Electronic Supporting Information for

Polydiacetylene Paper-Based Colorimetric Sensor Array for Vapor Phase Detection and Identification of VOCs

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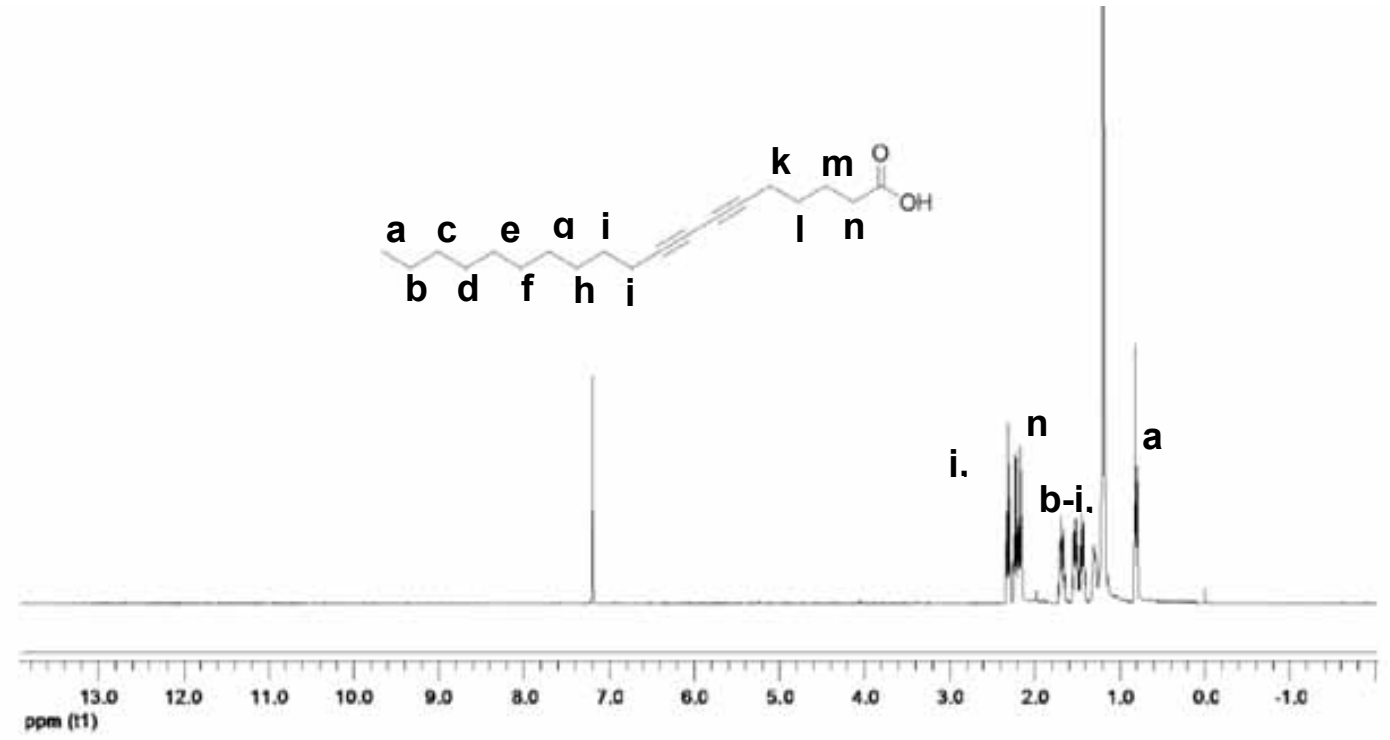

Fig. S1: ^{1}H NMR of 3 in $CDCl_3$

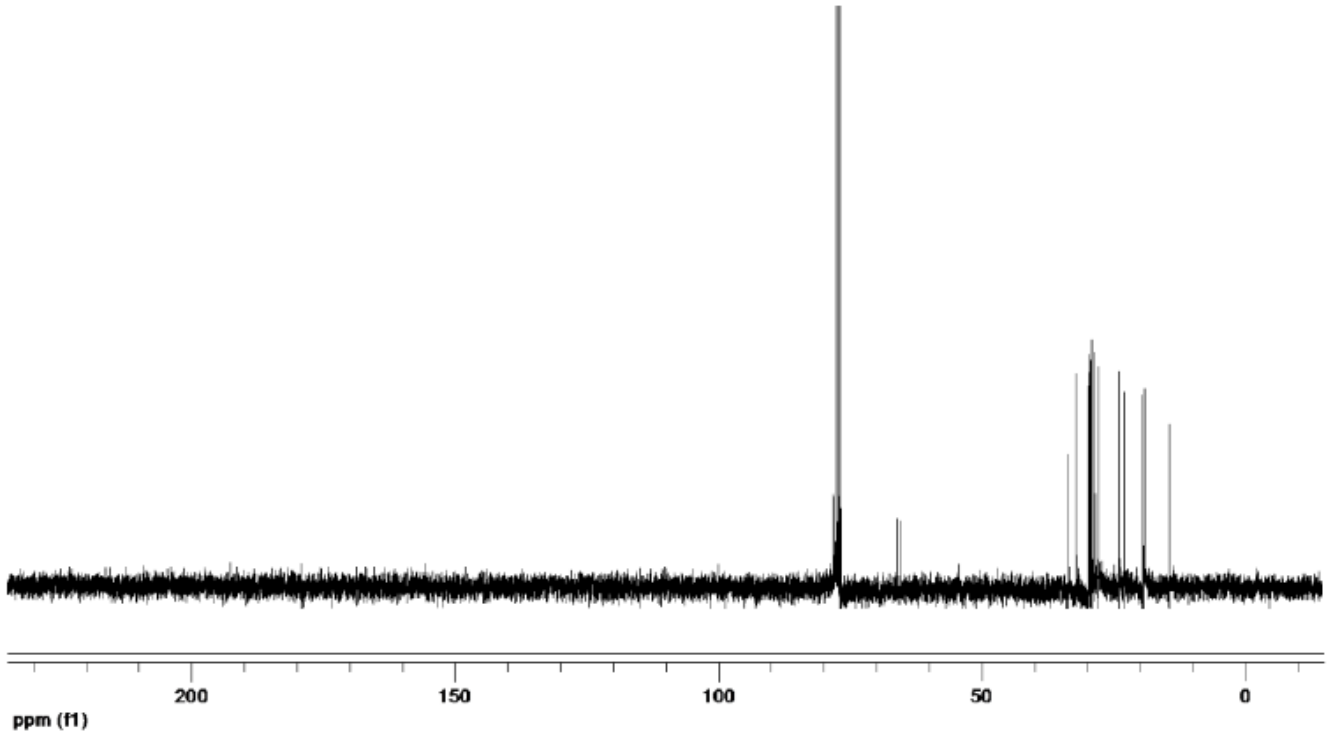

Fig. S2: ^{13}C NMR of 3 in $CDCl_3$

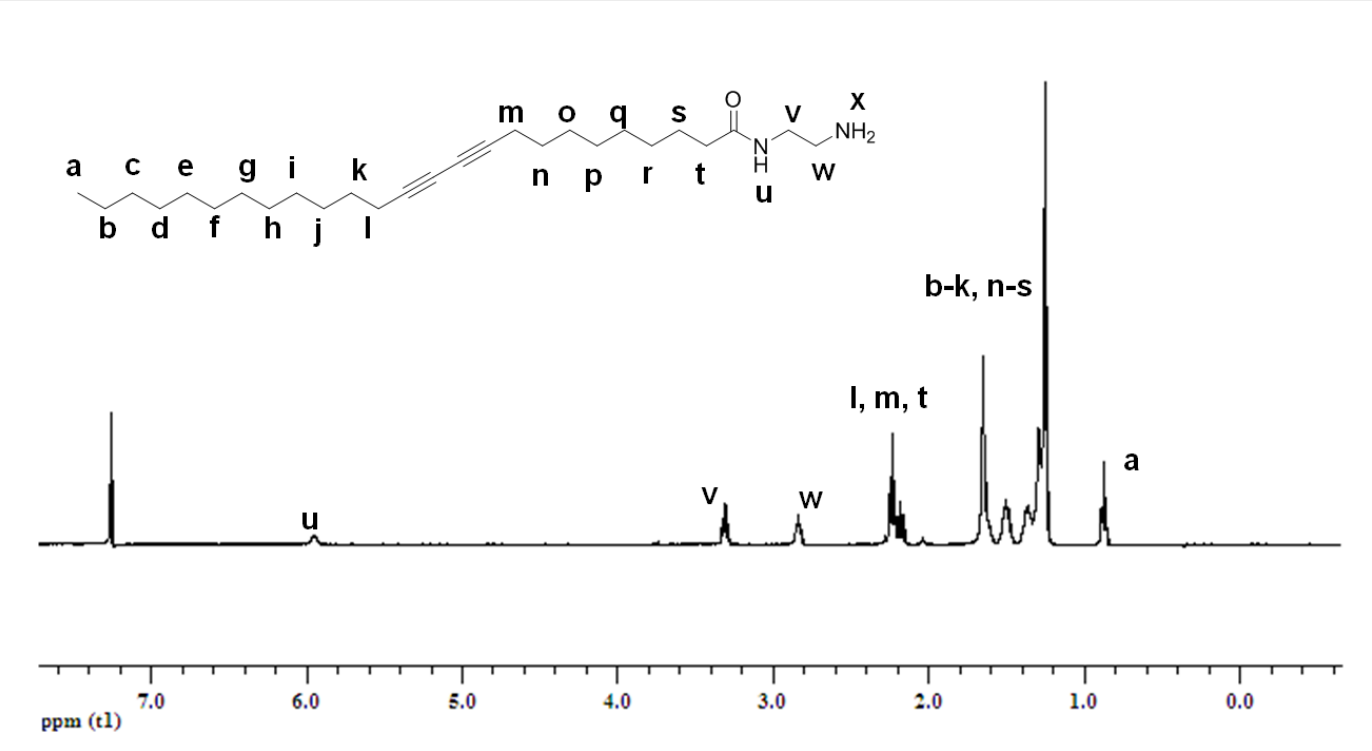

Fig. S3: ^{1}H NMR of 4 in $CDCl_3$

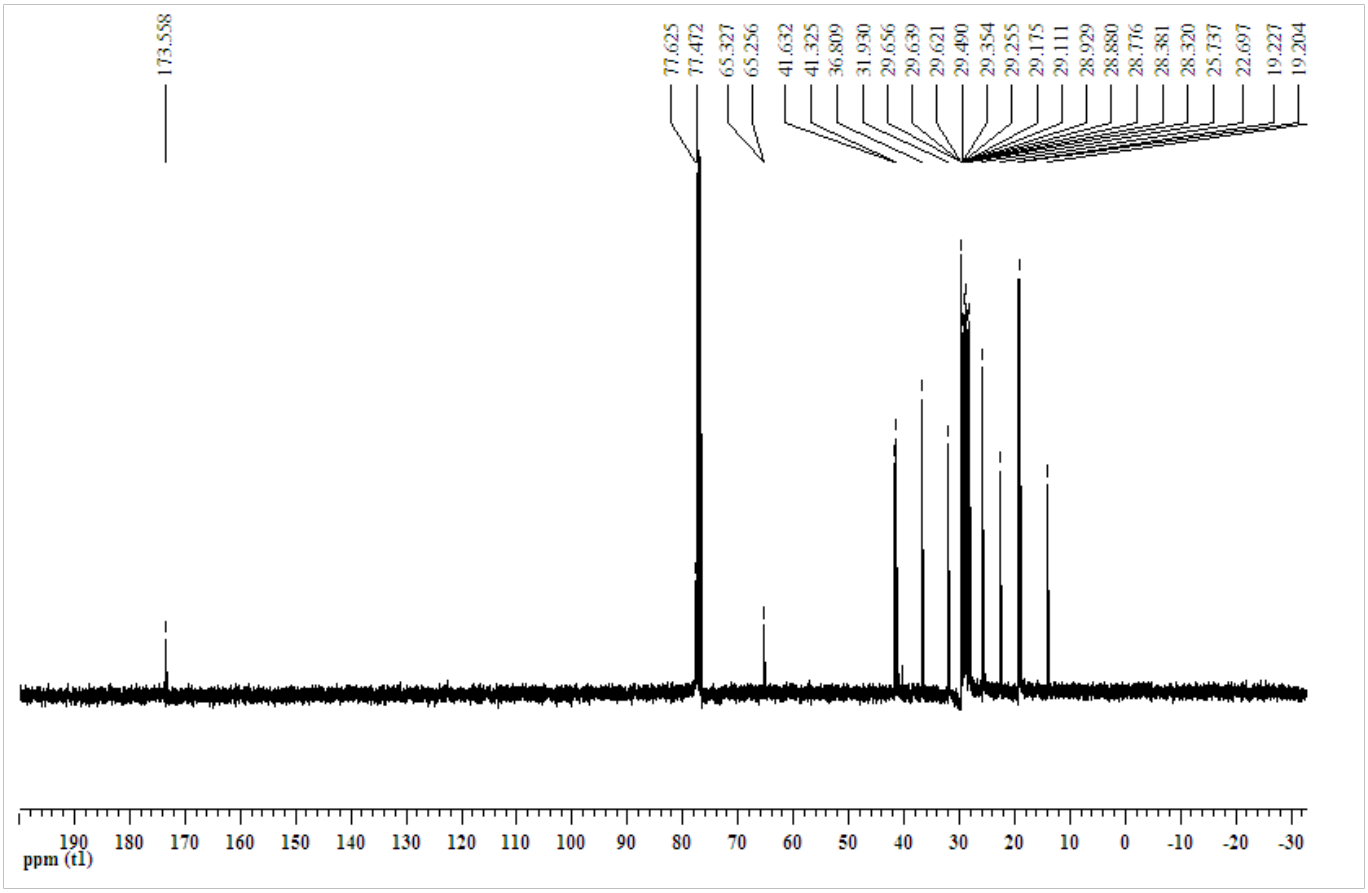

Fig. S4: ^{13}C NMR of 4 in $CDCl_3$

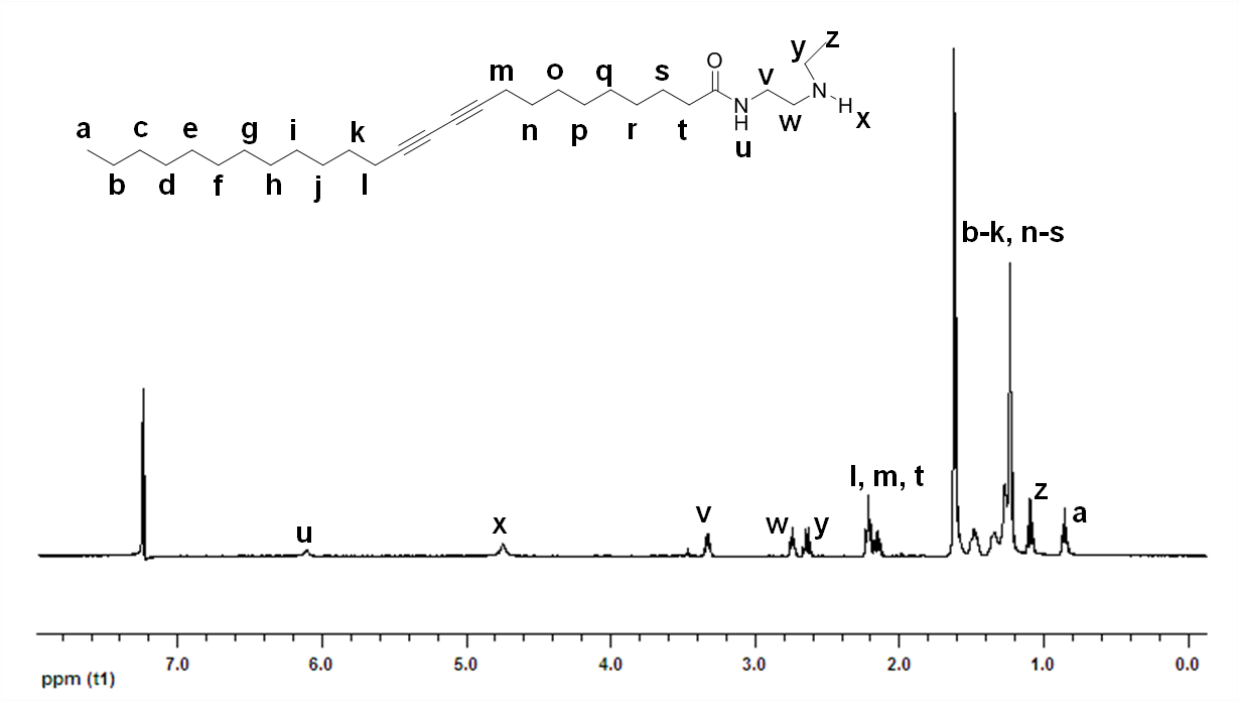

Fig. S5: ^{1}H NMR of 5 in $CDCl_3$

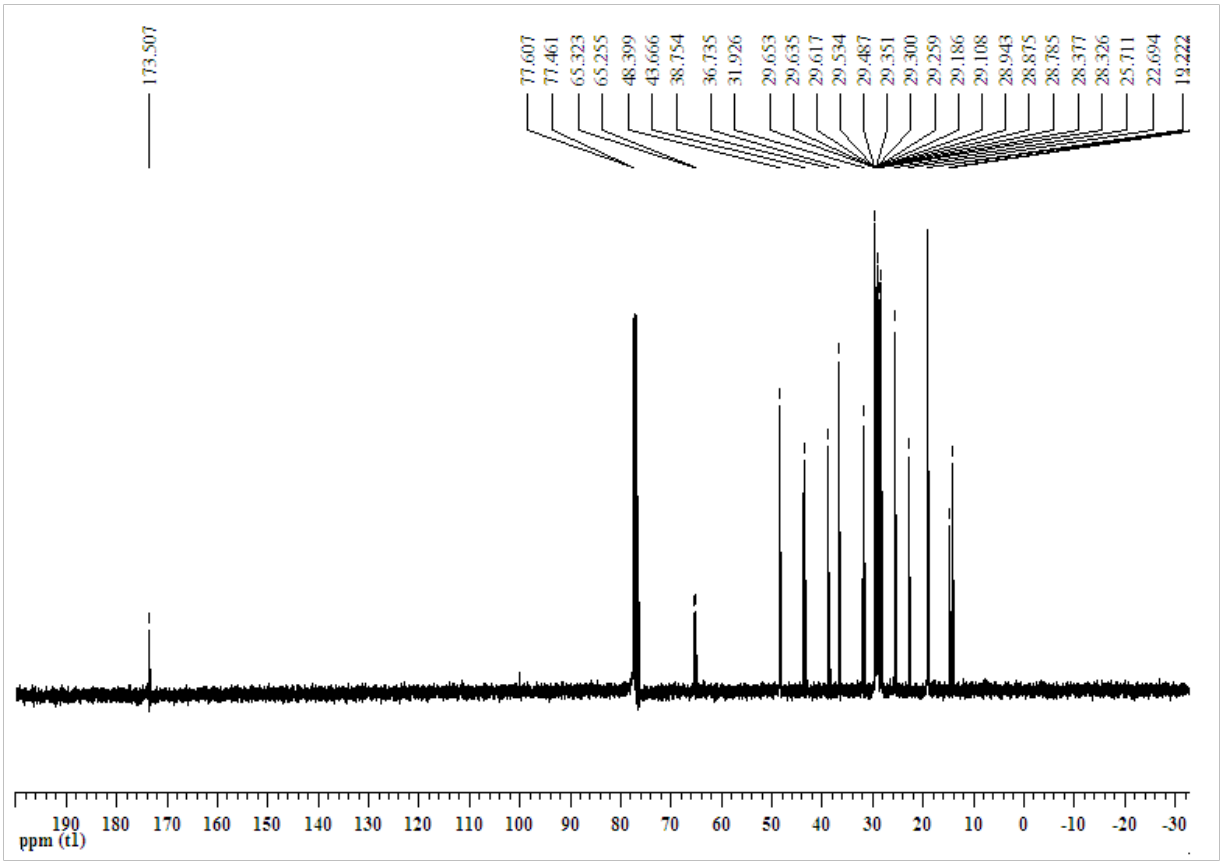

Fig. S6: ^{13}C NMR of 5 in $CDCl_3$

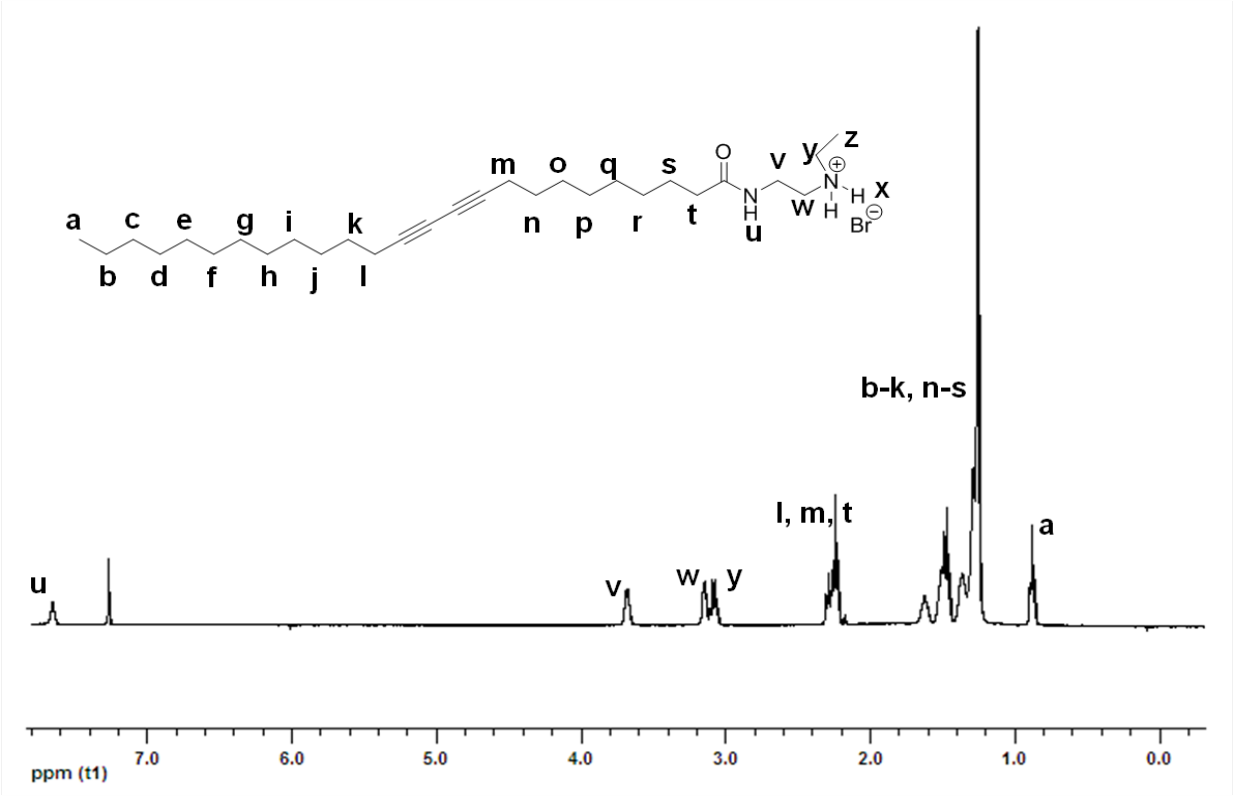

Fig. S7: ^{1}H NMR of 6 in $CDCl_3$

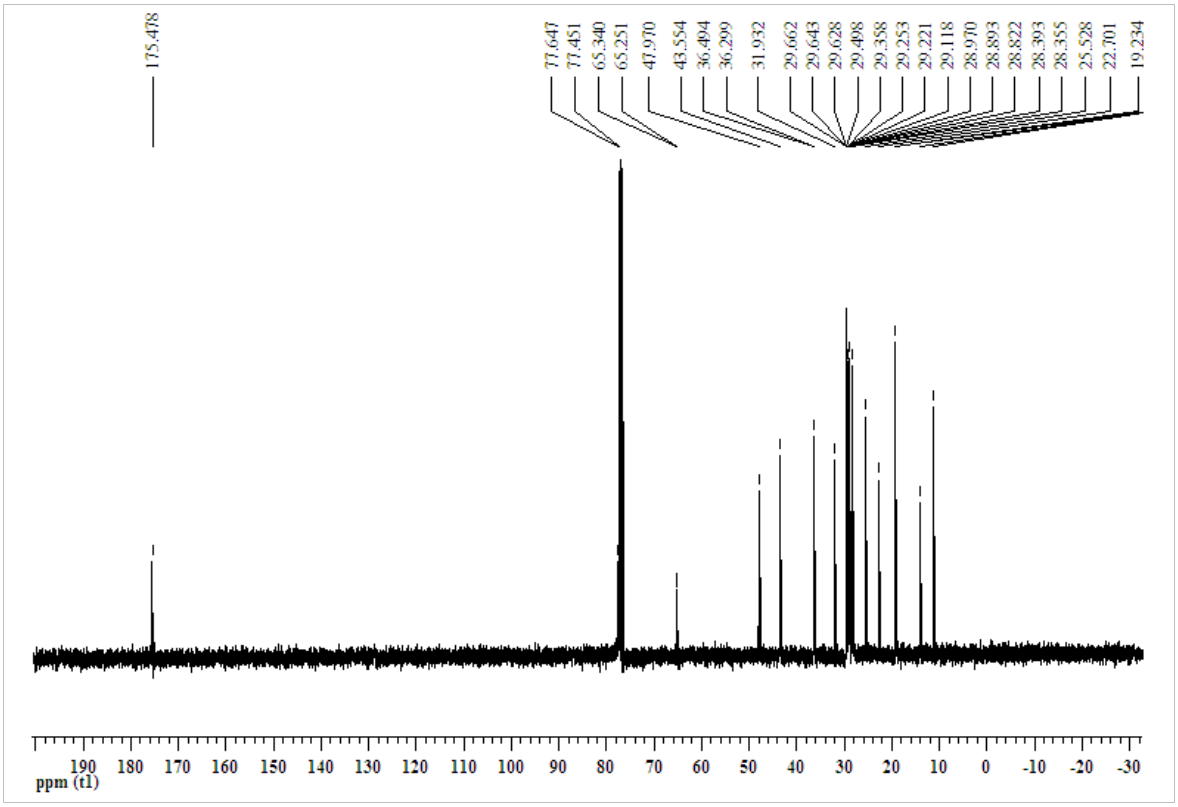

Fig. S8: ^{13}C NMR of 6 in $CDCl_3$

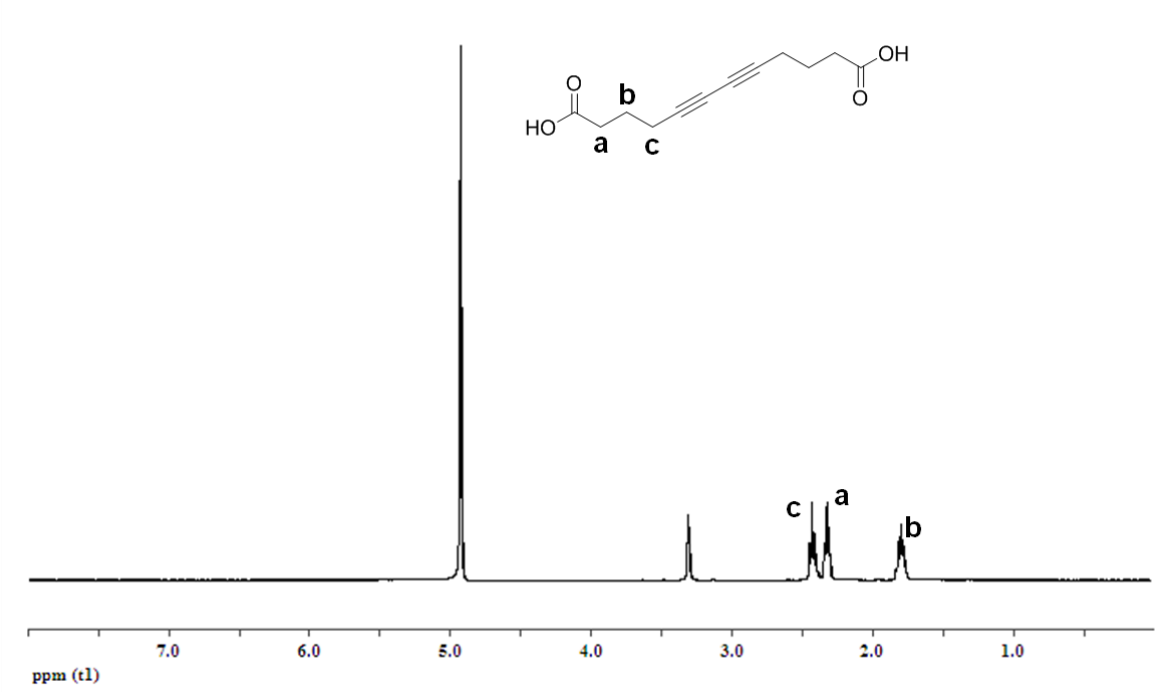

Fig. S9: ^{1}H NMR of 7 in $CDCl_3$

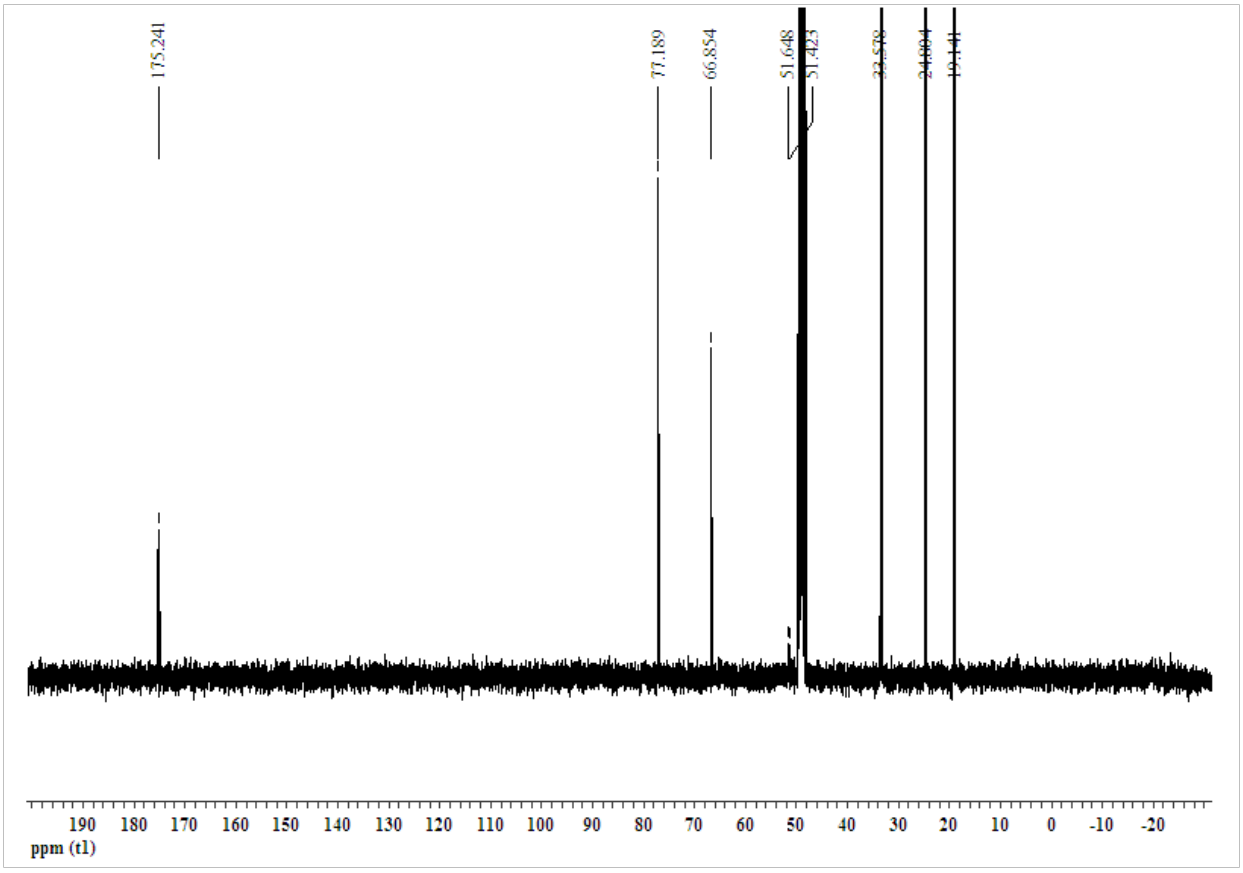

Fig. S10: ^{13}C NMR of 7 in $CDCl_3$

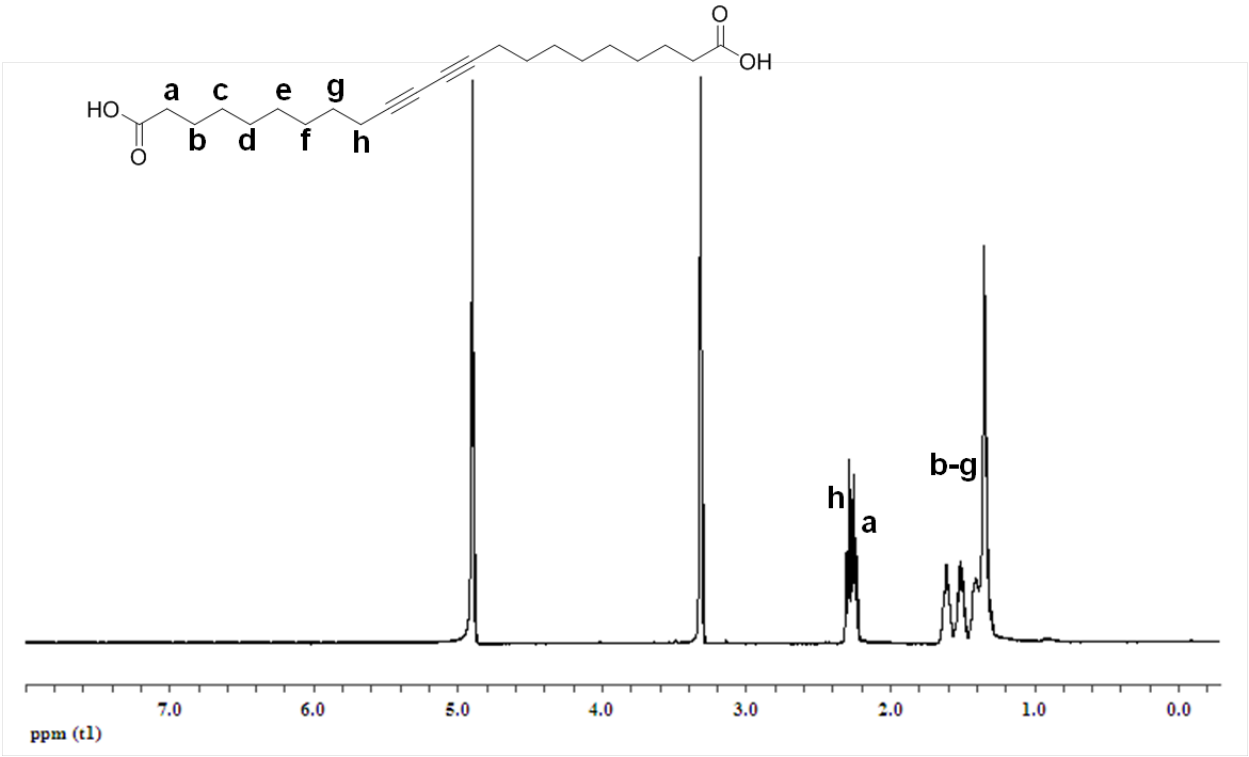

Fig. S11: ^{1}H NMR of 8 in $CDCl_3$

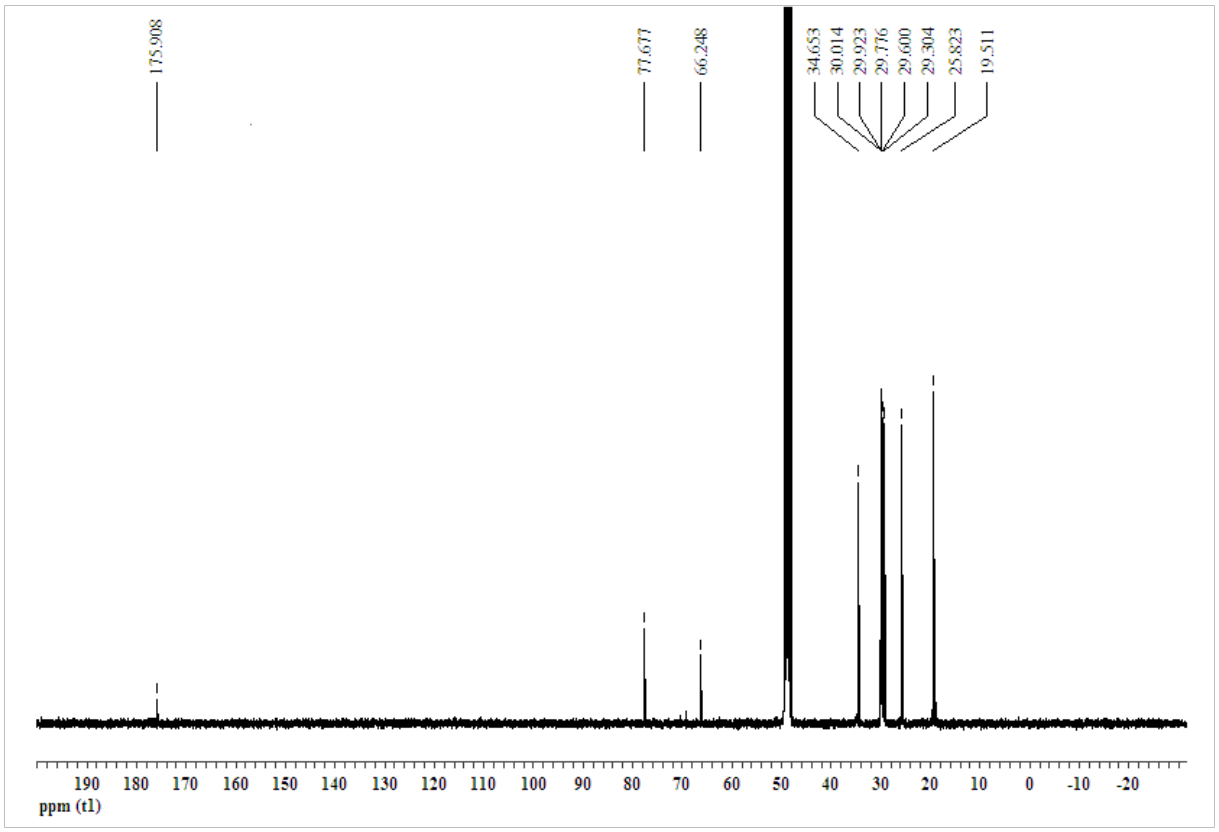

Fig. S12: ^{13}C NMR of 8 in $CDCl_3$

Fig. S13: Mass Spectra (ESI-) of monomer 3

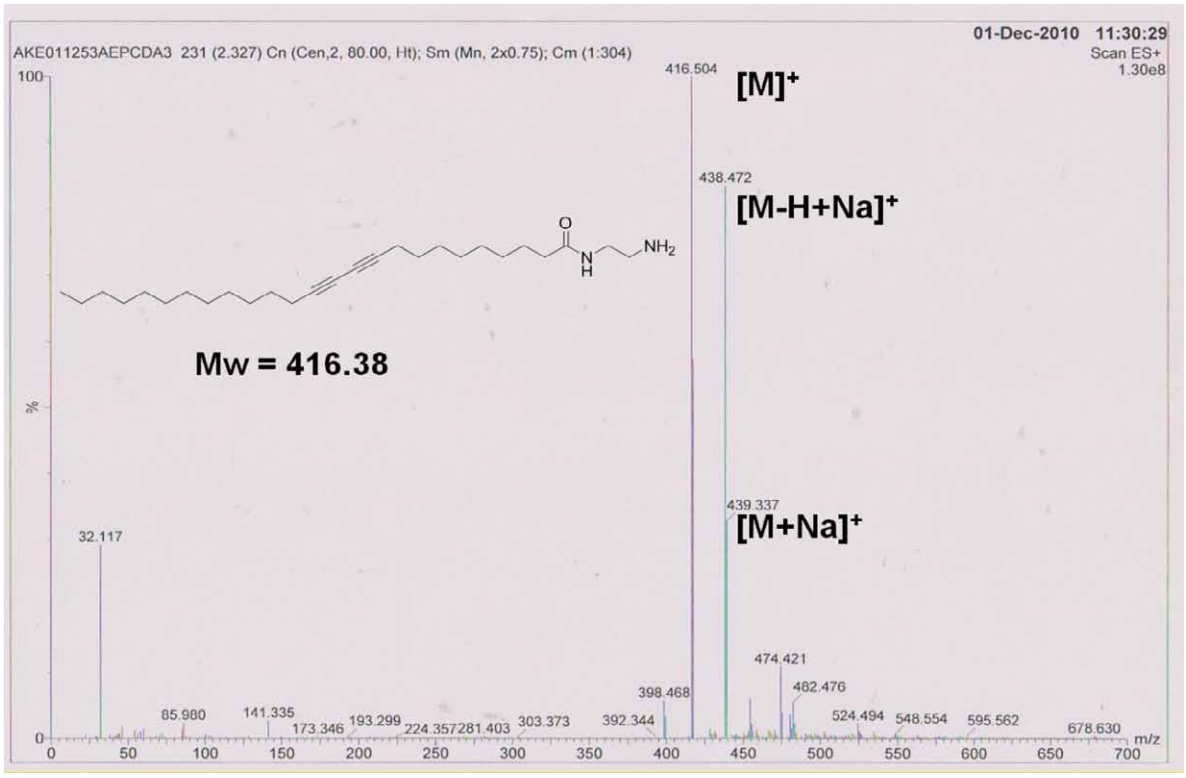

Fig. S14: Mass Spectra (ESI+) of monomer 4

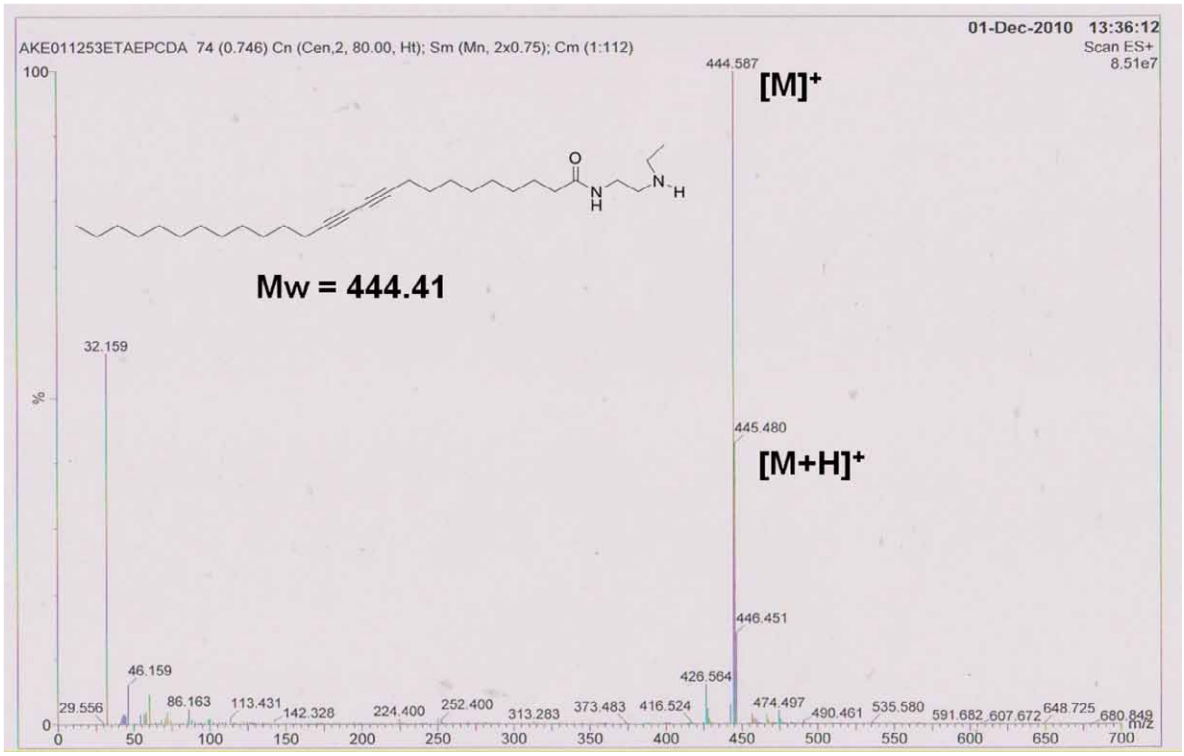

Fig. S15: Mass Spectra (ESI+) of monomer 5

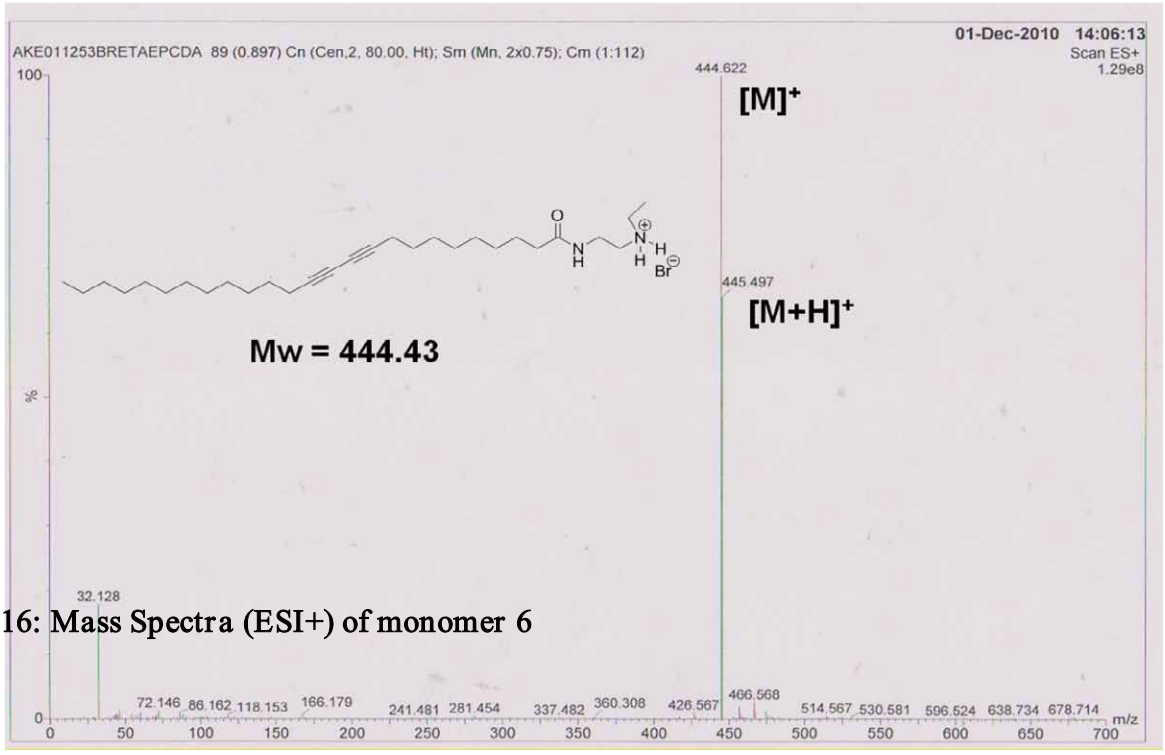

Fig. S16: Mass Spectra (ESI+) of monomer 6

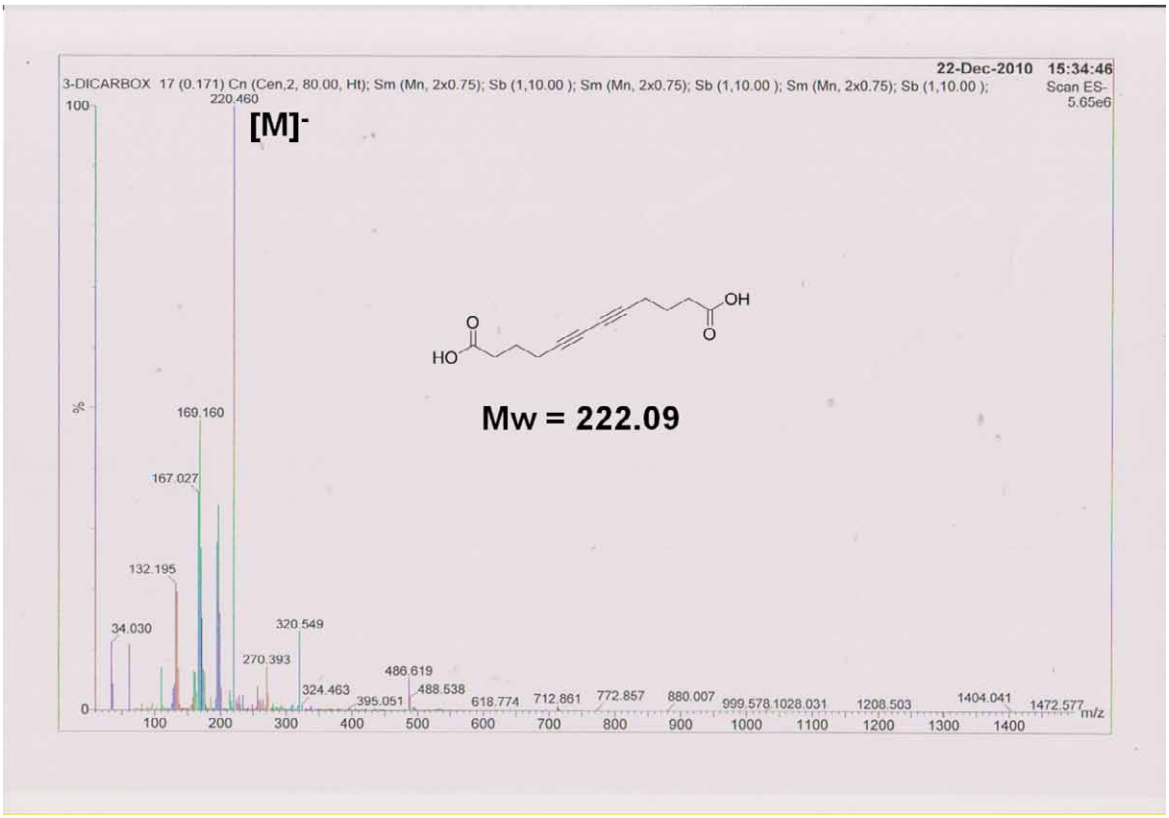

Fig. S17: Mass Spectra (ESI+) of monomer 7

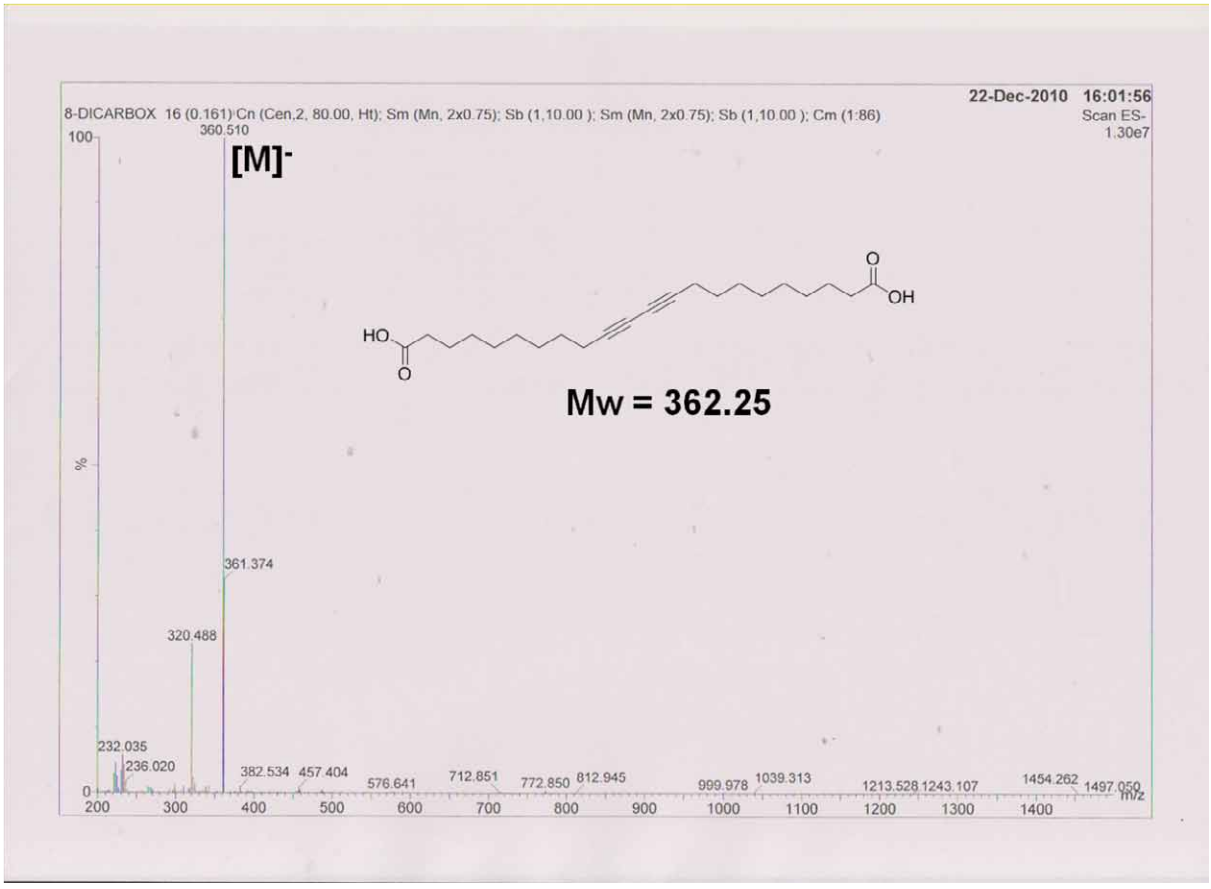

Fig. S18: Mass Spectra (ESI+) of monomer 8

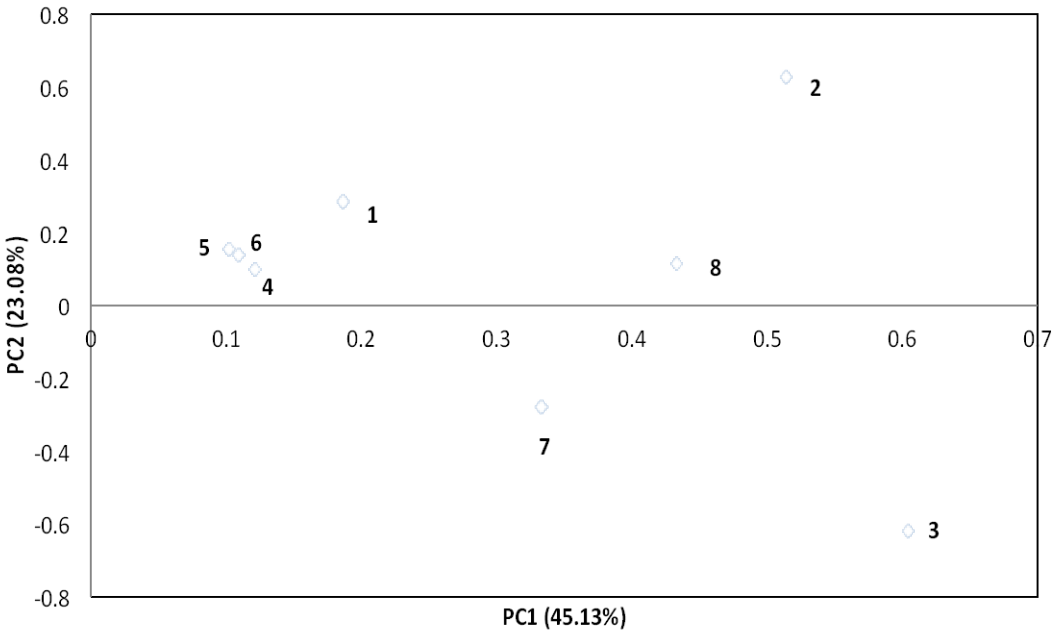

Figure 19. PCA loading plots in the PC1–PC2 plane of the eight element sensors in the developed arrays

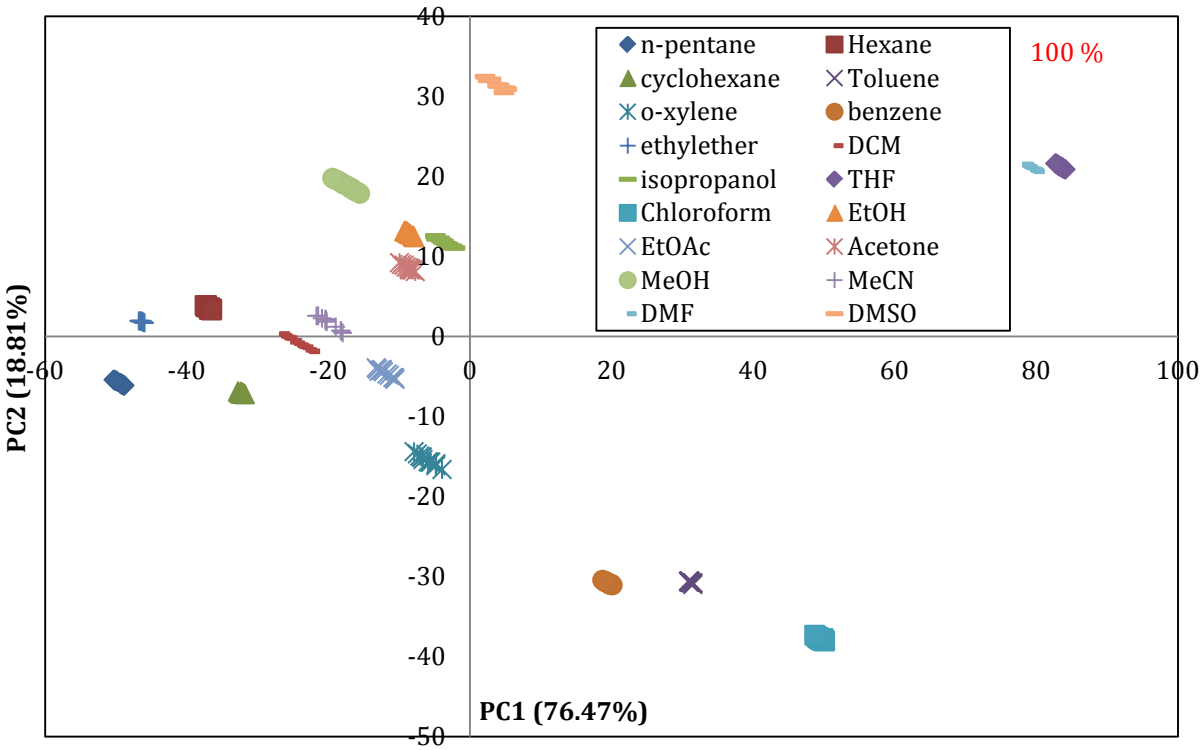

Figure S20. PCA score plot of RGB color changes obtained from the paper-based PDA sensor array prepared from **2** and **8** after exposure to 18 VOC vapors (2 PDAs x 4 replicates x 18 VOCs x 3 measurements)

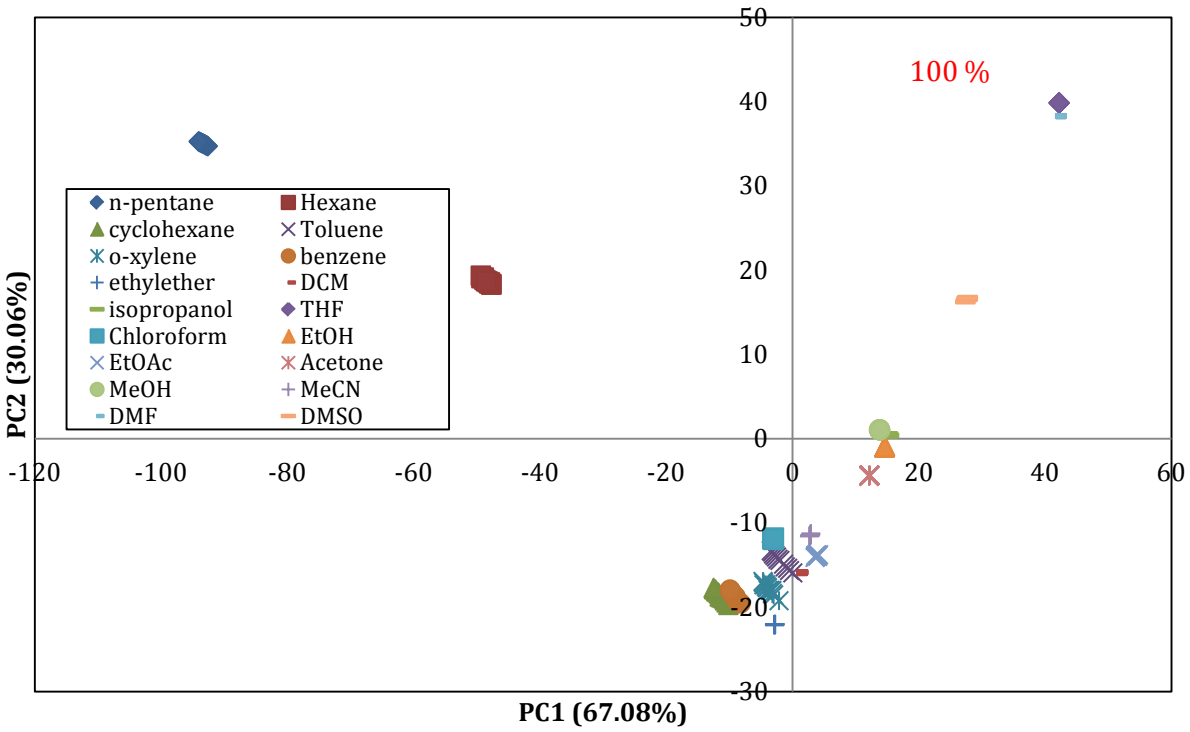

Figure S21. PCA score plot of RGB color changes obtained from the paper-based PDA sensor array prepared from **3** and **8** after exposure to 18 VOC vapors (2 PDAs x 4 replicates x 18 VOCs x 3 measurements)

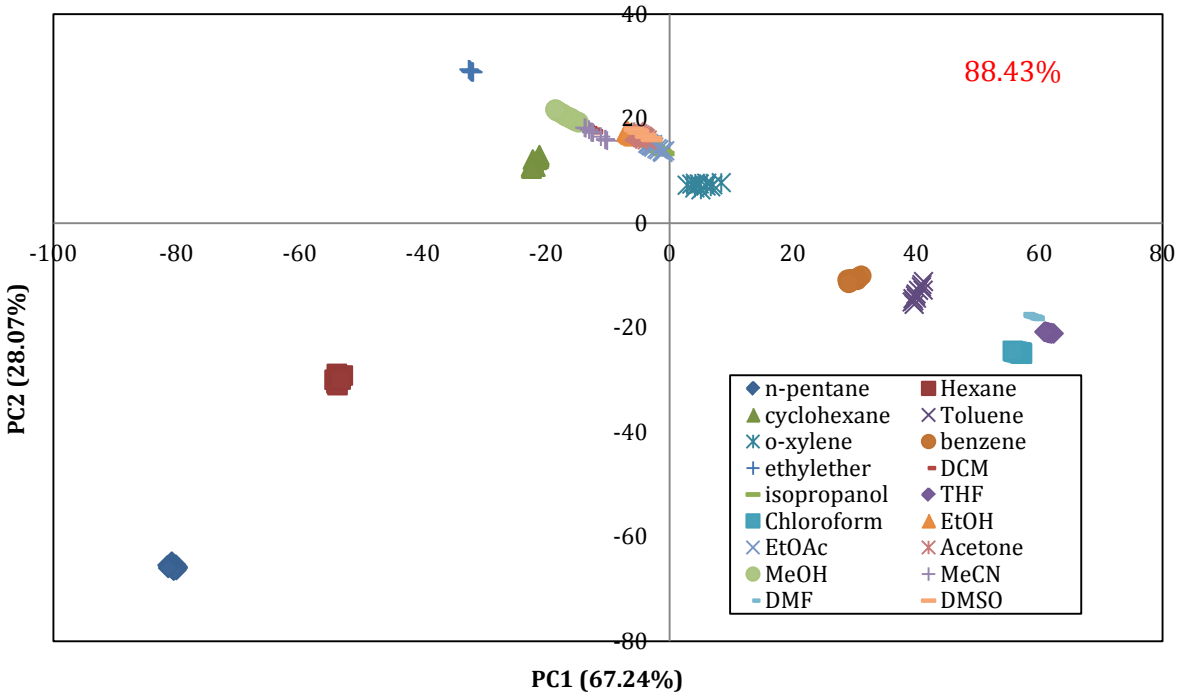

Figure S22. PCA score plot of RGB color changes obtained from the paper-based PDA sensor array prepared from **2** and **3** after exposure to 18 VOC vapors (2 PDAs x 4 replicates x 18 VOCs x 3 measurements)

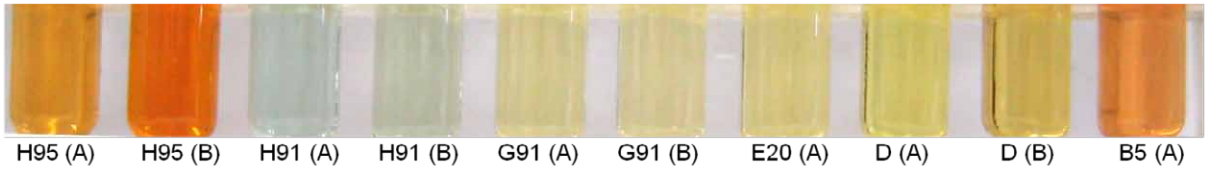

Figure S23. Color of tested automotive fuels in this investigation

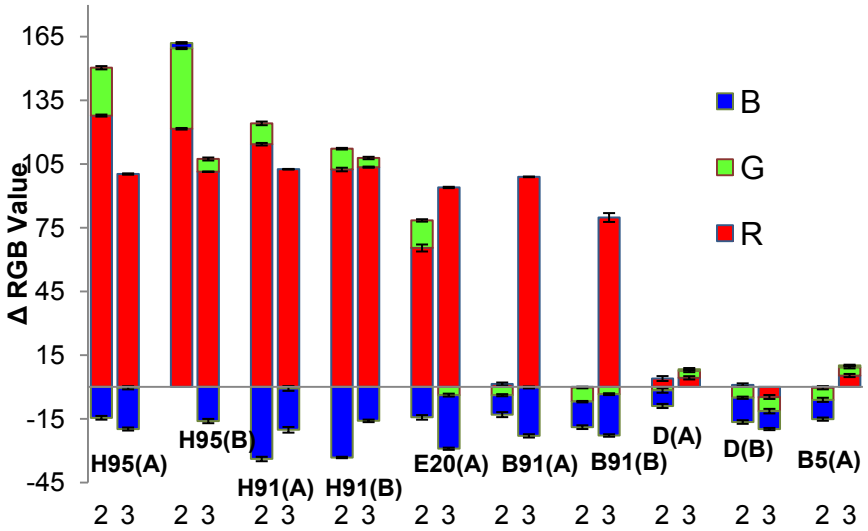

Figure S24. RGB color change profile of paper-based PDA sensor array prepared from **2** and **3** after exposure to saturated vapors of automotive fuels