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List of symbols and abbreviations

2D	Two dimensional
TMD	Transition metal dichalcogenide
SC	Semiconductor
BG	Band gap
MBG	Multiple band gap
PL	Photoluminescence
DFT	Density functional theory
VASP	Vienna Ab initio Simulation Package
LDA	Local density approximation
GGA	Generalized gradient approximation
PBE	Perdew-Burke-Ernzerhof
NP	Nanoparticle
UV-vis	Ultra violet and visible
RB	Rhodamine B
MO	Methyl Orange
d or d_{hkl}	Crystal plane spacing or interplanar spacing
λ	Wavelength
θ	Bragg's angle
JCPDS	Joint committee on powder diffraction standards
SAED	Selected area electron diffraction
BET	Brunauer-Emmett-Teller
BJH	Berrett-Joyner-Halenda
K.E.	Kinetic energy
L	Crystallite size
$a(\lambda)$	Wavelength dependent absorptivity constant
KM	Kubelka-Munk
F(R)	Kubelka-Munk function
KS	Kohn-Sham
C	Concentration

c	Speed of light in vacuum
μM	Micro molar
eV	Electron volt
rpm	Rotation/revolution per minute
%D	Percentage of degradation
A_0	Initial absorbance
A_t	Absorbance at time t
ps	picosecond
n	Electron density
DOS	Density of states
TDOS	Total density of states
PDOS	Partial density of states
τ	Phonon lifetime
F.W.H.M	Full width at half maximum
VB	Valence band
CB	Conduction band
BZ	Brillouin zone
E_g	Band gap energy value
υ	frequency
e^{-1}	electron
h^+	hole
RC	Rate constant
V_{eff}	Kohn-Sham potential or effective potential
ε	Eigenenergy
V_{xc}	Exchange correlation potential
K or k	momentum
E-K	Energy-momentum
H_2MoO_4	Molybdic acid
H_2WO_4	Tungstic acid
NH_2CSNH_2	Thiourea