Supporting Information

Supramolecular Polymer/Surfactant Complexes as Catalysts for Phosphate Transfer Reactions

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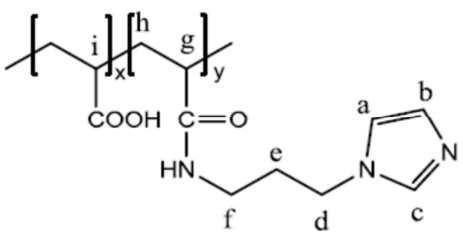
Supporting Information - Summary	

Figures



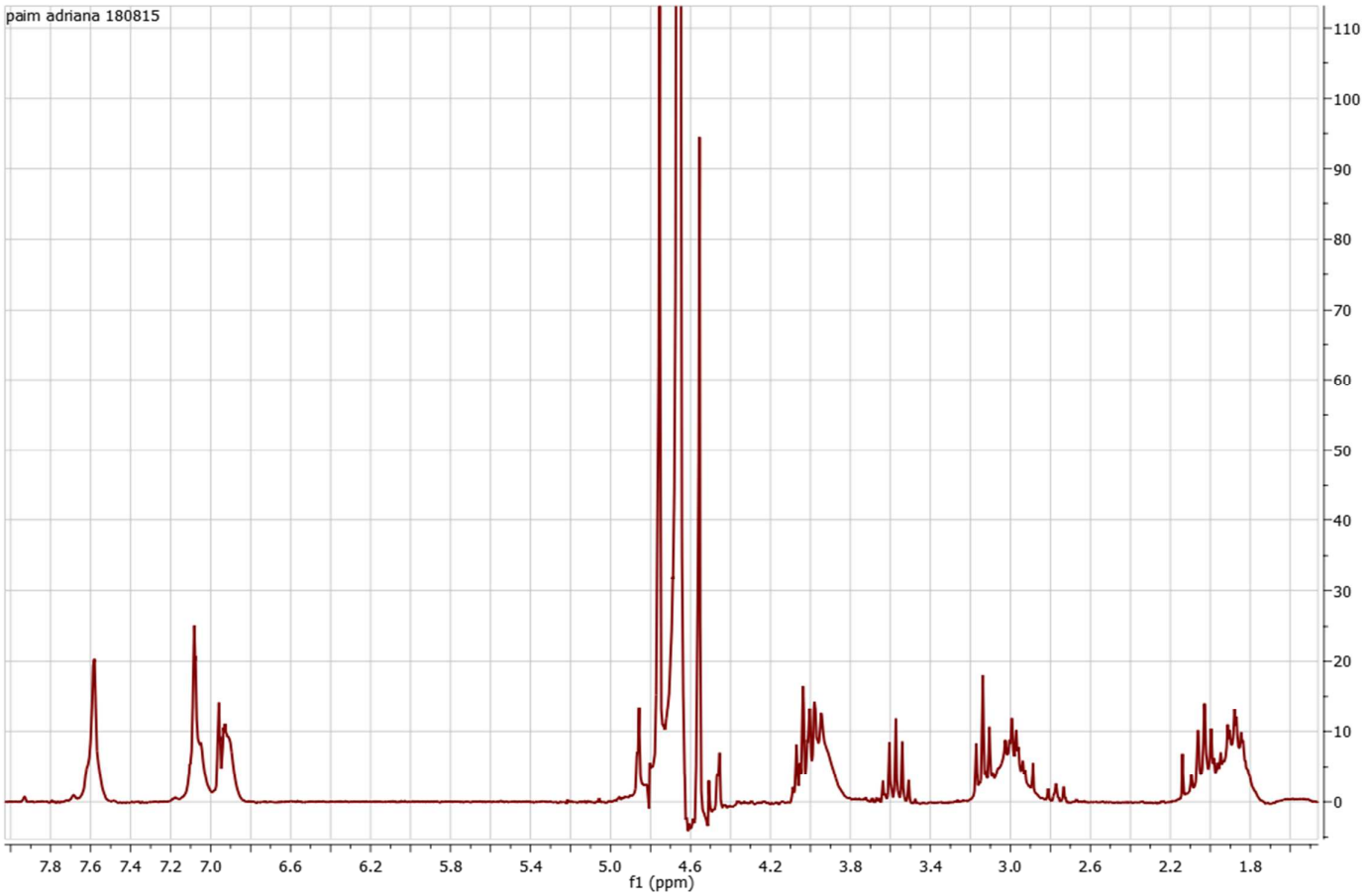


Figure S1. ^{1}H NMR spectrum of PAIM in D_2O at 25°C.

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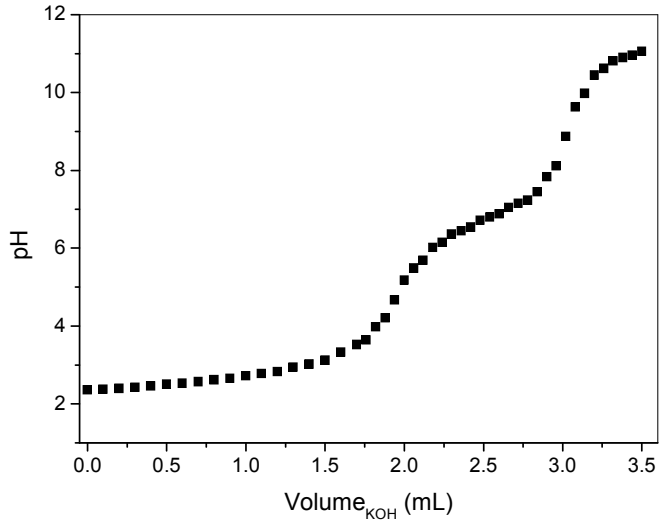

Figure S2. Potentiometric pH–titration curve of PAIM with KOH. The extent of PAA functionalization was evaluated by Potentiometric titration. The experimental data were fitted using the FITEQL program. Results obtained indicated a functionalization of nearly 50%, with functional groups carboxylate and imidazole in approximately 1:1 ratio.

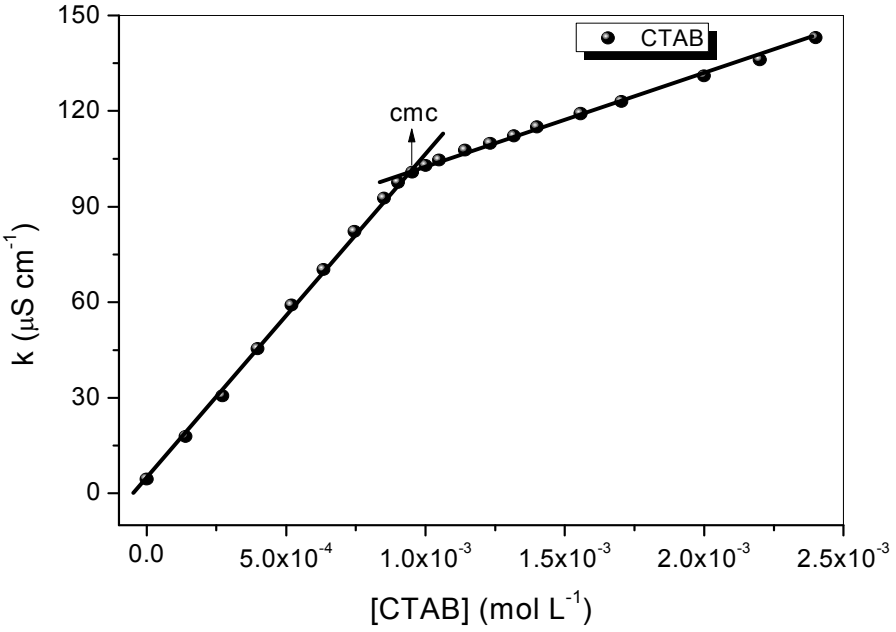

Figure S3. Specific conductance for CTAB in Milli-Q water at 25.0 ºC and [PAIM]= $2x10^{-4}$ mol L^{-1}.

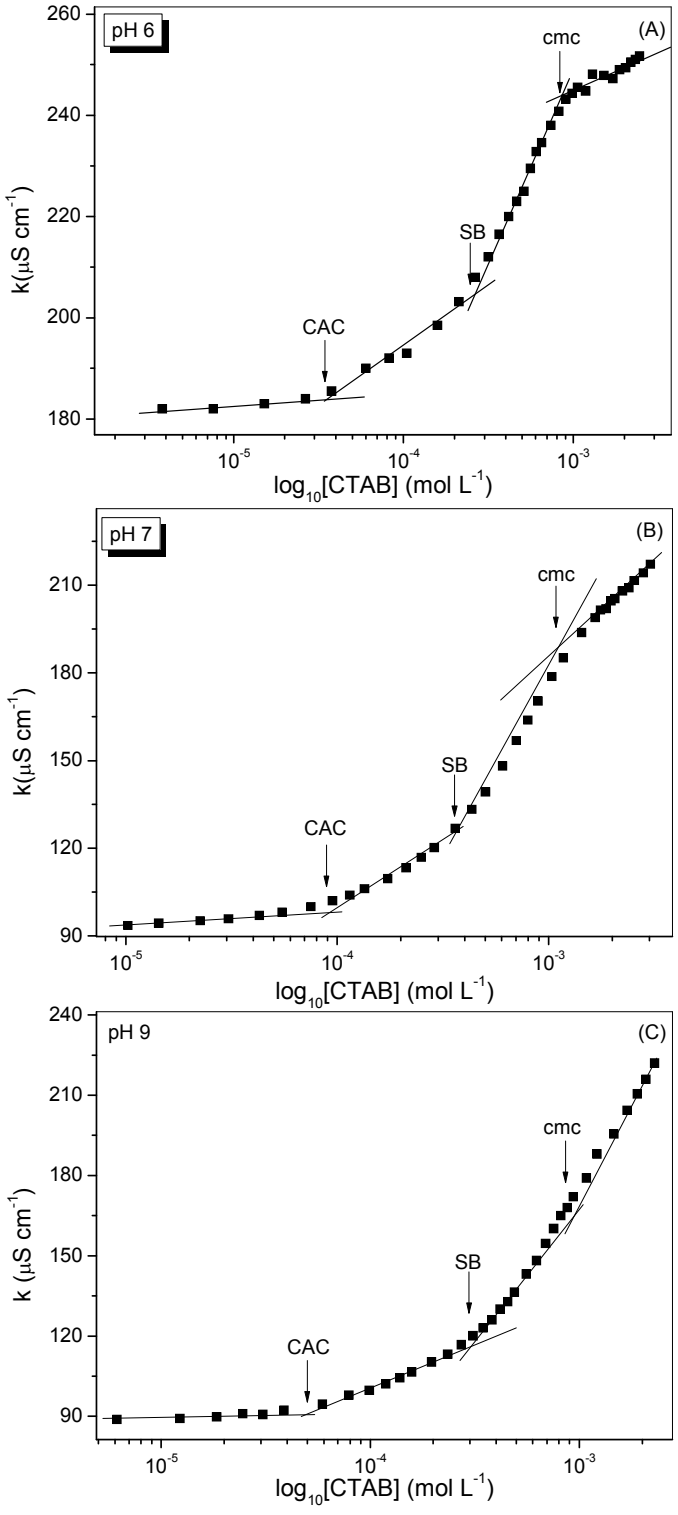

Figure S4. Specific conductance *versus* $\log_{10}$[CTAB] in PAIM solutions ($2x10^{-4}$ mol L^{-1}) at pH 6 (A), pH 7 (B) and pH 9 (C), at 25.0 ºC.

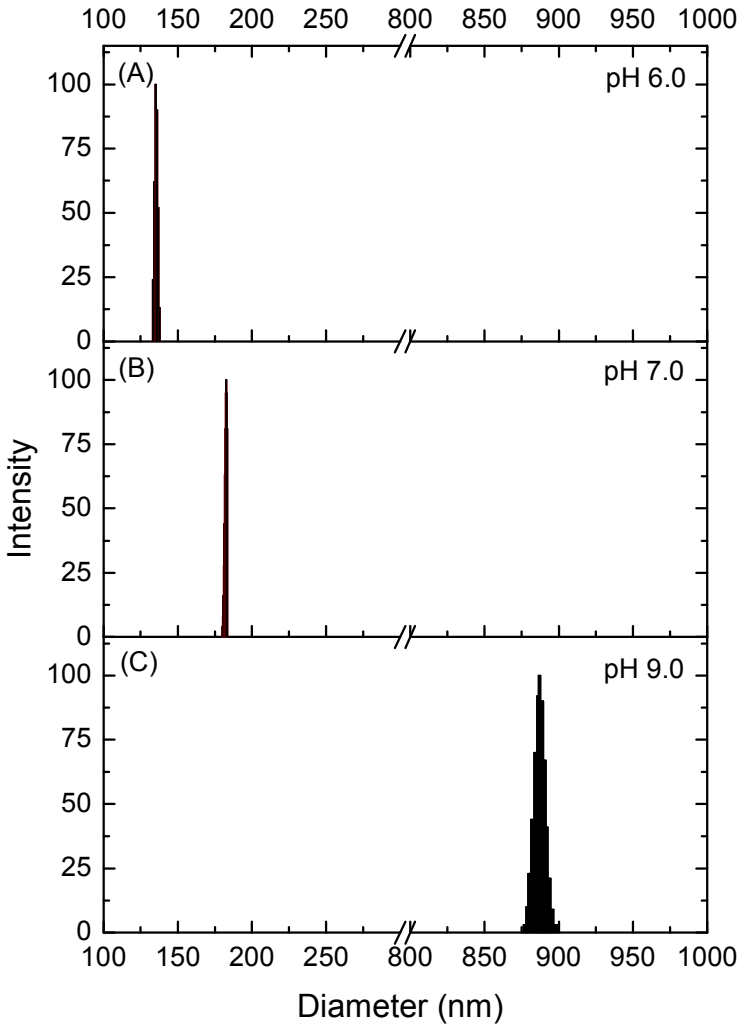

Figure S5. Diameter of PAIM/CTAB complex at pH 6 (A), pH 7 (B) and pH 9 (C). [PAIM]= 2.0×10^{-4} mol L^{-1} and [CTAB]= 2.4×10^{-4} mol L^{-1} at 25.0 ºC.

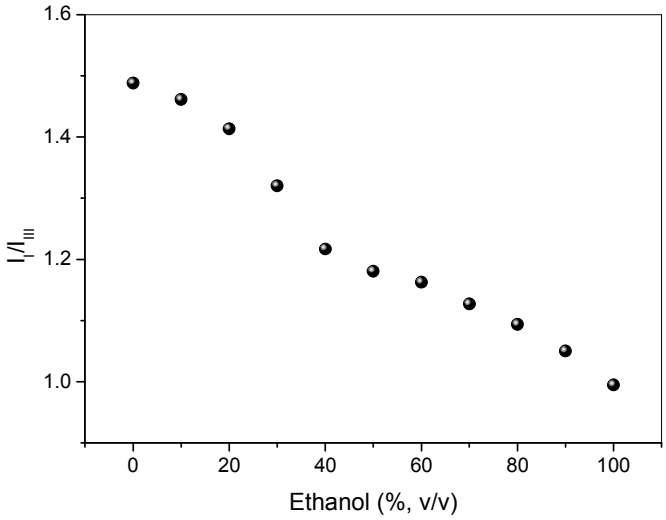

Figure S6. Pyrene I_I/I_{III} intensity ratio *versus* percentage of ethanol in mixtures ethanol/water (λ_{exc}= 334 nm). [Pyrene]= $5x10^{-7}$ mol L^{-1}.

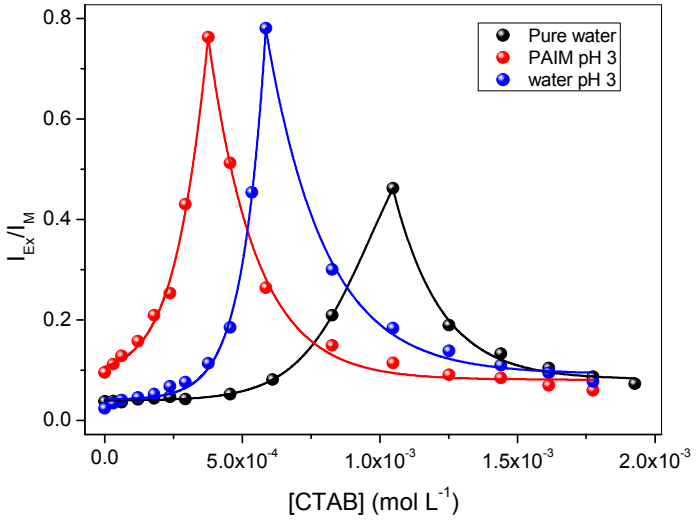

Figure S7. Pyrene I_{Ex}/I_M intensity ratio *versus* [CTAB] in absence and presence of PAIM ($2x10^{-4}$ mol L^{-1}) at water and pH 3 (λ_{exc}= 334 nm). [Pyrene]= $5x10^{-7}$ mol L^{-1}.

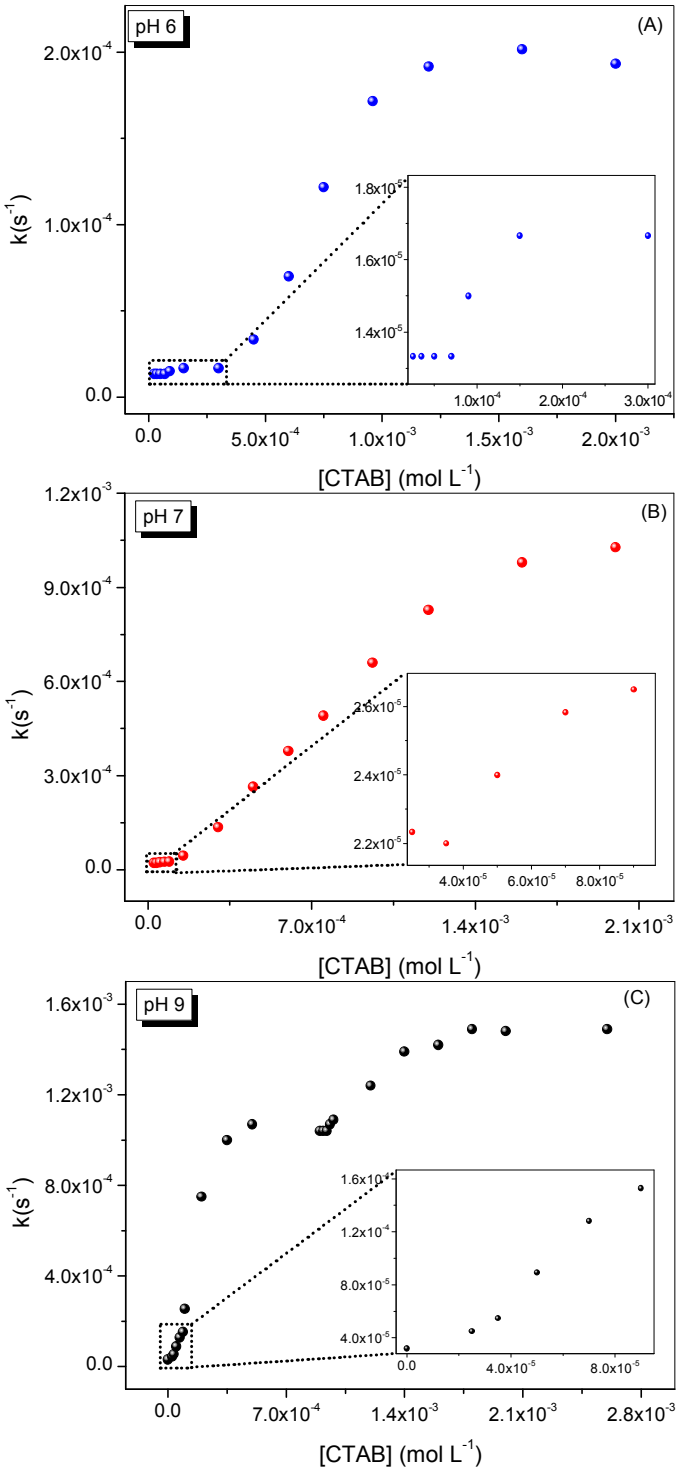

Figure S8. Rate constants for the dephosphorylation of DEDNPP ($5.0x10^{-5}$ mol L^{-1}) in aqueous solutions in the presence of PAIM ($2.0x10^{-4}$ mol L^{-1}) as a function of [CTAB] at (A) pH 6, (B) pH 7 and (C) pH 9, at 25.0 ºC.

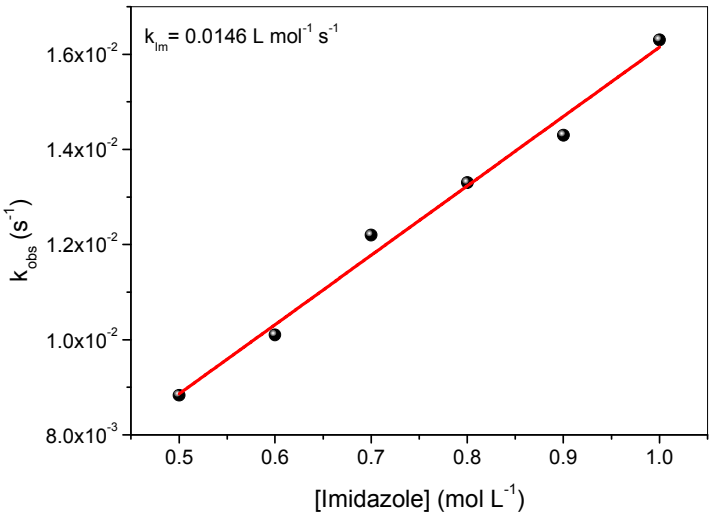

Figure S9. Rate constants for the dephosphorylation of DEDNPP (5.0x10^{-5} mol L^{-1}) in aqueous solutions as a function of [Imidazole] at 25.0 ºC.

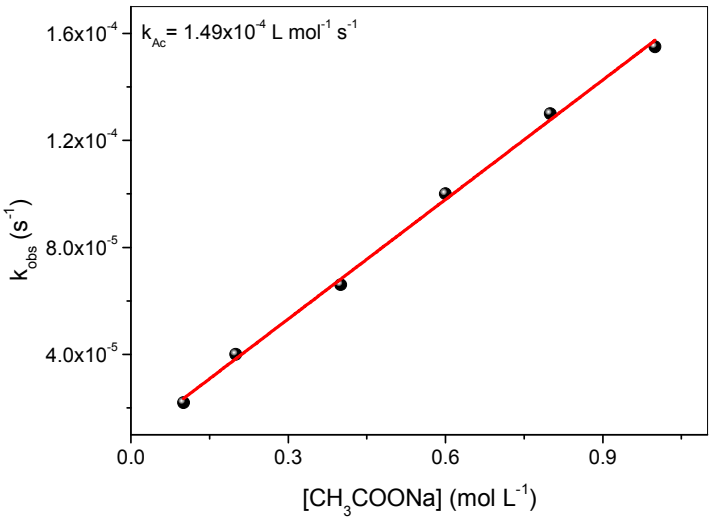

Figure S10. Rate constants for the dephosphorylation of DEDNPP (5.0x10^{-5} mol L^{-1}) in aqueous solutions as a function of [CH_3COONa] at 25.0 ºC.

Treatment of the Binding isotherms of CTAB to PAIM

The binding constants (K) of CTAB with PAIM were evaluated by Pyrene $\mathbf{I_I/I_{III}}$ intensity ratio at pH 3, 6 and 9 (λ_{exc}= 334 nm, [Pyrene] = $5x10^{-7}$ mol L^{-1}. [PAIM] = $2x10^{-4}$ mol L^{-1}). The experimental data were theoretically fitted using equation S1:

$$IR = \frac{IR_0 + IR_m K[CTAB]}{1 + K[CTAB]}$$

where IR is the Pyrene $\mathbf{I_I/I_{III}}$ intensity ratio, IR_m is the intensity ratio of PAIM bound to the surfactant, IR_0 is the intensity ratio of unbound PAIM, K is the binding constant and [CTAB] is the surfactant concentration.