CHAPTER IV
CONCLUSIONS AND RECOMMENDATIONS

N-rich nanoporous carbon was successfully prepared by pyrolysis process of benzoxazine precursor in an inert atmosphere and using silica as a hard template synthesis method for increase CO_2 storage capacities by varying the ratio of Silica and CTAB as a surfactant. The nanoporous carbon with 40%wt of silica shows the SEM micrograph revealed silica nanoparticle circular shape was well distributed in nanoporous carbon due to the stabilization of cationic surfactant (CTAB). As removal silica, the resulting of BET surface area of nanoporous carbon with 40%wt of silica exhibited the highest surface area of 945 m^2/g and average pore size 15.44 nm. These results imply that silica can be used to improve the specific surface area and total pore volume by adding in a proper concentration. After removal silica and activated in CO_2 atmosphere were obtained micro-mesoporous structure. Moreover, the effect of high surface area and nitrogen-rich nanoporous carbon which pyrrole-type exhibited good adsorption capacity was reported

In the future work, we should study the carbonization temperature to 900°C or more to compare between the effect of surface area and N-rich structure. Furthermore, the heating rate and holding time for pyrolysis should be studied because we just fixed only a heating rate and holding time to compare the properties with other works. Finally, we should be varying the pressure for detecting carbon dioxide adsorption and desorption process at high pressure in order to apply with carbon dioxide storage in tank.