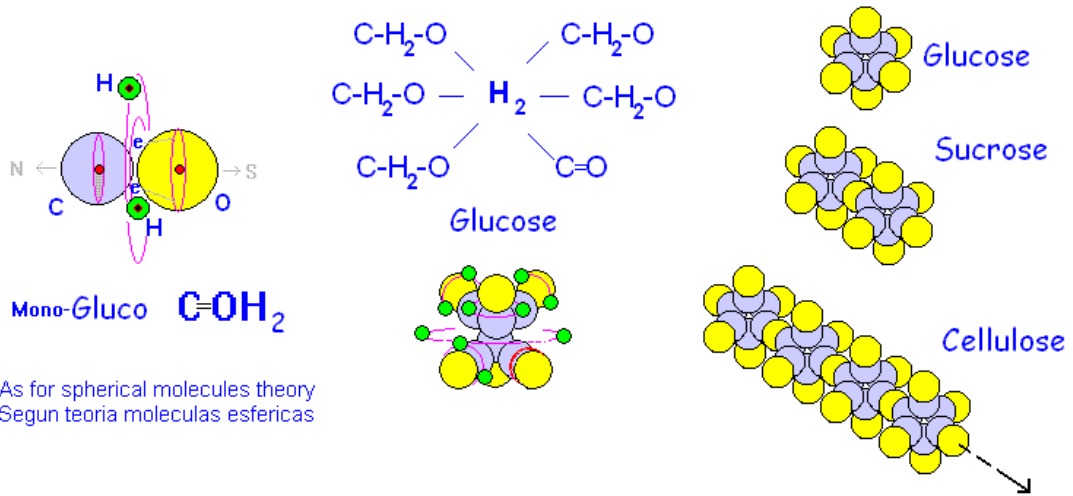


# Spherical molecules

Author: Fernando Mancebo Rodriguez--- 1999

## Sugars and cellulose Azucares y celulosas

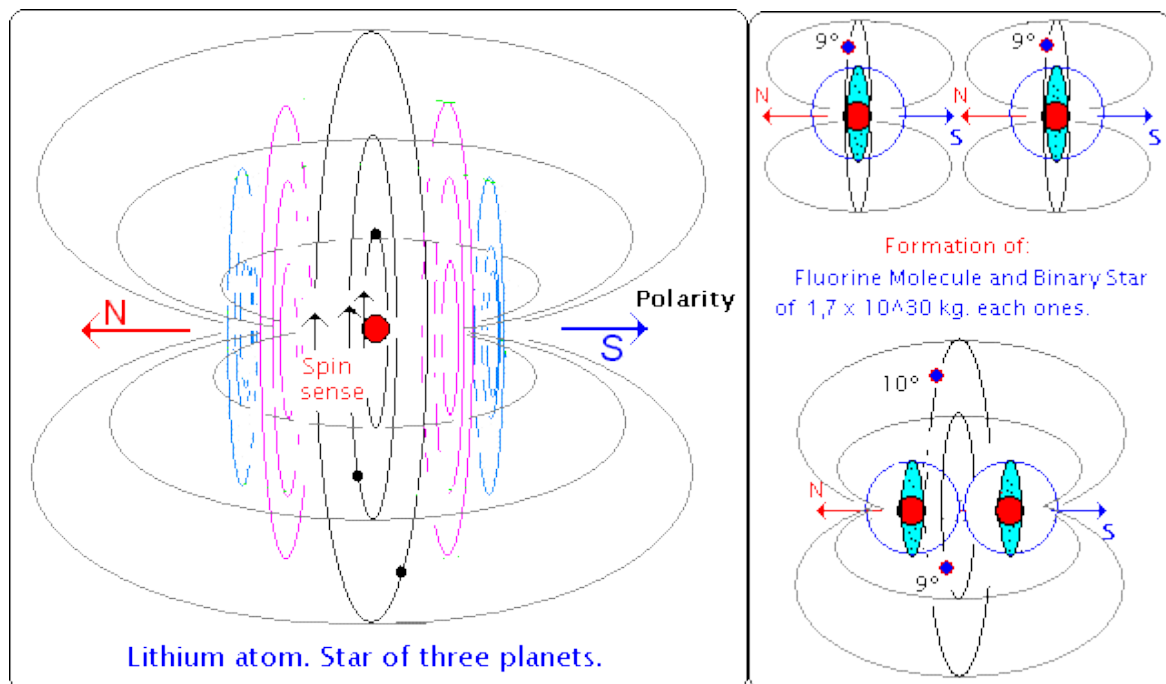
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## Spatial structure of the Spherical molecules

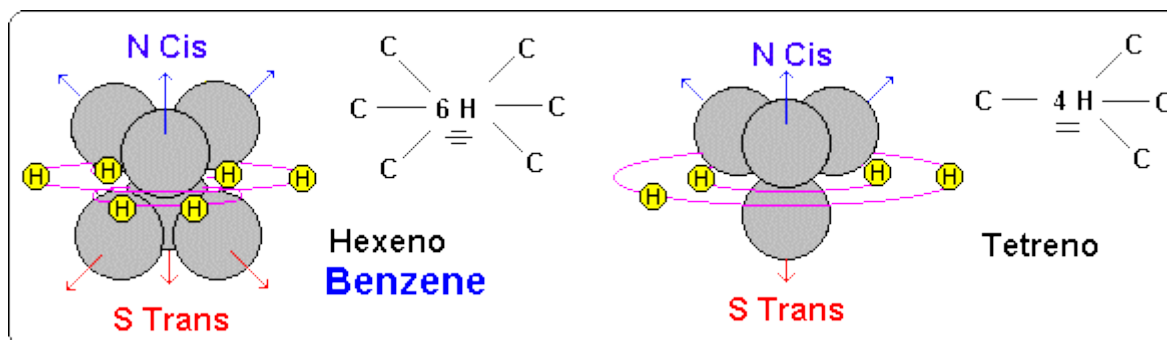
From my studies on cosmology we can get some considerations in the molecules structuring, reaching the conclusion for my part that most of the biological molecular structures have spherical and not cyclic form, as it was believed up to now.

Likewise the lineal molecules should have all their atoms keeping this lineal sequence and not alone the carbon atoms, but also the oxygen and nitrogen atoms.



En the drawing we show the magnetic lines and of polarity (north-south) by means of which atoms are attracted and aligned forming structures of lineal form and of spherical form, which we will see in this study of molecular structuring.

**This same N-S alignment that molecules take is the one that produces their characteristic or directional property of joining Cis-Trans.**



Two are the main spherical types of structures, as we see in the drawing: Hexa and tetra.

\_\_\_ Hexas are regular structures, which are formed by six atoms whose bonds are in the centre of the molecule.

Their bonds can be single, double, composed (or benzene type of) and triple.

--They are simple when a single bond (by mean of two hydrogen or electrons) is used for the whole molecule.

--They are double when a double bond is used for the whole molecule.

--They are composed (or benzene type) when a single bond is used for the whole molecule and another single connection for each one of the two triads of the molecule.

--Sometime, as in the fullerene structure, triple bonds can be produced. (Triple bond in all the molecules).

It can also happen that a triad is of double bond and the other one of single bond.

\_\_\_ Tetras are irregular molecules, which are formed by four atoms, one of which forms the vertex and taking the contrary position (cis or trans) to the other three atoms. Their bonds can be single, double or complementary.

--They are simple if the molecule is united by a single bond only.

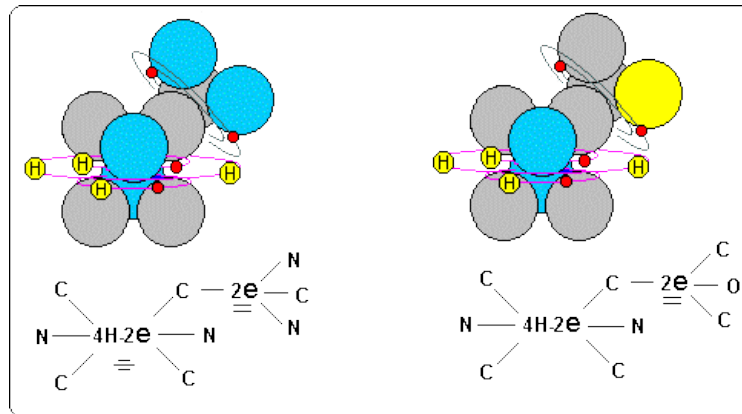
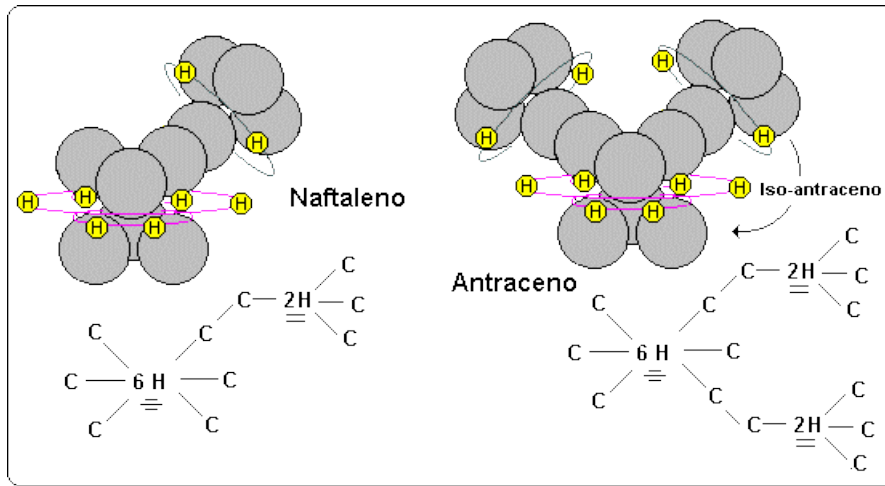
--They are double if the molecule is united by a double bond.

--And they are complementary if the triad uses a double bond and the vertex atom is together to the molecule for a single bond.

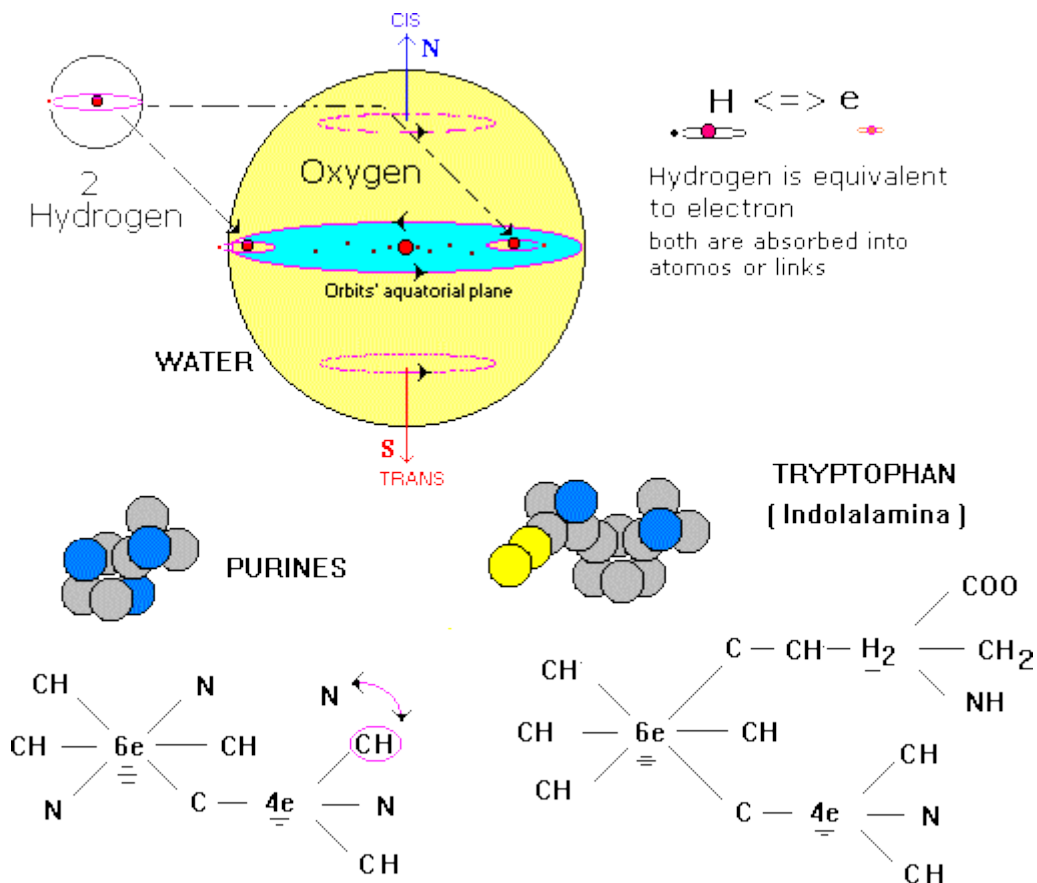
The same as in the lineal molecules, the common bond for the hexa-molecules can also be used as covalent bond by other atoms or tetra-molecules that want to unite to this hexa-molecule.

Examples of these are naphthalene and anthracene.

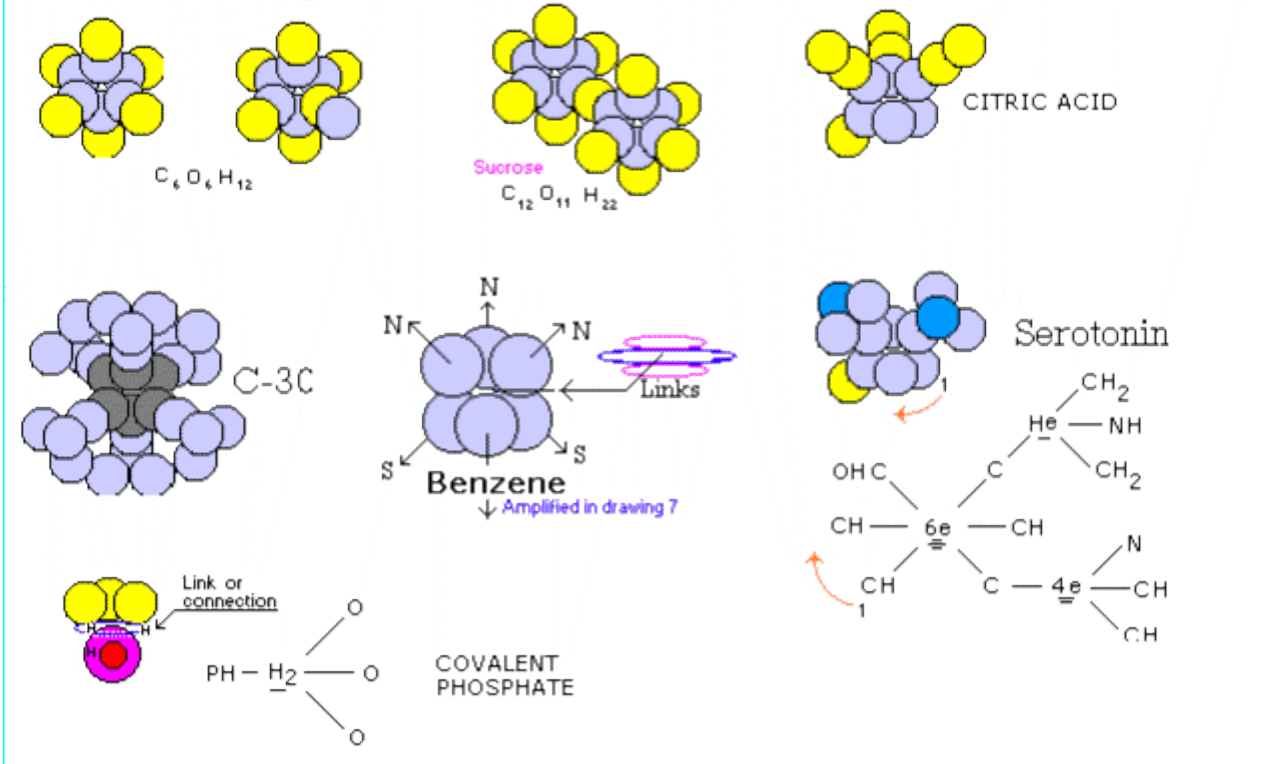
In the following drawings we will see example of union between hexas and tetras molecules and of hexa-molecules with triads.



Following it can see some other examples of molecular structuring as they can be the sugars, water, citric acid, etc., as for this structural theory.

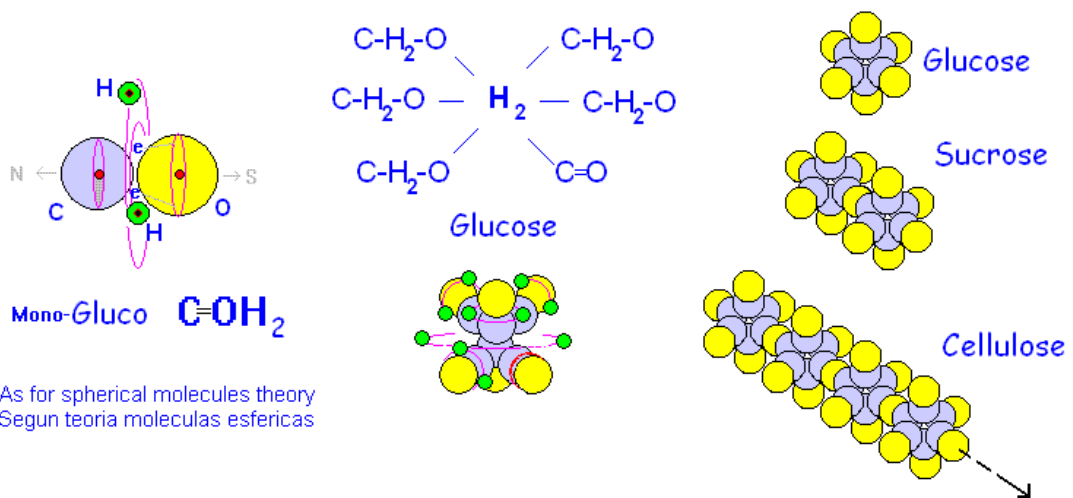


# Sugars



## Sugars and cellulose Azucares y celulosas

terman



\* As for spherical molecules theory  
Segun teoria moléculas esfericas

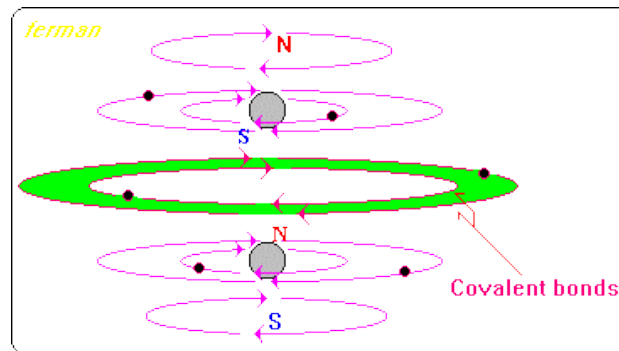
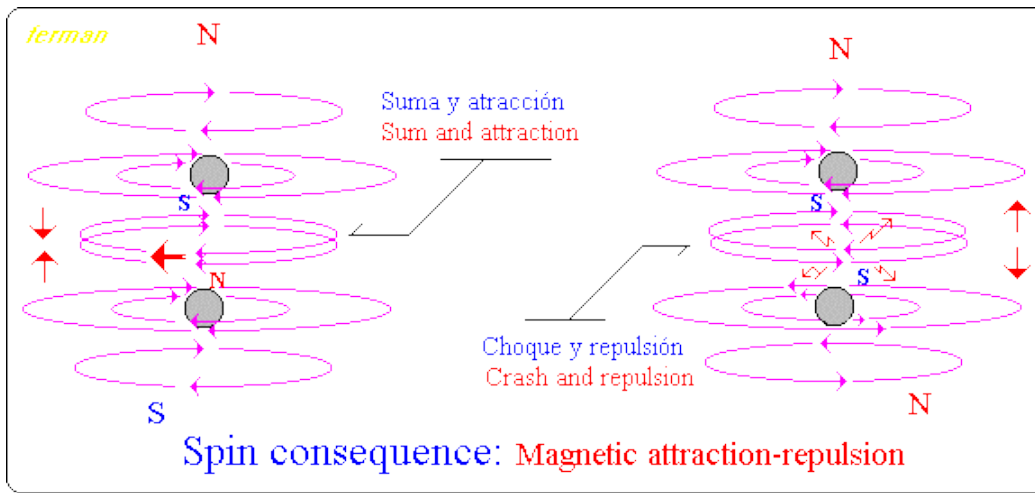
**Covalent bonds: Atoms connections:** Main types of bonds and crystal lattices.

### Foundation:

The nuclei of the gravitational systems (atoms, stars) rotate on themselves (spin) and they make to rotate and to be deformed (in spiral) to the gravitational and magnetic fields that surround them.

This makes that to be able the approaching and union of two or more atoms and to create common orbits (covalent bonds) they have to join in the polar N-S direction, because otherwise their magnetic and gravitational fields would collide producing the rejection among them.

Therefore, to come closer some atoms to other and to create the atomic connections or to build crystals, atoms must approach in the polar direction N-S or S-N.

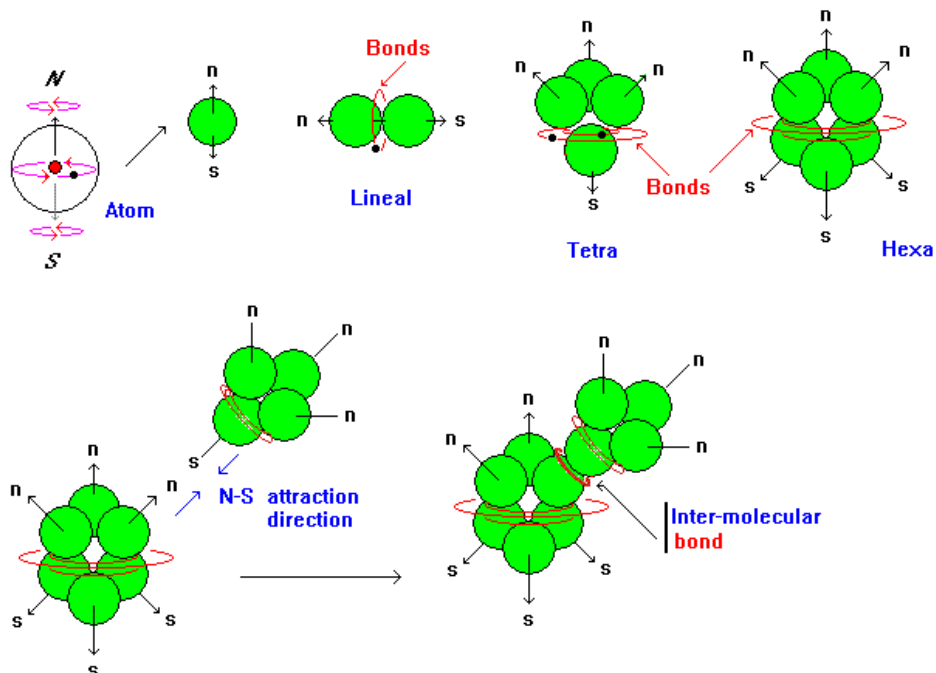


In the following drawing we have the way of connecting atoms to obtain the different types of covalent bonds. In the same way and N-S orientation, the ionic molecules and crystals are built.

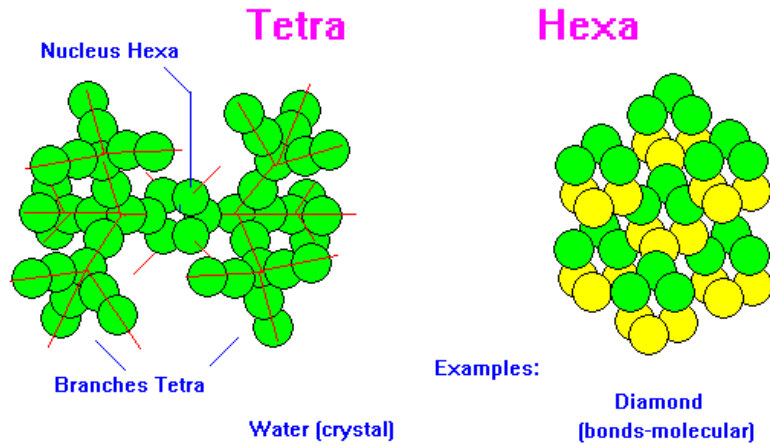
## Bonding atoms Types of covalent bonds

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Covalent bonds = Common orbits for two or more atoms

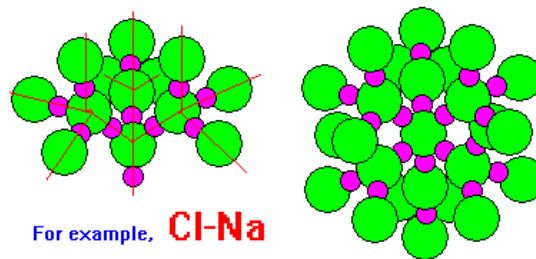


# Types of Bonds and crystal



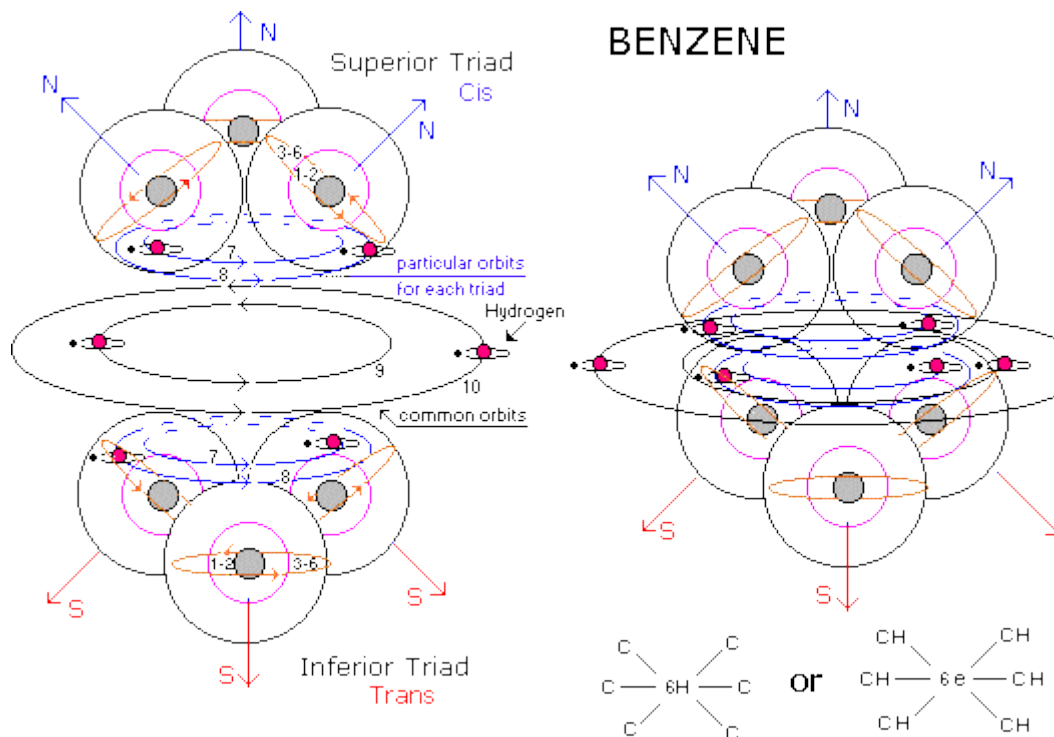
## Ionic Tetra-union

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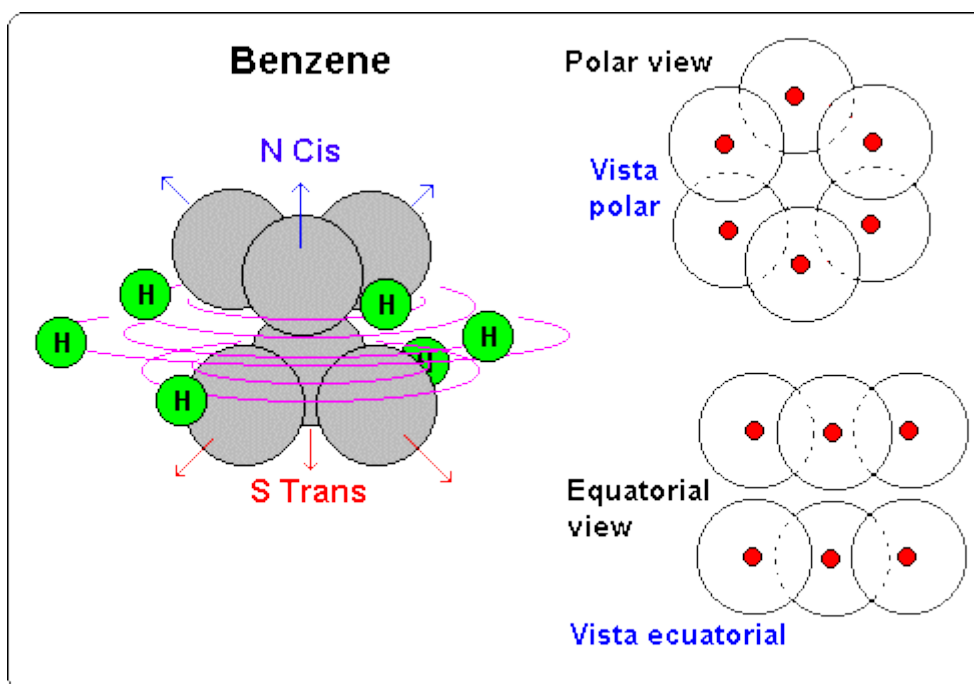


## Benzene

Firstly we see the benzene structure, whose form as we have said is of spherical type Hexa. In the following drawing we show the situation of carbon atoms that are distributed into two triads (Cis and Trans), which are situated on the north and south of the molecule in relation to its equator. At the same time, we see how the hydrogen atoms turn near the equator of the molecule in covalent orbits, two of which are triads (one Cis and other one Trans) and the other covalent bond joins the two triads forming a spherical molecule.



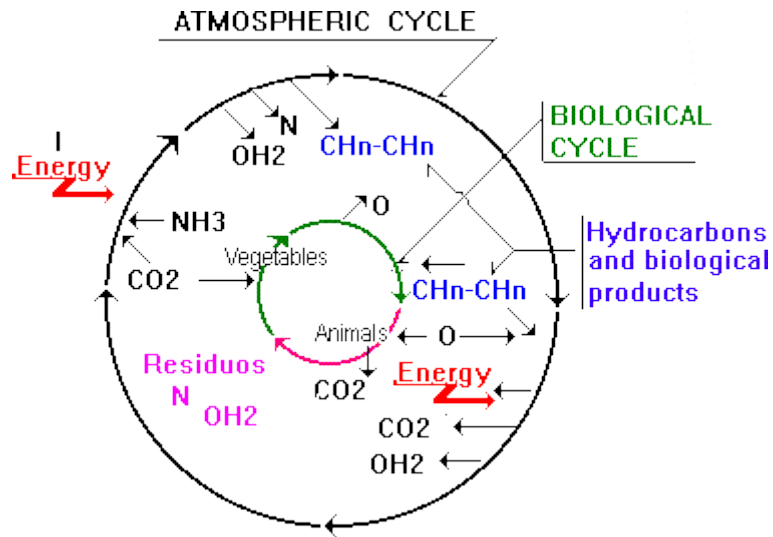
Below, the results of spectrometry and diffraction vision are detailed (as x-rays crystallography), which theoretically would be obtained on the spherical benzene due to the situation of carbon atoms in this molecule. Hydrogen atoms cannot be observed because they turn very quickly around this molecule, as we can see in the drawing.



## Hydrocarbons' Birth

Genesis of Hydrocarbons  
CH<sub>n</sub> - CH<sub>n</sub>

On the Earth



Theory on the hydrocarbons formation and life's birth, which is exposed in my works Metaphysics treatises 1997, Covalent Composition 1998 and Asteron the fifth planet of 1998.

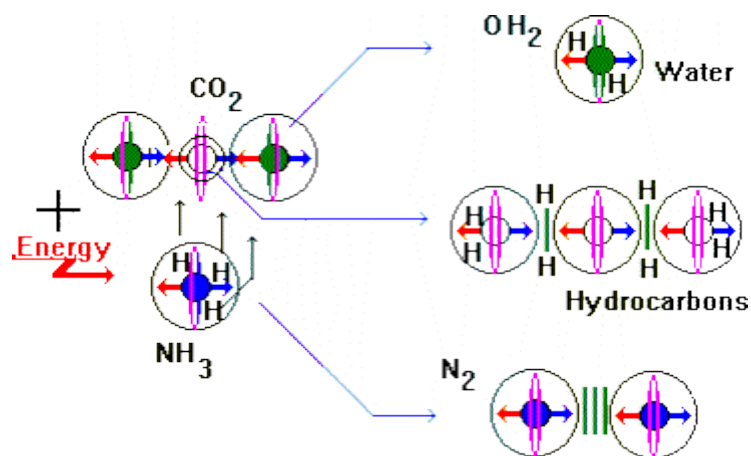
In this theory it aims the impossibility that hydrocarbons have been born of the transformation of dead animals and buried in archaic times because with this transformation there would not be enough elements for the production of hydrocarbons neither for a single year with the current consumption.

Different reasons can support this theory, as unusual existence of big quantities of single nitrogen in the atmosphere or the great quantity of water existent in our planet.

In both cases these elements (also oxygen) are residual elements from atmospheric transformations carried out during millions of years.

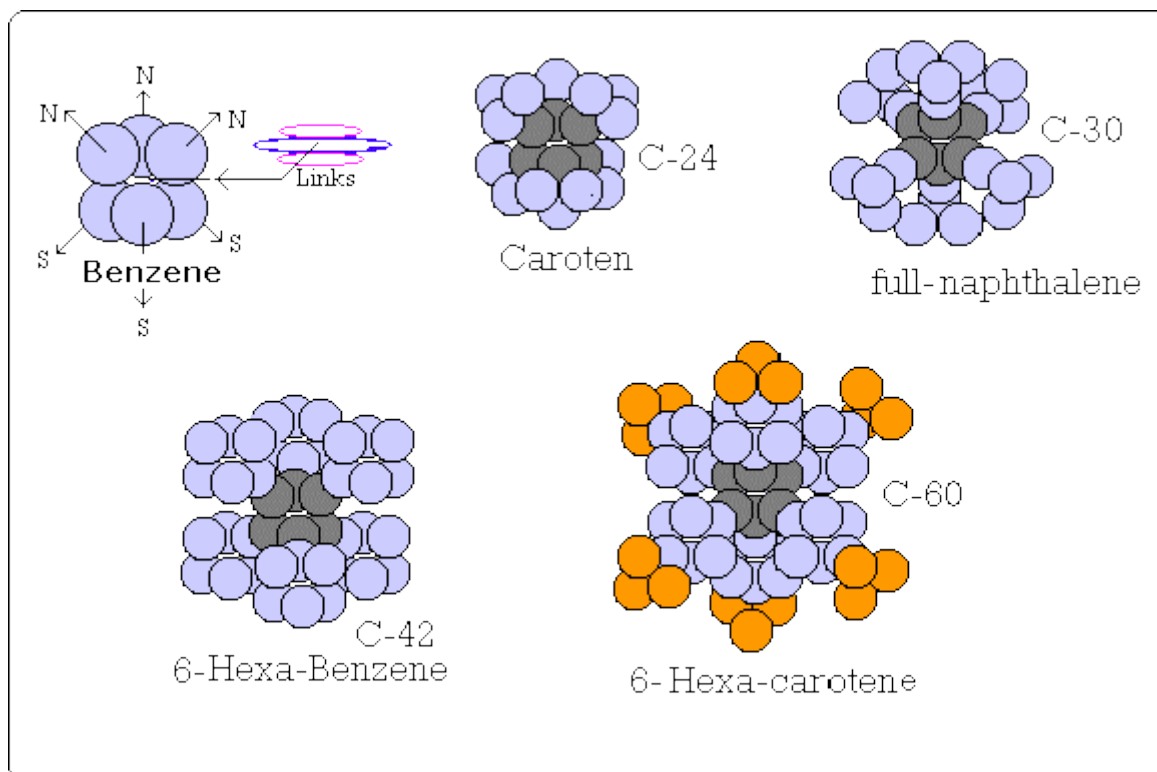
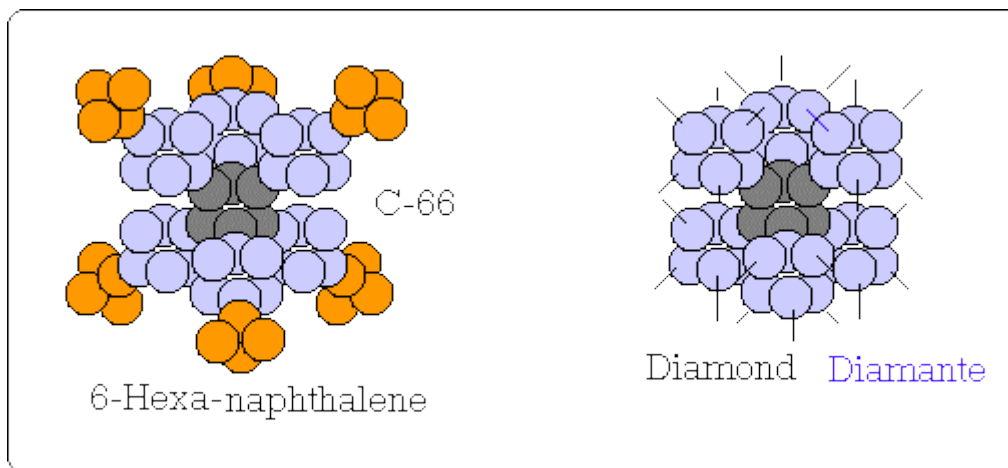
The development of hydrocarbons it aimed, as we can observe in the beginning square, as result of the chemical transformation of the very abundant products in the cosmic nature as they are ammonia  $NH_3$ , carbonic anhydride  $CO_2$ , and water  $OH_2$ , ("broth of the life") everything carried out by the natural solar heat on our planet, with arrangement to the following chemical transformation:

As we see, this theory bet for an ideal bar of temperature for the birth of life. If temperature were lower or higher than in this bar, very not favourable atmospheric gases for the proliferation of life could exist. With little temperature there would be too much ammonia  $NH_3$ , which could not be destroyed easily and with a lot of temperature there would be too much  $CO_2$  and sulphurous and nitrous acids as well as a destruction of the possible vital chains.



**Poly-benzenes**





In the previous drawings Benzene is shown firstly, which we can see it developed in its specific page. We also see the main spherical molecules that can be built with benzene structures, also with contributions of tetrahedron structures.

It is shown:

- Caroten (C<sub>24</sub>) is a simple molecule that is formed by a benzene molecule and six triads of carbon.
- Full-naphthalene (C<sub>30</sub>) which is composed by a benzene group and six tetras.
- Hexa-benzene (C<sub>42</sub>) composed by seven benzenes, one of those is central.
- Hexa-carotene (C<sub>60</sub>) that is composed by a central benzene and six carotenes (benzene with a triad in any atom)
- Hexa-naphthalene (C<sub>66</sub>) composed by a benzene and six naphthalene.
- And for finish, Diamond (C<sub>n</sub>).

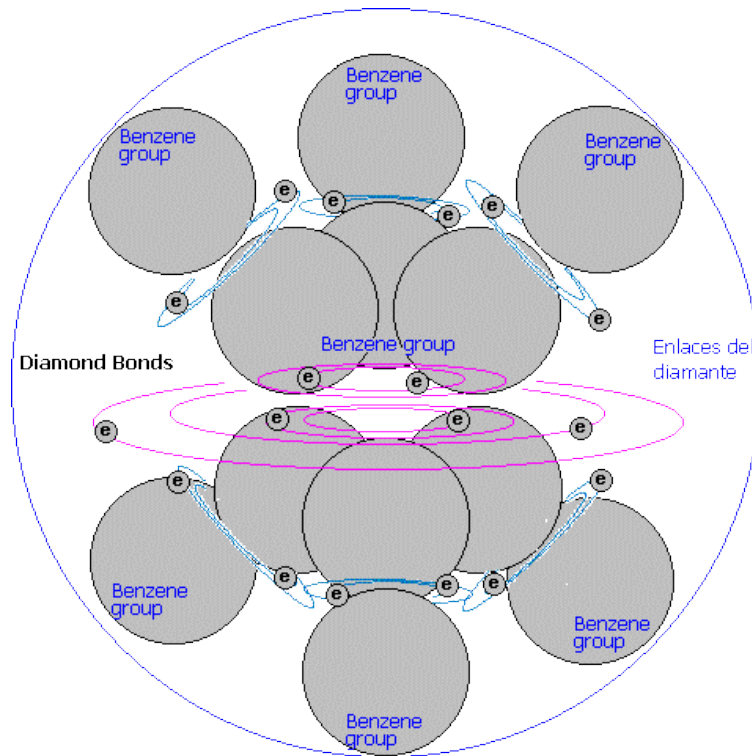
As we see these are quasi-spherical molecules. Nevertheless by means of multiples benzenes a lot of molecules can be built, which don't keep sphere appearance.

Diamond is a special case of molecular carbonic net in which all atoms are connected by both sides (except those of the gem surface).

As you see in the drawings, in all molecules that are exposed (except diamond) alone those of the benzene nucleus and the radial branches have bilateral bond; the other ones have a lateral connection only. Therefore all they are less dense, less compact and mainly less hard than diamond, because any diamond forms a single molecule while the other compounds of many united molecules consist.

In diamond the interior bond are of benzene type (double connection for each atom) while the unions among benzenes are carried out by means of single bond.

### Diamond bonds



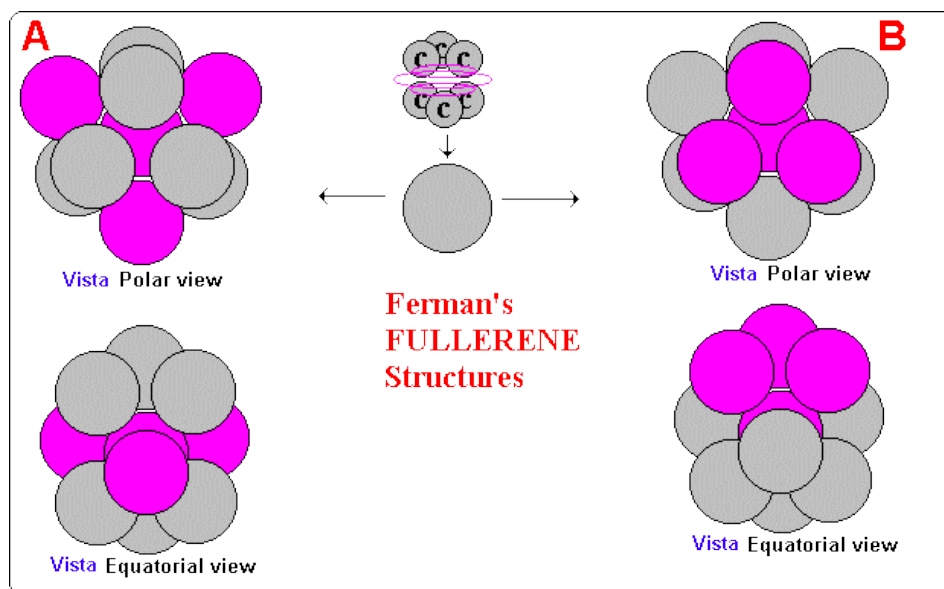
The first question to consider in diamond is its hardness and crystalline structure are due to **each diamond forms a single molecule** of carbon.

When staying united all their atoms for covalent bonds in their two directions (Cis-Trans) they are constituted in a single three-dimensional molecule that gives diamond its hardness and its crystalline state. Diamond consists of hexa groups, which are constituted by a double covalent bond (benzene type): A common bond for all the atoms and a particular bond for each triad.

Apart from this, the hexa group are united among them in the following way: Each atom of the hexa groups is united by its external side with a simple connection to another hexa group forming a carbonic net in which all its connection positions are occupied.

Summarizing, each atom of carbon give two electrons for covalent bonds: one for the benzene nucleus and another for the union with another different group. In the change, this atom receives six covalent orbits for its three bonds (each covalent bonds uses two common orbits).

### Fullerene



At the moment fullerene (C 60) is considered as a globular molecule, which is formed by hexa molecules similar to benzene.

The main reason is that fullerene gives us a single signal of Nmr-spectrun (very debatable question as we will see), and however few clear and unquestionable reasons are ignored, which tell us that its structure cannot be spherical-globular but spherical-compact, as my theory expose.

The main reason to underrate the globular structure is simple and clear: Its density. As we see in the chapter of molecular porosity, the density of any material is directly proportional to the atomic weight of their atoms and inversely proportional to the porosity of molecules and material.

Therefore if we divide the atomic weight of the element that composes the material for the porosity of the same one, we will have its density.

What happens with fullerene? Because to be composed for carbon its relative atomic weight would be  $13/16 = 0,8$  and its porosity according to their own discoverers (structure) and specialists are very high.

Therefore, its density in the event of being globular would be inferior to  $0,3 \text{ g-cm}^3$ . But its real density is five times bigger (1,65), for what fullerene would have of being a compact carbonic compound.

In the same way, a globular fullerene in a void bubble should consist and so it has to got many holes and empty spaces, and so that, it cannot has bigger density than nitrogen, oxygen or liquid air.

So, fullerene cannot be globular; it must be compact wherever that is its structural form. Its globular form would also have all the connection positions occupied by its neighbouring atoms and so, fullerene could not react with other elements. We know that it is not this way.

On the other hand, the Nmr-spectrum signal what tells us is that all the carbons have the same potential of resonance, but if these carbons form spherical structures and they also have the same connections they also should of giving us a single signal in the spectrum. That is to say, the Nmr signal can be debatable and very probably in both cases fullerene would give us a single signal. On the other hand, the tests against its globular form are unquestionable.

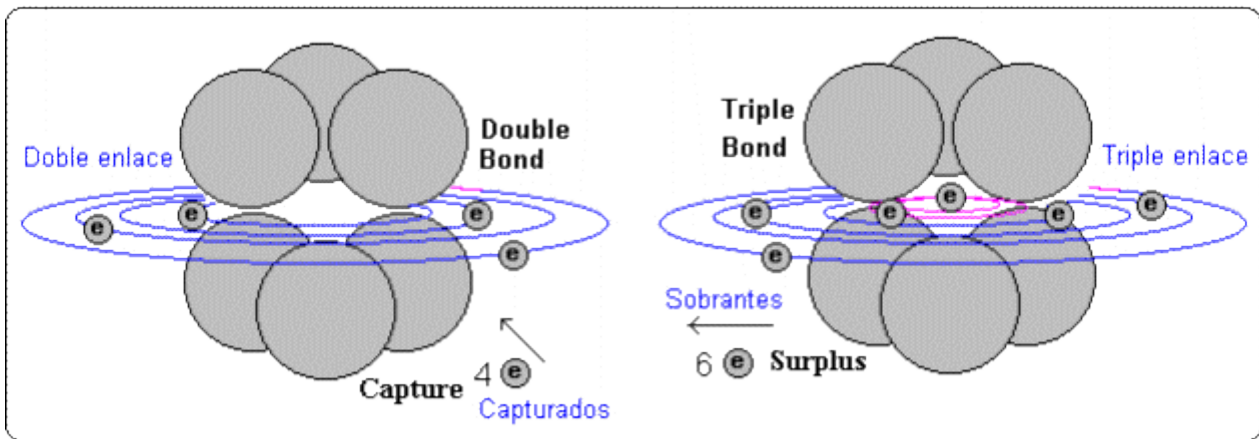
Other reasons against the globular form and that a the same time support my structural form are the followings:

--Fullerene accept only six halogen (if fullerene were globular it has to accept till ten) --The same occur with alkaline (only accept tree and more difficulty four) In my structural form, fullerene has six groups with surplus electrons and four groups with lack of electrons, one of them with difficult access.

In the drawing I show the most probable structure that I believe fullerene should have, but in any way, it is sure for me that fullerene is compact and not globular.

\_\_\_In the drawing we can see two possible forms of fullerene.

## Fullerene and Graphite

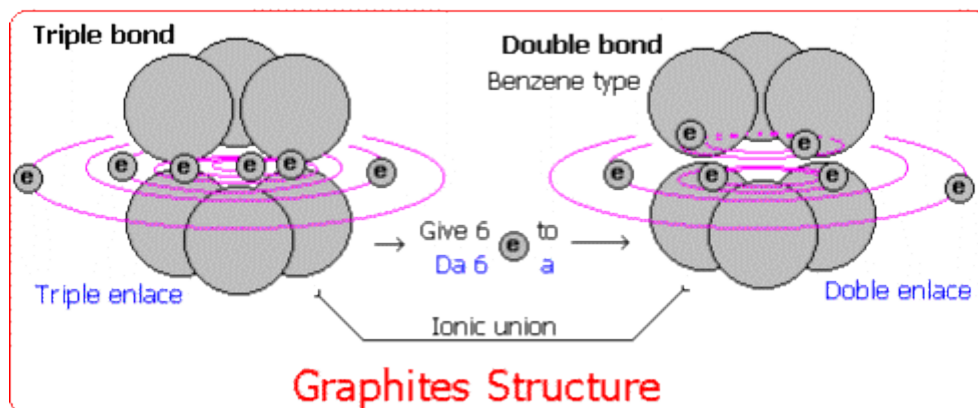


In the big molecules of pure carbon (without hydrogen) to build these molecules it is necessary to use electrons from these carbon atoms to compose the molecular bonds. This usually is got forming hexagonal structures (benzene type) and using two or more connection types, so that, while few hexa groups give other electrons, these other hexa capture the given electron to form their bonds.

This way, in the case of fullerene C60 seems that four hexa groups exist (central) with triple bonds that give six electrons each one. The other type composes six hexa groups of double bond that capture four electrons each ones. So, triples bonds give 24 electrons, which are captured for the double bond.

The molecular cohesion would be covalent among the carbon atoms of each hexa group and of ionic type among hexa groups, but very weak and delicate because all carbons maintain its own magnetic structure (and magnetic potential) and therefore their resultant signal Nmr should be equal in all them.

On the other hand the double bonds will have excess of electrons and they will be prone to give them what would propitiate their connections with halogens, while the triples bonds will contain less electrons and they will be favourable for the connections with alkaline.



Graphite is made up of pure carbon that has a double type of structure: One of covalent character by means of which groups of six carbons (benzene type) are formed. And another of ionic character by means of which these hexa unite for ionic action.

For it, some hexa groups have to give electrons to other groups to be able to form the corresponding bonds. It is gotten when forming some hexa groups with double bond and the other ones with triple bonds.

The hexas with triple bond (T) have six surplus electrons to give to the double bonds (D) that need of those six electrons.

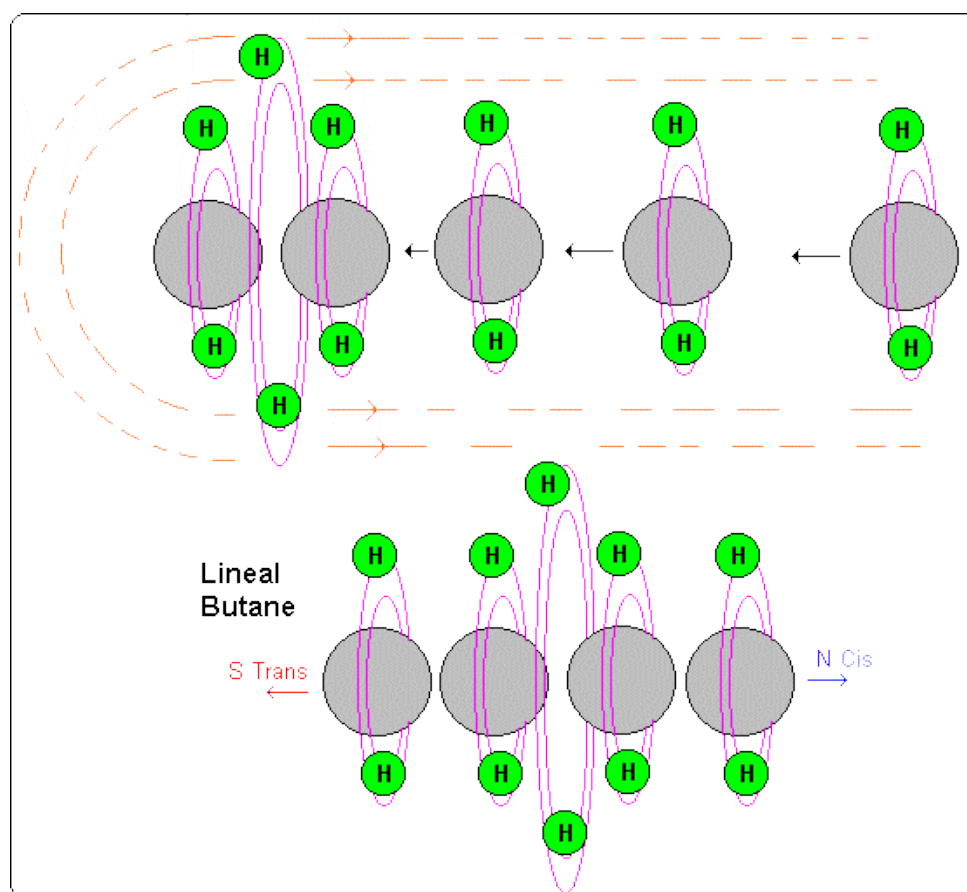
These groups when giving and accepting electrons, they acquire ionic character and they join alternating to form graphite (T-D-T-D-T-D.....).

I repeat again that any hexa groups have its magnetic potential almost balanced, and therefore, the cohesion among hexa groups is very weak.

Then, according to its environmental conditions of formation (pressure, temperature, etc.) graphite takes different structures, such as: spheres, spirals, tubular, lineal, etc. To more compression-more compact; while less compression-less compact.

## NMR Espectro

## Examples of covalent bonds



In the next pages I will try to give simple explanation of the signal of radio-frequency spectrum that produce the chemical elements, ever following the chemical structuring that supports my theories.

In first place we will see summarized as the lineal molecules are built. (of my book Covalent Compositions 1998)

As we see in the drawing, atoms are driven and coupled by the magnetic direction (N-S) that take place when atoms rotate on themselves. (It also happens so in the spherical molecules).

In the example that we put of saturated hydrocarbon, each carbon catches two atoms of hydrogen that are situated in the orbits 7 and 8. Other two atoms of hydrogen form the two covalence orbits (red lines) that are used by all the atoms of carbon to form their four acquired orbits 9 and 10.

We see also, as the two covalence atoms (two external hydrogen atoms) move along the chain to be located in the centre of the molecule. When a molecule contains very electro-negative atoms (or big atoms) the covalence atoms move toward these being located next to same ones, as we will see in ethanol. In the second drawing, we have the structure of the lineal butane.

The Nmr is a radio-frequency spectrum, which is the resultant signal that previously has been emitted through the molecular element that we want to study.

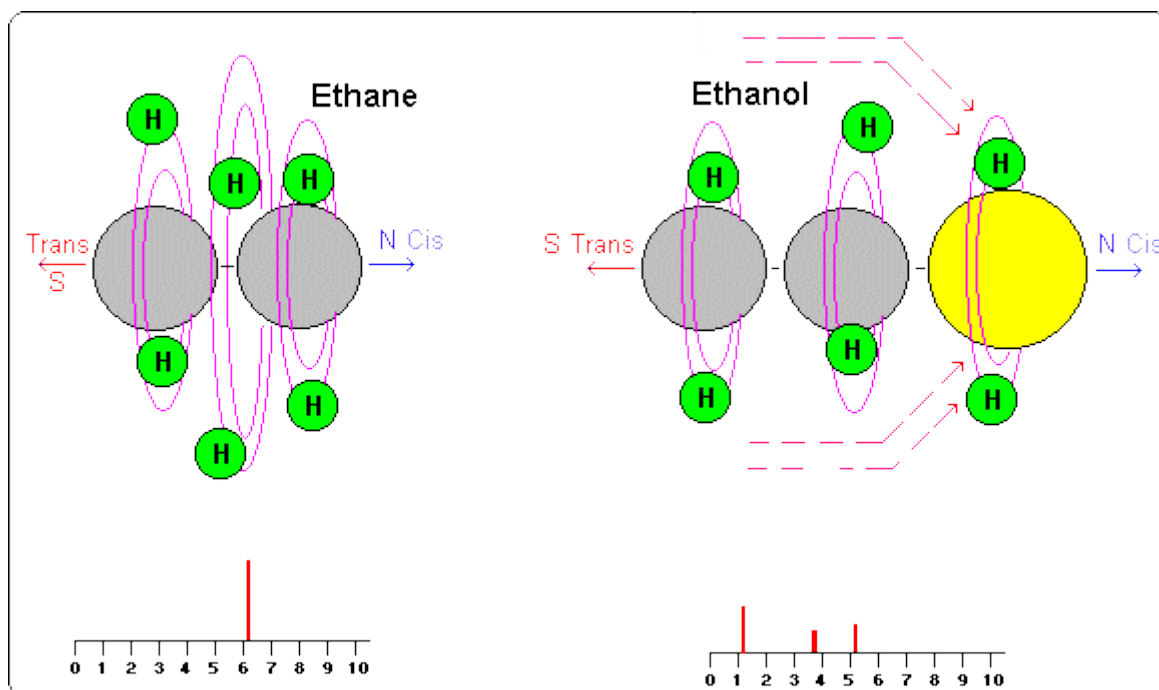
--All atoms rotate on themselves producing each one of them certain spinning frequency according to its magnitude. This spinning velocity produces magnetic fields around each atom with its particular frequency.

--When a radio-frequency signal is emitted through atoms, diverse resonances take place among this radio frequency with the magnetic frequencies of atoms.

--Knowing the resonance frequency of each atom we can study the structure of the molecules keeping in mind the signals emitted by these.

Diverse magnitudes and parameters exist to study the structure of the molecules, however as I differ of some of them I won't include them in this summary, which will consist of the explanations that I can give from my point of view only.

## Ethane, ethanol



In this chapter we have drawn firstly the ethane with its six atoms of hydrogen rotating on the carbons:

-Two particular for each carbon, and

-Two common to all carbon atoms that constitute the two orbits of covalence. These two common atoms of hydrogen that form the covalence orbits are those that can move along this covalence orbits toward the atoms more electronegative that could contain the molecules as we see in the following example of the drawing, ethanol.

In the ethanol the two covalence hydrogen atoms have been captured by the two external orbits of the oxygen atom since this it is very electronegative and so it has more potential of attraction than carbons.

NMR- spectrum

In the drawing of the ethane we see that the produced signal is of a single pick and located in 6 ppm what (as current postulates support) would mean that all the atoms of hydrogen are equivalent and they emit the same frequency.

However an atom of hydrogen usually produces a signal on 1,2 ppm, what would mean that the main reason to emit in 6 ppm is that all the atoms have a peculiar situation that makes them to vibrate jointly and to produce that increase of frequency.

In my opinion and as we see in the drawing, this would mean that they form a quasi-spherical cluster.

We will already see this same property in the benzene.

In the drawing of the ethanol we see three emission frequencies that theoretically would correspond to:

--Signal of 1,2 ppm corresponding to the exterior methyl group to be a group non-dependent neither affected by the other two.

--Sign of 3,7 ppm that would correspond to the hydrogen atoms of the central methyl group, which already is affected by the other two groups and mainly for the oxygen group that gives him an important gravitational increase and therefore an increase in their magnetic frequency.

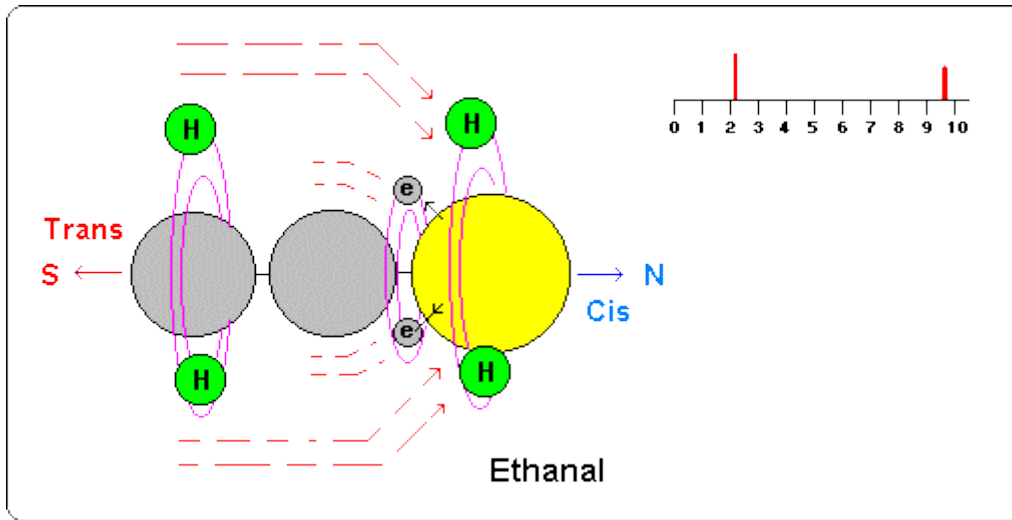
--Sign 5,1 ppm that would correspond the oxygen group, which develops a much more important gravitational potential and therefore it will give to "its" hydrogen atoms an important increase in their magnetic frequency.

We should remember that the magnetic increase in hydrogen atoms is given because these are inside the gravitational fields of the oxygen atom, and to be oxygen much bigger than carbon atoms, oxygen produce in hydrogen more magnetic fields and therefore more resultant frequency.

The same occur with other bigger or more electronegative atoms.

**Ethanal**





In the following drawing we contemplate to the ethanal, and as we see it has two covalence types:  
 --A general covalence for the whole group that are the atoms of hydrogen, which are more near to oxygen to be this more electronegative, and  
 --Another particular covalence for the central atom of carbon and for oxygen. Two electrons given by oxygen since there is not hydrogen enough for it support this particular covalence.

### NMR- Spectrum

In the drawing of ethanal the oxygen atom has given two electrons for the joining with the interior carbon, reason for that a bigger electronegative power takes place, attracting so more near of the oxygen to the hydrogen and carbon atoms.

Therefore a gravitational and magnetic increase of power takes place in all the atoms and therefore also a bigger magnetic frequency in each one of them takes place.

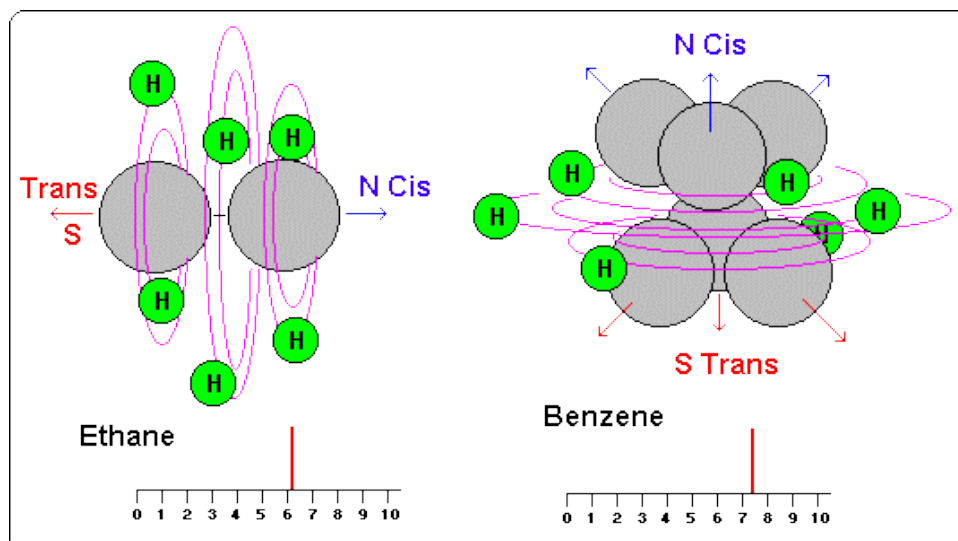
-The signal of 2,3 ppm corresponds to the exterior methyl group, which stay affected for the double bond of the second carbon with the oxygen, being located a little more near of this bond.

The result is increase of the magnetic frequency in hydrogen atoms, passing from 1,2 to 2,3 ppm.

-The signal of 9,8 ppm is produced by the hydrogen atoms that are located on the oxygen.

To be penetrated these hydrogen atoms much more into the gravitational and magnetic field of the oxygen, this produce a much bigger frequency as a result. It is it due to the approach among these hydrogen atoms, the central carbon and the oxygen for the fact of having given these two electrons.

### Benzene, ethane



In this drawing we see comparatively a lineal molecule, ethane; and a spherical molecule, benzene. They are compared here due to their similarity in both cases in the quasi-spherical situation of the hydrogen atoms that compose them, the same number of hydrogen atoms and also for their similarity in the resultant NMR signal.

One of the accepted postulates on the NMR signals is when alone a single signal exists for all the hydrogen atoms it is because all they are topographically equivalent. I think this statement is not complete.

That is:

--If all the hydrogen atoms of a molecule were topographically equals they should have a single signal, but with the same frequency (1,2 pm about) and whose value of width (intensity) should be multiple of the existent atoms in the molecule.

And this doesn't happen in ethane neither in benzene (6 and 7 pm).

In both cases a single signal exists but with a frequency multiple of the existent atoms.

This therefore should mean that atoms form in this case a quasi-spherical group, situated appropriately to vibrate in group (like an electric bobbin), taking so, a much bigger frequency than the one that would take of making it each atom for its side.

This point of view is also supported when two atoms of hydrogen that form a triad, or even a quartet, emit us a composed signal. This is because each atom gives us a signal for itself, but the same also gives us other signal adding its frequency with the one of another next atom.

Wrong questions:

To my to understand, a questions not well developed at the present time it is when we obtain a single signal of a chemical element and we give as only solution the topographical equivalence of the different atoms to measure.

I believe this is not this way usually.

A single signal could be due to two reasons:

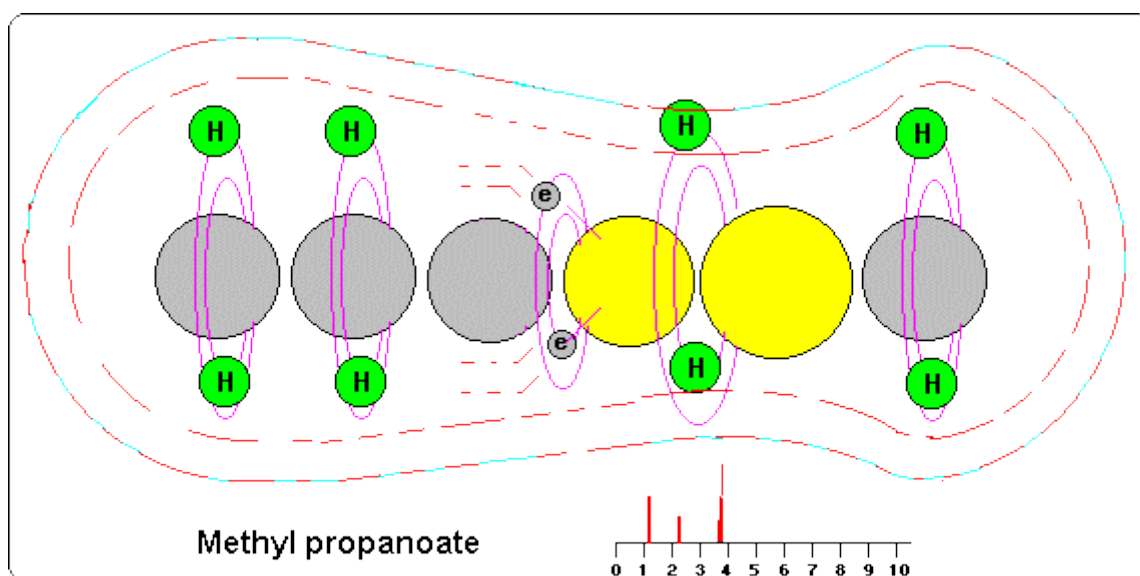
--1 - All atoms to measure are equivalent topographically.

In this case a single wave pick should result, but with the same frequency of a single atom and whose variation would be in the intensity of the oscillation not in its frequency.

--2.- The most common. All atoms to measure form a homogeneous group that vibrates jointly.

In this case we would obtain a single wave pick but whose frequency should be multiple value of the atoms to measure. (Ethane 6, ethene 4,4, ethyne 2,5, benzene 7, etc.)

### Exterior Layers



In this drawing we see the methyl-propane that we will use to understand better the situation of the covalence orbits (red lines), which form the external layer of the covalent molecules.

The covalence orbit (usually two) act for all and each ones of the atoms of the molecule and they consist on the union among the orbits 9 and 10 of each atom.



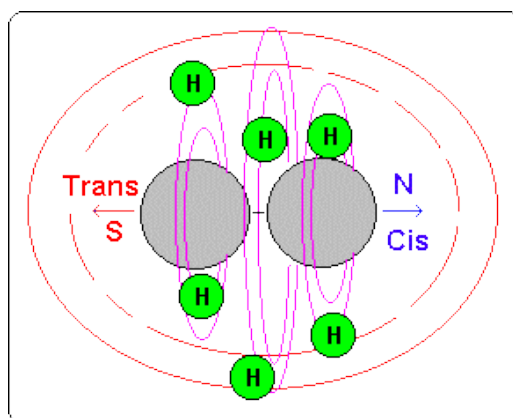
These orbits, which are common for all atoms, represent the layer or external "bark" of the molecule and their proximity toward the central axis (N-S) of the molecule depends on the type of atoms that in each place of that axis exists.

If we see the example of the drawing, we observe that in the atoms of carbon the covalence orbits are more distant than in oxygen because this has bigger gravitational power and their orbits are more compressed than in carbon. Therefore its orbits 9 and 10 are more near to the nucleus than in the atoms of carbon.

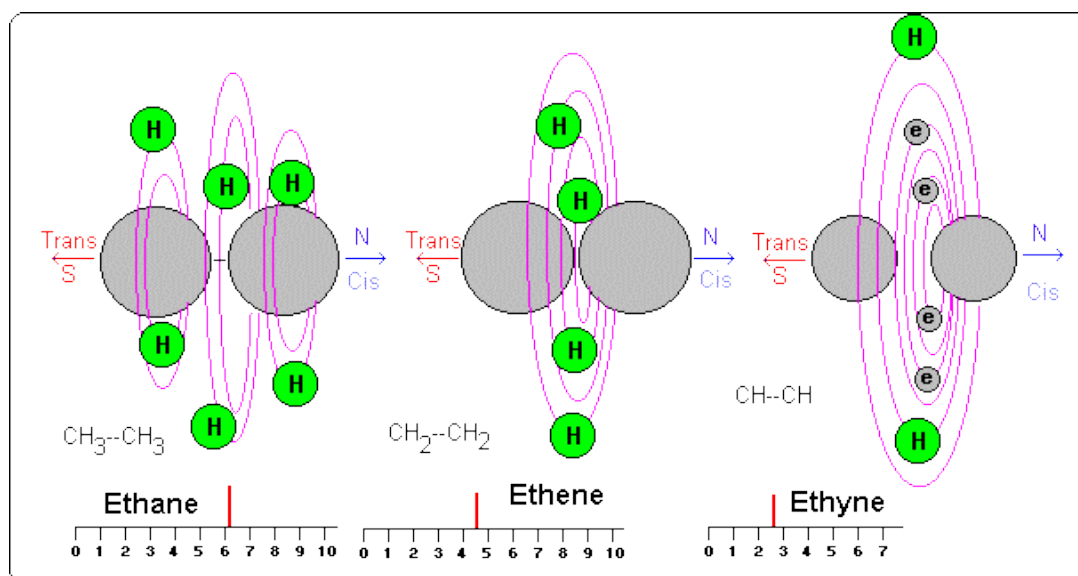
This circumstance makes that the atoms of hydrogen that circulate for these layers are attracted by the electronegative oxygen, so they are much nearer to the atomic nuclei than in the molecules where alone the carbon exists.

For this reason the hydrogen atoms near to oxygen (or other) they are inside bigger gravitational and magnetic fields that produce them a bigger magnetic power and therefore they develop a signal of more frequency.

In the next drawing we can also see the two exterior orbits of covalence (red) that represent an authentic layer or "bark" of this molecule.



**Ethane, ethane, ethyne**



In this page we see the three types of molecules that we can form with two carbons. --Ethane, which we have already seen previously and therefore we won't detail here.

--Ethene that contain a double connects that is supported by four atoms of hydrogen, and

--Ethyne or acetylene that contains three covalent connections; one is supported by two hydrogen atoms and other two connections are carried out by four electrons given from the atoms of carbon (each one contribute two electrons).

In the acetylene we have drawn the two atoms of carbon a little smaller, what means that these atoms have lost part of their volume when giving electrons, and therefore, when giving particular orbits to form common orbits.

## Nmr-Spectrum

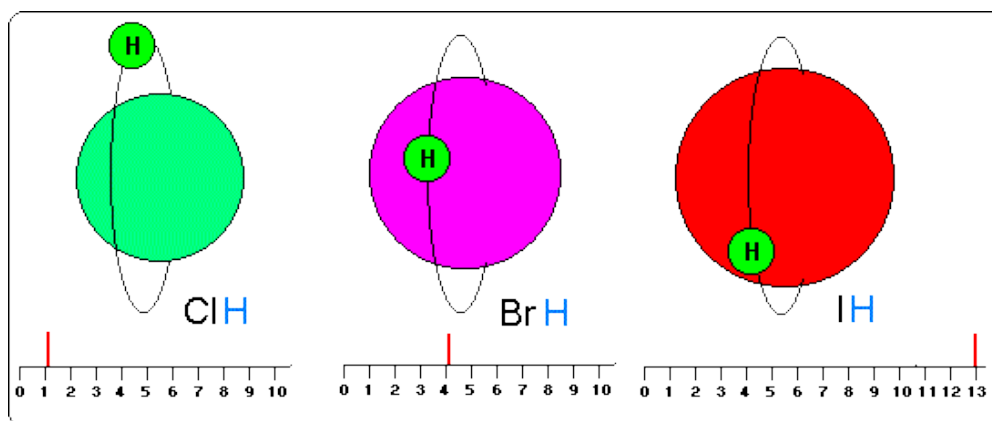
The ethane Nmr that is of 6 ppm, and as we already said, this take place for combined resonance of all the atoms of hydrogen due to its special situation.

In the ethene the value is of 4,4 what would mean that the double connection makes close a little more the atoms of hydrogen and possibly (like in the ethane) to produce resonance jointly among them arriving to these values.

In the acetylene (2,5 ppm) when having single two atoms of hydrogen their frequency of resonance it would be smaller, but when having triple connections the carbons would be more together and they would produce bigger influence on the hydrogen atoms.

Result: their frequency would be bigger than a methyl group (1,2) but smaller than a double connections of four hydrogen atoms (4,4), that is to say, its frequency is of 2.5.

### Electro-negativity y magnetic potential



To begin we can give a simple definition of both terms: "In the covalent molecules electro negativity is that situates and distributes to the hydrogen atoms, and the magnetic potential is the intensity of the magnetic fields of the place where they are situated and that gives hydrogen its magnetic potential and its level of frequency nmr."

The spin or turn of the hydrogen atoms is accelerated by the magnetic fields of other nearer atoms.

To bigger magnitude of an atom-bigger will be its magnetic potential and its spin frequency.

So, the proximity of the hydrogen to the big atoms produces bigger spin or turn frequency than proximity to small ones.

Therefore it is necessary to keep in mind both factors to be able to study the nmr signal.

--If an atom is very electronegative, this will attract very near the atoms of hydrogen.

--If an atom is of great magnitude, this will produce a high spin value in hydrogen.

Therefore we have to observe situation of the hydrogen atoms and magnetic potential in this position due to the magnitude of the nearest molecular atoms.

Beside, electro-negativity only influence on the hydrogen atoms because alone they are attracted on the electronegative ones to be hydrogen orbital behaviour.

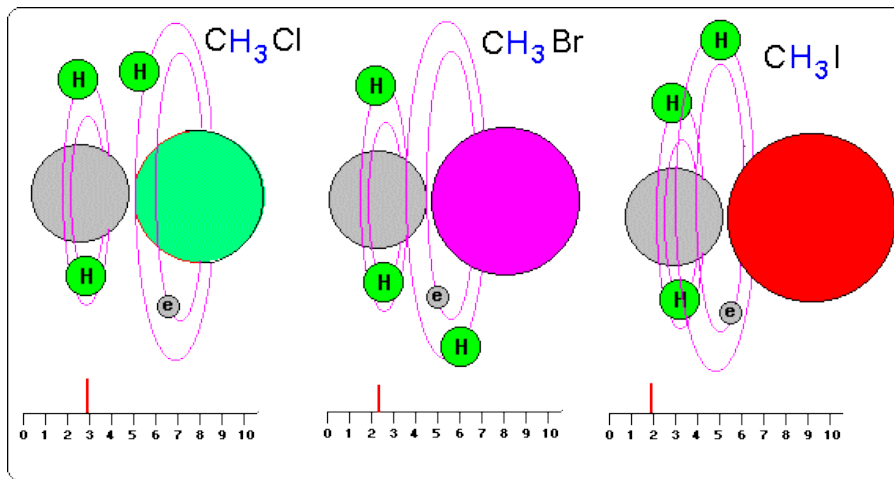
On other atoms only the magnetic potential acts. So that, for other atoms we have to be in mind proximity, magnitude, grouping shape and cluster number of these atoms, but not electro-negativity.

In the drawing of this chapter we see firstly influence that the magnitude of the atoms of a molecule produces on the hydrogen atoms that occupy their saturation orbits.

It is shown in this drawing the halogen acids of a single component and a single atom of hydrogen for their saturation (ClH, BrH and IH).

We observe that to bigger magnitude of an atom-bigger magnetic influence on the hydrogen and bigger turn frequency or spinning. But also, and because the orbits of big atoms are more compressed, the hydrogen atoms are more near to the nucleus in the big atoms than in the smallest ones.

Therefore and summarizing, to bigger magnitude of the atoms of the molecule--bigger magnetic potential transmitted to the atoms of hydrogen, taking place in them a bigger turn frequency or spin (nmr signal ).



Another important factor to keep in mind is the orbits ( free to be occupied by hydrogen ) that each atom has:

--If this atom has many orbits to occupy, it means that the last orbits will be very far from the atomic nucleus and it will exercise very little influence on the hydrogen atoms.

Example, carbon with its four orbits.

--If this atom has few orbits to occupy, then the orbits (or orbit) will be very close and the atomic nucleus will exercise a lot of influence on the hydrogen atoms. Example the fluorine and chlorine that alone have one.

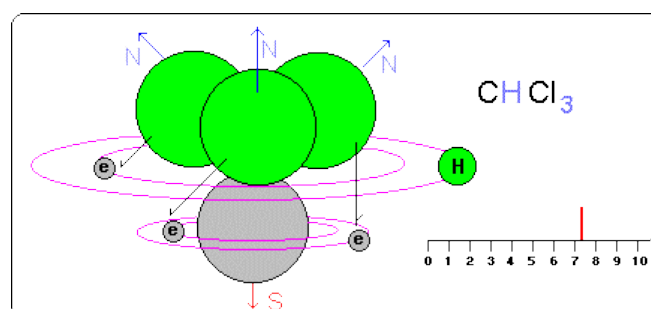
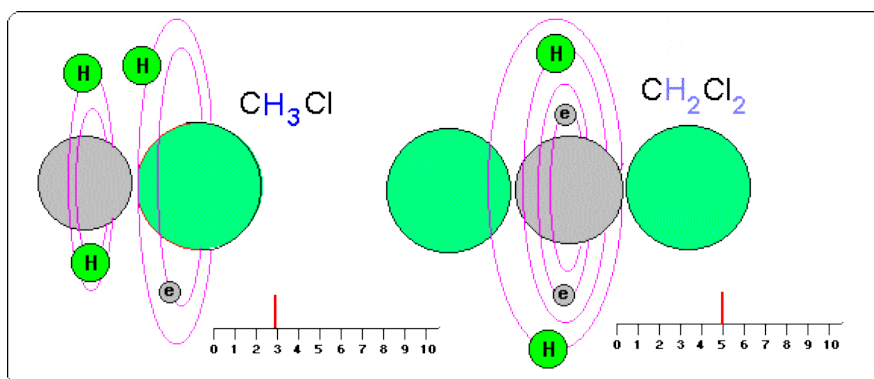
---With object of studying influence of the electro-negativity in the situation of the atoms of hydrogen in the covalent connections, in this drawing we observe three compounds, methyl with halogens ( $\text{CH}_3\text{Cl}$ ,  $\text{CH}_3\text{Br}$ ,  $\text{CH}_3\text{I}$ ).

We remember that the direct influence of electro-negativity is of locating to the hydrogen atoms into the more electronegative places of the molecule, but not of powering its turn frequency.

Nevertheless, indirectly they can influence since they place them in very near positions to the nuclei of the electronegative atoms and these nuclei influence in the spin of the atoms of hydrogen.

In the drawing we see as in molecules with carbons the more electronegative atoms (p.e. Cl) situate to hydrogen more near to them than of the carbon atoms, increasing their spin potential.

On the other hand in the less electronegative atoms, hydrogen are more far from them and more near the carbons and therefore hydrogen atoms are less influenced and with less spin.



# Amino-acid and Nucleotides

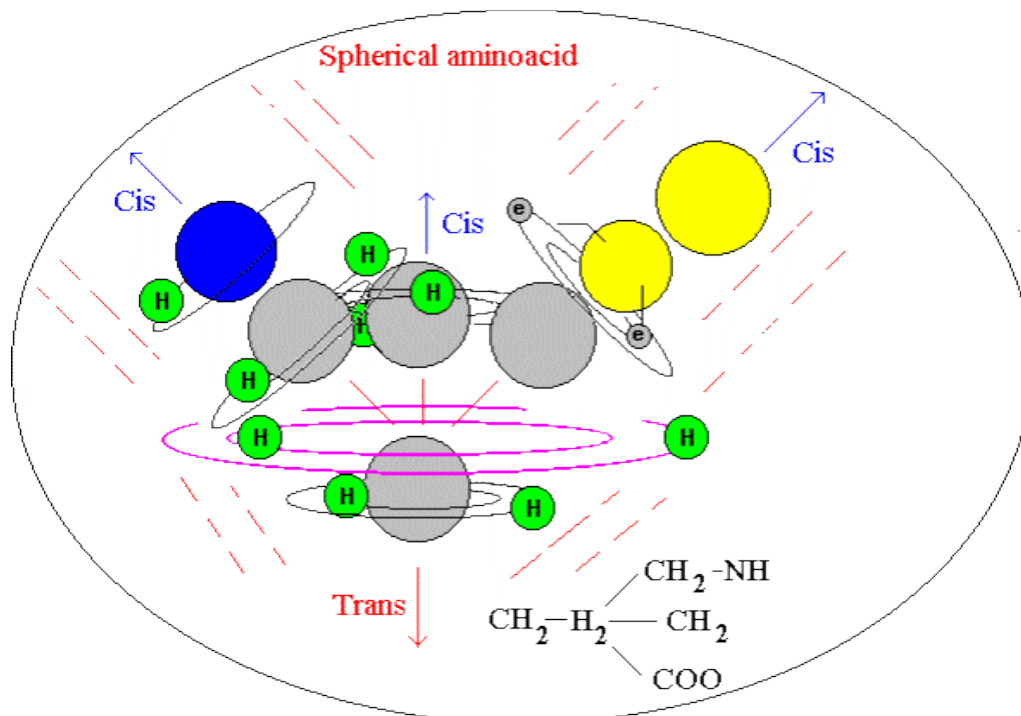
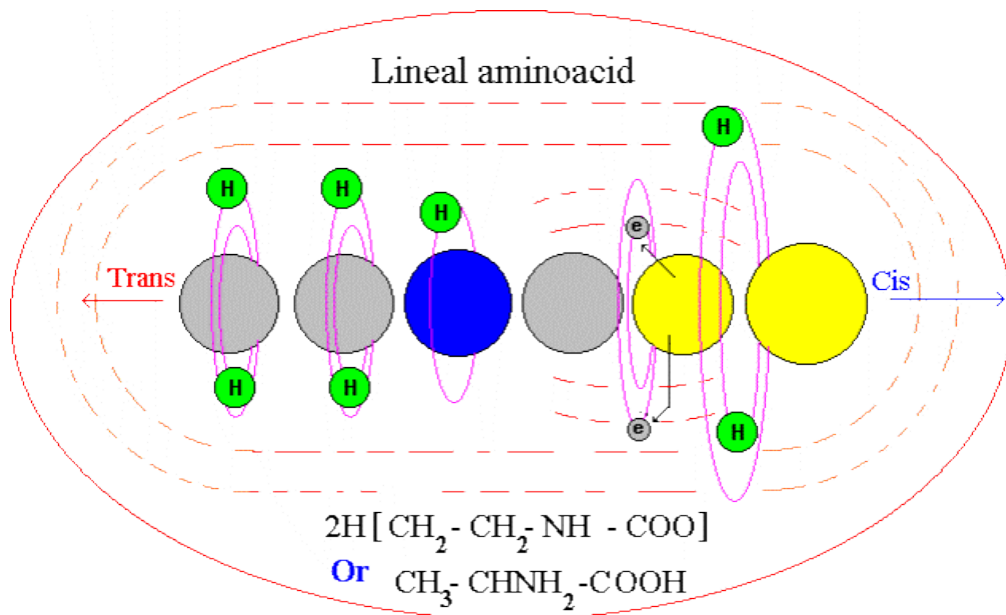
We already know that amino-acids are formed by molecules that hold an amine and an acid correctly situated.

As for this theory of spherical structuring, amino-acid are molecules in which the amine function is of structuring, stabilize and fit the molecule. And the acid function is to combine y form amino-acids groups with object of building proteins and the alive material.

So, as the main mission of this theory is to show the molecular structures, we only expose the forms that this molecules have, so much in their tetra form as in the hexa type.

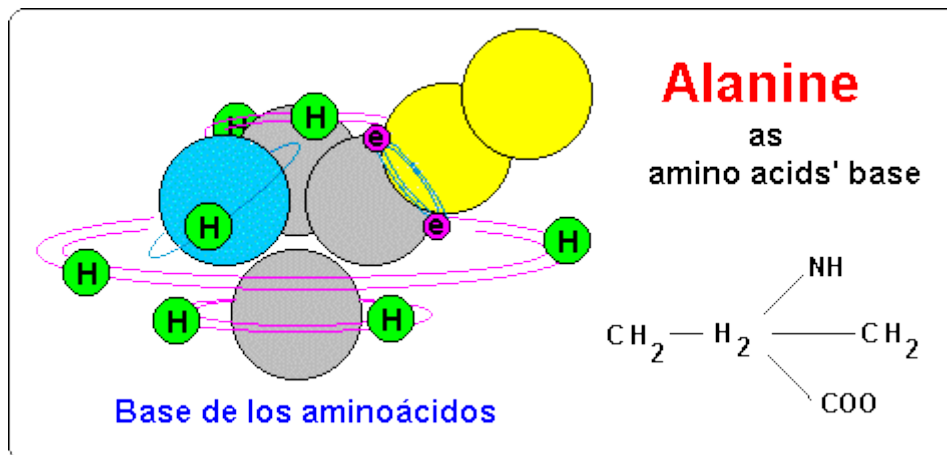
## Lineal y tetra forms of amino-acids

In the drawing we show firstly examples of amino-acids in lineal and tetra form.



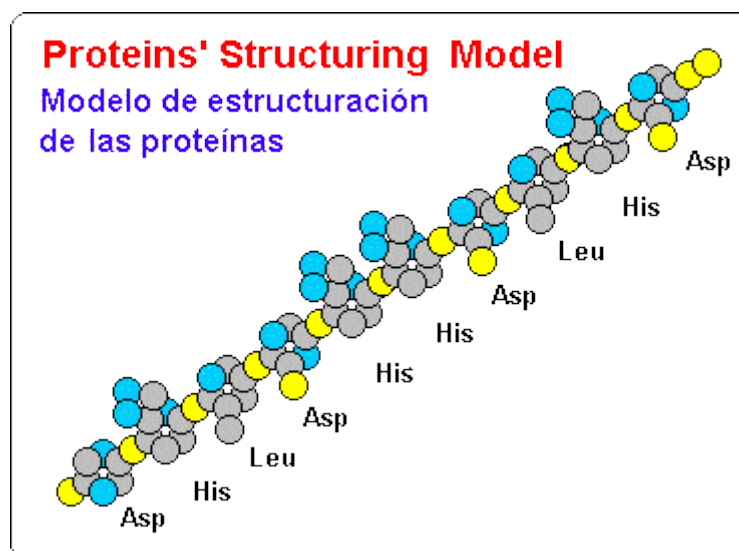
## Bases for the formation of amino-acids

We can see now the base for the formation of tetra amino-acids (Alanine), which can also derivate to hexas forms.



Later, in the nucleotides we will see samples of amino-acids and hexas structures.

In the next drawing, the theoretical form of structuring for proteins are exposed.

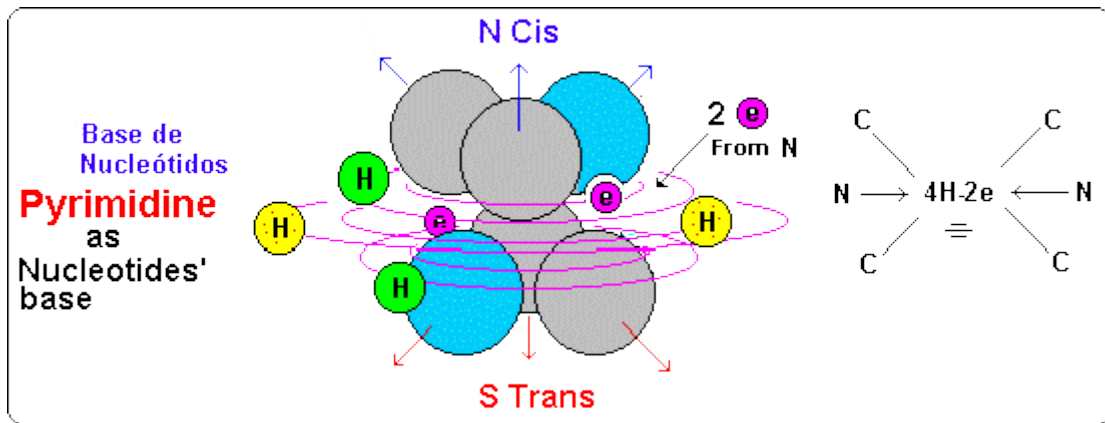


## Nucleotides

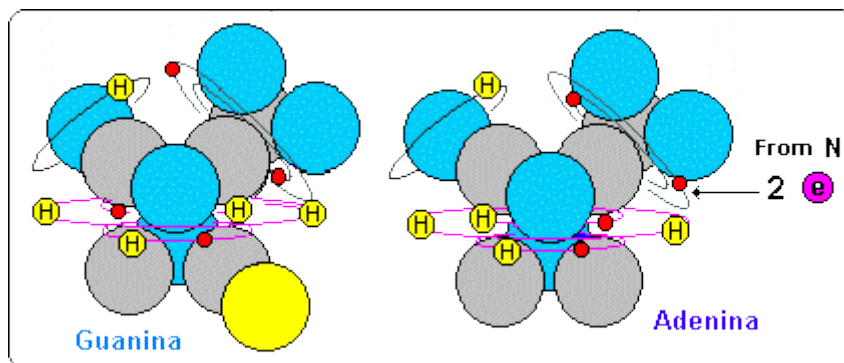
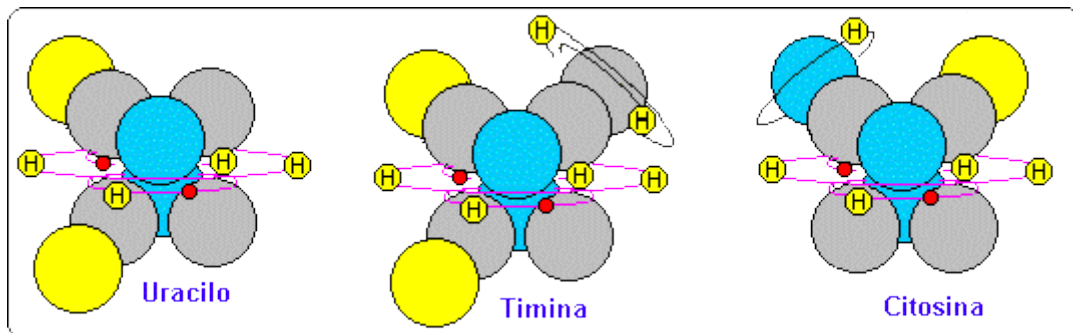
Nucleotides are the base molecules for the structuring and building of the genetic systems in the alive beings.

As we can see later, the genome determines the forms and characteristics that the alive beings have to hold. Also this genome manages the development and growing of these beings during all their existence. Here, I expose the types of molecules that are the base for the genetic structuring.

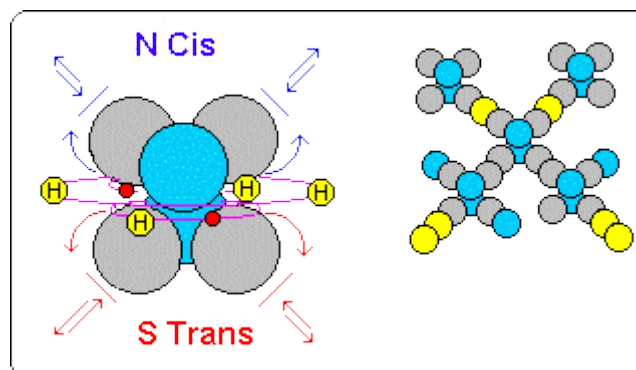
Firstly we have the base of nucleotides (pyrimidine)



And later we see in the following drawing the form of the two types of nucleotides. The hexa forms (Uracil, Thymine and cytosine). And later we can see the hexa-tetra compounds. (guanine and adenine)



An important characteristic in the spherical molecules and mainly in the nitrogen molecules as pyridine and pyrimidine (nucleosides) it is that a change of bond in any atom produce the change in the other homologous atoms (Cis or trans triads) when sharing the same bond the three atoms.



This property makes these spherical molecules can act as transistors or switches, in which case, a bond change in an atom can produce the reception or rejection of molecules in the other homologous bonds. This property makes them to produce the changes and molecular commutations that take place in the structuring and vital development.

# DNA: Genetic Code

We know DNA contains the genetic code that orders the development, growth and maintenance of the alive beings.

A double helical chain constitutes the DNA molecule. Two pair of nucleotides (T-A, C-G) form this chain, which would take inscribed the genetic code.

Therefore the genetic block of an alive being in a group of chromosomes (in turn formed by links or genes) consists. These chromosomes and genes are built by the mentioned nucleotides, which contain the genetic data according to its distribution in the chain.

Then the question would be: How does the genetic code work to get the development, growth and maintenance of the alive beings?

Well, next I expose summarized my deductions on the functional method of genetics. ---As we have said chromosomes consist of genes, each one of which has the mission of influencing in a certain element of the cells.

---Each gene in a code portion consists, which alone will be able to couple to a certain organ or element of a cell that have the same code of reception.

---In each **gene** we can distinguish **three characteristics: Code, AMP energy and nucleotides (T-A, C-G) accumulator-emitters of electrons.**

So, and simplifying the processes, we can say that: "A gene is a energy food pack or "combustible" with an access code for a certain element of the cell."

The mission of genes and therefore of DNA (or RNA) it is the one of to feed (energy) and to develop to the cellular elements. For example, to align amino acids, give energy to unite them (+OH<sub>2</sub>) and so to build proteins.

\_\_\_ Now well, when a fecundation takes place and the development of a new being begin, this would be the procedure:

---Firstly, by means of the fecundation, the common cells or mother cells are constituted.

This type of cells contains all the cellular elements that the alive being needs to be built. ---Each chromosome takes a development line or mother cell, and on her, this chromosome begins to emit its genes that will feed and develop alone to the elements of the mother cell that are useful for this concrete organ.

**Therefore with alone to feed and to develop the characteristic elements of each cellular organ is enough to create this organ since the other elements will disappear when not being fed.**

So, the essence of the development of an alive being is in the coordinated energy feeding of each one of its cellular elements (also reproduction inductors). And this coordination will be due to the classification of the genes in each chromosome and of the chromosomes in the genetic body group (genome).

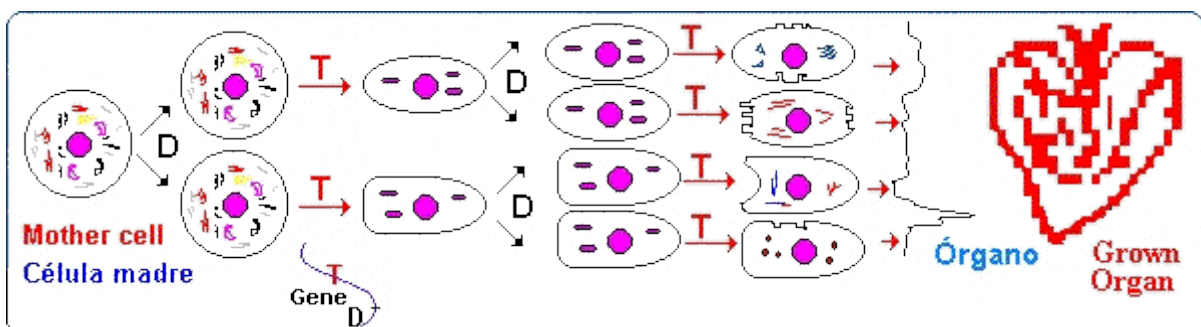
Then we can say that:

"The genetic functionality on the appropriate distribution of the energetic factors of growth and development (or genes) consists, all that by means of a particular access code for each element that will be inserted in the gene."

So, **Genetic Code means positions for coupling** with other cellular elements.

On the other hand, the development process from the cell mother until the organ to build would be the Duplication D of the cells followed by the Transformation T of the same ones, as we see in the drawing.

Duplication can be produced by mean of a pack of inductors of reproduction to get several offspring according to the organ's size. (xD = pack of inductors).





## DNA Structure

In this chapter we can see (very summarized) way for structuring the double helical chain of DNA, **following the rules of my spherical molecules theory**. Firstly, we have nucleosides (**Guanine, cytosine, adenine and thymine**).

Also, we can see **D-Ribose and ionic phosphate**.

Later, we see as nucleotides are built with union of nucleosides, phosphate and ribose.

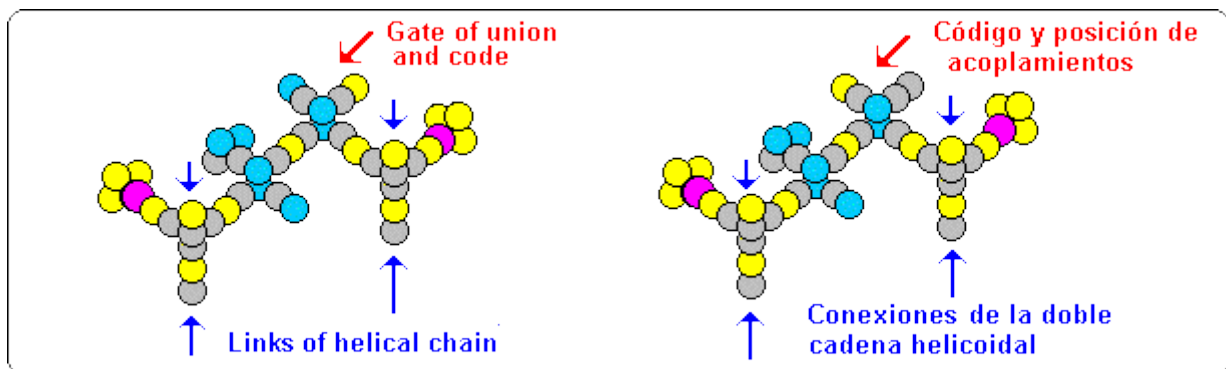
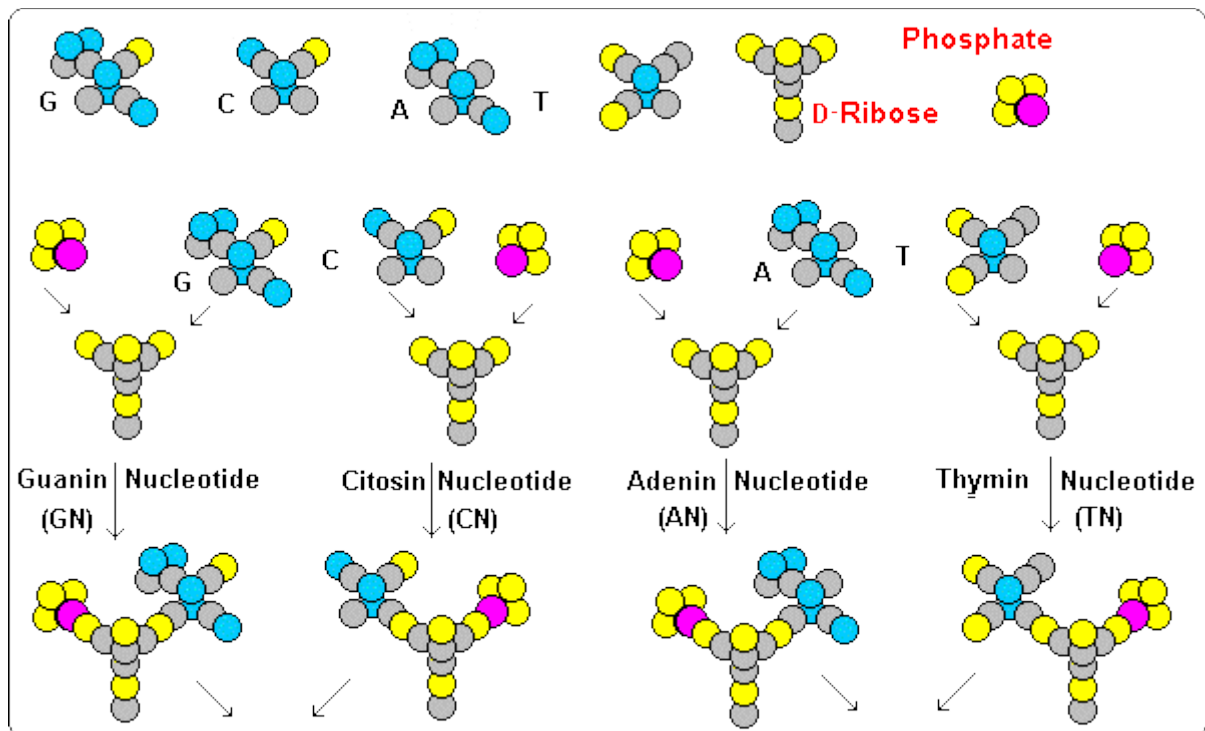
Then, we can contemplate as nucleotides unite to build the pairs of nucleotides G-C and A-T. Also we see the position of the genetic code and bonds to build the helical chain. And finally, we have the double helical chain built, in which we can see the position of the genetic code.

Also, in the last drawing, we can see how the helical chain can wind itself, due to the angle that ribose form.

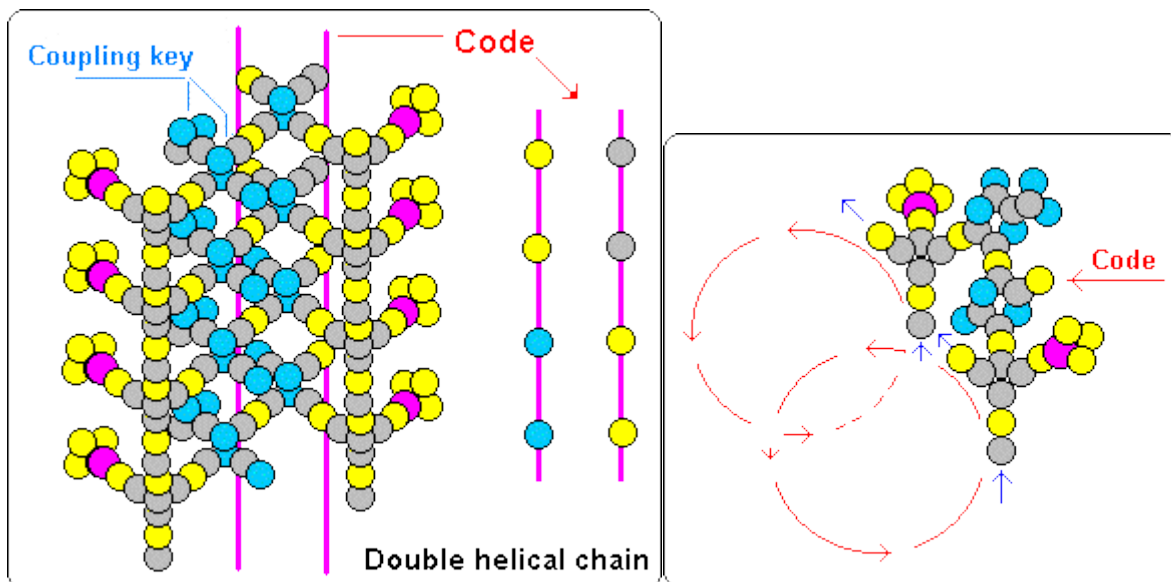
An **important question** we have to take in mind is that any atom has its particular behaviour.

So, carbon (brown) with oxygen (yellow) represent a gate or union point ( -- ).

Against, nitrogen (blue) represent a blockade direction ( O ).

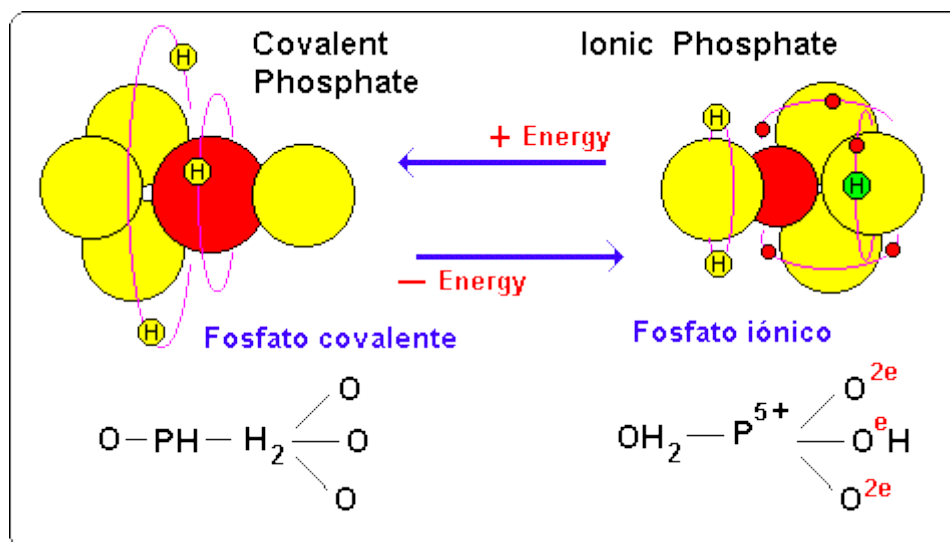






## Transference of energy and electrons

### Transference of energy



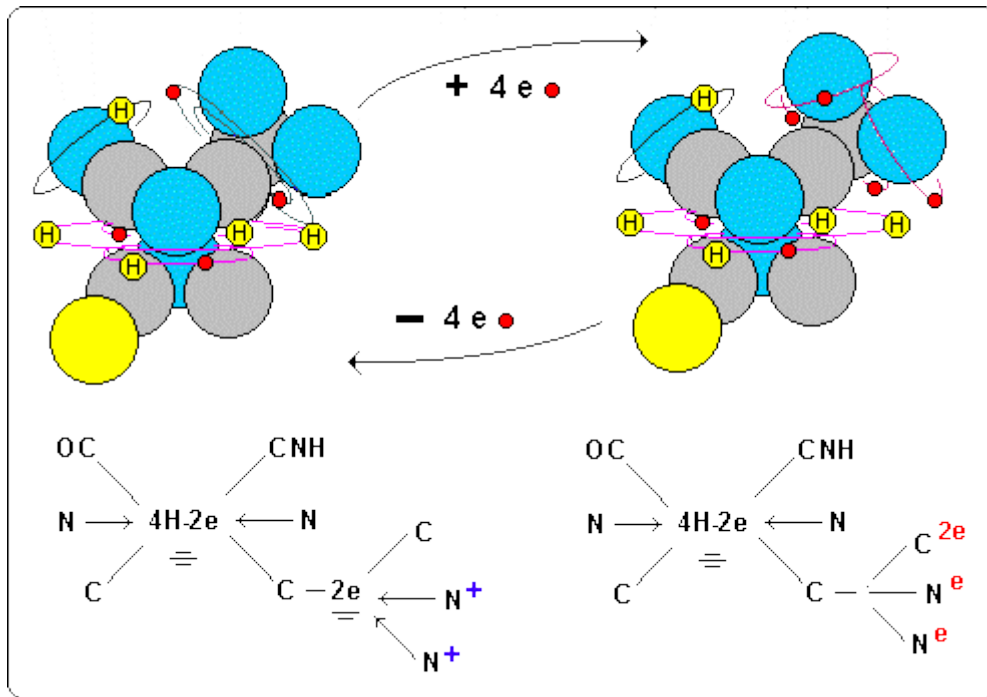
Biology uses phosphate as accumulator-emitters of energy due to the easiness that phosphate offers for changing from ionic state to covalent state and vice verse.

When changing covalent phosphate to ionic phosphate an important energy emission takes place due to the difference of molecular volume from a state to another.

Usually, covalent molecules have much more volume and therefore they contain much more energy, whereas the ionic molecules are smaller (here, due to the decrease that phosphorous suffers when losing five orbits) and they contain less energy.

It is due to **the characteristic and property of all atoms and molecules of containing the same energy density**. If its volume increases they absorb energy; if it diminishes they emit energy.

## electrons transfer



Many molecules can give or to admit electrons maintaining their structure almost invariable and therefore without to need neither to emit too much energy.

Tetras are example of it, which can change from a single bond to double bond or vice verse.

When they pass from double to single bond they catch four electrons, and if they pass from single to double bond they give four electrons.

Molecules with this connection type are usually used by biology as accumulator-emitters of electrons. (Adenine, Guanine, Nicotinamide...)

Therefore if we form a molecular group with sugars (to obtain energy), phosphates (to extract and to transfer energy) and electrons accumulator-emitters molecules (to propitiate the molecular works) we will have an authentic package of energy for biology development.