

# [Aldehydes, ketones and saccharides essay sample](https://assignbuster.com/aldehydes-ketones-and-saccharides-essay-sample/)

[](https://assignbuster.com/)[Food & Diet](https://assignbuster.com/essay-subjects/food-n-diet/), [Alcohol](https://assignbuster.com/essay-subjects/food-n-diet/alcohol/)

Aldehydes – contains a carbonyl group at the end of the carbon chain.   
– RCOH

Ketones – contains a carbonyl group in the middle of the carbon chain.   
– RCOR

\* 2, 4-dinitrophenylhydrazine Test – Test for Carbonyl group   
\* Sodium Bisulfate Test- Test for Aldehydes and Methy Ketones   
\* White precipitate   
\* Ketones with more than 2 carbon – non-reactive   
\* Ketones with 2 carbons – slightly reactive

\* Schiff’s Test – Test for aldehydes   
\* Purple solution   
\* Formalin – positive   
\* Acetone (ketone)   
\* Benzaldehyde – positive   
\* Acetophenone (aromatic ketone)

\* Tollen’s Test – Test for aliphatic and aromatic aldehydes   
\* Silver mirror   
\* Formalin – positive   
\* Glucose – positive   
\* Benzaldehyde – positive   
\* Acetone

\* Fehling’s Test – Test for Aliphatic aldehydes   
\* Brick red precipitate (cuprous oxide)   
\* Formalin – positive   
\* Glucose – positive   
\* Benzaldehyde   
\* Acetone

\* Sodium Nitroprusside Test – Test for presence of acetone   
\* -Wine red solution

\* Iodoform Test – Test for Methyl Ketones   
\* Acetone – positive   
\* Ethyl methyl ketone – positive   
\* Ethyl acetate

\* Special test for Benzaldehyde   
\* Formation of crystals

\* Molisch Test – General test for Carbohydrates   
\* Violet ring (2nd layer)   
\* Glucose – positive   
\* Starch – positive   
\* Benzaldehyde

\* Bial’s Orcinol Test – Test for Carbohydrates   
\* 5 carbon – blue to green   
\* Ribose – green   
\* 6 carbon – brown   
\* Glucose – brown

\* Phenylhydrazine Test – Test for reducing sugars   
\* Osazone crystals   
\* Glucose – positive

\* Optical rotation – property of a substance that could rotate the plane of polarization of a beam of polarized light.

Carboxylic acid – RCOOH   
– React with strong bases (NaOH, KOH) to form water soluble salts.

\* Test for carboxylic acid   
\* Acetic acid – soluble in water and NaOH   
\* Stearic acid – insoluble in water and NaOH

\* Reaction with sodium carbonate   
\* Effervescence – release of carbon dioxide

\* Esterification   
\* Acetic acid + n-propyl alcohol → propyl acetate   
\* Benzoic acid + n-propyl alcohol → propyl benzoate

\* Reaction with Neutral FeCl3   
\* Acetic acid – red-orange precipitate   
\* Tartaric acid – effluence of red-orange precipitate

\* Special Test for tartaric and citric acid   
\* Citric acid – green solution → colorless solution   
\* Tartaric acid – brown solution → colorless solution

\* Hydroxamic test for esters   
\* Magenta or burgundy solution

\* Hydrolysis reactions   
\* Acetic anhydride – blue litmus paper → red litmus paper   
\*Acetamide – red litmus paper → blue litmus paper