

# Index

- A**  
Adsorbed layers, 5–7  
Amide, 5–8. *See also* Dodecanamide  
Antibacterial activity, 53, 58
- B**  
Block copolymers  
    microphase separation, 1–4  
    perforated lamella, 2  
    thin films, 1
- C**  
Carbides  
    carbothermal reduction, 47, 48, 50, 51  
    silicon carbide (SiC), 47, 49–50  
    specific surface area, 50–51  
    thermogravimetric analyses, 48–49  
    zirconium carbide (ZrC), 47, 49, 50  
Carbides precursors  
    carbohydrate, 47–51  
    colloidal zirconia, 49, 51  
    fumed silica, 48, 49, 51  
    micrometric zirconia, 48, 50  
Ciprofloxacin, 53–59  
Clusters, 26  
Commensurate layers, 7  
Composite, 29  
Compression isotherm, 10  
Computer simulation, 29–31  
Confinement, 1–4  
Crystal structure, 5–8
- D**  
Dextran, 53, 55  
Differential scanning calorimetry (DSC), 5, 20  
Diffraction powder (X-ray and neutron), 5–8  
Dipole-dipole interactions, 17  
1,2-distearoyl-sn-glycero-3-phosphatidylcholine, 9–12  
Dodecanamide, 5–8  
Drug release, 54, 57, 58  
DSC. *See* Differential scanning calorimetry (DSC)  
DSPC. *See* 1,2-distearoyl-sn-glycero-3-phosphatidylcholine
- E**  
ECAP. *See* Equal channel angular pressing (ECAP)  
Entrapment efficiency, 54, 57  
Equal channel angular pressing (ECAP), 43–45  
*Escherichia coli*, 54, 58
- F**  
Flower-like, 26
- G**  
Granular matter, 29  
Graphite, 5–8  
Growth mechanism, 23, 26
- H**  
Hydrogen bond, 5, 7–8
- I**  
*In-situ* spectroscopic ellipsometry, 2  
Institut Laue-Langevin (ILL), 6  
Inter-polyelectrolyte complex, 19, 20  
Intracellular infection, 53  
Inversion symmetry, 11
- J**  
Jamming, 29–32
- L**  
Langmuir monolayers, 9, 10  
Lower critical solution temperature (LCST), 19, 20
- M**  
Magnetic nanoparticles  
    desalting transition, 37  
    electrostatic co-assembly, 35–39  
    nanorods, 38  
Membrane, 9–12  
Minimal inhibitory concentration (MIC), 55, 58  
Mixture, 29–32
- N**  
Nano reactor, 23, 25  
Nanorods, 25, 26  
Network, 29, 30  
Neutron scattering, 20  
N-isopropylacrylamide (NIPA), 19, 20  
Nonlinear susceptibility, 10
- P**  
Particle erosion, 54, 57, 58  
Particle-stabilized emulsions. *See* Pickering emulsions  
pH-and/thermo-responsive associations, 19  
Phase diagram, 24, 25  
Phase separation, 19, 20

- Phospholipids, 9–11
- Pickering emulsions
- definition, 13
  - design of, 14
  - influence of
    - location of particles, 16–17
    - pH, 15–16
    - salt, 16
    - stabilizers amount, 16
    - stabilizing mechanism, 17–18
  - preparation, 15
  - stimulus-responsive
    - latex, 14
    - neighborite cube, 14–15
    - silica, 14
- Pinecone-like, 25, 26
- Pluronic F68, 53–55
- Poly(n-butylcyanoacrylate)
- colloidal particles, 55, 57
  - molecular mass distribution, 57
- Polymerization
- anionic, 55, 56
  - dispersion, 53–55
  - emulsion, 53, 55, 56
  - zwitterionic, 56, 57
- Powder, 29
- Pseudomonas aureus*, 41–45,
- R**
- Random packing, 29–31
- Responsive side-chains, 21
- Reverse micelles, 23–27
- Rheology, 20
- Rigidity percolation, 29
- Rod, 29, 31–32
- Rutile, 25
- S**
- Scanning force microscopy (SFM), 1–3
- Scanning tunnelling microscopy (STM), 5, 7
- Self-assembling, 21
- SFG, 9,
- Soft matter, 1
- Sphere, 29–32
- Spherocylinder, 29, 31, 32
- Staphylococcus aureus*, 41, 42, 44
- Surface field, 2, 3
- Surface film, 11
- Swelling, 1–4
- Swiss light source (SLS), 6
- Synchrotron, 5, 6
- T**
- Thermal hydrolysis (TH), 24
- Thin films, 42–44
- TiO<sub>2</sub>, 23–27
- Titanium, 41–45
- Topography, 42–44
- V**
- Vibrational sum frequency spectroscopy (VSFS), 9–12
- W**
- Water surface, 10, 11