

CHEPTER IV

CONCLUSIONS

This work aims to create the value-added biodegradable multi-layered films of PLA, PBS, and TPS. The research consists of two parts. In the first part, PLA and PBS were formed as the multi-layered film. The phase separation between PLA and PBS was studied by adding PLA-*b*-PBS copolymer as a compatibilizer. The PLA-*b*-PBS was simply prepared through conjugating reaction. The addition of PLA-*b*-PBS resulted in an improvement in oxygen barrier and mechanical properties of multi-layered films.

In the second part, biodegradable multi-layered film is the combination between PLA and TPS. The addition of TPS into multi-layered films not only led to cost saving but also resulted in an improvement in mechanical and oxygen barrier properties. However, the more of TPS content increases the percent of water absorption which might impact to the quality of the films.