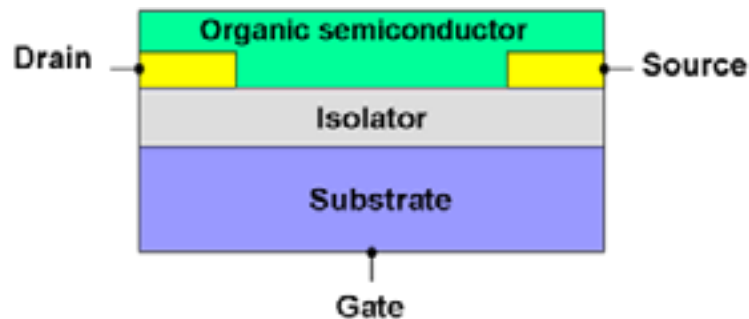


- Introduction----- 155
- Small Molecular / Oligomer Materials (71) ----- 157
- Polymer Materials (12)----- 168



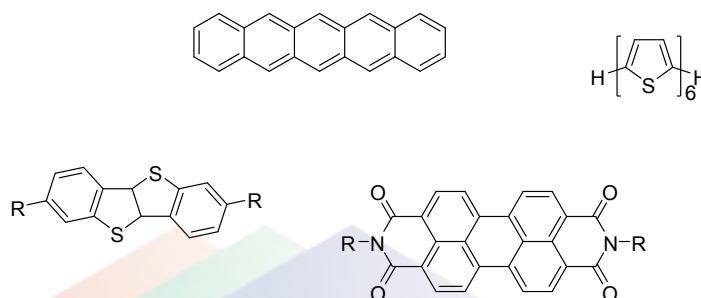
Transistors are the fundamental building block in modern circuitry and are used either as switches or signal amplifiers. The field effect is a phenomenon in which the conductivity of a semiconductor changes due to the application of an electric field normal to its surface.



Several factors have motivated engineers to conduct and continue research in organic semiconductor technology. One of these factors is cost. Organic displays are relatively cheap, but until recently, they have proven slow in terms of carrier mobility (the ease with which an atom shares electrons and holes with other atoms). Slow carrier mobility translates into sluggish response time, which limits the ability of a display to render motion.

Recently developed a process for growing organic crystals with carrier mobility rivaling that of traditional TFT materials. Further improvements are expected. A mid 2011 review concluded that there were ca. 40 organic semiconductor (OSC) materials with charge mobilities exceeding  $1 \text{ cm}^2/\text{VS}^{-1}$  the majority of these being small molecule systems. The formulation of small molecule organic semiconductor with binders improves solution processing, reducing OTFT variation to a level acceptable for applications.<sup>1</sup>

In recent years, the complexity of circuits made with organic transistors has increased, and the first large-scale complementary circuits have been fabricated. Researchers have reported active-matrix displays and electronic paper with hundreds or thousands of transistors. The speed of ring oscillators is now in excess of 100 kHz and the clock speed of clocked sequential circuits such as registers is in the kilohertz range.



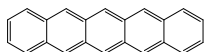
There is a need to develop technologies for relatively fast circuits (~100 kHz clock rate) for use in RFID tags and display drivers. Calculations indicate that, with such materials, ring oscillators with frequencies greater than or equal to 1 MHz and sequential circuits with clock rates of 100 kHz are possible. OTFTs have several developments in organic complementary circuits, RFID tags, chemical and biological sensors, and electronic paper.<sup>2</sup>

1. C. Wang, H. Dong, W. Hu, Y. Liu and D. Zhu, *Chem. Rev.*, 112, 2208-67 (2012)
2. *Materialstoday*, April 2006, Volume 9, Number 4, P24-30

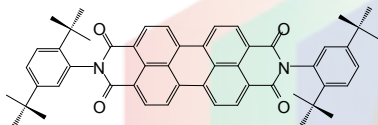
**LT-S901** | Pentacene

Pentacene

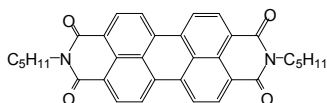
CAS No. : 135-48-8  
 Grade : Sublimed product  
 Formula :  $C_{22}H_{14}$   
 M.W. : 278.35 g/mole  
 UV : 300 nm (in  $CH_2Cl_2$ )  
 PL : 509 nm (in  $CH_2Cl_2$ )  
 TGA : > 240 °C (0.5% weight loss)

**LT-S902** | PDCDT*N,N'*-Bis(2,5-di-*tert*-butylphenyl)-3,4,9,10-perylene dicarboximide

CAS No. : 83054-80-2  
 Grade : Sublimed product  
 Formula :  $C_{52}H_{50}N_2O_4$   
 M.W. : 766.96 g/mole  
 UV : 524 nm (in  $CH_2Cl_2$ )  
 PL : 544, 574 nm (in  $CH_2Cl_2$ )  
 TGA : > 350 °C (0.5% weight loss)

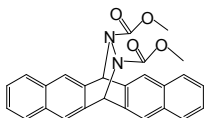
**LT-S904** | PenPTC*N,N'*-Dipentyl-3,4,9,10-perylene dicarboximide

CAS No. : 76372-75-3  
 Grade : Sublimed product  
 Formula :  $C_{34}H_{30}N_2O_4$   
 M.W. : 530.61 g/mole  
 UV : 523 nm (in  $CH_2Cl_2$ )  
 PL : 535, 573 nm (in  $CH_2Cl_2$ )  
 TGA : > 350 °C (0.5% weight loss)

**LT-S915** | Pentacene precursor

Pentacene precursor

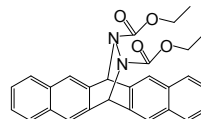
Grade : > 99% (HPLC)  
 Formula :  $C_{26}H_{20}N_2O_4$   
 M.W. : 424.45 g/mole  
 UV : 270 nm (in  $CH_2Cl_2$ )  
 PL : 320 nm (in  $CH_2Cl_2$ )  
 TGA : > 230 °C (0.5% weight loss)  
 Reference : Bull. Koren Chem. Soc. 2003, Vol. 24, No.12, 1862

**LT-S916** | Pentacene precursor

Pentacene precursor

CAS No. : 732308-35-9  
 Grade : > 99% (HPLC)  
 Formula :  $C_{28}H_{24}N_2O_4$   
 M.W. : 452.50 g/mole  
 UV : 270 nm (in  $CH_2Cl_2$ )  
 PL : 320 nm (in  $CH_2Cl_2$ )  
 TGA : > 230 °C (0.5% weight loss)

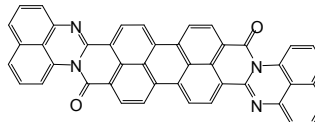
Reference : Bull. Koren Chem. Soc. 2003, Vol. 24, No.12, 1862

**LT-S918** | PTCBIBisbenzimidazo[2,1-*a*:1',2'-*b'*]anthra[2,1,9-*def*:6,5,10-*d'e'f'*]diisoquinoline-10,21-dione, with *cis* isomer

CAS No. : 55034-79-2  
 Grade : Sublimed product  
 Formula :  $C_{36}H_{16}N_4O_2$   
 M.W. : 536.54 g/mole  
 PL : 414 nm (in  $CH_2Cl_2$ )  
 TGA : > 420 °C (0.5% weight loss)

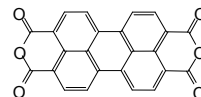
**LT-S919** | ADIDIAnthra[2',1'-*a*:9':4,5,6,6',5",10":4',5',6']diisoquinolo[2,1-*a*:2',1'-*a'*]diperimidine-12,25-dione, with *cis* isomer

CAS No. : 6859-32-1  
 Grade : Sublimed product  
 Formula :  $C_{44}H_{26}N_4O_2$   
 M.W. : 636.66 g/mole  
 PL : 413 nm (in  $CH_2Cl_2$ )  
 TGA : > 430 °C (0.5% weight loss)

**LT-S920** | PTCDA

3,4,9,10-Perylenetetracarboxylic dianhydride

CAS No. : 128-69-8  
 Grade : Sublimed product  
 Formula :  $C_{24}H_8O_6$   
 M.W. : 392.32 g/mole  
 PL : 413 nm (in  $CH_2Cl_2$ )  
 TGA : > 450 °C (0.5% weight loss)  
 Reference : Organic Electronics 8 (2007), 735-742



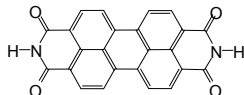
# Organic Thin-Film Transistor (OTFT)

## Small Molecular / Oligomer Materials

### LT-S921 | PTCDI

3,4,9,10-Perylenetetracarboxylic acid diimide

CAS No. : 81-33-4  
 Grade : Sublimed product  
 Formula :  $C_{24}H_{10}N_2O_4$   
 M.W. : 390.35 g/mole  
 PL : 413 nm (in  $CH_2Cl_2$ )  
 TGA : > 450 °C (0.5% weight loss)



### LT-S924 | NTDA

1,4,5,8-Naphthalenetetracarboxylic dianhydride

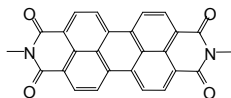
CAS No. : 81-30-1  
 Grade : Sublimed, > 99%  
 Formula :  $C_{14}H_4O_6$   
 M.W. : 268.18 g/mole  
 UV : 366 nm (in  $CH_2Cl_2$ )  
 PL : 394 nm (in  $CH_2Cl_2$ )  
 TGA : > 270 °C (0.5% weight loss)



### LT-S925 | MePTC

*N,N'*-Dimethyl-3,4,9,10-perylene dicarboximide

CAS No. : 5521-31-3  
 Grade : Sublimed product  
 Formula :  $C_{26}H_{14}N_2O_4$   
 M.W. : 419.40 g/mole  
 UV : 522 nm (in  $CH_2Cl_2$ )  
 PL : 571 nm (in  $CH_2Cl_2$ )  
 TGA : > 470 °C (0.5% weight loss)

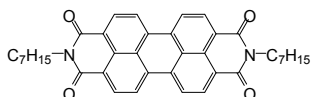


### LT-S926 | HepPTC

*N,N'*-Diheptyl-3,4,9,10-perylene dicarboximide

CAS No. : 95689-91-1  
 Grade : Sublimed product  
 Formula :  $C_{38}H_{28}N_2O_4$   
 M.W. : 586.72 g/mole  
 UV : 524 nm (in  $CH_2Cl_2$ )  
 PL : 571 nm (in  $CH_2Cl_2$ )  
 TGA : > 390 °C (0.5% weight loss)

Reference : *J. Am. Chem. Soc.* 2000, 122, 11057-11066

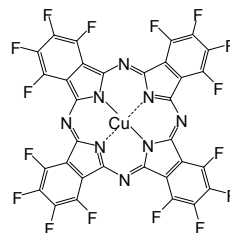


### LT-S928 | $F_{16}$ CuPC

Copper(III) 1,2,3,4,8,9,10,11,15,16,17,18,22,23,24,25-hexadecafluoro-29*H*,31*H*-phthalocyanine

CAS No. : 14916-87-1  
 Grade : Sublimed product  
 Formula :  $C_{32}F_{16}CuN_8$   
 M.W. : 863.92 g/mole  
 UV : 690 nm (in  $CH_2Cl_2$ )  
 TGA : > 400 °C (0.5% weight loss)

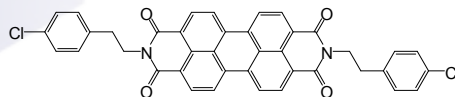
Reference : *Orange Electronics*, vol.11 (No.8), pp1399-1402



### LT-S935 | 4CIPEPTC

*N,N'*-Bis[2-(4-chlorophenyl)-ethyl]-3,4,9,10-perylene dicarboximide

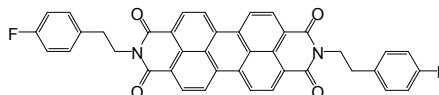
CAS No. : 215726-51-5  
 Grade : Sublimed, > 99%  
 Formula :  $C_{40}H_{24}Cl_2N_2O_4$   
 M.W. : 667.53 g/mole  
 UV : 524 nm (in  $CH_2Cl_2$ )  
 PL : 544 nm (in  $CH_2Cl_2$ )  
 TGA : > 370 °C (0.5% weight loss)



### LT-S936 | 4FPEPTC

*N,N'*-Bis[2-(4-fluorophenyl)-ethyl]-3,4,9,10-perylene dicarboximide

CAS No. : 215726-57-1  
 Grade : Sublimed, > 99%  
 Formula :  $C_{40}H_{24}F_2N_2O_4$   
 M.W. : 634.63 g/mole  
 UV : 524 nm (in  $CH_2Cl_2$ )  
 PL : 538 nm (in  $CH_2Cl_2$ )  
 TGA : > 370 °C (0.5% weight loss)



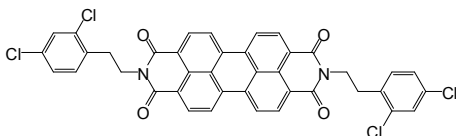
# Organic Thin-Film Transistor (OTFT)

## Small Molecular / Oligomer Materials

### LT-S937 | 2,4CIPEPTC

*N,N'*-Bis[2-(2,4-dichlorophenyl)-ethyl]-3,4,9,10-perylene dicarboximide

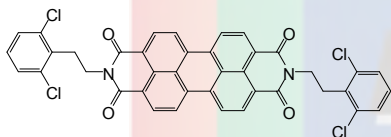
Grade : Sublimed, > 99%  
 Formula :  $C_{40}H_{22}Cl_4N_2O_4$   
 M.W. : 736.42 g/mole  
 UV : 524 nm (in  $CH_2Cl_2$ )  
 PL : 536 nm (in  $CH_2Cl_2$ )  
 TGA : > 390 °C (0.5% weight loss)



### LT-S938 | 2,6CIPEPTC

*N,N'*-Bis[2-(2,6-dichlorophenyl)-ethyl]-3,4,9,10-perylene dicarboximide

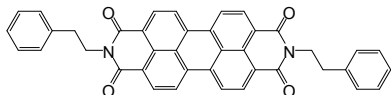
Grade : Sublimed, > 99%  
 Formula :  $C_{40}H_{22}Cl_4N_2O_4$   
 M.W. : 736.42 g/mole  
 UV : 524 nm (in  $CH_2Cl_2$ )  
 PL : 536 nm (in  $CH_2Cl_2$ )  
 TGA : > 440 °C (0.5% weight loss)



### LT-S939 | PEPTC

*N,N'*-Bis(2-phenyl-ethyl)-3,4,9,10-perylene dicarboximide

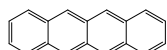
CAS No. : 67075-37-0  
 Grade : Sublimed, > 99%  
 Formula :  $C_{40}H_{26}N_2O_4$   
 M.W. : 598.64 g/mole  
 UV : 524 nm (in  $CH_2Cl_2$ )  
 PL : 537 nm (in  $CH_2Cl_2$ )  
 TGA : > 390 °C (0.5% weight loss)



### LT-S940 | Tetracene

2,3-Benzanthracene

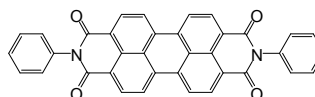
CAS No. : 92-24-0  
 Grade : Sublimed, > 99% (HPLC)  
 Formula :  $C_{18}H_{12}$   
 M.W. : 228.29 g/mole  
 UV : 277 nm (in  $CH_2Cl_2$ )  
 PL : 514 nm (in  $CH_2Cl_2$ )  
 TGA : > 180 °C (0.5% weight loss)  
 Reference : *J. Phys. Chem. B* 2005, 109 (50) pp23918-23924



### LT-S941 | DP-PTCDI

*N,N'*-Diphenyl-3,4,9,10-perylene dicarboximide

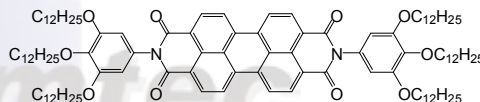
CAS No. : 128-65-4  
 Grade : Sublimed, > 99%  
 Formula :  $C_{36}H_{18}N_2O_4$   
 M.W. : 542.54 g/mole  
 UV : 481, 515 nm (in THF)  
 PL : 531 nm (in THF)  
 TGA : > 380 °C (0.5% weight loss)



### LT-S956 | PDI1

*N,N'*-Bis(3,4,5-tridodecyloxyphenyl)-3,4,9,10-perylene dicarboximide

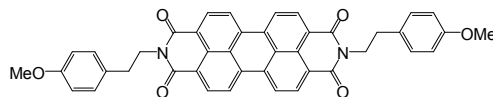
CAS No. : 351377-40-7  
 Grade : > 99% (NMR)  
 Formula :  $C_{108}H_{162}N_2O_{10}$   
 M.W. : 1648.45 g/mole  
 UV : 489, 526 nm (in  $CH_2Cl_2$ )  
 TGA : > 290 °C (0.5% weight loss)  
 Reference : *Adv. Mater.* 2005, 17, 2580-2583



### LT-S960 | 4MeOPEPTC

*N,N'*-Bis[2-(4-methoxyphenyl)-ethyl]-3,4,9,10-perylene dicarboximide

CAS No. : 119215-14-4  
 Grade : Sublimed, > 99%  
 Formula :  $C_{42}H_{30}N_2O_6$   
 M.W. : 658.70 g/mole  
 UV : 458, 524 nm (in  $CH_2Cl_2$ )  
 PL : 534 nm (in  $CH_2Cl_2$ )  
 TGA : > 370 °C (0.5% weight loss)



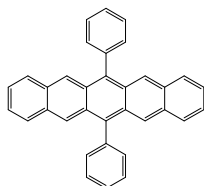
# Organic Thin-Film Transistor (OTFT)

## Small Molecular / Oligomer Materials

### LT-S968 | 6,13-DP-Penta

6,13-Diphenylpentacene

CAS No. : 76727-11-2  
 Grade : Sublimed, > 99%  
 Formula : C<sub>34</sub>H<sub>22</sub>  
 M.W. : 430.54 g/mole  
 UV : 307 nm (in CH<sub>2</sub>Cl<sub>2</sub>)  
 PL : 447 nm (in CH<sub>2</sub>Cl<sub>2</sub>)  
 TGA : > 280 °C (0.5% weight loss)  
 Reference : *J. Inorg. Organomet. Polym.* (2010) 20: 161-167



### LT-S969 | α-6T

α-Sexithiophene

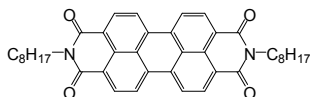
CAS No. : 88493-55-4  
 Grade : Sublimed, > 99%  
 Formula : C<sub>24</sub>H<sub>14</sub>S<sub>6</sub>  
 M.W. : 494.76 g/mole  
 UV : 437 nm (in CH<sub>2</sub>Cl<sub>2</sub>)  
 PL : 511 nm (in CH<sub>2</sub>Cl<sub>2</sub>)  
 TGA : > 330 °C (0.5% weight loss)  
 Reference : *Solid State Commun.* 72, 381 (1989)



### LT-S970 | PTCDI-C<sub>8</sub>

N,N'-Dioctyl-3,4,9,10-perylene dicarboximide

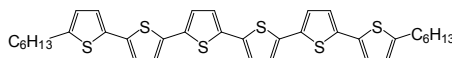
CAS No. : 78151-58-3  
 Grade : Sublimed, > 99%  
 Formula : C<sub>40</sub>H<sub>42</sub>N<sub>2</sub>O<sub>4</sub>  
 M.W. : 614.77 g/mole  
 UV : 456, 524 nm (in CH<sub>2</sub>Cl<sub>2</sub>)  
 PL : 573 nm (in CH<sub>2</sub>Cl<sub>2</sub>)  
 TGA : > 390 °C (0.5% weight loss)



### LT-S972 | α,ω-DH6T

5,5''''-Dihexyl-2,2':5',2''':5'',2''''':5''''',2''''''':5''''''',2''''''''-sexithiophene

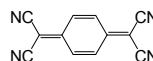
CAS No. : 151271-43-1  
 Grade : Sublimed, > 99%  
 Formula : C<sub>36</sub>H<sub>38</sub>S<sub>6</sub>  
 M.W. : 663.08 g/mole  
 UV : 439 nm (in Toluene)  
 TGA : > 230 °C (0.5% weight loss)  
 Reference : *AIP Conf. Proc.* 1399, 859 (2011)



### LT-S973 | TCNQ

7,7,8,8-Tetracyanoquinodimethane

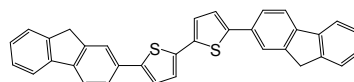
CAS No. : 1518-16-7  
 Grade : Sublimed product  
 Formula : C<sub>12</sub>H<sub>4</sub>N<sub>4</sub>  
 M.W. : 204.19 g/mole  
 UV : 259, 404 nm (in CH<sub>2</sub>Cl<sub>2</sub>)  
 TGA : > 210 °C (0.5% weight loss)



### LT-S975 | FTTF

5,5'-Di(9H-fluoren-2-yl)-2,2'-bithiophene

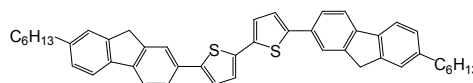
CAS No. : 369599-41-7  
 Grade : Sublimed, > 99%  
 Formula : C<sub>34</sub>H<sub>22</sub>S<sub>2</sub>  
 M.W. : 494.67 g/mole  
 UV : 378 nm (in Toluene)  
 TGA : > 200 °C (0.5% weight loss)  
 Reference : *J. Am. Chem. Soc.*, 2001, 123, 9214



### LT-S976 | DH-FTTF

5,5'-Bis(7-hexyl-9H-fluoren-2-yl)-2,2'-bithiophene

CAS No. : 369599-42-8  
 Grade : Sublimed, > 99%  
 Formula : C<sub>46</sub>H<sub>46</sub>S<sub>2</sub>  
 M.W. : 662.99 g/mole  
 UV : 378 nm (in Toluene)  
 TGA : > 200 °C (0.5% weight loss)  
 Reference : *J. Am. Chem. Soc.*, 2001, 123, 9214

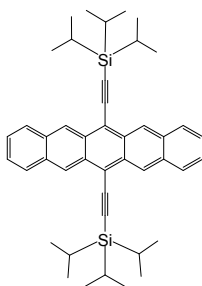


### LT-S977 | TIPS

6,13-Bis(triisopropylsilylethynyl)pentacene

CAS No. : 373596-08-8  
 Grade : > 99% (HPLC)  
 Formula :  $C_{44}H_{54}Si_2$   
 M.W. : 639.07 g/mole  
 UV : 307 nm (in  $CH_2Cl_2$ )  
 TGA : > 230 °C (0.5% weight loss)

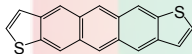
Reference : *J. Am. Chem. Soc.*, 2001,123, 9482



### LT-S9026 | ADT

Anthra[2,3-b:6,7-b']dithiophene

CAS No. : 144413-58-1  
 Grade : Sublimed, > 99%  
 Formula :  $C_{18}H_{10}S_2$   
 M.W. : 290.40 g/mole  
 UV : 320 nm (in  $CH_2Cl_2$ )  
 TGA : > 250 °C (0.5% weight loss)

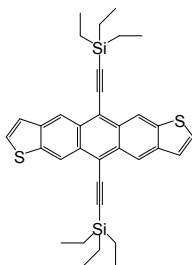


### LT-S9034 | TES-ADT

5,11-Bis(triethylsilylethynyl)anthradithiophene

CAS No. : 851817-11-3  
 Grade : > 99% (NMR)  
 Formula :  $C_{34}H_{38}S_2Si_2$   
 M.W. : 566.97 g/mole  
 UV : 306 nm (in  $CH_2Cl_2$ )  
 TGA : > 230 °C (0.5% weight loss)

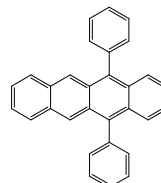
Reference : *Nature Commun.* 3, 1259 (2012)



### LT-S9035 | DPT

5,12-Diphenyltetracene

CAS No. : 27130-32-1  
 Grade : Sublimed, > 99% (HPLC)  
 Formula :  $C_{30}H_{20}$   
 M.W. : 380.48 g/mole  
 UV : 262, 492 nm (in  $CH_2Cl_2$ )  
 TGA : > 230 °C (0.5% weight loss)



### LT-S9036 | DIP

Diindeno[1,2,3-cd:1',2',3'-lm]perylene

CAS No. : 188-94-3  
 Grade : Sublimed product  
 Formula :  $C_{32}H_{16}$   
 M.W. : 400.47 g/mole  
 UV : 494, 532 nm (in  $CH_2Cl_2$ )  
 TGA : > 230 °C (0.5% weight loss)

Reference : *Adv. Funct. Mater.* 2010, 20, 4295-4303

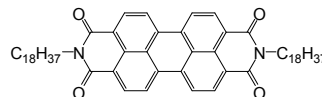


### LT-S9041 | PTCDI-C<sub>18</sub>H<sub>37</sub>

*N,N'*-Dioctadecyl-3,4,9,10-perylene dicarboximide

CAS No. : 25834-02-0  
 Grade : Sublimed, > 99%  
 Formula :  $C_{60}H_{82}N_2O_4$   
 M.W. : 895.30 g/mole  
 UV : 485, 520 nm (in Toluene)  
 TGA : > 340 °C (0.5% weight loss)

Reference : *J. Appl. Phys. Lett.* 93, 033305 (2008)





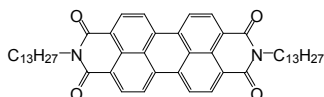
# Organic Thin-Film Transistor (OTFT)

## Small Molecular / Oligomer Materials

### LT-S9042 | PTCDI-C<sub>13</sub>H<sub>27</sub>

*N,N'*-Ditridecyl-3,4,9,10-perylene dicarboximide

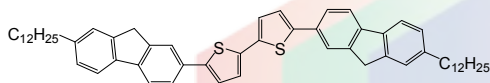
CAS No. : 95689-92-2  
 Grade : Sublimed, > 99%  
 Formula : C<sub>50</sub>H<sub>62</sub>N<sub>2</sub>O<sub>4</sub>  
 M.W. : 755.04 g/mole  
 UV : 484, 520 nm (in Toluene)  
 TGA : > 390 °C (0.5% weight loss)  
 Reference : *Appl. Phys. Lett.* 93, 033305 (2008)



### LT-S9043 | Ddodec-FTTF

*5,5'*-Bis(7-dodecyl-9*H*-fluoren-2-yl)-2,2'-bithiophene

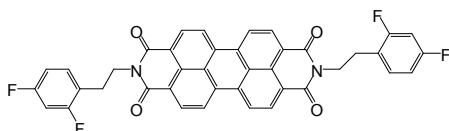
CAS No. : 846542-27-6  
 Grade : Sublimed, > 99%  
 Formula : C<sub>58</sub>H<sub>70</sub>S<sub>2</sub>  
 M.W. : 831.31 g/mole  
 UV : 254, 409 nm (in CH<sub>2</sub>Cl<sub>2</sub>)  
 TGA : > 350 °C (0.5% weight loss)



### LT-S9049 | 2,4-FPEPTC

*N,N'*-Bis[2-(2,4-difluorophenyl)-ethyl]-3,4,9,10-perylene dicarboximide

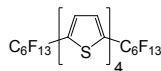
CAS No. : 1644439-37-1  
 Grade : Sublimed, > 99%  
 Formula : C<sub>40</sub>H<sub>22</sub>F<sub>4</sub>N<sub>2</sub>O<sub>4</sub>  
 M.W. : 670.61 g/mole  
 UV : 245 nm (in CH<sub>2</sub>Cl<sub>2</sub>)  
 TGA : > 340 °C (0.5% weight loss)



### LT-S9057 | DFH-4T

*5,5'*-Bis(5-perfluorohexyl)thiophen-2-yl)-2,2'-bithiophene

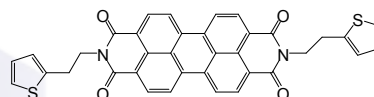
CAS No. : 446043-85-2  
 Grade : Sublimed, > 99%  
 Formula : C<sub>28</sub>H<sub>8</sub>F<sub>26</sub>S<sub>4</sub>  
 M.W. : 966.58 g/mole  
 UV : 259, 404 nm (in CH<sub>2</sub>Cl<sub>2</sub>)  
 TGA : > 300 °C (0.5% weight loss)



### LT-S9059 | TEPTC

*N,N'*-Di(thiophen-2-yl)ethyl-3,4,9,10-perylene dicarboximide

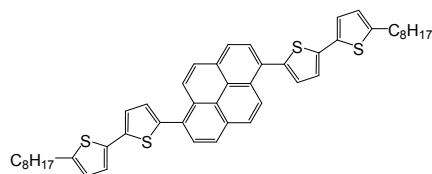
CAS No. : 1559069-50-9  
 Grade : Sublimed, > 99%  
 Formula : C<sub>36</sub>H<sub>22</sub>N<sub>2</sub>O<sub>4</sub>S<sub>2</sub>  
 M.W. : 610.70 g/mole  
 UV : 260 nm (in CH<sub>2</sub>Cl<sub>2</sub>)  
 TGA : > 400 °C (0.5% weight loss)



### LT-S9077 | BOBTP

*1,6*-Bis(5'-octyl-2,2'-bithiophen-5-yl)pyrene

CAS No. : 1430207-54-7  
 Grade : Sublimed, > 99% (NMR)  
 Formula : C<sub>48</sub>H<sub>50</sub>S<sub>4</sub>  
 M.W. : 755.17 g/mole  
 UV : 322, 410 nm (in CHCl<sub>3</sub>)  
 Reference : *ACS Applied Materials & Interfaces* (2013), 5(9), 3855-3860

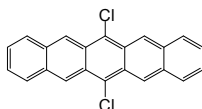


**LT-S9080** | DCP

6,13-Dichloropentacene

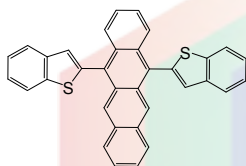
CAS No. : 59156-92-2  
 Grade : Sublimed, > 99%  
 Formula :  $C_{22}H_{12}Cl_2$   
 M.W. : 347.24 g/mole  
 TGA : > 350 °C (0.5% weight loss)

Reference : 1. *J. Mater. Chem.*, 2012, 22, 10496  
 2. *Adv. Mater.* 2013, 25, 2229-2233

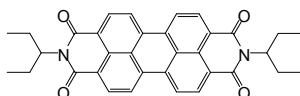
**LT-S9088** | 5,12-DBTT

5,12-Di(benzo[b]thiophen-2-yl)tetracene

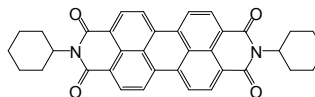
CAS No. : 1225220-87-0  
 Grade : Sublimed, > 99% (HPLC)  
 Formula :  $C_{34}H_{20}S_2$   
 M.W. : 492.65 g/mole  
 TGA : > 340 °C (0.5% weight loss)

**LT-S9092** | 3PenPTC*N,N'*-Bis(ethylpropyl)perylene-3,4,9,10-tetracarboxylic acid

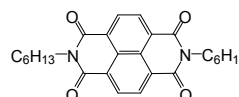
CAS No. : 110590-81-3  
 Grade : Sublimed, > 99%  
 Formula :  $C_{34}H_{30}N_2O_4$   
 M.W. : 530.61 g/mole  
 PL : > 270 °C (0.5% weight loss)

**LT-S9093** | DCyPTC*N,N'*-Dicyclohexylperylene-3,4,9,10-tetracarboxylic acid bisimide

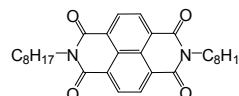
CAS No. : 41572-86-5  
 Grade : Sublimed, > 99%  
 Formula :  $C_{36}H_{30}N_2O_4$   
 M.W. : 554.63 g/mole  
 TGA : > 350 °C (0.5% weight loss)

**LT-S9094** | NTDA-C<sub>6</sub>H<sub>13</sub>2,7-Dihexylbenzo[*mn*][3,8]phenanthroline-1,3,6,8(2*H*,7*H*)-tetraone

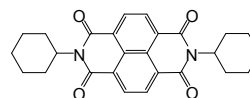
CAS No. : 23536-15-4  
 Grade : Sublimed, > 99%  
 Formula :  $C_{26}H_{30}N_2O_4$   
 M.W. : 434.53 g/mole  
 TGA : > 280 °C (0.5% weight loss)

**LT-S9095** | NTDA-C<sub>8</sub>H<sub>17</sub>2,7-Dioctylbenzo[*mn*][3,8]phenanthroline-1,3,6,8(2*H*,7*H*)-tetraone

CAS No. : 34155-21-0  
 Grade : Sublimed, > 99%  
 Formula :  $C_{30}H_{38}N_2O_4$   
 M.W. : 490.63 g/mole  
 TGA : > 280 °C (0.5% weight loss)

**LT-S9096** | DCyNTDA2,7-Dicyclohexylbenzo[*mn*][3,8]phenanthroline-1,3,6,8(2*H*,7*H*)-tetraone

CAS No. : 173409-43-3  
 Grade : Sublimed, > 99%  
 Formula :  $C_{26}H_{26}N_2O_4$   
 M.W. : 430.50 g/mole  
 TGA : > 280 °C (0.5% weight loss)



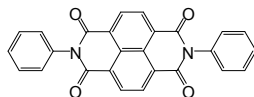
# Organic Thin-Film Transistor (OTFT)

## Small Molecular / Oligomer Materials

### LT-S9097 | DPNTDA

2,7-Diphenylbenzo[*lmn*][3,8]phenanthroline-1,3,6,8(2*H*,7*H*)-tetraone

CAS No. : 24259-89-0  
 Grade : Sublimed, > 99%  
 Formula : C<sub>26</sub>H<sub>14</sub>N<sub>2</sub>O<sub>4</sub>  
 M.W. : 418.40 g/mole  
 TGA : > 280 °C (0.5% weight loss)



### LT-S9098 | NTDA-C<sub>5</sub>H<sub>11</sub>

2,7-Dipentylbenzo[*lmn*][3,8]phenanthroline-1,3,6,8(2*H*,7*H*)-tetraone

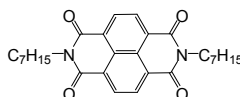
CAS No. : 173409-41-1  
 Grade : Sublimed, > 99%  
 Formula : C<sub>24</sub>H<sub>26</sub>N<sub>2</sub>O<sub>4</sub>  
 M.W. : 406.47 g/mole  
 TGA : > 280 °C (0.5% weight loss)



### LT-S9099 | NTDA-C<sub>7</sub>H<sub>15</sub>

2,7-Diheptylbenzo[*lmn*][3,8]phenanthroline-1,3,6,8(2*H*,7*H*)-tetraone

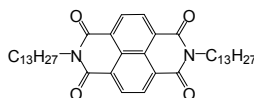
CAS No. : 698370-78-4  
 Grade : Sublimed, > 99%  
 Formula : C<sub>28</sub>H<sub>34</sub>N<sub>2</sub>O<sub>4</sub>  
 M.W. : 462.58 g/mole  
 TGA : > 280 °C (0.5% weight loss)



### LT-S9100 | NTDA-C<sub>13</sub>H<sub>27</sub>

2,7-Ditridecylbenzo[*lmn*][3,8]phenanthroline-1,3,6,8(2*H*,7*H*)-tetraone

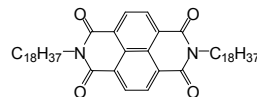
CAS No. : 1373274-00-0  
 Grade : Sublimed, > 99%  
 Formula : C<sub>40</sub>H<sub>58</sub>N<sub>2</sub>O<sub>4</sub>  
 M.W. : 630.90 g/mole  
 TGA : > 280 °C (0.5% weight loss)



### LT-S9101 | NTDA-C<sub>18</sub>H<sub>37</sub>

2,7-Dioctadecylbenzo[*lmn*][3,8]phenanthroline-1,3,6,8(2*H*,7*H*)-tetraone

CAS No. : 144742-50-7  
 Grade : Sublimed, > 99%  
 Formula : C<sub>50</sub>H<sub>78</sub>N<sub>2</sub>O<sub>4</sub>  
 M.W. : 771.17 g/mole  
 TGA : > 280 °C (0.5% weight loss)

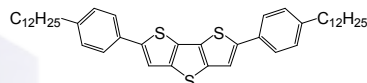


### LT-S9102 | DTT-12

2,6-Bis(4-dodecylphenyl)-dithieno[3,2-*b*:2',3'-*d*]thiophene

CAS No. : 1446140-70-0  
 Grade : Sublimed, > 99% (NMR)  
 Formula : C<sub>44</sub>H<sub>60</sub>S<sub>3</sub>  
 M.W. : 685.14 g/mole  
 TGA : > 270 °C (0.5% weight loss)

Reference : *Chem. Commun.*, 2013, 49, 6483-6485

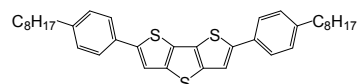


### LT-S9103 | DTT-8

2,6-Bis(4-octylphenyl)-dithieno[3,2-*b*:2',3'-*d*]thiophene

CAS No. : 1429377-95-6  
 Grade : Sublimed, > 99% (NMR)  
 Formula : C<sub>36</sub>H<sub>44</sub>S<sub>3</sub>  
 M.W. : 572.93 g/mole  
 TGA : > 270 °C (0.5% weight loss)

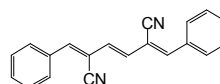
Reference : *Chem. Commun.*, 2013, 49, 6483-6485



### LT-S9128 | Dp-triene-2,5-CN

(2*Z*,3*E*,5*Z*)-2,5-Dibenzylidenehex-3-enedinitrile

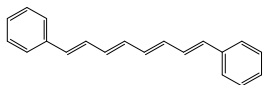
CAS No. : 1376166-32-3  
 Grade : > 99%  
 Formula : C<sub>20</sub>H<sub>14</sub>N<sub>2</sub>  
 M.W. : 282.34 g/mole  
 Reference : *Chemical Science* (2012), 3(4), 1007-1014



### LT-S9129 | Dp-tetraene

(1E,3E,5E,7E)-1,8-Diphenylocta-1,3,5,7-tetraene

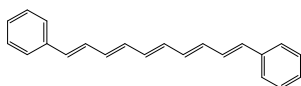
CAS No. : 3029-40-1  
 Grade : > 99%  
 Formula : C<sub>20</sub>H<sub>18</sub>  
 M.W. : 258.36 g/mole



### LT-S9130 | Dp-pentaene

(1E,3E,5E,7E,9E)-1,10-Diphenyldeca-1,3,5,7,9-pentaene

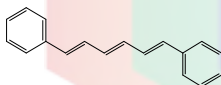
CAS No. : 3029-41-2  
 Grade : > 99%  
 Formula : C<sub>22</sub>H<sub>20</sub>  
 M.W. : 284.39 g/mole



### LT-S9131 | Dp-triene

(1E,3E,5E)-1,6-Diphenylhexa-1,3,5-triene

CAS No. : 1720-32-7  
 Grade : > 99%  
 Formula : C<sub>18</sub>H<sub>16</sub>  
 M.W. : 232.32 g/mole

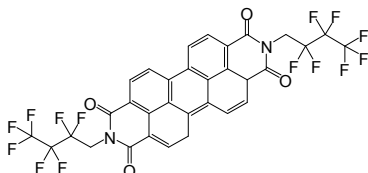


### LT-S9132 | PTCPI-CH2C3F7

N,N'-Bis(2,2,3,3,4,4,4-heptafluorobutyl)-3,4,9,10-perylene dicarboximide

CAS No. : 1150578-28-1  
 Grade : Sublimed, > 99%  
 Formula : C<sub>32</sub>H<sub>14</sub>F<sub>14</sub>N<sub>2</sub>O<sub>4</sub>  
 M.W. : 756.44 g/mole  
 TGA : > 300 °C (0.5% weight loss)

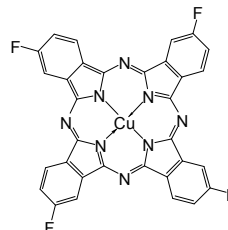
Reference : *Journal of the American Chemical Society* (2009), 131(17), 6215-6228



### LT-S9134 | F4-CuPC

Copper(II)-2,9,16,23-tetrafluoro-29H,31H-phthalocyanine

CAS No. : 65602-84-8  
 Grade : Sublimed, > 99%  
 Formula : C<sub>32</sub>H<sub>12</sub>CuF<sub>4</sub>N<sub>8</sub>  
 M.W. : 648.03 g/mole  
 TGA : > 350 °C (0.5% weight loss)

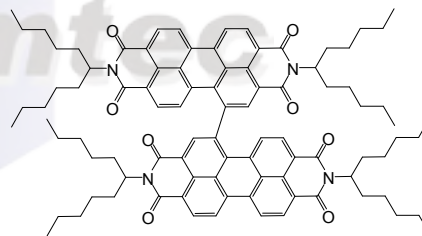


### LT-S9154 | di-PBI

Bis[N,N'-1-pentylhexyl]-perylene-3,4,9,10-tetracarboxylic diimide

CAS No. : 1609131-78-3  
 Grade : > 99% (NMR)  
 Formula : C<sub>92</sub>H<sub>106</sub>N<sub>4</sub>O<sub>8</sub>  
 M.W. : 1395.85 g/mole

Reference : 1. *J. Mater. Chem.*, 2012, 22, 10496  
 2. *Adv. Mater.* 2013, 25, 2229-2233

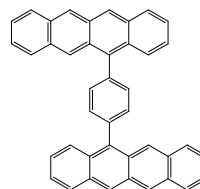


### LT-S9158 | BTCB

1,4-Bis(5-tetracenyl)benzene

CAS No. : 958891-96-8  
 Grade : Sublimed, > 99% (HPLC)  
 Formula : C<sub>42</sub>H<sub>26</sub>  
 M.W. : 530.66 g/mole  
 UV : 490 nm (in CH<sub>2</sub>Cl<sub>2</sub>)  
 TGA : > 270 °C (0.5% weight loss)

Reference : *J. Am. Chem. Soc.* 2007, 129, 14240-50



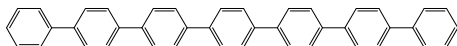
# Organic Thin-Film Transistor (OTFT)

## Small Molecular / Oligomer Materials

### LT-S9159 | p-Septiphenyl

p-Septiphenyl

CAS No. : 70352-20-4  
 Grade : > 99%  
 Formula :  $C_{42}H_{30}$   
 M.W. : 534.69 g/mole  
 TGA : > 280 °C (0.5% weight loss)

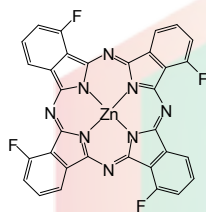


### LT-S9171 | F4ZnPc

Zinc(II)-1,8,15,22-tetrafluoro-29H,31H-hthalocyanin, mixture of isomers

CAS No. : 1120355-28-3  
 Grade : Sublimed, > 99%  
 Formula :  $C_{32}H_{12}F_4N_8Zn$   
 M.W. : 649.89 g/mole  
 UV : 681, 725 nm (in  $CHCl_3$ )  
 TGA : > 300 °C (0.5% weight loss)

Reference : *Solar Energy Materials & Solar Cells* (2013), 118, 165-170

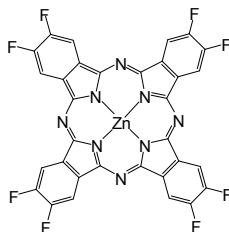


### LT-S9172 | F8ZnPc

Zinc(II)-2,3,9,10,16,17,23,24-octafluoro-29H,31H-phthalocyanin

CAS No. : 676519-80-5  
 Grade : Sublimed, > 99%  
 Formula :  $C_{32}H_8F_8N_8Zn$   
 M.W. : 721.86 g/mole  
 UV : 269, 633 nm (in  $CHCl_3$ )  
 TGA : > 300 °C (0.5% weight loss)

Reference : *ChemPhysChem* (2014), 15(12), 2462-2472

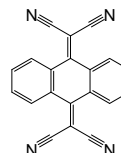


### LT-S9173 | An-PDN

2,2'-(9,10-anthracenediylidene)-bis-propanedinitrile

CAS No. : 70359-39-6  
 Grade : Sublimed, > 99% (HPLC)  
 Formula :  $C_{20}H_8N_4$   
 M.W. : 304.30 g/mole  
 UV : 283, 348 nm (in  $CHCl_3$ )  
 TGA : > 250 °C (0.5% weight loss)

Reference : *Chemical Communications* (Cambridge, United Kingdom) (2014), 50(7), 833-835

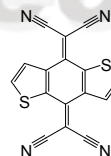


### LT-S9174 | BD-PDN

2,2'-Benzo[1,2-b:4,5-b']dithiophene-4,8-diylidenebis-propanedinitrile

CAS No. : 109573-90-2  
 Grade : Sublimed, > 99% (HPLC)  
 Formula :  $C_{16}H_4N_4S_2$   
 M.W. : 316.36 g/mole  
 UV : 231, 438 nm (in  $CHCl_3$ )  
 TGA : > 250 °C (0.5% weight loss)

Reference : *Advanced Materials* (Weinheim, Germany) (2014), 26(24), 4093-4099

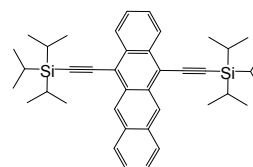


### LT-S9175 | 5,12-TIPS-Tetracene

5,12-Bis((triisopropylsilyl)ethynyl)tetracene

CAS No. : 628316-50-7  
 Grade : > 99% (NMR)  
 Formula :  $C_{40}H_{52}Si_2$   
 M.W. : 589.01 g/mole  
 UV : 389 nm (in  $CH_2Cl_2$ )  
 TGA : > 250 °C (0.5% weight loss)

Reference : *Chemical Communications*, (2014), 50(85), 12828-12831

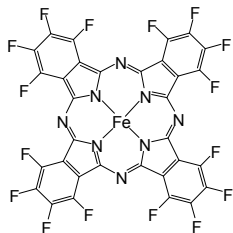


### LT-S9177 | F<sub>16</sub>FePC

Iron(II) 1,2,3,4,8,9,10,11,15,16,17,18,22,23,24,25-hexadecafluoro-29H,31H-phthalocyanine

CAS No. : 23844-93-1  
Grade : Sublimed, > 99%  
Formula : C<sub>32</sub>F<sub>16</sub>FeN<sub>8</sub>  
M.W. : 856.22 g/mole  
UV : 316, 629 nm (in CHCl<sub>3</sub>)  
TGA : > 300 °C (0.5% weight loss)

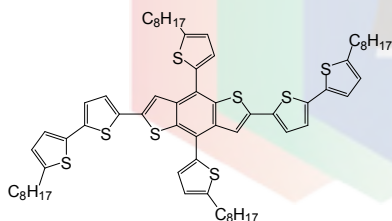
Reference : *Nano Letters* (2014), 14(10), 5547-5554



### LT-S9179 | BDT2TH

2,6-Bis[(5'-octyl[2,2'-bithiophene])[4,8-bis(5-octyl-2-thienyl)benzo[1,2-b:4,5-b']dithiophene]

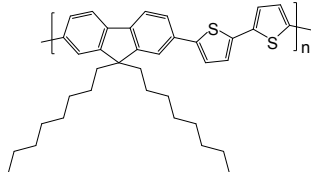
Grade : > 99% (NMR)  
Formula : C<sub>66</sub>H<sub>82</sub>S<sub>8</sub>  
M.W. : 1131.88 g/mole  
UV : 249, 359, 442 nm (in CHCl<sub>3</sub>)



## LT-S979 | F8T2

Poly[(9,9-di-*n*-octylfluorenyl-2,7-diyl)-*alt*-2,2'-bithiophene-5,5'-diyl]

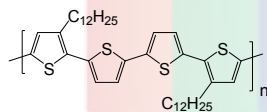
CAS No. : 210347-56-1  
 Grade :  $M_w > 20,000$  (GPC)  
 Formula :  $(C_{37}H_{44}S_2)_n$   
 UV : 454 nm (in THF)  
 PL : 500 nm (in THF)  
 Solubility : Soluble in THF,  $CHCl_3$ , Chlorobenzene, Dichlorobenzene

Reference : *Appl. Phys. Lett.* 87, 153511 (2005)

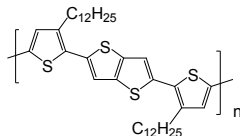
## LT-S980 | PQT-12

Poly[bis(3-dodecyl-2-thienyl)-2,2'-dithiophene-5,5'-diyl]

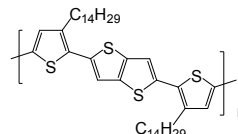
CAS No. : 827343-06-6  
 Grade :  $M_w = 10,000 \sim 40,000$  (GPC)  
 Formula :  $(C_{40}H_{56}S_4)_n$   
 UV : 473 nm (in Toluene)  
 Solubility :  $> 5$  mg/mL in  $CHCl_3$

Reference : *Adv. Mater.*, 2005, 17, 184LT-S981 | PBTTC-C<sub>12</sub>Poly[2,5-bis(3-dodecylthiophen-2-yl)thieno[3,2-*b*]thiophene]

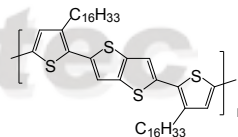
CAS No. : 888491-18-7  
 Grade :  $M_w = 40,000 \sim 80,000$  (GPC)  
 Formula :  $(C_{38}H_{54}S_4)_n$   
 UV : 460 nm (in THF)  
 PL : 557 nm (in THF)  
 Solubility :  $> 5$  mg/mL in  $CHCl_3$

Reference : *Nature Materials* 5, 328-333 (2006)LT-S982 | PBTTC-C<sub>14</sub>Poly[2,5-bis(3-tetradecylthiophen-2-yl)thieno[3,2-*b*]thiophene]

CAS No. : 888491-19-8  
 Grade :  $M_w = 40,000 \sim 80,000$  (GPC)  
 Formula :  $(C_{38}H_{54}S_4)_n$   
 UV : 466 nm (in THF)  
 PL : 557 nm (in THF)  
 Solubility :  $> 5$  mg/mL in  $CHCl_3$

Reference : *Nature Materials* 5, 328-333 (2006)LT-S9060 | PBTTC-C<sub>16</sub>Poly[2,5-bis(3-hexadecylthiophen-2-yl)thieno[3,2-*b*]thiophene]

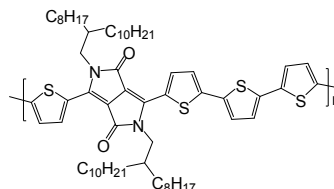
Grade :  $M_w = 40,000 \sim 80,000$  (GPC)  
 Formula :  $(C_{46}H_{70}S_4)_n$   
 UV : 466 nm (in THF)  
 PL : 557 nm (in THF)  
 Solubility :  $> 5$  mg/mL in  $CHCl_3$

Reference : *Nano Lett.*, 2009, 9 (12), pp4153-4157

## LT-S9117 | PDQT

Poly[2,2'-((2,5-bis(2-octyldodecyl)-3,6-dioxo-2,3,5,6-tetrahydropyrrolo[3,4-*c*]pyrrole-1,4-diyl)dithiophene-5,5'-diyl)-*alt*-2,2'-bithiophene-5,5'-diyl]

CAS No. : 1267540-03-3  
 Grade :  $M_w > 30,000$  (GPC)  
 Formula :  $(C_{62}H_{90}N_2O_2S_4)_n$   
 UV : 810 nm (in  $CHCl_3$ )  
 Solubility : Soluble in  $CHCl_3$ , Chlorobenzene, Dichlorobenzene

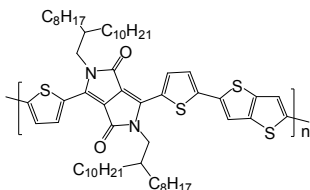
Reference : *J. Mater. Chem. C*, 2013, 1, 4423-4426

## LT-S9118 | PDBT-co-TT

Poly(2,2'-(2,5-bis(2-octyldodecyl)-3,6-dioxo-2,3,5,6-tetrahydropyrrolo[3,4-c]pyrrole-1,4-diyl)dithiophene-5,5'-diyl-*alt*-thieno[3,2-*b*]thiophen-2,5-diyl)

Grade :  $M_w > 30,000$  (GPC)  
 Formula :  $(C_{60}H_{88}N_2O_2S_4)_n$   
 UV : 810 nm (in  $CHCl_3$ )  
 Solubility : Soluble in  $CHCl_3$ , Chlorobenzene, Dichlorobenzene

Reference : 1. *Adv. Mater.* 2010, 22, 4862-4866  
 2. *Chem. Mater.* 2012, 24, 1316-1323

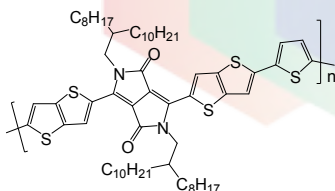


## LT-S9119 | PDPPBTT

Poly(2,2'-(2,5-bis(2-octyldodecyl)-3,6-dioxo-2,3,5,6-tetrahydropyrrolo[3,4-c]pyrrole-1,4-diyl)dithieno[3,2-*b*]thiophene-5,5'-diyl-*alt*-thiophen-2,5-diyl)

CAS No. : 1270977-98-4  
 Grade :  $M_w > 30,000$  (GPC)  
 Formula :  $(C_{62}H_{88}N_2O_2S_5)_n$   
 UV : 812 nm (in  $CHCl_3$ )  
 Solubility : Soluble in  $CHCl_3$ , Chlorobenzene, Dichlorobenzene

Reference : *J. Am. Chem. Soc.* 2011, 133, 3272-3275

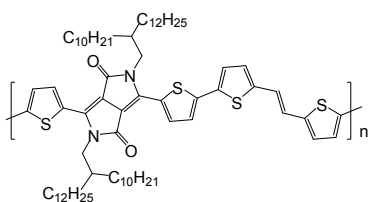


## LT-S9133 | PDVT-10

Poly(3,6-dithiophen-2-yl-2,5-di(2-decyltetradecyl)-pyrrolo[3,4-c]pyrrole-1,4-dione-*alt*-thienylenevinylene-2,5-yl)

Formula :  $(C_{72}H_{108}N_2O_2S_4)_n$   
 Grade :  $M_w > 30,000$  (GPC)  
 Solubility : Soluble in  $CHCl_3$ , Chlorobenzene, Dichlorobenzene

Reference : *Nature Communications* 5, Article number: 4183

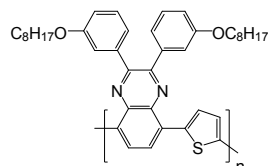


## LT-S9091 | TQ1

Poly(2,3-bis-(3-octyloxyphenyl)quinoxaline-5,8-diyl-*alt*-thiophene-2,5-diyl)

CAS No. : 565228-37-7  
 Grade :  $M_w > 20,000$  (GPC)  
 Formula :  $(C_{40}H_{46}N_2O_2S)_n$   
 M.W. : 618.89 g/mole  
 Solubility : Soluble in  $CHCl_3$ , Chlorobenzene, Dichlorobenzene

Reference : *Journal of Materials Chemistry A: Materials for Energy and Sustainability* (2014), 2(41), 17676-17682

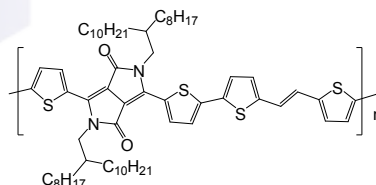


## LT-S9155 | PDVT-8

Poly(3,6-dithiophen-2-yl-2,5-di(2-octyldodecyl)pyrrolo[3,4-c]pyrrole-1,4-dione-*alt*-thienylenevinylene-2,5-yl)

CAS No. : 1403959-01-2  
 Grade :  $M_w > 20,000$  (GPC)  
 Formula :  $(C_{64}H_{92}N_2O_2S_4)_n$   
 Solubility : Soluble in  $CHCl_3$ , Chlorobenzene, Dichlorobenzene

Reference : *Journal of Materials Chemistry A: Materials for Energy and Sustainability* (2014), 2(41), 17676-17682



## LT-S9178 | PMDPP3T

Poly[[2,5-bis(2-hexyldecyl)-2,3,5,6-tetrahydro-3,6-dioxopyrrolo[3,4-c]pyrrole-1,4-diyl]-*alt*-[3',3''-dimethyl-2,2':5',2''-terthiophene]-5,5''-diyl]

Grade :  $M_w > 30,000$  (GPC)  
 Formula :  $(C_{52}H_{76}N_2O_2S_3)_n$   
 UV : 830 nm (in  $CHCl_3$ )

