

## CHAPTER V

### CONCLUSION

The effects of solvents and their properties on electro-spinnability of the as-prepared polystyrene (PS) solutions morphological appearance of the as-spun PS fibers were qualitatively investigated by means of a scanning electron microscope (SEM). The eighteen solvents used were benzene, *t*-butylacetate, carbontetrachloride, chlorobenzene, chloroform, cyclohexane, decahydronaphthalene (decalin), 1,2-dichloroethane, dimethylformamide (DMF), 1,4-dioxane, ethylacetate, ethylbenzene, hexane, methylethylketone (MEK), nitrobenzene, tetrahydrofuran (THF), 1,2,3,4-tetrahydronaphthalene (tetralin), and toluene. Only the PS solutions in 1,2-dichloroethane, DMF, ethylacetate, MEK, and THF could produce fibers with high productivity. The electro-spinnability of the solutions from these five solvents was most likely a result of the high value of dipole moment that these solvents exhibit and the reasonably fair conductivity value that the resulting solutions exhibited.