

## CHAPTER VI



### CONCLUSION AND RECOMMENDATION

This thesis has described the study of synthesis of beta zeolite by dry gel conversion and its catalytic performance. The conclusions of this research can be summarized as follows:

1. Synthesis of beta zeolite by dry gel conversion, the most critical parameters of the dry gel synthesis of beta zeolite was the water content and dry gel mass in the autoclave during the crystallization process.
2. The optimum of dry gel synthesis of beta zeolite was the water content of 10 ml,  $M_{\text{gel}} / M_{\text{water}}$  ratio of 1.5 and  $\text{SiO}_2/\text{Al}_2\text{O}_3$  ratios of 92.
3. The particle size, the BET surface area and the relative crystallinity of beta zeolites synthesized by dry gel conversion increased with increasing  $\text{SiO}_2/\text{Al}_2\text{O}_3$  ratio.
4. The catalytic activity (methanol conversion), the maximum methanol conversion was obtained for beta zeolite with  $\text{SiO}_2/\text{Al}_2\text{O}_3$  ratio of 92 due to it had maximum the relative crystallinity.

From this research, the recommendations for further study are as follows:

1. Further studies of the effect of particle size and  $\text{SiO}_2/\text{Al}_2\text{O}_3$  ratios of beta zeolite synthesized dry gel conversion on the hydrothermal stability should be investigated.
2. The acidity of beta zeolite synthesized dry gel conversion should be studied.
3. The regeneration treatment for beta zeolite synthesized dry gel conversion should be studied.