

## D

**damage** n 1 物の損傷 *syn* *destruction, harm, impairment*

▶ Damage to plants from pollution ranges from adverse effects on foliage to destruction of fine root systems.

vt 2 損傷を与える *syn* *harm, impair*

▶ Any material or substance which in normal use can be damaging to the health and well-being of man is said to be hazardous.

**damp** adj 1 湿気のある *syn* *moist* ☞ *dry*

▶ The induction period could be eliminated by the addition of a small drop of slightly damp solvent.

vt 2 減じる *syn* *lessen, reduce, suppress*

▶ The parameter  $r_0$  determines how strongly the potential is damped from its pure Coulomb value.

**damping** n 制動

▶ A new mechanism in heavy-ion-induced reactions termed deeply inelastic collisions is characterized by damping of large amounts of collective nuclear energy through interactions with nucleonic modes of excitation.

**danger** n 危険 *syn* *hazard, risk*

▶ Esters of tertiary alcohols are prone to acid-catalyzed elimination, and the alkoxide method precludes danger from this reaction.

**dangerous** adj 危険な *syn* *hazardous, precarious*

▶ Potassium perchlorate and other perchlorates are oxidizing agents, somewhat less vigorous and less dangerous than the chlorates.

**dangerously** adv 危険なほどに *syn* *badly, severely*

▶ Diazomethane is highly toxic, dangerously explosive and cannot be stored without decomposition.

**dangling bond** n ダングリングボンド *syn* *unsaturated bond*

▶ The chemical inertness of alkali halide

nanocrystals, based on their composition of closed-shell atomic ions, contrasts sharply to the reactivity of metal or semiconductor clusters which have unsaturated, or dangling, bonds at their surfaces.

**dark** n 1 暗所 *syn* *blackness, darkness*

▶ Phosphorus seems a lively element, which glows in the dark and is essential for biological energy transfer and for heredity.

adj 2 暗い *syn* *dim, shadowy*

▶ When viewed down an optic axis, anisotropic crystals appear to be isotropic, i.e., they are dark between crossed polarizers.

**darken** vi 薄黒くなる *syn* *blacken*

▶ Hypophosphoric acid is not reduced by zinc and dilute sulfuric acid and gives with silver nitrate a white precipitate which does not darken in the light.

**dash** n ダッシュ

▶ Dashes are inserted when the reagent causes no oxidation.

**dashed line** n 破線 *syn* *discontinuous line, broken line* なお、鎖線は dashed and dotted line ☞ dotted line, solid line

▶ There is a gradual, overall decrease in radius as the d shell is filled, as shown by the dashed line that passes through  $\text{Ca}^{2+}$ ,  $\text{Mn}^{2+}$ , and  $\text{Zn}^{2+}$ .

**dashpot** n ダッシュポット

▶ The elastic elements are represented by springs, and the viscous by dashpots, the motion of which is retarded by a viscous liquid.

**data** n データ datum の複数形であるが、data を動詞の単数形と組み合わせる扱いも広く行われる。しかし、科学論文では複数形として扱うことが多い。 *syn* *facts, record*

▶ The spectroscopic properties of this compound were consistent with the data available in the literature.

**database** n データベース

▶ The standard procedure is to use classical scattering theory with refractive index data as input data available from different databases.

**date** n 1 to date 現在まで *syn* *until now*

▶ To date, all applications of liquid crystal technology involve organic molecules, and in

most instances these have evolved through the synthetic and physical studies of man-made materials.

vi **2 date back** さかのぼる *syn go back*

▶ The electroplating industry, which dates back well over 100 years, is based solely on aqueous solutions because of the high solubility of electrolytes and metal salts resulting in highly conducting solutions.

vt **3 年代を定める**

▶ Isotopic studies on meteorites have been extensively employed to date specific events in their history.

**dated** *adj* 時代遅れの *syn obsolete, old*

▶ Some of the examples used are now somewhat dated.

**dating** *n* 年代測定

▶ ESR dating fills a substantial gap between radiocarbon and potassium-argon dating schemes.

**dative bond** *n* 供与結合 *syn coordinate bond, dative bonding*

▶ An arrow can be used for the N→B bond in H<sub>3</sub>N→BF<sub>3</sub> to identify it as a dative bond, but usually the distinction is not made.

**daughter** *n* 派生したもの ⇨ mother

▶ Studies of phase transitions which could be carried out as single-crystal—single-crystal transformations, as, for example, that of *p*-dichlorobenzene, have shown that the daughter grows in the mother crystal with an orientation which is random.

**daylight** *n* 昼光 *syn sunlight*

▶ Atmospheric chemistry that occurs in daylight derives reactions to favor products different from those formed at night.

**dazzling** *adj* まぶしい *syn bright, brilliant, splendid*

▶ Magnesium burns with dazzling brilliance in air to give MgO and Mg<sub>3</sub>N<sub>2</sub>.

**d-d transition** *n* d-d 遷移

▶ The spectrum of the enzyme containing a metal ion that shows d-d transitions provides information on the microsymmetry of the site of the metal.

**deactivate** *vt* 失活する ⇨ activate

▶ If we are interested in studying the reactions of ground-state radicals, it is essential that the radical species are vibrationally deactivated.

**deactivating group** *n* 不活性化基

▶ A deactivating group directs meta simply because it deactivates the ortho and para positions even more than it does the meta.

**deactivation** *n* 失活 ⇨ activation

▶ Electrophilic substitution of pyridine is hard to achieve, because of deactivation of the ring by the heteroatom.

**deal** *n* **1 a good deal** 相当な分量 *syn a lot*

▶ It is typical of van't Hoff's approach to problems that the derivation is by no means rigorous and that a good deal of intuition is involved.

**2 a great deal** 相当な分量 *syn a good deal, a lot*

▶ Sulfur diimidazole has been used a great deal for the construction of symmetrical trisulfides.

vi **3 deal with** 取り扱う *syn practice, take, treat*

▷ In dealing with rates, we compare the stability of the reactants with the stability of the transition state.

**dealloy** *vt* 脱合金化する

▷ Dealloying aluminum from an aluminum-nickel alloy leads to formation of the porous metal known as Raney nickel.

**deaminate** *vt* 脱アミノ化する

▶ The branched-chain amino acids are deaminated in muscle by a specific aminotransferase.

**deamination** *n* 脱アミノ化

▶ Deamination of cytosine yields uracil, which is thought to be why DNA has evolved to contain thymine, to enable the correction of this chemically inevitable corruption of the coded message.

**dearomatization** *n* 脱芳香化

▶ The design of a second generation of dearomatization agents, utilizing Re(I), W(0), and Mo(0), required a precise matching of electronic properties of these metals to the Os(II) system.

**debate** *n* **1 論争** *syn argument, controversy, dis-*

*cussion, dispute*

▶ The mechanism by which this low oxidation state is stabilized for nickel, palladium, and platinum has been the subject of some debate.

vt 2 討論する *syn argue, consider, discuss*

▶ The fact that scientists were willing to debate our hypothesis and spend time in the laboratory studying it was a promising sign that the topic was of substantial interest.

**decade** n 十年間

▶ It was recognized some decades ago that under certain conditions an atom of hydrogen is attracted by rather strong forces to two atoms, instead of only one, so that it may be considered to be acting as a bond between them.

**decant** vt デカンテーションする

▶ The product can be decanted from the nickel catalyst.

**decantation** n デカンテーション

▶ The precipitated powder was washed by decantation, filtered, and dried in vacuum over  $P_2O_5$ .

**decarboxylation** n 脱炭酸

▶ Decarboxylation of *cis- $\alpha$ -phenylcinnamic acid* is effected by refluxing the acid in quinoline in the presence of a trace of copper chromite catalyst; both the basic properties and boiling point of quinoline make it a particularly favorable solvent.

**decay** n 1 減衰 *syn decline, fading*

▶ The decay of phosphorescence can be conveniently studied by means of spin resonance.

2 崩壊 *syn disintegration*

▶ The  $\gamma$ -rays that are used in Mössbauer spectroscopy are produced by decay of radioactive elements such as  $^{57}_{29}\text{Fe}$  or  $^{113}_{50}\text{Sn}$ .

vi 3 衰退する *syn deteriorate*

▶ Copper(II) chloride thus diffuses and allows the cell to decay through direct reaction of the electrode materials.

**decay constant** n 壊変定数 *syn disintegration constant*

▶ The decay of  $N_0$  nuclides to give  $N$  nuclides

after time  $t$  is given by  $N = N_0 \exp(-\gamma t)$ , where  $\gamma$  is called the decay constant.

**decay law** n 減衰法則

▶ A different decay law will prevail if the electrons do not pass directly from trap to emitting state by a radiationless transition but are first excited to the conduction band.

**decay time** n 減衰時間

▶ By short we mean short compared with the overall decay time.

**decelerate** vt 減速する ⇨ accelerate

▶ Upon application of a resonance excitation signal to the encap electrodes, the ions are accelerated and decelerated causing their trajectories of motion to enlarge.

**decide** vi 1 **decide on** 決定する *syn fix, settle*

▶ When two phases are in equilibrium, which means that the pressure is not at our disposal if we have decided on a temperature.

vt 2 決定する *syn conclude, determine*

▷ One of the principle factors deciding the magnitude of the velocity of advance is the density of kinks in the step.

**decidedly** adv 明らかに *syn definitely*

▶ The name ferrite is decidedly misleading as these is no acid anion in their structures.

**decimal place** n 小数点以下の桁数

▶ The index of refraction of solids is so nearly constant that the temperature range employed causes changes, in general, only in the fourth or fifth decimal place.

**decimal point** n 小数点

▶ The position of the decimal point is determined solely by the unit in which the quantity is expressed.

**decinormal** adj 十分の一規定の

▶ A large portion of the studies on the potentials of galvanic cells has been made using calomel electrodes containing normal or decinormal potassium chloride.

**decision** n 決定 *syn conclusion, determination*

▶ The prediction of the rate of a reaction proceeding by a stepwise mechanism involves a decision as to which step is rate-determining.

**decisive** adj 決定的な *syn critical, crucial, ultimate*

▶ The experimental verification of Einstein's theory of Brownian motion played a decisive part in establishing molecular reality.

**decline** n 1 衰微 *syn decrease, diminution, fall-off*

▶ Organolead antiknock agents in gasolines are on the decline.

vi 2 低下する *syn decrease, diminish, fall*

▶ As the temperature is lowered, the atoms vibrate less and the resistance declines smoothly, until, if the material can become a superconductor it reaches a so-called critical temperature, *T<sub>c</sub>*.

**decolorization** n 脱色 *syn decolorizing*

▶ Rapid decolorization of a bromine solution is characteristic of compounds containing the carbon-carbon double bond.

**decolorize** vt 脱色する

▶ Aromatic hydrocarbons with saturated side chains are distinguished from alkenes by their failure to decolorize bromine in carbon tetrachloride and by their failure to decolorize cold, dilute, neutral permanganate solutions.

**decolorizing agent** n 脱色剤

▶ Decolorizing agents refer to materials of highly absorbent character used to remove undesirable color and also bleaches involving a chemical reaction for removing color.

**decompose** vi 1 分解する *syn break down*

▶ Evaporation of solutions of lactose or maltose gives white solid products which are distinguishable because the temperature ranges at which they decompose differ by about 100°.

vt 2 分解する *syn degrade*

▶ Concentrated sulfuric acid decomposes all chlorates, setting free greenish-yellow chlorine dioxide gas, which colors the sulfuric acid yellow and explodes violently on warming.

**decomposition** n 分解 *syn breakdown, degradation*

▶ In simple decomposition, one substance breaks down into two simpler substances, e.g.,

water yields hydrogen and oxygen.

**decomposition point** n 分解点 *syn decomposition temperature*

▶ Acetylsalicylic acid decomposes when heated and does not possess a true, clearly defined mp. Decomposition points varying from 128 to 135 °C have been recorded.

**decomposition temperature** n 分解温度 *syn decomposition point*

▶ Decomposition temperatures will obviously be sensitive to impurities, such as oxygen, and will be influenced strongly by the presence of inhibitors, antioxidants, etc.

**decontamination** n 除染 *syn purification, refining*

▶ Separation of boron from borides is difficult, although partial decontamination can be achieved by flotation.

**deconvolute** vt デコンボリューションする

▶ If the generation of the transient species is not rapid, we have to deconvolute two different processes; the production of the transient from the photolysis pulse and consumption via reaction.

**decorate** vt 修飾する *syn furnish*

▶ The virus capsids were independently decorated with two different types of ligand to generate two populations of labeled virions.

**decoration** n 修飾 *syn attachment*

▶ Ferrocenecarboxylate was used for facile, covalent decoration of amine groups on the mosaic virus particle surface using standard coupling procedures.

**decouple** vt デカップルする ⇔ couple

▶ The proton-decoupled spectrum tells us how many different carbons there are, and the proton-coupled spectrum tells us how many protons are attached to each of these carbons.

**decoupling** n デカップリング

▶ Proton dipolar broadening in <sup>13</sup>C spectra of solids could be removed by a high power version of the decoupling technique used in solution NMR spectroscopy.

**decrease** n 1 減少 *syn diminution, reduction*

▶ If the temperature of a solution is cycled up

and down while crystals are growing, it is found that there is a corresponding increase and decrease in thickness of the various layers.

vi **2** 減少する *syn decline, diminish*

▶ At elevated temperatures, the viscosity decreases by more than one order of magnitude.

vt **3** 減少させる *syn diminish, lessen, lower, reduce*

part ▶ Decreased viscosity can be obtained by decreasing the surface tension of the liquid, i.e., by increasing the free volume or by decreasing the ionic radius.

**dedicated** adj 専用の *syn committed, devoted*

▶ Modern research infrared spectrometers incorporate dedicated computer capability for programmed operation, data collection, and data manipulation.

**deduce** vt 推測する *syn conclude, derive, presume, surmise*

▶ Although the detailed structure cannot be deduced from the chemical formula, one can at least get an approximate idea of the type of silicate anion.

**deduction** n 推論 *syn conclusion, inference, reasoning*

▶ In spite of this limitation, we can still make deductions regarding the general nature of the forces involved.

**deductive** adj 演繹的な *syn logical*

▶ Our knowledge of the structures of most organic molecules has been gained through a combination of experimental data and deductive reasoning.

**deductively** adv 演繹的に

▶ Laws and relationships worked out deductively will be truer than merely empirical relationships induced from observations.

**deem** vt …と思う *syn consider, guess, take*

▶ The configuration at the allylic stereogenic center was deemed to be unimportant.

**deep** adj **1** 深い

▶ The bond angle provides no direct information about the degree of flexibility of the molecule; i.e., whether the potential minimum

is shallow or deep.

**2** 深遠な *syn profound*

▶ For these purposes, a deeper understanding of the spectra is necessary.

**3** 濃い *syn intense*

▶ The absorption spectrum of the trapped electron gives rise to a deep coloration of the crystal, a beautiful deep purple in KCl.

**deepen** vi 濃くなる *syn expand, intensify*

▶ The salts of  $[\text{IrX}_6]^{2-}$  (X = F, Cl, Br) are comparatively stable, and their color deepens from red, through reddish-black, to bluish-black with increasing atomic weight of the halogen.

**deepening** n 濃くなること

▶ The increasing dissociation of  $\text{N}_2\text{O}_4$  can readily be followed by a deepening of the brown color due to  $\text{NO}_2$  and an increase in paramagnetism.

**deeply** adv 深く *syn intensely, profoundly, strongly*

▶ Zinc is deeply involved with proteins that bind to DNA and so help to control the expression of coded information.

**deexcitation** n 脱励起

▶ Deexcitation of a molecule may occur either by emission of a photon or by collision.

**default** n デフォルト *syn defect, failure*

▶ Many metal-organic frameworks are known based on triangular, square, tetrahedral, and octahedral secondary building units, which lead to default structural nets.

**defect** n **1** 欠陥 *syn inadequacy, shortcoming*

▶ The failure of the classical thermodynamic analyses to explain some complex transitions may be due to defects in the thermodynamic model.

**2** 格子欠陥 *syn imperfection, irregularity*

▶ Generally speaking, the slower the crystal growth process, the larger and more defect-free the crystals.

**3** 欠損 *syn error, mistake*

▶ The tiny defect in the hemoglobin molecules that results in sickle-cell anemia has been traced to a single gene, a segment of the DNA

chain.

**defective** adj 欠陥のある *syn flawed, imperfect*

▶ The ledge defect might itself be defective: it might have kinks.

**defect structure** n 欠陥構造

▶ Inverse and disordered spinels are said to have a defect structure because all crystallographically identical sites within the unit cell are not occupied by the same cation.

**defense** n 防御 *syn protection, shield*

▶ Chemotherapy could complement but not substitute for the body's own defenses.

**deficiency** n 不足 *syn deficit, lack*

▶ Chromium(II) sulfide, CrS, is not an exactly stoichiometric compound, usually having a slight deficiency of chromium.

**deficient** adj 不足した *syn defective, insufficient, lacking*

▶  $K_2[Pt(CN)_4] \cdot 3H_2O$  is a very stable colorless solid, but by appropriate partial oxidation it is possible to obtain bronze-colored, cation-deficient  $K_{1.75}[Pt(CN)_4] \cdot 1.5H_2O$ .

**deficit** n 不足 *syn deficiency, loss*

▶ The electrode that is charged positively, i.e., that has a deficit of electrons, by the applied potential is called the anode.

**definable** adj 定義可能な

▶ Measurements of electronic transport on  $Li_xNiO_2$  exhibit a small but definable activation energy for electronic transport associated with small polaron hopping in the mixed-valence  $Ni^{4+/3+}$  state.

**define** vt 1 定義する *syn describe, explain, interpret*

▶ The most widely accepted present-day definition is that due to Brønsted, who defined an acid as a species having a tendency to lose a proton.

2 限定する *syn fix, prescribe, specify*

▶ The procedure of incorporating the concentrations of pure solids and liquids into the equilibrium constants is equivalent to defining the activities of pure solids and liquids as unity.

**definite** adj 一定の *syn particular, specific*

▶ Solids can usually be arranged in a definite order according to their sorbing power.

**definitely** adv 確かに *syn certainly, surely*

▶ On the basis of these results, it was concluded that here there is definitely higher polymerization.

**definition** n 1 定義 *syn description, explanation*

▶ The terms acid and base have been defined in a number of ways, each definition corresponding to a particular way of looking at the properties of acidity and basicity.

2 by definition 定義により *syn necessarily*

▶ Since a radical is by definition a molecule containing an odd electron, any reaction with a normal molecule, in which the electrons are all paired, must give another radical.

**definitive** adj 決定的な *syn conclusive, decisive*

▶ Although metals generally possess such properties as malleability, ductility, and high tensile strength, the definitive characteristic is their ability to conduct electricity that increases as the temperature decreases.

**deflagrate** vi 爆燃する

▶ Ammonium perchlorate deflagrates with a yellow flame when heated to 200 °C.

**deflagration** n 爆燃

▶ Deflagration is usually initiated by contact with a flame or spark but may be caused by impact or friction.

**deflect** vt 偏向させる *syn change, deviate*

▶ Particles having permanent magnetic moments were deflected by the electromagnet.

**deflection** n 偏向 *syn shift*

▶ Knowing the velocity of cathode rays, Thomson could then determine the ratio of charge to mass of the particles by measuring the deflection of the beam produced by either the electrostatic field alone or the magnetic field alone.

**deflocculant** n 解こう剤 ⇔ flocculant

▶ The remaining third of the sodium silicate produced is consumed in miscellaneous applications such as adhesives, cements, defloccu-

lants, foundry applications, and vehicles in inorganic paints.

**defluorinated** adj 脱フッ素化した

▶ Defluorinated phosphate rock is the source of phosphate used in animal feeds and feed concentrations.

**defoaming agent** n 泡消し剤

▶ Defoaming agents are used to reduce foaming due to proteins, gases, or nitrogenous materials which may interfere with processing.

**deform** vi 1 変形する

▶ As the polymers impinge on one another, they deform readily and form a dense gel structure.

vt 2 変形させる *syn distort, misshape*

▶ The ions are deformed by the crystal field into similar polyhedra with linear dimensions  $d_1$  and  $d_2$ .

**deformable** adj 変形可能な

▶ The hydride ion is readily deformable, and this constitutes a characteristic feature of its structural chemistry.

**deformability** n 変形性

▶ The polarizability of the anion will be related to its softness, that is, to the deformability of its electron cloud.

**deformation** n 変形 *syn distortion*

▶ The decrease in the energy cost of preparing the  $D_{2h}$  fragment is consistent with the view that the softer the metal atom is, the easier it is for any deformation of the structure to occur.

**deformational** adj 変形の

▶ Creep tests are generally carried out by applying a constant weight to a sample and measuring the deformational response as a function of time.

**deformed** adj 変形した *syn distorted*

▶ Softer atoms such as bromine are so deformed by the highly concentrated charge on the  $Al^{3+}$  ion that covalent overlap can occur.

**defunct** adj 消滅した *syn past*

▶ The now defunct Leblanc process for obtaining NaOH from NaCl signaled the beginning of large-scale chemical manufacture.

**defy** vt 受け付けない *syn baffle, resist, thwart*

▶ The products which have previously been examined were insoluble polymers which defied characterization

**degas** vt 脱気する

▶ All liquid samples were saturated with nitrogen and degassed on a vacuum line.

**degassing** n 脱気

▶ Solubility of oxygen in many organic solvents is about 10 times that in water and necessitates careful degassing if these solvents are to be used in the preparation and handling of oxygen-sensitive compounds.

**degeneracy** n 縮退

▶ The degeneracy of the  $t_{2g}$  levels may be removed by the Jahn-Teller effect.

**degenerate** adj 1 縮退した

▶ The fifth electron in cyclopentadienyl radical can be placed in one of two degenerate and partially occupied bonding orbitals.

vi 2 縮退する

▶ The methanol triplet converts to a 136-gauss doublet identified previously as CHO, and the ethanol quintet degenerates to a single line.

**degradation** n 1 劣化 *syn deterioration*

▶ There are others with equally good or better optical properties which do suffer surface degradation.

2 分解 *syn decomposition*

▶ The structure of vitamin  $K_1$  has been established by degradation and by synthesis.

**degradative** adj 分解の

▶ Fortunately, cholesterol is readily available, so that it was possible to use rather elaborate degradative sequences which would have been quite out of the question with some of the more difficultly obtainable natural products.

**degrade** vt 分解する *syn break, decompose*

▶ When microbes degrade petroleum products, polycyclic aromatic hydrocarbons are formed and eventually oxidized into carbon chains that can be broken down into carbon dioxide and water.

**degrease** vt 油を除去する

▷ A number of methods have been studied but by far the best adhesion is obtained by



degreasing in a chlorinated solvent, followed by an aqueous pickle, rinse, dry, and then anodic etch in the ionic liquid prior to deposition.

**degree** *n* 1 温度, 角度の度

▶ Columns A and B give the maximum positive and negative deviations, to one hundred thousandth of a degree, of the individual observations from the mean of the thirty.

**2 程度** *syn level, order, rank* ⇨ kind

▶ Several approaches have been tried to overcome this problem with varying degrees of success.

**3 a greater or lesser degree** 多少とも

▶ The same is true of all monosubstituted cyclohexane derivatives to a greater or lesser degree.

**4 to a degree** 多少 *syn somewhat*

▶ Elemental sulfur did work to a degree, giving the desired product in 10% yield.

**5 次数**

▶ The degree of a point in a graph is the number of lines incident on that point.

**degree of crystallinity** *n* 結晶化度 *syn crystallinity*

▶ Differently prepared, or differently treated, samples of polymeric materials show different degrees of crystallinity.

**degree of dissociation** *n* 解離度

▶ Arrhenius calculated the degree of dissociation of 40 salts from Raoult's data and obtained values from 0.03 to 0.92.

**degree of freedom** *n* 自由度

▶ The number of degrees of freedom of a system is the number of independently variable factors taken from temperature, pressure, and composition of phases.

**degree of polymerization** *n* 重合度

▶ The pore network of polyurethane foam reflects the degree of polymerization and the microstructure of the polymer, both of which are controlled by the synthetic conditions employed.

**degree of rotational freedom** *n* 回転自由度

▶ If molecules are spheroids there are three

degrees of rotational freedom, but the rotation about the axis of symmetry does not contribute to the specific heat, so that only two degrees of rotational freedom are to be counted.

**dehydrate** *vi* 1 水分を失う

▶ Boric acid dehydrates progressively, forming a clear melt.

*vt* 2 脱水する ⇨ dewater

▶ Evaporation of aqueous solutions of LiOH under normal conditions produces the monohydrate, and this can be readily dehydrated by heating in an inert atmosphere or under reduced pressure.

**dehydrating agent** *n* 脱水剤 ⇨ desiccant

▶ Because of its affinity for water, P<sub>4</sub>O<sub>10</sub> is widely used as a dehydrating agent.

**dehydration** *n* 脱水 ⇨ desiccation

▶ In dehydration, the equilibria are shifted in favor of the alkene chiefly by the removal of the alkene from the reaction mixture by distillation.

**dehydrogenate** *vt* 脱水素する

▶ Lathosterol and 7-dehydrocholesterol are dehydrogenated by bromine to dienes and trienes that likewise remain in the mother liquor and are eliminated along with colored by-products.

**dehydrogenation** *n* 脱水素

▶ The characteristic biological function of the dehydrogenation enzymes involves conversion of the nicotinamide portion of NAD into dihydro structure.

**dehydrohalogenation** *n* 脱ハロゲン化水素

▶ The salts of aliphatic amines, which correspond to acids with *K<sub>a</sub>* values of about 10<sup>-33</sup>, are powerfully basic reagents and are particularly effective in causing dehydrohalogenation by the E2 mechanism.

**deintercalate** *vt* 挿入物を除く

▶ LiMn<sub>2</sub>O<sub>4</sub> is a remarkable material. Li may be extracted yielding, when fully deintercalated, a polymorph of MnO<sub>2</sub> which cannot be prepared by other means.

**deintercalation** *n* 挿入物の除去

▶ The structural changes that accompany



lithium deintercalation from  $\text{LiCoO}_2$  will be considered in more detail.

**deionization** n 脱イオン化 ☞ demineralization, desalination

▶ A thoroughly mixed bed of strong-acid and strong-base resins is used for deionization of water.

**delay** n 遅延 syn *postponement*

▶ The delay in the emission of light is due to the time spent by the excited electron in an excited state within the luminescence center.

**deleterious** adj 有害な syn *detrimental, harmful*

▶ The abrupt change in unit-cell volume which accompanies the cubic-to-tetragonal phase transition in the spinel has deleterious effect on the cycling performance.

**deletion** n 欠落

▶ Deletions are chromosomal changes in which one or more genes or chromosomal segments are lost.

**deliberate** adj 計画的な syn *intentional, planned*

▶ It is useful to study an individual reaction to see how its rate is affected by deliberate changes in experimental conditions.

**deliberately** adv 故意に syn *intentionally, purposely*

▶ A substance having a distinctive, sometimes unpleasant odor is deliberately added to essentially odorless materials to provide warning of their presence.

**delicate** adj 1 鋭敏な syn *critical, sensitive*

▶ Benzidine is oxidized by trivalent gold salts to form a blue dyestuff. This test is very delicate and has been obtained with 0.02  $\gamma$  of gold.

2 微妙な syn *fine, subtle*

▶ The dipolar nature of the nitro group may result in the interactions in this region of the molecule being a delicate balance between attractive and repulsive forces.

**delicately** adv 微妙に

▶ These various explanations are not mutually exclusive but simply tend to emphasize differing aspects of an extremely complicated and

delicately balanced situation.

**delimit** vt 限界を定める syn *define, specify*

▶ The nucleus is delimited from the cytoplasm by a membranous envelope called the nuclear membrane, which actually consists of two membranes forming a flattened sac.

**delineate** vt 定める syn *define, describe, specify*

▶ To delineate the role of laterally placed methyl groups upon mesomorphic character, a series of esters of the general formula **1** was prepared.

**deliquescence** n 潮解

▶ Sometimes the sodium salts have unsatisfactory properties, such as deliquescence, which make the potassium salts preferable for some uses, even though more expensive.

**deliquescent** adj 潮解性の

▶ Zinc chloride is extremely deliquescent, and it must, therefore, be introduced into the flask as rapidly as possible.

**deliver** vt 引き渡す syn *give, release*

▶  $\text{MnO}_2$  is more stable than  $\text{CoO}_2$  in liquid solvents offering the possibility of obtaining the full capacity to deliver lithium compared with only half a lithium in the case of  $\text{LiCoO}_2$ .

**delocalization** n 非局在化

▶ Several complexes have been found to be anisotropic semiconductors with greater electron delocalization along the line of the metal-metal chain.

**delocalization energy** n 非局在化エネルギー

▶ The delocalization energy was defined as the calculated additional bonding energy which results from delocalization of electrons originally constrained to isolated double bonds.

**delocalize** vt 非局在化する

▶ If the excited electron in butadiene is delocalized over four carbon atoms rather than two, the excited state will be relatively stable.

**delocalized electron** n 非局在化電子

▶ The idea behind magnetic criteria is that delocalized  $\pi$  electrons produce a relatively high diamagnetic ring current under an external magnetic field.

**delocalized orbital** n 非局在化軌道

▶ The overlapping atomic orbitals in extended crystalline solids lead to delocalized orbitals that encompass the entire solid.

**demagnetization** n 消磁 ⇔ magnetization

▶ During the processes of magnetization and demagnetization in an alternating magnetic field, energy is dissipated, usually as heat.

**demagnetize** vt 消磁する ⇔ magnetize

▶ These small regions are all magnetized in the same direction, and it is very difficult to demagnetize them or change their magnetic orientation.

**demand** n 1 需要 syn *desire, market*

▶ In spite of the great diversity of known colored structures, there still remains a demand for dyes with improved color properties.

vt 2 必要とする syn *require*

▷ In the hydrolysis of alkyl halides, the theoretical rate sequences demand solely by the operation of the inductive effect, viz.  $\text{Me} > \text{Et} > i\text{-Pr} > t\text{-Bu}$  for the bimolecular ( $S_N2$ ) and  $\text{Me} < \text{Et} < i\text{-Pr} < t\text{-Bu}$  for the unimolecular ( $S_N1$ ) mechanism, are experimentally verified.

**demanding** adj 1 過酷な syn *difficult, hard*

▶ The thermal and chemical stability must be optimized so that the device can survive demanding operating conditions.

2 要求する syn *insistent*

▶ It is not surprising that the rate-determining step here is the one that involves the breaking of a bond, an energy-demanding process.

**demarcation** n 境界 syn *border line, boundary*

▶ The more readily ignition occurs, the more flammable the material; less easily ignited materials are said to be combustible, but the line of demarcation is often indefinite and depends on the state of subdivision of the material as well as on its chemical nature.

**demineralization** n 脱塩 ⇔ deionization, desalination

▶ Sometimes strong-base exchangers are used after a cation exchanger for complete water demineralization.

**demolish** vt くつがえす syn *dispose, overturn*

▶ The classical concept of trajectory is demolished if we accept that the wave function is the basic feature of mechanics.

**demonstrable** adj 明白な syn *certain, evident, obvious*

▶ The methyl protons of the  $\text{CH}_3\text{O}$  groups in  $(\text{CH}_3\text{O})_2\text{CHCH}_3$  are too far from the others to give demonstrable spin-spin splitting.

**demonstrably** adv 明らかに syn *clearly*

▶ The thermodynamic temperature scale is demonstrably identical with the ideal gas temperature scale over the entire region.

**demonstrate** vt 示す syn *establish, exhibit, manifest, show*

▶ These transformations of cyclic sulfamides demonstrate a new and straightforward approach to functionalized and enantiomerically pure lactams.

**demonstration** n 実証 syn *display, evidence, proof*

▶ The recent discovery of tetracyanoethylene and the demonstration of its versatile chemistry prompted us to explore the chemistry of other structures containing the highly electronegative cyano group.

**demote** vt 降格させる syn *downgrade*

▶ The contribution of electrostriction to apparent molal volumes is usually so large that it demotes the internal pressure effect of a solvent to a minor role.

**demountable** adj 取り外し可能な

▶ If path lengths of 0.1 mm or less are required, it is probably best to use demountable cuvettes where the sample is dropped onto a quartz disk or plate that is etched to a predefined depth and then another quartz disk carefully placed on top.

**denaturant** n 変性剤

▶ Proteins that can be readily removed from the membrane by using high salt or low denaturant concentrations are the extrinsic or peripheral membrane proteins.

**denaturation** n 変性

▶ Under the influence of heat, organic sol-