

# Index

- AA, *see* acrylic acid
- abrasion, 125, 173, 256, 295–96
- acrylic acid (AA), 104, 108, 254, 256–57, 261
- active agents, 13, 31, 33, 143, 218
- active films, 27, 31–33, 46, 50–52
- active packaging, 27, 31, 33, 46, 84–85
- additives, 24, 31, 45, 150, 160
- adenosine diphosphate (ADP), 248
- adenosine triphosphate (ATP), 28
- adhesion, 4, 122, 175–76, 185, 216, 222, 252, 260, 263, 268, 287, 299
- adhesives, 127, 162, 165–66, 274–75, 286, 288–89, 291
- ADP, *see* adenosine diphosphate
- adsorbents, 82, 97, 99, 101–9, 111, 177–79, 224
- adsorption, 69, 83–85, 93–94, 96–97, 99–111, 177–78, 224, 226, 242, 288
- monolayer, 99
- physical, 99
- protein, 223
- reversible, 99
- salt, 242
- AFM, *see* atomic force microscopy
- agglomerates, 240–41, 261, 281, 297
- agglomeration, 241, 254, 261, 288, 299
- Ag NPs, 27–29, 56
- alginates, 33, 94, 98, 105, 109–10, 128, 146, 148, 152, 162, 181, 187
- amino acids, 168–69, 241, 248, 287
- amylopectin, 51, 165, 248–50, 252, 258
- amylose, 165, 248–50, 252, 258
- annealing, 240, 263
- antibacterial activities, 6, 29, 50, 151, 180, 186–87, 216, 229
- antibacterial nanostructures, 27–28
- antibacterial properties, 84, 150, 180
- antimicrobial activities, 2–7, 28–29, 48–49, 85, 94, 125, 127, 186
- antimicrobial agents, 5–6, 28, 46, 127
- antimicrobial nanostructures, 28
- antimicrobial properties, 5, 28, 30, 45, 51, 81, 84, 186
- antimicrobials, 13, 27, 45–46, 55, 186, 212
- nanosized, 27
- potent, 221
- antioxidants, 13, 30–33, 40, 122, 164
- arc discharge, 240
- arsenic, 83, 93, 106–7, 162
- atomic force microscopy (AFM), 80, 282
- ATP, *see* adenosine triphosphate
- bacteria, 5–6, 29, 43–45, 49–51, 186
- gram-negative, 71, 84
- gram-positive, 6, 28, 84, 150
- gram-positive pathogenic, 6
- heat-resistant, 6
- psychrotrophic, 45

- bacterial cellulose (BC), 26, 32, 41–42, 107, 168, 186–88
- ball mill, 252, 258, 261
- bamboo fibers, 189
- barrier properties, 12–13, 18–21, 55, 81, 125, 168, 288
- BC, *see* bacterial cellulose
- beads, 109, 178, 181–82, 217
- Bendtsen air permeability, 129
- Bendtsen roughness, 129
- bentonite, 82, 177–78
- BGC, *see* bioactive glass ceramic
- bioactive glass ceramic (BGC), 223
- biocompatibility, 2–4, 80, 83, 94, 98, 153, 160, 167, 181, 187, 215, 217, 220–21, 223, 226
- biocomposites, 73, 81, 83, 94, 109, 111, 160, 171, 173, 176–77, 184, 188, 190, 248, 251
- biodegradability, 2–3, 71, 75, 79–80, 85, 94, 98, 120, 124, 152–53, 160, 164, 167, 217–18, 221
- biodegradable polymers, 11, 70–71, 74, 121, 160, 165–66, 213, 215, 247
- biodegradation, 75, 261–64, 268
- bioengineering, 2, 4, 169, 189
- biofunctional properties, 7, 55
- biomass, 35, 161, 165, 173
- biomaterials, 79, 94–95, 142, 160, 162, 167, 183, 213, 218
- biomedicine, 75, 127, 149, 212
- biomolecules, 39, 80, 95, 151, 181, 241
- bionancomposites, 7
- bionanoadsorption, 101, 103–4, 106–7, 109
- bionanocomposite films, 4, 31–33, 36, 46, 48, 50–51
- bionanocomposites (BNCs), 1–7, 12–15, 20–21, 24–27, 31–33, 44–53, 55–56, 70–71, 77–82, 84–86, 93–95, 98–99, 102–8, 120–21, 123–27
  - active, 31
  - agar/cellulose, 84
  - Ag/chitosan, 84
  - alginate/zein-sepiolite, 45
  - antioxidant activity of, 32
  - chitosan-based, 84
  - clay-based, 20
  - important, 124
  - montmorillonite/gum ghatti, 84
  - most-studied, 4
  - particulate, 3
  - smart, 38, 41
  - starch, 26
- biopolymers, 2, 4–5, 7, 12–17, 20–25, 35, 46, 51, 55, 71–73, 80–81, 83–84, 86, 94–95, 98–99, 111, 142, 160, 168–69, 172–73, 212
- biosensors, 5, 123, 151, 225–26, 242
- blends
  - cross-linked, 268
  - gelatinize starch, 268
  - synthetic, 76
  - water-soluble carboxymethyl chitin/PVA, 222
- BNCs, *see* bionanocomposites
- bond strength, 274, 279–80, 286–87
- bone tissue, 160, 182–84, 222–23
- Brownian motion, 18
- carbon nanofibers, 126
- carbon nanofibrils, 3
- carbon nanomaterials, 98
- carbon nanotubes (CNTs), 40, 49, 53, 77, 94, 108, 125–27, 224–25, 235–39, 241–43, 273–74, 276–78, 281–82, 284–91
  - functionalized, 274, 277, 292
  - multi-walled, 184, 236
- carbon vapor deposition (CVD), 278

- carboxymethylcellulose (CMC), 24, 32–33, 217, 221–22
- catalysts, 73, 110, 125, 144, 239, 278, 284
- catalytic chemical vapor deposition (CCVD), 239
- CB, *see* conduction band
- CCVD, *see* catalytic chemical vapor deposition
- cellulose, 4, 16, 36, 42, 49, 71, 73, 98, 111, 120–21, 129, 145, 161–64, 167, 178
  - bacterial, 32, 186
  - carboxymethyl, 50
  - hydroxy propyl, 179
  - modified amphiphilic, 145
  - nonbacterial, 26
  - plant, 71
- cellulose nanocomposites, 178–79, 185
- cellulose nanocrystals (CNCs), 46, 73, 103, 105, 180–83
- cellulose nanofibers (CNFs), 15–17, 21–22, 25–26, 254, 266
- cell walls, 6, 85, 142, 163–64, 186
- ceramics, 72, 110, 122, 171
- CFU, *see* colony-forming unit
- chemical precipitation, 96, 177, 182, 226
- chemical vapor deposition (CVD), 238–39, 278
- chitin, 109, 166–67, 177, 212, 224, 248
- chitosan, 6, 14, 16, 22, 24–25, 73, 77, 107–8, 110–11, 145–48, 167, 177–82, 185–88, 211–12, 214–26
  - bioactive, 222
  - depolymerized, 185
  - freeze-gelated porous, 223
  - grafted, 178
  - lactose-modified, 150
  - liposome-coated, 214
  - polysaccharide, 213
  - unmodified, 181
  - water-soluble, 148, 181
- chitosan-based nanomaterials, 211, 214, 217, 224, 226
- chitosan microspheres, 181, 216, 221
- chitosan nanocomposites, 39, 108, 150
- chitosan nanoparticles, 214–15, 218
- chitosan scaffolds, 222, 226
- chromatography, 240–41
- chromium, 93, 101–2, 177–78, 180
- clays, 4, 6, 26, 32–33, 94, 99, 120–21
- CMC, *see* carboxymethylcellulose
- CNCs, *see* cellulose nanocrystals
- CNFs, *see* cellulose nanofibers
- CNTs, *see* carbon nanotubes
- coacervation, 148, 181, 215, 219–20
- collagens, 72, 127, 168, 181, 185, 187–88
- colony-forming units (CFU), 44
- composite films, 151, 226, 255, 260
- composite hydrogel, 223
- composite materials, 70, 79, 81–82, 95, 171–72, 251–52, 258, 276–77
  - biodegradable, 72
  - bioresorbable, 169, 189
  - plant-derived, 172
- composites, 1–2, 75, 79–81, 94, 125–28, 160, 168, 170–73, 175–78, 188–90, 221, 252–57, 262–65, 276–77, 302–3
- composite scaffolds, 183–84, 222–23, 227
- computed tomography (CT)
- conduction band (CB), 34, 36–37
- conductivity, 39, 211, 237
- contaminants, 37–38, 69–70, 82, 179

- copolymers, 76, 105, 162, 177, 212, 218, 296
- copper, 6, 93, 107–8, 124, 177–78, 224, 232, 276
- cornstarch, 33, 254–55, 257–58, 261, 263–64, 267
- cross-linker, 148, 178, 217, 255, 267
- cross-links, 146, 182, 296
- CT, *see* computed tomography
- CVD, *see* carbon vapor deposition
- CVD, *see* chemical vapor deposition
- CVD reactor, 278
  - horizontal, 278
- cyclic voltammetry, 242
- cytotoxicity, acute, 151, 219
  
- DAS-RGO/PANI, 259–60
- DC, *see* direct current
- decomposition, 47
  - chemical, 239
  - light-induced, 33
  - photocatalyzed, 35
- degradation, 76, 165, 175, 206, 223, 251, 303–5
  - accelerated, 268
  - chemical, 167–68
  - environmental, 70
  - improved, 183
  - photocatalytic, 36, 62
  - rapid hydrolytic, 74
- desalination, 178, 242
- dielectric properties, 126, 237
- differential scanning calorimetry (DSC), 258
- diffusion, 18–19, 23, 31–32, 84, 97, 111, 224, 259
- direct current (DC), 240
- dispersion, 146, 217, 224, 254, 258, 274, 277, 281, 297
- DMTA, *see* dynamic mechanical thermal analysis
- DNA, 28, 72, 95, 142, 181, 186, 215, 219, 225, 242
  
- DOX, *see* doxorubicin
- doxorubicin (DOX), 181–82, 219
- drinking water, 38, 69, 106–7, 109
- drug carriers, 144, 214–15, 217–18
- drug delivery, 71, 73, 76, 149, 152, 162, 168, 170, 180–81, 211, 213–14, 217–21, 226, 230, 236
- drug delivery systems, 79, 123, 180, 217, 219, 221
- drug release, 2, 170, 180, 182, 218–19, 222
- DSC, *see* differential scanning calorimetry
- DSSCs, *see* dye-sensitized solar cells
- Dubinin–Radushkevich adsorption isotherms, 107
- Dubinin–Radushkevich isotherm constant, 101
- dye-sensitized solar cells (DSSCs), 128, 138
- dynamic mechanical thermal analysis (DMTA), 80
  
- EB, *see* elongation at break
- ECM, extracellular matrix
- edible films, 33, 44–45
- electrical conductivity, 122–23, 237
- electrical properties, 42, 74, 235, 276–77, 296, 301, 303, 305
- electrodialysis, 96
- electrokinetics, 69
- electrolysis, 96
- elongation, 15, 76, 84, 169, 251, 253–55, 295, 299–302
- elongation at break (EB), 15–17
- Elovich liquid film diffusion, 97
- Elovich model, 83
- emulsification, 146, 181, 214–15
- environment friendliness, 83
- environment pollution, 1

- enzymes, 5, 34, 107, 129, 225–26, 242, 251
- EOs, *see* essential oils
- equilibrium, 19, 97, 99, 101
- Escherichia coli* (*E. coli*), 6, 10, 28–29, 43, 47, 50, 84–85, 127, 151, 186
- essential oils (EOs), 33, 46–47, 49, 84
- extracellular matrix (ECM), 168, 183–85, 222
- facile gas diffusion, 216
- FAO, *see* Food and Agriculture Organization
- FCNTs, *see* functionalized carbon nanotubes
- FESEM, *see* field emission scanning electron microscopy
- fibers, 94, 121, 159, 170–71, 173, 175–76, 188, 249, 252–53, 255, 263–66, 268
- field emission scanning electron microscopy (FESEM), 80, 265–66
- fillers, 19, 55, 77, 81, 94, 121–22, 252, 258, 260, 268, 274–77, 289–90, 296–99
  - inert, 296
  - nanosized, 19, 94, 276
  - natural, 159
  - particulate, 296
  - reinforcing, 296, 301
- films, 11–12, 18–20, 24, 32–33, 35, 45–49, 51, 72, 84–85, 168, 170, 180–81, 213, 219, 251–52
- filtration, 177, 179, 183, 203, 240
- Fior di latte cheese, 50, 65
- flocculants, 75, 96
- Flory–Huggins isotherm model
  - exponent, 101
- fly ash, 102, 114, 178
- Food and Agriculture Organization (FAO), 44
- food packaging, 3–7, 12–14, 27, 34, 38, 45, 52–53, 56, 81, 120, 122–25, 127, 149
  - active, 27
  - intelligent, 55
  - smart, 40
- foods, 7, 12–13, 18, 27, 30–31, 33–34, 37, 40–44, 46, 51–53, 55, 123
- edible plastic, 248
- fatty, 31
- fresh, 186
- packaged, 18, 40
- protecting, 31
- shelf life of, 13, 30
- spoilable, 20
- foodstuff, 30, 85
- Fourier transform infrared (FTIR), 80, 179–80, 184, 217, 274, 279, 285–86, 288
- Frenkel–Halsey–Hill isotherm, 101
- Freundlich and Langmuir
  - adsorption models, 224
- Freundlich equation, 99–100
- Freundlich isotherm, 99, 102, 106–9
- FTIR, Fourier transform infrared
- functional groups, 72, 74, 98, 108, 141–43, 162, 164, 180, 223, 286, 288
- functionalized carbon nanotubes (FCNTs), 274, 277, 281–90
- functional materials, 8, 217, 226
- functional properties, 2, 52, 55–57, 129
- fungi, 5, 28, 45, 50, 71, 110, 164, 167
- gas diffusion, 18–20
- gelatin, 47, 49, 72, 166, 168–69, 181, 183–84, 187–88, 223
- gene delivery, 181, 236
- glass transition, 21, 25

- glass transition temperatures, 20, 165, 250, 258, 268
- glucose biosensor, 225–26, 242
- GO, *see* graphene oxide
- gold nanoclusters, 38
- gold nanoparticles, 39, 151, 157, 226
- GO/PANI, 259–60
- graft copolymers, 177, 254, 256–57, 261
- grafting, 142, 177, 218, 223, 252
- graphene oxide (GO), 77, 110, 179, 258–59
- green composites, 160, 172–73, 175–76, 247, 254, 261
- groundwater, 69–70, 106
  
- HAp, *see* hydroxyapatite
- HDPE, *see* high-density polyethylene
- heavy metal ions, 4, 94, 96, 98, 177, 221
- heavy metals, 68, 70, 79, 82–83, 96–98, 103, 111, 176–78
- hemicelluloses, 73, 161–62, 164
- heteropolymer, 83, 167
- high-density polyethylene (HDPE), 14, 51
- Hill constant, 101
- hole–electron pairs, 36
- homopolymers, 249, 255
- hybrid scaffolds, 184, 222
- hydrogels, 77, 170, 183, 187, 217–18, 221–22
- hydrolysis, 75, 167, 175, 221
- hydrophilic, 77, 143, 145, 175, 217, 250
- hydrophilicity, 82, 99, 144, 163, 250–51
- hydrophobic, 144–45, 179, 214, 216–17, 241, 251
- hydrophobicity, 144
- hydroxyapatite (HAp), 77, 178, 182, 223–24
- hydroxyl groups, 72, 75, 108, 142, 145, 167, 223, 250, 286
  
- immunosensors, 39, 152
- implants, 76, 185
  - cardiovascular, 185
  - medical, 185
- industrial applications, 40, 98, 166
- industrial wastewater, 96, 180
- intermolecular association, 144, 250
- International Union of Pure and Applied Chemistry (IUPAC), 171
- ion exchange, 50, 96, 99, 177
- ionic gelation, 148, 214–16, 219–20
- isotherm model, 99
- IUPAC, *see* International Union of Pure and Applied Chemistry
  
- jute-based bionanocomposites, 189
  
- kefiran, 14–15, 22, 24–25
- kenaf and hemp fiber bundles, 189
- keratin, 72, 170
- keratin feather fibers, 170
- Khan isotherm, 101
- Koble–Corrigan isotherm constant, 100–101
  
- Langmuir adsorption models, 224
- Langmuir isotherm, 84, 99, 102–6, 108–11
- laser, 122, 127, 239
- laser ablation, 238–39
- layer-by-layer (LbL), 180–81, 204
- LbL, *see* layer-by-layer
- LDPE, *see* low-density polyethylene
- ligands, 34, 44, 82, 109, 181
- light scattering, 38
- lignin, 71–73, 161–64, 179
- limit of detection (LOD), 242

- linear polymer, 129, 163, 167
- LOD, *see* limit of detection
- low-density polyethylene (LDPE), 14, 51, 125, 170
- low toxicity, 120, 187, 212, 217, 221, 226
- MacMillan–Teller isotherm
  - constant, 101
- macromolecules, 145, 167, 241
- magnetic chitosan, 102, 106, 108
- magnetic chitosan nanoparticles, 108
- magnetic nanocomposite, 108
- magnetic nanoparticles, 43
- MAP, *see* modified-atmosphere packaging
- matrix, 3–4, 18–20, 79, 121–22, 160, 162, 170–71, 176, 225–26, 247, 252–55, 258, 260–61, 263, 265
  - chemically treated, 253
  - continuous, 268
  - cross-linked, 263
  - fibrous, 222
  - host, 86
  - nonbiodegradable, 262
- matrix nanocomposites, 121–23
- matrix polymers, 175–76
- MCNFs, *see* modified cellulose nanofibers
- mechanical properties, 3, 5, 13–17, 74, 121–23, 125, 163, 165, 175–76, 183, 249, 251–56, 296, 298–300, 303
- mechanical strength, 75, 124, 182–83, 188, 216, 223
- membrane filtration, 178
- metal ions, 75, 83, 94, 96–97, 99, 141, 143, 178, 223
  - heavy, 97
  - toxic, 224
  - toxic heavy, 226
- metal matrix nanocomposites, 121–23
- metal nanoparticles, 120, 239
- metal oxides, 1–2, 4–7, 111
- methyl methacrylate (MMA), 254, 256–57, 261
- MIC, *see* minimum inhibition concentration
- microbial activity, 6
- microbial growth, 18, 27, 34, 46
- microorganisms, 28, 42, 44–45, 49, 68, 71, 79, 84–85, 95, 119, 165, 186, 251
  - pathogenic, 18, 45–46, 70
- microspheres, 177–78, 182–83, 216–17, 219
- microwave (MW), 114, 129, 254, 256–57, 261, 269
- minimum inhibition concentration (MIC), 151, 186
- mixed matrix blend membrane (MMM), 179
- MMA, *see* methyl methacrylate
- MMM, mixed matrix blend membrane
- MMT, *see* montmorillonite
- modified-atmosphere packaging (MAP), 30, 40, 50
- modified cellulose nanofibers (MCNFs), 31–32
- modulus, 173, 188, 276, 299–302
  - compression, 255
  - compressive, 188
  - final, 183
  - high, 254
- modulus of elasticity, 188, 253
- moieties, 164
  - chemical, 225
  - inorganic, 98, 119–20
  - methanamide, 167
- monomers, 74–76, 96, 129, 146, 177, 254, 261

- montmorillonite (MMT), 7, 27, 105, 107, 124, 289
- 7, 15–17, 21–23, 25, 27, 32, 115, 289, 293
- morphology, 3–4, 145, 170, 183, 237, 250, 258–59, 267, 282
- complex TPU, 298
- internal, 223
- microphase, 298
- multitude, 141
- porous, 225
- regular spherical, 144–45
- multiwalled carbon nanotubes (MWCNTs), 42, 51, 74, 79, 103, 126, 184, 225–26, 235–38, 240–43, 276
- MW, *see* microwave
- MWCNTs, *see* multiwalled carbon nanotubes
- nanoadditives, 121
- nanobiocomposites, 56, 119–21, 178
- nanocellulose, 49, 107, 185
- nanochitosan, 224
- nanoclays, 6, 48, 55–56, 124–25, 128, 178, 276
- nanocomposite adhesives, 280–81, 283–84, 291
- nanocomposite films, 77, 84–85, 146, 152, 226
- nanocomposite materials, 55, 67, 73, 81, 98
- nanocomposite membranes, 86, 179
- nanocomposites, 2–6, 67, 70, 77, 79–84, 94, 98–99, 105–7, 120–29, 143, 146, 148–49, 151–53, 183, 219, 221, 224–25, 279–80, 286, 288, 296–301, 303
- nanocomposite scaffolds, 223, 254, 266
- nanodevices, 213
- nanoemulsions, 33
- nanocapsulation, 33
- nanofibers, 25, 80, 125, 184–85, 214, 222, 254, 265–66, 276
- nanofibrous scaffolds, 184, 222
- nanofillers, 7, 14, 19–20, 24, 26, 31, 38, 84, 94, 129, 273–74, 276–77, 298
- nanohydroxyapatite, 108–9, 222, 224
- nanoliposomes, 33
- nanomaterials, 12–13, 31, 37, 39, 42, 44, 52, 56, 70–71, 77, 80, 86, 97, 213, 235–36
- application of, 97, 225
- benign, 70
- conductive, 38
- dispersed, 19
- organic, 82
- nanomedicine, 127, 214, 236
- nanoparticles (NPs), 4, 6, 14, 19–20, 27–29, 31, 33–34, 38–40, 43, 46–47, 49–50, 52–55, 75, 77–80, 85, 94–95, 119, 128, 142–46, 148, 150–51, 213–15, 218, 221–22, 225, 229, 239
- nanoplatelets, 20, 77, 80
- nanorods, 77, 80
- nanosilica, 296–99, 301–5
- nanosorbents, 97–98
- nanospheres, 78, 215
- nanotechnology, 40, 77, 82, 98, 127, 142, 213, 227, 298
- natural fibers, 77, 160, 172–73, 175–76, 188, 247, 268
- natural polymers, 3, 71, 73, 82, 164, 167, 181, 249, 277
- natural rubber (NR), 161, 164–65
- NMR, *see* nuclear magnetic resonance
- normal silica, 298, 301–5
- NPs, *see* nanoparticles
- NR, *see* natural rubber



- nuclear magnetic resonance (NMR), 217
- off-flavor development, 18
- off-odor development, 34
- OM, *see* optical microscopy
- optical microscopy (OM), 80
- organic pollutants, 68, 70, 79, 83
- organic polymers, 98, 159, 163
- OTR, *see* oxygen transmission rate
- oxidation, 30–31, 37, 45, 49, 75, 96, 164, 175, 240–41, 259
  - chemical, 34
- oxygen scavengers, 34
- oxygen transmission rate (OTR), 21, 23
- packaging, 2, 5, 11, 13–14, 24, 27, 30–32, 34, 37, 45–47, 50–52, 55, 121, 123–24, 159–60
- PANI, *see* polyaniline
- particle–particle interactions, 3
- pathogens, 37, 44, 47
- PBS, *see* phosphate-buffered saline
- PCR, *see* polymerase chain reaction
- PEG, *see* polyethylene glycol
- permeability, 7, 18, 20, 243
  - high air, 165
  - improved gas, 125
  - superior, 218
  - vapor, 12
- Peyer's patches, 218
- PHA, *see* polyhydroxyalkanoate
- phosphate-buffered saline (PBS), 74, 181
- physicochemical properties, 37, 211
- PLA, *see* polylactic acid
- PLA-CNC, *see* polylactic acid–cellulose nanocrystal
- plastics, 12, 74, 161, 165–66
  - bio-based, 33, 61
  - cellulosic, 173
  - nonbiodegradable
  - petrochemical-based, 11
  - petroleum-based, 2, 55
  - soy-based, 173
  - synthetic, 81
- pollutants, 4, 35, 93, 96–97, 99
- pollution, 67, 104, 190, 247, 268, 291
- polyaniline (PANI), 107, 258–60
- polycaprolactone, 4
- polycondensation, 74, 76
- polyelectrolytes, 148, 188, 215, 220
- polyester, 75, 126, 189, 295–96, 299, 301, 303–5
- polyethylene glycol (PEG), 72, 124, 147, 180
- polyhydroxyalkanoate (PHA), 71, 127, 173
- polylactic acid (PLA), 14, 17, 23–25, 31, 46, 76, 121, 124, 127, 249
- polylactic acid–cellulose nanocrystal (PLA-CNC), 46, 64
- polymerase chain reaction (PCR), 43
- polymer composites, 126, 176, 216, 268
- polymeric materials, 18, 67, 79, 83, 161
- polymerization, 74, 76–77, 110, 129, 145
- polymer matrix, 19–20, 31, 99, 121, 238, 247, 273, 277, 289, 297
- polymer matrix nanocomposites, 121–22
- polymer nanocomposites, 121, 127, 143, 298
- polymers, 2–4, 18–21, 23–24, 74–75, 80–81, 94–95, 98–99, 119–21, 126, 142, 144, 160–61, 163–64, 167, 171–73, 248–49, 254, 268, 275–77, 298–99

- polysaccharide-based
  - nanocomposites, 142–43, 150
- polysaccharide nanocomposites, 143, 149–53
- polysaccharide nanoparticles, 142–43
- polysaccharides, 73, 95, 141–44, 148, 150, 162, 164, 166, 212, 223, 248
- polyvinyl acetate (PVAc), 251–52, 258, 260–62
- polyvinyl alcohol (PVA), 75, 178, 218, 222, 251, 258, 267
- porosity, 99, 127, 152, 183–84, 211, 223, 254, 266
- purification, 240, 242, 264, 266, 284, 291
- PVA, *see* polyvinyl alcohol
- PVAc, *see* polyvinyl acetate
- quantum computing, 213
- quantum dots, 38, 128, 138
- Radke–Prausnitz isotherm model, 101
- rare earth ions, 111
- rare earth metal ions, 109
- raw materials, 11, 129, 164, 275, 296
- reactive oxygen species (ROS), 29, 45, 85, 186, 207–8
- reactive oxygen species attack, 85
- Redlich–Peterson isotherm, 100–101
- reduction, 23, 34, 37, 46, 49, 84, 150, 186, 188, 225, 256, 258–59
- reinforcements, 2–3, 38, 121–22, 126, 170–72, 175, 188–89, 255–56, 277, 288
- release
  - controlled, 13, 33
  - sustained, 128, 181, 205, 221, 230
- remediation, 70, 79, 82–85, 87
- removal of heavy metals, 82, 98, 177–78
- renewable resources, 161, 167, 173, 249, 275
- resistance, 79, 94, 122, 124–26, 129, 165, 170, 173, 190, 256, 298
  - chemical, 190
  - corrosion, 75, 94, 126
  - high-temperature, 171
  - hydrolysis, 296
  - low microbial, 175
  - low oil, 165
  - membrane hydraulic, 180
  - poor, 12
  - poor thermal, 175
  - poor wet-skid, 165
  - radiation, 300, 302, 305
  - shear strength and water, 277, 280, 286–87, 289–90
  - thermal shock, 122
- reverse osmosis (RO), 96, 177, 202
- RO, *see* reverse osmosis
- ROS, *see* reactive oxygen species
- safety, 3, 34, 40, 52–53, 55, 85, 123, 176, 213
  - environmental, 7
- safety helmets, 189
- SAM, *see* self-assembly method
- savory essential oil (SEO), 84–85, 91
- scaffolds, 160, 170, 178, 180, 182–85, 214, 219, 221–23, 254, 266–67
- scanning electron microscopy (SEM), 179, 215, 259
- scavengers, 34, 37
- self-assembly method (SAM), 143, 155
- SEM, *see* scanning electron microscopy
- sensors, 38, 40, 73, 151, 211

- chemical vapor, 42
- chitosan-based, 226
- electrochemical, 38, 242
- electronic, 41
- nanomaterial-based, 38
- SEO, *see* savory essential oil
- shear strength, 274, 277, 280, 282, 286–91
- shelf life, 12–13, 18, 20, 27, 30–32, 34, 45–46, 50–51, 56, 85, 186, 219
- silk hydrogels, 183
- silver nanoparticles, 5–6, 29, 50, 146, 150, 217, 224
- single-walled carbon nanotubes (SWCNTs), 236–37, 240–41
- Sips equation, 100
- Sips isotherm, 99, 101
- solar cells, 4, 123, 128
- solar energy, 128–29, 161
- sorbents, 83, 97–98, 163
- sorption, 83, 97, 99, 177, 223
- soy protein, 14, 24, 273, 275, 277, 286, 288–90
- soy protein isolate (SPI), 273–74, 277–85, 287–89
- SPI, *see* soy protein isolate
- SPI/CNT nanocomposite adhesive, 274, 280, 286, 288–89
- SPI/CNTs, 274, 281, 283, 285
- SPI/FCNTs, 274, 278, 281, 283–85, 287
- S-RGO/PANI, 259–60
- stability, 6, 28, 31, 61, 80–81, 120, 125, 143–44, 146, 184, 189, 242, 251
- starch, 14–15, 21, 24–25, 94, 98, 120–21, 165–66, 177, 248–54, 256, 258, 260–61, 263–64, 267–68, 271
- starch-based composites, 249, 251, 254, 264
- starch films, 26, 51, 251, 254
- surface-to-volume ratio, 213, 225
- sustainability, 68, 70, 142, 152, 159, 161, 173
- SWCNTs, *see* single-walled carbon nanotubes
- TEB, *see* tensile energy to break
- TEM, *see* transmission electron microscopy
- TEM, *see* tunneling electron microscopy
- tensile energy to break (TEB), 15–16
- tensile modulus, 252
- tensile strength (TS), 12, 14–17, 76, 84, 129, 165, 189, 211, 238, 249, 251, 253–57, 264, 289, 295, 298–302, 305
- TGA, *see* thermogravimetric analysis
- thermal conductivity, 122–23, 126, 238, 276
- thermal degradation, 24, 283–84
- thermal properties, 20, 24–25
- thermal stability, 73, 94, 124, 126, 143, 164, 177, 268, 276, 279, 283–84, 305
- thermogravimetric analysis (TGA), 179, 274, 283–84, 304
- thermoplastic polyurethane (TPU), 295–96, 298–99
- thermoplastics, 71, 160, 171–72, 190, 247, 249, 251, 254, 264, 297
- TiO<sub>2</sub> nanoparticles, 26, 35–37, 51
- Toth isotherm constant, 101
- toxicity, 53, 82, 104, 109–10, 143, 214, 223
- TPU, *see* thermoplastic polyurethane
- transmission electron microscopy (TEM), 80
- TS, *see* tensile strength
- tunneling electron microscopy (TEM), 259

- UF, *see* ultrafiltration
- ultrafiltration (UF), 96, 179, 203
- ultrasonication, 69, 136
- ultraviolet (UV), 29–30, 34, 36–37, 128, 186, 218
- uranium, 93, 109, 178
- US Environmental Protection Agency (USEPA), 107–9
- USEPA, *see* US Environmental Protection Agency
- UV, *see* ultraviolet
  
- vacuum, 30, 276
- van der Waals forces, 237, 292
- vapor-induced phase separation, 179
- vascular grafts, 185
- vascularization, 183
- viruses, 5, 28, 43, 72, 142
- viscosity, 23, 166, 275, 281
- volume resistivity, 301, 303
  
- waste effluents, 107
- wastewater, 69–70, 83, 94, 96–97, 103, 105, 177–78
  - artificial, 180
  - slurry, 96
  - treated, 177
- wastewater treatment, 79, 96–97, 111, 176, 178
- water absorption, 143, 281
- water desalination, 242
- water pollution, 68, 176
- water purification, 146, 180, 223
- water quality, 68
- water remediation, 68–70, 73, 82
- water resistance, 6, 55, 274–75, 277, 280, 286–90
- water treatment, 75, 93, 111, 178–79, 223–24, 226, 242
- water vapor permeability (WVP), 21–23, 85, 134, 188
- Waxilys particles, 260
- Waxilys starch, 261
- wear resistance, 126, 256–57
- WHO, *see* World Health Organization
- Wilson's disease, 108
- wood, 71, 73, 102, 163–64, 172, 189, 274–75, 277–80, 282, 286, 288, 290–91
- wood composites, 275, 280
- wool, 166, 170, 172, 195
- World Health Organization (WHO), 44, 103, 105, 107–9
- wound dressing, 4, 146, 162, 187
- wound healing, 5, 152
- WVP, *see* water vapor permeability
  
- X-ray diffraction (XRD), 80, 184
- XRD, *see* X-ray diffraction
  
- yeast, 45, 50–51
- YM, *see* Young's modulus
- Young's modulus (YM), 15–17, 84, 189, 238, 252–55
  
- zeolites, 6, 36, 99, 177
- zeta potential, 148, 214–15

Advanced bionanocomposite materials continue to be increasingly popular and are important for a wide range of scientific and engineering applications. In the race to exploit the unique mechanical, thermal, and electrical properties of bionanocomposite materials, researchers need to address new challenges in predicting, understanding, and managing the potentially adverse effects these materials could have on the environment and human life.

This book focuses on the fundamentals of bionanostructured materials and bionanocomposites. It deals with some recent developments in the synthesis and characterization of bionanomaterials as well as their incorporation into polymer matrixes. The biological applications of bionanomaterials are also discussed in detail, along with the synthesis of bionanostructured materials and bionanocomposites, reviews of food packing, water remediation, heavy metal ion adsorption from wastewaters, and other industrial applications. This book is aimed at beginners in this field as well as advanced undergraduate- and graduate-level students of materials science and researchers working in the fields of bionanocomposites, nanotechnology, and analytical chemistry, especially those with an interest in materials for analytical applications.



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