

CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

The experimental results have shown that the formation of microemulsion system depends on the initial surfactants concentration and the SDS weight fraction (X_{SDS}). An increase in the value of X_{SDS} the system become more hydrophilic because the concentration of SDS in the system increases. Therefore, the surfactant can transfer from Winsor's type II to type III and to type I system. An increase of the initial surfactant concentration is one factor for the formation of the Winsor's type III system. The middle phase of Winsor's type III system is composed of surfactants, ODCB and water by the water is the main composition. The froth flotation process under the Winsor's type III system give the highest percentage of ODCB removal and give the percentage of ODCB in foam higher than in the initial solution.

5.2 Recommendations

Based on the findings of this work, the following recommendations are given for future work.

1. Study the inter facial tension of microemulsion system which come from the solution of surfactant, SDS and TERIC N10, mix with ODCB. This study may help the explanation of microemulsion formation.

2. Study the effect of temperature on phase boundaries from 10°C to 50°C for determine excellent temperature stability of the phase boundaries.
3. Use each phase of microemulsion to be the initial solution of froth flotation process for comparing the result with this work. The study in this area may help increase understanding of the mechanism of the froth flotation process under microemulsion condition.
4. Because of the low solubility of ODCB in the middle phase, a future study should change the contaminate or the oil to be on which is more soluble in water than ODCB.