Enlaces interatomicos e intermoleculares pdf

The difference between interatomic communication and intermolecular connection is that the interatomic bond is that the relationship is formed when an element forms a structure, that is, when two atoms that have the same nature are connected, while intermolecular connections are connections that form one molecule with another. Atoms are the smallest faction in which matter is divided, the minimum part in which both chemical and physical properties are still preserved. Molecules, on the other hand, are those in which atoms are grouped together to form a matter that has different properties, they are formed by the chemical reaction of atoms. Read more: brainly.lat/task/3107084 Interatomic Connections:Ionic linkConvalent link Metallic linkThe intermolecular connections: these are those that hold together molecules of the same substance Van der Waals Hydrogen Bridges Interatomic connection is a chemical link that is formed between atoms to produce molecules. Although scientists now generally agree that electrons do not rotate around the nucleus, it has been thought throughout history that each electron revolves around the nucleus of an atom in a separate layer. Today, scientists have concluded that electrons looming in certain areas of the atom and do not form orbits, but the valence layer is still used to describe the presence of electrons. Figure 1: Atoms interact with each other using chemical bonds. Linus Pauling contributed to the modern understanding of chemical communication by writing the book Nature of Chemical Communication, where he collected the ideas of Sir Isaac Newton, Etienne Francois Jeffroy, Edward Frankland and, in particular, Gilbert N. Lewis. In it, he linked the physics of quantum mechanics to the chemical nature of electronic interactions that occur in the manufacture of chemical bonds. Pauling's work focused on establishing that true ion and covalent connections are placed at the ends of the reference spectrum and that most chemical connections are classified between these endpoints. Poing has also developed a scale of communication-type movement, controlled by the electroneductivity of the atoms involved in communication. Pauling's enormous contribution to our modern understanding of chemical communication led to his award of the 1954 Nobel Prize for researching the nature of chemical communication and its use in figuring out the structure of complex substances. Living beings are made up of atoms, but in most cases these atoms float not only individually. Instead, they usually interact with atoms (or groups of atoms). For example, atoms can be connected by strong bonds and organized into molecules or crystals. Or they can form temporary, weak connections with other atoms that collide with them. Both the strong bonds that bind molecules, and the weak bonds that create temporal bonds, are necessary for the chemistry of our body and for the existence of life itself. Atoms are usually organized into the most stable models possible, meaning that they tend to complete or fill their orbits with external electrons. They come along with other atoms to do just that. The force that holds atoms together in collections known as molecules is known as chemical bonding. Types of interatomic chemical bonds Metal Communication Metal Communication is a force that holds atoms together in pure metallic matter. This hardness consists of tightly packed atoms. In most cases, the outer layer of electrons in each of the metal atoms intersects with a large number of neighboring atoms. As a result, valence electrons continuously move from one atom to another and are not connected to any particular pair of atoms. Figure 2: Illustration of metal bond metals have several qualities that are unique, such as the ability to conduct electricity, low energy ionization, and low electronegateness (so they give way to electrons easily, i.e. they cations). Its physical properties include a bright (bright) appearance, and malleable and ductile. Metals have a crystal structure. However, metals are also malleable and ductile. In the 1900s, Paul Drad appeared with the theory of a sea of electrons, modeling metals as a mixture of atomic nuclei (atomic nuclei and positive nuclei and inner layers of electrons) and valence electrons. In this model, valence electrons are free, out of the plot, mobile and not associated with any particular atom. The Ionian communication is electrostatic in nature. They occur when an item with a positive charge joins a negatively charged element through culombic interactions. Elements with low ionization energies tend to easily lose electrons, while high-electronic affinity elements tend to receive them by producing such and anions respectively, which form ion bonds. Compounds that show ion bonds form ion crystals in which positive and negative charge ions fluctuate close to each other, but there is not always a direct 1-1 correlation between positive and negative ions. Ion ties can break through hydrogenation, or the addition of water to the compound. Substances that are contained together by ion bonds (such as sodium chloride) can usually be divided into true charged ions when the external force acts on them, for example, when dissolved in water. In addition, solidly separate atoms attract not an individual neighbor, but form giant networks that attract each other electrostatic interactions between the nucleus of each atom and neighboring valent electrons. The force of attraction between neighboring atoms gives the ion solids an extremely neat structure, known as the ion mesh, where particles with the opposite load align with each other, creating a tightly connected rigid structure. Figure 3: Sodium Chloride Crystal Covalent Bond occurs when pairs of electrons divide atoms. Atoms will be covalently connected to other atoms to gain more stability, which is obtained by forming a full layer of electrons. By sharing their external (valence) electrons, atoms can fill their outer layer with electrons and gain stability. Figure 4: Lewis charts the covalent bond of nitrogen molecules Although atoms are said to divide electrons when forming covalent bonds, they do not usually divide electrons equally. Only when two atoms of the same element form a covalent bond, the common electrons are actually evenly divided between atoms. When the atoms of different elements divide electrons through a covalent compound, the electron will rely more on the atom with the highest electronegate, leading to a polar covalent bond. Compared to ion compounds, covalent compounds tend to have a lower melting point and boiling point and have a lower tendency to dissolve in water. Covalent compounds may be in a state of gas, liquid or solid and do not hold electricity or heat well. Hydrogen Bridges Figure 5: Hydrogen bridges between two water molecules Hydrogen bridges or hydrogen bonds are weak interactions between a hydrogen atom attached to an electrongative element with another electronegate element. In a polar covalent bond containing hydrogen (e.g., the O-H bond in one water molecule), hydrogen will have a light positive charge because the communication electrons are pulled more strongly into another element. Because of this small positive charge, hydrogen will be attracted by any neighboring negative charges. Van der Waals bonds are relatively weak electrical forces that attract neutral molecules from each other in gases, liquefied gases and and in almost all organic and solid liquids. The forces are named after the Dutch physicist Johannes Diderik van der Waals, who in 1873 for the first time forgave these intermolecular forces in the development of theory, explaining the properties of real gases. Van der Waals is a general term used to determine the attraction of thermolecular forces between molecules. There are two types of Van der Waals forces: the Scattering Force in London, which are weak, and the dipoleo-dipole forces are stronger. Links by Anthony Capri, A. D. (2003). Chemical link: The nature of chemical bond. Received from visionlearning visionlearning.com Camy Fung, N.M. (2015, August 11). Covalent bonds. Taken from chem.libretexts by chem.libretexts.org Clark, J. (2017, February 25). Metallic connection. Taken from chem.libretexts chem.libretexts.org Encyclop.dia Britannica. 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