

Supporting Information

A non-fullerene electron acceptor based on central carbazole and terminal diketopyrrolopyrrole functionalities for efficient, reproducible and solution-processable bulk-heterojunction devices

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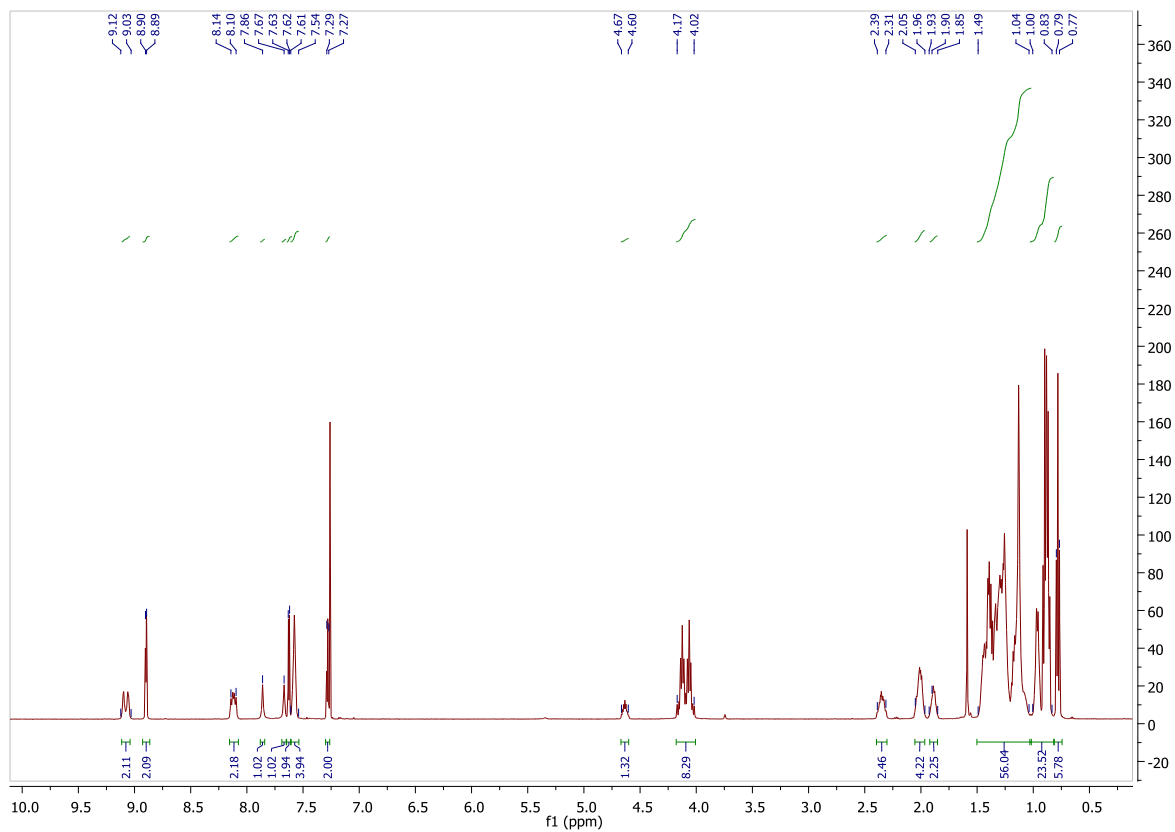


Fig. S1 ^1H NMR spectrum of **N7**.

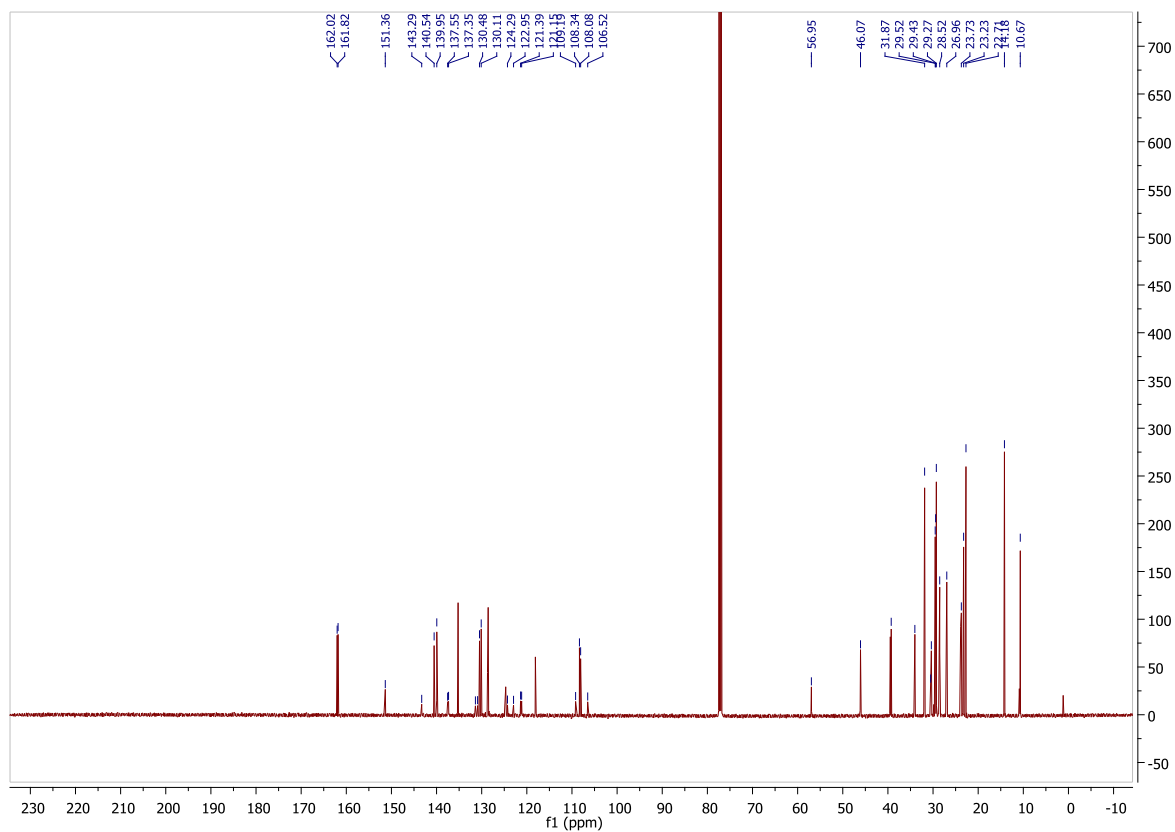


Fig. S2 ^{13}C NMR spectrum of **N7**.

The	optical	absorption	transition	for	N7:	
Excited State	1:	Singlet-A	1.9797 eV	626.29 nm	f=1.8137	$\langle S^{**2} \rangle = 0.000$
Excited State	2:	Singlet-A	2.1368 eV	580.24 nm	f=0.0031	$\langle S^{**2} \rangle = 0.000$
Excited State	3:	Singlet-A	2.2472 eV	551.73 nm	f=0.0899	$\langle S^{**2} \rangle = 0.000$
Excited State	4:	Singlet-A	2.3141 eV	535.78 nm	f=0.4270	$\langle S^{**2} \rangle = 0.000$
Excited State	5:	Singlet-A	2.7292 eV	454.29 nm	f=0.0113	$\langle S^{**2} \rangle = 0.000$
Excited State	6:	Singlet-A	2.7908 eV	444.26 nm	f=0.2139	$\langle S^{**2} \rangle = 0.000$
Excited State	7:	Singlet-A	2.9066 eV	426.56 nm	f=0.0004	$\langle S^{**2} \rangle = 0.000$
Excited State	8:	Singlet-A	2.9540 eV	419.72 nm	f=0.0547	$\langle S^{**2} \rangle = 0.000$
Excited State	9:	Singlet-A	2.9969 eV	413.71 nm	f=0.2561	$\langle S^{**2} \rangle = 0.000$
Excited State	10:	Singlet-A	3.1167 eV	397.81 nm	f=0.0102	$\langle S^{**2} \rangle = 0.000$

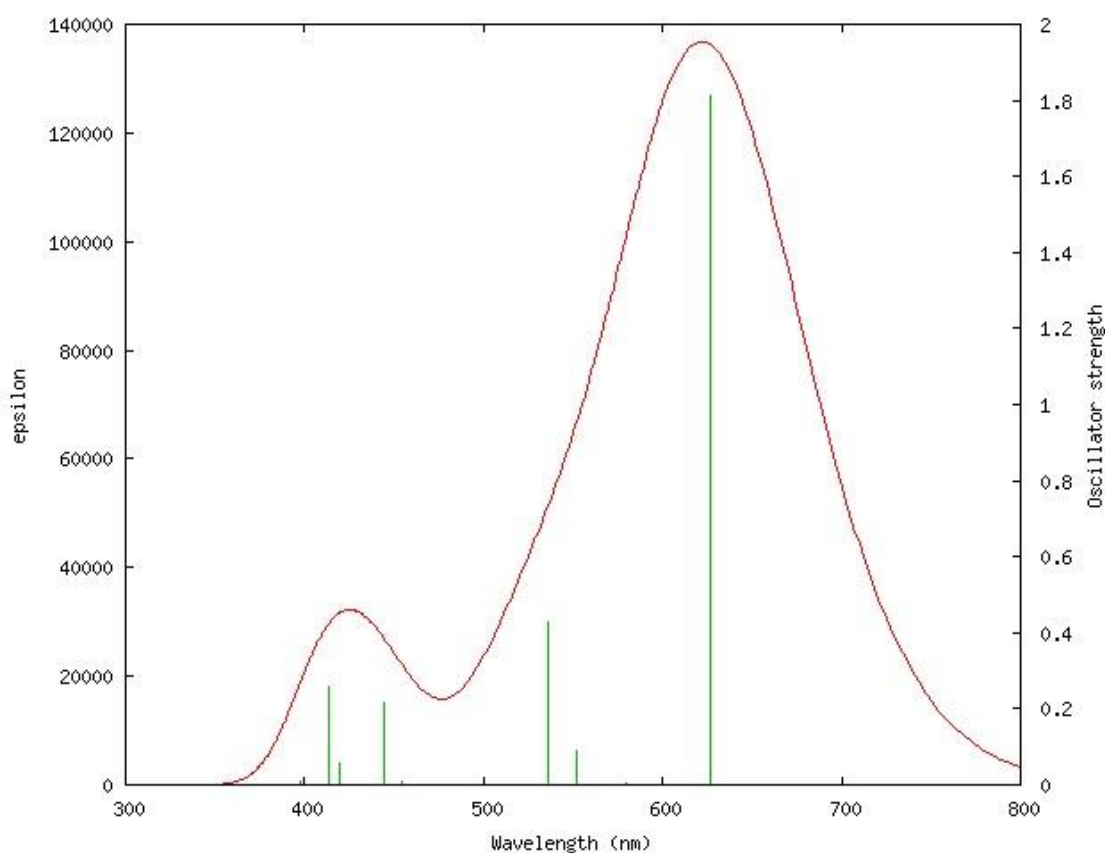


Fig. S3 Theoretical optical absorption transitions and spectrum of **N7**

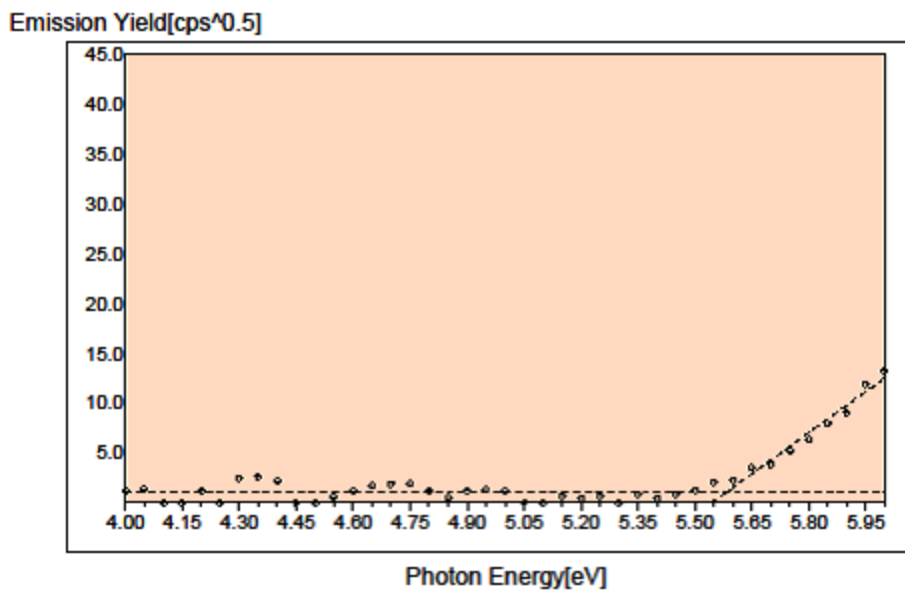


Fig. S4 PESA spectrum of thin film of **N7**. The dashed-lines show the fits to extract ionisation potential (-5.56 eV) which corresponds to the HOMO energy level.

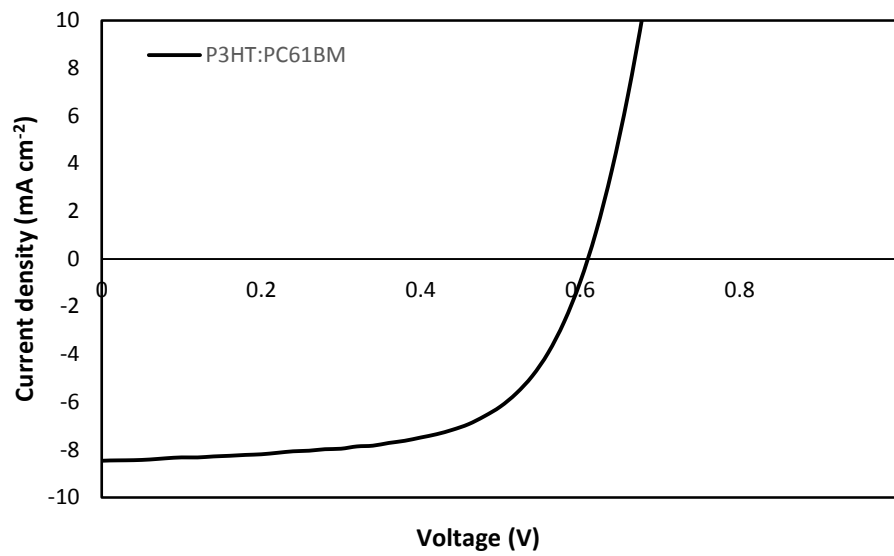


Fig. S5 P3HT:PC₆₁BM device under similar conditions reported for P3HT:N7.