Electronic Supplementary Material (ESI) for Journal of Materials Chemistry B.

Detection of Polycyclic Aromatic Hydrocarbons from Cooking Oil Using Ultra-Thin Layer Chromatography and Surface Enhanced Raman Spectroscopy

Supplementary Information

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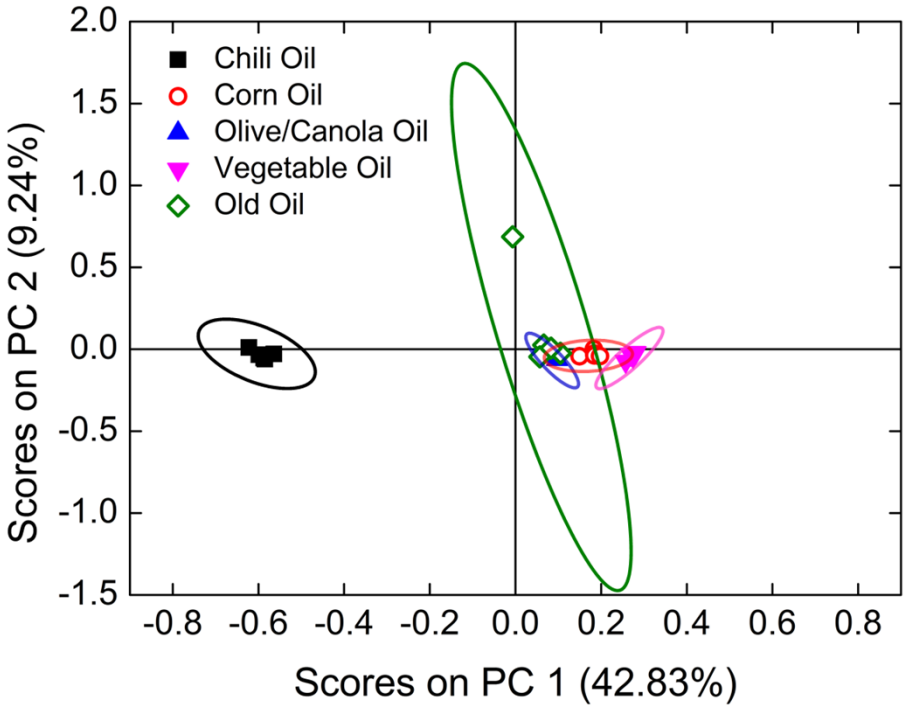

Figure S1 Principle component analysis of the Raman spectra of oil. Chili oil is grouped as a separate cluster whereas all other oil samples are grouped as one cluster.

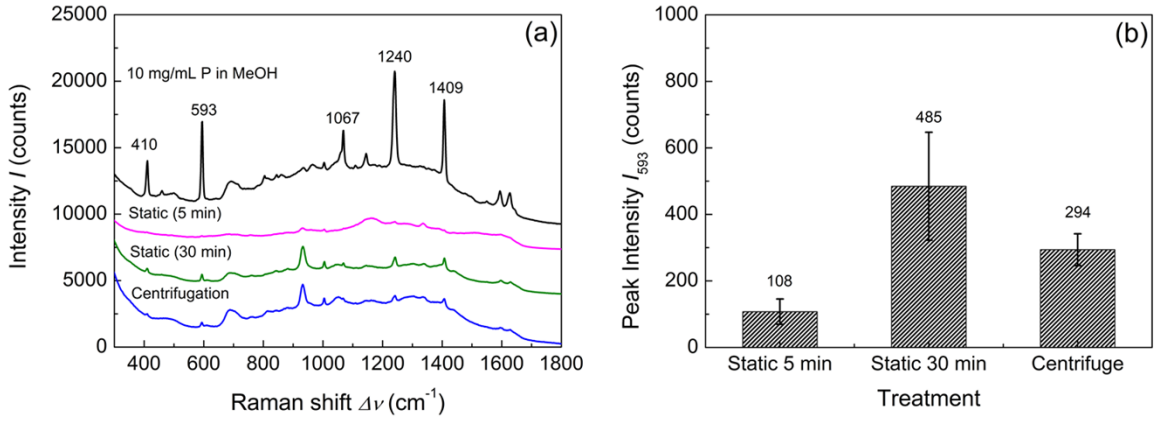

Figure S2 Effect of partitioning conditions on the SERS intensity of extracted P. (a) SERS spectra of P in methanol solution and after extraction from oil and settling under different conditions: static settling for 5 and 30 min, and centrifugation for 1 min at 3000 rpm (b) Comparison of corresponding I_{593}.

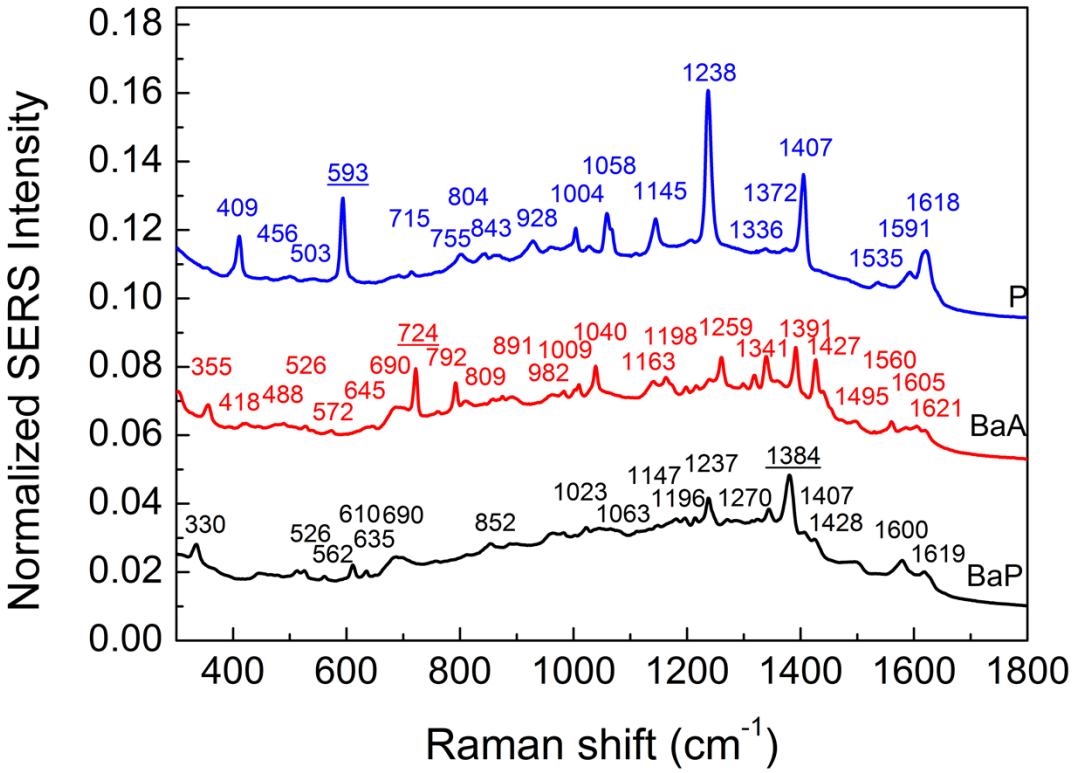

Figure S3 SERS spectra of BaA, BaP, and P in methanol solution (200 μg/mL). The peaks at Δv = 724, 1384, and 593 cm^{-1} were selected to specifically indicate the presence of BaA, BaP, and P in this study. The spectra were normalized to the norm.

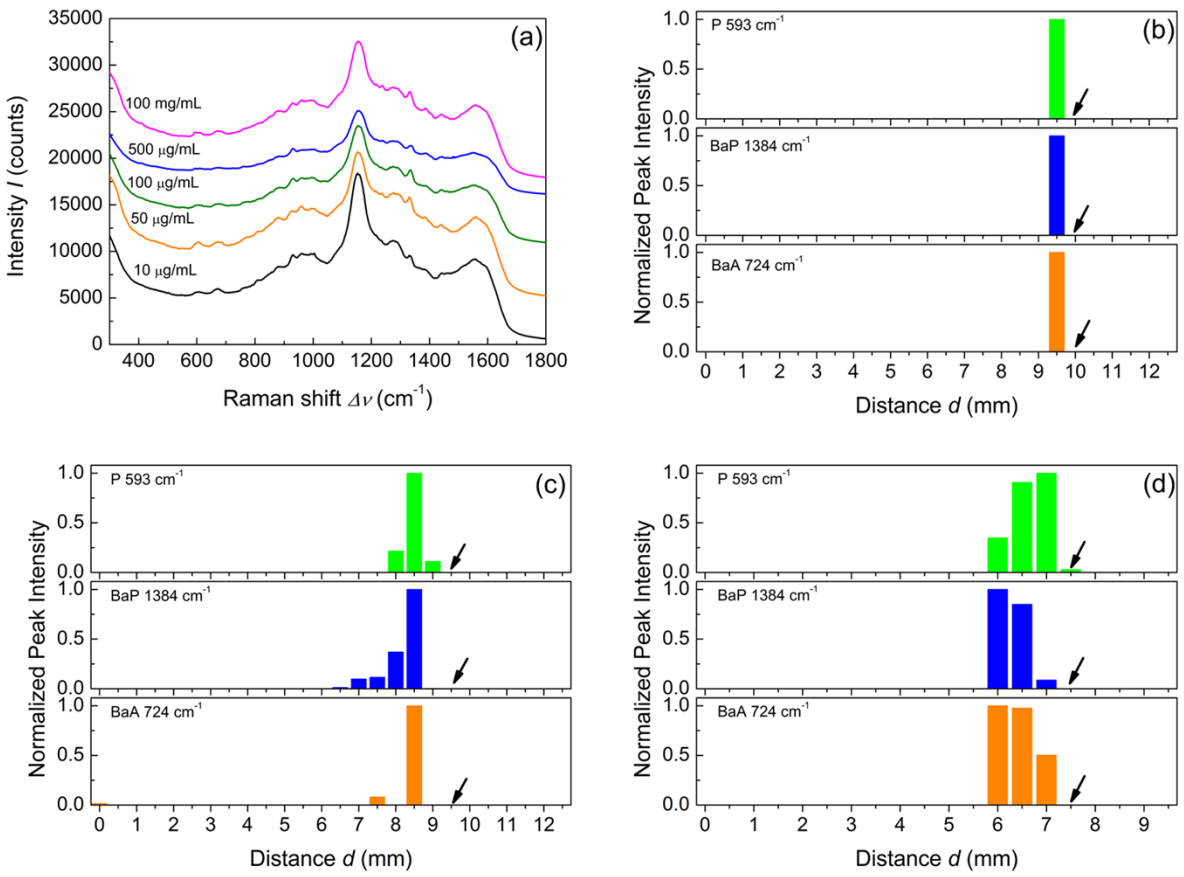

Figure S4 UTLC-SERS detection of PAHs 20% of water in methanol solution on unmodified substrates. (a) SERS spectra of PAH extracts from vegetable oil before UTLC, and corresponding chromatograms of (b) 100 μg/mL, (c) 500 μg/mL, and (d) 1 mg/mL of PAH mixtures extracted from vegetable oil

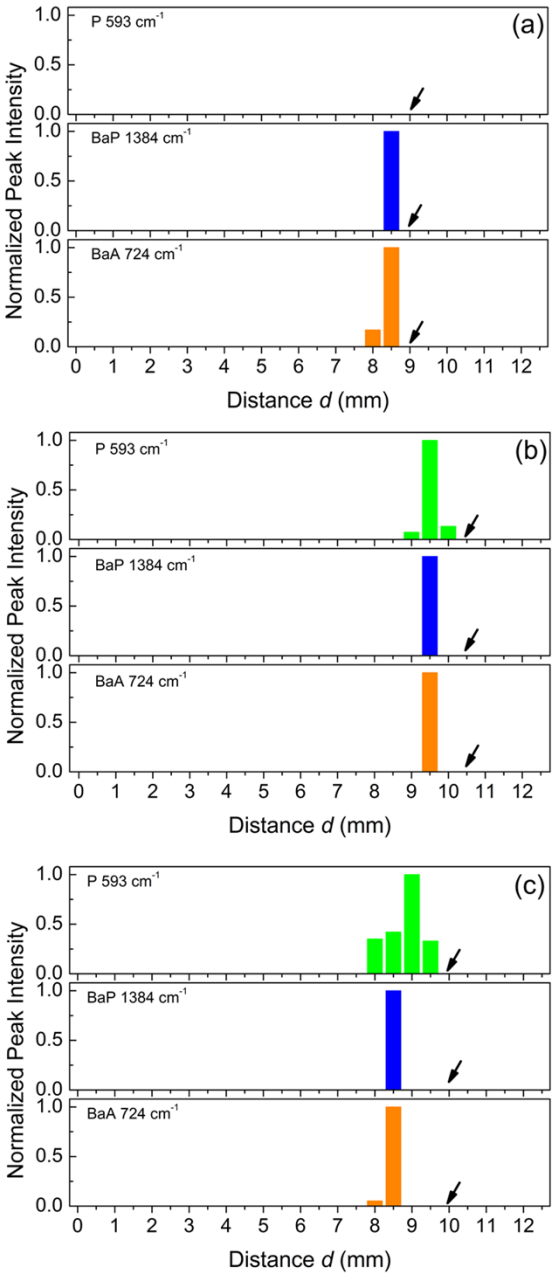

Figure S5 UTLC-SERS detection of (a) 100 µg/mL, (b) 500 µg/mL, and (c) 1 mg/mL of PAHs extracted from vegetable oil using methanol on ME modified substrates