

CHAPTER V



CONCLUSIONS AND FUTURE WORK

5.1 Conclusions

The study of adsolubilization kinetics of phenol into SDS admicelles on alumina surface has been demonstrated and some conclusions are summarized as follows:

1. Surface property and pore size distribution have obvious influence on adsolubilization kinetics.
2. Adsolubilization can be divided into two parts: fast part and slower part. Slower part is a first order procedure.
3. Given surface property, choosing a right pore size distribution will be very important for the adsolubilization procedure.
4. Even though no permanent blockage of adsolubilization was found in the experiment, it was found that adsolubilization of phenol in mixture with SDS surfactant is faster than adsolubilization after SDS adsorption.

5.2 Future Work

Adsolubilization/adsolubilization kinetics is a new topic and has obvious practical meaning because of the fixed bed reaction mode which admicellar catalysis can be employed in. A lot of work can be done in the future, some possibilities are listed as:

- * Follow surfactant adsorption kinetics and compare it with adsolubilization kinetics.

- * Study the amount of adsolubilization vs. pore size distribution.

- * Use materials of very narrow pore size distribution to do the study, so that a more accurate model could be found to fit the adsolubilization kinetics which would relate with pore size/pore size distribution well.

- * Do a reaction case. This study would be more meaningful.