

CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions

In this research, the biohydrogen production from ethanol wastewater by using UASB reactor under mesophilic condition and controlled pH of 5.5 was investigated. It can be concluded as the followings: (1) The COD loading rate greatly affected the hydrogen production efficiency, and (2) The optimum COD loading rate of 30 kg/m³ d gave the hydrogen production rate of 13.3 l/d, hydrogen yield of 93.9 ml H₂/g COD removed, specific hydrogen production rate (SHPR) of 41.4 ml H₂/g MLVSS d, and COD removal of 19.7%.

5.2 Recommendations

Many literatures have shown that biohydrogen production from anaerobic fermentation operated under thermophilic condition gives a higher hydrogen production efficiency than that under mesophilic condition. Therefore, it is interesting for the study of biohydrogen production from ethanol wastewater by using UASB reactor under thermophilic condition.