

# Keyword Catalogue for Wiley-VCH Chemistry Journals

To aid online searching, each article is assigned at least two keywords from this list, which has been developed for the readers of the Wiley-VCH chemistry journals, such as *Angewandte Chemie*, the European and Asian journals, *ChemXChem*, as well as *ZAAC*, *ASC*, *Fuel Cells*, *Electroanalysis*, and *Molecular Informatics*.

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## Analytical Chemistry and Spectroscopic Methods

Analytical Methods  
Circular dichroism  
Cyclic voltammetry  
Electron diffraction  
Electron microscopy  
Electrophoresis  
ENDOR spectroscopy  
EPR spectroscopy  
EXAFS spectroscopy  
Fluorescence spectroscopy  
Gas chromatography  
High-throughput screening  
Ion chromatography  
Ion exchange  
IR spectroscopy  
Isotopic labeling  
Laser spectroscopy  
Liquid chromatography  
Luminescence  
Mass spectrometry  
Mössbauer spectroscopy  
Neutron diffraction  
NMR spectroscopy  
Photoelectron spectroscopy  
Plasma chemistry  
Raman spectroscopy  
Rotational spectroscopy  
Scanning probe microscopy  
Sensors  
Surface analysis  
Surface plasmon resonance  
Trace analysis  
UV/Vis spectroscopy  
Vibrational spectroscopy  
Water chemistry  
X-ray absorption spectroscopy  
X-ray diffraction  
ZEKE spectroscopy

## Biological Chemistry and Chemical Biology (including Biochemistry, Bioorganic Chemistry, Bioinorganic Chemistry, Medicinal Chemistry, and Molecular and Cell Biology)

Allosterism  
Amino acids  
Amyloid beta-peptides  
Angiogenesis  
Antibiotics  
Antibodies  
Antifungal agents  
Antigens  
Antioxidants  
Antiproliferation  
Antiprotozoal agents  
Antisense agents  
Antitumor agents  
Antiviral agents  
Apoptosis  
Aptamers  
Azapeptides  
Azasugars  
Bioinformatics  
Bioinorganic chemistry  
Biological activity  
Biomimetic synthesis  
Bioorganic chemistry  
Biophysics  
Biosensors  
Biosynthesis  
Biotransformations  
C-Glycosides  
Cancer  
Carbohydrates  
Carbon dioxide fixation  
Carotenoids  
Cell adhesion  
Cell recognition  
Cerebrosides  
Chaperone proteins  
Cobalamines  
Cofactors  
Combinatorial chemistry  
Cyclitols  
Cyclodextrins  
Cytokines  
Cytotoxicity  
DNA  
DNA cleavage  
DNA damage  
DNA methylation  
DNA recognition  
DNA replication  
DNA structures  
Dopamines  
Drug delivery  
Drug design  
Drug discovery  
Electron transport  
Enzyme models  
Enzymes  
Fibrous proteins  
Fluorescent probes  
G-Quadruplexes  
Gene expression

Gene sequencing  
Gene technology  
Genomics  
Glycoconjugates  
Glycolipids  
Glycopeptides  
Glycoproteins  
Glycosides  
Glycosylation  
Growth factors  
Helical structures  
Heme proteins  
Hormones  
Hydrolases  
Immobilization  
Immunoassays  
Immunochemistry  
Immunology  
Inflammation  
Inhibitors  
Ion channels  
Ionophores  
Isomerases  
Ligases  
Lipids  
Lipophilicity  
Lipoproteins  
Liposomes  
Lyases  
Medicinal chemistry  
Membrane proteins  
Membranes  
Metabolism  
Metalloenzymes  
Metalloproteins  
Micelles  
Microarrays  
Molecular evolution  
mRNA  
Mutagenesis  
Natural products  
Neurochemistry  
Neurological agents  
Neurotransmitters  
Nitrogen fixation  
Nitrogenases  
Nucleic acids  
Nucleobases  
Nucleosides  
Nucleotides  
Oligonucleotides  
Oligosaccharides  
Oxidoreductases  
Peptide nucleic acids  
Peptides  
Peptidomimetics  
Phage display  
Pheromones  
Phospholipids  
Photoaffinity labeling  
Photosynthesis  
Phytochemistry  
Polyketides  
Polymerase chain reaction  
Prodrugs  
Prostaglandins  
Protein design  
Protein engineering  
Protein expression  
Protein folding  
Protein models  
Protein modifications

Protein structures  
 Protein-protein interactions  
 Proteins  
 Proteomics  
 Proton transport  
 Radiopharmaceuticals  
 Receptors  
 Redox chemistry  
 Ribonucleosides  
 Ribozymes  
 RNA  
 RNA recognition  
 RNA structures  
 Sensitizers  
 Sequence determination  
 Sialic acids  
 Siderophores  
 Signal transduction  
 Sphingolipids  
 Steroids  
 Structural Biology  
 Structure-activity relationships  
 Synthetic Biology  
 Terpenoids  
 Toxicology  
 Transferases  
 tRNA  
 Vesicles  
 Virtual screening  
 Viruses  
 Vitamins

## Catalysis

Asymmetric catalysis  
 Autocatalysis  
 Biocatalysis  
 Biphasic catalysis  
 Catalytic antibodies  
 Enzyme catalysis  
 Heterogeneous catalysis  
 Homogeneous catalysis  
 Organocatalysis  
 Phase-transfer catalysis  
 Photocatalysis  
 Supported catalysts

## Coordination Chemistry: Compound Classes

Cage compounds  
 Chelates  
 Clathrates  
 Cluster compounds  
 Cuprates  
 Dendrimers  
 Heterometallic complexes  
 Metallacycles  
 Metallocenes  
 Nitrogen oxides  
 Polyoxometalates  
 Sandwich complexes  
 Ylides

## Coordination Chemistry: Ligand Classes

Alkene ligands  
 Alkyne ligands  
 Allyl ligands  
 Arene ligands  
 As ligands

Bridging ligands  
 Carbene ligands  
 Carbonyl ligands  
 Carboxylate ligands  
 Carbyne ligands  
 Cyclopentadienyl ligands  
 Diene ligands  
 Dioxygen ligands  
 Fluorinated ligands  
 Hydride ligands  
 Isocyanide ligands  
 Macrocyclic ligands  
 N ligands  
 N,O ligands  
 N,P ligands  
 O ligands  
 Oxido ligands  
 Peroxido ligands  
 Phosphane ligands  
 P ligands  
 S ligands  
 Si ligands  
 Tridentate ligands  
 Tripodal ligands  
 Vinylidene ligands

## Coordination Chemistry: Methodology and Reactions

Carbon dioxide fixation  
 Chemical vapor deposition  
 Chiral resolution  
 Crystal engineering  
 Ligand design  
 Matrix isolation  
 Metathesis  
 Neighboring-group effects  
 Nitrogen fixation  
 O-O activation  
 Oxidation  
 Radical reactions  
 Reduction  
 Ring-opening polymerization  
 Solvent effects  
 Solvolysis  
 Substituent effects  
 Template synthesis

## Coordination Chemistry: Structure

Agostic interactions  
 Auophilicity  
 Charge transfer  
 Cooperative effects  
 Coordination modes  
 Donor-acceptor systems  
 Electron-deficient compounds  
 Electronic structure  
 Electrostatic interactions  
 Fluxionality  
 Helical structures  
 Host-guest systems  
 Hydrogen bonds  
 Inclusion compounds  
 Isolobal relationship  
 Jahn-Teller distortion  
 Ligand effects  
 Metal-metal interactions  
 Multiple bonds  
 Noncovalent interactions  
 Pi interactions

Stacking interactions  
 Structure elucidation  
 Through-bond interactions  
 Through-space interactions

## Elements and Element Groups

Actinides  
 Alkali metals  
 Alkaline earth metals  
 Aluminum  
 Antimony  
 Argon  
 Arsenic  
 Barium  
 Beryllium  
 Bismuth  
 Boron  
 Bromine  
 Cadmium  
 Calcium  
 Carbon  
 Cerium  
 Cesium  
 Chalcogens  
 Chlorine  
 Chromium  
 Cobalt  
 Copper  
 Deuterium  
 Fluorine  
 Gallium  
 Germanium  
 Gold  
 Group 13 elements  
 Group 14 elements  
 Hafnium  
 Halogens  
 Helium  
 Hydrogen  
 Indium  
 Iodine  
 Iridium  
 Iron  
 Krypton  
 Lanthanides  
 Lanthanum  
 Lead  
 Lithium  
 Magnesium  
 Manganese  
 Mercury  
 Molybdenum  
 Neon  
 Nickel  
 Niobium  
 Nitrogen  
 Noble gases  
 Osmium  
 Oxygen  
 Palladium  
 Phosphorus  
 Platinum  
 Plnicogens  
 Potassium  
 Rare Earths  
 Rhenium  
 Rhodium  
 Rubidium  
 Ruthenium  
 Samarium

Scandium  
Selenium  
Silicon  
Silver  
Sodium  
Strontium  
Sulfur  
Tantalum  
Technetium  
Tellurium  
Thallium  
Tin  
Titanium  
Tungsten  
Uranium  
Vanadium  
Xenon  
Ytterbium  
Yttrium  
Zinc  
Zirconium

## Inorganic Chemistry

Alanes  
Allotropy  
Alloys  
Aluminosilicates  
Amalgams  
Amorphous materials  
Anions  
Automerization  
Autoxidation  
Azides  
Bond theory  
Boranes  
Borates  
Carbene homologues  
Carbides  
Carboranes  
Cations  
Chain structures  
Chromates  
Clathrates  
Cluster compounds  
Cyanides  
Electron-deficient compounds  
Fluorides  
Halides  
High-pressure chemistry  
Host-guest systems  
Hydrates  
Hydrides  
Hydrothermal synthesis  
Hypervalent compounds  
Inclusion compounds  
Intercalations  
Intermetallic phases  
Isoelectronic analogues  
Isomers  
Layered compounds  
Lewis acids  
Lewis bases  
Main group elements  
Metal-metal interactions  
Metal-organic frameworks  
Mixed-valent compounds  
Nitrides  
Nonstoichiometric compounds  
Organic-inorganic hybrid composites  
Perovskite phases  
Peroxides  
Phosphaalkenes

Phosphaalkynes  
Phosphanes  
Phosphazenes  
Platinates  
Pnictides  
Polyanions  
Polycations  
Polychalcogenides  
Polyhalides  
Polymorphism  
Polyoxometalates  
Radical ions  
Radicals  
Silanes  
Silicates  
Sol-gel processes  
Solid-phase synthesis  
Solid-state reactions  
Solid-state structures  
Spinel phases  
Stannanes  
Subvalent compounds  
Synthesis design  
Titanates  
Topochemistry  
Transition metals  
Transuranium elements  
Valence isomerization  
Vanadates  
Zeolite analogues  
Zeolites  
Zincates  
Zintl anions  
Zintl phases

## Materials Science: General

Alloys  
Amorphous materials  
Automerization  
Block copolymers  
Ceramics  
Charge carrier injection  
Chemical vapor deposition  
Chemical vapor transport  
Clays  
Cluster compounds  
Colloids  
Conducting materials  
Copolymerization  
Crystal engineering  
Crystal growth  
Cyclooligomerization  
Cyclotrimerization  
Dendrimers  
Doping  
Energy conversion  
Fullerenes  
Gels  
Glasses  
Graphene  
Holography  
Imprinting  
Intercalations  
Interfaces  
Intermetallic phases  
Ladder polymers  
Layered compounds  
Liquid crystals  
Materials science  
Mechanical properties  
Membranes  
Mesophases

Mesoporous materials  
Metal-metal interactions  
Metallomesogens  
Micelles  
Microporous materials  
Monolayers  
Nanoparticles  
Nanostructures  
Nanotechnology  
Nanotubes  
Nonlinear optics  
Polymerization  
Polymers  
Quantum dots  
Ring-opening polymerization  
Scanning probe microscopy  
Semiconductors  
Sensitizers  
Sensors  
Superconductors  
Surface chemistry  
Thin films  
Vesicles  
Zeolite analogues  
Zeolites

## Miscellaneous

History of Science  
Industrial Chemistry

## Organic Chemistry: Compound Classes

Alcohols  
Aldehydes  
Alkaloids  
Alkanes  
Alkenes  
Alkynes  
Allenenes  
Allylic compounds  
Amides  
Amines  
Amino acids  
Amino alcohols  
Amino aldehydes  
Amphiphiles  
Anhydrides  
Anions  
Annulenes  
Arenes  
Arynes  
Azides  
Azo compounds  
Azomethine ylides  
Betaines  
Biaryls  
Calixarenes  
Carbanions  
Carbenes  
Carbenoids  
Carbocations  
Carbocycles  
Carbohydrates  
Carboxylic acids  
Carotenoids  
Catenanes  
Cations  
Cavitands  
Crown compounds  
Cryptands  
Cumulenes

Cyanides  
 Cyanines  
 Cyclodextrins  
 Cyclophanes  
 Dendrimers  
 Diazo compounds  
 Dyes/Pigments  
 Enols  
 Enones  
 Enynes  
 Fatty acids  
 Fragrances  
 Fullerenes  
 Fused-ring systems  
 Heterocycles  
 Hydrazones  
 Hydrides  
 Hydrocarbons  
 Ketones  
 Lactams  
 Lactones  
 Ladder polymers  
 Macrocycles  
 Mannich bases  
 Medium-ring compounds  
 Metallocycles  
 Natural products  
 Nitrogen heterocycles  
 Oxygen heterocycles  
 Peroxides  
 Pheromones  
 Phosphorus heterocycles  
 Phthalocyanines  
 Polycycles  
 Polymethines  
 Porphyrinoids  
 Quinodimethanes  
 Quinones  
 Radical ions  
 Radicals  
 Rotaxanes  
 Schiff bases  
 Small ring systems  
 Spiro compounds  
 Steroids  
 Sulfonamides  
 Sulfur heterocycles  
 Surfactants  
 Terpenoids  
 Ylides  
 Zwitterions

## Organic Chemistry: Methodology and Reactions

Acylation  
 Aldol reaction  
 Alkylation  
 Allylation  
 Amination  
 Annulation  
 Aromatic substitution  
 Aromaticity  
 Asymmetric amplification  
 Asymmetric catalysis  
 Asymmetric synthesis  
 Automerization  
 Autoxidation  
 Biomimetic synthesis  
 C-C activation  
 C-C coupling  
 C-H activation

C1 building blocks  
 Carbonylation  
 Carboxylation  
 Chiral auxiliaries  
 Chiral pool  
 Cleavage reactions  
 Click chemistry  
 Combinatorial chemistry  
 Cracking  
 Cross-coupling  
 Cyclization  
 Cycloaddition  
 Cyclotrimerization  
 Dehydrogenation  
 Dihydroxylation  
 Dimerization  
 Domino reactions  
 Electrocyclic reactions  
 Electrophilic addition  
 Electrophilic substitution  
 Elimination  
 Ene reaction  
 Epoxidation  
 Flash pyrolysis  
 Glycosylation  
 Grignard reaction  
 Halogenation  
 Heck reaction  
 High-pressure chemistry  
 Hydroamination  
 Hydroboration  
 Hydroformylation  
 Hydrogen transfer  
 Hydrogenation  
 Hydrolysis  
 Hydrosilylation  
 Hydrostannation  
 Hydroxylation  
 Immobilization  
 Insertion  
 Ionic liquids  
 Isomerization  
 Lithiation  
 Metalation  
 Michael addition  
 Microwave chemistry  
 Molecular diversity  
 Multicomponent reactions  
 Nucleophilic addition  
 Nucleophilic substitution  
 Olefination  
 Oligomerization  
 Organocatalysis  
 Oxidation  
 Oxygenation  
 Ozonolysis  
 Perfluorinated solvents  
 Pericyclic reaction  
 Phosphorylation  
 Photooxidation  
 Polymerization  
 Protecting groups  
 Protonation  
 Radical reactions  
 Rearrangement  
 Reduction  
 Retro reactions  
 Ring contraction  
 Ring expansion  
 Sigmatropic rearrangement  
 Solid-phase synthesis  
 Solvent effects

Solvolysis  
 Steric hindrance  
 Substituent effects  
 Synthesis design  
 Synthetic methods  
 Template synthesis  
 Topochemistry  
 Total synthesis  
 Transesterification  
 Umpolung  
 Wittig reactions

## Organic Chemistry: Stereochemistry and Structures

Atropisomerism  
 Chemoselectivity  
 Chiral resolution  
 Chirality  
 Configuration determination  
 Conformation analysis  
 Conjugation  
 Diastereoselectivity  
 Enantioselectivity  
 Hyperconjugation  
 Kinetic resolution  
 Regioselectivity  
 Strained molecules  
 Structure elucidation  
 Tautomerism  
 Valence isomerization

## Physical Chemistry and Chemical Physics (including Electrochemistry, Kinetics, Photochemistry, Radiochemistry, Thermodynamics and Theoretical Chemistry)

Ab initio calculations  
 Absorption  
 Acidity  
 Adsorption  
 Basicity  
 Biophysics  
 Bond energy  
 Bond theory  
 Calorimetry  
 CARS (Coherent Anti-Stokes Raman Scattering)  
 Charge carrier injection  
 Chemisorption  
 Chromophores  
 Colloids  
 Computational chemistry  
 Conducting materials  
 Conical intersections  
 Crystal engineering  
 Crystal growth  
 Cyclic voltammetry  
 Density functional calculations  
 Donor-acceptor systems  
 Doping  
 Electrochemistry  
 Electron microscopy  
 Electron transfer  
 ELF (Electron Localization Function)  
 Energy conversion

Energy transfer  
 Exchange interactions  
 Femtochemistry  
 Fluorescence  
 Fluorescent probes  
 Fractals  
 FRET  
 Gas-phase reactions  
 Gels  
 Glasses  
 Heats of formation  
 High-pressure chemistry  
 High-temperature chemistry  
 Hot-atom chemistry  
 Hydrophobic effect  
 Imaging agents  
 Ion pairs  
 Ion-molecule reactions  
 Ionization potentials  
 Isotope effects  
 Isotopes  
 Kinetics  
 Langmuir-Blodgett films  
 Laser chemistry  
 Lewis acids  
 Lewis bases  
 Linear free energy relationships  
 Liquid crystals  
 Liquids  
 Low-temperature physics  
 Magnetic properties  
 Matrix isolation  
 Mesophases  
 Metallomesogens  
 Metastable compounds  
 Microreactors  
 Molecular dynamics  
 Molecular electrochemistry  
 Molecular electronics  
 Molecular modeling  
 Monolayers  
 Nanotechnology  
 Neighboring-group effects  
 Nonequilibrium processes  
 Phase diagrams  
 Phase transitions  
 Photochemistry  
 Photochromism  
 Photolysis  
 Photophysics  
 Physisorption  
 Plasma chemistry  
 Polarized spectroscopy  
 Quantum Chemistry  
 Quantum dots  
 Radiochemistry  
 Radiopharmaceuticals  
 Reaction mechanisms  
 Reactive intermediates  
 Redox chemistry  
 Salt effect  
 Semiempirical calculations  
 Single-molecule studies  
 Singlet oxygen  
 Sol-gel processes  
 Solvatochromism  
 Spin crossover  
 Statistical mechanics  
 Statistical thermodynamics  
 Structure-activity relationships  
 Superacidic systems  
 Supercritical fluids

Thermochemistry  
 Thermodynamics  
 Time-resolved spectroscopy  
 Transition states  
 Voltammetry  
 Water splitting

## Supramolecular Chemistry

Aggregation  
 Host-guest systems  
 Molecular devices  
 Molecular evolution  
 Molecular recognition  
 Nanostructures  
 Pi interactions  
 Receptors  
 Self-assembly  
 Supramolecular chemistry

## Sustainable Chemistry

Anions  
 Atmospheric chemistry  
 Biomass  
 Carbon storage  
 Cations  
 Chlorine  
 Computational chemistry  
 Crop protection agents  
 Cycloaddition  
 Denitrification  
 Desulfurization  
 Environmental chemistry  
 Fluorine  
 Fuel cells  
 Gas-phase reactions  
 Green chemistry  
 Halogenation  
 Kinetics  
 Molecular dynamics  
 Molecular modeling  
 Nitrogen oxides  
 Oxidation  
 Ozone  
 Peroxides  
 Photocatalysis  
 Photochemistry  
 Photolysis  
 Photooxidation  
 Radical ions  
 Radical reactions  
 Radicals  
 Reaction mechanisms  
 Reactive intermediates  
 Renewable resources  
 Sensors  
 Sustainable Chemistry  
 Toxicology  
 Trace analysis  
 Waste prevention  
 Water chemistry  
 Water splitting