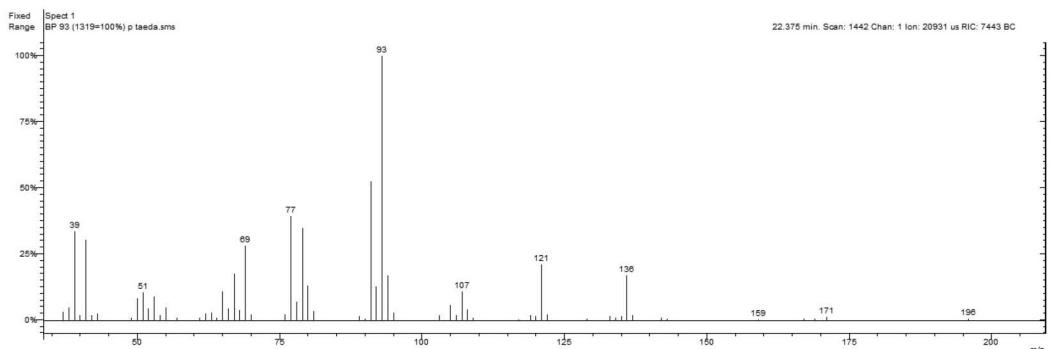
**Figure S6.** Mass spectrum of  $\alpha$ -pinene (**1, 2**).



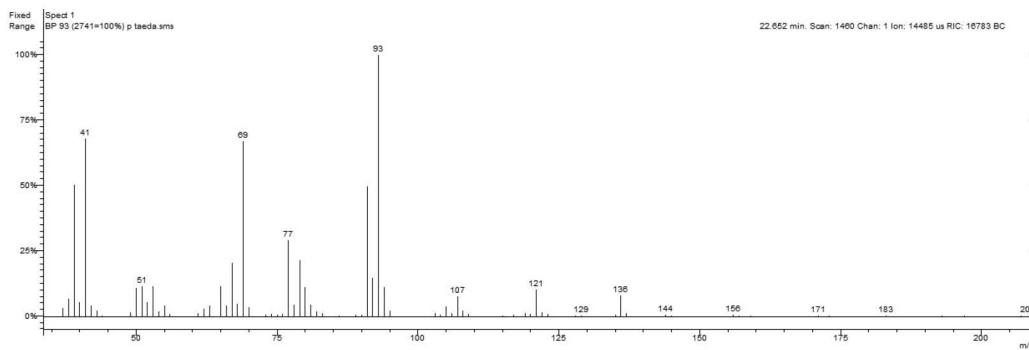
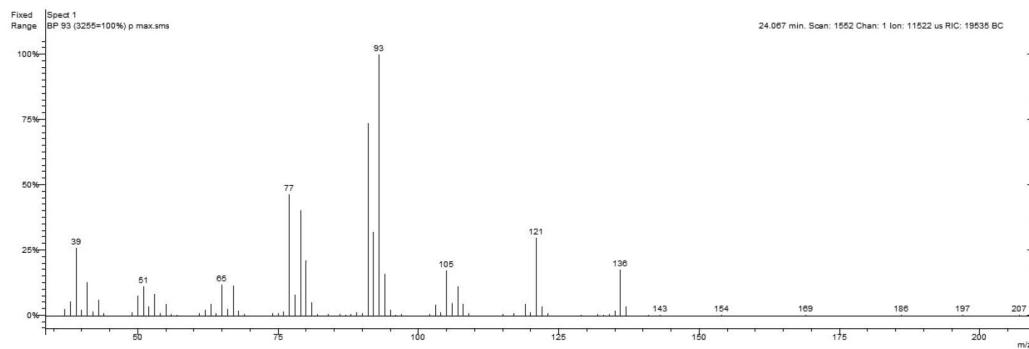
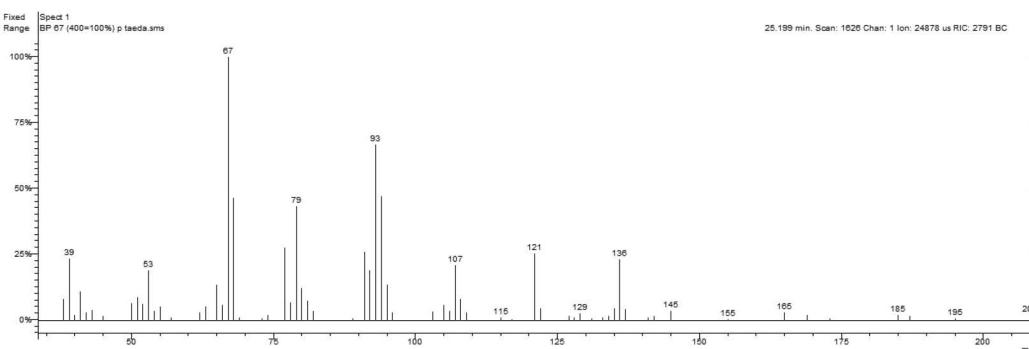
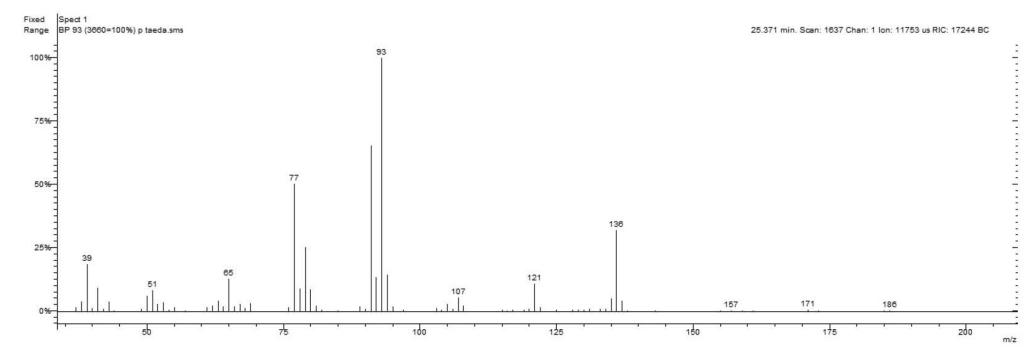
**Figure S7.** Mass spectrum of camphene (**3**).

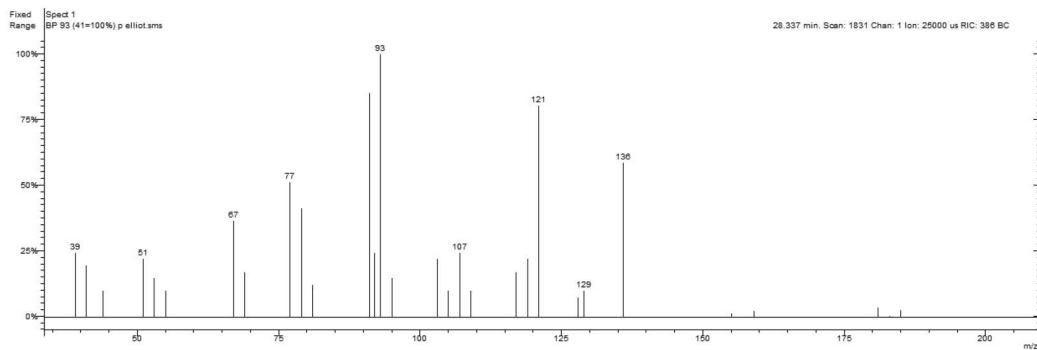


**Figure S8.** Mass spectrum of sabinene (**4**).

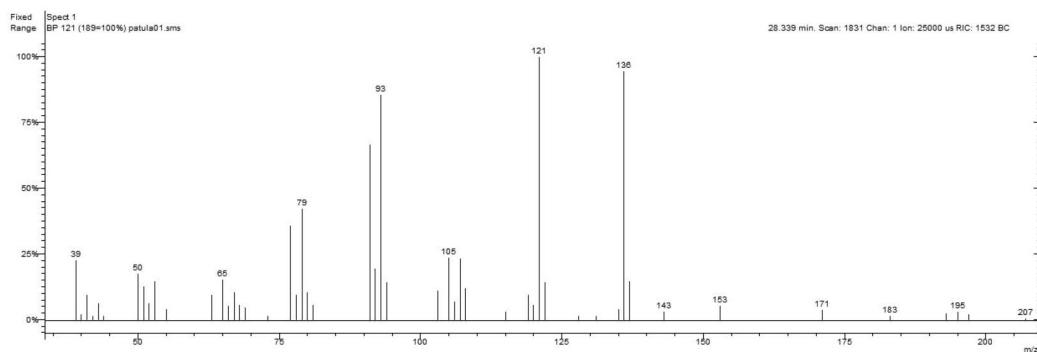


**Figure S9.** Mass spectrum of  $\beta$ -pinene (**5, 6**).

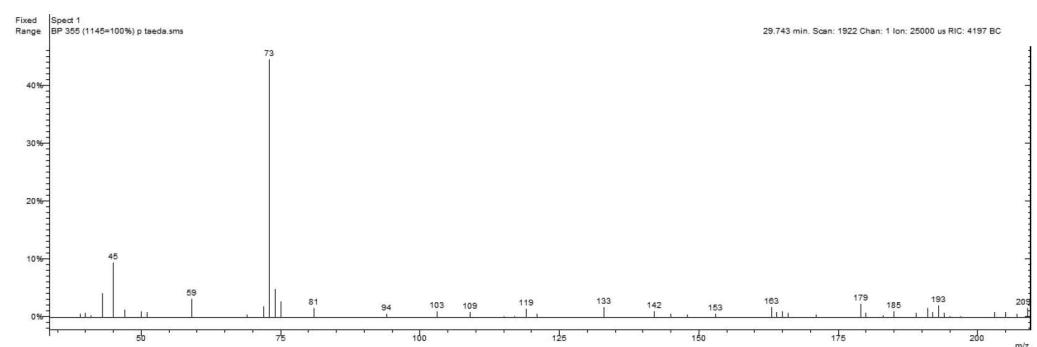
**Figure S10.** Mass spectrum of myrcene (**7**).**Figure S11.** Mass spectrum of 2- $\delta$ -carene (**8**).**Figure S12.** Mass spectrum of limonene (**9**).**Figure S13.** Mass spectrum of  $\beta$ -phellandrene (**10**).



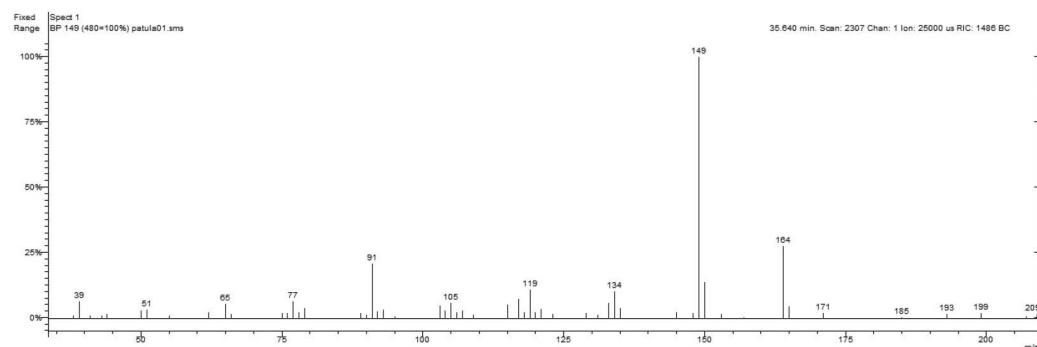
**Figure S14.** Mass spectrum of terpinolene (**11**).



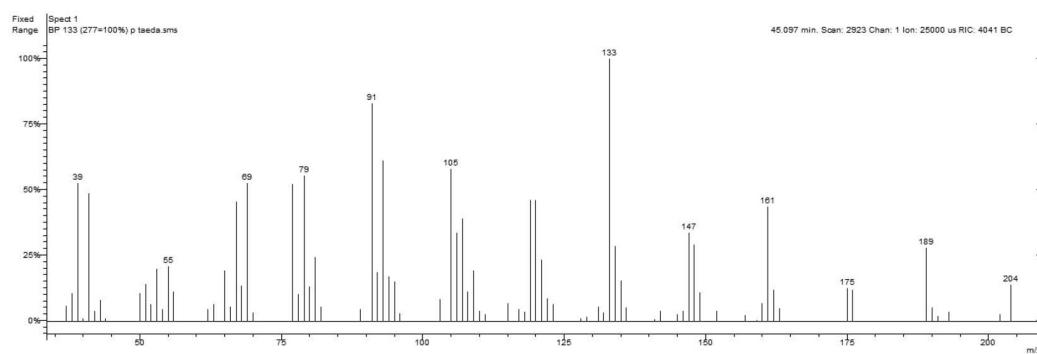
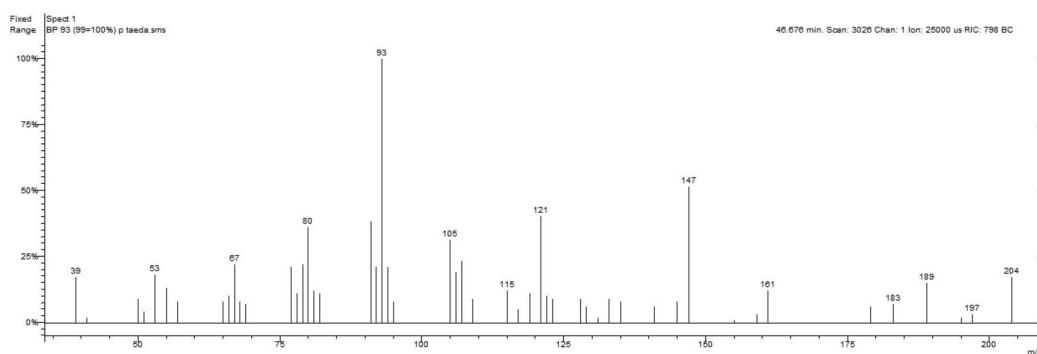
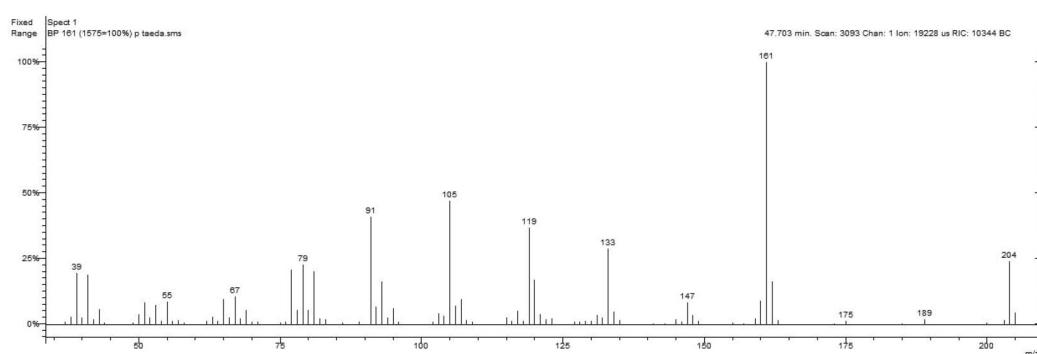
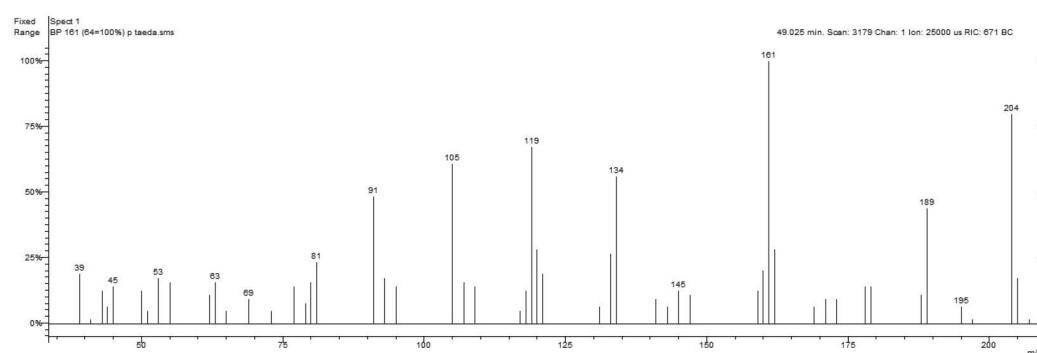
**Figure S15.** Mass spectrum of *p*-mentha-2,4(8)-diene (**12**).

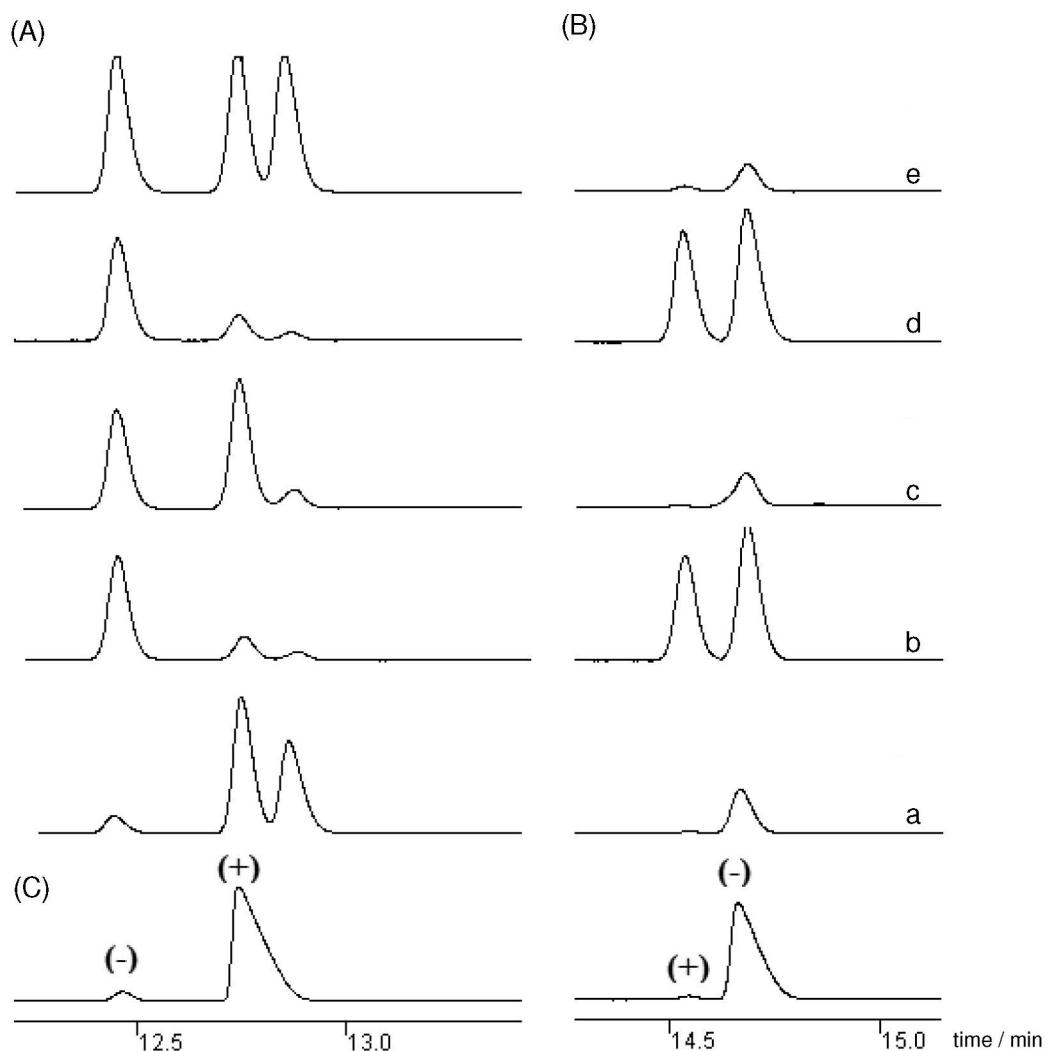


**Figure S16.** Mass spectrum of methyl octanoate (**13**).



**Figure S17.** Mass spectrum of thymol methyl ether (**14**).

**Figure S18.** Mass spectrum of (*E*)-caryophyllene (**15**).**Figure S19.** Mass spectrum of  $\alpha$ -humulene (**16**).**Figure S20.** Mass spectrum of germacrene D (**17**).**Figure S21.** Mass spectrum of  $\alpha$ -muurolene (**18**).



**Figure S22.** Chromatograms obtained with a Chirasil-Dex CB  $\beta$ -cyclodextrin ( $25\text{ m} \times 0.25\text{ mm} \times 0.25\text{ }\mu\text{m}$ ) capillary column showing the elution of: (A)  $\alpha$ -pinene and (B)  $\beta$ -pinene, present in the natural extracts of (a) *P. taeda*, (b) *P. elliottii*, (c) *P. patula*, (d) *P. maximinoi* and (e) *P. caribaea*; (C) standards of (+)- $\alpha$ -pinene and (-)- $\beta$ -pinene.