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LIST OF ABBREVIATIONS

Abbreviation	Details
AFM	Atomic Force Microscopy
FTM	Floating Film Transfer Method
FETs	Field-Effect Transistors
HOMO	Highest Occupied Molecular Orbital
LUMO	Lowest Unoccupied Molecular Orbital
LOD	Limit of detection
MOS	Metal-Oxide-Semiconductor
MW	Molecular Weight
MOSFET	Metal Oxide Semiconductor Field-Effect Transistor
OTFT	Organic Thin Film Transistor
OFETs	Organic Field-Effect Transistors
P3HT	Poly(3-hexylthiophene)
PANI	Polyanilines
PBTTT-C14	Poly[2,5-bis(3-tetradecylthiophen-2-yl)thieno[3,2-b]thiophene]
ppm	Part per million
PQT-12	Poly(3,3''-dialkylquaterthiophene)
QDs	Quantum Dots
SAED	Selected Electron Diffraction Pattern
SEM	Scanning Electron Microscopy
SMU	Source and Measuring Unit
TEM	Transmission Electron Microscopy
TFT	Thin Film Transistor
UV-Vis	Ultraviolet-Visible
XRD	X-ray Diffraction

LIST OF SYMBOLS

Symbol	Abbreviation
Au	Gold
Cu	Copper
α	Absorption Coefficient
C_{ox}	Capacitance per unit area of insulator
CV	Capacitance-Voltage
L	Channel Length of Transistor
W	Channel Width of Transistor
R^2	Correlation Coefficient
I_{DS}	Drain to Source Current
V_{DS}	Drain to Source Voltage
E_F	Fermi Energy Level
m	slope
σ_{rms}	root-mean-square deviation
R	Gas Response
V_{GS}	Gate to Source Voltage
μ	Mobility
t_{ox}	Oxide Gate Thickness
SS	Subthreshold Swing
SiO_2	Silicon dioxide
V_{th}	Threshold Voltage