

Supporting Information

Detection of Hydrocarbons by Laser Assisted Paper Spray Ionization Mass Spectrometry (LAPSI MS)

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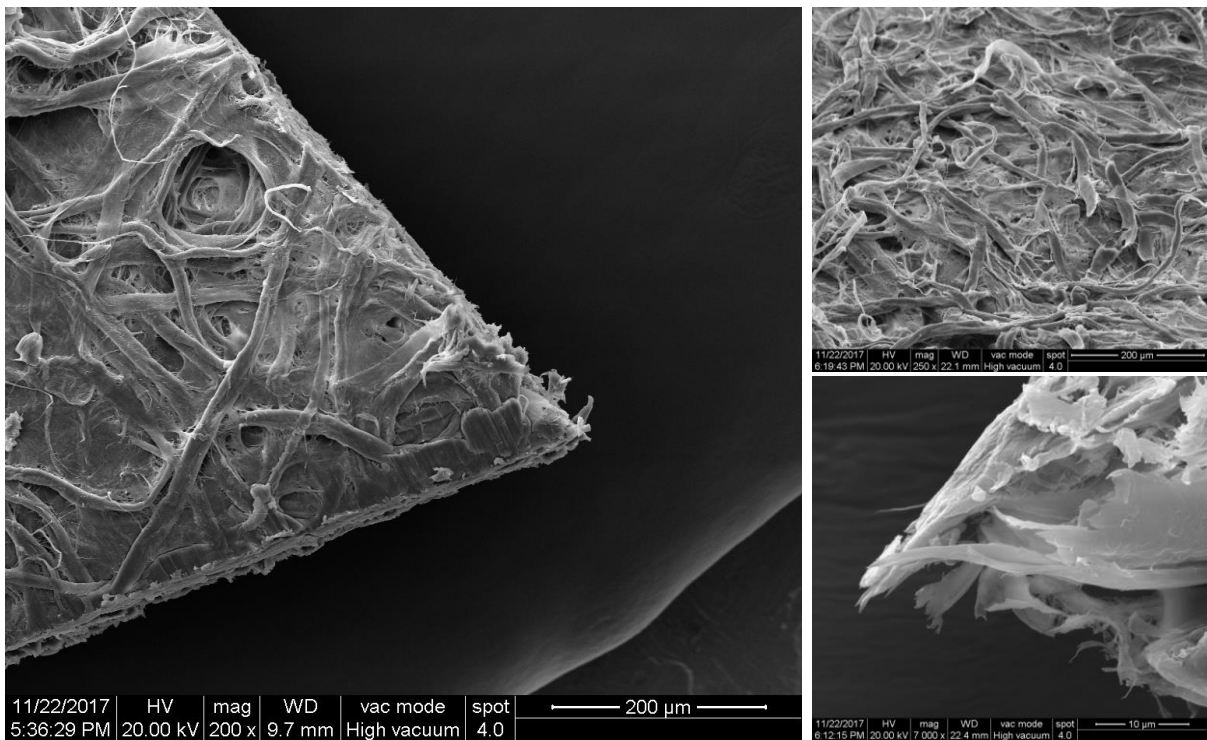


Figure S1. SEM images of the Whatman 42 filter paper under different magnifications.

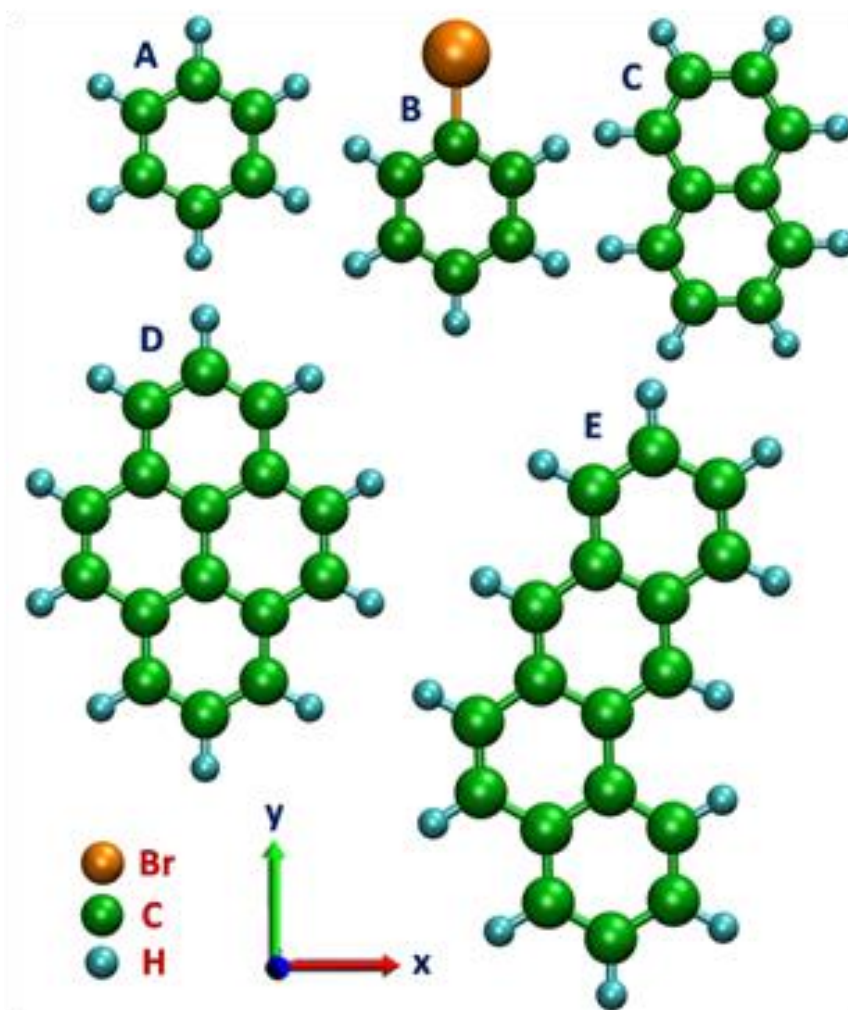


Figure S2. The optimized structures for a) benzene, b) bromobenzene, c) naphthalene, d) pyrene and e) benzanthracene and their orientation for the applied electric fields.

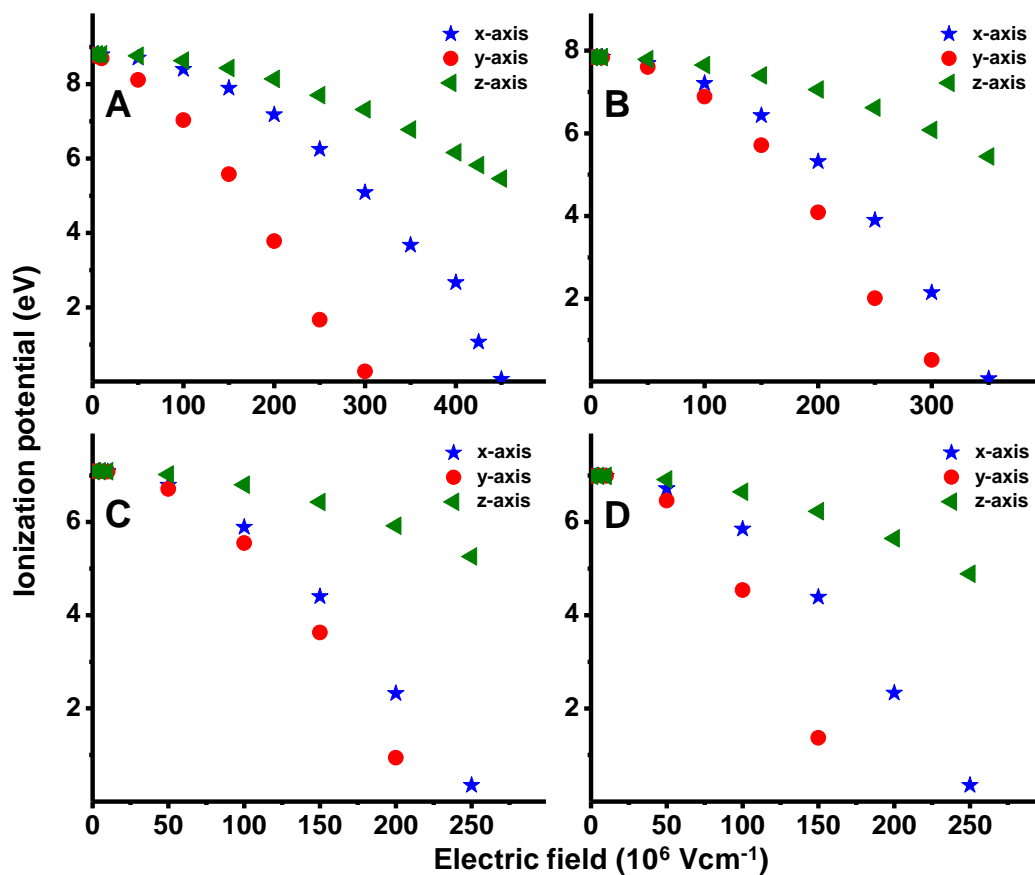


Figure S3. Calculated IPs of A) bromobenzene, B) naphthalene, C) pyrene and D) benzanthracene in presence of high electric fields along x, y and z directions.

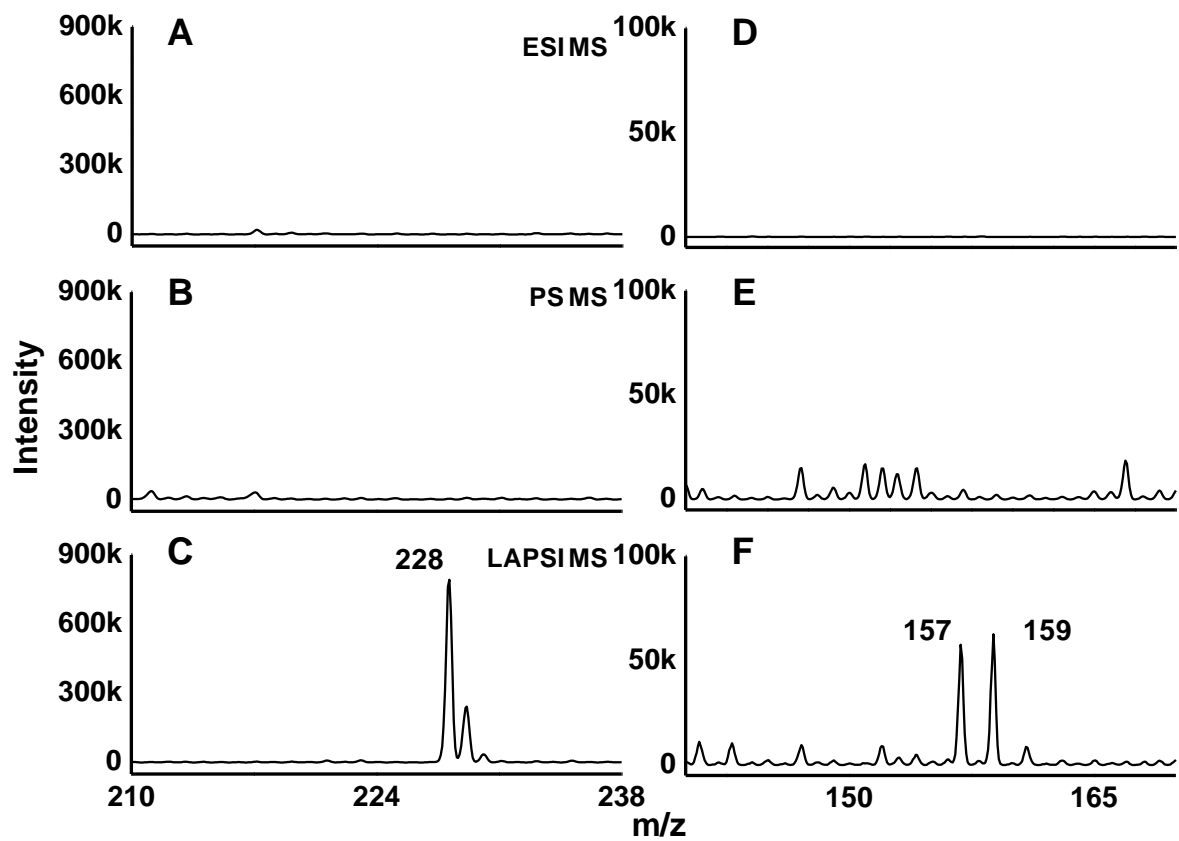


Figure S4. Comparative mass spectrum of benzanthracene (m/z 228) and bromobenzene (m/z 157). A), D) ESI MS, B), E) PS MS and C), F) LAPSI MS.

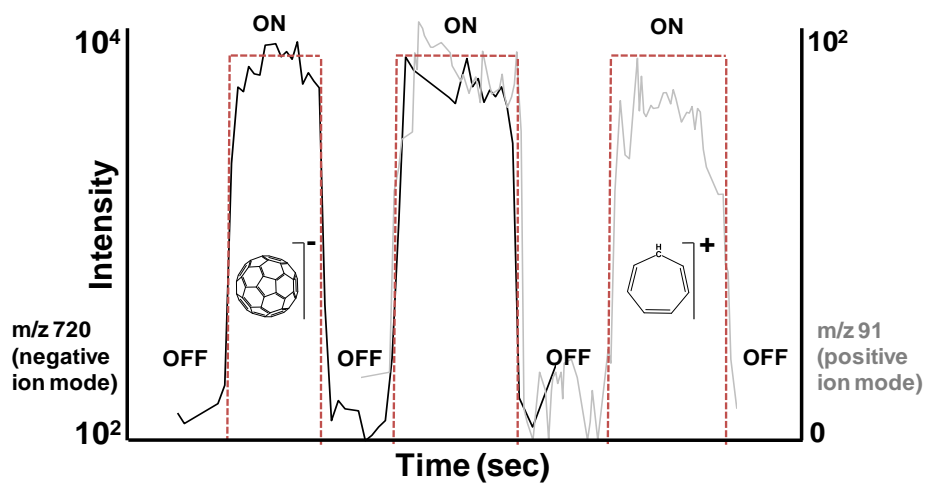


Figure S5. Chromatograms of C_{60} in negative ion mode and toluene in positive ion mode are merged together in laser on/off conditions.

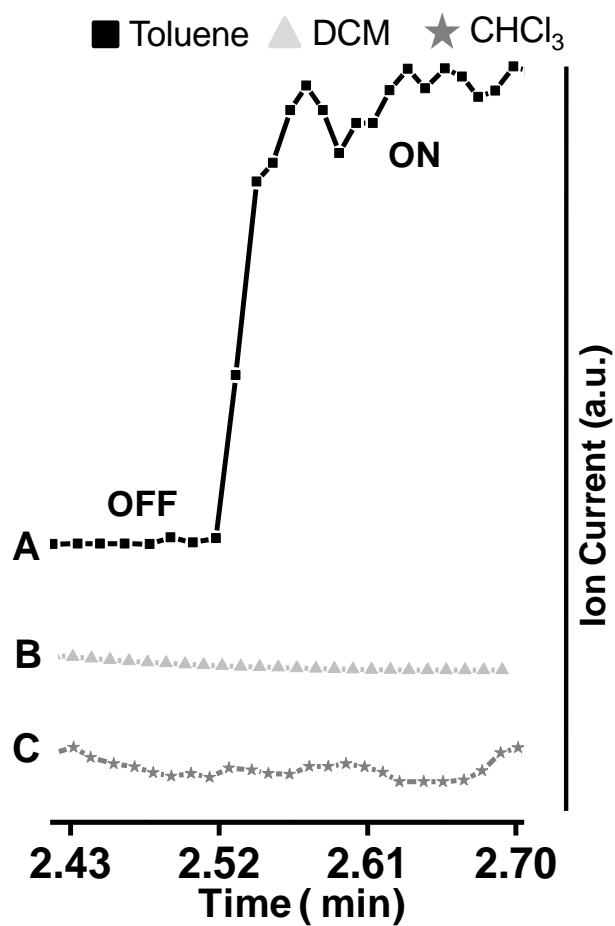


Figure S6. Selected ion chromatogram of C₆₀ using A) toluene, B) dichloromethane (DCM) and C) chloroform in laser on/off conditions.

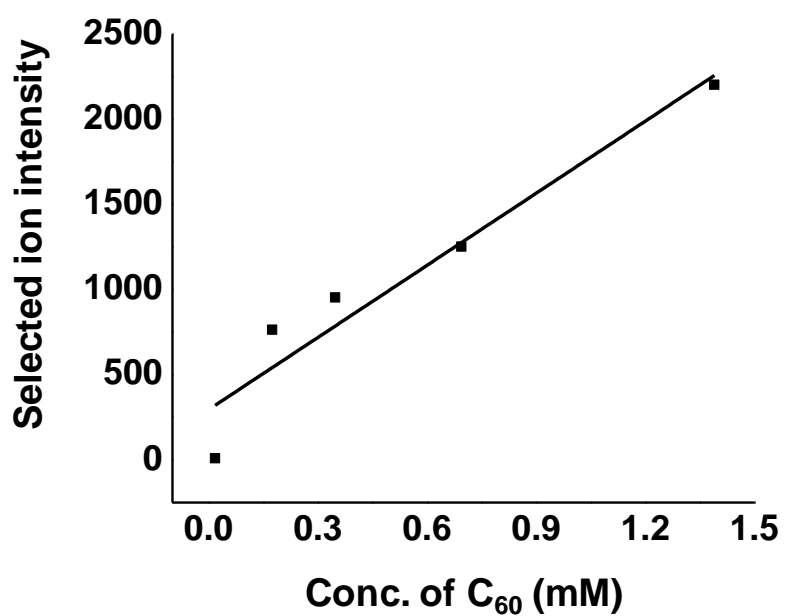


Figure S7: Selected ion intensity vs concentration plot of C₆₀ in the absence of laser. Intensity of the molecular anion at m/z 720 of C₆₀ varies linearly with its concentration in the solution.

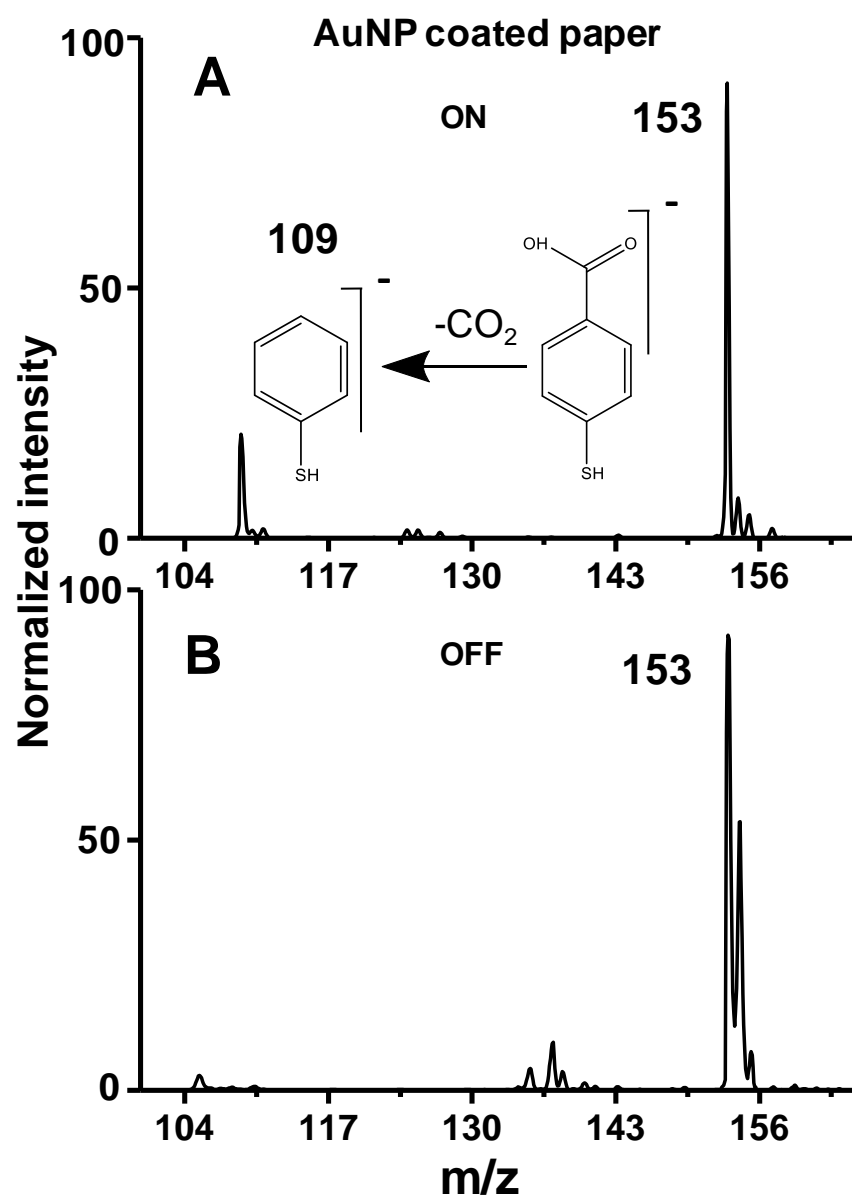


Figure S8. Mass spectrum para-mercaptobenzoic acid on AuNPs-coated paper in, A) presence and B) absence of laser. Less intense peaks in the laser off condition are due to background.

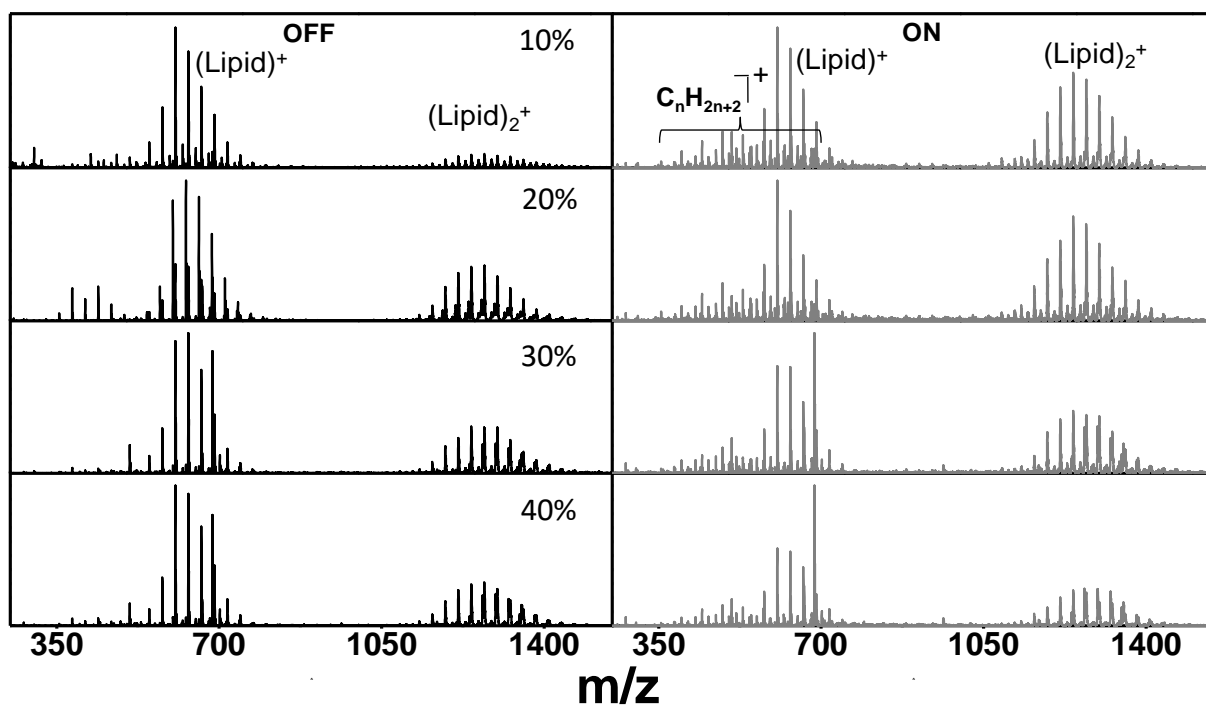


Figure S9. Standard mixture of coconut oil and paraffin oil in different ratios with laser off (left) and on (right) conditions.

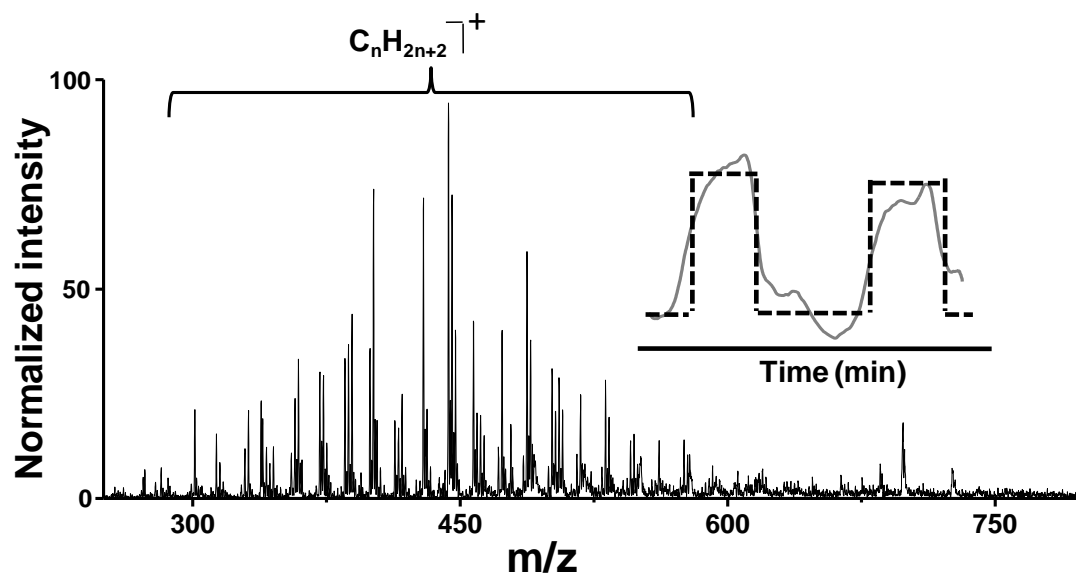


Figure S10. Chromatogram and mass spectrum of pure paraffin oil in LAPSI MS in positive ion mode.

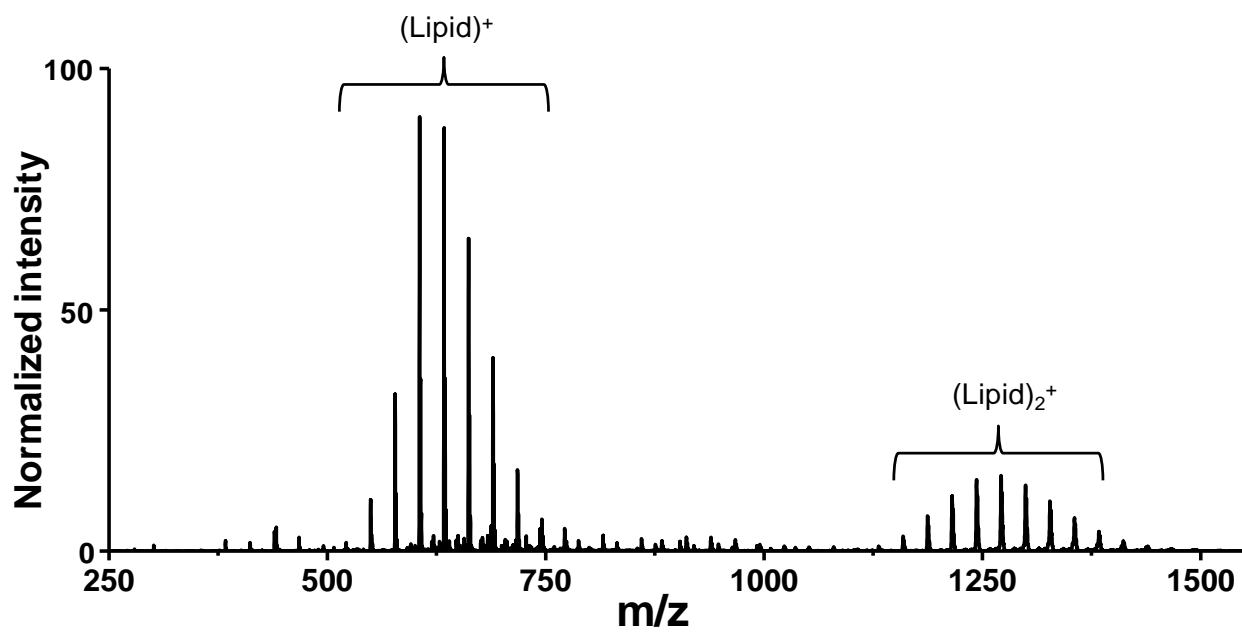


Figure S11. Mass spectrum of pure coconut oil.