CHAPTER V
CONCLUSIONS

From the present work, it can be concluded that:

1. the productivity, melting temperature, degree of crystallinity and molecular weight of polyethylene produced by Ziegler-Natta catalyst system depends on the polymerization temperature and Al/Ti ratio;

2. the productivity, melting temperature, degree of crystallinity and molecular weight of polyethylene produced by Cp_2ZrCl_2-TMA-$B(C_6F_5)_3$ catalyst system depends on Al/Zr ratio;

3. the Cp_2ZrCl_2-TMA catalyst system can polymerize ethylene with very low activity. The productivity increases with Al/Zr ratio increase;

4. the Cp_2ZrCl_2-TMA-$B(C_6F_5)_3$ catalyst system has higher activity than Cp_2ZrCl_2-TMA catalyst system at low Al/Zr ratio but the activity of both systems tend to come closer at higher Al/Zr ratio;

5. the polyethylene produced by Cp_2ZrCl_2-TMA-$B(C_6F_5)_3$ catalyst system has higher melting temperature and degree of crystallinity than the polyethylene produced by Ziegler-Natta catalyst system;

6. the Cp_2ZrCl_2-TMA-$B(C_6F_5)_3$ catalyst system has lower activity than Ziegler-Natta and $Cp_2Zr(CH_3)_2$-$B(C_6F_5)_3$ catalyst system.