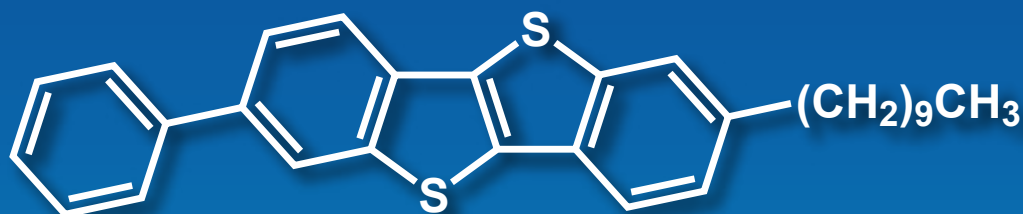


Super Performance Organic Semiconductor Ph-BTBT-10



Ph-BTBT-10 [for organic electronics]

100mg / 250mg / 1g

[D5491]

Advantages

- Practical hole mobility > 10 cm²/Vs (ensured specification by a vapor diffusion method)
- Also available for solution processable device

Application

Organic Transistor Device

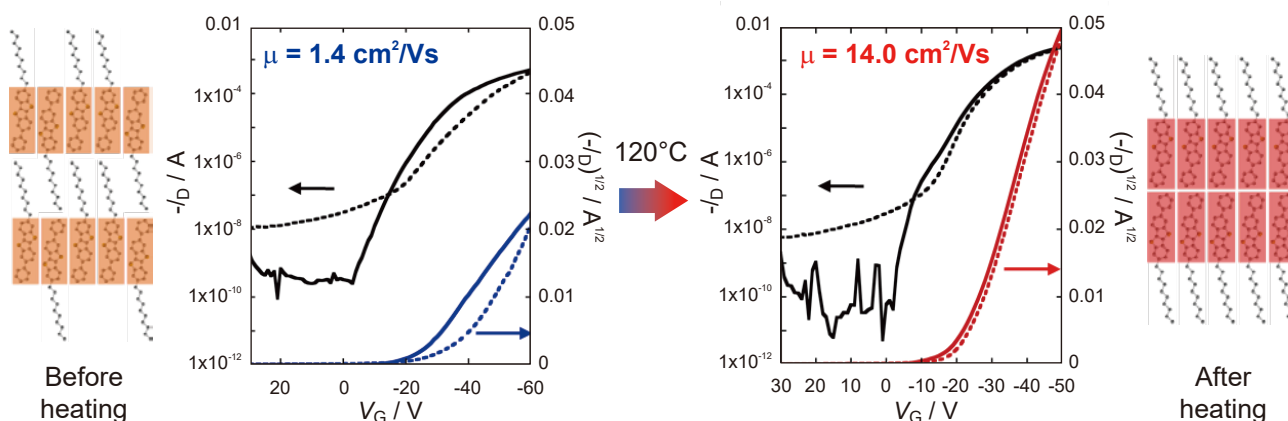


Table 1. OFET device characteristics with Ph-BTBT-10 (by own equipment)

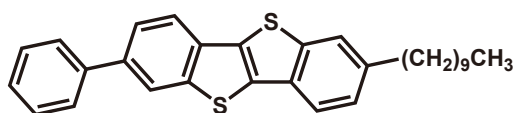
| Material | SAM | Annealing Temp. (°C) | Hole Mobility (cm ² /Vs) | V _{th} (V) |
|-----------------------|-----------------|----------------------|-------------------------------------|---------------------|
| Ph-BTBT-10 [D5491] | bare | w/o | 0.87 - 0.91 | -24 |
| | | 120 | 4.24 - 4.86 | -8 |
| | ODTS [O0079] | w/o | 1.40 - 1.42 | -23 |
| | | 120 | 10.3 - 14.0 | -22 |

Report on molecular arrangement and liquid crystal phase by thermal annealing

Reference H. Iino, T. Usui, J. Hanna, *Nat. Commun.* **2015**, *6*, 6828. DOI: <https://doi.org/10.1038/ncomms7828>

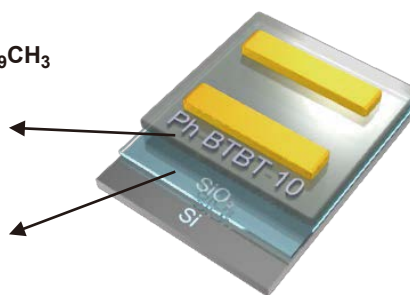
This product was commercialized under instruction by Prof. Jun-ichi Hanna.

Super Performance Organic Semiconductor: Ph-BTBT-10



Ph-BTBT-10 [D5491]

Surface Treatment
ODTS [O0079]



Top contact type
Channel length: 50 μm
Channel width: 1.5 mm
Organic layer: 40 nm
South, Drain : Au

Figure 1. OFET device structure with Ph-BTBT-10 [D5491]

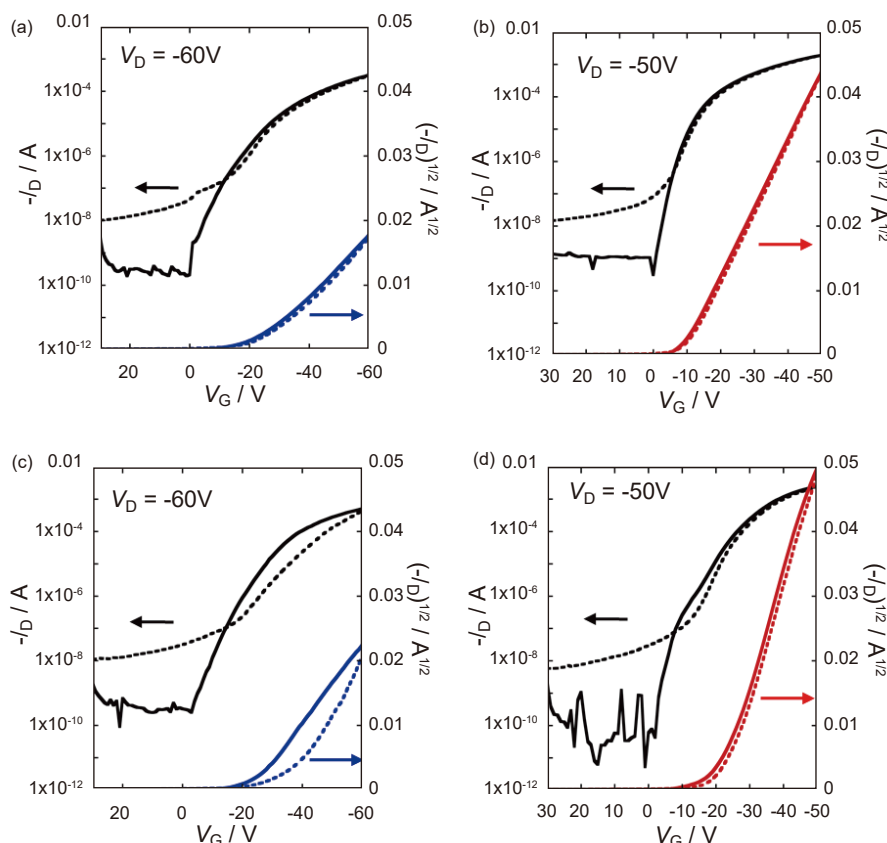


Figure 2. OFET device transport characteristics (by own equipment)
(a) w/o annealing (bare) (b) annealing 120°C, 5min (bare)
(c) w/o annealing (ODTS) (d) annealing 120°C, 5min (ODTS)

Related Products

| | |
|--|-----------------------|
| Pentacene (99.999%, trace metals basis) (purified by sublimation) | 100mg / 1g [P2524] |
| Pentacene (purified by sublimation) | 100mg / 1g [P0030] |
| DPh-BTBT (purified by sublimation) | 100mg [D3526] |
| 2,6-Diphenylanthracene (purified by sublimation) | 100mg [D5152] |
| exo-DNTT-PMI (DNTT-Precursor) | 50mg [D5154] |
| P3HT (regioregular) [for organic electronics] | 100mg / 500mg [P2513] |
| Octadecyltrichlorosilane (= ODTS) | 25g [O0079] |

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