

## CHAPTER VI

### CONCLUSIONS & RECOMENDATIONS

#### 6.1 CONCLUSIONS

From the present investigation, which involves the propylene polymerization by supported and modified Ziegler-Natta catalyst, a number of conclusions may be summarized as follows :

1. Internal electron donor has a main function to prevent reagglomeration of small  $MgCl_2$  particles and thus maintain the high specific surface area of the catalysts.
2. External electron donors affect both activity and isotacticity of propylene polymerization. This study found that increasing the number of alkoxy groups in alkoxy silane compounds resulted in decreasing of activities whereas the isotacticities were increased.
3. The sequence of the change of activity by different external electron donors was the same irrespective of presence or absence of internal electron donor and also not depended on the methods of the preparation of the catalyst.
4. Obtained polypropylene has a spherical grannule.

#### 6.2 RECOMMENDATIONS.

1. Find the specific pairs of internal electron donor and external electron donor that give high activity and isotacticity.
2. Study the method to reduce inactive Ti species in the prepared catalyst.
3. Study the method to maximize the amount of Ti that can be fixed in the surface of the active catalyst.