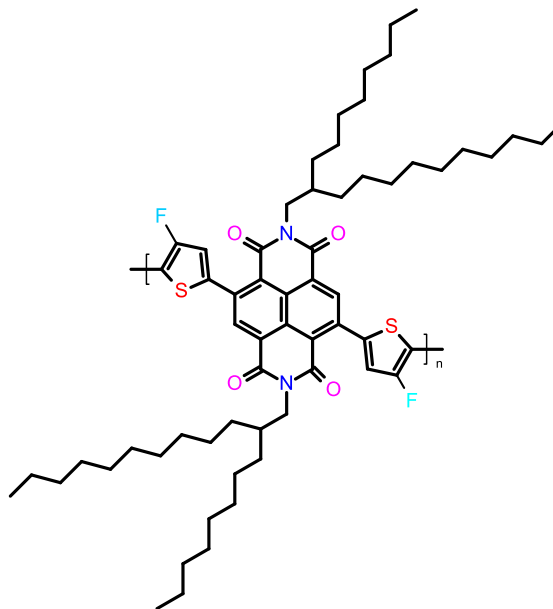


## CERTIFICATE OF ANALYSIS

IM Material: P(NDI-2OD-2FT), F-N2200  
Application: Laboratory Research Use ONLY  
Chemical Name: Poly[[1,2,3,6,7,8-hexahydro-2,7-bis(2-octyldodecyl)-1,3,6,8-dioxobenzo[*lmn*][3,8]phenanthroline-4,9-diyl][ 3,3'-bisfluoro-2,2'-bithiophene]-5,5'-diyl]

Chemical Structure:



Lot number: YY1176  
Appearance: Shine deep purple solid  
Molecular weight (GPC): 50,000-100,000 (Mw, PS Standard)  
Polydispersity(PDI): 2.0-3.0  
Solubility: Soluble in CHCl<sub>3</sub>, CB and ODCB  
NMR analysis: Structure confirmed  
Assay: 99.9+% (basing on trace metal content)