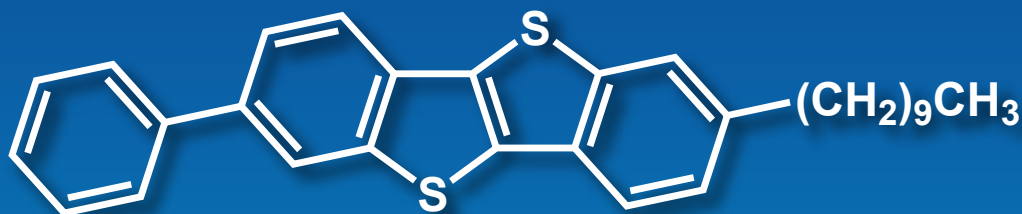


New

# Super Performance Organic Semiconductor Ph-BTBT-10



[D5491]

- Advantages**
- Practical hole mobility > 10 cm<sup>2</sup>/Vs (ensured specification by a vapor diffusion method)
  - Also available for solution processable device

## Application

### Organic Transistor Device

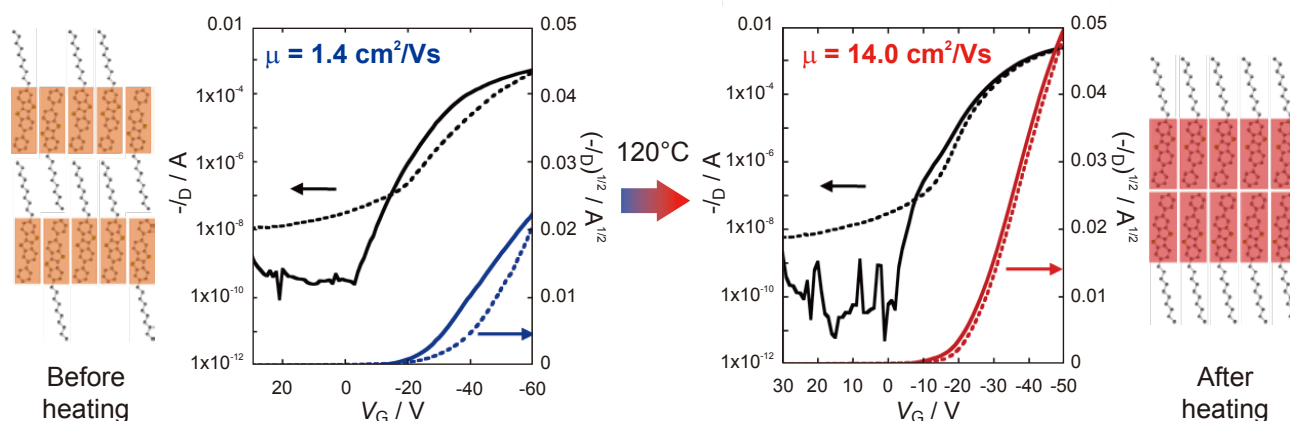


Table 1. OFET device characteristics with Ph-BTBT-10 (by own equipment)

Material	SAM	Annealing Temp. (°C)	Hole Mobility (cm <sup>2</sup> /Vs)	V <sub>th</sub> (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	<b>10.3 ~ 14.0</b>	-22

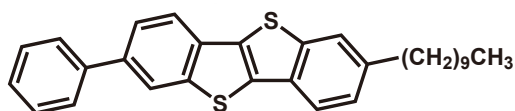
Report on molecular arrangement and liquid crystal phase by thermal annealing  
H. Iino, T. Usui, J. Hanna, *Nat. Commun.* **2015**, *6*, 6828.

Ph-BTBT-10

100mg / 250mg [D5491]

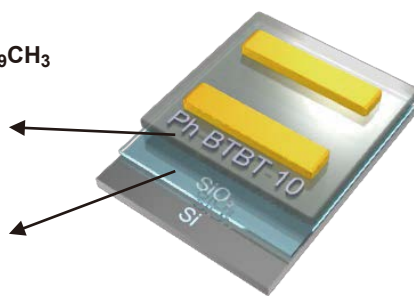
This material was produced by collaboration with Prof. Jun-ichi Hanna at Tokyo Institute of Technology.

# Super Performance Organic Semiconductor Ph-BTBT-10



**Ph-BTBT-10 [D5491]**

**Surface Treatment  
ODTS [O0079]**



Top contact type  
Channel length: 50  $\mu\text{m}$   
Channel width: 1.5 mm  
Organic layer: 40 nm  
South, Drain : Au

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

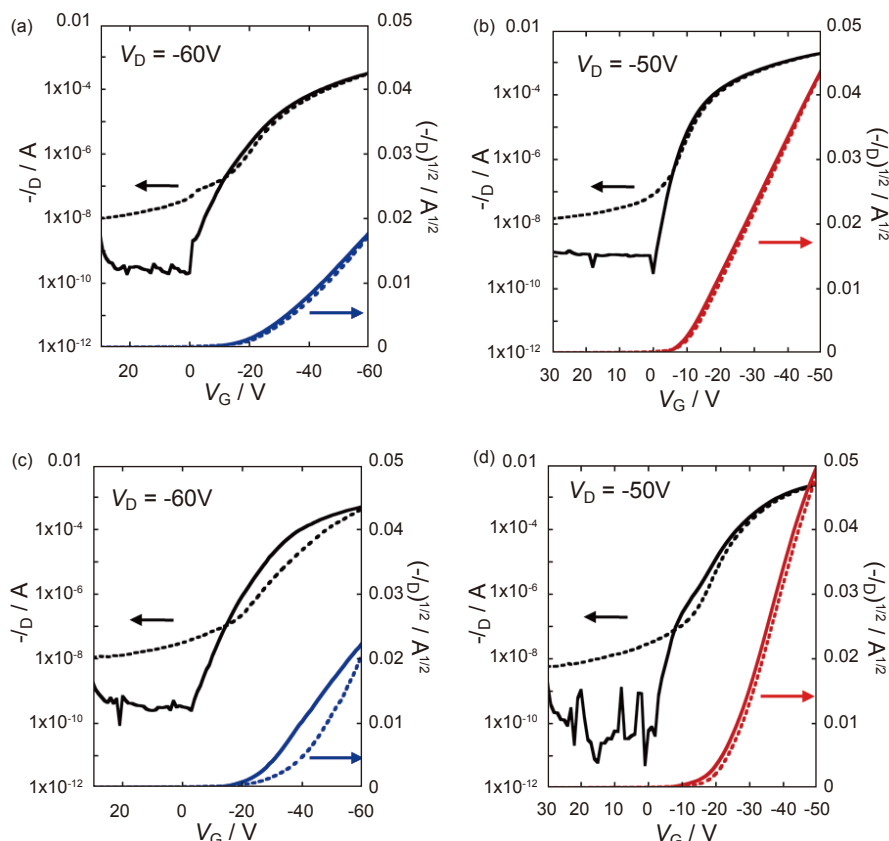


Figure 2. OFET device transport characteristics (by own equipment)  
(a) w/o annealing (bare) (b) annealing 120°C, 5min (bare)  
(c) w/o annealing (ODTS) (d) annealing 120°C, 5min (ODTS)

## Related Products

<b>Pentacene (99.999%, trace metals basis) (purified by sublimation)</b>	100mg / 1g [P2524]
<b>Pentacene (purified by sublimation)</b>	100mg / 1g [P0030]
<b>DPh-BTBT (purified by sublimation)</b>	100mg [D3526]
<b>2,6-Diphenylanthracene (purified by sublimation)</b>	100mg [D5152]
<b>endo-DNTT-PMI (DNTT-Precursor)</b>	50mg [D5153]
<b>exo-DNTT-PMI (DNTT-Precursor)</b>	50mg [D5154]
<b>P3HT (Mn.=ca. 40,000) (regioregular)</b>	100mg / 500mg [P2513]
<b>Octadecyltrichlorosilane (= ODTS)</b>	25g / 100g [O0079]

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organic semiconductor



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