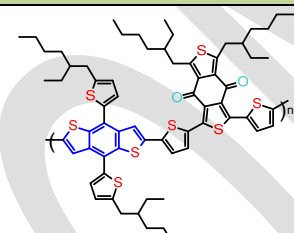
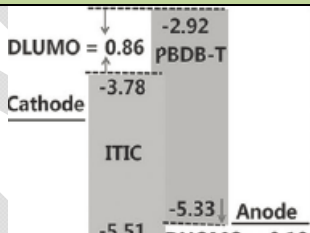
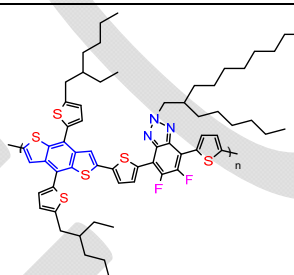
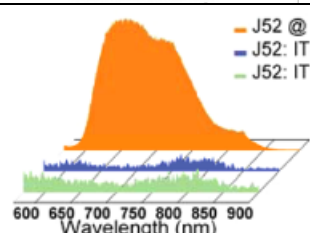
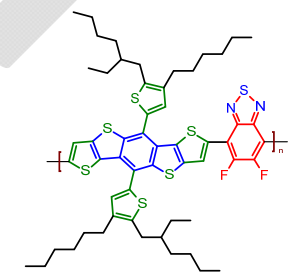
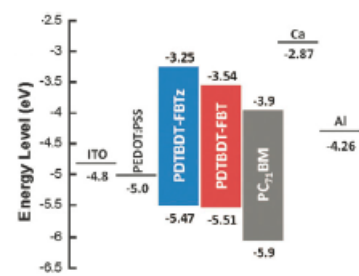
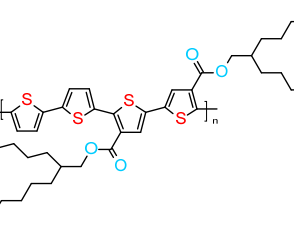
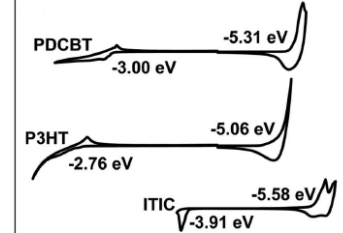
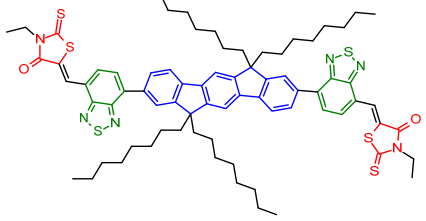
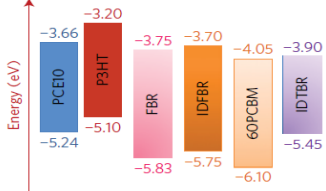
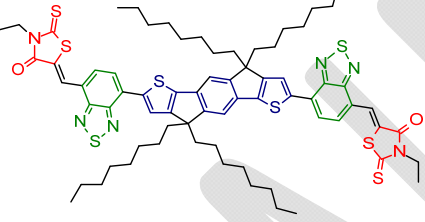
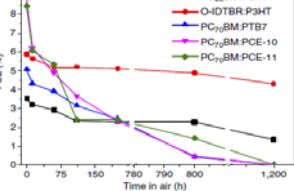
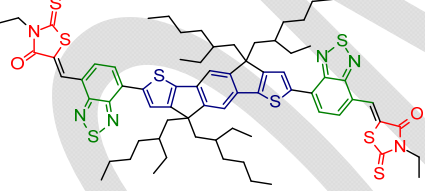
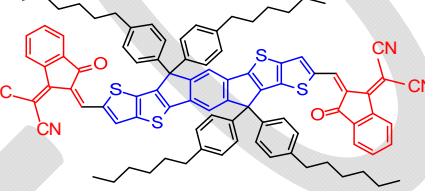
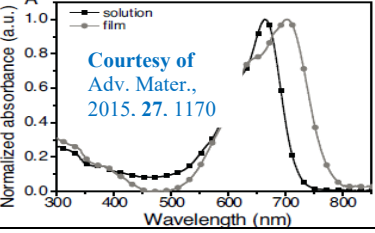
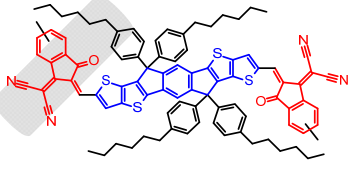
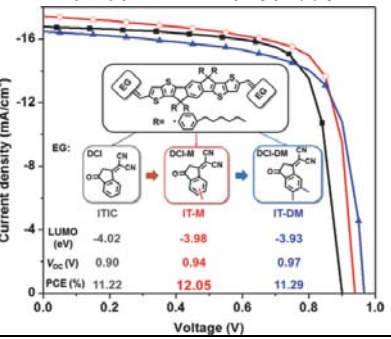
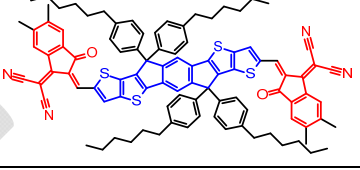
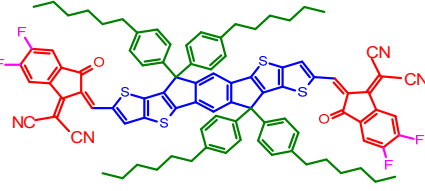
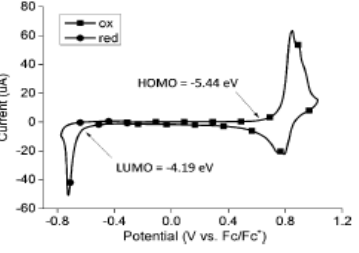


12+% PCE has been reported for Non-Fullerene Acceptors(NFAs) with wide-band gap polymeric donors to overcome high cost and poor stability of fullerene-based organic photovoltaics(OPV). Considering (1) right energy matching-up, (2) efficient charge transfer, (2) good morphology (3) easy synthesis and purification, (4) and proper solubility for green solvents suitable for large area processing, we have selected the following polymeric donors and NFAs donors for your further research.

Listing No.	Common Name CAS No.	Structure	Remarks
OS0804	PBDB-T CAS#145929-80-4		
OS0017	J52 CAS#1887136-01-7		 <p>HOMO = -5.21 eV, LUMO = -2.99 eV</p>
OS0552	PDTBDT-FBT CAS# 1919055-55-2 Also available PDTBDT-FBTz		
OS0175 R2R004	PDCBT CAS#1609536-17-5		

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

(Polymeric Donors /Non-Fullerene Acceptors)

Listing No.	Common Name CAS No.	Structure	Reference and Remarks
NFA012	IDFBR CAS# 2088628-64-0		Reference DOI: 10.1038/NMAT4797 
NFA009	IDTBR O-IDTBR CAS# 2077945-91-4		Reference DOI: 10.1038/ncomms11585  EA=3.88eV; IP =5.51eV
NFA004	EH-IDTBR CAS#21025-60-9		Reference <i>Acc.Chem. Res.</i> , 2015 , <i>48</i> , 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		 Normalized absorbance (a.u.) Wavelength (nm) Courtesy of <i>Adv. Mater.</i> , 2015. 27. 1170
NFA007	ITIC-M (IT-M) Isomers of CAS# 2047352-80-5 2047352-83-8 2047352-86-1		Reference DOI: 10/1002/adma.201602776  Current density (mA/cm ²) Voltage (V) EG: ITIC: LUMO -4.02, V _{oc} 0.90, PCE (%) 11.22 IT-M: LUMO -3.98, V _{oc} 0.94, PCE (%) 12.05 IT-DM: LUMO -3.93, V _{oc} 0.97, PCE (%) 11.29
NFA008	ITIC-DM (IT-2M) CAS# 2047352-92-9		
NFA014	ITIC-4F CAS# 2097998-59-7		Reference <i>Angew. Chem. Int. Ed.</i> 2017 , <i>56</i> , 3045  Current (uA) Potential (V vs. Fc/Fc ⁺) HOMO = -5.44 eV LUMO = -4.19 eV

More non-fullerene acceptors and custom synthesis materials are available, please contact: info@1-material.com