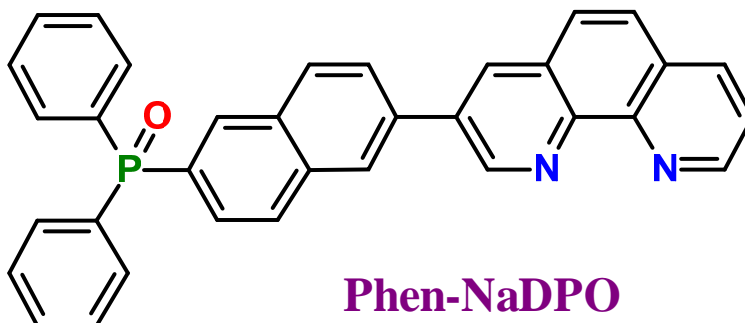


Phen-NaDPO (Cathode Interfacial Material)



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Organic Nano Electronic(ONE=1)materials for these who understand quality



Phen-NaDPO can significantly lower the work function of the Ag metal as well as ITO and HOPG.

1M No. **OS0387**
CAS No: 1480371-38-7
Chemical Name: 3-[6-(diphenylphosphinyloxy)-2-naphthalenyl]-1,10-Phenanthroline

Basic Characteristics

$T_g \approx 116\text{ }^\circ\text{C}$

$\mu_e = \sim 10^{-4} - 10^{-3}\text{ cm}^2\text{ V}^{-1}\text{ s}^{-1}$ at $E = \sim 8 \times 10^5\text{ V cm}^{-1}$.

Soluble in polar and weakly polar solvents such as isopropanol, toluene and xylenes

Typical OPV device structure: ITO/PEDOT:PSS/PTB7:PC₇₁BM/**Phen-NaDPO**/cathode

Cathode	V _{oc} (V)	J _{SC} (mAcm ⁻²)	FF (%)	PCE (%)
Phen-NaDPO/ Al	0.75	16.81	68	8.56
Phen-NaDPO/Ag	0.71	18.04	59	7.51
Ca / Al (reference)	0.72	16.04	63	7.31

Reference:

1. Wan-Yi Tan, Rui Wang, Min Li, Gang Liu, Ping Chen, Xin-Chen Li, Shun-Mian Lu, Hugh Lu Zhu, Qi-Ming Peng, Xu-Hui Zhu,* Wei Chen,* Wallace C. H. Choy,* Feng Li,* Junbiao Peng, Yong Cao, Lending Triarylphosphine Oxide to Phenanthroline: a Facile Approach to High-Performance Organic Small-Molecule Cathode Interfacial Material for Organic Photovoltaics Utilizing Air-Stable Cathodes, *Adv. Funct. Mater.* **2014**, 24, 6540-6547.