

Source: [\[KB20200823182634\]](#)

Others: [\[KB2020bio101retFreeAssociation\]](#) - Exr0n

Free associate: atoms, 2nd law of thermodynamics, energy, electronegativity, polarity, types of chemical bonds, lipid(s), carbohydrate(s), protein(s), amino acid(s), fold, enzyme.

Never done a free associate before, so lets see how this goes.

- Atoms
 - Exhibit electronegativity, which allows them to
 - Form molecules, which exhibits the property of polarity
 - Depending upon polarity, different types of bonds can be formed.
 - Covalent bonds are the bonds which peptides exhibit, the bond which joins amino acids, which form proteins when chained together.
 - These proteins then fold, and the way they fold is critical to their function.
 - Some of these functions are turning carbohydrates into ATP.
 - ATP is biological energy (along with some lipids which form fats), which is fundamental for reactions to occur.
 - A way of lowering the activation energy for reactions to take place is with enzymes.
 - This increases reaction rate, just like heat does.
 - Each of these reactions contributes to the inevitable heat death of the universe, due to the second law of thermodynamics
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****2nd law of thermodynamics

****Energy

****Electronegativity

****Polarity

****Types of chemical bonds

****Lipids

****Carbohydrates

****Protein

****Amino acids

****fold

****enzyme