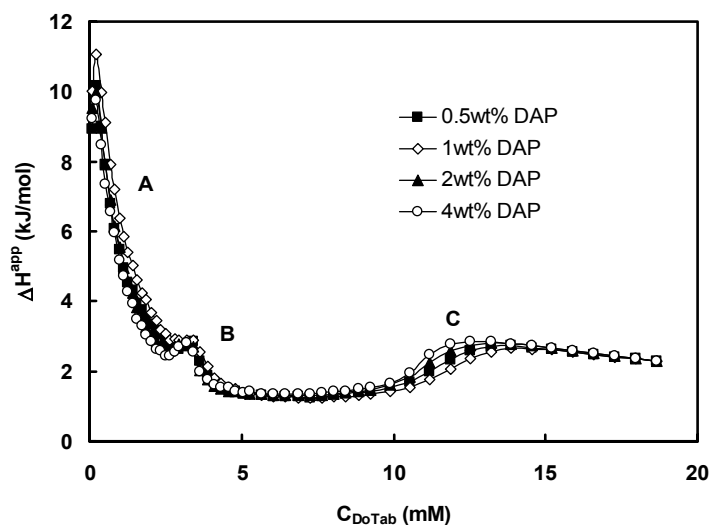


## SUPPORTING INFORMATION

### Binding of Dodecyltrimethylammonium Bromide to Cross-link Methacrylic Acid-Ethyl Acrylate Copolymers

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**Figure SI-1** Differential enthalpy curves for titrating 0.1M DoTab into 0.05 wt% solutions of MA20-EA80 cross-linked by different amount of DAP: (■)0.5 wt% DAP; (◇)1 wt% DAP; (▲)2 wt% DAP; (○)4 wt% DAP



**Figure SI-2** EMF determined using the DoTab ion selective electrode for the binding of DoTab (from  $10^{-6}$  to  $10^{-2}$  M) to MA50-EA50-4 at  $\alpha=0.02$ : (◇)calibration curve; (◆)binding curve

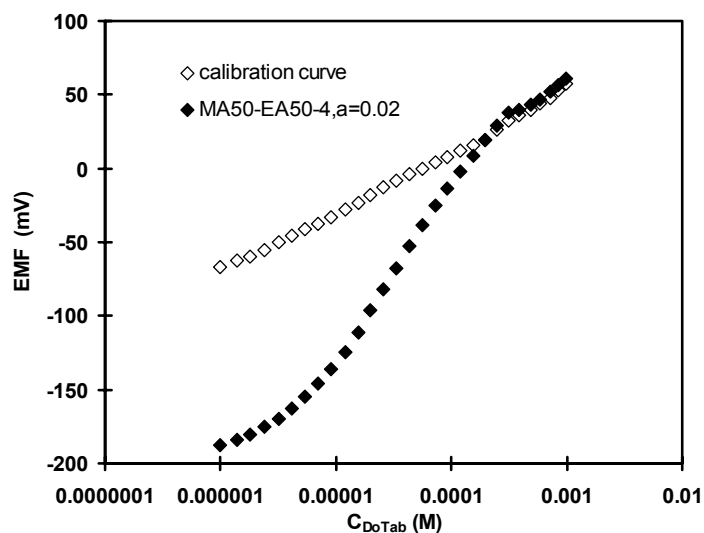


Figure SI-3 shows the EMF curves obtained from titrating DoTab to 0.05 wt% unneutralized MA20-EA80-4 and MA50-EA50-4 latices. The EMF data for MA20-EA80-4 and MA50-EA50-4 are found to be nearly identical. The deviation between the binding and calibration curves characterizes the binding of DoTab to the polymers driven by hydrophobic interaction. The saturation concentration, namely  $C_2$ , is determined from the DoTab concentration ( $\sim 0.2$  mM) at which the binding curve approaches and merges with the calibration curve.

**Figure SI-3** EMF determined using the DoTab ion selective electrode for the bindings of DoTab to 0.05wt% unneutralized polymer solutions: ( $\square$ )calibration curve; ( $\blacklozenge$ )MA20-EA80-4; ( $\blacksquare$ )MA50-EA50-4

