

ACKNOWLEDGEMENTS

This thesis could not be successful without following supports. First of all, I would like to express my grateful appreciation to my main advisor, Asst. Prof. Jaruwan Wongthanate who kindly provided comments and instructions that help improving my skills, and encouraged me until the finish line. Moreover, I would like to gratefully thank my co-advisors, Assoc. Prof. Benjaphorn Prapagdee and Assoc. Prof. Chumlong Arunlertaree for their helpful comments and inexperienced knowledge. Also, I would like to thank my chair, Asst. Prof. Janjit Iamchaturapatr (from King Mongkut's University of Technology North Bangkok), for his kindly comments and suggestions. Furthermore, I would like to greatly thank Fungal Biotechnology Laboratory at King Mongkut's University of Technology Thonburi, Thailand for technical supports, especially, Researcher Nimaradee Boonapatcharone who instructed me techniques and knowledge for biotechnological analysis which was necessary to this work.

Importantly, this research would not be success without financial and resources supporters. This thesis is partially supported by National Research Council of Thailand (on Year 2014) and Faculty of Environment and Resource Studies of Mahidol University Alumni Association. Throughout this work, wastewater and seed sludge was a kindly grateful supports from starch processing industries located in Nakhon Pathom, Thailand and Bureau of Environment and health, Nonthaburi, Thailand.

Moreover, I would like to thank all laboratory and academic staff of Faculty of Environment and Resource Studies, Mahidol University for their assistance.

Finally, I would like to thank my family for their love, raising, teaching, understanding, patience, assistance, until I have been beautifully grown.

Chonlapin Sutthipattanasomboon