

### 1.General Information

The European Journal of Inorganic Chemistry (EurJIC) publishes 36 issues per year.

Manuscripts should be submitted online using our online submission service at http://www.manuscriptXpress.org. You should prepare a single file containing all tables, graphics, supporting information (where appropriate) etc. Acceptable file formats are Microsoft Word, Rich Text Format, Postscript and PDF. Avoid the use of page breaks even between the title page and the introduction. If graphics are included at the end of the manuscript, try to fit as many as possible onto a single page. The file should have margins of 2 cm and be 1.5-line spaced.

Authors can follow the progress of their manuscript on their personal homepage, which is created automatically upon initial registration. This homepage is the same for the family of Wiley-VCH European journals and can be used to store the latest version of a submitted paper and to upload the document file after acceptance. Your referee reports for the family of Wiley-VCH European journals are also archived here.

No paper copies of the manuscript are required when using this system.

- EurJIC does not publish manuscripts that have already appeared in print or electronically. The author must inform the editor of manuscripts submitted, soon to be submitted, or in press at other journals that have a bearing on the manuscript being submitted. If a manuscript is, in fact, a revised/extended version of a manuscript previously rejected by EurJIC, the author must inform the editor about the previous submission in the cover letter and explain in detail which changes have been made. The Ethical Guidelines for Publication in Journals and Reviews issued by the European Association for Chemical and Molecular Sciences (EuCheMS) are followed and applied by the editors of EurJIC. Authors should reveal all sources of funding for the work presented in the manuscript and should declare any conflict of interest.
- Manuscripts containing animal experiments must include a statement in the Experimental Section to state that permission was obtained from the relevant national or local authorities. The institutional committees that have approved the experiments must be identified and the accreditation number of the laboratory or of the investigator given where applicable. If no such rules or permissions are in place in the country where the experiments were performed, then this must also be clearly stated. Manuscripts with experiments with human subjects or tissue samples

from human subjects must contain a disclaimer in the Experimental Section to state that informed signed consent was obtained either from the patient or from next of kin.

- The correspondence author of a Microreview will receive a complimentary copy of the journal along with a PDF file of his/her paper restricted to 50 printouts; the correspondence author of other articles will receive a PDF file restricted to 25 printouts. Colour figures can be reproduced. Unless the editor deems colour to be essential for the understanding of a paper, authors will be requested to make a contribution towards the costs of colour reproduction. Details will be provided after acceptance of the manuscript.
- We encourage authors to submit pictures for the cover page. A
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  clicking the link "For Authors" on our journal homepage (http://
  www.eurjic.org), to help you visualize the final effect of your
  design.

**IMPORTANT:** Any manuscript already available on personal/ group web pages will be considered by the editors as already published and will not be accepted.

On behalf of our authors who are also US National Institutes of Health (NIH) grantees, Wiley-VCH will deposit the peer-reviewed version of the manuscript in PubMed Central (PMC). PMC may display the material 12 months after Wiley-VCH has published the article. By assuming this responsibility, we will ensure that our authors are in compliance with the NIH request and make certain that the appropriate version of the manuscript is deposited. We await the release by PMC of the protocols regarding manuscript submission. We reserve the right to change or rescind this policy.

### 2. Types of Contributions

EurJIC publishes articles on inorganic, organometallic, bioinorganic, physical inorganic and solid-state chemistry. EurJIC is a fully peer-reviewed journal. An author may appeal against the decision on his/her manuscript, in writing. Three types of contributions are accepted for publication:

- Full Papers are articles with an Experimental Section that describe a significant contribution to the development of an area of research of importance. There are no restrictions placed on the length of a Full Paper.
- Short Communications are brief reports on results of high significance and urgency. Generally, they are no longer than 8–10



1.5-line-spaced pages or 3–4 typeset pages. An Experimental Section (as a separate paragraph or as part of the references) is desirable; if it is not included in the paper, the experimental data should be submitted as Supporting Information for refereeing purposes, and marked as such. A justification for urgent publication should accompany submission.

A Microreview is a highly focused overview of a selected topic. In general it includes a concise overview of the author's own research; reference to all appropriate work by others is essential, but the Experimental Sections of the original papers should not be repeated. As a rule, Microreviews are written on invitation, although unsolicited articles are also welcome. It is recommended, however, to contact the editor before submitting an unsolicited Microreview. The content should balance scope with depth in 25–30 1.5-line-spaced pages or 10–12 typeset pages. Microreviews will undergo peer review.

# 3. Manuscript Preparation

### 3.1 General

The whole of the manuscript should be 1.5-line spaced and in a large script (Times New Roman, 12 pt). We recommend that you Microsoft Word prepare your text with Macintosh versions) (see Section 3.2). Page numbers are essential: use the automatic pagination function incorporated in your word processing software. Leave a 2-cm margin around the perimeter of each page. The figures, schemes and graphical abstract in the accepted version should be camera-ready. Consult a current issue of the journal for an overview of the format. A manuscript should comprise: ♦ Title Page ♦ Keywords ♦ Abstract ♦ Main Text including Introduction, Results and Discussion etc. 

Experimental Section ♦ Acknowledgments (optional) ♦ Captions ♦ Tables ♦ References & Schemes and Figures & Graphical Abstract including a short text (max. 350 characters) and a graphical element (use of free colour is strongly recommended). Refer to the homepage Table of Contents template (http://www3.interscience.wiley.com/cgi-bin/ jabout/27721/2005\_guidelines.html). ♦ For Microreviews only: Biographical sketches and a portrait-quality photograph of all authors (when several authors from one institution are involved, group photographs are preferred).

## **3.2 Text**

The text should be typed with carriage returns (hard returns) only at the end of a paragraph, title, heading and similar features. Avoid end-of-line word divisions.

**Abbreviations and acronyms** should be used sparingly and consistently. Where they first appear in the text, the complete term — apart from the most common ones such as NMR, IR, thf, *t*Bu etc. — should also be given.

**In the Experimental Section**, quantities of reactants, solvents etc. should be included in parentheses [e.g. A solution of triphenylphosphane (500 mg, 1.91 mmol) in dichloromethane (15 mL) was added to...].

**NMR spectroscopic data** should be quoted as in the following example:  $^{1}\text{H}$  NMR (300 MHz,  $\text{C}_{6}\text{D}_{6}$ , 25 °C):  $\delta$  = 1.3 (s, 18 H, SiMe<sub>3</sub>), 0.9 (d,  $^{3}J_{\text{H,H}}$  = 5.7 Hz, 2 H, 2-H) ppm. For each chemical shift, additional information should be given in the order: multiplicity, coupling constant, number of protons, assignment.

The purity of all new compounds should be verified by elemental analysis to an accuracy within  $\pm 0.4\%$ . In special cases, for instance when the compound is unstable or not available in sufficient quantities for complete analysis, the exact relative molecular mass obtained from a high-resolution mass spectrum and a clean  $^{13}$ C NMR spectrum (as additional material for inspection by the referees) should be supplied.

**Symbols of physical quantities**, but not their units (e.g. T for temperature, J,  $\lambda$ ), stereochemical information (*cis*, *trans*, Z, R), locants (N-methyl), symmetry and space groups ( $P2_1/c$ ), and prefixes in formulas (tBu) or compound names (tert-butyl) **must be in italics**. Latin phrases, such as "in situ", should not

**Stereochemical descriptors**, such as D- and L-, and molar (M) or normal (N) should be in **small capitals**. Use character formatting for italic and bold characters. Avoid any *special style sheets* to format these features. Write *capital letters* using the keyboard (shift + letter key), **not** the format "Capital letter" in Word.

Use only characters from the Symbol and Normal Text character sets, especially when inserting Greek letters and characters with umlauts, accents, tildes, etc.:  $\alpha$ ,  $\ddot{a}$ ,  $\dot{a}$ ,  $\ddot{a}$ ,  $\ddot{A}$ .

There are three types of hyphens: normal dashes (-), en dashes (-), and em dashes (-). Use these as illustrated – spacing is important too – in the following examples:

well-known reaction C-H bond Tables 2-4 six-membered ring 3-position of the ring carbon-oxygen bond signal-to-noise ratio C-N stretch  $Mo-K_{\alpha}$ Diels-Alder reaction structure-activity relationship 1,2-dicyanobutane *p-tert*-butylphenol 80-100 mg(-)-tartaric acid carried out at -10 °C  $[M^+ - CH3]$ 

Use the symbol  $\times$  where appropriate, rather than the letter x:

... washed with water (2  $\times$  150 mL) ...

Use the double quotation marks "..." rather than "...", "..." or «...».

Graphics (including structural formulas, schemes, figures, equations and small graphical items that appear in captions) must be submitted camera-ready on separate pages after acceptance of the manuscript (see Section 3.5).

Lines or arcs, for example to indicate ring compounds, cannot be used within the text. Another method for indicating such compounds must be devised. Please contact the Editorial Office if any help is needed.

If practical, authors should use a systematic name (IUPAC or Chemical Abstracts) for each title compound in the Experimental Section. Please avoid complicated, multi-line names if a simpler version (e.g. alcohol 4, ketone 5, compound 6) could be used instead. EurJIC follows the IUPAC rules of nomenclature as updated by the latest recommendations and revisions.

According to a recent recommendation [N. G. Connelly, T. Damhus, R. M. Hartshorn, A. T. Hutton (Eds.), *Nomenclature of Inorganic Chemistry IUPAC Recommendations* 2005, RSC Publishing, Cambridge, UK, **2005**]:

- "Names of <u>anionic</u> ligands, whether inorganic or organic, are modified to end in 'o'. In general, if the anion name ends in 'ide', 'ite' or 'ate', the final 'e' is replaced by 'o', giving 'ido', 'ito' and 'ato', respectively. It follows that halide ligands are named fluorido, chlorido, bromido and iodido, and coordinated cyanide is named cyanido. In its complexes, except for those of molecular hydrogen, hydrogen is always treated as anionic, and therefore 'hydrido' is used for hydrogen coordinating to all elements including boron."
- "In the formulae for coordination entities, ligands are now ordered alphabetically according to first symbol of the abbreviation or formula used for the ligand, as written, irrespective of the charge."
- "No numerical subscript should follow the square bracket used to enclose a whole coordination entity of a neutral (formal) coordination compound."

For further details, please see the "Frequently Asked Questions" section (http://www3.interscience.wiley.com/cgi-bin/jabout/27721/2005\_faq.html) at the journal website and IUPAC publications and websites

#### 3.3 Tables

Use the Insert Table command from the Table menu or use the Insert Table button on the Standard toolbar for creating tables, and use tabs ONLY to move between cells.

#### 3.4 References

We strongly recommend the use of the Endnotes feature of Word. If you prefer not to use this function, references should be indicated by numbers in square brackets as superscripts and, if applicable, after punctuation (example: text.<sup>[11]</sup>). Use the Format Font menu.

Journal titles should be abbreviated according to the Chemical Abstracts Service Source Index (CASSI).

The Author is responsible for correct citations. The European Journal of Inorganic Chemistry is a member of Cross Ref. (http://www.crossref.org), a service which links reference citations to the online content that those references cite. This can only function if the citations are accurate. Please ensure that a composite reference is subdivided into parts a), b) etc. For example:

[1] a) A. Einstein, A. N. Other, Eur. J. Inorg. Chem. 2003, 1–15; b) R. Schoenfeld, The Chemist's English, 3rd ed., VCH, Weinheim, 1990, p. 111.

If a paper has been published online but has not appeared in print yet, it is cited by listing the author names and then the abbreviated title of the journal followed by the DOI number, e.g.:

[1] J. J. Schneider, J. Engstler, *Eur. J. Inorg. Chem.*, DOI: 10.1002/ejic.200501145.

### 3.5 Graphics

Graphics are schemes, figures, equations and small graphical items that appear in captions. Graphics differ fundamentally from the text portion of your manuscript in that they must be scanned or electronically processed. Schemes should be self-explanatory: reaction conditions should therefore be given above the arrows rather than in the caption.

In the revised version please submit **each graphic in its own file** within a graphic folder. For good reproduction, the following formats are preferred: \*.cdr, \*.cdx, \*.tif, \*.pdf, \*.psd, \*.ai, \*.fh, \*.qxd, \*.pct, \*.eps. The resolution should be a minimum of 300 dpi and 600 dpi for bitmap graphics.

Consult the following table for the appropriate size of lettering. Lettering smaller than 3.0 mm will reproduce poorly. Please use only one size of lettering per graphic and the same letter font for all graphics.

Table 1. Guide for preparing graphics

Letter Size	Font	Maximum Graphic Width <sup>[a]</sup>	
		1-Column Format	2-Column Format
	Times New Roman		
3.0 mm	12	13 cm	26 cm
3.5 mm	14	15 cm <sup>[b]</sup>	_
4.0 mm	16	17 cm <sup>[b]</sup>	_
4.5 mm	18	19 cm	_

[a] Most graphics are in 1-column format. [b] We prefer lettering of 3.5 or 4.0 mm with maximum graphic widths of 15 or 17 cm, respectively.

The settings for one-column graphics constructed with Chem Draw are: Print Setup: Orientation Portrait. Caption and Label Settings: Font Times New Roman, Font Style Standard, Size 12. These settings help ensure the correct letter-size-to-graphic-width ratio for best reproduction.

Use abbreviations such as  $R^1$ ,  $R^2$  (not  $R_2$ ), R', R'', Ph, Me, Et, iPr, iBu, Ph, Bn (benzyl), Bz (benzoyl), Hal, L, M (metal), X (heteroatom).

### 4. Crystallographic Data

Authors must deposit the data of X-ray structure analyses in a crystallographic database before submitting their manuscript, so that referees can access the information electronically. The two databases, the Cambridge Crystallographic Data Centre (CCDC) and the Fachinformationszentrum Karlsruhe (FIZ) have the same procedure for the deposition of data and both will be pleased to provide help. In general, you will receive a depository number from the database two working days after electronic deposition. Send your data to the appropriate address below and quote the standard text, including the depository number, in your manuscript.

#### • For all compounds without C-H bonds

Fachinformationszentrum Karlsruhe (FIZ)

76344 Eggenstein-Leopoldshafen, Germany

Phone: +49-(0)7247/808-205 Fax: +49-(0)7247/808-666

E-mail: crysdata@fiz-karlsruhe.de

FTP: ftp.fiz-karlsruhe.de (under path /pub/csd)

WWW: http://www.fiz-karlsruhe.de (under "Products and Services")

Further details of the crystal-structure investigation(s) may be obtained from the Fachinformationszentrum Karlsruhe, 76344 Eggenstein-Leopoldshafen, Germany, on quoting the depository number(s) CSD-....

### • For all compounds with at least one C-H bond:

Cambridge Crystallographic Data Centre (CCDC) 12 Union Road, Cambridge CB2 1EZ, UK

Phone: +44-(0)1223/336-408 Fax: +44-(0)1223/336-033 E-mail: deposit@ccdc.cam.ac.uk WWW: http://www.ccdc.cam.ac.uk

CCDC-\*\*\*\*\*\* contains the supplementary crystallographic data for this paper. These data can be obtained free of charge from The Cambridge Crystallographic Data Centre via www.ccdc.cam.ac.uk/data\_request/cif.

**NOTE:** Please use the free online **Checkeif** service provided by the International Union of Crystallography and submit the Checkeif report along with your manuscript: http://journals.iucr.org/services/cif/checkeif.html.

Finally, before you return your revised manuscript, please update your database entry if necessary.

# 5. Electronic Supporting Information

A manuscript may include Electronic Supporting Information which will be accessible only on the WWW. Authors must keep a copy to make available to readers who do not have access to the internet. As this material [text, tables, schemes, figures but not crvstallographic (CIF) data, which must be submitted to either the FIZ or the CCDC] undergoes the peer review process, it must be included, clearly marked as "Supporting Information to be published electronically", when the paper is submitted. The following file formats are accepted: MS Winword or ASCII (\*.doc, \*.txt), MS Excel (\*.xls), Encapsulated Postscript (\*.eps), Portable Document Format (\*.pdf), graphics embedded in MS Winword; if you wish to submit other formats, please consult the Editorial Office. When preparing such material, authors should keep in mind that - once accepted - it will be made available as provided by the author and not edited. Material accepted for electronic publication will be available mostly as PDF files (Adobe Acrobat Reader required) by following the Table of Contents link of EurJIC's WWW home page. A standard text will be added on the first page of the article in the printed

 Supporting information for this article is available on the WWW under http://www.eurjic.org or from the author.

The supporting information file must start with the title of the paper, the authors and the CASSI abbreviation of the journal to which it was submitted (e.g. Eur. J. Inorg. Chem.).

# 6. Basic Keyword List

To increase the relevance of articles found by search engines of Wiley InterScience, we have compiled a keyword catalogue common to our chemistry journals that is printed here and is also available online (http://www.eurjic.org).

To assist you in finding keywords they are listed according to categories. You may choose keywords from any category. As with all such records, a few guidelines facilitate the catalogue's use, and these are briefly explained below:

- 1. As many as possible, but at least two, of the maximum of five keywords assigned to an article must come from this list.
- 2. Named reactions will be incorporated only in exceptional cases. Generally the reaction type is selected instead. For example, Diels—Alder reactions will be found under "Cycloadditions" and Claisen rearrangements under "Rearrangements".
- 3. Heteroanalogues of compounds are mainly classified under the C variants, for example, (hetero)cumulenes, (hetero)dienes. A few aza and phospha derivatives are exceptions.
- 4. Compounds with inorganic components that are central to the article are listed under the element, for instance, iron complexes under "Iron". Some group names like "Alkali metals" exist along-side the names of important members of the group like "Lithium". In such cases the group name is used for these members only when comparative studies are described. The members not appearing separately are also categorized under the group name.
- 5. A keyword in the form "N ligand" is only chosen if a considerable portion of the paper deals with the coordination of any ligand ligating through the atom concerned.
- 6. Spectroscopic methods are assigned as keywords only if the article is about the method itself, or if the spectroscopic technique has made an important contribution to the problem under investigation.
- 7. "Structure elucidation" is intended only if the crux of the paper is a structural elucidation or if a combination of several spectroscopic techniques were needed for conclusive solution of the structure.
- 8. An attempt has been made to avoid synonyms and to select more general concepts rather than specialized terms. Thus, the term "Double-decker complexes" is excluded in favour of "Sandwich complexes".

This list will be a "living" catalogue to be flexible enough to absorb the new developments in chemistry. We therefore welcome all suggestions from our authors that might improve its user-friendliness

#### **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 Moessbauer 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, Bioinorganic Chemistry, Bioorganic Chemistry, Medicinal Chemistry and Molecular Cell Biology)

Allosterism Amino acids Angiogenesis Antibiotics Antibodies Antifungal agents Antigens Antisense agents Antitumor agents Antiviral agents Azapeptides Azasugars **Bioinformatics** Bioinorganic chemistry Biological activity Biomimetic synthesis Bioorganic chemistry

C-Glycosides Carbohydrates Carbon dioxide fixation Carotenoids Cell adhesion Cell recognition Cerebrosides Chaperone proteins Cobalamines Cofactors

Combinatorial chemistry

Cyclitols Cyclodextrins Cytokines DNA

**Biophysics** 

Biosensors

Biosynthesis

Biotransformations

DNA cleavage DNA damage DNA methylation DNA recognition DNA replication DNA structures **Dopamines** Drug delivery Drug design Electron transport Enzyme models Enzymes Fibrous proteins Fluorescent probes

Gene expression Gene sequencing Gene technology Genomics Glycoconjugates Glycolipids Glycopeptides Glycoproteins Glycosides Glycosylation Growth factors

Heme proteins Hormones Hydrolases Immobilization Immunoassays Immunochemistry Immunology Inhibitors Ion channels

Ionophores

Helical structures

Isomerases Ligases Lipids Lipophilicity Lipoproteins Liposomes Lyases

Medicinal chemistry Membrane proteins Membranes Metabolism Metalloenzymes Metalloproteins Micelles

Molecular evolution mRNA Mutagenesis Natural products Neurochemistry Neurotransmitters Nitrogen fixation Nitrogenases

Nucleic acids Nucleobases Nucleosides Nucleotides Oligonucleotides Oligosaccharides

Oxidoreductases Peptide nucleic acids

Peptides Peptidomimetics Pheromones Phospholipids Photoaffinity labeling Photosynthesis

Phytochemistry Polyketides

Polymerase chain reaction

Prodrugs Prostaglandins Protein design Protein engineering Protein folding Protein models Protein modifications Protein structures

Proteomics Proton transport Radiopharmaceuticals Receptors Redox chemistry Ribonucleosides Ribozymes

Proteins

RNA RNA recognition RNA structures Sensitizers

Sequence determination Sialic acids Siderophores Signal transduction

Sphingolipids Steroids

Structure-activity relationships

Terpenoids Toxicology Transferases tRNA Vesicles Vitamins

#### Catalysis

Asymmetric catalysis Autocatalysis Biphasic catalysis

Catalytic antibodies Enzyme catalysis

Heterogeneous catalysis Homogeneous catalysis

Phase-transfer catalysis Supported catalysts

www.euriic.org

### **Coordination Chemistry: Compound Classes**

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

Cluster compounds

#### **Coordination Chemistry: Ligand Classes**

Alkene ligands Carboxylate ligands Macrocyclic ligands Phosphane ligands Alkyne ligands Carbyne ligands N ligands P ligands N,O ligands S ligands Allyl ligands Cyclopentadienyl ligands Diene ligands Arene ligands N,P ligands Si ligands As ligands Dioxygen ligands O ligands Tridentate ligands Bridging ligands Fluorinated ligands Oxo ligands Tripodal ligands Carbene ligands Hydride ligands Peroxo ligands Vinylidene ligands Carbonyl ligands Isocyanide ligands

### Coordination Chemistry: Methodology and Reactions

Carbon dioxide fixation Matrix isolation Oxidation Solvolysis Chemical vapor deposition Metathesis Radical reactions Substituent effects Chiral resolution Neighboring-group effects Reduction Template synthesis

Nitrogen fixation Crystal engineering Ring-opening polymerization

Ligand design O-O activation Solvent effects

Iodine

Iridium

### **Coordination Chemistry: Structure**

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

# **Elements and Element Groups**

Actinides Chlorine Iron Phosphorus Platinum Alkali metals Chromium Krypton Alkaline earth metals Cobalt Lanthanides Pnicogens Lanthanum Potassium Aluminum Copper Antimony Deuterium Lead Rare earths Argon Fluorine Lithium Rhenium Arsenic Rhodium Gallium Magnesium Manganese Rubidium Barium Germanium Ruthenium Beryllium Gold Mercury Bismuth Group 13 elements Molybdenum Samarium Boron Group 14 elements Neon Scandium Nickel **Bromine** Hafnium Selenium Cadmium Halogens Niobium Silicon Calcium Helium Nitrogen Silver Sodium Carbon Hydrogen Noble gases Cerium Indium Osmium Strontium

Cesium

Chalcogens

Oxygen

Palladium

Sulfur

Tantalum

Technetium Titanium Vanadium Yttrium Tellurium Tungsten Xenon Zinc Thallium Uranium Ytterbium Zirconium

Tin

### **Environmental and Atmospheric Chemistry**

Environmental chemistry Oxidation Reaction mechanisms Anions Atmospheric chemistry Fluorine Ozone Reactive intermediates Cations Gas-phase reactions Peroxides Sensors Green chemistry Chlorine Photochemistry Toxicology Computer chemistry Halogenation **Photolysis** Trace analysis Crop protection agents Kinetics Photooxidation Waste prevention Cycloaddition Molecular dynamics Radical ions Water chemistry

Denitrification Molecular modeling Radical reactions

Desulfurization Nitrogen oxides Radicals

### **Inorganic Chemistry**

Alanes Nitrides Cyanides Silicates Allotropy Electron-deficient compounds Nonstoichiometric compounds Sol-gel processes Solid-phase synthesis Allovs Fluorides Organic-inorganic hybrid Aluminosilicates Halides composites Solid-state reactions Amalgams High-pressure chemistry Perovskite phases Solid-state structures Amorphous materials Host-guest systems Peroxides Spinel phases Anions Hydrates Phosphaalkenes Stannanes Automerization Hydrides Phosphaalkynes Subvalent compounds

Autoxidation Hydrothermal synthesis Phosphanes Synthesis design Hypervalent compounds Phosphazenes Titanates Azides Platinates Topochemistry Bond theory Inclusion compounds **Boranes** Intercalations Pnictides Transition metals **Borates** Intermetallic phases **Polyanions** Transuranium elements

Carbene homologues Polycations Valence isomerization Isoelectronic analogues

Carbides Isomers Polychalcogenides Vanadates Carboranes Layered compounds Polyhalides Zeolite analogues Cations Lewis acids Polymorphism Zeolites Polyoxometalates Chain structures Lewis bases **Zincates** Radical ions Chromates Main group elements Zintl anions

Clathrates Metal-metal interactions Radicals Zintl phases Cluster compounds Mixed-valent compounds Silanes

# **Materials Science: General**

Cyclooligomerization Liquid crystals Nonlinear optics Alloys Materials science Amorphous materials Cyclotrimerization Polymerization Automerization Dendrimers Mechanical properties Polymers

Block copolymers Ring-opening polymerization Doping Membranes

Energy conversion Scanning probe microscopy Ceramics Mesophases Charge-carrier injection Mesoporous materials Semiconductors Fullerenes Chemical vapor deposition Gels Metal-metal interactions Sensitizers

Chemical vapor transport Glasses Metallomesogens Sensors Clays Holography Micelles Superconductors Cluster compounds Imprinting Microporous materials Surface chemistry

Colloids Intercalations Monolayers Thin films Conducting materials Interfaces Nanostructures Vesicles

Copolymerization Intermetallic phases Zeolite analogues Nanotechnology Crystal engineering Ladder polymers Nanotubes Zeolites

Layered compounds

Crystal growth

#### Miscellaneous

**Betaines** 

History of science

### **Organic Chemistry: Compound Classes**

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

Enols Peroxides Enones Pheromones Envnes Phosphorus heterocycles Fatty acids Phthalocyanines Fragrances Polycycles Polymethines Fullerenes Fused-ring systems Porphyrinoids Quinodimethanes Heterocycles Hydrazones **Quinones** Hydrides Radical ions Hydrocarbons Radicals Ketones Rotaxanes Lactams Schiff bases Lactones Small ring systems Ladder polymers Spiro compounds Macrocycles Steroids Mannich bases Sulfonamides Medium-ring compounds Sulfur heterocycles Metallacycles Surfactants Natural products Terpenoids Nitrogen heterocycles Ylides

### Organic Chemistry: Methodology and Reactions

Acylation Cross-coupling Aldol reactions Cyclization Cycloaddition Alkylation Allylation Cyclotrimerization Dehydrogenation Amination Dihydroxylation Annulation Aromatic substitution Dimerization Aromaticity Domino reactions Asymmetric amplification Electrocyclic reactions 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 Combinatorial chemistry Cracking

Electrophilic addition Electrophilic substitution Elimination Ene reaction **Epoxidation** Flash pyrolysis Glycosylation Grignard reaction Halogenation Heck reaction High-pressure chemistry Hydroamination Hydroboration Hydroformylation Hydrogen transfer

Dves/Pigments

Hydrogenation Hydrolysis Hydrosilylation Hydrostannation Hydroxylation Immobilization Insertion Ionic liquids Isomerization Lithiation Metalation Michael addition Molecular diversity Multicomponent reactions Nucleophilic addition Nucleophilic substitution Olefination Oligomerization Oxidation Oxygenation Ozonolysis Perfluorinated solvents

Oxygen heterocycles

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

Zwitterions

Photooxidation Polymerization

Protonation

Protecting groups

Radical reactions

Rearrangement

#### **Organic Chemistry: Stereochemistry and Structures**

Atropisomerism Chemoselectivity Chiral resolution Chirality

Configuration determination Conformation analysis Conjugation Diastereoselectivity

Enantioselectivity Hyperconjugation Kinetic resolution Regioselectivity

Pericyclic reaction

Phosphorylation

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 S

CARS (Coherent
Anti-Stokes Raman Scattering)
Charge-carrier injection
Charge transfer
Chemisorption
Chromophores
Colloids
Computer 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 Exchange interactions Femtochemistry Fluorescence Fluorescent probes

Fractals

FRET (Fluorescence Resonance

Energy Transfer) Gas-phase reactions

Gels
Glasses
Group theory
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

Liquid cry Liquids

Low-temperature studies
Magnetic properties
Matrix isolation
Mesophases
Metallomesogens
Metastable compounds
Microreactors
Molecular dynamics
Molecular electronics
Molecular modeling

Monolayers Nanotechnology Neighboring-group effects Nonequilibrium processes

Phase diagrams
Phase transitions
Photochemistry
Photochromism
Photolysis

Physisorption

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

Plasma chemistry

Polarized spectroscopy

Quantum chemistry

Structure–activity relationships Superacidic systems Supercritical fluids Thermochemistry Thermodynamics

Time-resolved spectroscopy

Statistical thermodynamics

Transition states Viruses Voltammetry

### Supramolecular Chemistry

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

Supramolecular chemistry

2.7