SOLARIS CHEM

OPV - Solar Cells

FULLERIUM™ - PCBM

Description

PCBM - PC61BM

[6,6]-Phenyl C61 butyric acid methyl ester, or PC61BM, is a soluble derivative of fullerene C60 and one of the most widely used electron acceptor material in organic photovoltaic (OPV) devices.

PC61BM displays a high solubility in common solvents used with p-type organic polymers, allowing to produce ready to coat donor/acceptor ink formulations. With fast and efficient charge dissociation of excitons and high electron mobilities, efficient bulk heterojunctions active films can be manufactured using various coating methods.

PCBM - PC71BM

[6,6]-Phenyl C71 butyric acid methyl ester, or PC71BM is a solvent soluble derivative of fullerene C70 and one of the most widely used electron acceptor n-type material in organic photovoltaic devices.

With a great solubility in common solvents, PC71BM can be blended at high concentration with many p-type polymers or single molecules. Ready to coat inks can be formulated and used in electronic devices adopting organic thin film architectures.

Promoting exciton dissociation and fast, efficient charge transfers, PC71BM usage results in higher OPV performances.

Mainly due to a change in geometry from a spherical core (C60) to an oval core (C70), PC71BM absorbes more efficiently than PC61BM in the visible spectrum, contributing to an overall greater film absorption, increasing OPV output by up to 25%.

The Fullerium Difference by Solaris

FULLERIUM™ - PCBM **Advantages**:

- **Synthesis favouring greener chemistries and recycling, powered by renewable energy**. [1]
- It is commonly used in flexible plastic or electronic solar cells in conjunction with an electron donor material such as P3HT (SOL4106), PCDTBT (SOL4280) or PTB7 (SOL4700) to make high Open Circuit Voltage (Voc), high Power Conversion Efficiency (PCE) bulk heterojunction solar cells.
- Fully isomerized to the highly efficient [6,6] isomer.
- Amorphous form allowing greater solubility in common organic solvents such as chlorobenzene, dichlorobenzene, and toluene, toward flexible donor/acceptor ink formulations engineering and reproducible printed electronic devices.
- Available at the kilo level with purity ranges from industrial grades of 95.0% - 98.0% to Research and High Tech grades of 99.0% - 99.95%+.

[1] Hydroelectric powered plant in Quebec.

References

"Effect of PQT-12 interface layer on the performance of PCDTBT: PCBM bulk heterojunction solar cells"
Author(s): Amit Kumar, Smrity Ratan, Deepak Kumar Jarwal, Ashwini Kumar Mishra, Chandan Kumar, Abhinav Pratap Singh, Bratindranath Mukherjee and Satyabrata Jit
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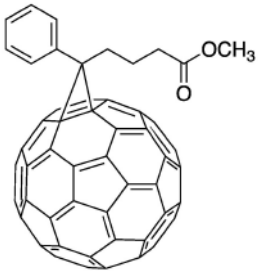


PCBM - PC61BM

Fullerene C60 Mono Adduct derivative

SOL5061

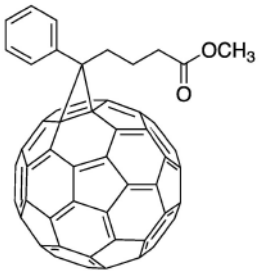
Soluble C60 Fullerene derivative

REGULAR GRADES AVAILABLE:

Grade 99.00% (SOL5061B)
Grade 99.50% (SOL5061A)
Grade 99.90% (SOL5061Z)
Grade 99.95% (SOL5061Y)

Analysed by HPLC at 319 nm and 330 nm

Buy now



PCBM - PC71BM

Fullerene C70 Mono Adduct derivative

SOL5071

Soluble C70 Fullerene derivative

REGULAR GRADES AVAILABLE:

Grade 99.00% (SOL5071B)
Grade 99.50% (SOL5071A)

Analysed by HPLC at 319 nm and 330 nm

Buy now

Available from **g level** (for R&D, Tech centers and universities) to **kg level** (for industrial developments).

Green chemistry

Environmentally friendly

Environmental preservation / sustainability

SUSTAINABILITY is important to us and a key factor toward ENVIRONMENTAL PRESERVATION. At Solaris Chem, we prioritize the use of GREEN CHEMISTRIES and minimize wastes by recovering and recycling materials. Renewable hydro-electricity is used as the energy source to power our operations.

SOLARIS CHEM *Headquarters & Labs.* Phone: (579) 217-0260 Toll Free: (855) 489-3557 Fax: (514) 635-6326
General info: info@solarischem.com Sales: sales@solarischem.com Website: solarischem.com

SOLARIS CHEM

OPV - Solar Cells

FULLERIUM™ - PCBM

Description

PCBM: bis-PC62BM

bis[6,6]-Phenyl C62 butyric acid methyl ester, or bis-PC62BM, is a solvent soluble derivative of fullerene C60 and one of the most widely used electron acceptor n-type material in organic photovoltaic devices.

With a great solubility in common solvents, bis-PC62BM can be blended at high concentration with many p-type polymers or single molecules. Ready to coat inks can be formulated and used in electronic devices adopting organic thin film architectures.

Promoting exciton dissociation and fast, efficient charge transfers, bis-PC62BM usage results in higher OPV performances.

The higher number of side groups favours higher solubilities than the mono-derivative. Being a mix of positional isomers, it also helps controlling phase separation during film annealing.

PCBM: bis-PC72BM

bis[6,6]-Phenyl C72 butyric acid methyl ester, or bis-PC72BM, is a solvent soluble derivative of fullerene C70 and one of the most widely used electron acceptor n-type material in organic photovoltaic devices.

With a great solubility in common solvents, bis-PC72BM can be blended at high concentration with many p-type polymers or single molecules. Ready to coat inks can be formulated and used in electronic devices adopting organic thin film architectures.

Promoting exciton dissociation and fast, efficient charge transfers, bis-PC72BM usage results in higher OPV performances.

The higher number of side groups favours higher solubilities than the mono-derivative. Being a mix of positional isomers, it also helps controlling phase separation during film annealing.

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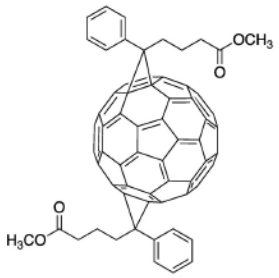


PC62BM
bis-PC62BM

Highly Soluble C60 Fullerene derivative

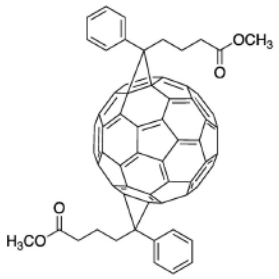
SOL5062

REGULAR GRADES AVAILABLE:

Grade 99.00% (SOL5062B)
Grade 99.50% (SOL5062A)
Grade 99.90% (SOL5062Z)

Analysed by HPLC at 319 nm and 330 nm

Buy now



PC72BM
bis-PC72BM

Highly Soluble C70 Fullerene derivative

SOL5072

REGULAR GRADES AVAILABLE:

Grade 99.00% (SOL5072B)
Grade 99.50% (SOL5072A)
Grade 99.90% (SOL5072Z)

Analysed by HPLC at 319 nm and 330 nm

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OPV - Solar Cells

FULLERIUM™ - PCBM

Description

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With a great solubility in common solvents, tris-PC63BM can be blended at high concentration with many p-type polymers or single molecules. Ready to coat inks can be formulated and used in electronic devices adopting organic thin film architectures.

Promoting exciton dissociation and fast, efficient charge transfers, tris-PC63BM usage results in higher OPV performances.

The higher number of side groups favours higher solubilities than the mono-derivative. Being a mix of positional isomers, it also helps controlling phase separation during film annealing.

PCBM: tris-PC73BM

bis[6,6]-Phenyl C73 butyric acid methyl ester, or tris-PC73BM, is a solvent soluble derivative of fullerene C70 and one of the most widely used electron acceptor n-type material in organic photovoltaic devices.

With a great solubility in common solvents, tris-PC73BM can be blended at high concentration with many p-type polymers or single molecules. Ready to coat inks can be formulated and used in electronic devices adopting organic thin film architectures.

Promoting exciton dissociation and fast, efficient charge transfers, tris-PC73BM usage results in higher OPV performances.

The higher number of side groups favours higher solubilities than the mono-derivative. Being a mix of positional isomers, it also helps controlling phase separation during film annealing.

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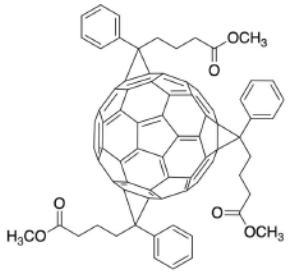


PC63BM
tris-PC63BM
Highly Soluble C60 Fullerene derivative

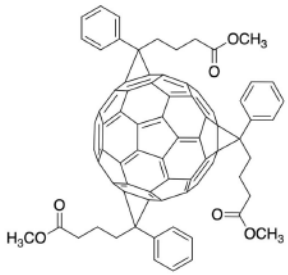
SOL5063

REGULAR GRADES AVAILABLE:

Grade 99.00% (SOL5063B)
Grade 99.50% (SOL5063A)
Grade 99.90% (SOL5063Z)

Analysed by HPLC at 319 nm and 330 nm

Buy now



PC73BM
tris-PC73BM
Highly Soluble C70 Fullerene derivative

SOL5073

REGULAR GRADES AVAILABLE:

Grade 99.00% (SOL5073B)
Grade 99.50% (SOL5073A)
Grade 99.90% (SOL5073Z)

Analysed by HPLC at 319 nm and 330 nm

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