

Abbreviation list

A	Adenine
AA	Ascorbic acid
Ab	Antibody
ABTS	2,2'-Azino-bis(3-ethylbenzothiazoline-6-sulphonic acid)
Ach	Acetylcholine
AChE	Acetylcholinesterase
ACP	Acyl carrier protein
ADH	Alcohol dehydrogenase
AFM	Atomic force microscope
Ag	Antigen
AgNP	Silver nanoparticle
ALP	Alkaline phosphatase
AMP	Adenosine monophosphate
APTS	3-Aminopropyl-triethoxy-silane
AR	Aspect ratio
ATP	Adenosine triphosphate
AuNP	Gold nanoparticle
AuNW	Gold nanowire
BHQ	Black hole quencher
bp	Base pair
bpy	Bipyridyl
BSA	Bovine serum albumin
C	Cytosine
CA	Cellulose acetate
CCD	Charge-coupled device
cCVD	Catalytic chemical vapour deposition
CDC	Centres for Disease Control and Prevention
CDH	Cellobiose dehydrogenase
cDNA	Complementary deoxyribonucleic acid
CE	Counter electrode
CGM	Continuous glucose monitor
CMOS	Complementary metal-oxide semiconductor
CNT	Carbon nanotube
CoA	Coenzyme A
COVID-19	Coronavirus disease 2019
CPG	Controlled pore glass
CTP	Cytidine triphosphate
CuAAC	Copper-catalysed azide-alkyne cycloaddition
CV	Cyclic voltammetry
DAB	3,3'-Diaminobenzidine
ddNTP	2',3'-Dideoxynucleoside triphosphate
DET	Direct electron transfer
DLS	Dynamic light scattering
DMAPN	Dimethylaminopropionitrile
DMF	Dimethylformamide
DNA	Deoxyribonucleic acid
DNB	DNA nanoball

XVI — Abbreviation list

dNHP	Deoxynucleoside hexaphosphate
DNP	2,4-Dinitrophenol or dinitrophenyl group
dNTP	Deoxynucleoside triphosphate
dPCR	Digital polymerase chain reaction
DPN	Dip-pen nanolithography
dsDNA	Double-stranded deoxyribonucleic acid
DTT	Dithiothreitol
EBL	Electron-beam lithography
EC	Enzyme Commission (number)
ECL	Electrochemiluminescence
EDC	1-Ethyl-3-(3-dimethylaminopropyl)carbodiimide
EDX	Energy-dispersive X-ray spectroscopy
EIA	Enzyme immunoassay
ELEC	Enzyme-labelled electrochemical (immunosensor)
ELISA	Enzyme-linked immunosorbent assay
EMF	Electromotive force
EQCM	Electrochemical quartz crystal microbalance
ESR	Electron spin resonance
EXAFS	Extended X-ray absorption fine structure
FAD	Flavin adenine dinucleotide
FAM	Fluorescein
FE-SEM	Field-emission scanning electron microscopy
FITC	Fluorescein isothiocyanate
fMet	Formylmethionine
FMN	Flavin mononucleotide
FRET	Fluorescence/Förster resonance energy transfer
FTIR	Fourier-transform infrared spectroscopy
G	Guanine
GA	Glutaraldehyde
GC	Guanine–cytosine base pair
GDH	Glucose dehydrogenase
GFP	Green fluorescent protein
GGBP	Galactose glucose binding protein
GLDH	Glutamate dehydrogenase
GLYMO	3-Glycidoxypropyl-trimethoxy-silane
GOx	Glucose oxidase
GPT	Glutamate-pyruvate transaminase
GTP	Guanosine triphosphate
hBN	Hexagonal boron nitride
hCG	Human chorionic gonadotropin
His	Histidine
HIV	Human immunodeficiency viruses
HOPG	Highly oriented pyrolytic graphite
HPLC	High-performance liquid chromatography
HPTS	Hydroxypyrene trisulphonic acid (pyranine)
HRP	Horseradish peroxidase
HR-TEM	High-resolution transmission electron microscopy
HSQ	Hydrogen silsesquioxane
ICP-MS	Inductively coupled plasma mass spectrometry

Ig	Immunoglobulin
IR	Infrared
ISE	Ion-selective electrode
ISFET	Ion-sensitive field-effect transistor
ITO	Indium tin oxide
IUPAC	International Union of Pure and Applied Chemistry
LDH	Lactate dehydrogenase
LED	Light-emitting diode
LFIA	Lateral flow immunoassay
LOD	Limit of detection
LSPR	Localised surface plasmon resonance
MALDI-TOF	Matrix assisted laser desorption/ionization time-of-flight mass spectrometry
MES	2-(<i>N</i> -Morpholino)ethanesulphonic acid
MET	Mediated electron transfer
MGB	Minor groove binder
MIP	Molecularly imprinted polymer
miRNA	Micro-ribonucleic acid
mRNA	Messenger ribonucleic acid
MS	Mass spectrometry
MT	Mutant
MW	Molecular weight
MWCNT	Multi-wall carbon nanotube
NAD	Nicotinamide adenine dinucleotide
NADP	Nicotinamide adenine dinucleotide phosphate
NEA	Nanoelectrode array
NEE	Nanoelectrode ensemble
NGS	Next-generation sequencing
NHS	<i>N</i> -Hydroxysuccinimide
NIL	Nanoimprint lithography
NIR	Near infrared
NMR	Nuclear magnetic resonance spectroscopy
NP	Nanoparticle
NTP	Nucleoside triphosphate
NW	Nanowire
ONT	Oxford Nanopore Technologies
PacBio	Pacific Biosciences
PAGE	Polyacrylamide gel electrophoresis
PANI	Polyaniline
PAP	<i>p</i> -Amino phenol
PBE	Partially blocked electrode
PCR	Polymerase chain reaction
PD	Photodiode
PDH	Pyranose dehydrogenase
PEDOT	Poly(3,4-ethylenedioxythiophene)
PEGDGE	Polyethylene glycol diglycidyl ether
pI	Isoelectric point
PMMA	Poly(methylmethacrylate)
PMT	Photomultiplier
POx	Pyranose oxidase

XVIII — Abbreviation list

PP _i	Pyrophosphate anion
PPy	Polypyrrole
PQQ	Pyrrolo-quinoline quinone
PSA	Prostate-specific antigen
PVC	Polyvinylchloride
PVDF	Polyvinylidene fluoride
QCM	Quartz crystal microbalance
qPCR	Quantitative polymerase chain reaction
qRT-PCR	Quantitative reverse transcription PCR
RCA	Rolling circle amplification
RDE	Rotating disc electrode
RE	Reference electrode
redox	Reduction–oxidation
RI	Refractive index
RIA	Radioimmunoassay
RNA	Ribonucleic acid
rRNA	Ribosomal ribonucleic acid
SAM	Self-assembled monolayer
SARS-CoV-2	Severe acute respiratory syndrome – coronavirus – 2
SAXS	Small-angle X-ray scattering
SBS	Sequencing by synthesis
SCE	Saturated calomel electrode
SDS	Sodium dodecyl sulphate
sec-Ab	Secondary antibody
SEC-UV-vis	Size-exclusion chromatography with UV–vis detection
SEM	Scanning electron microscope
SERS	Surface-enhanced Raman spectroscopy or scattering
SHE	Standard hydrogen electrode
SMRT	Single-molecule real time
SNP	Single-nucleotide polymorphism
SP	Sequencing primer
SPAAC	Strain-promoted azide–alkyne cycloaddition
SPL	Scanning probe lithography
SPR	Surface plasmon resonance
ssDNA	Single-stranded deoxyribonucleic acid
SSNMR	Solid-state nuclear magnetic resonance spectroscopy
ssRNA	Single-stranded ribonucleic acid
SSV	Sphere segment void
SWCNT	Single-wall carbon nanotube
T	Thymine
TCEP	Tris(2-carboxyethyl)phosphine
TEM	Transmission electron microscopy
TIR	Total internal reflection
TMD	Transition metal dichalcogenide
TPA	Tripropylamine
Tris	Tris(hydroxymethyl)aminomethane
tRNA	Transfer ribonucleic acid
Tween	polysorbate-type non-ionic surfactant
U	Uracil

UTP	uridine triphosphate
UV	Ultraviolet
UV–vis	Ultraviolet–visible
WE	Working electrode
WT	Wild type
XANES	X-ray absorption near-edge structure
XPS	X-ray photoelectron spectroscopy
ZMW	Zero-mode waveguide

