

Supporting Information for

**Acceptor-Donor-Acceptor Small Molecules Based on
Indacenodithiophene for Efficient Organic Solar Cells**

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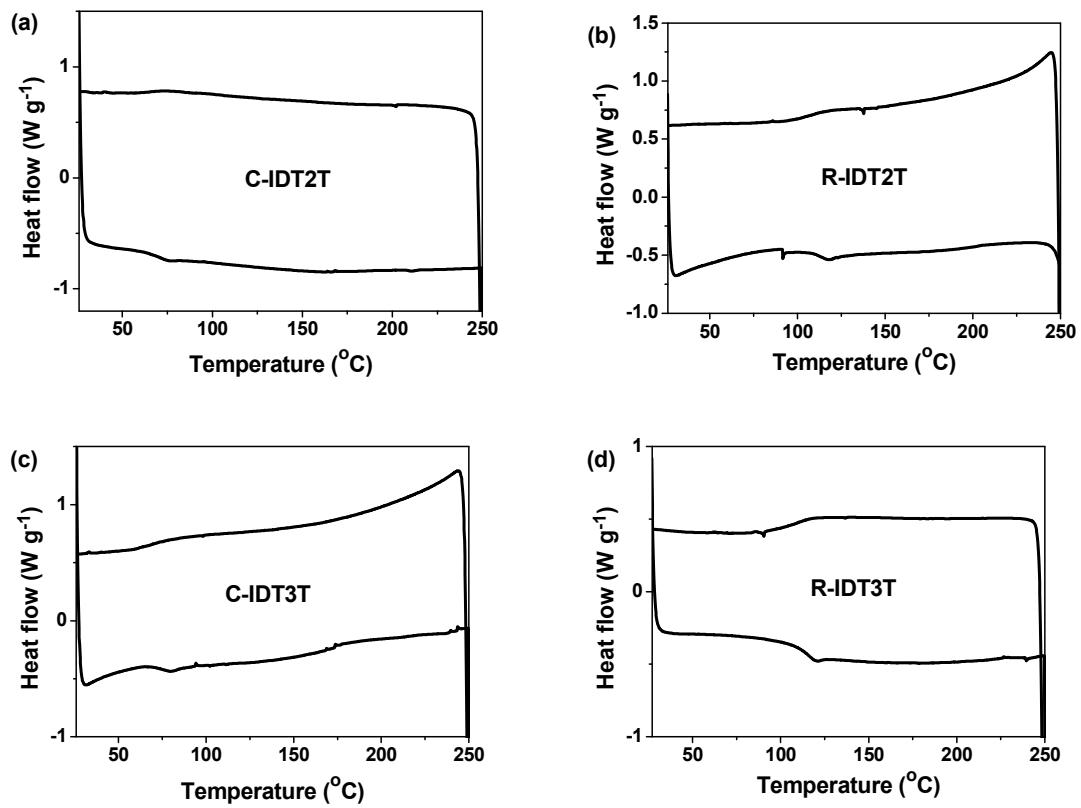


Figure S1. DSC curves of (a) C-IDT2T; (b) R-IDT2T; (c) C-IDT3T; and (d) R-IDT3T.

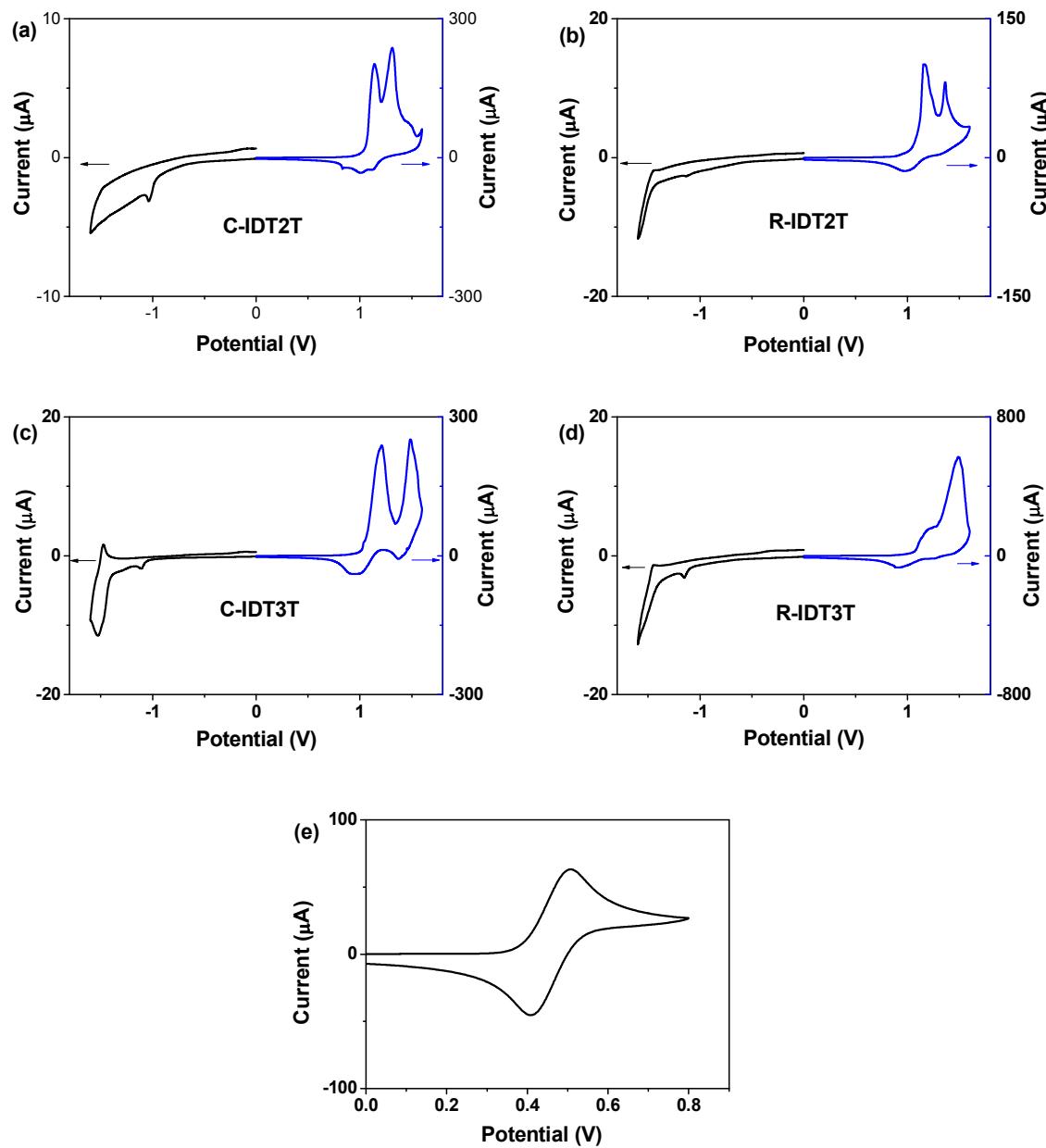


Figure S2. Cyclic voltammograms for (a) C-IDT2T; (b) R-IDT2T; (c) C-IDT3T; (d) R-IDT3T; and (e) ferrocene in CH₃CN / 0.1 M Bu₄NPF₆ at 100 mV s⁻¹.

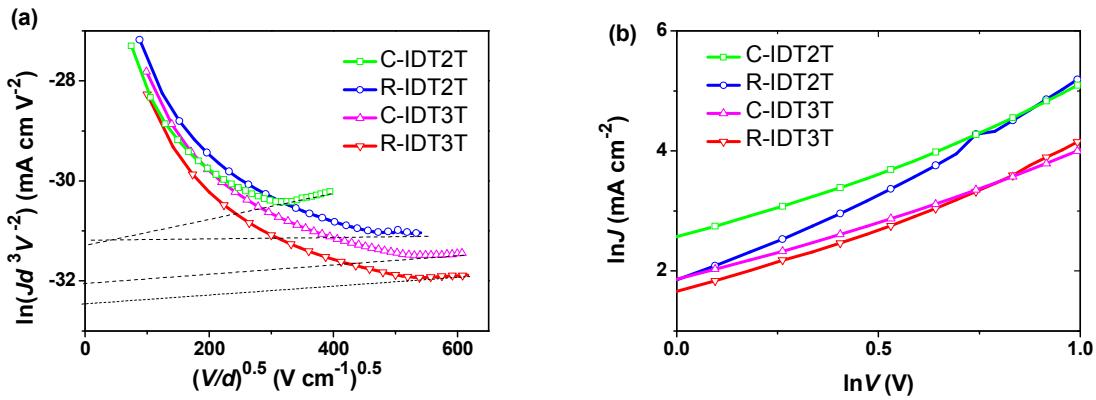


Figure S3. J - V curves for (a) hole-only and (b) electron-only devices based on C-IDT2T, R-IDT2T, C-IDT3T, and R-IDT3T:PC₇₁BM blend films after annealing at 120 °C for 10 min.

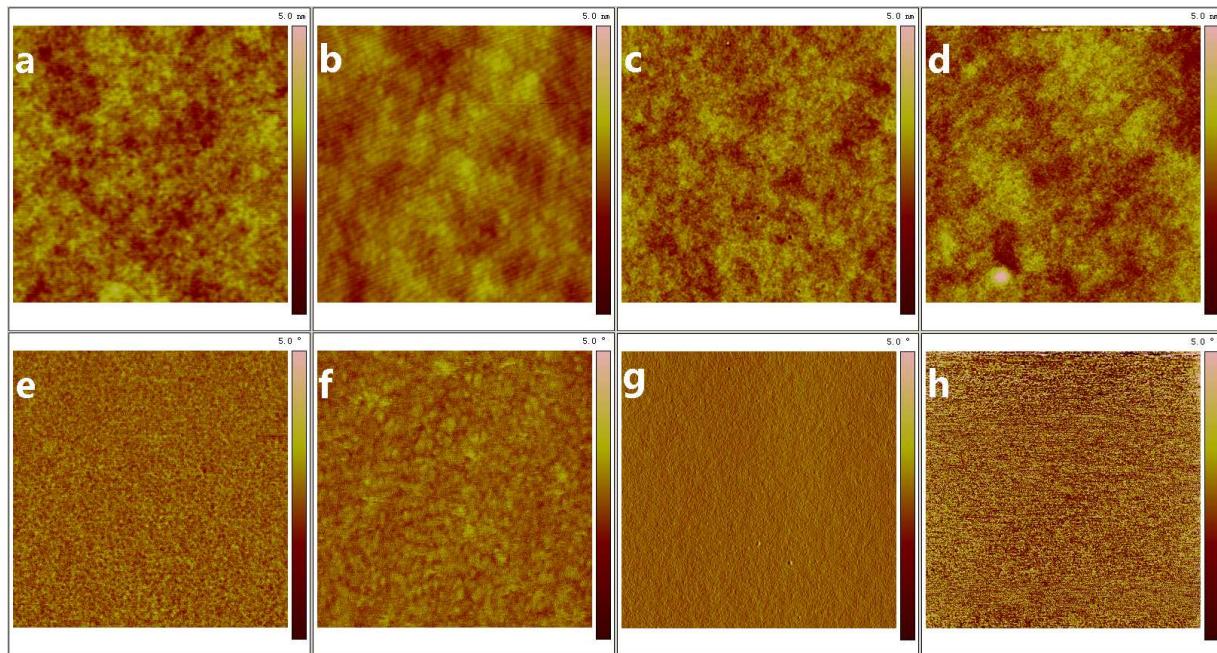


Figure S4. AFM height (top) and phase (bottom) images ($3 \mu\text{m} \times 3 \mu\text{m}$) of (a), (e): C-IDT2T:PC₇₁BM (1:2, w/w); (b), (f): R-IDT2T:PC₇₁BM (1:2, w/w); (c), (g): C-IDT3T:PC₇₁BM (1:2, w/w); (d), (h): R-IDT3T:PC₇₁BM (1:3, w/w) blend as-cast films.

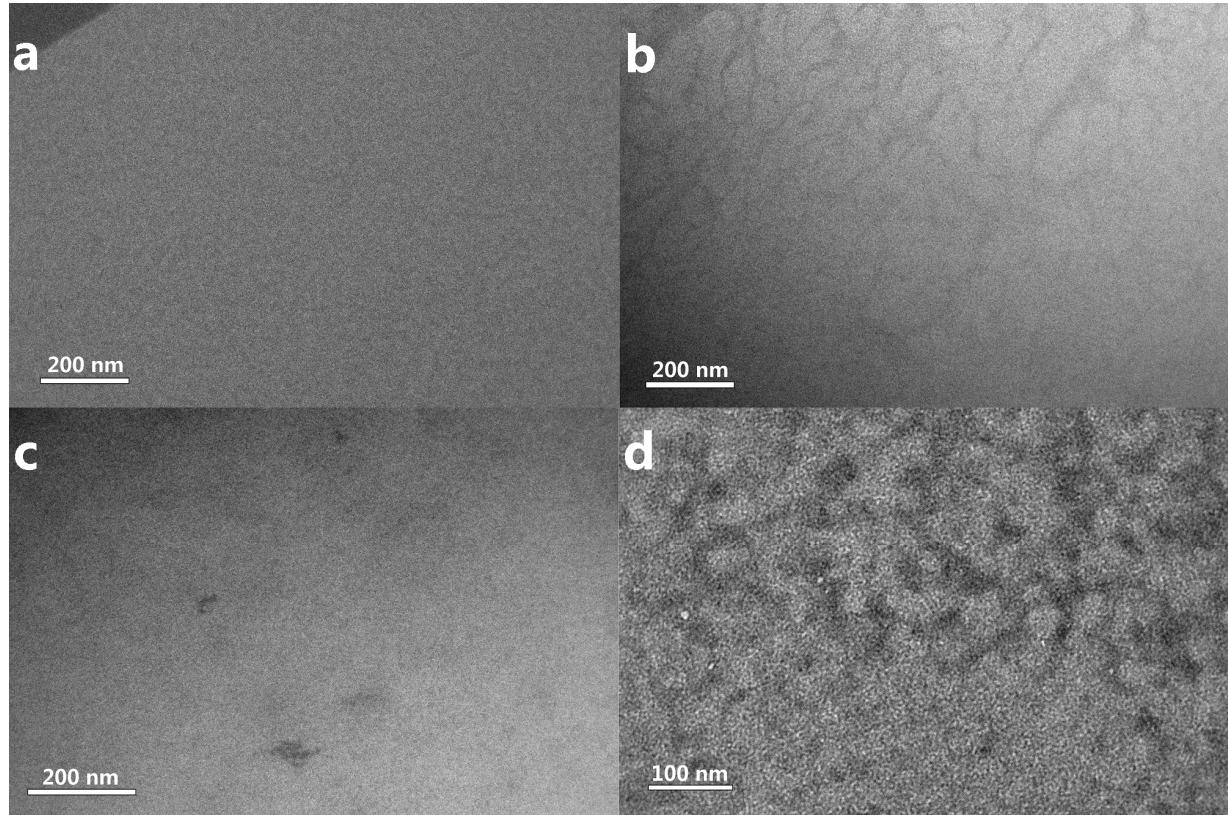


Figure S5. TEM images of a) C-IDT2T:PC₇₁BM (1:2, w/w); b) R-IDT2T:PC₇₁BM (1:2, w/w); c) C-IDT3T:PC₇₁BM (1:2, w/w); d) R-IDT3T:PC₇₁BM (1:3, w/w) blend films after thermal annealing.

BHT-4-4

C-IDT2T

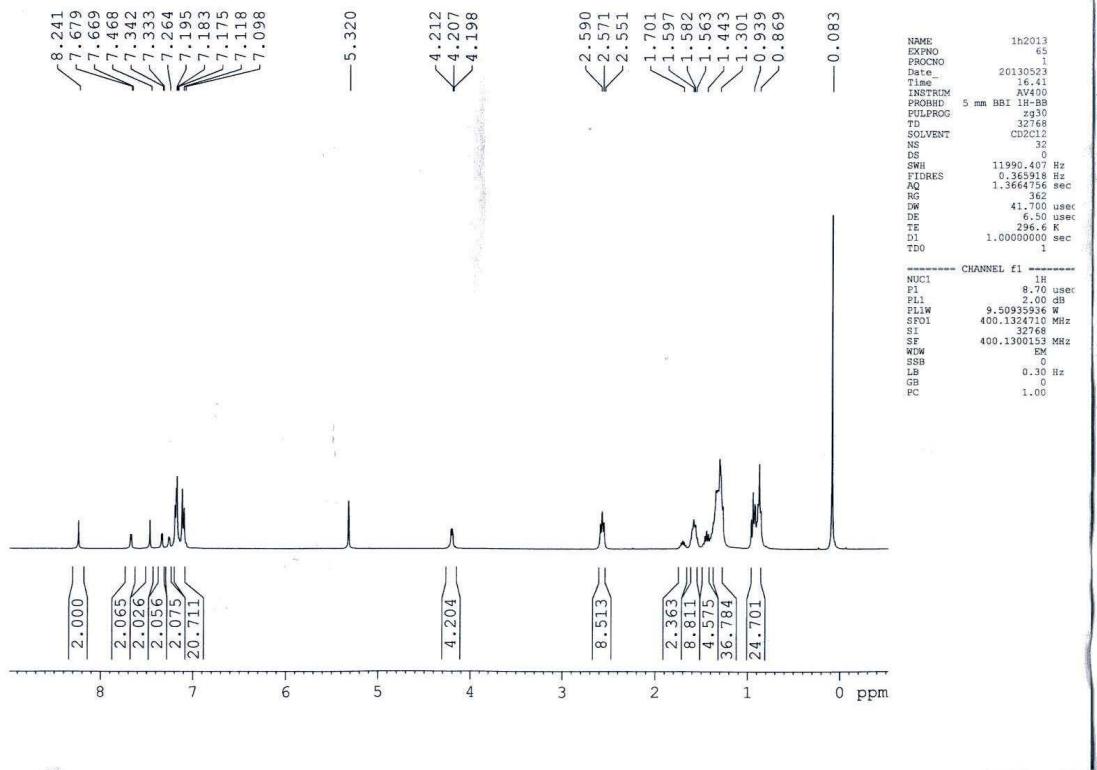
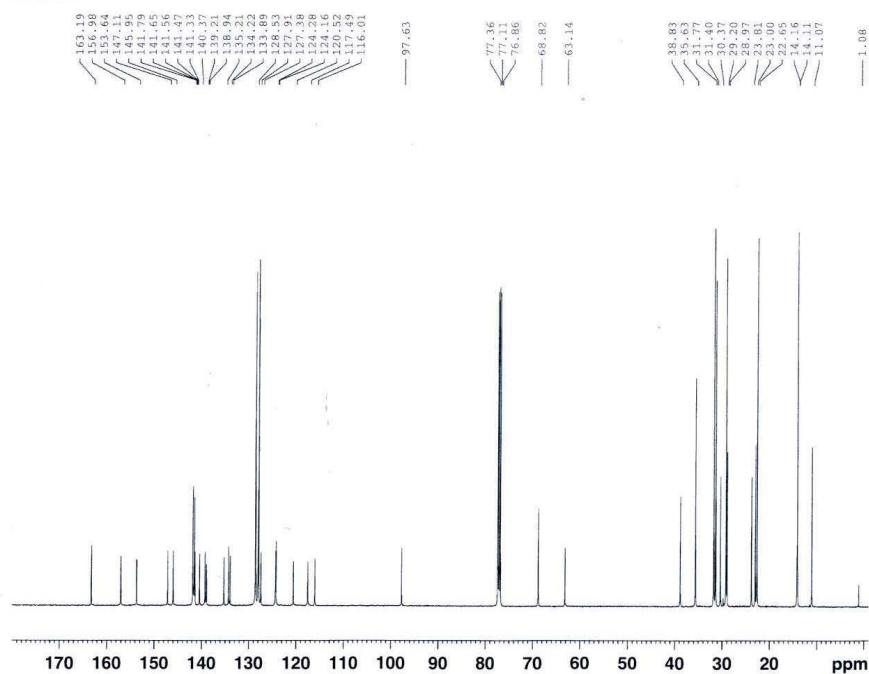


Figure S6. ^1H -NMR spectrum of C-IDT2T.

C-IDT2T

¹³c nmr
4-4#
bai huitao
20130606



Current Data Parame
NAME
EXPNO
PROCNO

F2 - Acquisition Pa
Date_ 2013
Time 1
INSTRUM s
PROBHD 5 mm PABBO
PULPROG zg
TD 3
SOLVENT C
NS
DS
SWH 29761
P1DRES 0.90
AQ 0.550
RG 21
DW 16
DE
TE 2
D1 1.5000
D11 0.0300
TDO

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SFO1 125.800
NUC1
P1 91.2009

===== CHANNEL f2
SFO2 500.252
NUC2
CPDPG[2 wal
PCPD2 7
PLW2 23.0000
PLW12 0.5028
PLW13 0.2463

F2 - Processing par
SI 3
SF 125.787
WDW 0
SSB 0
LB 0
GB 0
PC

Figure S7. ¹³C-NMR spectrum of C-IDT2T.

BHT-4-2

R-IDT2T

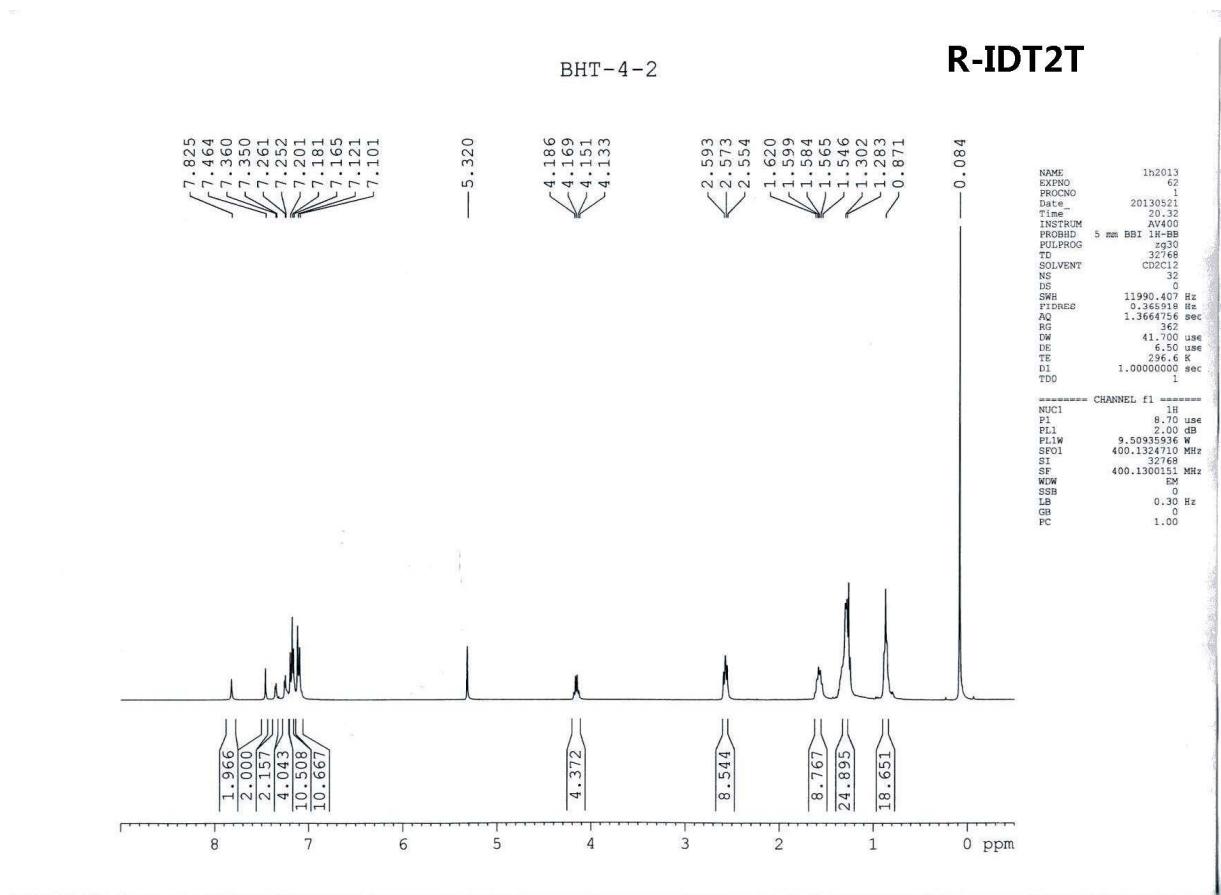


Figure S8. ¹H-NMR spectrum of R-IDT2T.

R-IDT2T

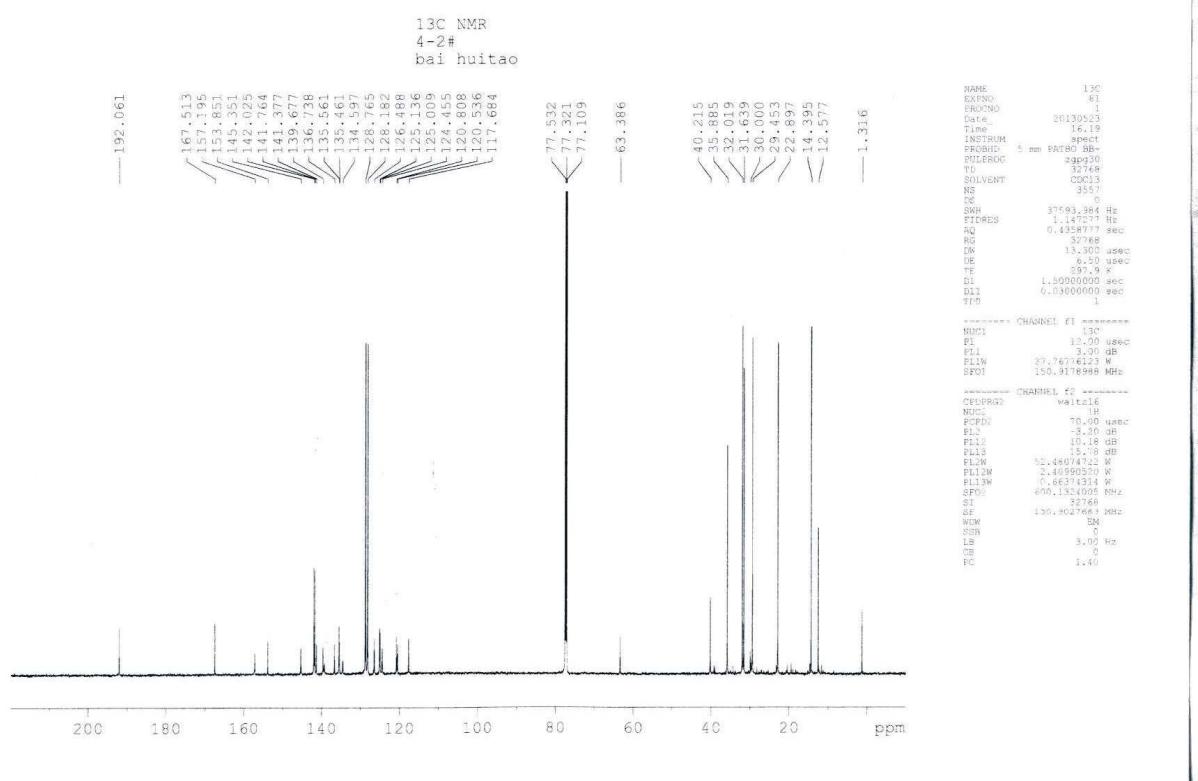


Figure S9. ¹³C-NMR spectrum of R-IDT2T.

C-IDT3T
BHT-4-3

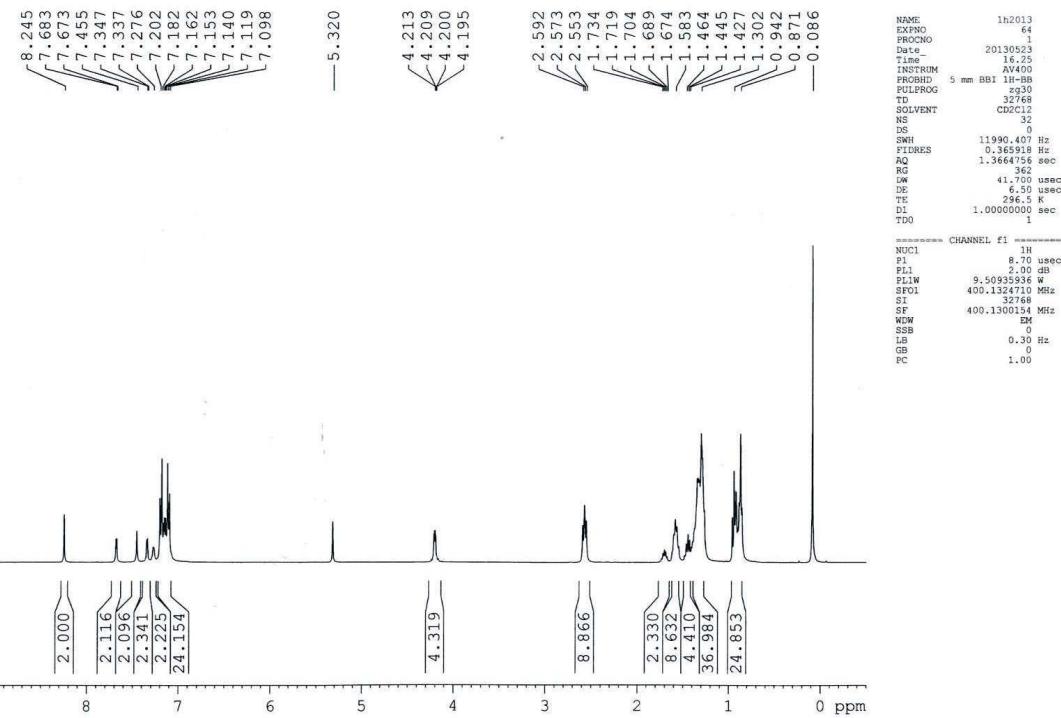


Figure S10. ^1H -NMR spectrum of C-IDT3T.

C-IDT3T

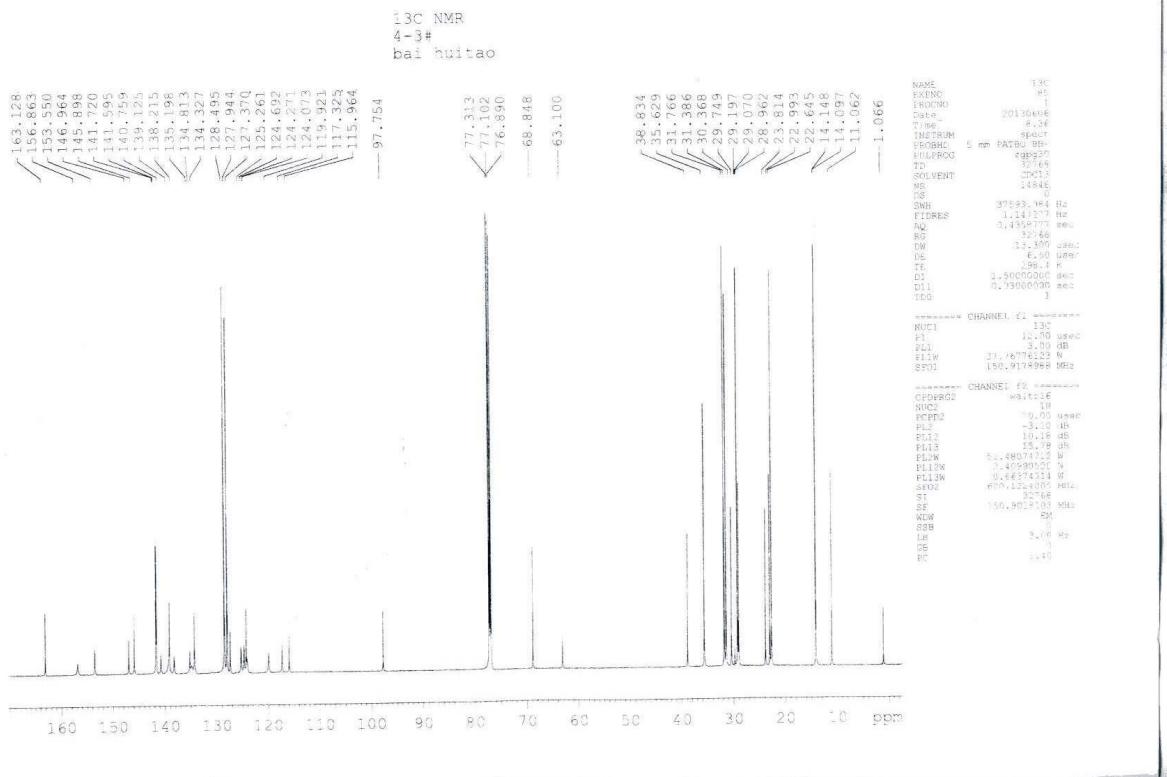


Figure S11. ¹³C-NMR spectrum of C-IDT3T.

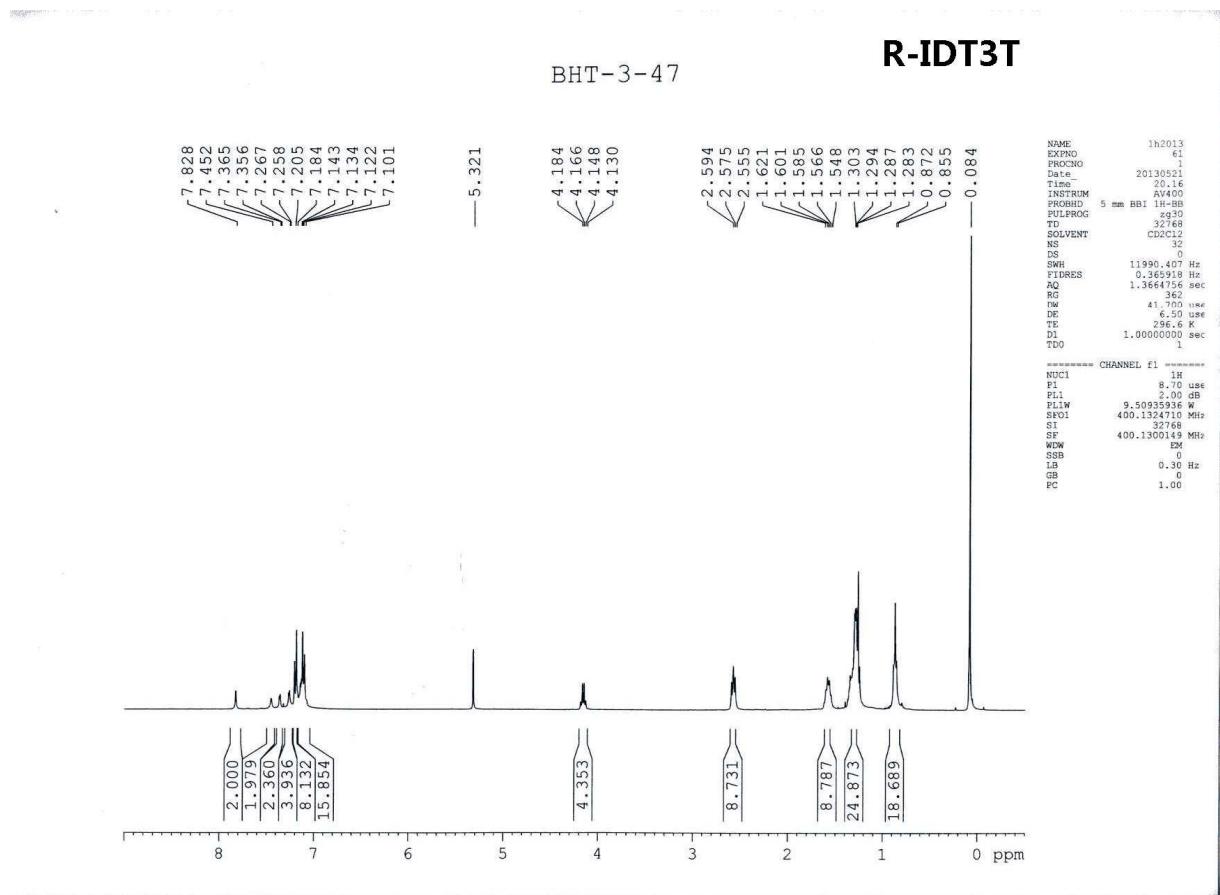


Figure S12. ^1H -NMR spectrum of R-IDT3T.

