

## RINGKASAN

Telah dilakukan modifikasi terhadap zeolit alam dengan penambahan molekul pengarah lauril dimetil benzil ammonium klorida ( $C_{12}DMBACl$ ) pada proses hidrotermal. Metode yang digunakan melalui tahap dealuminasi, hidrotermal, dan kalsinasi. Proses dealuminasi dilakukan dengan perendaman di dalam larutan asam HCl 6 N dan  $NH_4NO_3$  2 N, proses hidrotermal dilakukan di dalam autoklaf tertutup pada suhu  $150\text{ }^\circ\text{C}$  selama 24 jam, dengan variasi konsentrasi molekul pengarah 10, 20 dan 30 %. Karakterisasi zeolit dilakukan dengan alat Difraktometer Sinar-X untuk mengetahui kristalinitas dan komposisi mineral di dalam zeolit.

Dari difraktogram XRD zeolit termodifikasi menunjukkan adanya peningkatan kristalinitas zeolit sebesar 7,48 % pada konsentrasi molekul pengarah 10 %. Komposisi mineral terbesar di dalam zeolit adalah mordenit dan terjadi peningkatan mordenit di dalam zeolit sebesar 0,9 % pada konsentrasi molekul pengarah 10 %.



## SUMMARY

The natural zeolit has been modified by using lauryl dimethyl benzyl ammonium chloride ( $C_{12}DMBACl$ ) as director molecule on the hydrothermal reaction. The methodes has been used are dealumination, hydrothermal and calcination. Dealumination process was done by treatment in 6 N hydrochloric acid; 2 N ammonium nitrate solution. Hydrothermal process was done in autoclaf at  $150^{\circ}C$  for 24 hours, with director molecule loading as much as variation 10, 20, and 30 %. Characterization of the zeolit was done by using the instrument X Ray Diffraktometer (XRD) to know crystallinity and mineral composition in zeolit.

From difraktogram XRD of Modification zeolite show existence of improvement of crystallinity zeolite of equal to 7.48 % at concentration of director molecule 10 %. Biggest mineral composition in zeolite is mordenit and happened by improvement mordenit in zeolite of equal to 0.9 % at concentration of director molecule 10 %

