

It is believed that better efficiencies could have been obtained if SCs were fabricated in the glovebox with inert atmosphere. With the lack of this facility in our department, this can be improved by an insertion of an electron transporting layer between the photoactive layer and the Al cathode electrode. The maximum PL emission intensity and the broadening of the peak observed for rr-P3HT: 1.3 wt% SiNWs thin film could not be properly correlated with the J-V curve of the same combination. This is because of the trade-off between the factors influencing the performance of a SC (i.e. V_{oc} , J_{sc} , FF, R_s , and R_{sh}) which makes it difficult to trace the origin of changes observed. Therefore for future work, we suggest the cross sectional characterisation of different hybrid SCs fabricated in this study to be undertaken.