

## LIST OF ABBREVIATION AND SYMBOLS

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%	percentage
°C	degree centigrade
1-D	one dimensional
2-D	two dimensional
3-D	three dimensional
ACPO	acrylic polyol
AFM	atomic force microscopy
AgNP	silver nanoparticle(s)
BD	1,4-butanediol
BPA	bisphenol-A
<i>C. limon</i>	<i>Citrus limon</i>
CBN	carbon-based nanomaterial(s)
CD	carbon dot(s)
cm	centimeter(s)
CNSL	cashew nut shell liquid
CNT	carbon nanotube(s)
CVD	chemical vapor deposition
DB	degree of branching
DBTDL	dibutyltindilaurate
DEA	diethanolamine
DGEBA	diglycedylether epoxy of bisphenol A
DMAc	dimethylacetamide
DMCHA	dimethylcyclohexyl-amine
DMEA	dimethylethanolamine
DMF	dimethylformamide
DSC	differential scanning calorimetry
e <sup>-</sup>	electron(s)
<i>E. Coli</i>	<i>Escherichia coli</i>

EC	endothelial cell(s)
EG	expandable graphite
EMI	electromagnetic interference
ESD	electrostatic discharge
eV	electronvolt
FBS	fetal bovine serum
fcc	face centered cubic
FFT	fast Fourier transform
FTIR	Fourier transform infrared
g	gram(s)
GO	graphene oxide
h	hour(s)
h <sup>+</sup>	hole(s)
H <sub>12</sub> MDI	dicyclohexylmethane diisocyanate
HA	hydroxyapatite
H-bonding	hydrogen bonding
HBSE	hyperbranched starch based epoxy
HBSP	hyperbranched starch modified polyol
HDF	human dermal fibroblast
HDI	hexamethylene diisocyanate
HDMEM	Dulbecco's modified eagle medium
HPU	hyperbranched polyurethane(s)
HRTEM	high resolution transmission electron microscopy
HTPB	hydroxyl-terminated polybutadiene glycol
HXDI	hydrogenated xylene diisocyanate
IFFT	inverse fast Fourier transform
IPDI	isophorone diisocyanate
IR	infrared
J	Joule
kg	kilogram(s)
kV	kilovolt

LDH	lactate dehydrogenase
LDI	( <i>S</i> )-Lysine diisocyanate
LPU	linear polyurethane
MB	methylene blue
MDI	methylene diphenyl diisocyanate
min	minute(s)
mL	milli litre(s)
mm	milli meter(s)
MMT	montmorillonite
MO	methyl orange
mol	mole(s)
MPa	Megapascal
MW	microwave
MWCNT	multi-walled carbon nanotube(s)
N	Newton
NBDI	norbornane diisocyanate
NBF	neutral buffered formalin
NDI	naphthalene diisocyanate
NIR	near IR
nm	nanometer
NMR	nuclear magnetic resonance
OC	organic contaminant
OD	optical density
0-D	zero dimensional
<i>P. aeruginosa</i>	<i>Pseudomonas aeruginosa</i>
PANi	polyaniline nanofiber
Pas	pascal second
PBS	phosphate buffered saline
PCL	poly(caprolactone)diol
PDMS	polydimethylsiloxane glycol
PEA	polyethylene adipate

PEG	polyethylene glycol
PEP	polyester polyol(s)
PL	photoluminescence
PMDTA	<i>N,N,N',N',N''</i> -pentamethyl diethylenetriamine
PNC	polymer nanocomposite(s)
POSS	polyhedral oligomeric silsesquioxane
PPDI	<i>p</i> -phenylene diisocyanate
PPG	polypropylene glycol
PRP	platelet rich plasma
PTMEG	poly(tetramethylene ether) glycol
PU	polyurethane
PUNC	polyurethane nanocomposite(s)
RBC	red blood cell(s)
RCD	reduced carbon dot
RGO	reduced graphene oxide
<i>S. aureus</i>	<i>Staphylococcus aureus</i>
SAED	selected area electron diffraction
SAXS	small angle X-ray scattering
SEM	scanning electron microscopy
SHP	self-healing polymer(s)
SMC	smooth muscle cell(s)
SME	shape memory effect
SMP	shape memory polymer(s)
SPR	surface plasmon resonance
SWCNT	single-walled carbon nanotube(s)
TCP	tissue culture plate
TDI	tolulene diisocyanate
TEA	triethanolamine
TEA/TEN	triethylamine
TEDA/DABCO	triethylenediamine
TEM	transmission electron microscopy

TGA	thermogravimetric analysis
THF	tetrahydrofuran
$T_m$	melting temperature
TMXDI	tetramethyl- <i>m</i> -xylylene diisocyanate
TPS	thermoplastic starch
TPU	thermoplastic polyurethane
UTM	universal testing machine
UV	ultraviolet
WPU	waterborne polyurethane
wt	weight
XDI	<i>m</i> -Xylylene diisocyanate
XRD	X-ray diffraction
$\delta$ ppm	chemical shift
$\mu\text{g}$	micro gram(s)
$\mu\text{L}$	micro liter(s)
$\mu\text{m}$	micro meter(s)

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## LIST OF SCHEMES

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