

LIST OF ABBREVIATIONS

AAS	Atomic absorption spectroscopy
AmS	Aminated starch
AMT	Arsenic treated CMT
As(III)	Trivalent arsenic
As(V)	Pentavalent arsenic
As/CIRP	Arsenic treated citric acid root powder
ATC	Arsenic treated SPC
CIRB	Citric acid water hyacinth root powder blend
CMT	CTAB modified TiO ₂
CT	Chitosan
Ct/Glu	Glutaraldehyde crosslinked chitosan
CTAB	N-cetyl-N,N,N-trimethylammoniumbromide
CTN	Chitosan Coated Magnetite Composite
CTRB	Chitosan water hyacinth root powder blend
CTRP	Chitosan/Water hyacinth root powder composite
CTRP-As	Arsenic adsorbed CTRP
DFT	Density functional theory
DLS	Dynamic Light Scattering Analysis
<i>E. crassipes</i>	<i>Eichornia crassipes</i>
EDA	Ethylene diamine
EDX	Energy dispersive X-Ray analysis
FeN	Magnetite particle
FT-IR	Fourier Transform Infra-red Spectroscopy
GGA	Generalized gradient approximation
GMA	Glycidylmethacrylate
iAs	Inorganic Arsenic
ICP-AES	Inductively coupled plasma spectrophotometer
MMT	Montmorillonite
MMT/Ct/Glu	Clay loaded chitosan nanoparticles
OMMT	Organically modified montmorillonite
q _e	Equilibrium adsorption capacity

RP	Citric acid crosslinked water hyacinth root powder
SEM	Scanning electron microscopy
SIC	Iron oxyhydroxide crosslinked starch composite
SICC	Clay loaded iron oxyhydroxide crosslinked starch composite
SPC	Starch coated CMT nanocomposite
St-g-GMA	Glycidyl methacrylate grafted starch
TEM	Transmission electron microscope
TGA	Thermogravimetric Analysis
UTi	Unmodified titanium dioxide
vdW	van der Waals interaction
WHO	World health organization
WHRP	Water hyacinth root powder
XRD	X-Ray Diffraction Study