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## Abbreviations

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<b>Abbreviation</b>	<b>Full Form</b>
DDW	Double-distilled water
DI	Deionized water
TC	Tetracycline
MAPS	Materials and Process Simulation
MD	Molecular dynamics
MNDO	Modified neglect of diatomic overlap
RDF	Radial distribution function
LAMMPS	Large-scale Atomic/Molecular Massively Parallel System
XRD	X-ray diffractometer
FCC	Face-centered cubic
WCA	Water Contact Angle
VSM	Vibrating sample magnetometry
SEM	Scanning electron microscopy
UV-Vis	Ultraviolet-Visible Spectroscopy
UV-DRS	Ultraviolet diffuse reflectance spectroscopy
PL	Photoluminescence
FT-IR	Fourier transform infrared spectroscopy
TEM	Transmission electron microscopy
TOF	Turnover frequency
$\cdot\text{OH}$	Hydroxyl radical

$\cdot OOH$	Hydroperoxyl radical
$OH^-$	Hydroxide ion
NaOH	Sodium hydroxide
$O_2^{\cdot-}$	Superoxide radical
$H_2O_2$	Hydrogen peroxide
VB	Valence band
CB	Conduction band
NBT	Nitro blue tetrazolium
EIS	Electrochemical Impedance Spectroscopy
MS	Mott-Schottky
IPA	Isopropyl alcohol
NHE	Normal hydrogen electrode
PBQ	para-Benzoquinone
EDTA	Ethylene diamine tetra-acetic acid

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## **Chapter 8**

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