



# Technical Data Sheet

ACS Material LumioTech™ CbBPCb

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## 1. Overview

CbBPCb is mainly used as a host material in organic light-emitting diodes (OLEDs), phosphorescent host materials, semiconducting small molecules, and carboline derivatives.

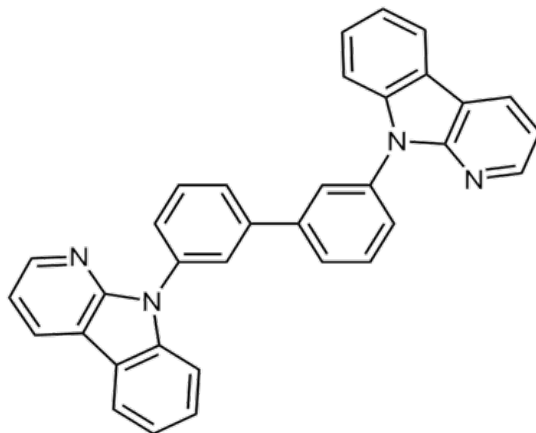
The realm of OLEDs is dynamic and continuously advancing. Among the diverse materials driving this innovation, CbBPCb has emerged as a noteworthy candidate within the OLED stack.

Bipolar charge transport properties of CbBPCb resulted in the color stability.

Universal exciplex hosts

## 2. Specifications

<b>Product Name</b>	CbBPCb
<b>CAS no.</b>	1469997-91-8
<b>Chemical Formula:</b>	C <sub>34</sub> H <sub>22</sub> N <sub>4</sub>
<b>Full name:</b>	3,3'-Di(9H-pyrido[2,3-b]-indol-9-yl)biphenyl
<b>Molecular weight (g/mol):</b>	486.57 g/mol
<b>Purity:</b>	Sublimed: >99.0%
<b>Physical state:</b>	Solid
<b>Color:</b>	Off-white
<b>Absorption (nm):</b>	$\lambda_{\max}$ 240, 297 in THF
<b>Emission (nm):</b>	$\lambda_{\max}$ 382 in THF
<b>HOMO/LUMO (eV):</b>	HOMO = 6.3 / LUMO = 2.8
<b>Melting Point (°C):</b>	251 (T <sub>g</sub> = 96)



*Chemical Structure of 3,3'-Di(9H-pyrido[2,3-b]-indol-9-yl)biphenyl*

### 3. Features

- **High Energy Transfer Efficiency:** A standout characteristic of CbBPCb is its exceptional energy transfer efficiency, a vital attribute for advancing OLED technology. Incorporating CbBPCb can enhance the quantum efficiency of blue phosphorescent OLEDs (PHOLEDs) to over 30%.
- **Host Material for Phosphorescent OLEDs (PHOLEDs):** CbBPCb's unique properties make it an excellent choice as a host material in PHOLEDs. This application promotes efficient operation and contributes to longer device lifetimes.
- **Improved OLED Performance:** CbBPCb, when paired with other materials, has been shown to enhance critical OLED performance metrics. These improvements include extending the device's operational life and reducing the driving voltage, ultimately fostering more energy-efficient OLED solutions.

### 4. Applications

- Bipolar phosphorescent host

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