Electronic Supplementary Material (ESI) for Physical Chemistry Chemical Physics.

Squaraine based Solution Processed Inverted Bulk Heterojunction Solar Cells Processed in Air

P. C. ReshmiVarma[a] and Manoj A. G. Namboothiry[a] *

a. School of Physics, Indian Institute of Science Education and Research Thiruvananthapuram, CET Campus, Engineering College P O, Thiruvananthapuram, Kerala, India. PIN 695016

**Email: manoj@iisertvm.ac.in*

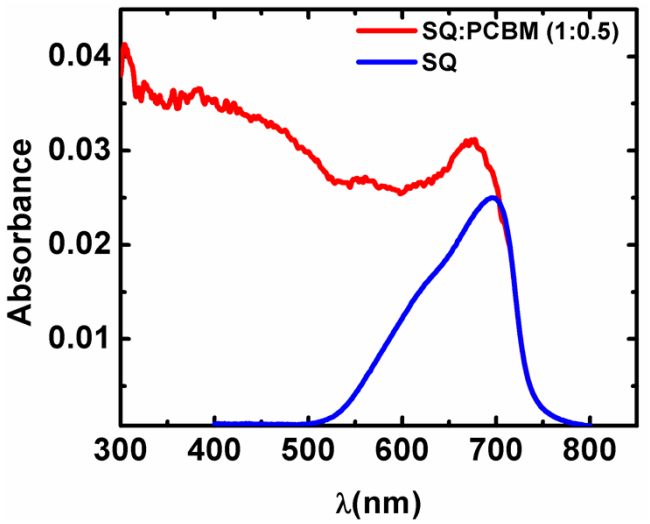

Fig. S1 UV-Vis absorption of SQ:PCBM (of blend ratio 1:0.5) thin films of 100 nm thickness and that of pristine Squaraine of 100 nm thickness

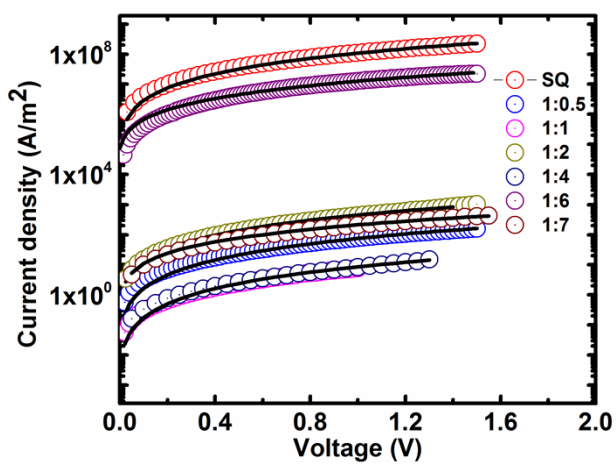

Fig.S2 Dark J-V characteristics of hole only, ITO/PEDOT:PSS/SQN:PCBM/Au devices of different SQN:PCBM blend ratio. Straight line shows the calculated J-V characteristics using SCLC model

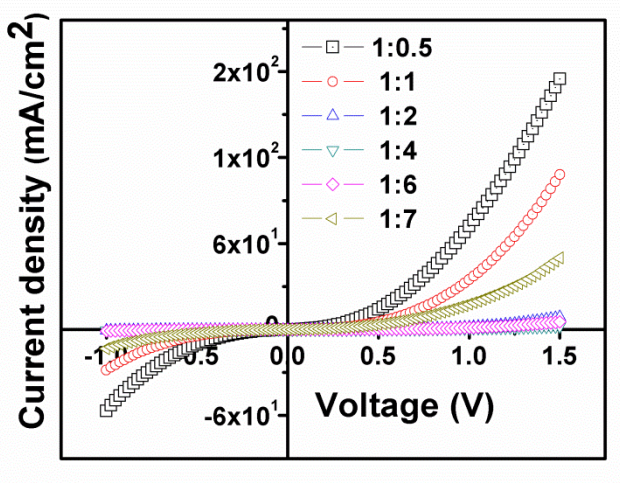

Fig. S3. Dark Current -Voltage characteristics of SQ: PCBM inverted bulk heterojunction solar cell in different donor : acceptor blend ratio

SQ:PCBM blend ratio	Rectification ratio at 1 Volt
1:0.5	1.28
1:1	1.221
1:2	2.617
1:4	1.23
1:6	1.15
1:7	1.325

Table S1. Rectification ratio of the devices with different SQ: PCBM blend ratios