



## CHAPTER V

### CONCLUSIONS AND RECOMMENDATIONS

#### 5.1 Conclusions

The impact of both a lipophilic linker (tetradecanol) and a combined linker (sodium dodecyl benzene sulfonate/dodecanol) on adsorption of EO/PO triblock copolymers (P123, L64, 25R4) onto hydrophobic silica, and on the adsolubilization behavior of the modified hydrophobic silica for model organic compounds (phenol, 2-naphthol, and naphthalene) were investigated at 29 °C. For adsorption studies, P123 and L64 do not have significant difference in the shape, the amount of adsorption has been shown to be quite similar. The adsorption isotherms of 25R4 have shown to be Langmuir in shape but the amount of surfactant adsorption of the system having linker molecules are higher than the system without linker molecules. For adsolubilization studies, the modified hydrophobic silica in the systems having linker molecules has been shown to be very effective in adsolubilizing the model aromatic organic molecules from aqueous phase. P123 had shown to have the highest adsolubilization followed by L64 and 25R4, respectively. Moreover, the system having combined linker molecules had shown to have the highest adsolubilized amount of model aromatic organic molecules followed by the system having lipophilic linker molecules, and the system without linker molecules, respectively.

#### 5.2 Recommendations

Further study should be conducted to improve the adsolubilization of model organic compounds by using combined linker with varying alcohol chain length (lipophilic linker) or using co-surfactant such as cetyl trimethylammonium bromide (CTAB), polyethoxylated octyl phenols (Triton-X), and sodium bis (2-ethyl) dihexyl sulfosuccinate (AOT).