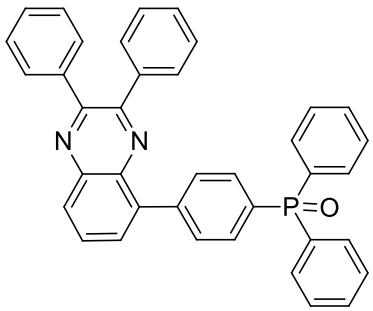
Solution processable small molecules as efficient electron transport layers in organic optoelectronic devices

Product Specifications

LT-S9562	QxTPPO1
Grade	Sublimed,>99%
Formula	$C_{38}H_{27}N_2OP$
UV	265 nm (IPA)
HOMO/LUMO	-6.22/-3.01 eV
M.W.	558.61 g/mole



*Reference: *J. Mater. Chem. A.* ***2020, 8,*** 13501-13508

Features

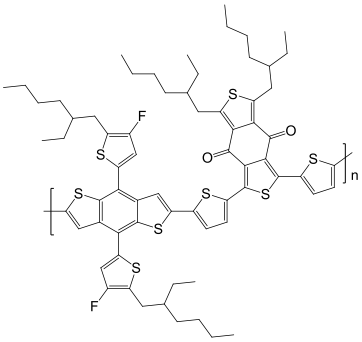
●In this paper, Low temperature solution processable quinoxaline-phosphine oxide based small molecules (QPSMs) consisting of quinoxaline and phosphine oxide derivatives were newly designed for ETLs, and the low work-function (WF) was controlled by introducing a strong dipole moment from phosphine oxide via molecular designing..

●QxTPPO1 has demonstrated promoted electron transport and extraction in OSCs and OLEDs, which results in greatly enhanced device performance. The optimized OSCs and OLEDs exhibited PCEs of 16.83% in the polymer donor:nonfullerene acceptor system and 10.07% in the polymer donor:fullerene acceptor system and a EQE of 5.00%, which were enhanced by approximately 23%, 19%, and 12%.

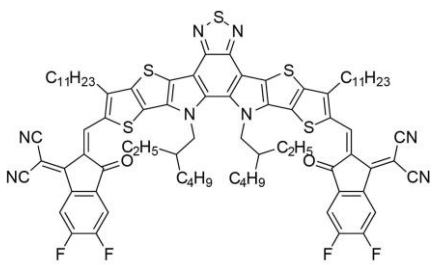
Device Application

Device: ITO/PEDOT/PM6:Y6/QxTPPO1/Al
Device: ITO/PEDOT:PSS/PTB7-Th:$PC_{70}BM$/QxTPPO1/Al
Device: ITO/PEDOT:PSS/SY/QxTPPO1/Al

Related products from Lumtec:



LT- S9457 PM6



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