

CHAPTER 5

CONCLUSION

Based on experimental result and discussion previously present, important conclusion are as follows:

- 1) The β -nucleator (quinacridone) was found to be a very efficient nucleating agent for the β -crystal, hexagonal structure and sheaf-like spherulitic structure in iPP, as revealed by X-ray diffraction DSC and microscopic analyses.
- 2) β crystalline structure could be generated in all compressed PP film containing quinacridone β nucleator of 0.0001-0.01%.
- 3) Compressed film of PP-0.0001% β nucleator(blending by mechanical blending) had a maximum β content approximate by 0.91.
- 4) Compressed film of PP-masterbatch (0.0001% β nucleator and blended by internal mixing) had β content of approximate 0.6. This compressed film produced from PP masterbatch shown a good β phase distribution with highest elongation and toughness properties.
- 5) β crystalline structure of PP was not observed in extruded films. X-ray analysis revealed a presence of smectic structure instead.
- 6) Extruded films of PP- β nucleator of 0.0001% and 0.01% (blended by mechanical blending) had higher elongation and toughness than extruded pure PP films.
- 7) Extruded PP film containing only 0.0001% β nucleator shown a marked increase in oxygen permeation of ~ 100% as compared to the pure PP.