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List of Abbreviations/ Symbols

5-AIn	:	5-Aminoindole
5-APIIn	:	Poly(5-aminoindole)
AFM	:	Atomic force microscopy
Ag	:	Silver
AgNO ₃	:	Silver nitrate
Ag-NPs	:	Silver nanoparticles
APS	:	ammonium persulfate
Au	:	Gold
C ₂ H ₅ OH	:	Ethanol
CB	:	Conduction band
CH ₂ Cl ₂	:	Dichloromethane
CH ₃ CN	:	Acetonitrile
CH ₃ OH	:	Methanol
CHCl ₃	:	Chloroform
CP	:	Conducting polymer
CV	:	Cyclic voltammetry
DDAB	:	Didodecyldimethylammonium bromide
DMSO	:	Dimethyl sulfoxide
DTA	:	Differential thermal analysis
DTA	:	Differential thermal analysis
EIS	:	Electrochemical impedance spectroscopy
ESCA	:	electron spectroscopy for chemical analysis
eV	:	Electron volt
FET	:	Field effect transistors

FFTM	:	Floating film transfer method
FT-IR	:	Fourier transform infrared
H-H	:	Head-to-head
HOMO	:	Highest occupied molecular orbital
HR-TEM	:	High resolution transmission electron microscopy
H-T	:	Head-to-tail
ITO	:	Indium tin oxide
L/L	:	Liquid-liquid
LB	:	Langmuir-Blodgett
LS	:	Langmuir-Schaefer
LUMO	:	Lowest occupied molecular orbital
MoS ₂	:	Molybdenum disulfide
M-S	:	Metal-semiconductor
Nm	:	nanometer
NMR	:	Nuclear magnetic resonance
NP	:	Nanoparticles
°C	:	Degree celcius
OFET	:	Organic field effect transistor
OLED	:	Organic light emitting diode
P3HT	:	Poly (3-hexylthiophene)
PA	:	Polyacetylene
PAN	:	Polyaniline
PIn	:	Polyindole
PPy	:	Polypyrrole
PSD	:	Particle size distribution
PT	:	Polythiophene

Pt	:	Platinum
PTA	:	phase transfer agent
Py	:	Pyrole
RR	:	Regioregular
rr	:	regiorandom
S	:	Spreading coefficient
SAED	:	Selected area electron diffraction pattern
SAED	:	Selected area electron diffraction
SEM	:	Scanning electron microscopy
SERS	:	Surface-enhanced Raman Spectroscopy
SP	:	Surface pressure
SPM	:	Scanning probe microscope
SPR	:	Surface plasmon resonance
TBAP	:	tetrabutylammonium perchlorate
TEM	:	Transmission electron microscopy
TGA	:	Thermogravimetric analysis
TMD	:	Transition metal dichalcogenides
T-T	:	Tail-to-tail
UV-Vis	:	UV Visible
V	:	Volt
VB	:	Valence band
XPS	:	X-ray photoelectron spectroscopy
XRD	:	X-ray diffraction
ZnO	:	Zinc oxide