

CHAPTER V

CONCLUSIONS

In this work, CALB and TLL exhibit differently in the catalytic activity of CALB and TLL catalyzing esterification of fatty acid with hexanol in NaDEHP reverse micelles. Moreover, the catalytic activity of both lipases strongly depends on the water content of the reverse micelles. It can be seen that both CALB and TLL gave high specific activity in esterification with long chain fatty acid. This lipase selectivity to the long chain fatty acid is due to the localization of lipase, which is localized close to the oil and the water interface and results in higher reaction rate than short chain fatty acid.

CALB and TLL showed a strong dependence on the water content of the reverse micelles. The optimum W_o of CALB was about 6.67 and 7.08 in case of oleic acid and caprylic acid, respectively. The optimum W_o of TLL was about 8.44 in case of oleic acid and 9.12 in case of caprylic acid. However, CALB shows higher catalytic activity than TLL at the optimum water content.