Electronic Supplementary Information (ESI)

Electrospun Nanofibers with Dual Plasmonic –Enhanced Luminescent Solar Concentrator Effects for High-Performance Organic Photovoltaic Cells

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**Table S1.** OPV characteristics without or with the different patterned LSC ES nanofibers.

<table>
<thead>
<tr>
<th>Device</th>
<th>$V_{oc}$ (V)</th>
<th>$J_{sc}$ (mA cm$^{-2}$)</th>
<th>FF</th>
<th>PCE$^a$ (%)</th>
<th>$R_S$ $^b$ (Ω cm$^2$)</th>
<th>$R_{SH}$ $^c$ (kΩ cm$^2$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>P3HT:PC$_{61}$BM Reference</td>
<td>0.63</td>
<td>8.21</td>
<td>0.675</td>
<td>3.49</td>
<td>7.26</td>
<td>1.14</td>
</tr>
<tr>
<td>A-PFBTNF-HI</td>
<td>0.63</td>
<td>9.40</td>
<td>0.668</td>
<td>3.96</td>
<td>7.22</td>
<td>1.55</td>
</tr>
<tr>
<td>C-PFBTNF-HI</td>
<td>0.63</td>
<td>8.57</td>
<td>0.656</td>
<td>3.54</td>
<td>8.37</td>
<td>2.77</td>
</tr>
</tbody>
</table>

$^a$) The average value of PCE is calculated from at least 10 cells. $^b$) $R_S$ is derived from the slope of the I – V curves at 1 V. $^c$) $R_{SH}$ is derived from the slope of the I – V curves at 0 V.

**Fig. S1** SEM image of PFBT nanoparticles.
Fig. S2 $J-V$ characteristic of P3HT:PC$_{61}$BM OPV device with A-PFBTNF-HI or C-PFBTNF-HI.
Fig. S3 Tapping mode AFM topographies of P3HT:PCBM layer (a) on single nanofiber, and (b) on fused nanofibers. The corresponding AFM cross-section analyses of (c) single nanofiber and (d) fused nanofibers. Tapping mode AFM topographies of P3HT:PCBM film near (e) single nanofiber and (f) fused nanofibers.
Figure S4. EQE of PTB7:PC$_{71}$BM, PTB7:PC$_{71}$BM with C-AgNF and C-PFBT-HI/AgNF.