


## Supplementary Information



### APCI(+)-FT-ICR MS Analysis of Hydrocarbons Using Isooctane as Ionizing Reagent - A Comparison with HTGC-FID, GC×GC-MS and NMR

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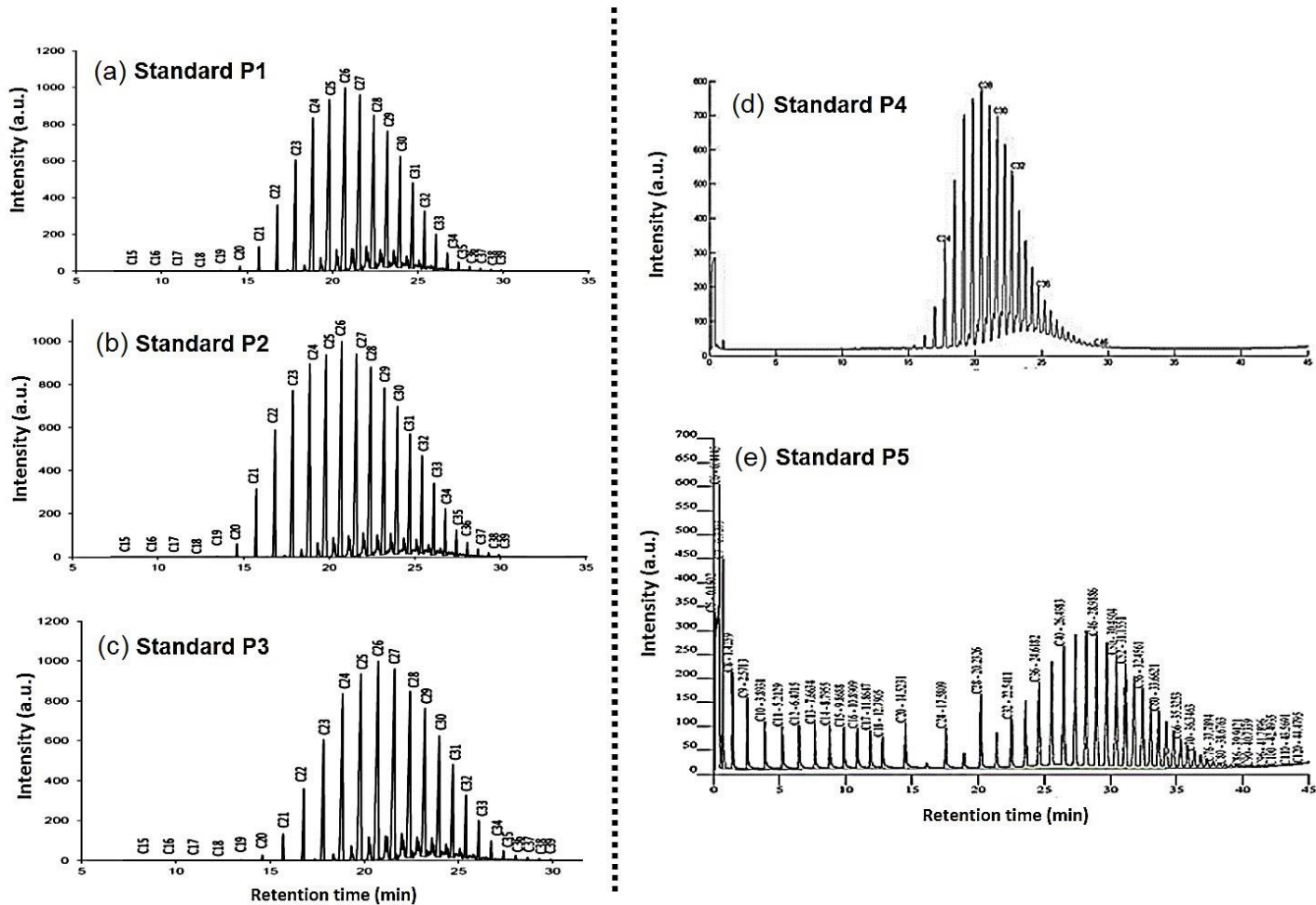
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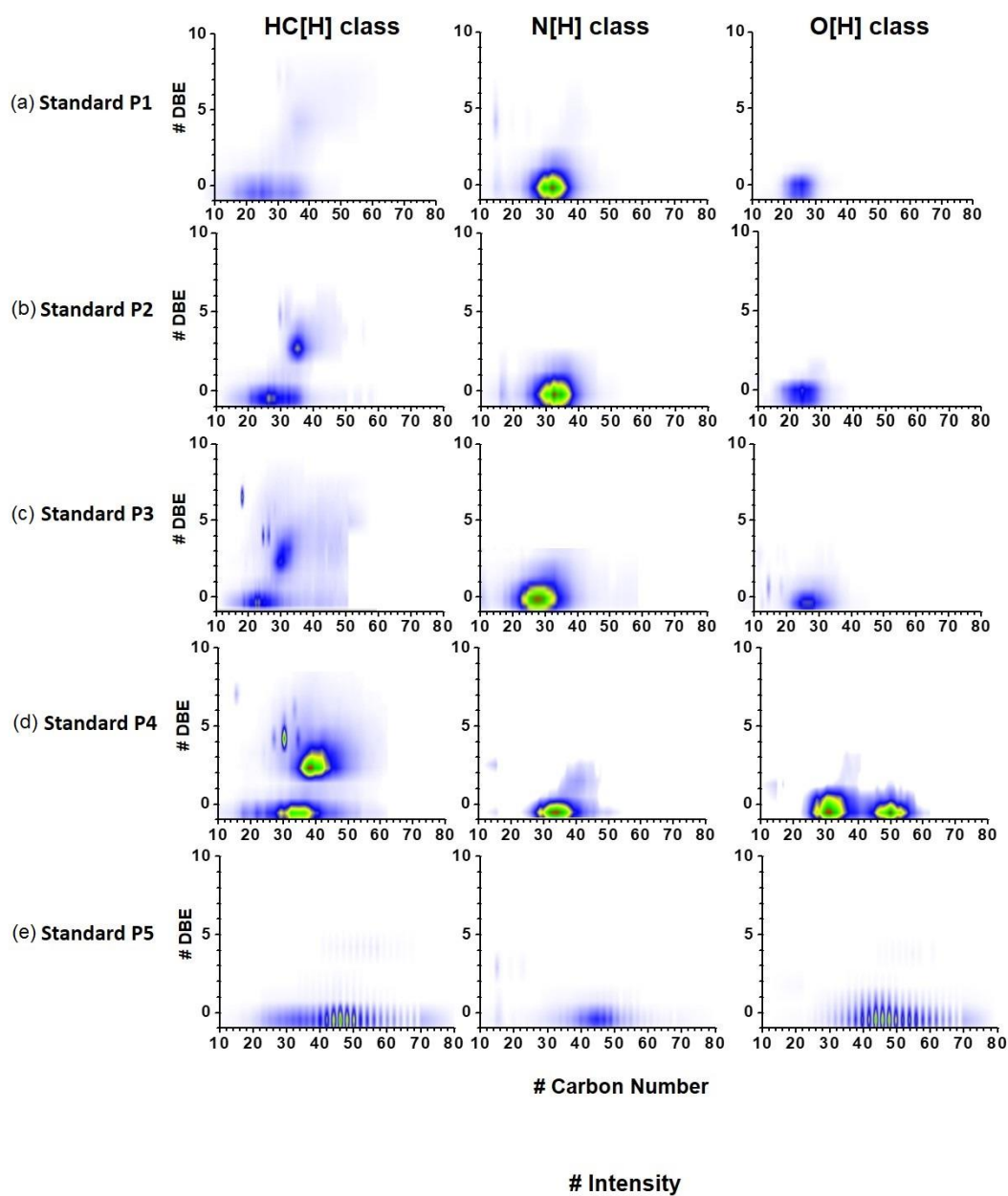
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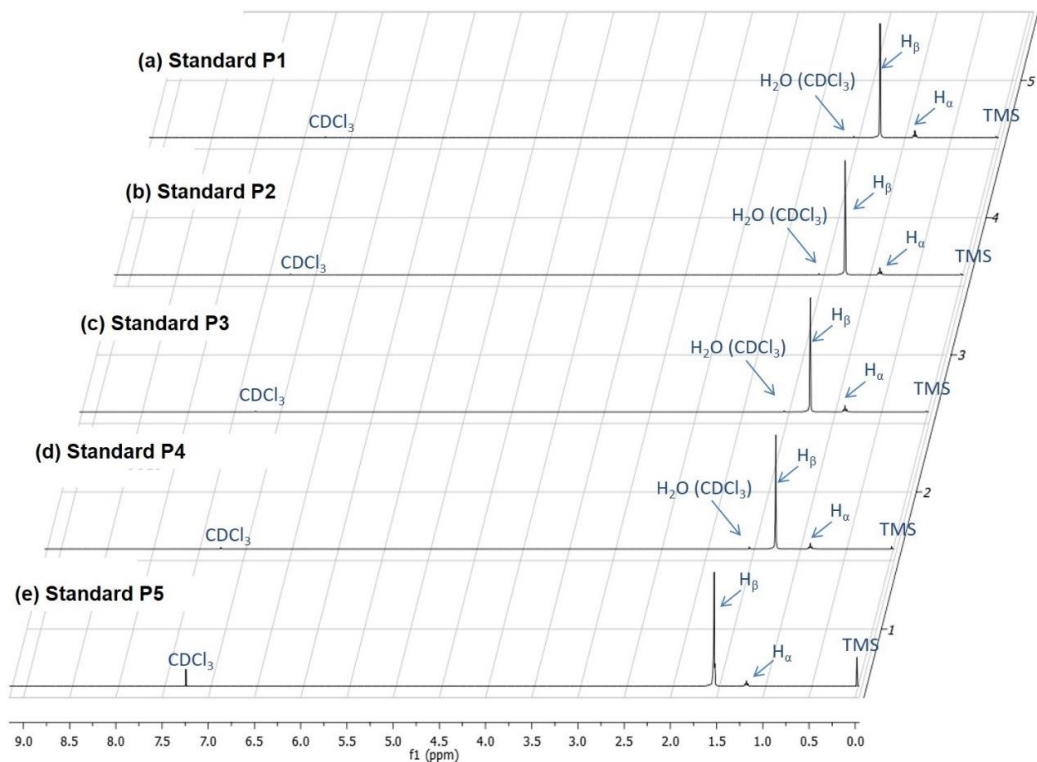
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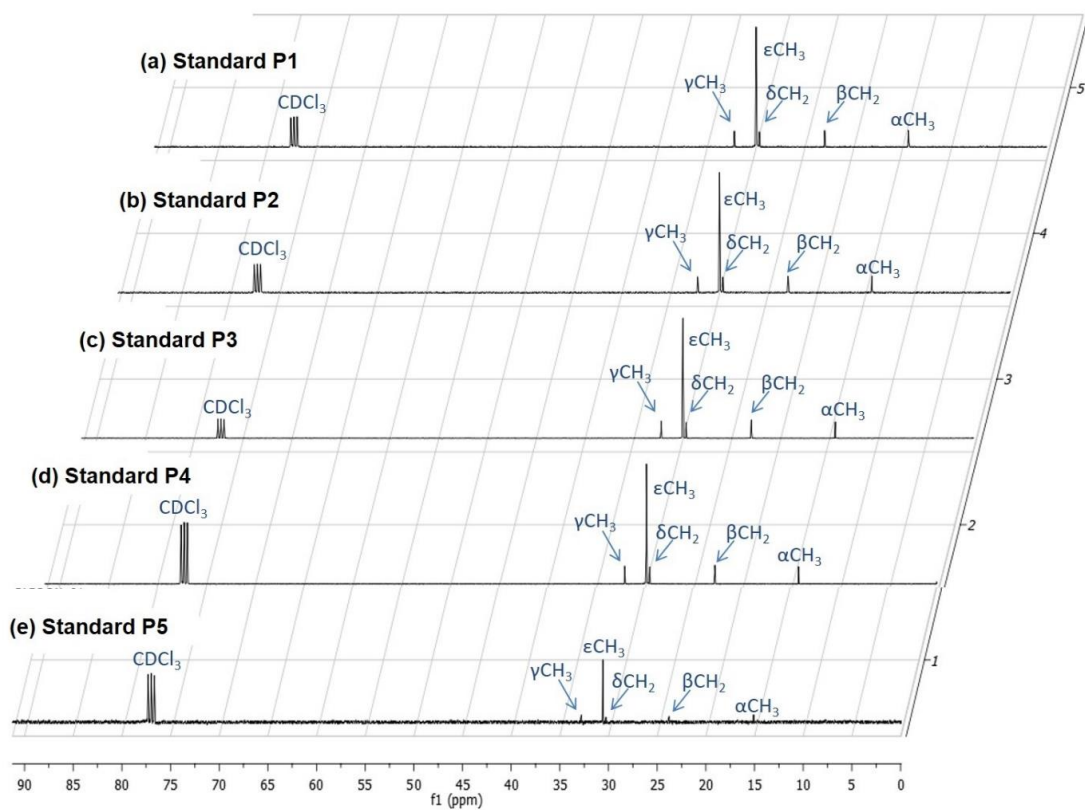
**Figure S1.** HTGC analysis of five paraffin standards (P1-P5). The CNs of the *n*-paraffins were marked above the chromatogram based on the retention times of the *n*-paraffins model.



**Figure S2.** DBE *versus* CN plots for the HC[H], N[H] and O[H] classes for five paraffin standards (P1-P5).



**Figure S3.**  $^1\text{H}$  NMR spectra (6410.3 Hz, deuterated chloroform) recorded for the five paraffin standards (P1-P5).



**Figure S4.**  $^{13}\text{C}$  NMR spectra (25510.2 Hz, deuterated chloroform) recorded for the five paraffin standards (P1-P5).

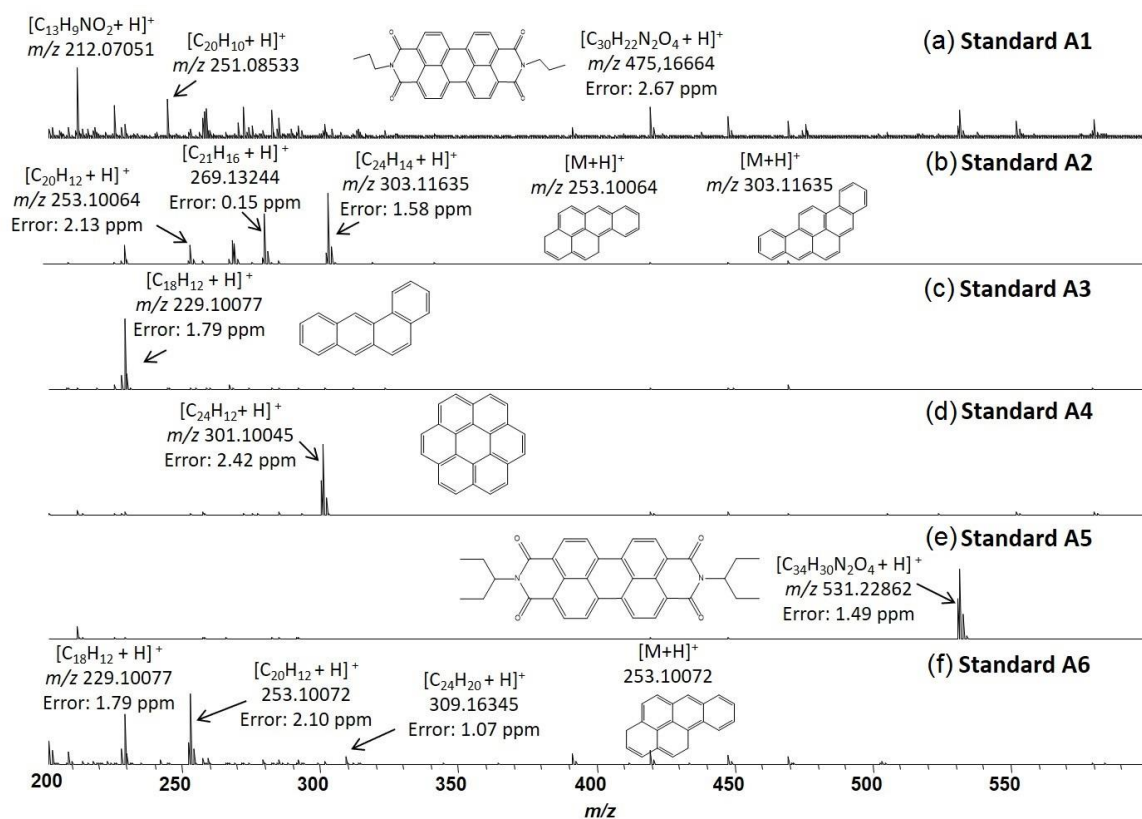
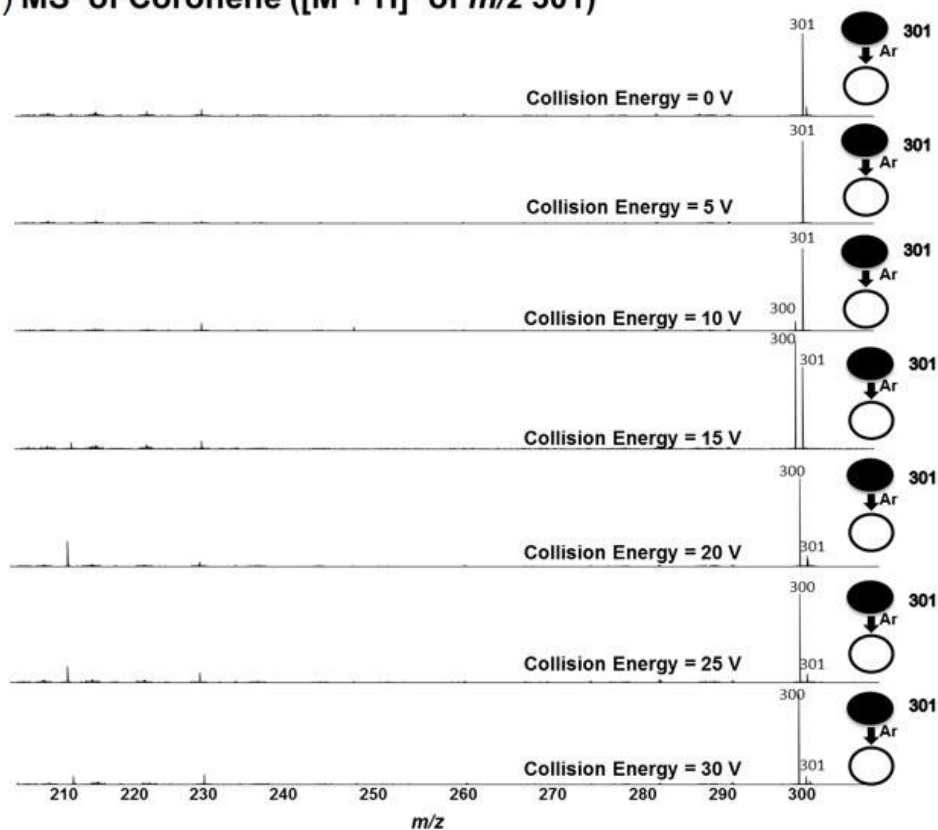
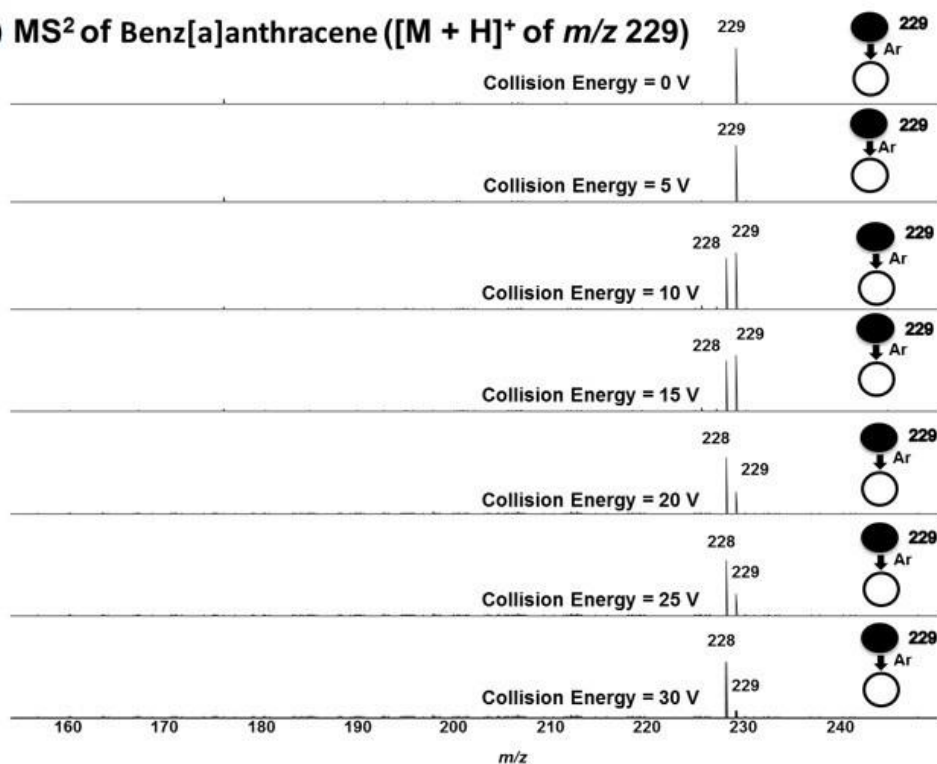


Figure S5. APCI(+)-FT-ICR mass spectra for PAH standards A1-A6.

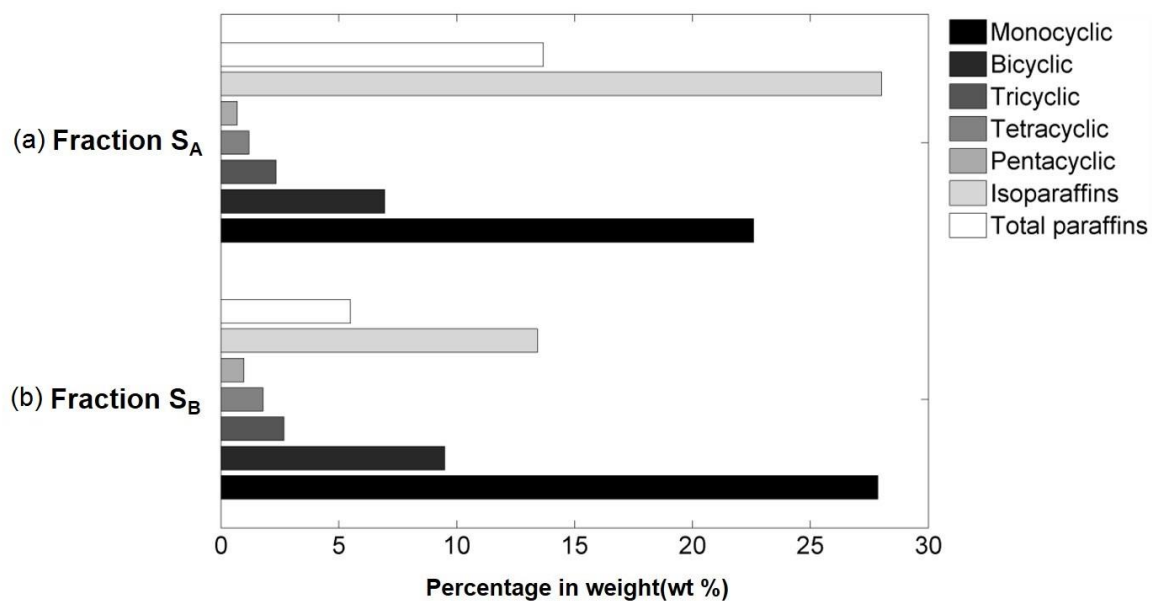
(a) MS<sup>2</sup> of Coronene ([M + H]<sup>+</sup> of *m/z* 301)



(b) MS<sup>2</sup> of Benz[a]anthracene ([M + H]<sup>+</sup> of *m/z* 229)



**Figure S6.** APCI(+)-MS/MS of PAH standards: (a) coronene; (b) benzoanthracene, with the collision energy varying from 0 to 30 V.



**Figure S7.** Percentage in weight (wt.%) of linear HCs, branched HCs, mono-, bi-, tri-, tetra- and penta-cyclic HCs identified in the two saturated fractions by GC×GC-MS