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| English   | Chinese (from Google Translate)   |
|---|---|
| <b>absolute temperature</b> a temperature measured with respect to absolute zero on the Kelvin scale – absolute zero is the lowest possible temperature that can be achieved  | 绝对温度相对于开尔文刻度上的绝对零度测量的温度 - 绝对零度是可以实现的最低可能温度  |
| <b>acid</b> a substance that dissolves in water, producing $H^+(aq)$ ions – a solution of an acid turns litmus red and has a pH below 7; in their reactions acids act as proton donors  | 酸溶解在水中的物质 · 产生 $H^+(aq)$ 离子 - 酸的溶液变成石蕊红色 · pH 低于 7; 在它们的反应中 · 酸作为质子供体   |
| <b>acid rain</b> rain which has been made more acidic than normal by the presence of dissolved pollutants such as sulfur dioxide ( $SO_2$ ) and nitrogen oxides ( $NO_x$ )  | 由于二氧化硫 ( $SO_2$ ) 和氮氧化物 ( $NO_x$ ) 等溶解性污染物的存在 · 酸雨比正常情况好,   |
| <b>acidic oxides</b> oxides of non-metals which will react with bases and dissolve in water to produce acid solutions   | 酸性氧化物的非金属氧化物, 其将与碱反应并溶解在水中以产生酸溶液  |
| <b>activation energy</b> ( $E_A$ ) the energy required to start a chemical reaction – for a reaction to take place the colliding particles must possess at least this amount of energy  | 活化能 ( $E_A$ ) 启动化学反应所需的能量 - 对于发生碰撞颗粒的反应必须至少具有这一能量   |
| <b>addition polymer</b> a polymer formed by an addition reaction – the monomer molecules must contain a C · C double bond   | 加成聚合物通过加成反应形成的聚合物 - 单体分子必须含有 C=C 双键   |
| <b>addition reaction</b> a reaction in which a simple molecule adds across the carbon-carbon double bond of an alkene   | 加成反应是其中简单分子加入到烯烃的碳 - 碳双键上的反应  |
| <b>alcohols (alkanols)</b> a series of organic compounds containing the functional group · OH and the general formula $C_nH_{2n+1}OH$   | 醇 (链烷醇) 一系列含有官能团 -OH 和通式 $C_nH_{2n+1}OH$ 的有机化合物   |
| <b>alkali metals</b> elements in Group I of the Periodic Table; they are the most reactive group of metals  | 元素周期表第一组碱金属元素; 它们是最具活性的金属组  |
| <b>alkaline earth metals</b> elements in Group II of the Periodic Table   | 周期表第二组中的碱土金属元素  |
| <b>alkalis</b> soluble bases which produce $OH^-(aq)$ ions in water – a solution of an alkali turns litmus blue and has a pH above 7  | 在水中产生 $OH^-(aq)$ 离子的碱溶性碱 - 碱的溶液变成石灰蓝 · pH 高于 7  |
| <b>alkanes</b> a series of hydrocarbons with the general formula $C_nH_{2n+2}$ ; they are saturated compounds as they have only single bonds between carbon atoms in their structure<br><b>alkenes</b> a series of hydrocarbons with the general formula $C_nH_{2n}$ ; they are unsaturated molecules as they have a C · C double bond somewhere in the chain | 烷烃一系列具有通式 $C_nH_{2n+2}$ 的烃; 它们是饱和化合物, 因为它们在其结构中的碳原子之间仅具有单键 · 烯烃具有通式 $C_nH_{2n}$ 的一系列烃; 它们是不饱和分子, 因为它们在链中某处具有 C=C 双键 |



| English  | Chinese (from Google Translate)  |
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| <b>alloy steels</b> steels in which iron is mixed with other transition metals (and a small amount of carbon)  | 铁与其他过渡金属（和少量碳）混合的合金钢，  |
| <b>alloys</b> mixtures of elements (usually metals) designed to have the properties useful for a particular purpose; for example, solder (an alloy of tin and lead) has a low melting point <b>amide link (or peptide link)</b> the link between monomers in a protein or nylon, formed by a condensation reaction between a carboxylic acid group on one monomer and an amine group on the next monomer | 元素（通常是金属）的合金混合物，被设计成具有用于特定目的的性质；例如，焊料（锡和铅的合金）具有低熔点酰胺连接（或肽链）· 通过一个单体上的羧酸基团与胺之间的缩合反应形成的蛋白质或尼龙中的单体之间的连接对下一个单体进行分组 |
| <b>amino acids</b> naturally occurring organic compounds which possess both an amino ( $\cdot \text{NH}_2$ ) group and an acid ( $\cdot \text{COOH}$ ) group in the molecule; there are 20 naturally occurring amino acids and they are polymerised in cells to make proteins  | 在分子中具有氨基（ $\cdot \text{NH}_2$ ）基团和酸（ $\cdot \text{COOH}$ ）基团的氨基酸天然存在的有机化合物；有 20 种天然存在的氨基酸，并且它们在细胞中聚合以制备蛋白质     |
| <b>amphoteric hydroxides</b> hydroxides which can react with both acids and alkalis to produce salts; for example, zinc hydroxide; certain metal oxides can also be amphoteric   | 两性氢氧化物可与酸和碱反应产生盐；例如，氢氧化锌；某些金属氧化物也可以是两性的  |
| <b>anaerobic decay</b> decay of organic matter which takes place in the absence of air   | 有机物的厌氧衰变衰变在没有空气的情况下发生  |
| <b>anion</b> a negative ion which would be attracted to the anode in electrolysis  | 阴离子是在电解中吸附到阳极的负离子  |
| <b>anode</b> the electrode in any type of cell at which oxidation (the loss of electrons) takes place – in <b>electrolysis</b> it is the positive electrode  | 在任何类型的电池中阳极电极，其中发生氧化（电子损失）- 在电解中，它是正极  |
| <b>antacid</b> compound used medically to treat indigestion by neutralising excess stomach acid  | 抗酸剂化合物通过中和过量的胃酸在医学上治疗消化不良  |
| <b>artificial fertiliser</b> a substance added to soil to increase the amount of elements such as nitrogen, potassium and phosphorus ( <b>NPK fertilisers</b> ): this enables crops to grow more healthily and produce higher yields   | 人造肥料将土壤中添加的物质添加到氮，钾，磷等元素中（ <b>NPK 肥料</b> ）：这样能使作物生长更健康，产量更高  |
| <b>atmospheric pressure</b> the pressure exerted by the atmosphere on the surface of the Earth due to the weight of the atmosphere   | 大气压力由于大气的重量而由大气施加在地球表面上的压力   |
| <b>atom</b> the smallest particle of an element that can take part in a chemical reaction  | 原子可以参与化学反应的元素的最小颗粒   |
| <b>atomic number (or proton number) (Z)</b> the number of protons in the nucleus of an atom; it is also the number of electrons present in an atom and the position of the element in the Periodic Table   | 原子数（或质子数）（Z）原子核中的质子数；原子中存在的电子数也是元素在元素周期表中的位置   |



| English   | Chinese (from Google Translate)  |
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| <b>Avogadro constant</b> <i>see mole balanced chemical (symbol) equation</i> a summary of a chemical reaction using chemical formulae – the total number of any of the atoms involved is the same on both the reactant and product sides of the equation  | 阿伏伽德罗常数参见摩尔平衡化学 (符号) 方程式使用化学式的化学反应的总结 - 所涉及的任何原子的总数在方程式的反应物和产物侧均相同                         |
| <b>base</b> a substance that neutralises an acid, producing a salt and water as the only products; in their reactions bases act as proton acceptors   | 以中和酸, 产生盐和水为唯一产品的物质; 在它们的反应中, 碱作为质子受体  |
| <b>basic oxide</b> oxide of a metal that will react with acids to neutralise the acid   | 将与酸反应以中和酸的金属的碱性氧化物氧化物  |
| <b>basic oxygen process</b> the process used to make steel from iron from the blast furnace: oxygen is blown into the molten iron using an 'oxygen lance' and lime is added to remove non-metallic impurities   | 碱性氧气处理用于从高炉铁制造钢的工艺: 使用“氧枪”将氧气吹入铁水中, 并加入石灰以除去非金属杂质  |
| <b>biodegradable plastics</b> plastics which are designed to be degraded (decomposed) by bacteria   | 可生物降解的塑料塑料, 被设计为被细菌降解 (分解)   |
| <b>blast furnace</b> a furnace for smelting iron ores such as hematite ( $\text{Fe}_2\text{O}_3$ ) with carbon to produce pig (or cast) iron (in a modified form the furnace can be used to extract metals such as zinc)                                  | 高炉冶炼铁矿石, 如赤铁矿 ( $\text{Fe}_2\text{O}_3$ ) 与碳生产猪 (或铸铁) 的炉子 (改造形式可用于提取锌等金属)                  |
| <b>boiling</b> a condition under which gas bubbles are able to form within a liquid – gas molecules escape from the body of a liquid, not just from its surface   | 沸腾的条件是气体能够在液体内部形成气体 - 气体分子从液体的体内逸出, 而不仅仅是从其表面  |
| <b>boiling point</b> the temperature at which a liquid boils, when the pressure of the gas created above the liquid equals atmospheric pressure   | 当液体产生的气体的压力等于大气压时, 沸点为液体沸腾的温度  |
| <b>bond energy</b> the energy required to break a particular type of covalent bond  | 键能量是破坏特定类型共价键所需的能量   |
| <b>brine</b> a concentrated solution of sodium chloride in water  | 盐水将氯化钠在水中的浓溶液  |
| <b>carbohydrates</b> a group of naturally occurring organic compounds containing carbon, hydrogen and oxygen; the ratio of hydrogen to oxygen atoms in the molecules is always 2 : 1 and they have the general formula $\text{C}_x(\text{H}_2\text{O})_y$ | 碳水化合物是一组含有碳, 氢和氧的天然存在的有机化合物; 分子中氢与氧原子的比例总是为 2:1, 它们具有通式 $\text{C}_x(\text{H}_2\text{O})_y$ |
| <b>carbon cycle</b> the system by which carbon and its compounds in the air, oceans and rocks are interchanged  | 碳循环系统, 其中空气, 海洋和岩石中的碳及其化合物被互换  |
| <b>carbon steel</b> alloys of iron and carbon only; the amount of carbon in steels can vary between 0.2% and 1.5%   | 只有铁和碳的碳钢合金; 钢中碳的量可以在 0.2% 和 1.5% 之间变化,   |



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| <b>carboxylic acids (alkanoic acids)</b> a family of organic compounds containing the functional group $\cdot \text{COOH}$ ( $\cdot \text{CO}_2\text{H}$ ), with the general formula $\text{C}_n\text{H}_{2n+1}\text{COOH}$ | 羧酸 (链烷酸) 含有官能团 $\cdot \text{COOH}$ ( $\cdot \text{CO}_2\text{H}$ ) 的有机化合物族, 具有通式 $\text{C}_n\text{H}_{2n+1}\text{COOH}$ |
| <b>catalyst</b> a substance which increases the rate of a chemical reaction but itself remains unchanged at the end of the reaction   | 催化剂是一种提高化学反应速率但本身在反应结束时保持不变的物质  |
| <b>catalytic converter</b> a device for converting polluting exhaust gases from cars into less dangerous emissions  | 催化转化器用于将汽车中的污染废气转化为较不危险的排放物的装置  |
| <b>catalytic cracking</b> the decomposition of long-chain alkanes into alkenes and alkanes of lower relative molecular mass; involves passing the larger alkane molecules over a catalyst heated to $500^\circ\text{C}$     | 催化裂解长链烷烃分解为相对分子量较低的烯烃和烷烃; 涉及将较大的烷烃分子通过加热到 $500^\circ\text{C}$ 的催化剂  |
| <b>cathode</b> the electrode in any type of cell at which reduction (the gain of electrons) takes place; in <b>electrolysis</b> it is the negative electrode  | 在发生还原 (电子增益) 的任何类型的电池中阴极电极; 在电解中, 它是负极  |
| <b>cation</b> a positive ion which would be attracted to the cathode in electrolysis  | 阳离子是在电解中被吸引到阴极的正离子  |
| <b>centrifugation</b> the separation of an insoluble solid from a liquid by rapid spinning during which the solid collects at the bottom of the sample tubes – the liquid can then be decanted off carefully                | 通过快速纺丝离心从液体中分离不溶性固体, 在此期间固体收集在样品管的底部 - 然后可以将液体小心地倾倒   |
| <b>ceramics</b> materials such as pottery made from inorganic chemicals by high-temperature processing  | 陶瓷材料如陶瓷由无机化学品通过高温处理制成   |
| <b>chemical bonding</b> the strong forces that hold atoms (or ions) together in the various structures that chemical substances can form – metallic bonding, covalent bonding and ionic (electrovalent bonding)             | 在化学物质可以形成的各种结构中化学键合保持原子 (或离子) 在一起的强力 - 金属键合, 共价键和离子 (电价键)   |
| <b>chemical reaction (change)</b> a change in which a new substance is formed   | 化学反应 (改变) 形成新物质的变化  |
| <b>chromatogram</b> the result of a paper chromatography run, showing where the spots of the samples have moved to  | 对纸色谱运行的结果进行色谱分析, 显示样品点的位置   |
| <b>chromatography</b> a technique employed for the separation of mixtures of dissolved substances, which was originally used to separate coloured dyes  | 色谱法是用分离最初用于分离有色染料的溶解物质的混合物的技术   |
| <b>coal</b> a black, solid fossil fuel formed underground over geological periods of time by conditions of high pressure and temperature acting on decayed vegetation   | 煤炭是一种黑色, 固体化石燃料, 在地质时期内由高压和高温作用于腐烂植被的条件形成   |
| <b>collision theory</b> a theory which states that a chemical reaction takes place when particles for the reactants collide with sufficient energy to initiate the reaction   | 碰撞理论指出当反应物的颗粒与足够的能量碰撞以引发反应时发生化学反应的理论  |



| English  | Chinese (from Google Translate)  |
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| <b>combustion</b> a chemical reaction in which a substance reacts with oxygen – the reaction is exothermic;  | 燃烧其中物质与氧反应的化学反应 - 反应是放热的;  |
| <b>burning</b> is a combustion reaction which produces a flame   | 燃烧是产生火焰的燃烧反应   |
| <b>compound</b> a substance formed by the chemical combination of two or more elements in fixed proportions  | 通过固定比例的两种或多种元素的化学组合形成的物质   |
| <b>concentration</b> a measure of how much solute is dissolved in a solvent. Solutions can be <b>dilute</b> (with a high proportion of the solvent), or <b>concentrated</b> (with a high proportion of the solute)   | 浓度溶解在溶剂中多少溶质的量度。溶液可以稀释（用高比例的溶剂）或浓缩（溶质比例高）                                    |
| <b>condensation</b> the change of a vapour or a gas into a liquid; during this process heat is given out to the surroundings   | 将蒸汽或气体的变化冷凝成液体;在此过程中，向周围环境发出热量   |
| <b>condensation polymer</b> a polymer formed by a <b>condensation reaction</b> ; for example, nylon is produced by the condensation reaction between 1,6-diaminohexane and hexanedioic acid – this is the type of polymerisation used in biological systems to produce proteins, nucleic acids and polysaccharides | 缩合聚合物通过缩合反应形成的聚合物;例如，尼龙通过 1,6-二氨基己烷和己二酸之间的缩合反应产生 - 这是生物体系中用于生产蛋白质、核酸和多糖的聚合类型 |
| <b>Contact process</b> the industrial manufacture of sulfuric acid using the raw materials sulfur and air  | 接触工艺硫酸工业制造原料硫磺和空气  |
| <b>core (of Earth)</b> the central, densest part of the Earth, composed mainly of iron and nickel; the outer core is molten and surrounds the solid, inner core which exists at very high temperature and pressure   | 核心（地球）是地球的中心，最密集的部分，主要由铁和镍组成;外芯熔化并围绕存在于非常高的温度和压力下的固体内核                       |
| <b>corrosion</b> the name given to the process that takes place when metals and alloys are chemically attacked by oxygen, water or any other substances found in their immediate environment   | 腐蚀当金属和合金被氧气、水或其直接环境中发现的任何其他物质化学侵蚀时发生的过程的名称                                   |
| <b>corrosive</b> a corrosive substance (an acid, for example) is one that can dissolve or 'eat away' at other materials (wood, metals, or human skin, for instance)  | 腐蚀性腐蚀性物质（例如酸）是能够溶解或“吃掉”其他材料（木材，金属或人体皮肤）的物质，                                  |
| <b>covalent bond</b> a chemical bond formed by the sharing of one or more pairs of electrons between two atoms   | 共价键通过两个原子之间共享一对或多对电子形成的化学键   |
| <b>crude oil</b> see <b>petroleum</b>  | 原油见石油  |
| <b>crust (of Earth)</b> the solid, outermost, layer of the Earth; it is not continuous, but subdivided into plates of continental or oceanic crust   | 地壳（地球）地球的固体，最外层;它不是连续的，而是分为大陆或洋壳的板块  |
| <b>crystallisation</b> the process of forming crystals from a saturated solution   | 结晶从饱和溶液中形成晶体的过程  |





| English  | Chinese (from Google Translate)                 |
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| <b>decanting</b> the process of removing a liquid from a solid which has settled or from an immiscible heavier liquid by careful pouring                                       | 倾倒通过小心倾倒从已沉降的固体或从不混溶的较重液体中除去液体的过程               |
| <b>decomposition</b> (see also <b>thermal decomposition</b> ) a type of chemical reaction where a compound breaks down into simpler substances                                 | 分解 (另见热分解) 化合物分解成更简单物质的一种化学反应                   |
| <b>dehydration</b> a chemical reaction in which water is removed from a compound   | 脱水从化合物中除去水的化学反应                                 |
| <b>density</b> expresses the relationship between the mass of a substance and the volume it occupies: density = mass / volume  | 密度表示物质质量与其占有的体积之间的关系: 密度=质量/体积                  |
| <b>detergent</b> soap, or a soap-like substance, which is used with water to remove dirt and grease from clothes, dishes and other objects                                     | 洗涤剂皂或皂状物质, 与水一起使用以从衣物、餐具和其他物体上除去污垢和油脂           |
| <b>diatomic molecule</b> a molecule containing two atoms, for example hydrogen, H <sub>2</sub>   | 双原子分子含有两个原子的分子, 例如氢, H <sub>2</sub>             |
| <b>dibasic acid (diprotic acid)</b> an acid which contains two replaceable hydrogen atoms per molecule of the acid; for example, sulfuric acid, H <sub>2</sub> SO <sub>4</sub> | 二元酸 (diprotic acid) 一种每分子酸含有两个可置换氢原子的酸;例如硫酸, 硫酸 |
| <b>diffusion</b> the process by which different fluids mix as a result of the random motions of their particles  | 扩散不同流体由于其颗粒的随机运动而混合的过程                          |
| <b>displacement reaction</b> a reaction in which a more reactive element displaces a less reactive element from a solution of its salt   | 置换反应是其中更具反应性的元素从其盐的溶液中移出较少反应性元素的反应              |
| <b>distillate</b> the liquid distilling over during distillation   | 蒸馏中蒸馏出液体  |
| <b>distillation</b> the process of boiling a liquid and then condensing the vapour produced back into a liquid: used to purify liquids and to separate liquids from solutions  | 蒸馏沸腾液体的过程, 然后将产生的蒸气冷凝成液体: 用于净化液体并将液体与溶液分离       |
| <b>downward delivery</b> a method of collecting a gas which is denser than air by passing it downwards into a gas jar  | 向下传送一种通过将其向下传送到气体罐中来收集比空气更致密的气体的方法              |
| <b>drug</b> any substance, natural or synthetic, that alters the way in which the body works   | 药物任何改变身体运作方式的天然或合成物质                            |
| <b>drying agent</b> a chemical substance that absorbs water; anhydrous calcium chloride and concentrated sulfuric acid are two examples  | 干燥剂是吸收水分的化学物质;无水氯化钙和浓硫酸是两个例子                    |
| <b>ductile</b> a word used to describe the property that metals can be drawn out and stretched into wires  | 用于描述金属可以拉出并拉伸成电线的性质的延性字                         |
| <b>dynamic (chemical) equilibrium</b> two chemical reactions, one the reverse of the other, taking place at the same time,   | 动态 (化学) 平衡两个化学反应, 一个相反, 同时发生, 其中反应物和产物的浓度保持     |



| English   | Chinese (from Google Translate)                           |
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| where the concentrations of the reactants and products remain constant because the rate at which the forward reaction occurs is the same as that of the back reaction   | 恒定，因为正向反应发生的速率与后者的相同反应                                    |
| <b>electrical conductor</b> a substance that conducts electricity but is not chemically changed in the process  | 电导体是一种在该过程中进行电力但不化学变化的物质                                  |
| <b>electrochemical cell</b> a system for converting chemical energy to electrical energy, made by connecting two metals of different reactivity via an electrolyte;   | 电化学电池将化学能转化为电能的系统是通过电解质连接两种具有不同反应性的金属制成的;                 |
| <b>fuel cells</b> are electrolytic cells capable of providing a continuous supply of electricity without recharging   | 燃料电池是能够在不再充电的情况下连续供电的电解池                                  |
| <b>electrode</b> the point where the electric current enters or leaves a battery or <b>electrolytic cell</b>  | 电极电流进入或离开电池或电解池的点   |
| <b>electrolysis</b> a process in which a chemical reaction is caused by the passage of an electric current  | 电解其中通过电流引起化学反应的过程   |
| <b>electrolyte</b> an ionic compound which will conduct electricity when it is molten or dissolved in water; electrolytes will not conduct electricity when solid   | 电解质是当其熔融或溶解在水中时导电的离子化合物;固体电解质不会导电                         |
| <b>electrolytic cell</b> a cell consisting of an electrolyte and two electrodes (anode and cathode) connected to an external DC power source where positive and negative ions in the electrolyte are separated and discharged | 电解池由电解质和连接到外部 DC 电源的两个电极（阳极和阴极）组成的电池，其中电解质中的正离子和负离子被分离和排出 |
| <b>electron</b> a subatomic particle with negligible mass and a charge of $-1$ ; electrons are present in all atoms, located in energy levels outside the nucleus   | 电子可以忽略质量的亚原子粒子，电荷为-1; 电子存在于所有原子，位于核外的能级                   |
| <b>electron (arrangement) configuration</b> a shorthand method of describing the arrangement of electrons within the energy levels of an atom; also referred to as  | 电子（排列）构造描述了在原子能级内的电子排列的简写方法;也称为                           |
| <b>electronic structure</b> <b>electronic structure</b> <i>see</i> <b>electron configuration</b>  | 电子结构电子结构见电子配置   |
| <b>electroplating</b> a process of electrolysis in which a metal object is coated (plated) with a layer of another metal  | 电镀一种电解过程，其中金属物体用另一种金属层涂覆（镀）                               |
| <b>electrostatic force of attraction</b> a strong force of attraction between particles with opposite charges – such forces are involved in   | 静电力吸引力在具有相反电荷的粒子之间具有很强的吸引力 - 这种力量参与其中                     |
| <b>ionic bonding element</b> a substance which cannot be further divided into simpler substances by chemical methods; all the atoms of an element contain the same number of protons  | 离子键合元素，不能通过化学方法进一步分解成更简单的物质;元素的所有原子含有相同的 nu               |
| <b>empirical formula</b> a formula for a compound which shows the simplest ratio of atoms present   | 经验公式表示原子存在比例最简单的化合物的公式                                    |



| English  | Chinese (from Google Translate)                      |
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| <b>endothermic change</b> a process or chemical reaction which takes in heat from the surroundings; $\Delta H$ has a positive value  | 吸热改变从周围环境中吸收热量的过程或化学反应; $\Delta H$ 为正值               |
| <b>energy levels (of electrons)</b> the allowed energies of electrons in atoms – electrons fill these levels (or <b>shells</b> ) starting with the one closest to the nucleus    | 电子能级 (电子) 原子中允许的电子能量 - 电子从最靠近核的一个开始的这些水平 (或壳)        |
| <b>enzymes</b> protein molecules that act as biological catalysts  | 酶作为生物催化剂的蛋白质分子                                       |
| <b>equilibrium</b> <i>see dynamic equilibrium</i>  | 均衡见动态平衡  |
| <b>ester link</b> the link produced when an ester is formed from a carboxylic acid and an alcohol; also found in polyesters and in the esters present in fats and vegetable oils | 酯连接当由羧酸和醇形成酯时产生的连接;也存在于聚酯和存在于脂肪和植物油中的酯中              |
| <b>esterification</b> the chemical reaction between an alcohol and a carboxylic acid that produces an ester; the other product is water  | 酯化醇和产生酯的羧酸之间的化学反应;另一个产品是水                            |
| <b>esters</b> a family of organic compounds formed by esterification, characterised by strong and pleasant tastes and smells   | 酯化通过酯化形成的一系列有机化合物, 其特征在于强烈和愉快的口味和气味                  |
| <b>evaporation</b> a process occurring at the surface of a liquid, involving the change of state from a liquid into a vapour at a temperature below the boiling point            | 蒸发发生在液体表面的过程, 涉及在低于沸点的温度下将液体状态从液体变为蒸汽                |
| <b>exothermic change</b> a process or chemical reaction in which heat energy is produced and released to the surroundings; $\Delta H$ has a negative value                       | 放热改变其中产生热能并释放到周围环境的过程或化学反应; $\Delta H$ 为负值           |
| <b>filtrate</b> the liquid that passes through the filter paper during filtration  | 过滤中滤过通过滤纸的液体   |
| <b>filtration</b> the separation of a solid from a liquid, using a fine filter paper which does not allow the solid to pass through  | 使用不允许固体通过的净滤纸, 从液体中过滤固体的分离                           |
| <b>flue-gas desulfuriser (or 'scrubber')</b> a tower in which the waste gases from a coal- or oil-fired power station are treated to remove acidic gases such as sulfur dioxide  | 烟道气脱硫器 (或“洗涤器”) 塔, 其中处理来自煤或油 - 红发电站的废气以除去诸如二氧化硫的酸性气体 |
| <b>fluid</b> a gas or a liquid, they are able to flow  | 流动气体或液体, 它们能够流动                                      |
| <b>formula (chemical)</b> a shorthand method of representing chemical elements and compounds using the symbols of the elements   | 公式 (化学) 表示使用元素符号的化学元素和化合物的简写方法                       |
| <b>fossil fuels</b> fuels, such as coal, oil and natural gas, formed underground over geological periods of time from the remains of plants and animals                          | 化石燃料燃料, 如煤, 石油和天然气, 在地质周期地下从植物和动物的遗体形成               |





| English   | Chinese (from Google Translate)                   |
|---|---|
| <b>fractional distillation</b> a method of distillation using a fractionating column, used to separate liquids with different boiling points  | 分馏使用分馏塔进行蒸馏的方法，用于分离具有不同沸点的液体                      |
| <b>fractionating column</b> the vertical column which is used to bring about the separation of liquids in <b>fractional distillation</b><br><b>fractions (from distillation)</b> the different mixtures that distil over at different temperatures during fractional distillation | 分馏塔用于在分馏馏分（来自蒸馏）中分馏出液体在分馏过程中在不同温度下蒸馏的不同混合物        |
| <b>Frasch process</b> the process of obtaining sulfur from sulfur beds below the Earth's surface; superheated water is pumped down a shaft to liquefy the sulfur, which is then brought to the surface  | Frasch 处理从地球表面以下硫磺床获得硫的过程；过热的水被泵送到轴上以液化硫，然后将其送到表面 |
| <b>fuel</b> a substance that can be used as a source of energy, usually by burning (combustion)   | 燃料可以用作能源的物质，通常通过燃烧（燃烧）                            |
| <b>fuel cell</b> a device for continuously converting chemical energy into electrical energy using a combustion reaction; a hydrogen fuel cell uses the reaction between hydrogen and oxygen  | 燃料电池用于使用燃烧反应将化学能连续转化为电能的装置；氢燃料电池使用氢和氧之间的反应        |
| <b>functional group</b> the atom or group of atoms responsible for the characteristic reactions of a compound   | 官能团负责化合物的特征反应的原子或原子团                              |
| <b>galvanising</b> the protection of iron and steel objects by coating with a layer of zinc   | 通过镀锌层镀锌钢铁物体的保护                                    |
| <b>geological time</b> very long, extended periods of time (over millions of years) during which the Earth was shaped   | 地质时间非常长，地球变形的时间长（数百万年）                            |
| <b>giant ionic structure</b> a lattice held together by the electrostatic forces of attraction between positive and negative ions   | 巨型离子结构由正离子和负离子之间的静电吸引力保持在一起的晶格                    |
| <b>giant metallic lattice</b> a regular arrangement of positive metal ions held together by the mobile 'sea' of electrons moving between the ions   | 巨大的金属晶格是由离子之间移动的电子的移动“海”保持在一起的正金属离子的规则排列          |
| <b>giant molecular structure</b> substance where large numbers of atoms are joined by covalent bonds forming a strong lattice structure   | 大分子结构物质，其中大量原子通过共价键连接形成强晶格结构                      |
| <b>global warming</b> a long-term increase in the average temperature of the Earth's surface, which may be caused in part by human activities   | 全球变暖使地球表面的平均气温长期增长，这可能是部分人类活动造成的                  |
| <b>grain boundaries</b> the boundaries between the grains in a metal, along which a piece of metal may fracture   | 晶界划分金属中的晶粒之间的边界，一块金属沿着这些边界可能会断裂                   |
| <b>grains</b> the small crystal areas in a metal: controlling the grain size affects the properties of a piece of metal   | 使金属中的小晶体区域晶粒化：控制晶粒尺寸影响一块金属的性质                     |



| English  | Chinese (from Google Translate)                          |
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| <b>greenhouse effect</b> the natural phenomenon in which heat from the Sun is 'trapped' at the Earth's surface by certain gases in the atmosphere (greenhouse gases)   | 温室效应自然现象，其中太阳的热量被大气中某些气体（温室气体）“在地球表面”被捕获                 |
| <b>group</b> a vertical column of the Periodic Table containing elements with similar properties; atoms of elements in the same group have the same number of electrons in their outer energy levels                                       | 对包含具有相似属性的元素的周期表的一个垂直列进行分组；同一组中元素的原子在其外能级具有相同数量的电子       |
| <b>Haber process</b> the industrial manufacture of ammonia by the reaction of nitrogen with hydrogen in the presence of an iron catalyst   | Haber 在铁催化剂存在下通过氮与氢的反应来处理氨的工业制造                          |
| <b>half-life</b> the time taken for half of the radioactive atoms in a sample of a radio isotope to decay  | 半衰期是放射性同位素样品中一半放射性原子衰变所需的时间                              |
| <b>halides</b> compounds formed between an element and a halogen; for example, sodium iodide   | 在元素和卤素之间形成的卤化物；例如，碘化钠                                    |
| <b>halogens</b> elements in Group VII of the Periodic Table – generally the most reactive group of non-metals  | 周期表第VII族中的卤素元素 - 通常是非金属最活泼的基团                            |
| <b>heat of combustion</b> the heat change which takes place when one mole of a substance is completely burnt in oxygen   | 当 1 摩尔的物质在氧气中完全燃烧时，发生热变化                                 |
| <b>heat of neutralisation</b> the heat change which takes place when one mole of hydrogen ions is completely neutralised   | 中和热，当一摩尔氢离子完全中和时发生的热变化                                   |
| <b>heat of reaction</b> the heat change during the course of a reaction; can be either <b>exothermic</b> or <b>endothermic</b>   | 在反应过程中反应的热量发生变化；可以是放热或吸热                                 |
| <b>homologous series</b> a 'family' of organic compounds with the same functional group and similar properties   | 同源系列具有相同官能团和相似性质的有机化合物的“家族”                              |
| <b>hydrated salts</b> salts containing water of crystallisation  | 水合物  |
| <b>hydrocarbons</b> compounds which contain carbon and hydrogen only   | 仅含碳和氢的碳氢化合物  |
| <b>hydrogenation</b> an addition reaction in which hydrogen is added across the double bond in an alkene   | 氢化加成反应，其中通过烯烃中的双键加入氢                                     |
| <b>hydrolysis</b> a chemical reaction between a covalent compound and water; covalent bonds are broken during the reaction and the elements of water added to the fragments; can be carried out with acids or alkalis, or by using enzymes | 水解共价化合物与水之间的化学反应；在反应期间共价键被破坏，并且添加到片段中的水的元素；可以用酸或碱，或使用酶进行 |
| <b>immiscible</b> if two liquids form two layers when they are mixed together, they are said to be immiscible  | 如果两种液体混合在一起形成两层液体，则不混溶，据说不混溶的                            |



| English  | Chinese (from Google Translate)   |
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| <b>indicator</b> a substance which changes colour when added to acidic or alkaline solutions; for example, litmus or phenolphthalein   | 指示当添加到酸性或碱性溶液中时颜色变化的物质;例如石蕊或酚酞  |
| <b>insoluble</b> term that describes a substance that does not dissolve in a solvent   | 描述不溶于溶剂的物质的不溶性术语  |
| <b>insulator</b> substance that does not conduct electricity   | 不导电的绝缘体物质   |
| <b>intermolecular forces</b> the weak attractive forces which act between molecules  | 分子间作用力分子之间的弱吸引力   |
| <b>ionic (electrovalent) bond</b> a strong electrostatic force of attraction between oppositely charged ions   | 离子 (电价) 键在相反电荷的离子之间具有很强的静电吸引力   |
| <b>ionic equation</b> the simplified equation for a reaction involving ionic substances: only those ions which take part in the reaction are shown   | 离子方程式涉及离子物质的反应的简化方程: 仅显示参与反应的那些离子   |
| <b>ions</b> charged particles made from an atom, or groups of atoms (polyatomic ions), by the loss or gain of electrons  | 通过电子的损失或增益 · 由原子或原子组 (多原子离子) 制成的离子带电粒子  |
| <b>isomerism</b> the property shown by molecules which have the same molecular formula but different structures  | 异构性分子具有相同分子式但结构不同的分子  |
| <b>isomers</b> compounds which have the same molecular formula but different structural arrangements of the atoms – they have different  | 异构体化合物具有相同的分子式但不同的原子结构排列 - 它们有所不同   |
| <b>structural formulae isotopes</b> atoms of the same element which have different numbers of neutrons in their nuclei: they differ in their mass (nucleon) numbers; some isotopes are radioactive because their nuclei are unstable ( <b>radio-isotopes</b> ) | 结构式同核素在其核中具有不同数量的中子的相同元素的同位素: 它们的质量 (核子) 数量不同; 一些同位素是放射性的, 因为它们的核是不稳定的 (放射性同位素) |
| <b>kinetic (particle) theory</b> a theory which accounts for the bulk properties of the different states of matter in terms of the movement of particles (atoms or molecules) – the theory explains what happens during changes in physical state              | 动力学 (粒子) 理论说明了粒子 (原子或分子) 运动中不同物质状态的体积特性的理论 - 该理论解释了物理状态变化中发生的情况                 |
| <b>lattice</b> a regular three-dimensional arrangement of atoms, molecules or ions in a crystalline solid  | 在结晶固体中格子化原子 · 分子或离子的规则三维排列  |
| <b>law of conservation of mass</b> matter cannot be lost or gained in a chemical reaction – the total mass of the reactants equals the total mass of the products  | 质量守恒定律在化学反应中不能丢失或获得 - 反应物的总质量等于产品的总质量   |
| <b>lime</b> a white solid known chemically as calcium oxide (CaO), produced by heating limestone; it can be used to counteract soil acidity, to manufacture calcium hydroxide (slaked lime) and is also used as a drying agent                                 | 石灰一种白色固体化学成为氧化钙 (CaO), 通过加热石灰石生产; 它可用于抵消土壤酸性, 制造氢氧化钙 (熟石灰), 也可用作干燥剂             |
| <b>limestone</b> a form of calcium carbonate (CaCO <sub>3</sub> )  | 石灰石一种碳酸钙 (CaCO <sub>3</sub> )   |



| English  | Chinese (from Google Translate)  |
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| <b>limewater</b> a solution of calcium hydroxide in water; it is an alkali and is used in the test for carbon dioxide gas  | 石灰水中的氢氧化钙溶于水;它是一种碱, 用于二氧化碳气体的测试  |
| <b>litmus</b> the most common indicator; turns red in acid and blue in alkali  | 石蕊最常见的指标;在酸碱中变红, 蓝色  |
| <b>locating agent</b> a compound that reacts with invisible, colourless spots separated by chromatography to produce a coloured product which can be seen                                | 定位剂是一种化合物, 与通过色谱分离的不可见, 无色斑点发生反应, 产生可见的有色产物                                |
| <b>main-group elements</b> the elements in the outer groups of the Periodic Table (Groups I to VII and 0)  | 主要元素元素周期表外组 (I 至 VII 和 0 组)  |
| <b>malleable</b> a word used to describe the property that metals can be bent and beaten into sheets   | 用于描述金属可以弯曲和锻打成片的属性的可塑性   |
| <b>mass concentration</b> the measure of the concentration of a solution in terms of the mass of the solute, in grams, dissolved per cubic decimetre of solution (g/dm <sup>3</sup> )    | 质量浓度溶液浓度的测量方法溶质质量溶解度 (g / dm <sup>3</sup> ) 溶质每溶液溶解度 (克/ dm <sup>3</sup> ) |
| <b>mass number (or nucleon number) (A)</b> the total number of protons and neutrons present in the nucleus of an atom  | 质量数 (或核子数) (A) 存在于原子核中的质子和中子的总数  |
| <b>mass spectrometer</b> an instrument in which atoms or molecules are ionised and then accelerated; the ions are then separated according to their mass                                 | 质谱仪是将原子或分子电离然后加速的仪器; 然后根据离子的质量分离离子   |
| <b>matter</b> anything which occupies space and has mass   | 任何占有空间和质量的東西都是重要的  |
| <b>melting point</b> the temperature at which a solid turns into a liquid – it has the same value as the freezing point; a pure substance has a sharp melting point                      | 熔点固体变成液体的温度 - 它具有与凝固点相同的值; 纯物质具有尖锐的熔点                                      |
| <b>metallic bond</b> an electrostatic force of attraction between the mobile 'sea' of electrons and the regular array of positive metal ions within a solid metal                        | 金属键在电子的移动“海”和固体金属中的正金属离子的规则阵列之间产生静电吸引力                                     |
| <b>metalloid (semi-metal)</b> element which shows some of the properties of metals and some of nonmetals; for example, boron and silicon   | 显示金属和一些非金属的一些性质的准金属 (半金属) 元素;例如, 硼和硅                                       |
| <b>metals</b> a class of chemical elements (and alloys) which have a characteristic shiny appearance and are good conductors of heat and electricity                                     | 金属是一类具有特殊光泽外观和良好的热电导体的化学元素 (和合金)   |
| <b>miscible</b> if two liquids form a completely uniform mixture when added together, they are said to be miscible   | 如果两种液体在加入时形成完全均匀的混合物, 则可混溶, 据说它们是可混溶的                                      |
| <b>mixture</b> a system of two or more substances that can be separated by physical means  | 混合可以通过物理手段分离的两种或更多种物质的系统   |
| <b>molar concentration</b> the measure of the concentration of a solution in terms of the number of moles of the solute dissolved per cubic decimetre of solution (mol/dm <sup>3</sup> ) | 摩尔浓度溶液浓度的测量方法, 以每立方厘米溶液 (mol / dm <sup>3</sup> ) 溶解的溶质的摩尔数计                |



| English   | Chinese (from Google Translate)   |
|---|---|
| <b>molar mass</b> the mass, in grams, of one mole of a substance  | 摩尔质量 (以克计) 1 摩尔物质的质量  |
| <b>molar volume of a gas</b> one mole of any gas has the same volume under the same conditions of temperature and pressure (24 dm <sup>3</sup> at one atmosphere and room temperature)  | 摩尔体积的气体 1 摩尔任何气体在相同的温度和压力条件下 (在一个大气压和室温下为 24dm <sup>3</sup> ) 具有相同的体积,                        |
| <b>mole</b> the measure of amount of substance in chemistry; one mole of a substance has a mass equal to its relative formula mass in grams – that amount of substance contains $6.02 \times 10^{23}$ (the <b>Avogadro constant</b> ) atoms, molecules or formula units depending on the substance considered | 度量化学物质的量; 1 摩尔的物质的质量等于其相对配方质量 (克) - 物质含量为 $6.02 \times 10^{23}$ (阿伏伽德罗常数) 原子·分子或配方单位取决于所考虑的物质 |
| <b>molecular formula</b> a formula which shows the actual number of atoms of each element present in a molecule of the compound   | 分子式表示化合物分子中存在的每个元素的实际原子数  |
| <b>molecular mass</b> see <b>relative molecular mass</b> <b>molecule</b> a group of atoms held together by covalent bonds   | 分子质量见相对分子质量 分子一组通过共价键保持在一起的原子   |
| <b>monomer</b> a small molecule, such as ethene, which can be polymerised to make a <b>polymer</b>  | 单体是可以聚合以制备聚合物的小分子·例如乙烯  |
| <b>natural gas</b> a fossil fuel formed underground over geological periods of time by conditions of high pressure and temperature acting on the remains of dead sea creatures; natural gas is more than 90% methane  | 天然气是一种化石燃料, 在地质时期内由高压和高温作用在死海生物遗体上的地层形成; 天然气超过 90% 的甲烷  |
| <b>neutralisation</b> a chemical reaction between an acid and a base to produce a salt and water only; summarised by the ionic equation $H^+(aq) + OH^-(aq) \rightarrow H_2O(l)$  | 中和酸和碱之间的化学反应·仅产生盐和水; 由离子方程 $H^+(aq) + OH^-(aq) \rightarrow H_2O(l)$                           |
| <b>neutron</b> an uncharged subatomic particle present in the nuclei of atoms – a neutron has a mass of 1 relative to a proton  | 中子是存在于原子核中的不带电的亚原子粒子 - 中子相对于质子的质量为 1  |
| <b>nitrogen cycle</b> the system by which nitrogen and its compounds, both in the air and in the soil, are interchanged   | 氮气循环系统·氮气及其化合物在空气和土壤中都被互换   |
| <b>nitrogen fixation</b> the direct use of atmospheric nitrogen in the formation of important compounds of nitrogen; most plants cannot fix nitrogen directly, but bacteria present in the root nodules of certain plants are able to take nitrogen from the atmosphere to form essential protein molecules   | 固氮直接利用大气氮在重要的氮化合物中形成; 大多数植物不能直接固氮, 但存在于某些植物根结节中的细菌能够从大气中取出氮以形成必需的蛋白质分子                        |
| <b>noble gases</b> elements in Group 0 – a group of stable, very unreactive gases   | 第 0 组中的惰性气体元素 - 一组稳定·非常非反应性的气体  |
| <b>non-electrolytes</b> liquids or solutions that do not take part in electrolysis: they do not contain ions  | 非电解液或不参与电解的溶液: 它们不含离子   |





| English   | Chinese (from Google Translate)  |
|---|--|
| <b>non-metals</b> a class of chemical elements that are typically poor conductors of heat and electricity   | 非金属是一类化学元素，通常是热和电的导体不良   |
| <b>non-renewable (finite) resources</b> sources of energy, such as fossil fuels, and other resources formed in the Earth over millions of years, which we are now using up at a rapid rate and cannot replace   | 不可再生（有限的）资源来源的能源，如化石燃料，以及数百万年来在地球上形成的其他资源，我们正在快速地利用，不能取代                               |
| <b>nucleon number (or mass number) (A)</b> the total number of protons and neutrons present in the nucleus of an atom   | 核子数（或质量数）（A）存在于原子核中的质子和中子的总数   |
| <b>nucleus (of an atom)</b> the central region of an atom that is made up of the protons and neutrons of the atom; the electrons orbit around the nucleus in different 'shells' or 'energy levels'  | 核（原子）是由原子的质子和中子构成的原子的中心区域；电子以不同的“壳”或“能级”围绕核绕轨道   |
| <b>oil refining</b> the industrial plant where the processes of converting petroleum (crude oil) into useful fractions and products are carried out   | 石油炼制工业厂房，其中将石油（原油）转化为有用馏分和产物的过程进行  |
| <b>ore</b> a naturally occurring mineral from which a metal can be extracted  | 从中可以提取出金属的天然矿物   |
| <b>organic chemistry</b> the branch of chemistry concerned with compounds of carbon found originally in living organisms  | 有机化学是与原生在生物体中发现的碳化合物有关的化学分支  |
| <b>oxidation</b> there are three definitions of oxidation: (i) a reaction in which oxygen is added to an element or compound; (ii) a reaction involving the loss of electrons from an atom, molecule or ion; (iii) a reaction in which the oxidation state of an element is increased | 氧化有三种氧化定义：（i）将氧加入到元素或化合物中的反应；（ii）涉及从原子，分子或离子损失电子的反应；（iii）元素的氧化态增加的反应                   |
| <b>oxidation state</b> a number given to show whether an element has been oxidised or reduced; the oxidation state of an ion is simply the charge on the ion  | 氧化状态给出一个数字，以显示元素是否被氧化或还原；离子的氧化态仅仅是离子上的电荷   |
| <b>oxidising agent</b> a substance which will oxidise another in a redox reaction   | 氧化剂是在氧化还原反应中氧化另一种的物质   |
| <b>percentage purity</b> a measure of the purity of the product from a reaction carried out experimentally; $\text{percentage purity} = \frac{\text{mass of pure product}}{\text{mass of impure product}} \times 100$   | 百分比纯度是通过实验进行的反应测定产物的纯度：纯度 = $\frac{\text{不纯产品的纯产品质量}}{\text{不纯产品的质量}} \times 100$      |
| <b>percentage yield</b> a measure of the actual yield of a reaction when carried out experimentally compared to the theoretical yield calculated from the equation: $\text{percentage yield} = \frac{\text{actual yield}}{\text{predicted yield}} \times 100$                         | 百分数产生一个实验反应实际产量的量度，与以下方程计算的理论产量相比：百分比产量 = $\frac{\text{实际产量}}{\text{预测产量}} \times 100$ |
| <b>period</b> a horizontal row of the Periodic Table  | 期间是周期表的横排  |



| English   | Chinese (from Google Translate)                                   |
|---|---|
| <b>Periodic Table</b> a table of elements arranged in order of increasing proton number (atomic number) to show the similarities of the chemical elements with related electron configurations  | 周期表按照增加质子数 (原子序号) 排列的元素表, 以显示化学元素与相关电子配置的相似性                      |
| <b>petroleum (or crude oil)</b> a fossil fuel formed underground over geological periods of time by conditions of high pressure and temperature acting on the remains of dead sea creatures   | 石油 (或原油) 在地质时期由地球上的高压和高温作用于死海生物的遗体而形成的化石燃料                        |
| <b>pH scale</b> a scale running from below 0 to 14, used for expressing the acidity or alkalinity of a solution; a neutral solution has a pH of 7   | pH 范围从低于 0 到 14, 用于表示溶液的酸度或碱度; 中性溶液的 pH 值为 7                      |
| <b>photochemical reaction</b> a chemical reaction that occurs when light, usually of a particular wavelength, falls on the reactants  | 光化学反应是当通常具有特定波长的光落在反应物上时发生的化学反应                                   |
| <b>photochemical smog</b> a form of local atmospheric pollution found in large cities in which several gases react with each other to produce harmful products  | 光化学烟雾是大城市发现的一种局部大气污染形式, 其中几种气体相互反应产生有害产物                          |
| <b>photodegradable plastics</b> plastics designed to degrade under the influence of sunlight  | 光降解塑料塑料设计在阳光影响下降解   |
| <b>photosynthesis</b> the chemical process by which plants synthesise glucose from atmospheric carbon dioxide and water: the energy required for the process is captured from sunlight by chlorophyll molecules in the green leaves of the plants | 光合作用是植物从大气二氧化碳和水合成葡萄糖的化学过程: 该过程所需的能量由植物的绿叶中的叶绿素分子从阳光中捕获           |
| <b>physical change</b> a change in the physical state of a substance or the physical nature of a situation that does not involve a change in the chemical substance(s) present  | 身体改变物质的物理状态的变化或不涉及化学物质变化的情况的物理性质                                  |
| <b>pollution</b> the harmful effects on the air, water and soil of human activity and waste <b>polyamide</b> a polymer where the monomer units are joined together by amide (peptide) links; for example, nylon and proteins                      | 污染对人类活动的空气, 水和土壤的有害影响, 并且通过酰胺 (肽) 连接将单体单元连接在一起的聚酰胺废物聚酰胺; 例如尼龙和蛋白质 |
| <b>polyester</b> a polymer where the monomer units are joined together by ester links; for example, Terylene  | 聚酯其中单体单元通过酯键连接在一起的聚合物; 例如, Terylene                               |
| <b>polymer</b> a substance consisting of very large molecules made by polymerising a large number of repeating units or   | 聚合物由通过聚合大量重复单元制成的非常大的分子组成的物质                                      |
| <b>monomers polymerisation</b> the chemical reaction in which molecules (monomers) join together to form a long-chain polymer   | 单体聚合其中分子 (单体) 结合在一起以形成长链聚合物的化学反应                                  |



| English   | Chinese (from Google Translate)  |
|---|--|
| <b>precipitation reaction</b> a reaction in which an insoluble salt is prepared from solutions of two suitable soluble salts  | 沉淀反应是其中不溶盐的反应  |
| <b>products (in a chemical reaction)</b> the substance(s) produced by a chemical reaction   | 产品 ( 化学反应 ) 中通过化学反应产生的物质   |
| <b>proteins</b> polymers of amino acids formed by a condensation reaction; they have a wide variety of biological functions   | 通过缩合反应形成的氨基酸的蛋白质聚合物; 它们具有多种生物功能  |
| <b>proton</b> a subatomic particle with a relative mass of 1 and a charge +1 found in the nucleus of all atoms  | 质子相对质量为 1 的亚原子粒子和在所有原子核中发现的电荷+1  |
| <b>proton number (or atomic number) (Z)</b> <i>see atomic number</i> <b>pure substance</b> a single chemical element or compound – it melts and boils at definite temperatures  | 质子数 ( 或原子数 ) ( Z ) 见原子数纯物质单一化学元素或化合物 - 它在一定温度下熔化并沸腾                        |
| <b>radioactivity</b> the spontaneous decay of unstable radio-isotopes   | 放射性是不稳定放射性同位素的自发衰变   |
| <b>rancid</b> a term used to describe oxidised organic material (food) – usually involving a bad smell  | 腐败用于描述氧化有机物质 ( 食品 ) 的术语 - 通常会引起不良气味  |
| <b>reactants (in a chemical reaction)</b> the chemical substances that react together in a chemical reaction  | 反应物 ( 化学反应 ) 化学反应中一起反应的化学物质  |
| <b>reaction rate</b> a measure of how fast a reaction takes place   | 反应速率是反应发生的速度的量度  |
| <b>reactivity series of metals</b> an order of reactivity, giving the most reactive metal first, based on results from a range of experiments involving metals reacting with oxygen, water, dilute hydrochloric acid and metal salt solutions                               | 基于金属与氧, 水, 稀盐酸和金属盐溶液反应的一系列实验的结果, 首先反应性顺序为反应性顺序, 首先提供最具活性的金属                |
| <b>redox reaction</b> a reaction involving both <b>reduction</b> and <b>oxidation</b> <b>reducing agent</b> a substance which will reduce another in a redox reaction   | 氧化还原反应是一种还原还原氧化还原剂的反应物, 其将在氧化还原反应中降低另一种物质                                  |
| <b>reduction</b> there are three definitions of reduction: (i) a reaction in which oxygen is removed from a compound; (ii) a reaction involving the gain of electrons by an atom, molecule or ion; (iii) a reaction in which the oxidation state of an element is decreased | 还原有三个还原定义: ( i ) 从化合物中除去氧的反应; (ii) 涉及通过原子, 分子或离子获得电子的反应; (iii) 元素的氧化态降低的反应 |
| <b>relative atomic mass (A<sub>r</sub>)</b> the average mass of an atom of an element, taking account of the isotopes of the element, on a scale where a carbon-12 atom has a mass of exactly 12  | 相对原子质量 ( A <sub>r</sub> ) 元素的原子的平均质量, 考虑到元素的同位素, 其碳-12 原子质量恰好为 12          |
| <b>relative formula mass (M<sub>r</sub>)</b> the sum of all the relative atomic masses of the atoms present in a 'formula unit' of a substance (see also <b>relative molecular mass</b> )   | 相对配方质量 ( M <sub>r</sub> ) 物质的“公式单位”中存在的原子的所有相对原子质量的总和 ( 也参见相对分子量 )         |



| English   | Chinese (from Google Translate)  |
|---|--|
| <b>relative molecular mass</b> ( $M_r$ ) the sum of all the relative atomic masses of the atoms present in a molecule (see also <b>relative formula mass</b> )  | 相对分子量 ( $M_r$ ) 分子中存在的原子的所有相对原子质量的总和 (也参见相对式质量)                                |
| <b>renewable resources</b> sources of energy and other resources which cannot run out or which can be made at a rate faster than our current rate of use  | 可再生资源的能源和其他资源, 不能耗尽或可以以比我们目前的使用速度更快的速度制造                                       |
| <b>residue</b> the solid left behind in the filter paper after <b>filtration</b> has taken place  | 残留留在滤纸后的固体过滤已经发生   |
| <b>resources</b> materials we get from the environment to meet our needs (see also <b>renewable resources</b> and <b>non-renewable resources</b> )  | 我们从环境中获得的资源资源, 以满足我们的需求 (另见可再生资源 and 不可再生资源)                                   |
| <b>respiration</b> the chemical reaction (a combustion reaction) by which biological cells release the energy stored in glucose for use by the cell or the body; the reaction is exothermic and produces carbon dioxide and water as the chemical by-products | 呼吸化学反应 (燃烧反应), 通过该化学反应生物细胞释放存储在葡萄糖中的能量以供细胞或身体使用; 反应是放热的, 并产生二氧化碳和水作为化学副产物      |
| <b>reversible reaction</b> a chemical reaction which can go either forwards or backwards, depending on the conditions   | 根据条件, 可逆反应可以向前或向后进行化学反应  |
| <b>R<sub>f</sub> value</b> in chromatography, the ratio of the distance travelled by the solute to the distance travelled by the solvent front  | 色谱中的 $R_f$ 值, 由溶质行进的距离与溶剂前沿行进的距离之比   |
| <b>risk assessment</b> an evaluation of the methods and chemical substances used in a particular experiment to see what safety issues may be involved   | 风险评估评估特定实验中使用的的方法和化学物质, 以查看可能涉及的安全问题   |
| <b>rock cycle</b> the natural cycle by which rocks are pushed upwards, then eroded, transported, deposited, and possibly changed into another type of rock by conditions of temperature and pressure – these rocks may then be uplifted to enter a new cycle  | 岩石循环自然循环, 岩石被向上推动, 然后在温度和压力条件下被侵蚀, 运输, 沉积, 并可能变成另一种类型的岩石 - 这些岩石可能会升高, 进入一个新的循环 |
| <b>rust</b> a loose, orange-brown, flaky layer of hydrated iron(III) oxide, $Fe_2O_3 \cdot xH_2O$ , found on the surface of iron or steel   | 在铁或钢表面发现氧化铁 (III), $Fe_2O_3 \cdot xH_2O$ 的疏松, 橙棕色,                             |
| <b>salts</b> ionic compounds made by the neutralisation of an acid with a base (or alkali); for example, copper(II) sulfate and potassium nitrate   | 通过用碱 (或碱) 中和酸制得的盐离子化合物; 例如硫酸铜 (II) 和硝酸钾  |
| <b>saponification</b> the name given to the hydrolysis of fats or vegetable oils by hot, concentrated sodium hydroxide solution to produce soap   | 皂化通过热的浓缩氢氧化钠溶液对脂肪或植物油进行水解产生皂的名称  |
| <b>saturated solution</b> a solution which contains as much dissolved solute as possible at a particular temperature  | 饱和溶液在特定温度下含有尽可能多的溶解溶质的溶液   |



| English   | Chinese (from Google Translate)                                     |
|---|---|
| <b>sewage</b> water released after its use in the home or from factories; contains waste materials that must be removed before the water can be used again domestically or industrially             | 污水在家庭或工厂使用后释放;含有在水可以在国内或工业上再次使用之前必须清除的废料                            |
| <b>simple molecular substances</b> substances made up of individual molecules held together by covalent bonds: there are only weak forces between the molecules                                     | 通过共价键保持在一起的单个分子构成的简单分子物质: 分子之间只有微弱的力量                               |
| <b>soaps</b> substances formed by <b>saponification</b>   | 肥皂通过皂化形成物质  |
| <b>solubility</b> a measure of how much of a solute dissolves in a solvent at a particular temperature  | 溶解度是指在特定温度下溶剂中溶解多少溶剂的量度   |
| <b>solubility curve</b> a graph showing how the solubility of a substance in a solvent changes with temperature   | 溶解度曲线显示物质在溶剂中的溶解度如何随温度而变化的图表  |
| <b>soluble</b> term that describes a solute that dissolves in a particular solvent  | 描述溶解在特定溶剂中的溶质的可溶性术语   |
| <b>solute</b> the solid substance that has dissolved in a liquid (the solvent) to form a solution   | 溶解溶解在液体 (溶剂) 中的固体物质形成溶液   |
| <b>solution</b> formed when a substance (solute) dissolves into another substance (solvent)   | 物质 (溶质) 溶解于其他物质 (溶剂) 时形成的溶液,  |
| <b>solvent</b> the liquid that dissolves the solid solute to form a solution; water is the most common solvent but liquids in organic chemistry that can act as solvents are called                 | 溶解溶解固体溶质以形成溶液的液体;水是最常见的溶剂, 但有机化学中可以作为溶剂的液体被称为                       |
| <b>organic solvents solvent front</b> the moving boundary of the liquid solvent that moves up the paper during chromatography   | 有机溶剂溶剂前面是在色谱过程中向上移动的液体溶剂的移动边界                                       |
| <b>spectator ions</b> ions that are present in a chemical reaction but take no part in it   | 观察离子离子存在于化学反应中, 但不参与其中  |
| <b>speed of reaction</b> see <b>reaction rate</b>   | 反应速度见反应速率   |
| <b>spontaneous (reaction)</b> a reaction that takes place immediately simply by mixing the reactants  | 自发 (反应) 立即简单地通过混合反应物发生的反应   |
| <b>standard atom</b> the atom against which the relative atomic masses of all other atoms are measured using the mass spectrometer; one atom of the carbon-12 isotope is given a mass of exactly 12 | 标准原子使用质谱仪测量所有其他原子的相对原子质量的原子;碳-12 同位素的一个原子的质量准确为 12                  |
| <b>standard solution</b> a solution whose concentration is known precisely – this solution is then used to find the concentration of another solution by titration                                  | 标准溶液的浓度已知的精确溶液, 然后用该溶液通过滴定测定另一种溶液的浓度                                |
| <b>state symbols</b> symbols used to show the physical state of the reactants and products in a chemical reaction: they are s (solid), l (liquid), g (gas) and aq (in solution in water)            | 用于显示化学反应中反应物和产物的物理状态的状态符号符号: 它们是 (固体) · l (液体), g (气体) 和 aq (在水溶液中) |





| English   | Chinese (from Google Translate)                      |
|---|--|
| <b>states of matter</b> solid, liquid and gas are the three states of matter in which any substance can exist, depending on the conditions of temperature and pressure                              | 物质固体，液体和气体的状态是任何物质可以存在的三种状态，这取决于温度和压力的条件             |
| <b>strong acid</b> an acid that is completely ionised when dissolved in water – this produces the highest possible concentration of $H^+(aq)$ ions in solution; for example, hydrochloric acid      | 强酸是当溶解在水中时完全电离的酸 - 这在溶液中产生最高可能的 $H^+(aq)$ 离子浓度; 例如盐酸 |
| <b>strong alkali</b> an alkali that is completely ionised when dissolved in water – this produces the highest possible concentration of $OH^-(aq)$ ions in solution; for example, sodium hydroxide  | 强碱溶解在水中时完全电离 - 这在溶液中产生最高可能的 $OH^-(aq)$ 离子浓度; 例如氢氧化钠  |
| <b>structural formula</b> the structural formula of an organic molecule shows how the atoms and bonds in a molecule are arranged in space: all the atoms and covalent bonds must be shown           | 结构式中有有机分子的结构式示出分子中的原子和键如何排列在空间中：所有的原子和共价键必须显示出来      |
| <b>subatomic particles</b> very small particles – <b>protons</b> , <b>neutrons</b> and <b>electrons</b> – from which all atoms are built  | 亚原子粒子非常小的粒子 - 质子，中子和电子 - 从中构成了所有的原子                  |
| <b>sublimation</b> the direct change of state from solid to gas or gas to solid: the liquid phase is bypassed   | 升华状态从固体到气体或气体直接转变为固体：液相被旁路                           |
| <b>substitution reaction</b> a reaction in which an atom (or atoms) of a molecule is (are) replaced by different atom(s), without changing the molecule's general structure                         | 取代反应是其中分子的原子（或原子）被不同的原子取代的反应，而不改变分子的一般结构             |
| <b>suspension</b> a mixture containing small particles of an insoluble solid, or droplets of an insoluble liquid, spread (suspended) throughout a liquid  | 悬浮含有不溶性固体的小颗粒或不溶性液体的液滴的混合物，悬浮在液体中                    |
| <b>symbol (chemical)</b> a simple letter, or group of letters, that represents an element in a chemical formula   | 符号（化学）一个简单的字母或一组字母，表示化学式中的元素                         |
| <b>synthesis</b> (see also <b>photosynthesis</b> ) a chemical reaction in which a compound is made from its elements  | 合成（参见光合作用）化合物是由其元素制成的化学反应                            |
| <b>thermal decomposition</b> the breakdown of a compound due to heating   | 热分解化合物由于加热而分解  |
| <b>titration</b> a method of quantitative analysis using solutions: one solution is slowly added to a known volume of another solution using a burette until an end-point is reached                | 滴定法使用溶液进行定量分析：使用滴定管将一种溶液缓慢加入已知体积的另一种溶液中直到达到终点        |
| <b>transition elements</b> (or <b>transition metals</b> ) elements from the central region of the Periodic Table – they are hard, strong, dense metals that form compounds which are often coloured | 元素周期表中心区域的过渡元素（或过渡金属）元素 - 它们是形成化合物的硬，强，致密金属          |



| English   | Chinese (from Google Translate)   |
|---|---|
| <b>Universal Indicator</b> a mixture of indicators which has different colours in solutions of different pH   | 通用指示是在不同 pH 值的溶液中具有不同颜色的指示混合物   |
| <b>upward delivery</b> a method of collecting a gas that is lighter than air by passing it upwards into an inverted gas jar   | 向上传送一种通过将其向上传送到倒置的气体罐中来收集比空气轻的气体的方法   |
| <b>valency</b> the combining power of an atom or group of atoms: in ionic compounds the valency of each ion is equal to its charge; in a covalent molecule the valency of an atom is the number of bonds that atom makes  | 化合价原子或原子团的结合力：在离子化合物中，每个离子的化合价等于其电荷；在共价分子中，原子的化合价是原子键的数目  |
| <b>volatile</b> term that describes a liquid that which evaporates easily; it is a liquid with a low boiling point having only weak intermolecular forces between the molecules in the liquid   | 描述易于蒸发的液体的挥发性术语；它是具有在液体中的分子之间仅具有弱的分子间力的低沸点的液体   |
| <b>volatility</b> the property of how easily a liquid evaporates  | 挥发性液体蒸发的容易性   |
| <b>water cycle</b> the system by which water circulates around the Earth, involving various changes of state in the process; the driving force behind the water cycle is energy from the Sun  | 水循环水循环的系统，涉及到各个国家的变化；水循环背后的驱动力是太阳的能量  |
| <b>water of crystallisation</b> water included in the structure of certain salts as they crystallise; for example, copper(II) sulfate pentahydrate ( $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$ ) contains five molecules of water of crystallisation per molecule of copper(II) sulfate | 结晶水中的某些盐结晶中包含的结晶水；例如，硫酸铜(II)五水合物( $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$ )包含每分子硫酸铜(II)结晶的五分之一水 |
| <b>weak acid</b> an acid which is only partially dissociated into ions in water – usually this produces a low concentration of $\text{H}^+(\text{aq})$ in the solution; for example, ethanoic acid  | 弱酸是仅在水中部分离解成离子的酸 - 通常在溶液中产生低浓度的 $\text{H}^+(\text{aq})$ ；例如，乙酸                                    |
| <b>weak alkali</b> an alkali which is only partially dissociated into ions in water – usually this produces a low concentration of $\text{OH}^-(\text{aq})$ in the solution; for example, ammonia solution  | 弱碱性碱，其仅部分地分解成水中的离子 - 通常这在溶液中产生低浓度的 $\text{OH}^-(\text{aq})$ ；例如氨溶液                                |
| <b>word equation</b> a summary of a chemical reaction using the chemical names of the reactants and products  | 词语方程式使用反应物和产物的化学名称的化学反应的总结  |

