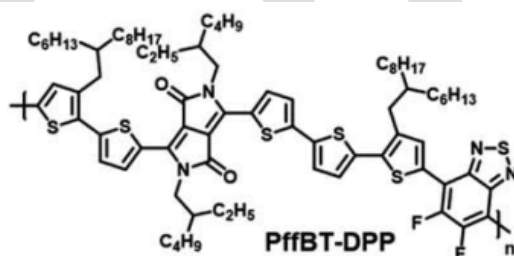


Technical Data Sheet

1M Material:	PffBT-DPP, low band gap (LBG) polymer
Common Name:	PffBT-DPP
Chemical Family:	Polymer of (4,7-bis(5-bromo-4-(2-hexyldecyl)thiophen-2-yl)-5,6-difluorobenzo[c][1,2,5]thiadiazole) and (2,5-bis(2-ethylhexyl)-3,6-bis(5-(trimethylstannyl)thiophen-2-yl)-2,5-dihydropyrrolo[3,4-c]pyrrole-1,4-dione)

Chemical Structure:

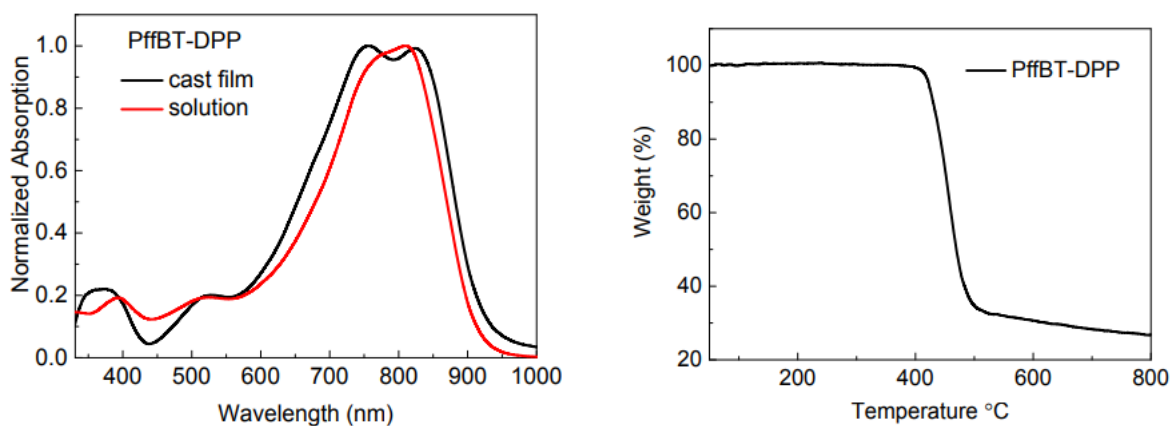


Appearance:	Deep green to black solid
Solubility:	Soluble in CHCl ₃ , and other selected solvents
Molecular weight:	Mw ~50K. PDI~2.0
Structure confirmation:	NMR of monomers
Purity:	99+% (basing on NMR of monomers)
Energy level (Reference):	E _g ^{opt} = 1.33eV, HOMO/LUMO = -5.66eV/-3.56eV

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Reference data:

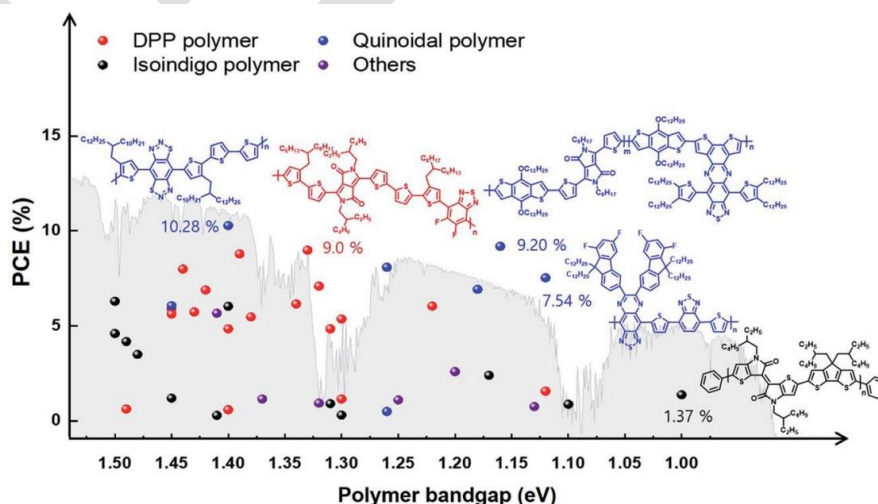
1: <https://doi.org/10.1021/acs.chemmater.0c02133>



Material	λ_{\max} (nm)	λ_{onset} (nm)	E_{ox} (eV)	E_{red} (eV)	HOMO ^{a)} (eV)	LUMO ^{a)} (eV)	$E_{\text{g}}^{\text{opt b)}$ (eV)
PffBT-DPP	758	930	1.03	-1.07	-5.66	-3.56	1.33
[70]PCBM	718	730	1.74	-0.48	-6.37	-4.16	1.72
MeIC	342	776	1.30	-0.53	-5.93	-4.1	1.60

a) $\text{HOMO} = -(5.13 + E_{\text{ox}} - E_{\text{Fc}/\text{Fc}^+})$ eV, $\text{LUMO} = -(5.13 + E_{\text{red}} - E_{\text{Fc}/\text{Fc}^+})$ eV; b) $E_{\text{g}}^{\text{opt}}$ (eV) = $1240/\lambda_{\text{onset}}$ (nm).

2: DOI: 10.1039/d1na00245g



Band gap and power conversion efficiency trends in narrow-band gap polymers for organic solar cells.

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