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Abbreviations

%	Percentage
&	And
°C	Degree celsius
μA	Microampere
μl	Microliter
μM	Micromolar
μm	Micrometer
μmol/L	Micromol per liter
AC	Alternating current
ADP	Adenosine diphosphate
Ag	Silver
Ag/AgCl	Silver-silver chloride
ARF	Acute renal failure
ATP	Adenosine triphosphate
Au	Gold
BUN	Blood urea nitrogen
CA	Creatinine amidohydrolase
CD	Creatine deaminase
CE	Counter electrode
CHIT	Chitosan
CHIT-g-PANI	Chitosan grafted polyaniline
CI	Creatine amidinohydrolase
CIH	Creatinine iminohydrolase
CK	Creatine kinase
CKD	Chronic kidney disease
cm	Centimeter
c-MWCNTs	Carboxylated multiwalled carbon nanotubes
CNTs	Carbon nanotubes
CPG	Controlled pore glass
CRF	Chronic renal failure
CV	Coefficient of variations

dl	Deciliter
DO	Dissolved oxygen
DOP	Dioctylphthalate
DW	Double distilled water
e⁻	Electron(s)
e.g.	For example
EDC	N-ethyl-N'-(3-dimethylaminopropyl) carbodiimide
EIS	Electrochemical impedance spectroscopy
EnFET	Enzyme field effect transistor
F	Faraday constant
Fe₃O₄-NP	Iron oxide nanoparticles
FIA	Flow injection analysis
FTIR	Fourier transform infrared
g	Gram
g/L	Gram per liter
GAA	Guanido acetic acid
GCE	Glassy carbon electrode
GFR	Glomerular filtration rate
GLDH	Glutamate dehydrogenase
GLOD	Glutamate oxidase
GO_x	Glucose oxidase
GTP	Guanosine triphosphate
H⁺	Hydrogen ion
H₂O₂	Hydrogen peroxide
HPU	Hydrophilic polyurathanes
Hr	Hour(s)
Hz	Hertz
IDH	Isocitrate dehydrogenase
ISE	Ion selective electrode
ISFET	Ion sensitive field effect transistor
kDa	Kilo Dalton
kg	Kilograms
kU	Kilo units

kV	Kilovolt
L	Liter
LBM	Lean Body mass
LDH	Lactate dehydrogenase
M	Molar
mA	Milliampere
mg	Milligram
min	Minute(s)
ml	Milliliter
mM	Millimolar
mm	Millimeter
mV	Millivolt
mV/s	Millivolt per second
N	Normal
NADH	Nicotinamide adenine dinucleotide
NADPH	Nicotinamide adenine dinucleotide phosphate
NH₄⁺	Ammonium ion
NHS	N-hydroxysuccinimide
nm	Nanometer
NR	Not reported
o-NPOE	o-nitrophenyl octyl ether
PANI	Polyaniline
PB	Phosphate buffer
PbO₂	Lead dioxide
Pi	Inorganic phosphate
pI	Isoelectro focusing point
PK	Pyruvate kinase
PPi	Inorganic pyrophosphate
Pt	Platinum
PVA-SbQ	Poly(vinyl alcohol)-styrylpyridinium
R	Universal gas constant
R_{CT}	Charge transfer resistance
RE	Reference electrode

RPM	Round per minute
s	Second(s)
SD	Standard deviation
SEC	Shapable electroconductive film
SEM	Scanning electron microscopy
SiO₂	Silicone oxide
SO	Sarcosine oxidase
SPE	Screen printed electrode
SPR	Surface plasmon resonance
U	Units
U/ml	Units per milliliter
U/mg	Units per milligram
UV	Ultra-violet
V	Volt
WE	Working electrode
ZnO-NPs	Zinc oxide nanoparticles
α	Alpha
β	Beta
γ	Gamma
δ	Delta
Π	Pi
Ω	Ohm

List of Research Publications of based on/related to Ph.D. thesis

1. **Yadav S**, Kumar A, Pundir CS (2011) Amperometric determination of creatinine with covalently co-immobilized enzymes onto carboxylated multiwalled carbon nanotubes/polyaniline composite film on Pt electrode. *Anal. Biochem.* **419**: 277-283 (**Impact Factor-2.996**).
2. **Yadav S**, Devi R, Kumar A, Pundir CS (2011) Tri-enzyme functionalized ZnO-NPs/CHIT/c-MWCNT/PANI composite film for amperometric determination of creatinine. *Biosens. Bioelectrons.* **28**: 64-70 (**Impact Factor-5.602**).
3. **Yadav S**, Devi R, Bhar P, Singhla S, Pundir CS (2012) A creatinine biosensor based on iron oxide nanoparticles/chitosan-g-polyaniline composite film electrodeposited on Pt electrode. *Enz. Microb. Technol.* **50**: 247-254 (**Impact Factor-2.367**).