

LIST OF ABBREVIATIONS/SYMBOLS

Definition	Abbreviation/Symbol
Absorbance	A
Absorptivity	ϵ
Adsorption capacity	Q
Adsorption energy	b
Adsorption potency	n
American Society for Testing and Materials	ASTM
Analytical research grade	AR grade
Atmospheric pressure	P _{atm}
Boundary layer thickness/diffusion	C _i
Carbon black	CB
Carbon dot	GQD
Carbon nanofiber	CNF
Carbon nanotube	CNT
Cationic gemini surfactant	CGS
Cetyltrimethylammonium bromide	CTAB
ChCl: Urea: Glycerol (1:1.5:0.5)	CUG-1
ChCl: Urea: Glycerol (1:1:1)	CUG-2
ChCl: Urea (1:2)	Reline
Chemical vapor deposition	CVD
Choline chloride	ChCl
Cocobetaine	CB
Concentrations	c
Congo red	CR
Contact time	t
Correlation coefficient	R ²
Critical micelle concentration	CMC
Decomposition temperature	T _d
Deep eutectic solvents	DES
Degrees Celsius	°C

Dichloromethane	DCM
Differential scanning calorimetry	DSC
Dodecyl trimethyl ammonium bromide	DTAB
Effective surface area	a
Electrochemical double-layer capacitors	EDLC
Energy dispersive X-ray	EDX
Equilibrium adsorption parameter	R_{EP}
Field emission scanning electron microscopy	FESEM
Final pH	pH_{final}
Fourier transform infrared spectroscopy	FTIR
Fraction free volume	FFV
Fracture strain	ϵ_f
Fracture strength	σ_t
Fresh adsorption capacities	Q_f
Freundlich adsorption constant	K_{FI}
Functionalized graphene sheets	FGS
Gas constant	R
Glass transition temperatures	T_g
Glycine	Gly
Graphene oxide	GO
High ordered pyrolytic graphite	HOPG
Hydrogen-bond acceptor	HBA
Hydrogen-bond donor	HBD
Initial concentration	C_i
Initial pH	$pH_{initial}$
Intraparticle velocity constant	k_i
Ionic liquids	ILs
Maximum wavelength	λ_{max}
MB concentration	[MB]
Membrane films thickness	t
Membrane porosity	α
Methylene blue	MB
Mixed matrix membranes	MMM
Multi-walled carbon nanotubes	MWCNT

N, N-dimethyl formamide	DMF
Nanocomposite	NC
Nanoparticle	NP
N-methyl-2-pyrrolidone	NMP
Ortho-dichlorobenzene	O-DCB
Peak wavelengths	λ_{em}
Percentage of dye removal	P
Point of zero charge	pH _{pzc}
Poly-aniline	PANI
Polycarbonate	PC
Poly-ethylene	PE
Poly-ethylene glycol	PEG
Polymer nanocomposite	PNC
Poly-propylene	PPy
Poly-styrene	PS
Poly-vinyl alcohol	PVA
Pseudo-first order rate constant	k ₁
Quantum hall effect	QHE
Re-adsorption efficacy	R _e
Recharged adsorption capacities	Q _r
Reduced graphene oxide	rGO
Rhodamine B	RB
Second order rate constant	k ₂
Single-walled carbon nanotubes	SWCNT
Sodium dodecyl benzene sulfonate	SDBS
Sodium dodecyl sulfate	SDS
Synthetic carbon allotrope	SCA
Temkin constant	K _T
Thermogravimetric analysis	TGA
Time t concentrations	C _t
Titanium (IV) oxide	TiO ₂
Titanium isopropoxide	TTIP
Transmission electron microscopic	TEM
Triton X-100	TX-100

Universal testing machine	UTM
UV-visible	UV-vis
Volume	V
Water density	ρ
Wavelength	λ
Weights	W
X-ray diffraction	XRD
Zinc oxide	ZnO
Zirconium dioxide	ZrO ₂

*Other abbreviations and symbols are explained in the text.