

CHAPTER 5

CONCLUSIONS

5.1 Conclusions

The goals of this research were to investigate the HCB dechlorination by indigenous microorganisms in Thailand and Taiwan and to examine microbial augmentation under anaerobic environment. The results obtained from this study are summarized below:

- The blending of fresh sediment slurry could not help the long-term-storaged sediment slurry, no matter storaged sediment slurry had been historically contaminated or not.
- A fusion of different fresh active sediment slurries did not show any signification positive or negative effect on HCB dechlorination.
- The blending of highly HCB degradation potential sediment slurry to less potential sediment slurry can stimulate the occurrence of dechlorination. However, if blending the sterilized active sediment slurry with less-active sediment slurry, no positive effect was found. However, increase of consortia ratio did not affect HCB dechlorination activity. It suggested that in sediment slurry, the microbial population played the more important roles than the chemical factors.
- The addition of yeast extract could significantly enhance the dechlorination process, especially for Taiwan tested SS.

5.2 Further Works

- Investigate the degradation of highly chlorinated aromatic compounds by bioaugmentation and biostimulation.
- The evaluation of two different system modes on HCB dechlorination in sediments. The HCB dechlorination tests were performed under a closed condition and open condition by simulating the natural contaminated sites.