



Chemicals

Organic photovoltaics

Innovation and high performance

Organic photovoltaics

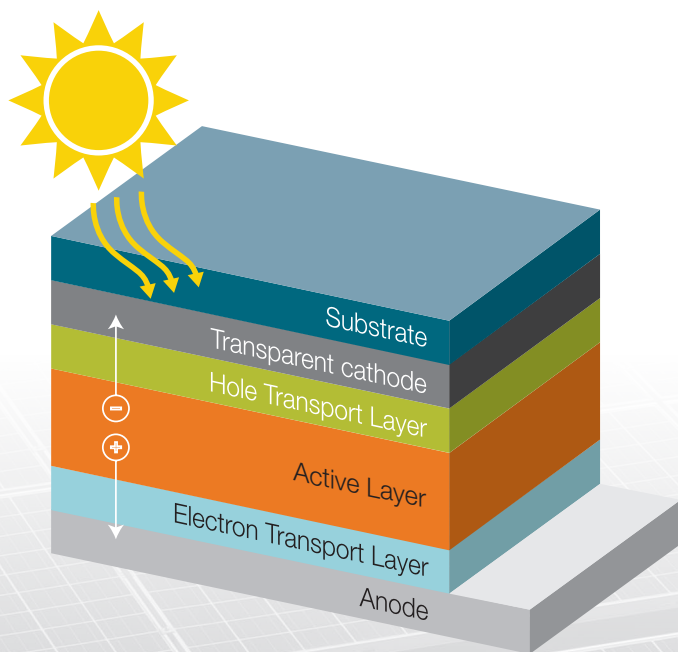
Innovation and high performance

Introduction

Organic photovoltaics (OPV) are solar cells based on organic semiconductors, which are thin, light, flexible and mechanically resistant. OPV research has progressed rapidly during the last decade, their performances rapidly closing the gap with conventional silicon technologies.

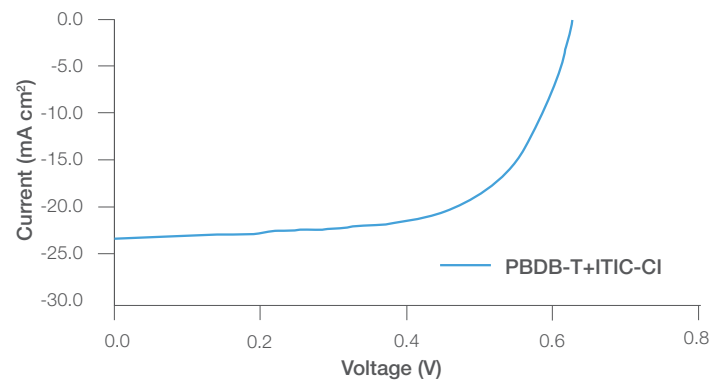
OPV's show potential as an affordable energy technology, that moreover are light, can have tandem structures, and can be fabricated on plastic substrates, with potential applications in consumer electronics.

In OPV architecture the active layer is a blend of two organic semi-conductors known as the donor (p-type material) and the acceptor (n-type material). Their properties can be fine-tuned for specific needs and many high-performance materials are now available.



Conventional OPV architecture

To achieve high-performance devices, the n-type and the p-type materials must have compatible optical and electronic properties. Semiconductors with complementary absorptions will help to convert more photons and energy and maximize the current produced. Fine-tuning the energy levels can increase the device voltage.



N-Type materials

Fullerene derivatives have traditionally performed very well as n-type materials. However, novel conjugated molecules have recently gained traction due to increased performances and stability. N-type polymers are also on the rise as an alternative. (Product shot from slide)

P-Type materials

Conjugated polymers are the most common materials in OPV. They are the source of many of the desirable properties of OPV devices:

- Mechanically robust
- Chemical stability
- Printability
- High photon absorption



We offer a range of both n- and p-type products which are always extensively purified to deliver optimal results every time.

N-Type materials

VWR Cat. No.	Description	CAS#	Sizes
AAH66574-MC	ITIC	1664293-06-4	100 mg, 250 mg, 500 mg
AAH66664-MC	ITIC-F	2097998-59-7	100 mg, 250 mg, 500 mg
AAH66521-MC	ITIC-Cl	2253663-81-7	100 mg, 250 mg, 500 mg
AAH66830-MC	IDT-2BR	2042521-91-3	100 mg, 250 mg, 500 mg
AAH66666-MC	o-IDTBr	2077945-91-4	100 mg, 250 mg, 500 mg
AAH66142-MC	EH-IDTBr	2055812-53-6	100 mg, 250 mg, 500 mg
AAH66656-MC	IEICO	2055812-53-6	100 mg, 250 mg, 500 mg
AAH66546-MC	IEICO-4F	2089044-02-8	100 mg, 250 mg, 500 mg
AAH66752-MC	IEICO-4Cl	2240998-88-1	100 mg, 250 mg, 500 mg
AAH66460-MC	Y5	2304444-48-0	100 mg, 250 mg, 500 mg
AAH66585-MC	Y6	2304444-49-1	100 mg, 250 mg, 500 mg
AAH66035-MC	ITIC-M	2047352-80-5	100 mg, 250 mg, 500 mg
AAH66315-MC	BTP-4Cl		100 mg, 250 mg, 500 mg

P-Type materials

VWR Cat. No.	Description	CAS#	Sizes
AAH66399-MC	PPDT2FBT (PCE9.3)	1620673-07-5	100 mg, 250 mg, 500 mg
AAH66975-MC	PTB7-Th (PCE10)	1469791-66-9	100 mg, 250 mg, 500 mg
AAH66014-MC	PfBT4T-2DT	1430201-60-7	100 mg, 250 mg, 500 mg
AAH66126-MC	PfBT4T-2OD (PCE11)	1644164-62-4	100 mg, 250 mg, 500 mg
AAH66526-MC	PBDB-T (PCE12)	1415929-80-4	100 mg, 250 mg, 500 mg
AAH66713-MC	PDCBT	1609536-17-5	100 mg, 250 mg, 500 mg
AAH66867-MC	PBDB-T-2Cl	2239295-71-5	100 mg, 250 mg, 500 mg
AAH66179-MC	PBDB-T-2F (PCE14)	1802013-83-7	100 mg, 250 mg, 500 mg
AAH66106-MC	PTQ10	2270233-86-6	100 mg, 250 mg, 500 mg
AAH66319-MC	PDPTT	1260685-66-2	100 mg, 250 mg, 500 mg
AAH66726-ME	P3HT (OPV grade - 91-94% RR)	1609536-17-5	500 mg, 1g

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