

NCERT/CBSE CHEMISTRY CLASS 12 textbook

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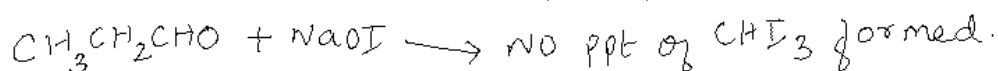
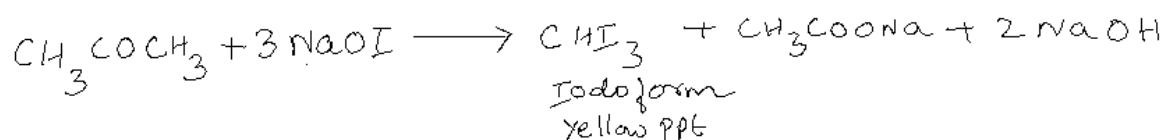
Answers to NCERT/CBSE Chemistry (Class XII) textbook

12.ALDEHYDES, KETONES AND CARBOXYLIC ACIDS

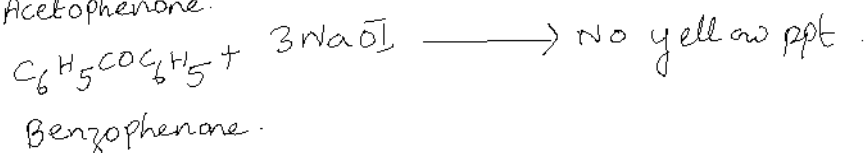
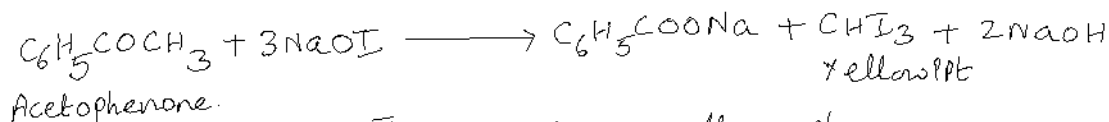
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Give simple chemical tests to distinguish between the following pairs of compounds.

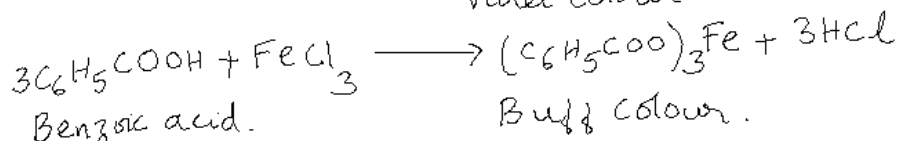
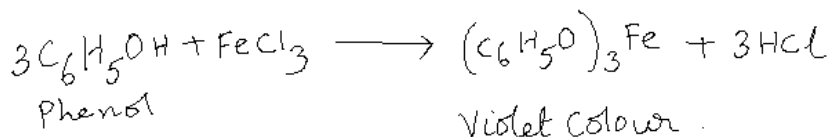
- (i) Propanal and Propanone :- Propanal and Propanone can be distinguished by iodoform test, Tollens reagent test and Fehlings solution test.
Iodoform test:- Propanal does not give iodoform when heated with I₂ and NaOH while propanone give iodoforms when heated with I₂ and NaOH.



- (ii) Acetophenone and Benzophenone :- Acetophenone has a methyl group and therefore gives iodoform reaction with I₂ and NaOH (NaOI), while benzophenone does not give iodoform reaction.



- (iii) Phenol and Benzoic acid :- Phenol and Benzoic acid can be distinguished by using FeCl₃ test. Phenol give a violet colour ppt with FeCl₃ while benzoic acid give a buff coloured ppt with FeCl₃

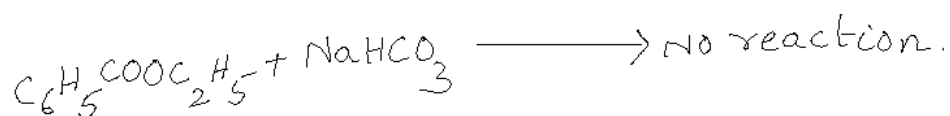
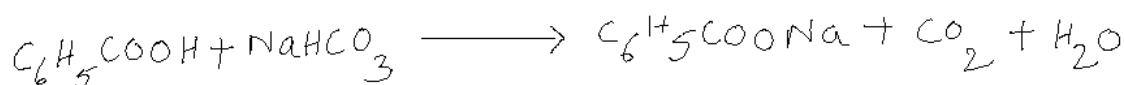


- (iv) Benzoic acid and Ethyl benzoate :- Benzoic acid and Ethyl benzoate can be distinguished by NaHCO₃ test. Benzoic acid gives a brisk effervescence with NaHCO₃ while Ethyl benzoate does not give a brisk effervescence with

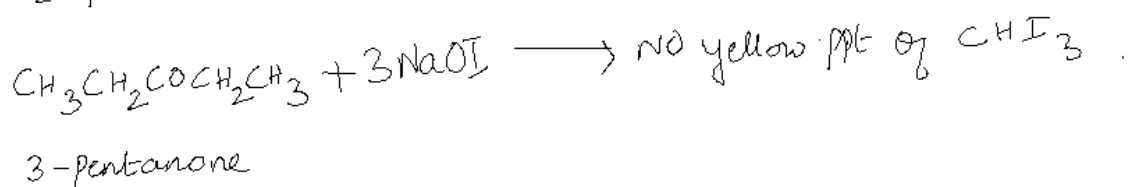
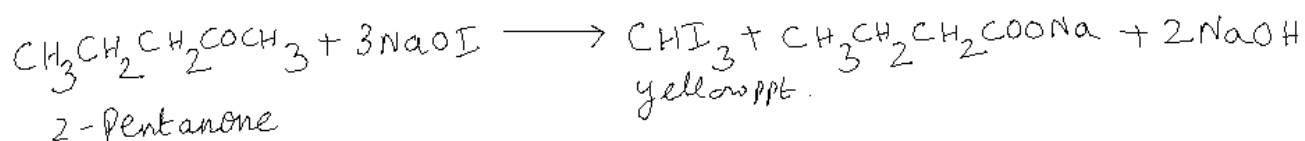
Please do not copy the answer given here

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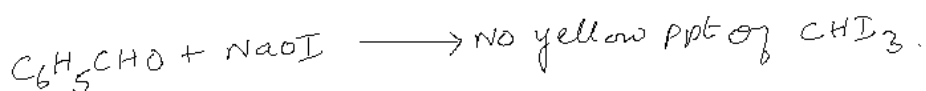
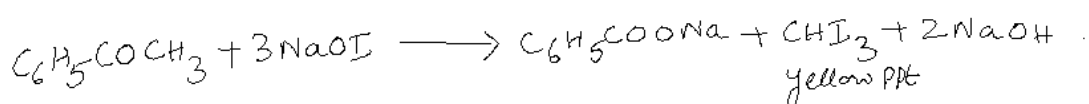
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 NaHCO_3 

(v) Pentan-2-one and Pentan-3-one :- 2-pentanone is a methyl ketone, therefore gives the iodoform test with I_2 and $NaOH$ ($NaOI$). 3-Pentanone does not give the iodoform test because it is not a methyl ketone.



(vi) Benzaldehyde and Acetophenone :- Benzaldehyde and Acetophenone can be tested by iodoform test. Acetophenone is a methyl ketone so it gives the iodoform test with I_2 and $NaOH$ ($NaOI$), while benzaldehyde does not give the iodoform test.



(vii) Ethanal and Propanal :- Ethanal and Propanal can be tested by iodoform test .Ethanal give iodoform when heated with I₂ and NaOH (NaOI) because it has the CH₃CO linked to H atom.Propanal does not have CH₃CO linked to H atom , so does not give iodoform test.

