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## List of abbreviations

POC	Point of Care
LDC	Least Developed Country
ITU	International Telecommunication Union
CMOS	Complementary Metal-Oxide-Semiconductor
CCD	Charge-Coupled Device
CPU	Central Processing Unit
GPU	Graphical Processing Unit
GUI	Graphical User Interface
PC	Personal Computer
LED	Light Emitting Diode
ALS	Ambient Light Sensor
USB	Universal Serial Bus
NFC	Near Field Communication
IR	Infra Red
NIR	Near Infra Red
CFA	Color Filter Array
SPR	Surface Plasmon Resonance
LSPR	Localized Surface Plasmon Resonance
RFID	Radio-Frequency Identification
CARD	Chemically Actuated Resonant Device
SWCNT	Single-Walled Carbon Nanotubes
ECL	Electro-Chemiluminescence
ISO	International Organization for Standardization
OS	Operating Systems
ADC	Analog-to-Digital Converter

UV-VIS	Ultraviolet-Visible
SD	Standard Deviation
RSD	Residual Standard Deviation
ISE	Ion Selective Electrodes
NTU	Nephelometric Turbidity Units
USEPA	United States Environmental Protection Agency
IS	Indian Standards
JCGM	Joint Committee for Guides in Metrology
BP	Blood Pressure
EC	Electrical Conductivity
ATR	Attenuated Total Reflection
POF	Plastic Optical Fiber
DI	Deionized
OPD	Optical Path Difference
CAD	Computer-Aided Design
IDE	Integrated Development Environment

## List of symbols

$3G$	Third Generation
$4G$	Fourth Generation
$mg$	Milligram
$mL$	Milliliter
$mg$	Milligram
$nm$	Nanometer
$\mu m$	Micrometer
$mA$	Milliampere
$R$	Resistance, $\Omega$
$\lambda$	Wavelength
$A$	Absorbance
$\epsilon_\lambda$	Molar absorption coefficient
$b$	optical pathlength
$C$	Concentration
$P_0$	Incident radiant power
$P$	Transmitted radiant power
$T$	Transmittance
$S$	Sensitivity
$A.U.$	Arbitrary Unit
$R$	Resolution
$I_0$	Incident light intensity
$I$	Transmitted light intensity
$\tau$	Extinction coefficient
$L$	Scattering path length
$N$	Number of particles

$a$	Particle radius
$\pi$	Pi
$Q$	scattering coefficient
$\mu_p$	Refractive index of the particle
$\mu_m$	Refractive index of the medium
$m$	Refractive index ratio
$\alpha$	Size parameter
$k$	Wave vector
$\theta$	Scattering angle
$R_{ALS}$	Resolution of the ALS
$\sigma_m$	Standard deviation of the mean
$\theta_c$	Critical angle
$d_p$	Penetration depth
$\gamma$	Evanescent absorption co-efficient
$n$	Refractive index
$t$	Thickness
$m$	Fringe order
$\delta m$	Change in fringe order
$f$	Focal length

