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Electronic Supplementary Information (ESI)

Poly(3-hexylthiophene)/Graphene Composites based Aligned Nanofibers for

High Performance Field Effect Transistors

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Fig S1. The diameter distribution of ES-PG4 estimated from 20 nanofibers.



Fig. S2 TEM images of the prepared composites: nanofibers-(a) **ES-PG1**, (b) **ES-PG3** and (c) **ES-PG4** nanofiber; thin films-(d) **SC-PG1**, (e) **SC-PG3** and (f) **SC-PG4** thin film. The insets of (a), (b) and (c) show the cross-section TEM images of composite nanofibers.



Fig. S3 Absoprtion spectra of P3HT/graphene composites : (a) **ES-PGX** nanofibers and (b) **SC-PGX** thin films with different graphene compositions.



Fig. S4 Confocal fluorescence images of the composites: nanofibers- (a) **ES-PG1**, (b) **ES-PG3** and (c) **ES-PG4**; thin films-(d) **SC-PG1**, (e) **SC-PG3** and (f) **SC-PG4** thin film. The insets show the magnified images.