CHAPTER V

CONCLUSIONS AND RECOMENDATIONS

The graphene oxide was successful synthesized by modified hummers method. The suitable ratio of graphite powder to potassium permanganate is 1 to 7. GO was investigated that it was completely single layer after oxidation. GO can converted to RGO by using 0.1 M NaOH and use for flexible electrode application by LbL technique. Moreover RGO can obtain by chemical reduction with p-TSH and improve dispersible by adding PSS. For flexible electrode, the optimum condition is 5mg/ml GO in 0.1 M NaOH and use 10 min dipping time. For inverted polymer solar cells, the RGO-PSS composite can use for improving wettability but the conductivity is too low. This composite could not use in inverted PSCs device.

In the future work, we should study the synthesis of RGO-PSS composite which have high conductivity. Moreover, the energy level should suitable for the material used in inverted polymer solar cells and improved wettability. RGO under alkaline solution, 0.1 M NaOH, should be checked the functional groups with Raman spectroscopy to confirm reduction state of RGO. RGO/PDADMAC composite film should be measured electrical conductivity by four-point probe and applied on flexible substrate.