



## CHAPTER V CONCLUSIONS

The cocatalyst system of metallocene catalyst for ethylene polymerization was studied in this work. From the results, it can be concluded that:

1. in the system with zirconocene dichloride, both TMA and  $B(C_6F_5)_3$  are required as cocatalysts;
2. the order of catalyst injection is also important, the productivity of injecting (TMA  $\rightarrow$  Zr  $\rightarrow$   $B(C_6F_5)_3$ ) is higher than (TMA  $\rightarrow$   $B(C_6F_5)_3$   $\rightarrow$  Zr);
3. productivity increases as [Zr] increases at constant [Al]/[Zr] ratio;
4. productivity increases as [TMA] increases at constant [Zr];
5. increase in the amount of TMA in the prealkylating of zirconocene dichloride leads to decrease in productivity;
6. preactivating of the zirconocene catalyst system leads to an increase in the productivity and activity of the polymerization reaction.