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Chapter VI

List of abbreviations

Abbreviations	Names
TMDC	Transition metal dichalcogenides
nm	Nanometer
eV	Electron volt
0D	Zero dimensional
1D	One dimensional
2D	Two dimensional
3D	Three dimensional
IF	Inorganic fullerene
JCPDS	Joint Committee on Powder Diffraction Standards
DI	Deionized
SEM	Scanning Electron Microscope
EDX	Energy dispersive X-ray spectroscopy
TEM	Transmission Electron Microscope
FTIR	Fourier transform infrared spectroscopy
FWHM	Full width at half maxima
HRTEM	High resolution transmission electron microscopy
AFM	Atomic force microscopy
KeV	Kilo electron volt
MeV	Mega electron volt
BET	Bruner-Emmett-Teller
BJH	Barrett-Joyner-Halenda

µm	Micrometer
SAED	Selected area electron diffraction
TGA	Thermogravimetric
UV	Ultra-violet
SRIM	Stopping and range of ions in matter
TRIM	Transport of ions in matter
XRD	X-ray diffraction
Å	Angstrom
NMP	1-methyl-2-pyrolidone
C-dot	Carbon dot
PVA	Polyvinyl alcohol
MG	Malachite green
MO	Methyl orange
COF	Coefficient of friction
CA	Contact angle
CAH	Contact angle hysteresis

List of Symbols

Symbols	Meanings
β	Full width half maxima
ε	Microstrain
E^1_{2g}	In-plane Raman vibrational mode
A_{1g}	Out-of-plane Raman vibrational mode
λ_{ex}	Excitation wavelength
λ_{em}	Emission wavelength
C_0	Initial concentration of the dye before irradiation
C_t	Concentration of the dye after irradiation
k_a	Rate constant
θ_{adv}	Advancing angle
θ_{rec}	Receding angle
γ_s^d	Dispersive component of surface energy
γ_s^p	Polar component of surface energy
S_e	Electronic energy loss
S_n	Nuclear energy loss
R_q	Root mean square roughness
σ_L	Left symmetry factor
σ_R	Right symmetry factor
Δ	Stoke's shift
S_p	Electron phonon coupling constant
ω_{LO}	Longitudinal optical phonon frequency
$\hbar$	Planck's constant