CHAPTER V
CONCLUSIONS AND RECOMMENDATIONS

Poly(DVB)HIPE filled with maleimide terminated PSO-oligomers were successfully prepared. The decomposition temperature of poly(DVB)HIPE filled with maleimide-terminated poly(arylene ether sulfone)oligomers shifted to a high temperature.

The compressive modulus and compressive strength of poly(DVB)HIPEs filled with 0 to 10 wt% maleimide terminated PSO-oligomers content increased about 46% and 85%, respectively.

The surface areas of the obtained materials were found to decrease about 70% with increasing content of maleimide terminated PSO-oligomers because PSO-Oligomers agglomerate which can be seen in SEM micrographs. From the result, indicates when increases content of maleimide terminated PSO-oligomers, the emulsion stability of poly(DVB)HIPEs desreases (emulsion stability drops) because of PSO's agglomerating. There were little no change in the CO_2 gas adsorption capacities of poly(DVB)HIPE filled with maleimide terminated PSO-oligomers. This could be due to maleimide terminated PSO-oligomers have S=O functional group which are a basic property. Gases such as CO_2 and H_2S, which are acidic in nature, are expected to be more soluble in polymers containing basic moieties than in polymers without such groups. Therefore, large numbers of maleimide terminated PSO-oligomers (large numbers of S=O groups) can maintain the adsorption of CO_2 gas of poly(DVB)HIPEs to certainly rate.