

Supplementary Materials

**Storage and controlled release of fragrances
maintaining a constant ratio of volatile compounds**

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Chemical Analytics,

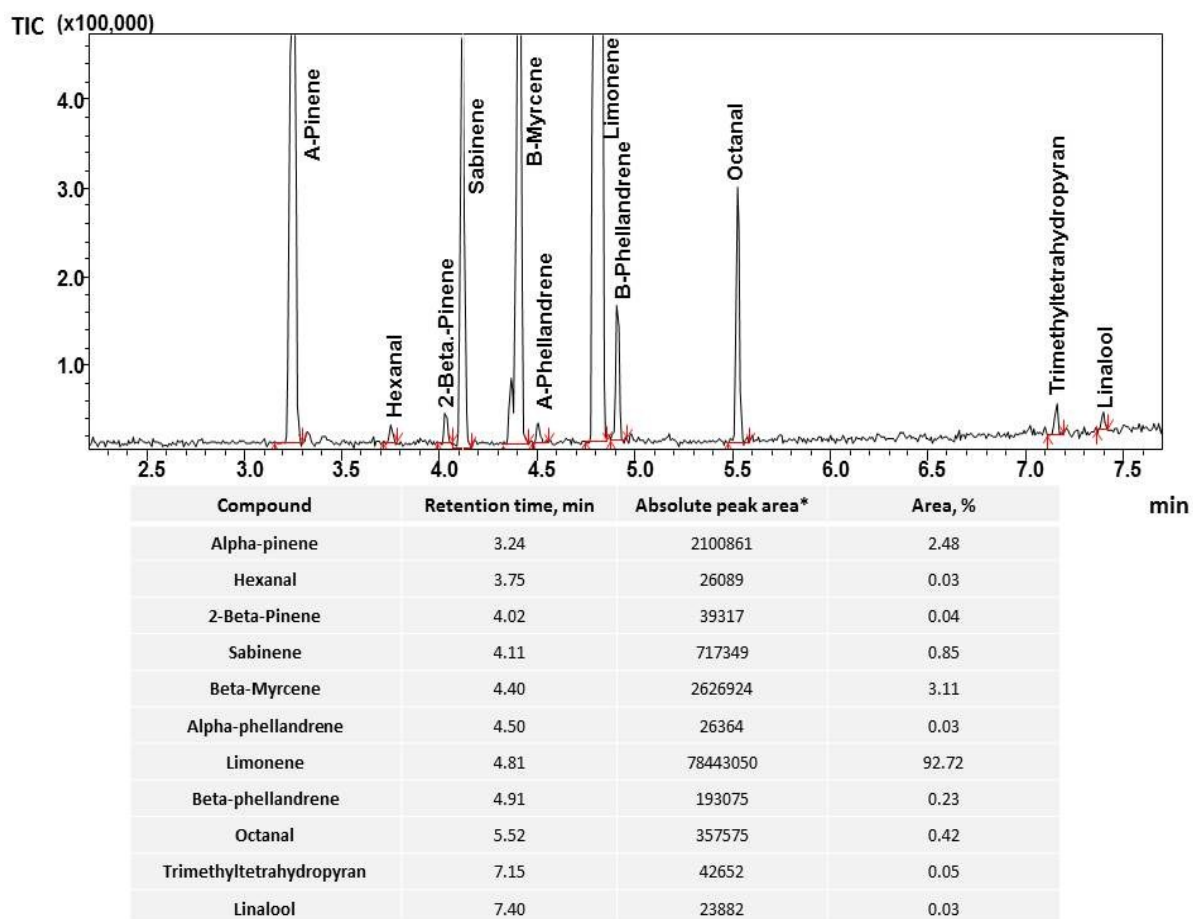
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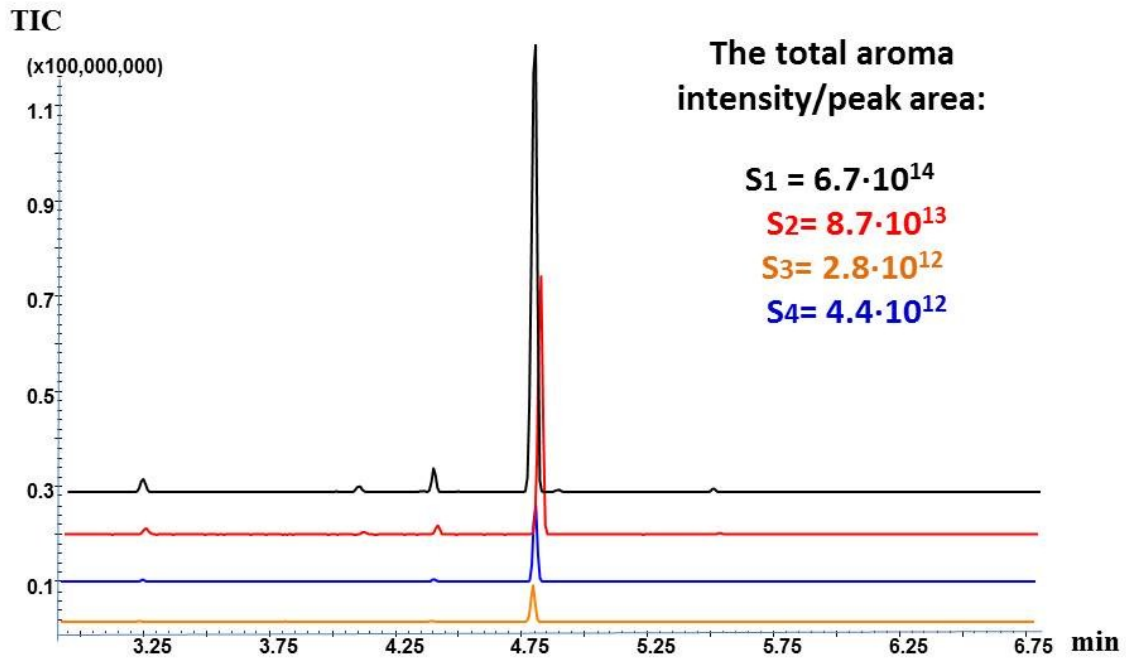
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*NOTE: Results expressed as mean of three replicates of total ion current (TIC).

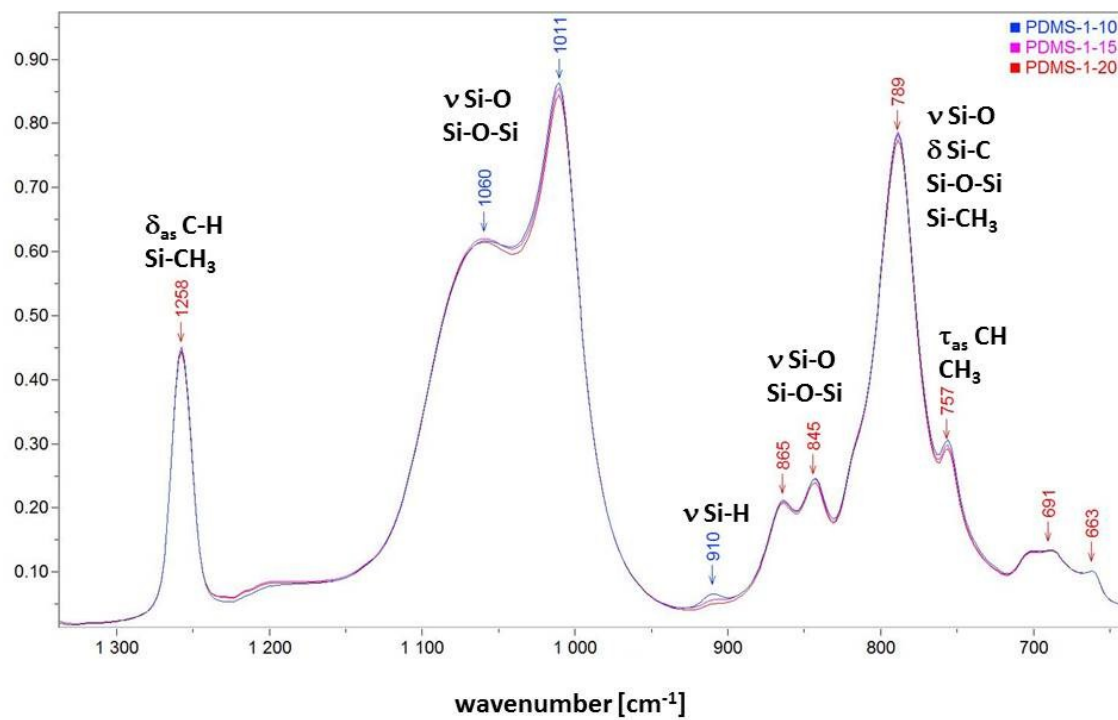
Figure S1. HS-GC-MS chromatogram obtained for original orange essential oil; HS-conditions were set at the skin temperature of 32 °C (500 µl of gas phase was injected in all set of experiments).



Black – PDMS_1:10 + 2 mL of orange oil, saturation during 24 h (S1);
 Red – reference orange oil, 10 μ l, contact time 20 min (S2);
 Orange – PDMS_1:10+10 μ l of orange oil, saturation by *approach 1* for 20 min (S3);
 Blue – PDMS_1:10+10 μ l of orange oil, saturation by *approach 2* for 20 min (S4).

Figure S2. HS-GC-MS chromatograms obtained at the skin temperature of 32 °C for the original essential orange oil and orange oil loaded into the bulk PDMS at different duration/saturation time.

Intensity, counts



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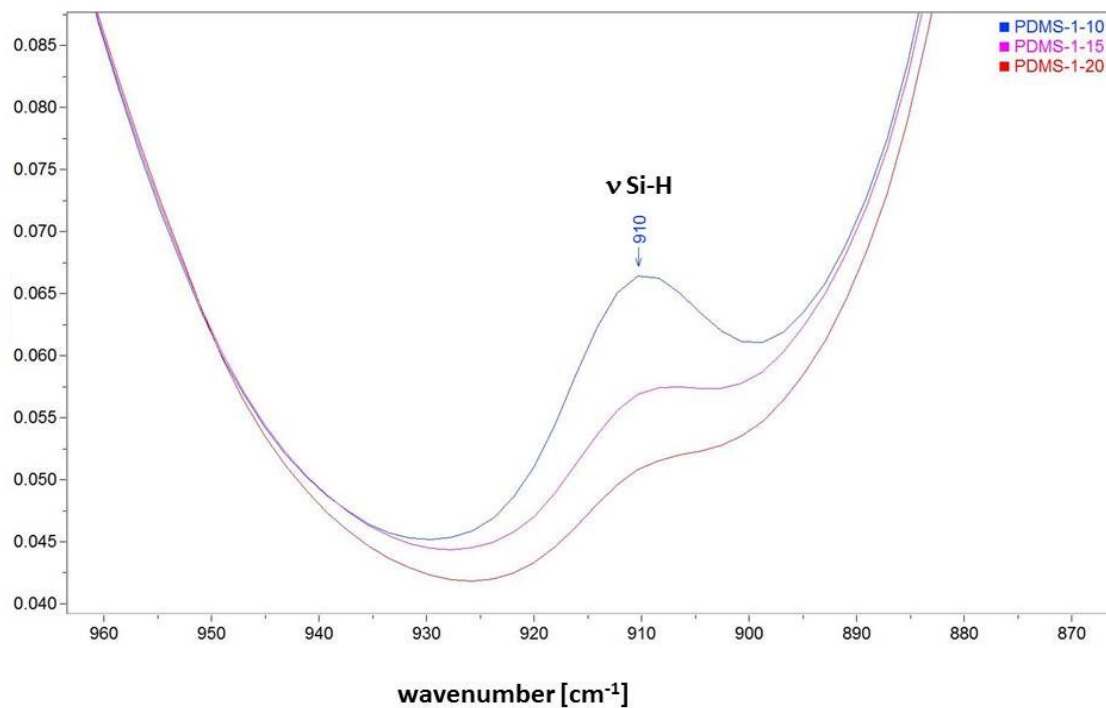


Figure S3. IR-spectra from 700 to 1300 cm⁻¹ of PDMS templates with different crosslinker-monomer ratio.

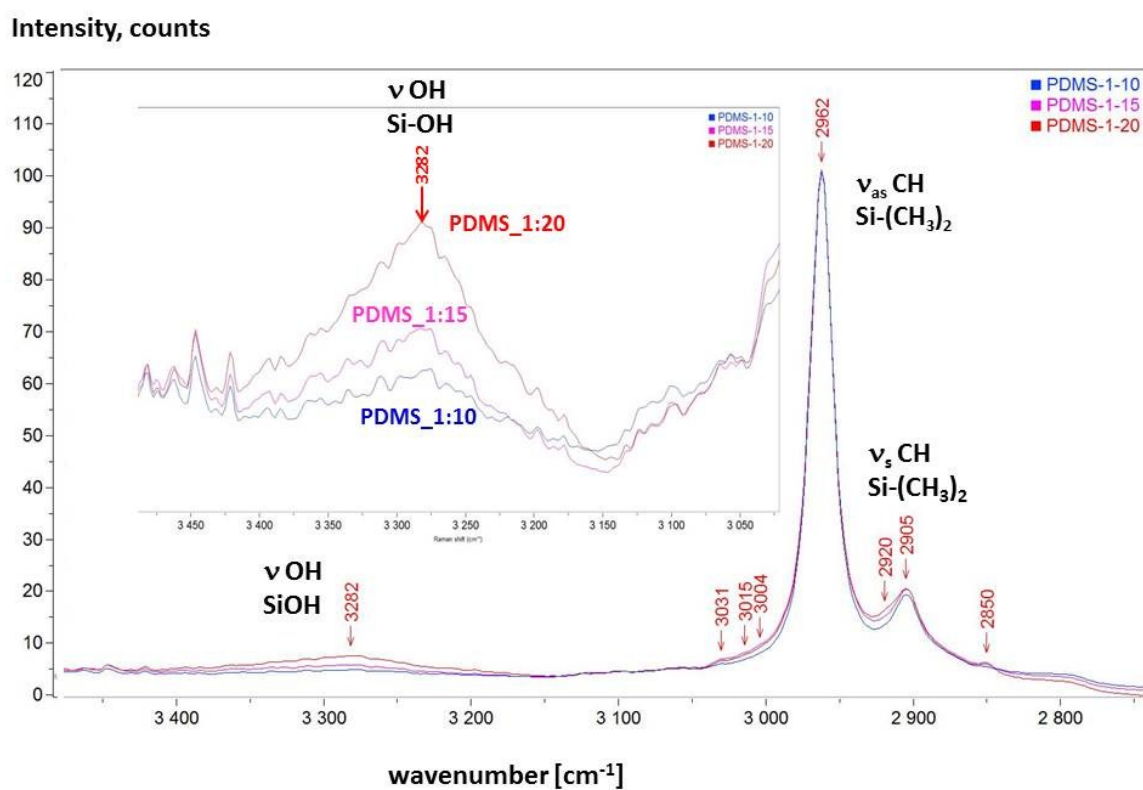
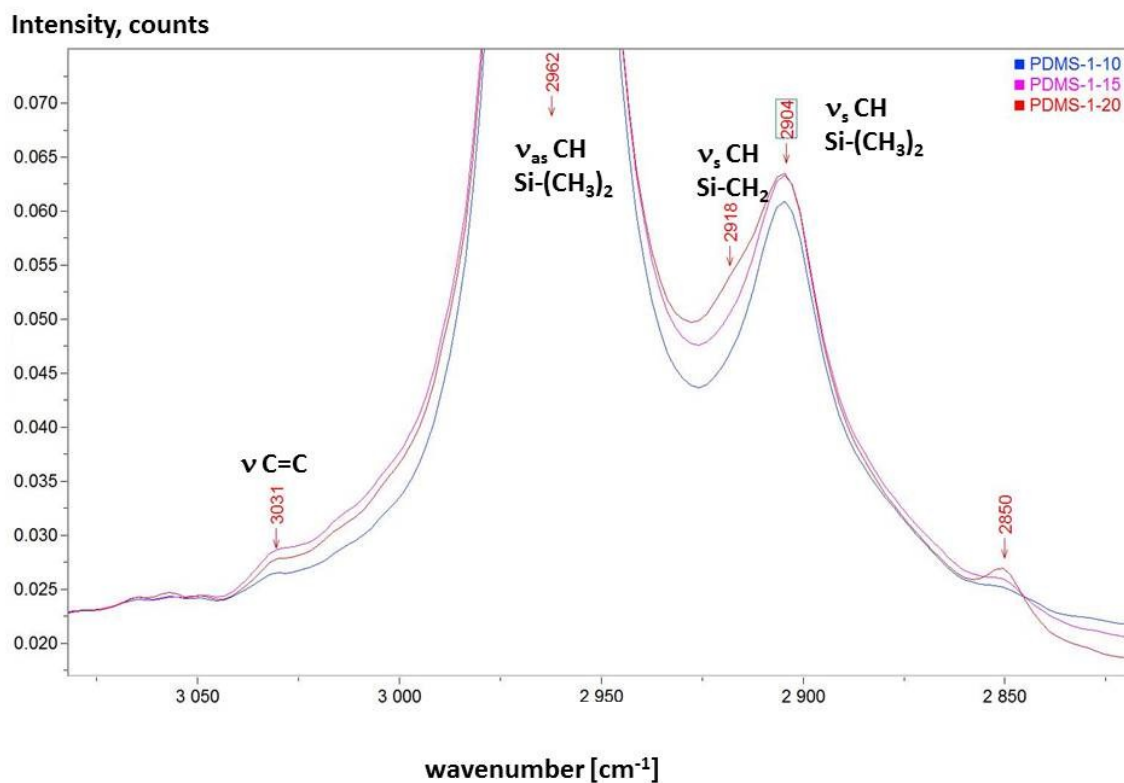


Figure S4. IR-spectra from 2850 to 3400 cm^{-1} of PDMS templates with different crosslinker-monomer ratio.

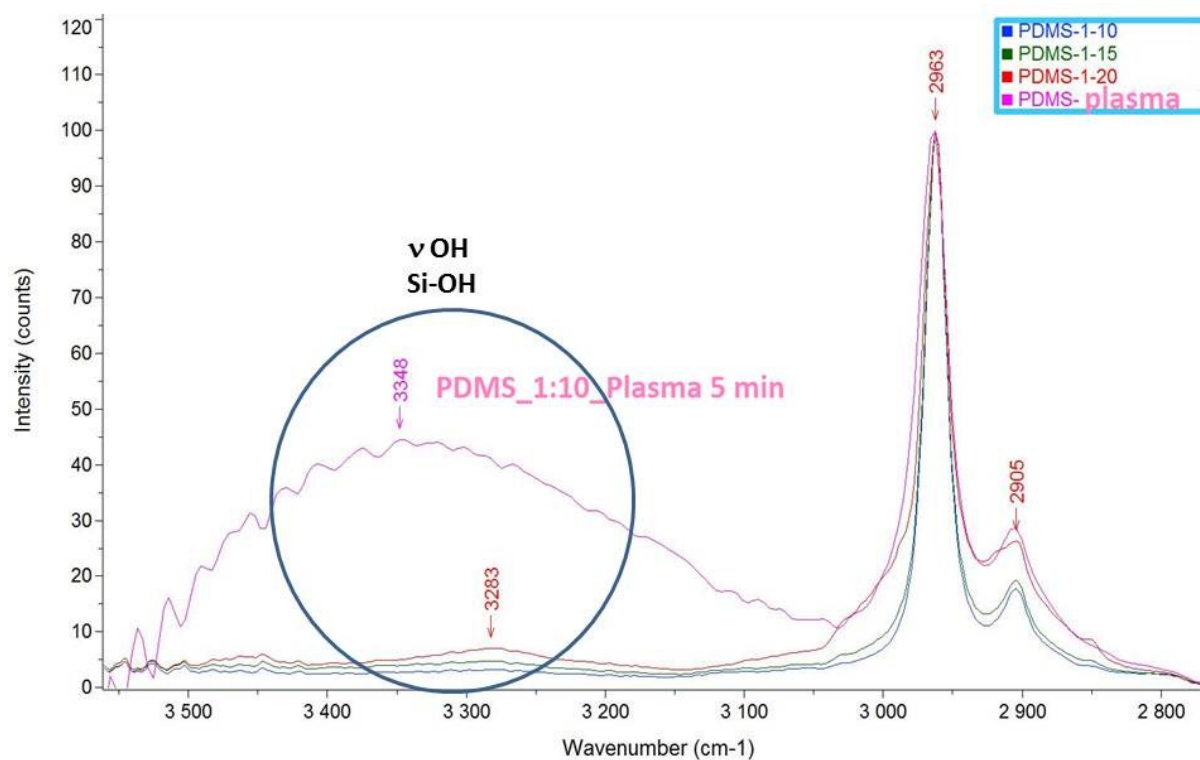
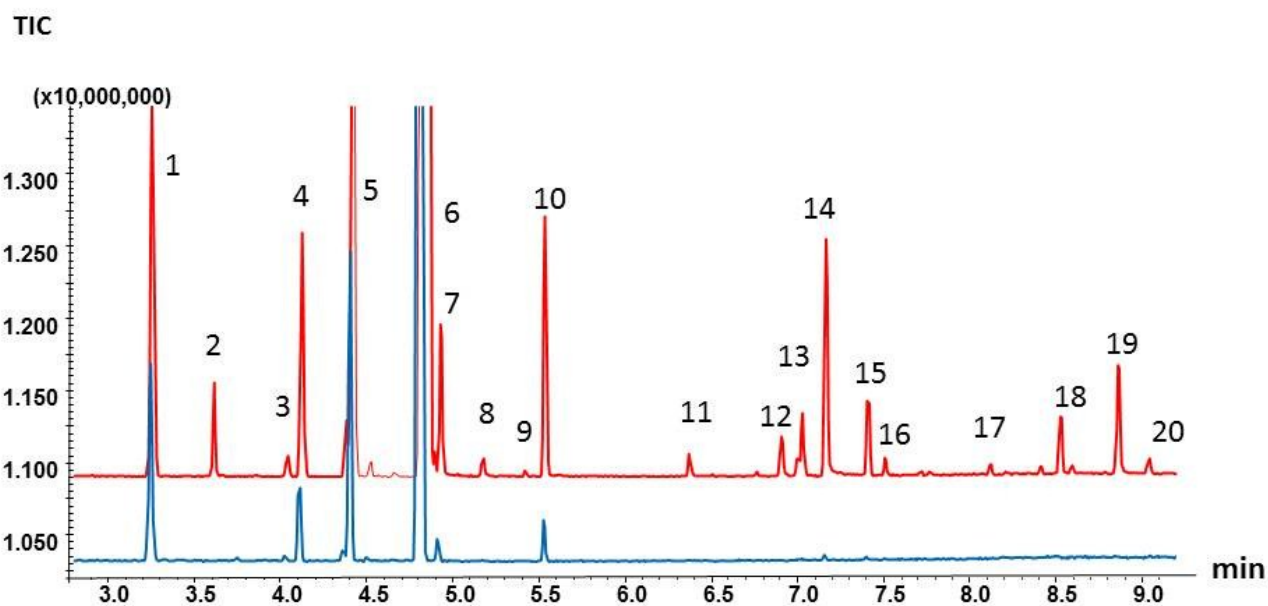


Figure S5. IR-spectra from 2850 to 3500 cm⁻¹ of PDMS templates before and after plasma treatment.



Red – original Orange oil heated till 80 °C;

Blue – original Orange oil at the skin temperature of 32 °C

Figure S6. HS-GC-MS chromatograms obtained for the original orange oil (blind/reference) at the skin temperature of 32 °C and after the heat up to 80 °C:

- 1- α -pinene, 2 – hexanal, 3 – β -pinene, 4 – sabinene, 5 – β -myrcene,
 6 – d-limonene, 7 – phellandrene, 8 – carene, 9 – para-cymene, 10 – octanal,
 11 – nonanal, 12 – limonene oxide, 13 – citronellal, 14 – decanal, 15 – linalool,
 16 – 1-octanol, 17 – verbenole, 18 – citral B, 19 – citral A, 20 – carvone.

TIC

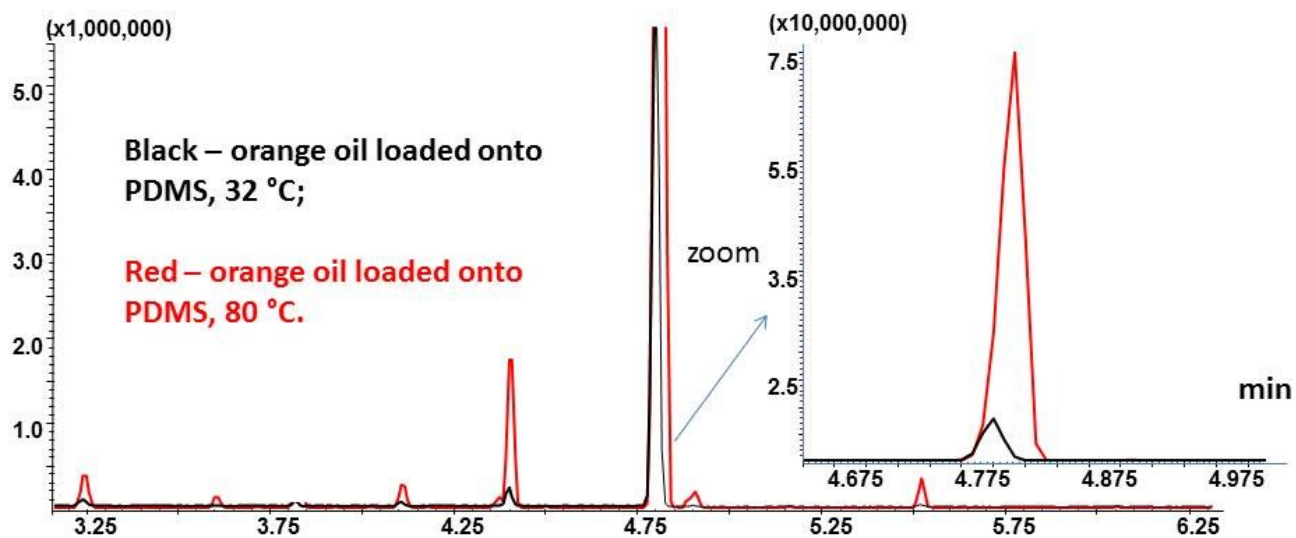
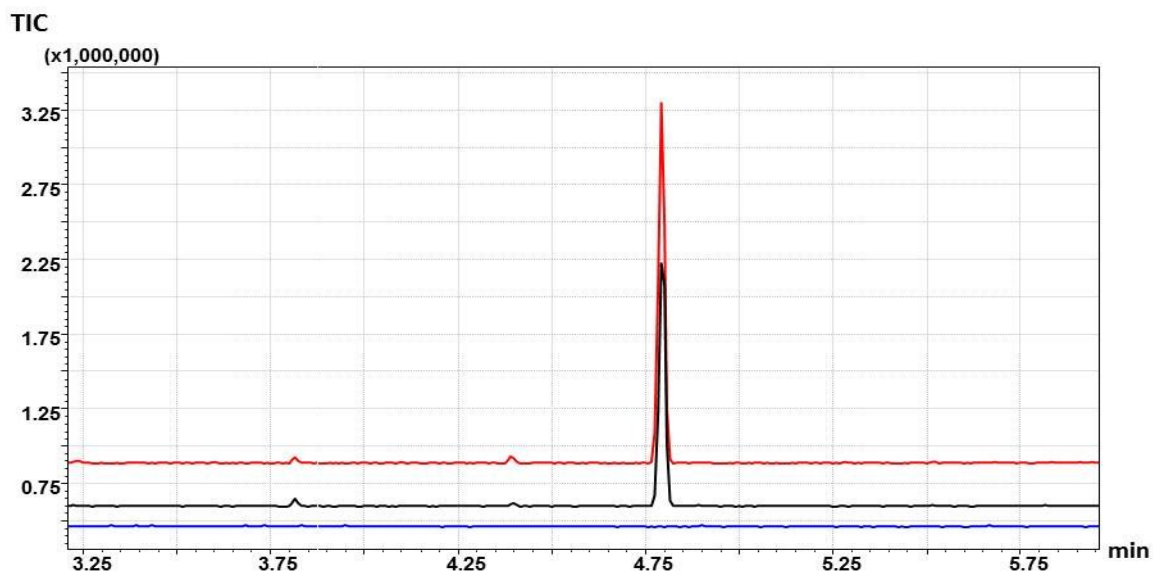


Figure S7. HS-GC-MS chromatograms of the headspace of the orange oil loaded onto the bulk PDMS (shown for *approach 1*).



Blue – 10 μ l of original orange oil spotted into HS-bottle;
Black – 10 μ l of orange oil spotted onto PDMS, *approach 1*.
Red – 10 μ l of orange oil covered by PDMS, *approach 2*;

Figure S8. HS-GC-MS chromatograms obtained at 32 °C for original orange oil and orange oil loaded onto/into PDMS templates with a crosslinker-monomer ratio 1:10 after 14 h since the HS-vial was opened.

Graphical abstract

