C Chemistry
C2 . *Common subdivisions*
* As in AY2 2/9; eg
C29 A . Social aspects of chemistry, chemistry & society
X . Science of science of chemistry
C2L X . . Scientific method in chemistry

. General operations & agents in chemistry
C34 . . Theoretical chemistry
CV . . . Quantum chemistry
C36 . . Practical chemistry, laboratory practice
C3B . . . Equipment & materials (together)
C3U . . . . Equipment, apparatus, plant
C4 . . . . . Instruments & instrumentation in chemistry
C5X . . . . Reagents
HCA . . . . . Catalysts... Acids... Organic reagents
C62 . . . Investigative techniques in chemistry
. . . . *By scale*
C67 . . . . . Microtechniques, microchemical techniques
C68 . . . . . Ultramicroprocedures, nanotechniques
I . . . . . Semimicrotechniques, submicroprocedures
C69 . . . . Physical methods
C6B . . . . . Mechanical techniques ...Thermal techniques ... Optical techniques
. . . . *Techniques by action on phenomenon*
C73 B . . . . . Sampling ... Detection ... Measurement
C7H . . . . . Visualization & imaging
C7I . . . . . Imaging techniques
C8E . . Preparative techniques
. . . *By energy system involved*
B . . . . Heating ... Cooling ... Combustion
. . . *By function in preparation*
C8G E . . . . Containing, storing... Weighing... Separation
C8M . . . . . Distillation
N . . . . . Fractional... Vacuum... Steam distillation
. . . *Preparative chemistry by reaction concerned*
C8T V . . . . Decomposition... Ion exchange... Oxidation-reduction
. . . *By change of state*
C8W FR . . . . Phase transition techniques
. . . *By state of matter handled*
S . . . . Fluids...
T . . . . . Gases...
U . . . . . Liquids
UGG . . . . . Evaporation... Boiling... Superheating
V . . . . Solids (Preparative chemistry)
VGF . . . . . Sublimation... Liquefaction...Melting
C8Y . . Synthesis (Preparative chemistry)

Chemistry C
General operations & agents in chemistry
Synthesis C8Y

C9 Analysis, chemical analysis
. *Kinds of analysis by technique*
. . Microtechniques
C9B 7 . . . Microanalysis
8M . . Macrotechniques
8N . . . Trace analysis (general), impurities analysis
Q . . Tests in analysis
R . . . Dry tests
S . . . Wet tests
SH . . . . Anion identification... Cation identification
. *Kinds of analysis by physical properties measured*
C9D . . Gravimetric analysis
V . . Volumetric analysis
C9E . . . Titration, titrimetric analysis
E . . . . Weight titration... Phase titration... Precipitation titration
J . . . . Alkalinity titration, acid-base titration... Redox titration
C9G . . Thermal chemical analysis, thermoanalysis
C9H . . Electroanalytical chemistry, electroanalysis, electrochemical analysis
C9K . . Actinometry, radiometry
C9M . . Spectrum analysis, spectroscopic analysis (general), spectrochemical analysis
. . . *Kinds of spectra measured*
BG . . . . Continuous spectrum... Line spectrum... Band spectrum analysis
C . . . . Radiation spectrum analysis
CG . . . . . Emission spectrum... Absorption spectrum... Interference spectrum
. . . *Spectrum analysis by wavelength, frequency*
L . . . . Optical spectroscopy
. . . . . Colour
LM . . . . . Colorimetric analysis, colorimetry
LR . . . . . Raman spectroscopy
LU . . . . . Infra-red spectroscopy
LW . . . . . Ultra-violet spectroscopy
LWY . . . . Radiography (spectrum analysis)
M . . . Particulate spectroscopy
P . . . . Atomic spectroscopy, mass spectroscopy
C9N . . . Spectrometry
* If distinguished from spectroscopy.
. *Kinds of analysis by separation of components in mixture*
C9Q . . Chromatography (analysis), adsorption analysis
. . . *Kinds of chromatography*
. . . . *By process involved, separation mechanism*
D . . . . . Adsorption chromatography
E . . . . . Partition chromatography (general)
F . . . . . Ion exchange chromatography

C9QJ

CBSF

Chemistry C
General operations & agents in chemistry
. . Kinds of analysis by separation of components in mixture
. . . . . By process involved, separation mechanism
. . . . . Ion exchange chromatography C9Q F

. . . . . *By other physical processes*
. . . . . *By physical state of mobile phase*
C9Q J . . . . . Gas chromatography
M . . . . . Liquid chromatography
S . . . . . Paper chromatography
. . *Kinds of analysis by primary purpose*
V . . . Qualitative analysis, detection
W . . . Quantitative analysis, estimation (analysis)

CA Physical chemistry, physics of chemistry
CA3 4CV . Quantum theory
. *Properties/processes in physical chemistry*
CAB AG . . Thermodynamics
B . . Mechanics
BB . . . Energy... Energy ranges... Pressure
CH . . . Statics
CJ . . . . Mass... Density...
CN . . . . Equilibrium... Stability
CX . . . Dynamics
DE . . . Kinetics
GP . . Thermal properties
GY . . Electrical & magnetic properties
HI . . . Electrical properties... Conduction... Insulation
J . . . Magnetic properties
K . . . Radiation properties
L . . . . Optical properties
M . . Particle physics in chemistry
NP . . . Electrons in chemistry
NU . . . Nucleons in chemistry...Protons... Neutrons
P . . . Atomic physics in chemistry
Q . . . Molecular physics in chemistry
R . . . Ion physics in chemistry
CAC . Chemical combination & structure
F . . Chemical formulae... Empirical... Structural...
O . . Stoichiometry
CAD . . Energy levels, electron energy states
T . . . Orbitals, orbits, electronic configuration
TV . . . Quantum numbers (orbitals)
CAG . . Chemical bonds, bonding, valence bonds
. . . *Properties*
H . . . . Valency, valence... Oxidation state, oxidation number
M . . . . Bond stability
N . . . . Bond geometry, molecular geometry
T . . . *Processes*
CAH B . . . . Binding sites, receptors
H . . . . Crosslinkage, crosslinking
L . . . . Localization (bonding), delocalization (bonding)

Chemistry C
Physical chemistry CA
Chemical combination & structure CAC
. Chemical bonds CAG
. . Processes CAG T
. . . Localization CAH L

. . *Components in bonding*
CAI B . . . Bonding electrons, electron pairs
H . . . Bonding orbitals (general)
Q . . . Molecular orbitals
. . *Kinds of bonds*
CAJ . . . Covalent bonds
CAK . . . . Coordinate bonds, dative bonds, semipolar bonds
L . . . . Localized bonds, two-centred bonds... Delocalized bonds
N . . . . Sigma bonds... Pi bonds
. . . . *By number of bonds linked*
R . . . . . Single bonds
S . . . . . Multiple bonds
V . . . . . Double bonds... Triple bonds... Quadruple bonds
CAL . . . Ionic bonds, electrovalent bonds, electrovalency
N . . . Resonance hybrids
S . . . Electrostatic bonds
CAM . . . Intermolecular forces
CAO . Molecular structure, structural chemistry
P . . Molecular shape, structural topology
Q . . . Chain structure (general)
R . . . . Open chain... Straight chain... Branched chain
W . . . . Closed chain, ring structure, cyclic structure
. . . *Structural properties*
CAP P . . . . Arrangement (molecular structure), configuration (molecular structure)
S . . . . Symmetry
U . . . . Asymmetry, disymmetry

CAY Reaction chemistry
CB . Physics of reactions
* Add to CB numbers & letters 9/Q following B; eg
CBA G . . Thermodynamics of reactions, chemical energetics
* For thermochemistry, see CDU.
T . . . Transport processes
V . . . . Diffusion
CBB . . Mechanics of reactions
CBC X . . . Dynamics
CBD E . . . . Kinetics of reactions, rate of reaction
. . . Energy components
F . . . . Reaction path, reaction stages
G . . . . Activation energy, reactivity
I . . . . Order of reaction
CBS . *Properties/processes special to reactions*
9VE S . . Spontaneous processes... Instantaneous processes... Reversion
F . . Inductive effect (reactions), induction

Chemistry C
Physical chemistry CA
Reaction chemistry CAY
Properties/processes special to reactions CBS
. Inductive effect CBS F

Special components in reactions

CCA . Catalysis, catalysts
. . *Kinds of catalysis & catalysts*
. . . *By physical location*
N . . . . Fixed catalysts... Mobile catalysts
. . . *By phase conditions*
P . . . . Homogeneous catalysis... Heterogeneous catalysts
. . . *By effect on composition*
R . . . . Physical catalysts... Chemical catalysts
. . . *By specific function*
. . . . *By object of action*
U . . . . . Autocatalysis
V . . . . . Substrate
X . . . . . Acceleration, accelerators
Y . . . . . Retardation, retarders, inhibition, inhibitors

Kinds of reactions
. *By reversibility*
CCD B . . Reversible reactions... Irreversible reactions
. *By status of reaction*
G . . Main reaction ... Side reaction
. *By direction & energy of reaction*
L . . Chain reactions
M . . Clock reactions
N . . Fast reaction
O . . Explosion
. *By dependency of reaction*
Q . . Endogenic reactions... Exogenic reactions
. *By bond broken*
CCH C . . Heterolytic cleavage
E . . . Nucleophilic reactions... Electrophilic reactions
CCK . . Hydrogen bond broken... Carbon bond broken... Nitrogen bond broken
. *By bond formed*
. *By relation to reaction product*
CCP B . . Formation, synthesis
D . . Combination, fusion (reaction mechanism)
H . . Addition, attachment
J . . Association
L . . Condensation
CCQ . . Polymerization
CCV . . Decomposition, breakdown
. . . *By form of decomposition*
F . . . . Fission
G . . . . Graded decomposition... Continuous decomposition
N . . . . Degradation... Dissociation... Elimination

Chemistry C
Physical chemistry CA
Reaction chemistry CAY
By relation to reaction product
. . . Degradation... Dissociation... Elimination CCV N

By product of change
CCV T . Rearrangement reactions, disproportionation
CCW . Substitution, replacement
. . *By mode of substitution*
CHN P . . . Double replacement... Double decomposition, metathesis
. . *Kinds of polysubtitution by position*
. . *By specific number substituted*
M . . . Monosubstitution... Polysubstitution
. *Kinds of substitution by agency*
CDA . . Ion exchange
S . . Ion association
By electron transfer
CDB . Redox reactions, oxidation-reduction reactions
By rearrangement of components
CDG . Isomerization
By reaction product
CDH . *By resulting state of matter*
T . . Gasification
U . . Liquefaction
V . . Solidification
W . . . Crystallization
. *By resulting type of compound*
YN . . Neutralization... Acidification... Basification
CDI K . . Hydration... Carbonization... Nitrogenation
Reactions by change in energy system
CDS . Mechanochemistry
CDU . Thermochemistry
BAG . . Thermodynamics
. . *Thermal processes & properties*
GQ . . . Heat of reaction
GR . . . . Heat capacity, thermal capacity
. . . . Special to thermochemistry
L . . . . . Latent heat of reaction (thermochemistry)
Q . . . . Heat transfer
T . . . . . Heat loss, cooling... Heat gain, heating
V . . . Temperature
. . *Thermal reaction processes*
CDV E . . . Endothermic reactions
F . . . Exothermic reactions
H . . . Heat of formation, enthalpy of formation
J . . . Heat of combination, heat of fusion
L . . . Heat of decomposition
P . . . Combustion chemistry

Chemistry C
Physical chemistry CA
Reaction chemistry CAY
Thermochemistry CDU
. . Combustion chemistry CDV P

CE Electrochemistry, electrochemical reactions
CED Q . Electromagnetic properties
QK . . Charge... Voltage... Capacitance... Power
QN . . Electrostatics... Electrodynamics
W . Electrochemical procedures
CEE . . Electrochemical cells
CEF X . . Materials of electrochemical equipment
CEG . . . Electrolytes, electrolytic solutions
. *Kinds of electrochemical reactions*
CEJ . . Electrolysis
. . . Particular processes
F . . . . Polarization
G . . . . Electrolytic dissociation
H . . . . Deposition
. . . Products
CEK . . . . Electrical output electrolysis
E . . . . . Electrochemical cells, voltaic cells, galvanic cells
. . . . . *Kinds of cells by electrode arrangement*
L . . . . . Bipolar cells... Membraneous cells... Diaphragm cells
S . . . . . Dry cells... Wet cells
CEL B . . . . . Primary cells... Secondary cells
U . . . . . Fuel cells... Hybrid cells
CEP J . . Electroosmosis
K . . Electrophoresis, cataphoresis
L . . Electrodialysis
M . . Electrosynthesis
CEQ Magnetochemistry
. *Properties & processes*
KS . . Magnetic susceptibility... Magnetic purity
. Magnetic behaviour
Q . . Diamagnetism... Paramagnetism... Ferromagnetism
CER Radiation chemistry
CES . Photochemistry, photochemical reactions
. . Reactions
CAR L . . . Photosensitization
F . . Wave properties
FGQ . . . Incandescence... Luminescence... Fluorescence
. . *Photochemical processes in relation to product*
RPB . . . Photosynthesis
RPV . . . Photolysis, photochemical decomposition
RPV F . . . Photofission... Photodegradation
RPV P . . . Photodissociation... Photoionisation
RPV R . . . Photodisintegration
CET . Laser chemistry
CEU . Radiochemistry
CEV . Nuclear chemistry

Chemistry C
Physical chemistry CA
Reaction chemistry CAY
. . . . Nuclear chemistry CEV

Properties & processes in states of matter
CF . Mixed phase chemistry, chemical systems (phases), phases (chemical systems)
CFF . . *Processes in change of state*
R . . . Phase transition, formation of phases, phase transformation
S . . . . Latent heat
T . . . . Phase equilibrium
CFG X . . *Kinds of mixed phase systems*
. . . *By part, subsystems*
Y . . . . Contact systems
CFH . . . . . Surfaces, surface chemistry, surface interaction
. . . . . *Properties & processes*
BT . . . . . Lyophily... Lyophoby... Hydrophily... Hydrophoby
BV . . . . . Lipophily... Lipophoby
KL . . . . . Capillary activity... Permeation... Adhesion
O . . . . . Sorption (chemical)
R . . . . . Absorption
S . . . . . Adsorption
SR . . . . . Physical adsorption... Chemisorption
X . . . . . Surface tension
XJ . . . . . Surface activity... Wetting, spreading
CFI . . . . Interfaces
J . . . . . Layers... Films, surface films
M . . . . . Thin films... Multi-component films
O . . . . . Continuum films... Membranes, porous media
. . . *Kinds of chemical systems by assumed properties*
. . . *Kinds by degrees of freedom*
CFJ F . . . . Invariant systems... Univariant... Bivariant...
. . . *Kinds by number of components in system*
Y . . . . Single component chemical systems, one component chemical systems
CFK . . . . Mixtures, mechanical mixtures
. . . *Kinds of systems by stability of phase*
T . . . . Monotropic systems, monotropy
. . . *Kinds by number of phases*
CFL . . . . Homogeneous chemical systems, single phase systems
K . . . . . Mixtures
CFM . . . . . Solutions, molecular mixtures, dissolved state, critical mixtures
. . . . . *Properties/processes*
BCP . . . . . Stability... Conductivity... pH... Colour
BR . . . . . Colligative properties

Chemistry C
Physical chemistry CA
Mixed phase chemistry CF
Homogeneous chemical systems CFL
. . . Properties/processes
. . . . Colligative properties CFM BR

. . . *Processes & reactions*
CFM CPJ . . . . Association... Condensation... Dissociation
CVQ . . . . Dissolution
EV . . . . Solution (process)
. . . . . *Properties*
EVL . . . . . Dilution... Concentration
EW . . . . . Osmosis
EX . . . . . Electrophoresis
. . . *Kinds of solutions*
. . . . *Kinds by concentration*
ND . . . . . Ideal solutions... Non-ideal solutions
NL . . . . . Dilute solutions... Normal solutions, molar solutions
NN . . . . . Concentrated solutions... Saturated... Supersaturated
. . . . *Kinds by solvent*
Q . . . . . Aqueous solutions... Non-aqueous solutions
CFN Heterogeneous chemical systems, multiple phase
. *Kinds of heterogeneous systems by number of phases*
O . . Binary chemical systems... Ternary...Quaternary
. *Kinds by nature of phases*
T . . Dispersions, disperse systems
. . . *Parts of disperse systems*
U . . . . Disperse phase... Dispersion medium, continuous phase
. . . *Kinds of dispersions by particle size*
CFO . . . Colloids, colloidal systems, colloidal dispersions
. . . . *Properties*
. . . . *Processes in colloids*
HC . . . . . Formation... Dispersion... Deaggregation
HJ . . . . . Syneresis
. . . . *Components*
NU . . . . . Disperse phase
O . . . . . Particles
OL . . . . . Dispersion media
. . . . . *Kinds of colloids*
. . . . . *By attraction of solvent*
PC . . . . . Lyophylic... Hydrophilic... Lyophobic...Hydrophobic
W . . . . . Sols

Chemistry C
Physical chemistry CA
Mixed phase chemistry CF
. . . . . Sols CFO W

Systems by pure state of matter
CFP Y . States of matter (chemistry)
CFR V . . Plasmas
CFS . . Fluids
CFT . . . Gases, gas phase
CFU . . . Liquids, liquid phase
. . . . *Kinds of liquid systems*
. . . . . *Kinds by assumed properties*
JD . . . . . Perfect liquids... Imperfect liquids
. . . . . *Kinds by number of components*
. . . . . *Kinds by number of phases*
L . . . . . Homogeneous... Heterogeneous
. . . . *Kinds of liquids by special states*
VF . . . . . Simple liquids... Complex liquids
VW . . . . . Liquid crystals
W . . . . . Supercooled liquids
CFV . . . Solids, solid state chemistry
. . . . Changes special to the phase
GF . . . . . Sublimation... Vaporization... Liquefaction
GQ . . . . . Solidification
. . . . *Kinds of systems of solids*
. . . . . *Kinds by number of phases*
. . . . . Systems special to solids
. . . . . *By physical form*
WD . . . . . Small particles, powders, dusts (solids)
WF . . . . . Loose solids
. . . . . *By structure*
WN . . . . . Non-homogeneous solids
X . . . . . Amorphous solids, non-crystalline solids
Y . . . . . Glasses, vitreous state
CFW . . . . . Crystalline state, crystal chemistry
. . . . . *Kinds of crystal by phase characteristics*
UL . . . . . Liquid crystals
V . . . . . *Kinds by positional characteristics*
VD . . . . . Disordered crystal systems
VV . . . . . *By relation of planes to axes*
. . . . . Isotropic
. . . . . Anisotropic

Chemistry C
Physical chemistry CA
. . . . . Anisotropic

CG Chemical species, chemical substances
* Chemistry of particular chemical species and chemically defined groups of substances.
. *Kinds of substances by various characteristics*
* Use CGB/CGD only for general works embracing elements and compounds as well as inorganic and organic compounds.
. *Kinds by physical properties*
CGB HU . . Conductors... Insulators
OFK . . Radioactive substances
P . . Atomic species... Molecular species... Ionic species
. *Kinds by chemical combination & structure*
. . *Kinds by molecular structure*
CGC OQ . . . Chain structures... Ring structures
PS . . Symmetrical substances... Asymmetrical substances
. *Kinds by variations in molecular structure*
CGE . Elements
* The groupings for various elements below (periods, blocks, groups, at CGE P/CGE S) are for general works only, dealing with the nature and theory of the groupings per se.
* Works on the individual elements are classed at CGF (general), CJT/CNY (with their inorganic compounds) or COM T/COP Y (with their organic compounds).
. . *Kinds of elements by various characteristics*
BPW . . . Isotopes
CQ . . . Polymorphous elements, allotropes (elements)
P . . Periodic table
P34 CV . . . Periodic law (Mendeleev)
Q . . . Periods of the Periodic table
R . . . Blocks (periodic table)
RJW . . . . Main group elements
* S-block and P-block together.
S . . . Groups of the Periodic table
. . . . Specific groups
SH . . . . . Diagonal groups
SJY . . . . . Group 1 elements... Group 12 elements
T . . . Metal elements
TL . . . Metalloid elements, semi-metal elements
TN . . . Non-metal elements
CGF . . Individual elements
* For completely comprehensive works dealing with the element per se and its inorganic and organic compounds together.
X . Radicals
* For works on radicals in general, including free radicals and functional groups.
XAH B . . Binding sites (radicals), radical regions
. . *Kinds of radicals*

Chemistry C
Chemical species CG
Radicals CGF X
. Kinds of radicals

. *Kinds of radicals by special properties & processes*
CGF XGA KV . . Double bonded radicals... Monofunctionlal radicals
XGC WJ . . Monosubstituted radicals... Orthosubstituted radicals
Y . Free radicals, free ions, polyatomic ions

CGH Compounds
. *Kinds of compounds by various characteristics*
. . *Kinds by physical properties*
GBH U . . . Conductor compounds... Insulator compounds
GBO FK . . . Radioactive compounds
GBP V . . . Nuclear compounds... Molecular compounds... Ionic compounds
. . *Kinds by bonding characteristics*
GCJ . . . Covalent compounds
GCK . . . . Coordinate bonded compounds, dative bonded compounds, semipolar bonded compounds, coordination compounds (general)
GCK R . . . . Single bonded compounds, saturated compounds
GCK S . . . . Multibonded compounds, unsaturated compounds
GCL . . . Ionic bond compounds, electrovalent compounds
GCL T . . . Hydrogen bond compounds
. . *Kinds by molecular structure*
GCO Q . . . Chain structures
GCO S . . . . Linear chains, straight chains, open chains
GCO U . . . . Branched chains
GCO W . . . Ring compounds, closed chains
GCP S . . . Symmetrical compounds
GCP U . . . Asymmetrical compounds
. . *Kinds by variations in structure*
GCP Y . . . Polymorphism, allotropy, allotriomorphism
GCQ . . . Polymorphic substances, polymorphous substances, polymorphs, allotropes
GCQ HP . . . . Stable allotropes... Metastable allotropes
GCQ HR . . . . Dynamic allotropes
GCQ J . . . . Dimorphs... Trimorphs
GCQ L . . . . Monotropes... Enantiotropes
GCR . . . Isomers
GCR QH . . . . Isomerism
. . . . . *Properties*
GCR T . . . . . Rotational isomerism... Valence isomerization
GCR W . . . . . Structural isomerism
GCS . . . . . Tautomers

Compounds CGH
Kinds of compounds by various characteristics
. Kinds by variations in structure
. . Isomers CGH GCR
. . . . Structural isomerism CGH GCR W
. . . . . Tautomers CGH GCS

CGH GCS W . . . . . Metamers
GCT . . . . Stereoisomers
GCT Y . . . . Geometrical isomers
GCU C . . . . . Cis-trans isomers... Cis-form isomers
GCU I . . . . Ionization isomers
GCV . . Polymers
* Most of the literature deals with very large molecules (macromolecules) formed by the union of simple molecules (monomers); they are almost always organic compounds.
* This class takes general works only.
GCW . . Isomorphs
. *Kinds of compounds by reaction properties/processes*
GDC A . . Catalytic compounds... Addition compounds
GDC PL . . Condensation compounds... Substitution compounds
Compounds by specific valency, oxidation state
IK . Zerovalent compounds
J . Monovalent compounds... Octavalent compounds
SR . Higher valency compounds
T . Mixed valency compounds, polyvalent compounds
Compounds by number of constituent elements
U . Binary compounds
UT . Ternary compounds
UU . Quaternary compounds
Y Acids & bases & salts together
CGI A . Acids
* Acids of particular inorganic compounds go with the compound in CK/CN
. . *By structure*
AJB . . . Bronsted acids, protonic acids, proton acids
AJC . . . Lewis acids
. . *By polarizability*
AJE . . . Hard acids... Soft acids
AJG . . . Non-polar acids... Polar acids... Dipolar acids
. . *By degree of dissociation*
AK . . . Strong acids... Weak acids
. . *By degree of hydration*
AM . . . Ortho-acids... Meta-acids... Polyacids, heteropoly acids
. . *By basicity*
AR . . . Basic acids
AS . . . . Monobasic...
ASP . . . . Polybasic aids
AT . . . . . Dibasic acids... Tribasic acids
C . Bases
CJC . . Lewis bases
CKK . . Strong bases... Weak bases
CQ . . Alkalis

Chemistry C
Chemical species CG
Compounds CGH
Acids & bases & salts together CGH Y
. Bases CGI C
. . Alkalis CGI CQ

CGI E . Salts
* Salts of particular elements and compounds go with the element or compound
. . *By properties analogous to those of acids*
EP . . . Normal salts, neutral salts
EQ . . . Acid salts
ER . . . Basic salts, alkaline salts
EV . . . Amphoteric salts
EW . . Double salts
EX . . Complex salts
J Complex compounds
JGI BR . Complex ions
. *Constituents*
K . . Ligands, Lewis bases (ligands), donors (complex compounds), lone pair donors (ligands)
. . . *Kinds of ligands by charge*
KKN . . . . Neutral ligands... Ionic ligands
. . . *By shape*
KL . . . . Linear ligands... Tetrahedral ligands... Square planar ligands
. . . *By coordination number*
KQ . . . . Monodentate ligands... Hexadentate ligands
L . Coordination compounds (complexes)
M . . Chelates
CGJ Compounds of one element with others in general
Compounds by their periodic relations
Q . Compounds with elements of particular periods
CH Inorganic compounds, inorganic chemistry
Kinds of inorganic compounds
. *Kinds by bonding characteristics*
. *Kinds by molecular structure*
. *Kinds by variations in molecular structure*
. *Kinds by reaction characteristics*
. *Kinds by specific valency*
Inorganic compounds of particular elements or groups of elements
CJQ . *Compounds with other elements in general*
CJR . *Compounds with elements of particular periods*
JW . Compounds with main group elements
CJT . Metal compounds
JT . Intermetallic compounds
CJU . Metalloid compounds, semi-metal compounds
CJV . Non-metal compounds
CJW . Inorganic compounds by constituent elements
Q . . Main group chemistry
Y . . . Compounds of Group 1 elements
CK . . . . Hydrogen
CKP P . . . . . Isotopic compounds of hydrogen
TM . . . . . Deuterium oxide, heavy water

Chemical species CG
Compounds CGH
Inorganic compounds of particular elements or groups of elements
. Inorganic compounds by constituent elements CJW
. . . Compounds of Group 1 elements CJW Y
. . . . . Deuterium oxide CKP TM

CKQ . . . Alkali metal compounds
CKR . . . . Lithium
CKS . . . . Sodium
CKT . . . . Potassium
R . . . . Rubidium
S . . . . Caesium
T . . . . Franconium
CKU . Group 2 compounds
CKV . . Alkaline earth metals compounds
CKW . . . Beryllium, glucinium
CKX . . . Magnesium
CKY . . . Calcium
CLA . . . Strontium
CLB . . . Barium
CLC . . . Radium
CLD P-block element compounds
CLE . Group 13 element compounds
CLF . . Boron
CLG . . Aluminium, aluminum
CLH . . Gallium
CLI . . Indium
CLJ . . Thallium
CLL . Group 14 compounds
CLM . . Carbon (inorganic compounds)
CLN . . Silicon
CLO . . Germanium
CLP . . Tin
CLQ . . Lead
CLR . Group 15 compounds
CLS . . Nitrogen
M . . . Ammonia
CLV MFK . . . Air
CLW . . Phosphorus
CLX . . Arsenic
V . . Antimony
W . . Bismuth
CLY . Group 16 compounds
CM . . Oxygen
CMQ . . Sulphur
CMR . . Selenium
CMS . . Tellurium
R . . Polonium
CMT . Group 17 compounds, halogen compounds
CMU . . Fluorine
CMV . . Chlorine
CMW . . Bromine
CMX . . Iodine
R . . Astatine

Chemistry C
Chemical species CG
Compounds CGH
P-block element compounds CLD
. Group 17 compounds CMT
. . Astatine CMX R

CMY . Group 18 compounds, inert gases, rare gases, noble gases
Q . . Helium
R . . Neon
S . . Argon
T . . Krypton
U . . Xenon
V . . Radon
CNA D-block compounds, transition compounds, transition metals compounds
CNB . Group 3 compounds, rare earth metals compounds
S . . Scandium
T . . Yttrium
CND . Group 4 compounds
CNE . . Titanium
CNF . . Zirconium
Q . . Hafnium
CNG . Group 5 compounds
Q . . Vanadium
R . . Niobium, columbium
S . . Tantalum
CNH . Group 6 compounds
CNI . . Chromium
CNJ . . Molybdenum
CNK . . Tungsten, Wolfram
CNL . Group 7 compounds
CNM . . Manganese
Q . . Technetium, masurium
R . . Rhenium
CNN P . Group 8 compounds
CNO . . Iron
R . . Ruthenium
S . . Osmium
CNP . Group 9 compounds
CNQ . . Cobalt
R . . Rhodium
S . . Iridium
CNR . Group 10 compounds
CNS . . Nickel
Q . . Palladium
R . . Platinum
CNT . Group 11 compounds, coinage metal compounds
CNU . . Copper
S . . Silver
T . . Gold
CNV . Group 12 compounds
CNW . . Zinc
R . . Cadmium
CNX . . Mercury

Chemistry C
Chemical species CG
Compounds CGH
D-block compounds CNA
. . Mercury CNX

CNY F-block compounds
Q . Lanthanides
QR . . Lanthanum
QS . . Cerium
QT . . Praseodymium
QU . . Neodymium
QW . . Promethium, illinium
QX . . Samarium
QY . . Europium
RA . . Gadolinium
RB . . Terbium
RC . . Dysprosium
RD . . Holmium
RE . . Erbium
RF . . Thulium
RG . . Ytterbium
RH . . Lutetium, cassiopeium
S . Actinides
T . . Actinium
U . . Thorium
UR . . Protactinium
V . . Uranium
VS . . Transuranic elements, transuranium compounds
VT . . . Neptunium
W . . . Plutonium
WR . . . Americium
WS . . . Curium
WT . . . Berkelium
WV . . . Californium
WX . . . Einsteinium
WY . . . Fermium
XA . . . Mendelevium, unnilunium
XB . . . Nobelium
XC . . . Lawrencium
XD . . . Transactinides, post-actinides, superheavy elements
* Elements with atomic number above 103.
XEB . . . . Rutherfordium
XEC . . . . Dubnium
XED . . . . Seaborgium
XEE . . . . Bohrium
XEF . . . . Hassium
XEG . . . . Meitnerium
XEH . . . . Darmstadtium
XEK . . . . Roentgenium
XEL . . . . Copernicum
XEM . . . . Other transactinides

Chemistry C
Chemical species CG
Compounds CGH
. . . . . Other transactinides CNY XEM

CO Organic chemistry
COG . Functional groups, organic radicals
* Atoms or groups of atoms, acting as a unit and replacing a hydrogen or hydrogens in an organic compound. Their presence imparts important characteristic properties to the compound
. . *Kinds of functional groups*
. . . *Kinds by bonding*
GAK V . . . . Double bonded... Triple bonded...
. . . *Kinds by molecular structure*
GAO R . . . . Open chain functionaal groups... Ring functional groups
. . . *Kinds by special structure*
GAO XM . . . . Monofunctional... Polyfunctional
GCW . . . Substituted functional groups
. . . . *Kinds of substituted groups*
. . . . . *Kinds by position of substituents*
GCW LE . . . . . Meta substituted... Para substituted
GCW LL . . . . . Asymmetric substituted... Symmetric substituted
. . . . . *Kinds by number of substitutions*
GCW M . . . . . Monosubstituted... Polysubstituted
. *Kinds of organic compounds*
. . *Kinds by bonding characteristics*
COH GCJ . . . Covalent compounds..., Ionic, electrovalent
. . *Kinds by molecular structure*
* For chain structures, see CP Acyclic compounds; for ring structures, see CQ Cyclic compounds; for organic polymers, see CTE.
. . *Kinds by variations in structure*
GCP Y . . . Polymorphic..., Isomers
. . *Kinds by reaction properties*
GDC A . . . Catalysts..., Addition compounds
GDC PL . . . Condensation compounds..., Substitution compounds
. . *Kinds by specific valency, oxidation state*
J . . . Monovalent..., Bivalent
. . *Kinds by number of constituent elements*
U . . . Binary compounds..., Ternary compounds
. . *Kinds by electron gain/loss*
Y . . . Acids & bases & salts together (organic compounds)
COI A . . . . Organic acids
* General works only
C . . . . Organic bases
* General works only

Chemistry C
Chemical species CG
Organic chemistry CO
Kinds of organic compounds
. . . Organic bases COI C

Organic compounds by their constituent elements
* General works only on these, embracing works covering both major basic structures, acyclic and cyclic.

COI X . Hydrocarbons
Y . . Saturated hydrocarbons
COJ A . . . Alkanes
B . . . . Methane... Propane .. Hexadecane...
X . . Unsaturated hydrocarbons
COK A . . . Alkenes, olefins, alkenyl group
B . . . . Methylene... Ethylene ... Propene...
. . . . Alkenes with 2 or more double bonds
P . . . . . Polyenes, polyalkenes
Q . . . . . Dienes, diolefins, alkadienes
COL A . . . Alkynes, acetylene series compounds
C . . . . Acetylene, ethyne... propyne... butyne...
D . . . . Propyne, allylene, methyl acetylene
R . Oxygen with hydrocarbons (organic compounds)
RJA . . Alkoxy compounds, alkoxy radical compounds
RJB . . . Methoxy compounds... Ethoxy compounds
S . . Hydroxy compounds, hydroxyl compounds, hydroperoxy group
T . . . Alcohols
TJA . . . . Alkanols
TJB . . . . . Methyl alcohol, methanol... Ethanol... Propanol
. . . . *Kinds by bond to which the hydroxyl is attached*
TP . . . . . Primary alcohols
TS . . . . . Secondary alcohols
TT . . . . . Tertiary alcohols
. . . . *Kinds of alcohols by number of OHs*
U . . . . . Monohydric saturated alcohols
V . . . . . Polyhydric saturated alcohols, polyhydroxy alcohols
W . . . . . Dihydric alcohols... Trihydric alcohols
COM C . . Peroxides
E . . Ethers
F . . Carbonyl compounds, acyl compounds, carbonyl group
. . . *With alkyl*
FJA . . . . Alkoxycarbonyls, carboxylates, carboxylate group
H . . . Aldehydes, alkanals
HJB . . . . Methanal, formaldehyde... Ethanal... Propanal
K . . . Ketones, alkanones
. . . . Alcohols
KLT . . . . . Ketols, ketoalcohols
. . . . . Aldehydes
KMH . . . . . Ketoaldehydes
KX . . . Ketenes, allenes

Chemistry C
Chemical species CG
Organic chemistry CO
Oxygen with hydrocarbons COL R
. Carbonyl compounds COM F
. . Ketenes COM KX

COM M . Carboxylic acids
. . *By number of carboxyls*
MIA S . . . Monocarboxylic acids. monobasic carboxylic acids
MIA SP . . . Polycarboxylic acids
MIA T . . . . Dicarboxylic acids... Tricarboxylic... Tetracarboxylic
. . *Kinds of carboxyl compounds by constituent elements*
MJB . . . Methanoic acid... Ethanoic acid... Propenoic acid
MMH . . Carboxaldehydes, carbaldehydes
MMK . . Keto acids
O . . Acid anhydrides
P . Esters, carboxylic esters
Q Organic compounds with heteroatoms
. *Organic compounds with specific elements*
RQ . . *Compounds with other elements in general*
RR . . *Compounds with elements of particular periods*
T . . Metals (organic compounds), organometallic compounds
. *Heteroatom compounds with specific elements*
CON S . . Nitrogen organic compounds, nitrogenous organic compounds
SMX . . . N compounds with hydrogen as a special heteroatom
SMY . . . . Ammonium (organic compounds)
T . . . . Amines
. . . . . *By hydrocarbons & oxygen*
TKA . . . . . Vinyl amines, enamine
TLS . . . . . Oximes
TMH . . . . . Aldoximes
TMK . . . . . Ketoximes
TR . . . . . Primary amines, amino compounds
TRM M . . . . . Carboxylic acids
U . . . . . Amino acids, aminocarboxylic acids
. . . . . Primary amines with other compounds
UVM O . . . . . Acid anhydrides
UVQ . . . . . Hydrazines, hydrazo compounds
UVQ S . . . . . Hydrazones
UVS . . . . . Diamines
UW . . . . . Secondary amines, imines, imino compounds
UX . . . . . Tertiary amines
UXO . . . . . Amine oxides
UYB . . . . . Quaternary amines
V . . . Nitrogen compounds with other elements
VNM . . . Nitrogen with carbon as special heteroatom
VNM C . . . . Cyano (CN), isocyano, cyano group, cyanogen

Chemical species CG
Organic chemistry CO
Organic compounds by their constituent elements
. . . Nitrogen organic compounds CON S
. . . . Nitrogen with carbon as special heteroatom CON VNM
. . . . . Cyano CON VNM C

. . . . Nitrogen with nitrogen
CON VNS . . . . . Diazo compounds, diazo group (CN2), azo compounds
VNS NS . . . . . Azides, azide group
. . . . Nitrogen with oxygen as special heteroatom
VNS O . . . . . Nitroso, nitroso group, hydroximino compounds, oximido compounds
VNS OQ . . . . . Nitro compounds, nitro group (NO2)
VNS OR . . . . . Azoxy compounds, diazo compounds (with 2Ns), azo compounds
VR . . . . . Amides, carbamoyl group, amido group
VRS . . . . . Primary amides... Secondary amides... Tertiary amides
VS . . . . . Imides, imido compounds
VT . . . . . Nitramines
W . . . Phosphorus organic compounds
COO Q . . . Sulphur organic compounds
QMQ . . . . Sulphides (organic compounds)
QMX . . . . . Thiols, mercaptans
. . . . . Esters
QMX MP . . . . . Alkylthio group, thioesters
T . . . Halogen organic compounds, halides (organic compounds)
TJA . . . . Haloalkanes, alkohalides
TMF . . . . Acyl halides, acid halides
U . . . . Fluorine organic compounds, fluoro group
V . . . . Chlorine organic compounds, chloro group
VMQ . . . . . Chlorides (organic compounds)
COP A . . . Transition metals organic compounds

Kinds of organic compounds by basic structures
CP . Acyclic compounds, aliphatic compounds, straight chain compounds, linear compounds
. . *Kinds of acyclics by constituent elements*
. . . Acyclics with hydrocarbons & O in homologous series
CPI X . . . . Acyclic hydrocarbons
XS . . . . . Saturated ... Unsaturated
CPL R . . . . *Hydrocarbon compounds containing oxygen*
RJA . . . . . Alkoxy group compounds
S . . . . . Hydroxy compounds
T . . . . . Alcohols..., Alkanols
CPM C . . . . . Peroxides
E . . . . . Ethers
F . . . . . Carbonyls

Chemistry C
Chemical species CG
Organic chemistry CO
Acyclic compounds CP
. . . Hydrocarbon compounds containing oxygen CPL R
. . . . Carbonyls CPM F

CPM H . . . . Aldehydes, alkanals
K . . . . . Ketones, alkanones
M . . . . . Carboxylic acids
. . . . . *By constituent elements*
MJB . . . . . Methanoic acid... Ethanoic acid... Propanoic acid...
MLS . . . . . Hydroxycarboxylic acids
MLS JD . . . . . Lactic acid... Beta-lactic acid...Pyruvic acid...
O . . . . . Acid anhydrides
P . . . . Esters
PN . . . . Acetates
. . . *Acyclic compounds with heteroatoms*
CPN S . . . . Nitrogen acyclic compounds
T . . . . . Amines
TR . . . . . Primary..., Secondary..., Tertiary
VNS O . . . . . Nitroso, hydroximino, oximino (Group NO compounds)
VNS OQ . . . . . Nitro compounds (NO2)
VR . . . . . Amides
CPO T . . . Halogen acyclic compounds
TJA . . . . Haloalkanes, alkohalides
V . . . . Chlorine acyclic compounds
CPR Alicyclic compounds
* General works only go here. Most of the literature refers to cyclic compounds (non-aromatic); see CQN.

CQ Cyclic compounds (organic), ring compounds (organic)
. *Kinds of cyclic compounds by constituents C,H & O*
CQI X . . Homocyclic compounds, carbocyclic compounds, isocyclic compounds, hydrocarbons (homocyclic)
* Nearly all the literature relates either to alicyclic (non-aromatic) or aromatic compounds. Use this location only for works dealing primarily with the common features of both those classes.
CQJ A . . . Cyclokanes, cycloparaffins
DG . . . . Cyclopropyl group... Cyclohexyl group... Cyclooctane
CQK A . . . Cycloalkenes, cyclofurene, tetrahydrobenzene
P . . . . Cyclopolyenes
PGK U . . . . . Annulenes
PQ . . . . . Dienes
CQL A . . . Cycloalkynes
R . . . With oxygen
T . . . . Cycloalcohols
CQM PN . . . . . Lactones

Chemistry C
Chemical species CG
Organic chemistry CO
Cyclic compounds CQ
Kinds of cyclic compounds by constituents C,H & O
. . . . Lactones CQM PN

Cyclic compounds by basic structure
. *Cyclic compounds by ring structure*
. . *Cyclic compounds by number of rings in molecule*
CQQ A . . . Monocyclic compounds, mononuclear ring systems
B . . . Polycyclic compounds, polynuclear ring systems
C . . . . Linkage mode in polycyclic compounds
CR . . . . . Rings linked by separate bonds... by functional groups
CSR . . . . . Directly linked polycyclic compounds... Indirectly linked
CT . . . . . Condensed cyclic systems, fused ring systems
CV . . . . . Bridged systems
CVR . . . . . Cryptands
CVT . . . . . Cryptates
. . . *By specific number of rings*
E . . . . Bicyclic compounds, dicyclic compounds, binuclear cyclic compounds
ES . . . . . Spiro compounds, spiranes
F . . . . Tricyclic compounds... Tetracyclic... Pentacyclic...
I . . . . Hexacyclic compounds
. *Compounds by number of members in ring, ring size*
S . . Rings all the same size
X . . Mixed ring-size polycyclic compounds
CQS . . Three-membered rings... Four-membered... Five-membered...
CQV . . Six-membered rings (other than benzene)
CQW A . . Seven-membered rings... More than 7 members
Cyclic compounds by special bond structures
CQX . Alicyclic compounds, non-aromatic HC compounds
* Carbocyclic compounds with aliphatic characteristics (ie, lacking an aromatic ring).
* General works only
P . Pseudo-aromatic compounds
U . . Cycloalkenes

Chemistry C
Chemical species CG
Organic chemistry CO
Cyclic compounds CQ
Pseudo-aromatic compounds CQX P
Cycloalkenes CQX U

CQY Aromatic compounds
S . Non-benzenoid compounds
V . Benzenoid compounds
* Qualify this general class only if the work clearly distinguishes it from benzenes (CR).
CR . Benzene, benzol, monocyclic benzenes, annulene [6]annulene benzene
. . *Kinds of benzene compounds by constituent elements*
* For benzene compounds defined by basic structure eg, ring ssize) see CRQ
CRI X . . . With hydrocarbons
CRJ A . . . . Alkanes
. . . . . Methane
B . . . . . Toluene... Xylene... Mesitylene...
C . . . . . Ethyl benzene
D . . . . . Propyl benzene, phenylpropane
. . . . Alkenes
CRK C . . . . . Styrene... Hexadiene-
CRL A . . . . Alkynes
OX . . . . . Benzyne
R . . . Oxygen-containing compounds
ST . . . . Alcohols
STL O . . . . . Benzyl alcohol... Methylbenzyl alcohol..
STL OJC . . . . . Phenylethyl alcohol
STL OKD . . . . . Cinnamic alcohol, phenylallylic alcohol, phenylpropenol, styryl carbinol, phenylpropyl alcohol, cinnamyl alcohol
T . . . . Phenol, carbolic acid, phenylic acid, hydroxybenzenes
U . . . . . Monohydric phenols
UJC . . . . . Cresol... Guaiacol
V . . . . . Polyhydric phenols
W . . . . . Dihydric phenols, dihydroxy benzenes
WGR Q . . . . . Catechol... Resorcinol...Hydroquinone
X . . . . . Trihydric phenols, trihydroxybenzenes
YB . . . . . Tetrahydric phenols
. . . . Ethers
CRM E . . . . . Phenyl ethers, alkoxyarenes
. . . . Carbonyl compounds
. . . . Aldehydes
H . . . . . Benzaldehyde... Cinnamic aldehyde... Anisaldehyde
. . . . . Hydroxyaldehydes
K . . . . Ketones
KJB . . . . . Acetophenone, phenyl methyl ketone
KSR . . . . . Quinone, benzoquinone, chinone, cyclohexadienedione

Pseudo-aromatic compounds CQX P
Benzene CR
Kinds of benzene compounds by constituent elements
. Oxygen-containing compounds CRL R
. . Ketones CRM K
. . . Quinone CRM KSR

CRM M . . Carboxylic acids
MIB . . . Monocarboxylic acids
MIB N . . . . Benzoic acid... Phenylethanoic acid... Phenylpropionic acid
MIB R . . . . Cinnamic acid... Coumaric acid
MIC . . . Polycarboxylic acids
MID P . . . . Phthalic acids
MLS . . . With hydroxy group
MLS LO . . . . Phenol alcohol acids
R . Benzene compounds with heteroatoms (non-HC)
. . Nitrogen with benzene & particular elements
. . . Nitrogen with hydrogen
CRN T . . . . Amines
. . . . Isocyano compounds
. . . . Nitriles
VOR . . . . . Benzonitrile
. . . . Nitroso compounds
VQ . . . . . Nitrosophenol
. . . . Nitro compounds
VQP . . . . . Nitrobenzene... Nitrotoluene
. . . . . Hydroxy compounds
VQP LS . . . . . Picric acid, trinitrophenol, carbazotic acid, nitroxanthic acid, picronitric acid
CRO T . . Halogen with benzene
UU . . . Benzylfluoride
UV . . . Chlorobenzene, chlorobenzol, monochlorobenzene, phenyl chloride
UVL O . . . Benzyl chloride
UVL OP . . . Benzalchloride, benzylidene chloride, chlorobenzal, dichlorotoluene
Benzene compounds by number of rings in the molecule
CRQ A . Monocyclic benzenes
B . Polycyclic benzenes, polyaromatic hydrocarbons, PAHs
E . . Bicyclic benzene, diphenyls, biphenyls, phenylbenzene
F . . Tricyclic benzene, triphenyl benzenes
G . . Tetracyclic benzene, tetraphenyl benzenes
Benzene compounds by size of ring, number of members
QX . Mixed sized rings in polycyclic benzenes
CRR SS . . With 3-membered rings also
ST . . With 4-membered rings also
SU . . With 5-membered rings also

Chemistry C
Chemical species CG
Organic chemistry CO
Cyclic compounds CQ
Cyclic compounds by special bond structures
. . . . . With 5-membered rings also CRR SU

CS Heterocyclic compounds, heterocycles
. *Kinds of heterocycles by constituent atoms*
. . *With carbon, hydrogen and oxygen only as constituents*
. . . Hydrocarbons
CSI X . . . . Homocyclic compounds (heterocycles)
CSL R . . . . Hydrocarbons with oxygen
CSM E . . . . . Ethers
EQ . . . . . Crown ethers
. . *Kinds of heterocycles by heteroatoms replacing hydrogen or carbon*
. . . *Kinds by number of same heteroatoms*
QM . . . . Monoheteroatom heterocycles
QP . . . . Polyheteroatom heterocycles, multiheteroatom compounds
. . . . *Polyheteroatom compounds by specific number*
QPR . . . . . Two heteroatom... Three heteroatom... Four heteroatom...
QQ . . . Mixed heteroatoms in a heterocycle
. . . *Kinds of heterocycles by specific heteroatoms replacing C or H*
T . . . . Metallic heterocycles
TMQ OKK Q . . . . . Metallocenes
CSN S . . . . Nitrogen heterocycles
CSO . . . . Oxygen heterocycles
Q . . . . Sulphur heterocycles
. *Kinds of heterocycles by basic structure, ring structure*
. *Kinds of heterocycles by number of rings in molecule*
CSQ A . . Monocyclic heterocycles
B . . Polycyclic heterocycles
C . . . Linkage modes in polycyclic heterocycles
CR . . . . Separately linked..., Condensed, fused
E . . . Bicyclic heterocycles
F . . . Tricyclic heterocycles
G . . . Tetracyclic heterocycles
H . . . Pentacyclic heterocycles
I . . . Hexacyclic heterocycles
J . . . Seven or more heterocycles in molecule

Chemical species CG
Organic chemistry CO
Cyclic compounds CQ
Heterocyclic compounds CS
Kinds of heterocycles by number of rings in molecule
. . Seven or more heterocycles in molecule CSQ J

Heterocycles by number of members in ring, ring-size

CSQ S . Mixed sizes in polycyclic heterocycles
CSS . Three-member heterocycles
QA . . Monocyclic
QAN S . . . Nitrogen
QAN UW . . . . Imines, secondary amines..., Aziridine...
QAO . . . Oxygen heterocycles
QAO O . . . . Epoxy compounds... Oxirane...
QAO Q . . . Sulphur
QAO R . . . . Thirane...
CST . Four-member heterocycles
QA . . Monocyclic
QAN S . . . Nitrogen heterocycles (4-member rings)
QAN SA . . . . Azetidine...Azetidine carboxylic acid
QAO . . . Oxygen heterocycles (4-member rings)
QAO N . . . . Oxetane
CSU . Five-member heterocycles
QA . . Monocyclic
QAN S . . . Nitrogen heterocycles (5-member rings)
QAN SA . . . . Pyrrolidine... Pyrrole
QAN SMQ SA . . . . Pyrazole... Azoles... Imidazole
QAN SMQ TA . . . . Triazole
QAO . . . Oxygen heterocycles (5-member rings)
QAO B . . . . Furan, furfuran... Tetrahydrofuran
QAO NSA . . . . Oxazole, phenoxazine
QAO Q . . . Sulphur heterocycles (5-member rings)
QAO QN . . . . Thiophen, thuiphene, thienyl ring, thiofuran
QAO QNS A . . . . Thiazole, isothiazole
QAP O . . . Iron heterocycles (5 member rings)
QAP OA . . . . Ferrocene, cyclopentadienyl iron
QE . . Bicyclic 5-member rings
QF . . Tricyclic 5-member rings
QG . . Tetracyclic 5-member rings
CSV . Six-member heterocycles
NS . . Nitrogen heteroatoms (6-member rings)
O . . Oxygen heteroatoms (6-member rings)
ONS . . Oxygen wwith nitrogen
* See also Nucleotides CVG XC
QA . . Monocyclic 6-member rings
QAV O . . . Oxygen
QAV OA . . . . Dioxane, dioxan, diethylene dioxide, glycol ethylene ether
QAV OQA A . . . . Pyrone... Lactides...
QE . . . Bicyclic 6-member rings
QEN S . . . . Nitrogen
QEN SA . . . . . Quinoline... Isoquinoline

Kinds of organic compounds by basic structures
. Cyclic compounds CQ
. . . . Six-member heterocycles CSV
. . . . . Bicyclic 6-member rings CSV QE
. . . . . Nitrogen CSV QEN S
. . . . . Quinoline... Isoquinoline CSV QEN SA

. . . . . Amines
CSV QEN SC . . . . . Adenine, 6-aminopurine
QEO . . . . . Oxygen
QEO MQM . . . . . Chroman... Benzopyrone, coumarin
QF . . . . . Tricyclic 6-member rings
QFN S . . . . . Nitrogen heterocycles (tricyclic 6-member rings)
QFN SA . . . . . Phenothiazine... Acridine
QFN SC . . . . . Azine dyes
QFN SD . . . . . Piperidine... Pyridine... Picoline
QFN SH . . . . . Phenanthroline
QFN SK . . . . . Azines... Diazine, pyrazine
QFN SM . . . . . Pyrimidine... Pyrazine...
QG . . . . . Tetracyclic 6-member ring heterocycles
RON SA . . . . . Oxygen with nitrogen heteroatoms
RON SB . . . . . Diketopiperazine... Cytosine.. Thymine
RON SE . . . . . Uracil... Guanine
RUQ FOQ N . . . . . Sulphur & nitrogen heteroatoms
RUQ FOQ NS . . . . . Sulphathiazole, aminobenzene sulphonamidothiazole
. . . . *More than six members in ring*
CSW VWA . . . . . Seven-membered rings
CTB . Organometallic compounds
* This is an alternative location (not recommended) for libraries wishing to collect together all the literature on these compounds.
CTE Organic polymers, macromolecules (organic compounds)
. Chemical combination & structure
AP . . Stereochemistry
. . . Special structural features
APV . . . . Primary structure
APV 8XQ . . . . . Sequencing
APW . . . . Secondary structure
APW F . . . . . Folding, pleating, coiling
APW H . . . . . Alpha helix... Beta-pleated sheet... Double helix
AY . . Reactions
CQ . . Polymerization (organic polymers), synthesis (organic polymers)
CQA BR . . . Ionic polymerization
CQA BRH U . . . . Cationic... Anionic...
CQA BSV . . . . Radical polymerization, free radical polymerization
CQC PH . . . Addition processes

Chemistry C
Chemical species CG
Organic chemistry CO
Organic polymers CTE
Chemical combination & structure
. . Addition processes CTE CQC PH

CTE CQC PL . . Condensation processes..., Substitution processes
Polymers by state of matter
FIL . Film polymers
FNT . Dispersion polymers
FVW H . Fibres
FVW L . Sheet polymers
FW . Crystalline polymers
H *Kinds of polymers*
HGB CLP . Low density polymers... High density polymers
HGC OQ . *By chain structure*
HGC OR . . Open chain
HGC OS . . . Straight chain... Branched chain
HGC OW . . Closed chain, ring
HGD COY . Natural polymers... Synthetic polymers
HGD CPH C . Addition polymers... Condensation polymers... Substitution polymers
. Special structures
HGX G . . Stereoregular polymers
HGX I . . . Isotactic polymers... Syndiotactic... Atactic
HGX P . . Amorphous polymers
Kinds of polymers by behaviour
P . Plastics (polymers)
T . . Thermoplastic polymers, flexible polymers
V . . Thermosetting polymers, rigid polymers
Kinds by variety of monomers
CTF G . Copolymers
Kinds by number of monomers
J . Monomers (organic polymers)
K . . Oligomers
L . . . Dimers... Trimers.. Decamonomers
TY . . Polymers with more than 10 monomers
CTG *Kinds of polymers by constituent elements*
. *By groups containing H, C & O*
MH . . Aldehyde polymers... Polyesters... Polyacetates
. *By compounds containing heteroatoms*
NNO . . Polysilicones
NT . . Polyamines... Polyurethane... Polyamides
OQJ . . Polysulphides
OT . . Polyhalides
. *By basic structures*
PVC OV . . Polyvinylchlorides, PVC, vinylchloride polymers, polychloroethene
PVD . . Polypropylene, polypropene
PVQ . . Dienes
PVQ S . . . Polyisoprenes... Rubber... Guttapercha

Chemical species CG
Organic chemistry CO
Organic polymers CTE
. . By basic structures
. . . Dienes CTG PVQ
. . . . Polyisoprenes... Rubber... Guttapercha CTG PVQ S

CTG RD . . . Benzene polymers
RKA . . . . Styrene polymers, polystyrene
RLT . . . . Phenol
RLT MH . . . . . Phenolaldehyde polymers, bakelite
RQE OV . . . . Polychlorinated biphenyls
S . . Heterocyclic polymers
. . . Four-membered rings
SUR QRM . . . . Tetrahydrofuran polymers, THF, polyoxytetramethylene glycols
SUR R . . . Sulphur five-membered ring heteroatoms
SUR RRM . . . . Tetrahydrothiophen, THT, tetramethylene sulphide

CTH Biologically significant organic compounds
* The compounds below are found primarily in various forms of life (microbiological, botanical or zoological). They and their attendant processes are all to be found in Biochemistry EC in Class E.
* This class takes only strictly chemical studies of the substances concerned.
CTJ . Lipids, lipins, lipoids
. . *Lipids by basic structures*
W . . . Simple lipids... Compound lipids, complex lipids
Y . . . Fats & waxes
CTK . . . . Fats
. . . . . Acids
MM . . . . . Essential fatty acids
MNB . . . . . Palmitic acid... Oleic acid... Stearic acid
V . . . . . Oils
VW . . . . . Essential oils, volatile oils
VXC . . . . . Croton oil... Sesame oil... Cottonseed oil
. . . . Waxes
WV . . . . . Mineral waxes... Paraffin wax... Beeswax
CTL . . . Phospholipids, phosphatides
CTM . . . Glycerides, acylglycerol
. . . . *By number & nature of substituent on hydroxyl group*
TM . . . . . Monoglycerides... Diglycerides... Triglycerides
V . . . . . Phosphoglycerides
W . . . . . Glycolipids
CTN . . . Steroids
. . . . Acids
MM . . . . . Bile acids
MNC . . . . . Cholic acid... Lithocholic acid... Glycocholic acid

Chemical species CG
Organic chemistry CO
Biologically significant organic compounds CTH
Lipids CTJ
. . . Acids
. . . . . Cholic acid... Lithocholic acid... Glycocholic acid CTN MNC

. . . *Kinds of steroids by structure*
CTN TB . . . . Androstanes... Androstenes... Androsterols
TG . . . . Cholanes... Cholestanes... Cholestenes
U . . . . Sterols... Cholesterol
V . . . . Pregnanes... Pregnenes
CTO Terpenes, polyisoprenes
. *Kinds of terpenes by number of isoprenes*
CTP L . . Monoterpenes
LV . . . Monocyclic monoterpenes
LVL T . . . . Alcohols
LVL YB . . . . . Terpinenols... Terpineols
LVL YE . . . . . Borneol... Geraniol... Menthol... Citronellol
LVV . . . . Terpinenes
LVX B . . . . Terpinolenes
LW . . . Dicyclic monoterpenes
LWI X . . . . Hydrocarbons
LWI XY . . . . . Pinene, turpentine... Camphene
M . . Sesquiterpenes... Diterpenes... Triterpenes...
W Terpenoids
CTQ Carbohydrates
U . Sugars, saccharides
CTR . Monosaccharides, simple sugars, single sugars
. . *Kinds of monosaccharides by number of C atoms in chain*
U . . . Trioses... Tetroses... Pentoses
CTU B . . . Hexoses
D . . . . Fructose... Levulose... Glucose... Dextrose
L . . . . Galactose... Mannose
P . . . Heptoses... Higher monosaccharides
CTV B . Polysaccharides
G . . Oligosaccharides, compound sugars
H . . . Disaccharides
J . . . . Sucrose... Lactose... Maltose...
P . . . Trisaccharides
R . . . Hemicellulose (polysaccharides)
S . . . . Pentosans... Hexosans... Fructosans
V . Glucosans
CTW . . Starch
U . . . Amylose... Amylopectin
X . . . Glycogen, animal starch
CTX C . . Cellulose
E . . . Lignocellulose... Mannocellulose
J . . Chitin
M . . Mucopolysaccharides
N . . Pectins
P . . Pyrogens

Chemical species CG
Organic chemistry CO
Biologically significant organic compounds CTH
Carbohydrates CTQ
. Glucosans CTV V
. . Pyrogens CTX P

CTY B . Glycosides
. . *Kinds of glycosides by source*
. . *Kinds of glycosides by action*
CN . . . Antibiotic glycosides... Cardiac glycosides
. . *Kinds of glycosides by constituents*
D . . . Aminoglycosides
G . . . Glucosides
H . . . Galactosides
J . . . Tannic acid, tannin, gallotannic acid
K . . . Saponins
L . . . Flavonoids, flavonol glycosides, bioflavonoids
CUA Alkaloids
. *Kinds of alkaloids by structure*
* Although the following classes are taken from CS Heterocycles they should be distinguished from the heterocyclic compounds from which they are taken by the fact that here they represent only the alkaloids derived from those structures; eg,
SU . . Five-member heterocycles..., Six-member heterocycles...
. *Kinds of alkaloids by plant origin*
TB . . Aconite bases... Calabar bases... Cinchona bases
* See also Quinoline CUA SVR MRL RES
TN . . . Quinine
TR . . Coca bases
TS . . . Cocaine
TT . . Colchicine bases... Corynanthe johimbe bases, yohimbe
UO . . Ergot bases
UQ . . . Ergotoxine... Ergotinine... Ergotamine
VB . . Ipecacuanha bases... Liliaceae bases... Mescal bases
CUB B . . Papaveraceae bases
C . . . Opium
D . . . . Morphine... Codeine... Diamorphine, heroin
EV . . Ricinus bases... Rutaceae bases
G . . Solanaceae bases
GT . . . Tropane bases
GU . . . . Belladonna, deadly nightshade... Atropine
H . . Strychnos bases
J . . . Strychnine
K . . . Curare
L . . Veratrum bases... Vinca bases... Xanthene bases
S . *Kinds of alkaloids by animal origin*
TB . . Ptomaines
CUC Y Amino acids & peptides & proteins (together)

Chemistry C
Chemical species CG
Organic chemistry CO
Biologically significant organic compounds CTH
Amino acids & peptides & proteins CUC Y

CUD Amino acids, aminocarboxylic acids
. *Kinds by attachment to C atom*
HGX A . . Alpha-amino acids, protein amino acids, essential amino acids
HGX B . . Beta-amino acids... Gamma-amino acids... Delta-amino acids
. *Kinds by constituent elements*
. *Kinds by basic structure*
. *Kinds by number of aminos*
TJ . . Monoamino acids... Polyamino acids
CUE . *Kinds by side chain*
BY . . Alkyl amino acids
E . . . Alanine... Valine... Leucine
J . . . Phenylalanine... Proline...
MY . . Hydroxy-containing amino acids
N . . . Serine... Threonine... Tyrosine...
PT . . Carboxy-containing amino acids
Q . . . Aspartic acid... Glutamic acid...
RY . . Amino-containing amino acids
SB . . . Asparagine... Glutamine... Lysine... Tryptophan
SQ . . Sulphide-containing amino acids, mercapto amino acids, sulphur amino acids
SR . . . Cysteine... Methionine...
CUF Peptides
. *Kinds of peptides*
. . *By number of amino acids in chain*
CUG JS . . . Polypeptides
K . . . . Oligopeptides
LD . . . . . Dipeptides
LE . . . . . Alanylalanine... Alanylglycine... Carnosine
MD . . . . . Tripeptides
ND . . . . . Tetrapeptides
TD . . . . Decapeptides
TG . . . . . Angiotensin
Y Other biologically significant amine derivative, A/Z
YHI . Histamine, aminoethylimidazole, imidazolylethylamine

Chemistry C
Chemical species CG
Organic chemistry CO
Biologically significant organic compounds CTH
Other biologically significant amine derivative CUG Y
. Histamine CUG YHI

CUH Proteins
X . *Kinds by special protein properties*
CUI D . . Derived proteins
E . . . Primary protein derivatives...
F . . . Secondary protein derivatives
FT . . . . Proteoses... Peptones
. *Kinds of proteins by biological function*
L . . Structural proteins
M . . Storage proteins
N . . Catalytic & regulatory
P . . Carrier proteins, binding proteins, transport proteins
Q . . Contractile proteins
. . *Kinds by organism or part of organism concerned*
S . . . Plant proteins... Animal proteins
. *Kinds of proteins by constituents*
CUJ B . . Simple proteins
D . . . Protamines
E . . . Histones
F . . . Albumins
G . . . Globulins, euglobulins, pseudoglobulins
GV . . . . Lactoglobulins
H . . . . Serum globulins
IA . . . . . Alpha globulins... Beta globulins
IG . . . . . Gamma globulins... Immunoglobulins...
JT . . . . Foetal globulin
L . . . Prolamines
N . . . Glutelins
P . . . Scleroproteins, albuminoids, albumoids
CUK B . . Compound proteins, conjugated proteins
BCA . . . Prosthetic groups
C . . . Metalloproteins
E . . . Phosphoproteins
G . . . Lipoproteins
I . . . Glycoproteins, glycopeptides
M . . . . Mucoproteins, mucoids
O . . . Nucleoproteins
Q . . . Chromoproteins
R . . . . Haemoproteins, hemoproteins
S . . . . . Haemoglobins, hemoglobins
U . . . . . Myoglobin
V . . . Flavoproteins

Chemical species CG
Organic chemistry CO
Biologically significant organic compounds CTH
Proteins CUH
. Kinds of proteins by constituents
. . . Flavoproteins CUK V

CUL . Enzymes
. . Constituents in reaction
GS . . . Substrate
H . . . Enzyme-substrate complex
O . . . . Coenzymes
CUM . . . Proenzymes, precursors (proenzymes), zymogen
CUO . . . Antienzymes
T . . . Adaptive enzymes
. . *Kinds of enzymes by reaction catalyzed*
CUS C . . . Isoenzymes, isozymes
F . . . Ligases, synthetases
H . . . Hydrolases
HS . . . . Amidohydrolases
HT . . . . Aminohydrolases
I . . . . Esterases
K . . . . Carbohydrases
Q . . . . Peptide hydrolases, peptidases
QS . . . . . Aminopeptidases
QT . . . . . Angiotensinase
QU . . . . . Carboxypeptidases
QV . . . . . Dipeptidases
R . . . . . Peptide peptidihydrolases
W . . . . . Aminases
CUT B . . . . Oxidoreductases, oxidases, reductases, dehydrogenases
F . . . . Transferases
H . . . . Isomerases
L . . . . Lyases
Q . Growth substances (non-hormone)
CVB Nucleosides & nucleotides
CVC . Nucleosides
TS . . Ribonucleosides
TT . . Deoxyribonucleosides
CVD . . *Kinds by heterocycle*
XB . . . Pyrimidine nucleosides
YB . . . Purine nucleosides
YF . . . . Adenine nucleosides
CVF . Nucleotides
CVH . . Nucleic acids
CVI . . . RNA, ribonucleic acid
. . . . *Kinds by source*
CVJ B . . . . . Ribosomal RNA, rRNA
D . . . . . Viral RNA, vRNA
F . . . . . Bacterial RNA
H . . . . . Neoplasm RNA
. . . . *Kinds by structure & function*
M . . . . . Messenger RNA, mRNA
R . . . . . Transfer RNA, tRNA, soluble RNA

Chemical species CG
Organic chemistry CO
Biologically significant organic compounds CTH
Nucleosides & nucleotides CVB
. . . RNA CVI
. . . . . Transfer RNA CVJ R

CVK . . . DNA, deoxyribonucleic acid
. . . . *Kinds by source*
CVL B . . . . . Mitochondrial DNA
D . . . . . Viral DNA
F . . . . . Bacterial DNA
H . . . . . Neoplasm DNA
. . . . *Kinds by structure & function*
L . . . . . Circular DNA
N . . . . . Single-stranded DNA
P . . . . . Satellite DNA
CVW Hormones
. *Kinds of hormones by origin*
KB . . Natural hormones... Synthetic hormones
. *Kinds by special physiological reactions*
KF . . Topical hormones, local hormones
KI . . Releasing hormones
KJ . . Anti-hormones, hormone antagonists
KK . . Metabolic hormones
KN . . Regulatory hormones
. *Kinds by source & action*
KVB . . Plant hormones, phytohormones
KVD . . . Auxins
KVM . . . Gibberellins
KVQ . . . Cytokinins, phytokinins
KW . . Animal hormones
KXB . . . Pheromones, ectohormones
KXW . . . *By glands as source*
. . . . Pineal gland
. . . . Parotid gland
. . . . Pituitary gland
M . . . . . Pituitary hormones
N . . . . . Anterior pituitary hormones, adenohypophysis extracts
NU . . . . . Corticotrophin, adrenocorticotrophin hormone, ACTH
NW . . . . . Somatotrophin, STN, growth hormone
NX . . . . . Thyrotrophin, thyroid stimulating hormone, TSH, thyrotrophic hormone
P . . . . . Gonadotrophins (pituitary), gonadotrophic hormones
. . . . . Intermediate pituitary gland
. . . . . Posterior pituitary gland
RU . . . . . Oxytocin, pitoin
RX . . . . . Pituitrin
SB . . . . . Vasopressin, antidiuretic hormone, ADH
. . . . Thyroid gland
. . . . Parathyroid gland
. . . . Thymus gland

Chemistry C
Chemical species CG
Organic chemistry CO
Biologically significant organic compounds CTH
Hormones CVW
. . . . Thymus gland

. . . . Adrenal gland
CVX A . . . . . Adrenal cortex hormones, corticoids, corticosteroids, cortical hormones
LH . . . . . Glucocorticoids
LN . . . . . Hydroxycorticosteroids
. . . . Digestive system
RP . . . . . Gastrointestinal hormones
. . . . . Pancreas
SG . . . . . Pancreatic hormones
SI . . . . . Insulin
. . . . Reproductive system
T . . . . . Sex hormones
TV . . . . . Gonadotrophins
U . . . . . Androgens, male sex hormones
W . . . . . Oestrogens, female sex hormones
CWB Vitamins
. *Kinds of vitamins*
CWC K . . Water soluble vitamins
L . . . Vitamin B complex
M . . . . Vitamin B1, thiamine... Thiamine pyrophosphate
N . . . . Vitamin B2 complex, vitamin G, riboflavin
PC . . . . Nicotinic acid, niacin
PF . . . . Vitamin B5, pantothenic acid... Vitamin B6, pyridoxine
Q . . . . Vitamin B9, vitamin B11, vitamin Bc, folic acid
S . . . . Vitamin B12, cyanocobalamin, cobalamin, extrinsic factor (vitamin B12)
V . . . Vitamin C, ascorbic acid
W . . Fat soluble vitamins
XC . . . Vitamin A, retinol
XE . . . Vitamin D
XG . . . . Vitamin D2... Ergosterol... Vitamin D3
XM . . . Vitamin E, tocopherols
XP . . . Vitamin K
CWE Natural pigments
CWF B . *Kinds of pigments by source & function*
F . . Plant pigments... Animal pigments
J . *Kinds by substance*
KE . . Anthocyanidins
KG . . Anthoxathins
KJ . . Lipochromes, chromolipids
KK . . . Carotenoids... Carotenes, carotins...
LQ . . Naphthoquinones
LS . . Melanin
LX . . Pyrrole pigments, tetrapyrroles
QB . . Flavonoids
T Toxins
VEN . Bacterial toxins

Chemistry C
Chemical species CG
. . . . Bacterial toxins CWF VEN

CWF VF . . . . Phytotoxins, plant toxins
VG . . . . Zootoxins, animal toxins
CX Applied chemistry, chemistry-based technologies
* Alternative (not recommended) to locating in Class U/V.