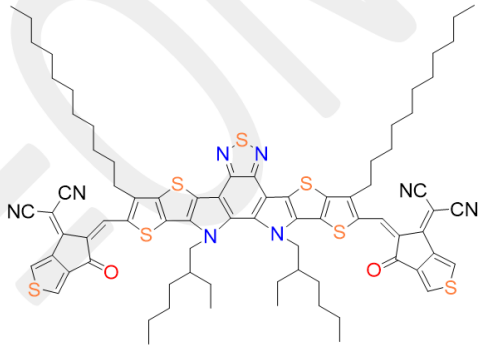
1-Material Inc
2290 Chemin St-Francois
Dorval, Quebec
H49P 1K2, Canada

Organic Nano Electronic (ONE=1) Materials for these who understand quality

CERTIFICATE OF ANALYSIS

1M Material:	Y8, NFA2750, OS6008
Other Names:	Y6-T, Y10
Chemical Formula:	$C_{78}H_{86}N_8O_2S_7$
CAS#:	2410422-75-0
Chemical Name:	2,2′-[[12,13-Bis(2-ethylhexyl)-12,13-dihydro-3,9-diundecylbisthieno[2″,3″:4′,5′]thieno[2′,3′:4,5]pyrrolo[3,2-*e*:2′,3′-*g*][2,1,3]benzothiadiazole-2,10-diyl]bis[methylidyne(6-oxo-4*H*-cyclopenta[*c*]thiophene-5,4(6*H*)-diylidene)]]bis[propanedinitrile]
Chemical Structure:	
Lot No.:	DW11028BP
Appearance:	Blue-black solid
Solubility:	Soluble in chloroform, CB and ODCB
Assay:	99+% (by NMR, provided for internal reference only)

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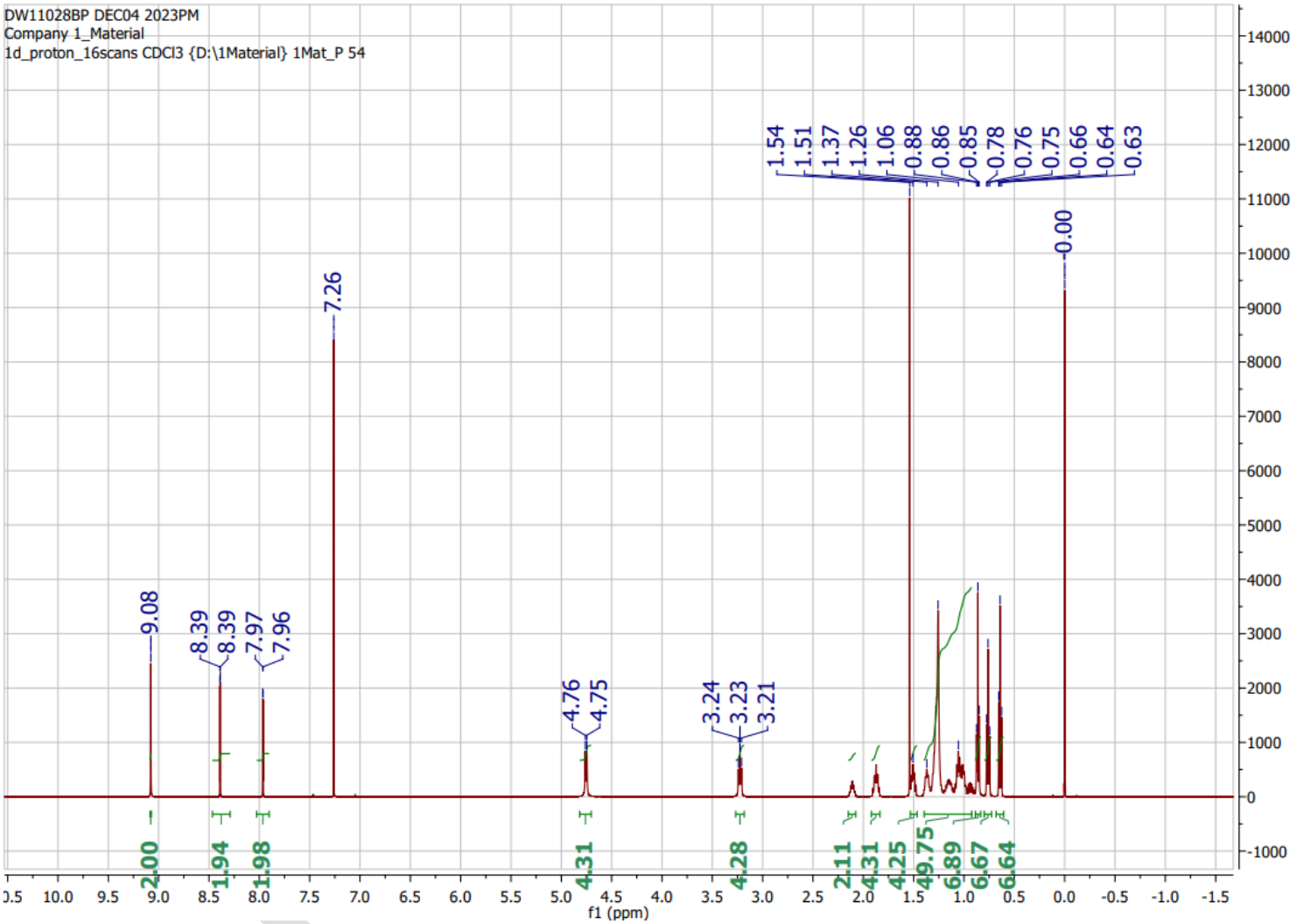
NMR (internal reference only)



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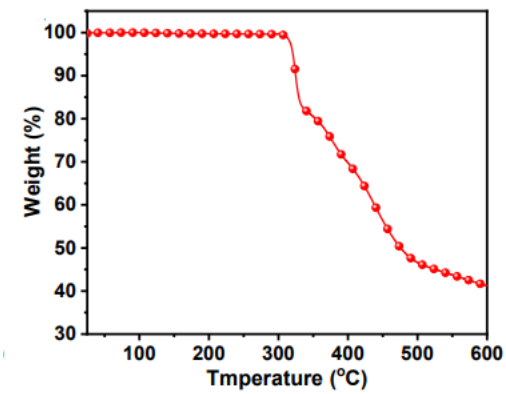
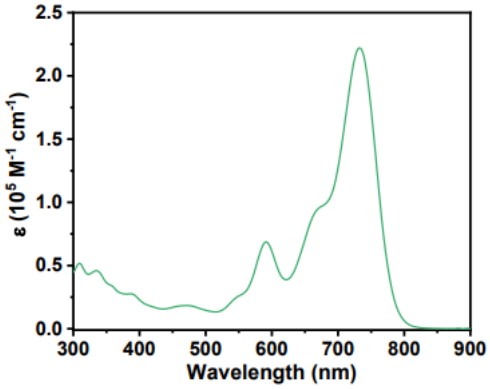
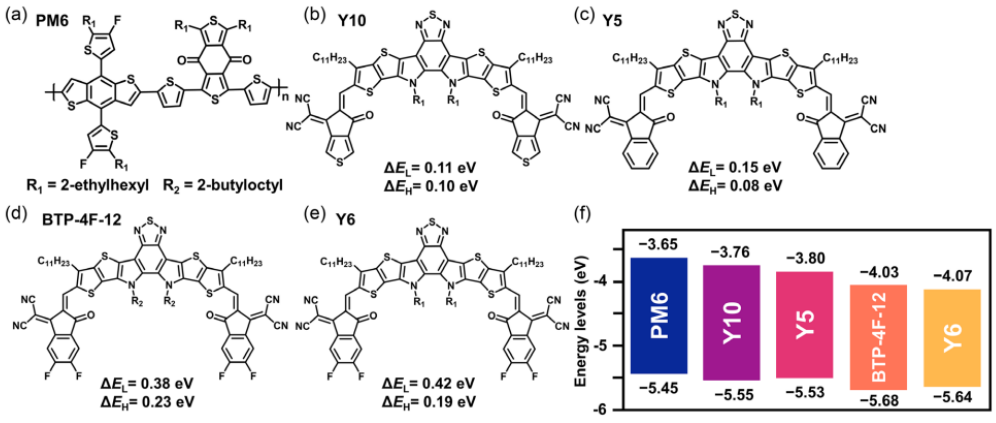
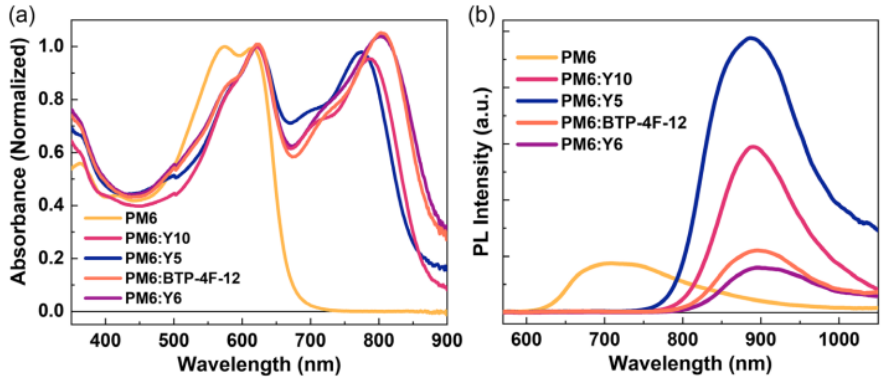
Reference data:





Y10 = Y8, all materials below are available in 1-Material





Steady-state a) absorption and b) PL spectra of neat PM6 and blend films. The excitation wavelength for PL measurements is 532 nm.

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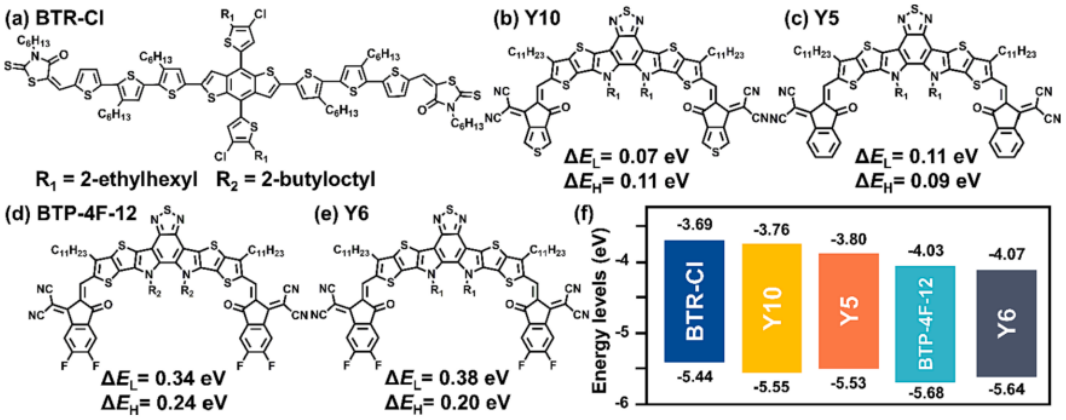

Fig. 1. Molecular structures of (a) BTR-Cl, (b) Y10, (c) Y5, (d) BTP-4F-12, and (e) Y6. (f) The energy levels of BTR-Cl, Y10, Y5, BTP-4F-12, and Y6 films.

Table 1
Energy level parameters for neat donor, acceptor and blend films. φ_{red} and φ_{ox} are the onset potentials for reduction and oxidation, respectively.

Materials	φ_{red} (eV)	φ_{ox} (eV)	E_{LUMO} (eV)	E_{HOMO} (eV)	E_{LUMO} (eV)	E_{HOMO} (eV)	ΔE_L (eV)	ΔE_H (eV)
BTR-Cl	−0.67	1.08	−3.69	−5.44	−3.70[21]	−5.46[21]	/	/
Y10	−0.60	1.19	−3.76	−5.55	−3.76[23]	−5.56[23]	0.07	0.11
Y5	−0.56	1.17	−3.80	−5.53	−3.87[14]	−5.55[14]	0.11	0.09
BTP-4F-12	−0.33	1.32	−4.03	−5.68	−4.06[22]	−5.68[22]	0.34	0.24
Y6	−0.29	1.28	−4.07	−5.64	−4.10[13]	−5.65[13]	0.38	0.20

Listed Material	Other Names	CAS No.	1M Code
Y10	Y8	2410422-75-0	OS6008
Y5	BTP, BTP-4H	2304444-48-0	Y5, OS6005
Y6	BTP-4F	2304444-49-1	PCE157
BTP-4F-12	Y6-BO, Y12	2389125-23-7	Y6-BO, Y12
BTR-Cl	Cl-BTR	2410661-17-3	OS0136
PM6	PBDB-T-2F	1802013-83-7	OS0135, PCE135
More	Your named	Custom made	www.1-material.com

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