|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Functional Group** | **Properties** | **Structural Formula** | **Example** | **Found in** |
| **Hydroxyl** | **Polar** |  | http://cornellbiochem.wikispaces.com/file/view/Ethanol/172801857/694x442/Ethanol**Ethanol** | **Carbohydrates, proteins, nucleic acids, lipids** |
| **Carbonyl** | **Polar** |  | http://upload.wikimedia.org/wikipedia/commons/7/79/Acetaldehyde-2D-flat.png**Acetaldehyde** | **Carbohydrates, nucleic acids** |
| **Carboxyl** | **Polar, acidic** |  | http://upload.wikimedia.org/wikipedia/commons/f/fd/Acetic-acid-2D-flat.png**Acetic Acid** | **Proteins, lipids** |
| **Amino** | **Polar, basic** |  | http://upload.wikimedia.org/wikipedia/commons/6/62/Alanine.png**Alanine** | **Proteins, nucleic acids** |
| **Sulfhydryl** | **Slightly plolar** |  | http://upload.wikimedia.org/wikipedia/commons/5/5e/L-Cysteine.png**Cysteine** | **Proteins** |
| **Phosphate** | **Polar** |  | http://0.tqn.com/d/chemistry/1/0/R/t/phosphatefunctionalgroup.jpg**Glycerol Phosphate** | **Nucleic acids** |

**Identification Strategies**

1. Look for OXYGEN – if absent go to step 2
2. Single bonded OH HYDROXYL
3. Double bonded
4. If 2 oxygen CARBOXYL
5. If 1 oxygen CARBONYL
6. N present AMINO
7. S present SULFYDRYL
8. P present PHOSPHATE

# Identify the functional groups in the following compounds:

