



CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

Formation of poly(methyl acrylate) film on polyester fabric by admicellar polymerization has been successfully carried out in this work. The optimum conditions for carried out admicellar polymerization of methyl acrylate monomer on polyester fabric which gave polyester surface with highest hydrophilicity is 1.5 mM DBSA, 0.05 M NaCl, 1:2 DBSA:AA ratio, 1:5 AIBN:AA ratio at 75°C. FT-IR spectra and SEM micrographs confirmed that poly(methyl acrylate) thin film was successfully formed on polyester fabric. Hydrophilicity of the PMA-coated fabric as measured by the contact angle was found to decrease when the monomer increased. Ductility of concrete behavior showed that untreated polyester reinforced concrete is more flexural than plain concrete about 210%. Flexural test showed that treated polyester fabric reinforced concrete improved the elastic load and flexural deformation by 270% and 180%, respectively, when compared with untreated polyester reinforced concrete.

From the study, it is obvious that monomer with higher polarity can increase the interaction between the fabric and concrete surface. Therefore, it would be interesting to further increase the surface interfacial interaction using other polar monomer with different functional groups such as itaconic acid.