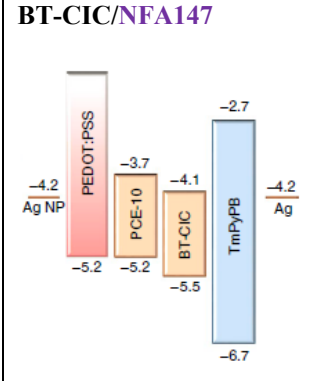
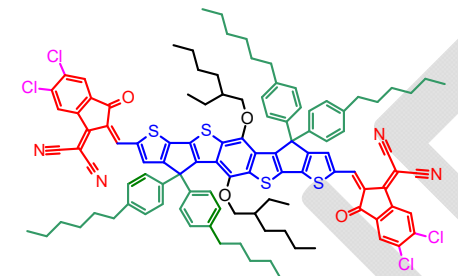
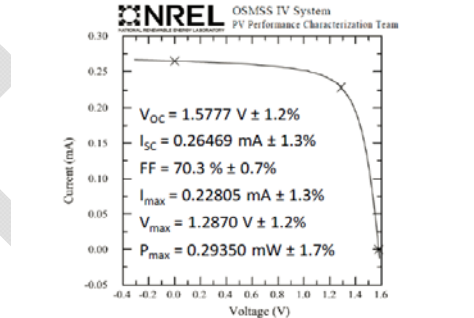
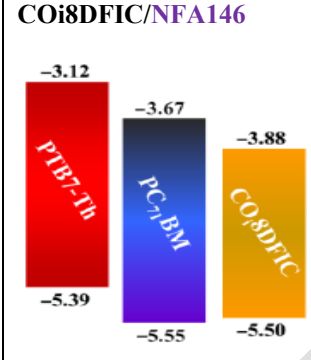
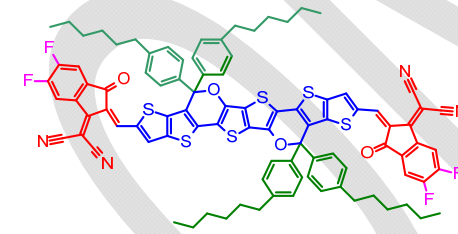
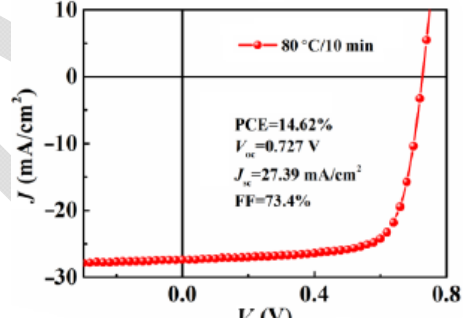
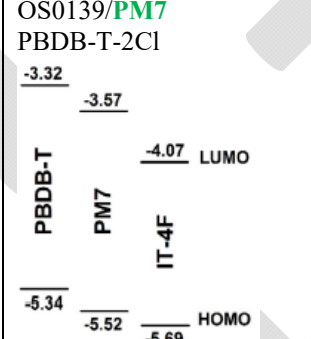
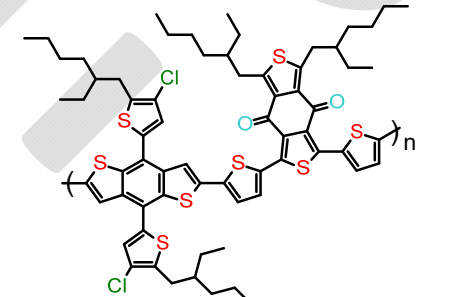
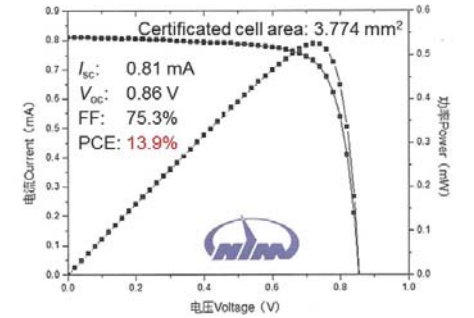
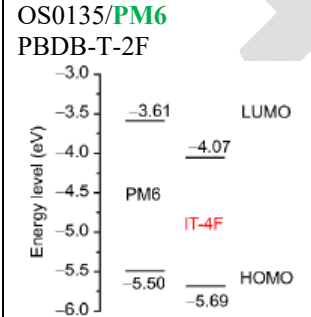
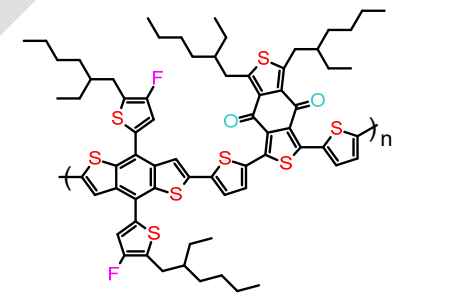
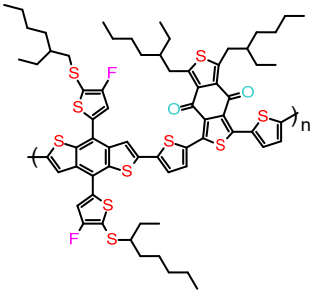
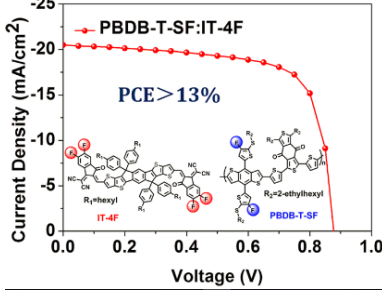
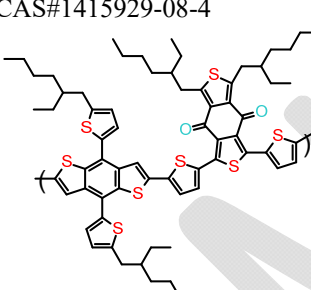
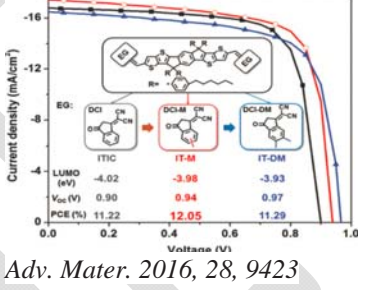
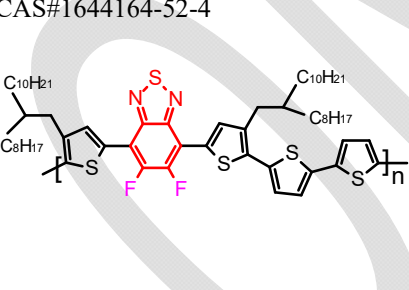
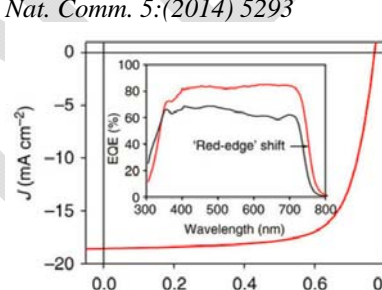
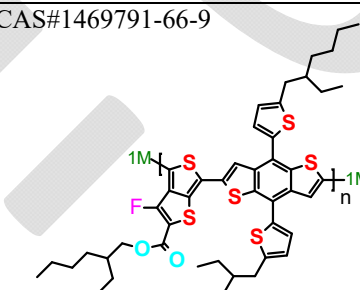
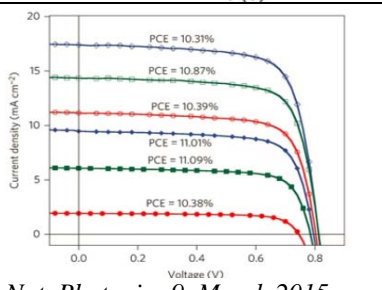
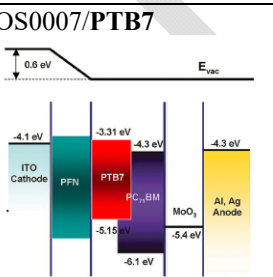
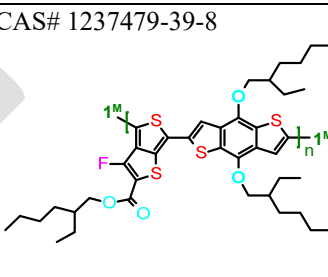
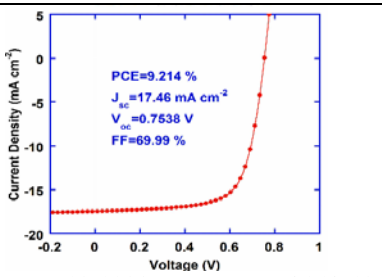


IM #	Common Name HOMO/LUMO	Chemical Structure CAS#	Remark and reference															
PCE147	BT-CIC/NFA147 	 CAS#2197167-51-2 Working with 1M's PCE-10(OS0100)	 NREL measured tandem cell current-voltage characteristics (2 mm ² device with ARC), with the extracted efficiency of 14.7 ± 0.3 %. Doi.org/10.1038/S41560-018-0134-z															
PCE146	COi8DFIC/NFA146 	 Working with 1M's PCE-10(OS0100)	 PCE=14.62% V _{oc} =0.727 V J _{sc} =27.39 mA/cm ² FF=73.4% https://doi.org/10.1016/j.scib.2018.02.015															
PCE139	OS0139/PM7 PBDB-T-2Cl 	 Working with 1M's IT-4F(NFA014)	 Certified cell area: 3.774 mm ² I _{sc} : 0.81 mA V _{oc} : 0.86 V FF: 75.3% PCE: 13.9% doi.org/10.1002/adma.201800868															
PCE135	OS0135/PM6 PBDB-T-2F 	 Working with 1M's IT-4F(NFA014)	<table border="1"> <caption>Table 1 Photovoltaic performance data of the PSCs based on PM6:IT-4F (1:1, w/w)</caption> <thead> <tr> <th>PM6:IT-4F</th> <th>V_{oc} (V)</th> <th>J_{sc}^{a)} (mA cm⁻²)</th> <th>FF (%)</th> <th>PCE^{b)} (%)</th> </tr> </thead> <tbody> <tr> <td>As-cast</td> <td>0.89</td> <td>19.4 (18.5)</td> <td>66.7</td> <td>11.5 (11.1)</td> </tr> <tr> <td>DIO^{c)} + TA^{d)}</td> <td>0.84</td> <td>22.2 (21.1)</td> <td>72.5</td> <td>13.5 (13.2)</td> </tr> </tbody> </table> <p>a) The integral J_{sc} in parentheses from the EQE curves; b) the average PCEs in parentheses from 30 devices; c) with 0.75% DIO; d) with TA at 100 °C for 20 min; doi.org/10.1007/s11426-017-9191-1 </p>	PM6:IT-4F	V _{oc} (V)	J _{sc} ^{a)} (mA cm ⁻²)	FF (%)	PCE ^{b)} (%)	As-cast	0.89	19.4 (18.5)	66.7	11.5 (11.1)	DIO ^{c)} + TA ^{d)}	0.84	22.2 (21.1)	72.5	13.5 (13.2)
PM6:IT-4F	V _{oc} (V)	J _{sc} ^{a)} (mA cm ⁻²)	FF (%)	PCE ^{b)} (%)														
As-cast	0.89	19.4 (18.5)	66.7	11.5 (11.1)														
DIO ^{c)} + TA ^{d)}	0.84	22.2 (21.1)	72.5	13.5 (13.2)														

(PCE is closing to 15%)

<p>PCE-13</p>	<p>OS0130/OS0013 PBDB-T-SF</p> <p>HOMO (eV)= -5.40 LUMO(eV)= -3.60</p>		 <p>PCE > 13%</p> <p><i>J. Am. Chem. Soc.</i> 2017, 139, 7148</p>																				
<p>PCE-12</p>	<p>OS0804 PBDB-T PBDBTBD</p> <p>HOMO (eV)= -5.33 LUMO(eV)= -2.93</p>	<p>CAS#1415929-08-4</p> 	 <table border="1"> <thead> <tr> <th>Material</th> <th>LUMO (eV)</th> <th>HOMO (eV)</th> <th>V_{oc} (V)</th> <th>PCE (%)</th> </tr> </thead> <tbody> <tr> <td>ITIC</td> <td>-4.02</td> <td>-3.98</td> <td>0.90</td> <td>12.05</td> </tr> <tr> <td>IT-M</td> <td>-3.98</td> <td>-3.93</td> <td>0.97</td> <td>11.29</td> </tr> <tr> <td>IT-DM</td> <td>-3.93</td> <td>-3.93</td> <td>0.97</td> <td>11.29</td> </tr> </tbody> </table> <p><i>Adv. Mater.</i> 2016, 28, 9423</p>	Material	LUMO (eV)	HOMO (eV)	V _{oc} (V)	PCE (%)	ITIC	-4.02	-3.98	0.90	12.05	IT-M	-3.98	-3.93	0.97	11.29	IT-DM	-3.93	-3.93	0.97	11.29
Material	LUMO (eV)	HOMO (eV)	V _{oc} (V)	PCE (%)																			
ITIC	-4.02	-3.98	0.90	12.05																			
IT-M	-3.98	-3.93	0.97	11.29																			
IT-DM	-3.93	-3.93	0.97	11.29																			
<p>PCE-11</p>	<p>OS0524 / R2R002 PfFBT4T-2OD</p> <p>HOMO (eV)= -5.34 LUMO(eV)= -3.69</p>	<p>CAS#1644164-52-4</p> 	<p><i>Nat. Comm.</i> 5:(2014) 5293</p> 																				
<p>PCE-10</p>	<p>OS0100 PTB7-TH PBDTTT-EFT</p> <p>HOMO (eV)= -5.24 LUMO(eV)= -3.66</p>	<p>CAS#1469791-66-9</p> 	 <table border="1"> <thead> <tr> <th>Polymer</th> <th>PCE (%)</th> </tr> </thead> <tbody> <tr> <td>PCE = 10.31%</td> <td>10.31</td> </tr> <tr> <td>PCE = 10.87%</td> <td>10.87</td> </tr> <tr> <td>PCE = 10.39%</td> <td>10.39</td> </tr> <tr> <td>PCE = 11.01%</td> <td>11.01</td> </tr> <tr> <td>PCE = 11.09%</td> <td>11.09</td> </tr> <tr> <td>PCE = 10.38%</td> <td>10.38</td> </tr> </tbody> </table> <p><i>Nat. Photonics</i>, 9, March 2015</p>	Polymer	PCE (%)	PCE = 10.31%	10.31	PCE = 10.87%	10.87	PCE = 10.39%	10.39	PCE = 11.01%	11.01	PCE = 11.09%	11.09	PCE = 10.38%	10.38						
Polymer	PCE (%)																						
PCE = 10.31%	10.31																						
PCE = 10.87%	10.87																						
PCE = 10.39%	10.39																						
PCE = 11.01%	11.01																						
PCE = 11.09%	11.09																						
PCE = 10.38%	10.38																						
<p>PCE-9</p>	<p>OS0007/PTB7</p> 	<p>CAS# 1237479-39-8</p> 	 <p>PCE=9.214 % J_{sc}=17.46 mA cm⁻² V_{oc}=0.7538 V FF=69.99 %</p> <p>DOI:10.1038/NPHOTON.2012.190</p>																				

Organic Nano Electronic(ONE=1) Materials, Reproducibility Matters

1-Material Inc is making a reliable and standard material, not just a pure chemical.

A chemical is not a material, unless its function is reproducibly performed against elapsed time.

(Courtesy of comment: Dr. Kiril Kirov of Eight19)