

Astrobiology and the Search for Extra Terrestrial Life

The University of Edinburgh

Lecture Summary: The Structure of Life

The Structure of Life: Building Blocks

The fundamental elements that make up most of the compounds from which life is constructed:

- Carbon
- Hydrogen
- Nitrogen
- Oxygen
- Phosphorus
- Sulphur

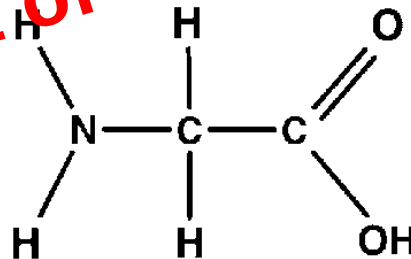
Other elements:

- Iron
 - Red blood cells
- Calcium
 - Forms phosphate structures that are part of all skeletons

Example:

Glycine

- An amino acid
- Made up of 2 carbon atoms, nitrogen, some hydrogen and oxygen
 - Also conforms to the idea of CHNOPS
- Carbon is the backbone of the molecule



About Amino Acids

- Amino acids linked in a long chain makes up a protein
- Can bind to other chains
- Can fold up in particular shapes
- Forms the complex diversity of complex molecules that make up life
- Amino acids are essential as building blocks for constructing the proteins in our cells