Electronic supplementary information


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**Fig. S1** The electron density distribution of the ASQ-5 and ASQ-5-CN.

**Fig. S2** Absorption of the active layers with a) ASQ-5: PC$_{71}$BM (1:3), and b) ASQ-5-CN: PC$_{71}$BM (1:3). $^a$) Thermal annealing at 80 °C for 10 min.