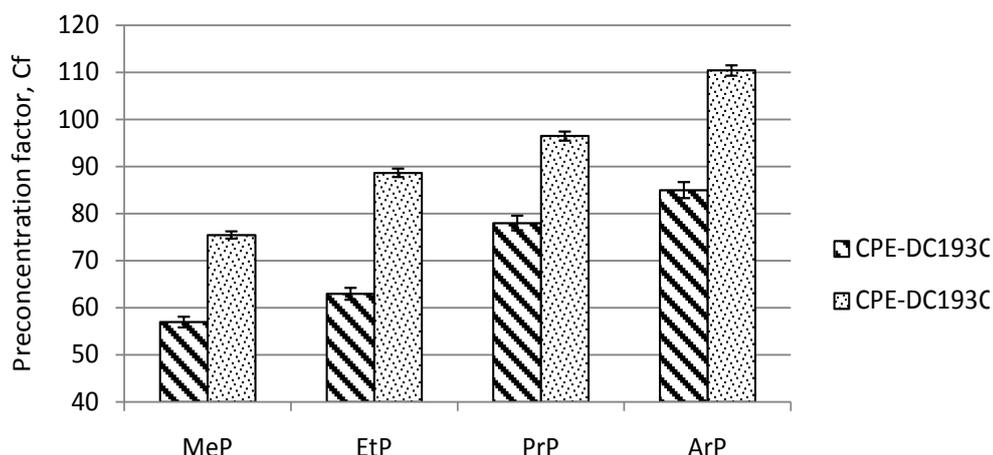


## Supplementary Information

**Figure S1.** Comparison of preconcentration factor of studied parabens using CPE-DC193C and CPE-DC193C- $\beta$ CD-IL.



**Figure S2.** (a) Chromatogram of mixture of parabens; (b) Chromatogram of samples of sea water spiked with parabens. Amount of spiked at 400 ng/L of MeP, EtP, PrP and ArP. Cloud point conditions: 2.0 wt% (*w/v*) DC 193C. HPLC condition: Chromolith C18 column (100 mm  $\times$  4.6 mm). HPLC gradient conditions were used to separate the analytes using acetonitrile and deionized water, flow rate of 0.7 mL/min and detection at 254 nm. The gradient elution was performed as follows: 30% acetonitrile (0–2 min), ramped to 40% acetonitrile (3–5 min) and then ramped to 30% acetonitrile (5–8 min). A = methyl paraben, B = ethyl paraben, C = propyl paraben, D = benzyl paraben.

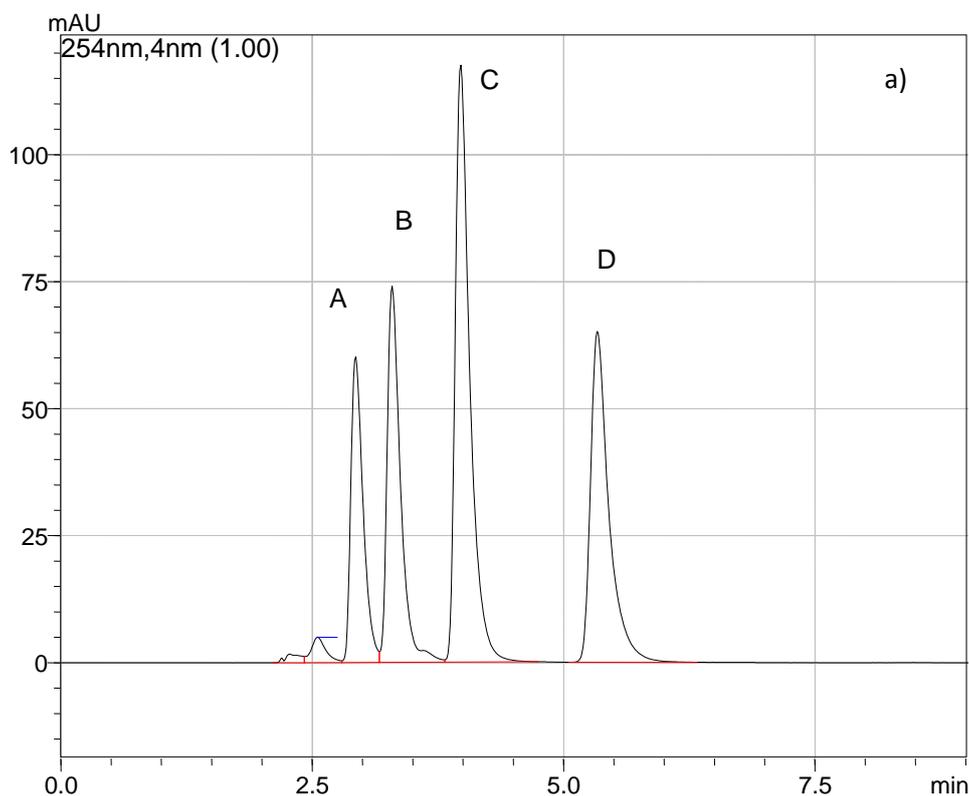


Figure S2. Cont.

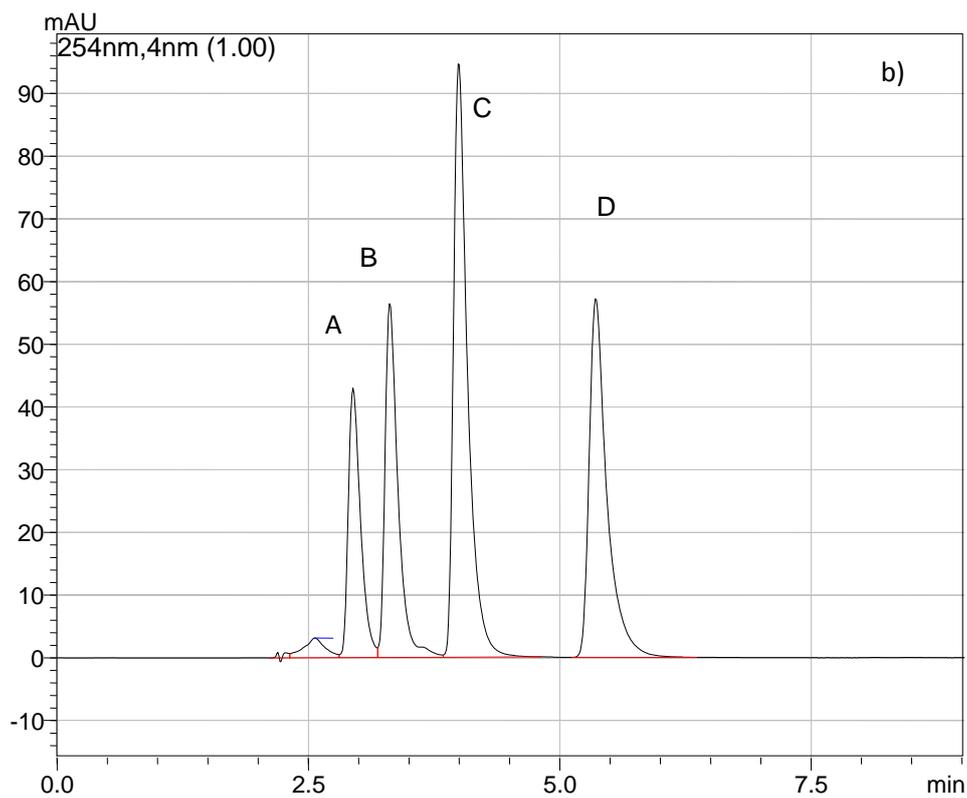
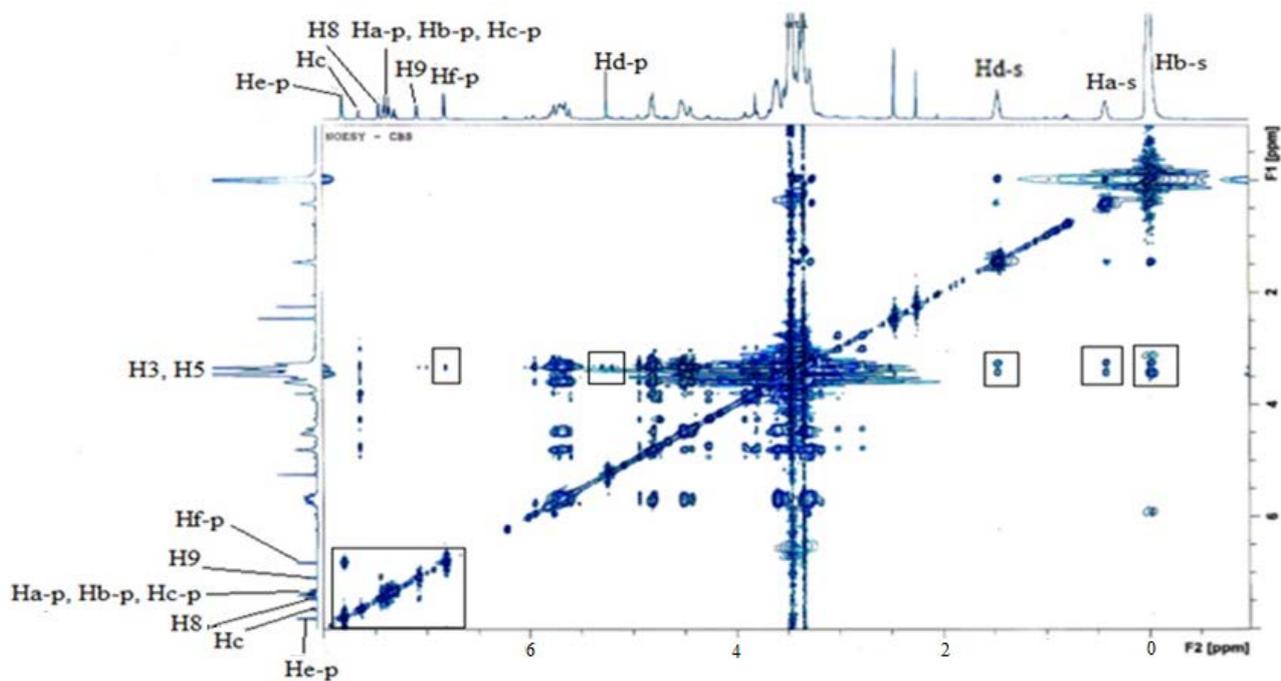
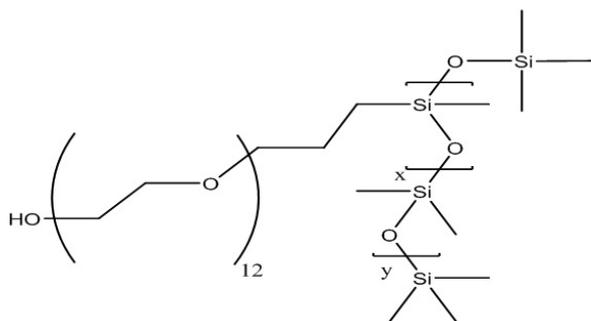


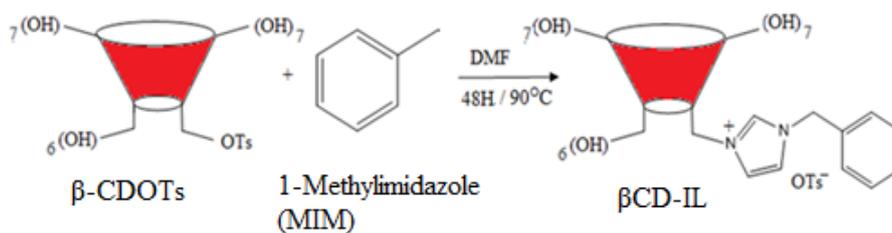
Figure S3. Two-dimensional NOESY spectrum of  $\beta$ CD-IL-DC193C-ArP complex in DMSO-D<sub>6</sub>.



**Figure S4.** Structure of non-ionic surfactant DC193C.



**Figure S5.** Preparation of  $\beta$ CD functionalized IL ( $\beta$ CD-IL).



**Figure S6.**  $^1\text{H}$  NMR spectrum of (a)  $\beta$ CD; and (b)  $\beta$ CD-OTs.

