

π -Conjugated Phospholes and their Incorporation into Devices; A Component with a Great Deal of Potential

M.P. Duffy, W. Delaunay, P-A. Bouit, and M. Hissler

Abbreviations

Alq ₃	tris-(8-hydroxyquinoline) aluminium
BCP	bathocuproine
BP	benzoporphyrin (BP)
BP4mPy	3,3'-5,5'-tetra[(m-pyridyl)-phen-3-yl]biphenyl
CBP	4,4'- <i>N,N'</i> -dicarbazolebiphenyl
CIE	commission internationale de l'éclairage
CuPc	copper phthalocyanine
DCJTB	4-(dicyanomethylene)-2-tert-butyl-6-(1,1,7,7-tetramethyl-julolidin-4-yl-vinyl)- 4H-pyran
DFT calculations	
DPVBi	4,4'-bis(2,2'-diphenylvinyl)biphenyl
DSSCs	Dye-sensitized Solar Cells
EL	electroluminescence
EML	emissive layer
ETL	electron transport layer
ETM	electron transport material
EQE	external quantum yield
FF	fill factor
FTO	fluorine-doped tin oxide

HOMO	highest occupied molecular orbital
HTL	hole-transport layer
ITO	Indium tin oxide
IPCE	incident photon-to-current efficiency
J_{sc}	short-circuit current density
LC	Liquid crystal
LDA	Lithium diisopropylamide
LUMO	lowest unoccupied molecular orbital
MB	maximum brightness
M_n	number-average molecular weight
M_w	weight-average molecular weight
M_w/M_n	polydispersity index
NBS	<i>N</i> -bromosuccinimide
NICS	Nucleus-Independent Chemical Shift
α -NPD	<i>N,N'</i> -diphenyl- <i>N,N'</i> -bis(1-naphthyl)-(1,1'-biphenyl)-4,4'-diamine
OFET	organic field effect transistors
OLED	organic light emitting diodes
OPV	organic photovoltaic cells
OSCs	Organic solar cells
PAH	polycyclic aromatic hydrocarbons
PCE	power conversion efficiency
P3HT	poly-3-hexylthiophene
PEDOT	poly(3,4-ethylenedioxythiophene)
PEDOT/PSS	poly(3,4-ethylenedioxythiophene) polystyrene sulfonate
PET	poly(ethylene terephthalate)
PhPCl ₂	dichlorophenylphosphine

PL	photoluminescence
PLED	polymeric light-emitting diode
PPV	poly(phenylenevinylene)
SIMEF	bis(triorganosilylmethyl)[60]fullerene
TPBi	2,2',2''-(1,3,5-Benzinetriyl)-tris(1-phenyl-1- <i>H</i> -benzimidazole)
V_{oc}	open-circuit voltage
WOLED	white organic light emitting diodes
η	power conversion efficiency