(NFA: Non-Fullerene Acceptor)

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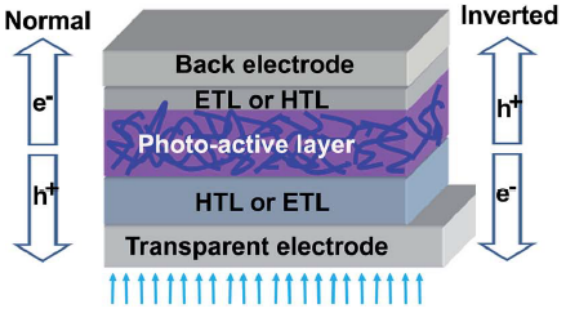
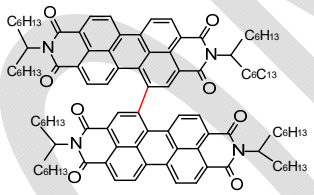
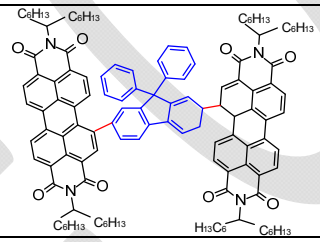
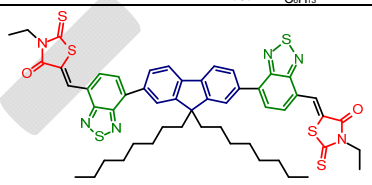
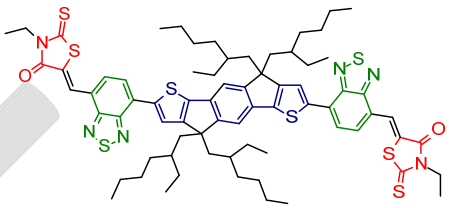
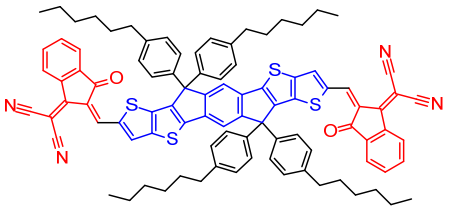
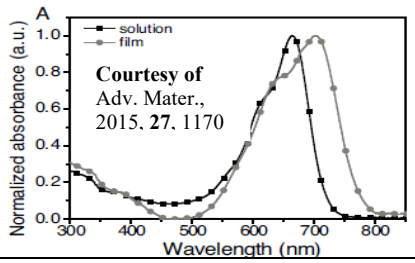


PCE ~12% has been reported for Non-Fullerene Acceptors (NFAs) to overcome high cost and poor stability of fullerene-based organic photovoltaics(OPV). Considering (1) efficient charge transfer, (2) good morphology (3) easy synthesis and purification, (4) proper solubility for green solvents, and (5) right optical adsorptivity, the following SMNFAs are selected from open publications for your **suggestions** and **validations** only.

*Courtesy of general references: (1) Acc.Chem. Res., **2015**, 48;2803 (2)RSC, Adv, 2015 93002 and (3) J.Mater.Chem, A, 2015, 3, 16393 , (4) Adv. Mater. 2015 27 1170: (5) JACS. 2016. 128. 4955.*

Listing No.	*Common Name CAS No.*	*Structure*	*Reference and Remarks*
NFA001 OS0783	**di-PDI** CAS#1609131-78-3		*Chem. Communications,**2014**, 50(8), 1024* EA(eV) = 4.04, IP(eV)=6.13 HOMO(eV) = -6.1; LUMO(eV)=-4.0 Active layer: PCE-10/di-PDI PCE = 5.9% V_{OC}(V)=0.80; J_{SC}(mA/cm^2)=12.0; FF = 0.59
NFA002 OS0696	**SF-PDI** CAS# 1643842-69-6		*Energy Environ.Sci., **2015**, 8, 520* EA(eV) = 3.83, IP(eV)=5.90 HOMO(eV) = -5.9; LUMO(eV)=-3.8 Active layer: PCE-11/SF-PDI PCE = 6.3% V_{OC}(V)=0.98; J_{SC}(mA/cm^2)=10.7; FF = 0.57
NFA003 OS0952	**FBR** CAS#1644381-95-2		*JACS., **2014**, 137, 898* EA(eV) = 3.57, IP(eV)=5.70 HOMO(eV) = -5.7; LUMO(eV)=-3.6 Active layer: P3HT/FBR PCE = 4.11% V_{OC}(V)=0.82; J_{SC}(mA/cm^2)=7.95; FF = 0.63
NFA004	**EH-IDTBR** CAS# NA		*Acc.Chem. Res., **2015**, 48, 2803* EA(eV) = 3.88, IP(eV)=5.45 Active layer: P3HT/IDRBR PCE = 6.38% V_{OC}(V)=0.73; J_{SC}(mA/cm^2)=14.1; FF = 0.62
NFA005 OS0064	**ITIC** CAS#1664293-06-4		

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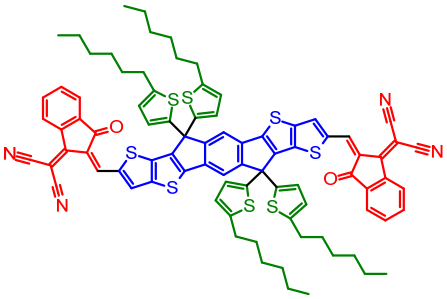
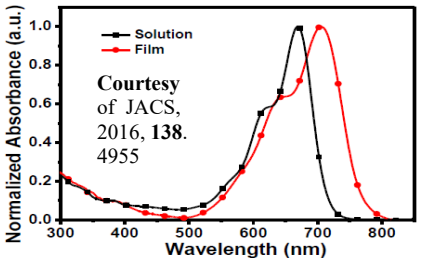
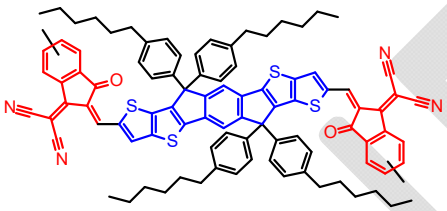
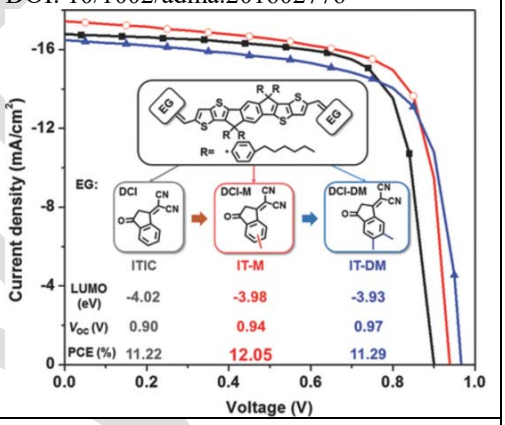
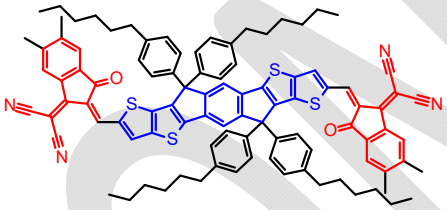
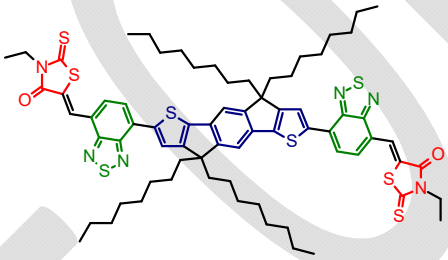
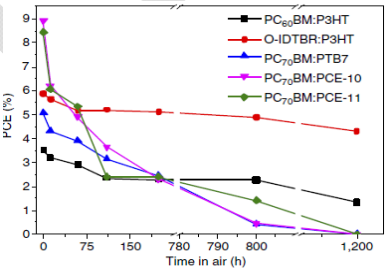
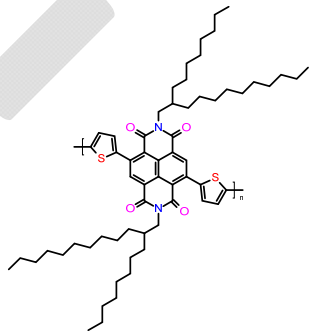
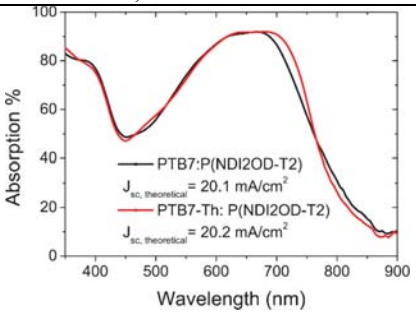
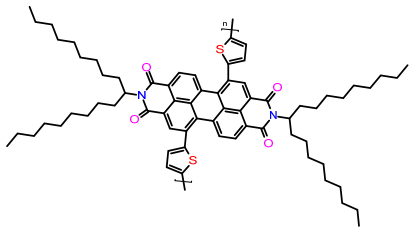
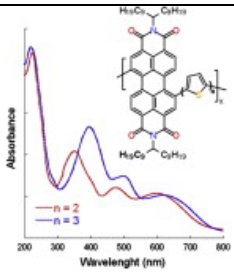
NFA006 OS0131	**ITIC-Th** CAS#1889344-13-1		
NFA007	**ITIC-M (IT-M)** Isomers of CAS# 2047352-80-5 2047352-83-8 2047352-86-1		DOI: 10/1002/adma.201602776 
NFA008	**ITIC-DM (IT-2M)** CAS# 2047352-92-9		
NFA009	**O-IDTBR** **IDTBR-O**		DOI: 10.1038/ncomms11585  EA=3.88eV; IP =5.51eV
NFA010 OS0400	**PNDI-2T** **N2200** CAS#1100243-40-0		
NFA011 OS0692	**PDI-2T** CAS#1189046-69-2		 Polymer, **51**(11), 2010, 2264

Other non-fullerene acceptors may also be interested, please contact info@1-material.com for more information.