

CHEMISTRY

BOOKS - KALYANI CHEMISTRY (ENGLISH)

DISTINCTION BETWEEN PAIRS OF COMPOUNDS

Questions

1. Distinction between pairs of compounds Ethane and Ethane or Acetylene.



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2. Distinction between pairs of compounds Ethylene and Acetylene.



But-1-yne and But-2-yne



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4. Distinction between pairs of compounds

Cyclohexane and Cyclohexene

- (a) Br_2 test.
- (b) Baeyer's reagent test.



Chloroform $(CHCl_3)$ and Carbon tetrachloride (CCl_4)



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6. Distinction between pairs of compounds $\hbox{Chlorobenzene } (C_6H_5Cl) \hbox{ and n-hexylchloride} \\ (C_6H_{13}Cl)$



Ethyl bromide (CH_3CH_2Br) and bromobenzene (C_6H_5Br)



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8. Distinction between pairs of compounds

3-Bromoprop-1-ene $(CH_2=CH-CH_2Br)$

and 1-Bromopropane $(CH_3CH_2CH_2Br)$.

- (a) Br_2 test.
- (b) Baeyer's reagent test.



- 9. Distinction between pairs of compounds
- 1, 1-Dichloroethane and 1, 2-dichloroethane.



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10. Distinction between pairs of compounds $\text{n-Propyl} \quad \text{iodide} \quad (CH_3CH_2CH_2I) \quad \text{and} \\ \text{isopropyl iodide} \ (CH_3CHICH_3)$



 (CH_3OH) and ethanol Methanol (CH_3CH_2OH)



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12. Distinction between pairs of compounds

Methanol (CH_3OH) and Phenol (C_6H_5OH)

- (i) Br_2 -water test.
- (ii) $FeCl_3$ test.
- (iii) Litmus test.



Phenol (C_6H_5OH) and Cyclohexanol

$$(C_6H_{11}OH)$$

- (i) Br_2 -water test.
- (ii) $FeCl_3$ test.



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14. Distinction between pairs of compounds

Propan-1-ol $(CH_3CH_2CH_2OH)$ and Propan-2-

ol $(CH_3CHOHCH_3)$



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15. Distinction between pairs of compounds

Butan-1-ol $(CH_3CH_2CH_2CH_2OH)$ and

butan-2-ol $\left(CH_3CHOHCH_2CH_3\right)$



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16. Distinction between pairs of compounds

Secondary butylalcohol

 $(CH_3CHOHCH_2CH_3)$ and tertiary butyl alcohol $\lceil (CH_3)_3 COH \rceil$

- (a) Lucas Test.
- (b) Iodoform test.



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17. Distinction between pairs of compounds Phenyl acetaldehyde $(C_6H_5CH_2CHO)$ and acetophenone $(C_6H_5COCH_3)$

(a) By the use of Tollens' reagent and Fehling

solution.

Iodoform Test.



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18. Distinction between pairs of compounds

Pentanal $(CH_3CH_2CH_2CH_2CHO)$ and

diethyl ketone $(CH_3CH_2COCH_2CH_3)$

(a) Fehling Solution test.

Tollens' reagent Test.



Diethyl Ketone $(CH_3CH_2COCH_2CH_3)$ and acetone (CH_3COCH_3)

(a) Iodoform test.

Sodium bisulfite test.



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20. Distinction between pairs of compounds Propanal (CH_3CH_2CHO) and Propanone (CH_3COCH_3)

(a) By the use of Tollens' reagent and Fehling

Solution.

(b) By iodoform test.



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21. Distinction between pairs of compounds Ethylamine $(CH_3CH_2NH_2)$ and diethylamine $(CH_3CH_2NHCH_2CH_3)$



22. Distinction between pairs of compounds Pentan-2-one, $(CH_3COCH_2CH_2CH_3)$ and pentan-3-one.



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23. Distinction between pairs of compounds $\hbox{Ethanol} \quad (CH_3CH_2OH) \quad \hbox{and} \quad \hbox{Phenol} \\ (C_6H_5OH)$



24. Distinction between pairs of compounds Ethanol (CH_3CH_2OH) and benzyl alcohol $(C_6H_5CH_2OH)$



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25. Distinction between pairs of compounds

Benzaldehyde (C_6H_5CHO) and acetone

- (CH_3COCH_3)
- (a) Tollens' reagent test.
- (b) Iodoform test.



Phenol (C_6H_5OH) and Acetic acid

 (CH_3COOH)

- (a) $FeCl_3$ test.
- (b) $NaHCO_3$ test.



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27. Distinction between pairs of compounds

Nitroethane $(C_2H_5NO_2)$ and ethyl nitrite

 (C_2H_5ONO)

 HNO_2 test.



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28. Distinction between pairs of compounds

Ethylamine $(C_2H_5NH_2)$ and Aniline

 $(C_6H_5NH_2)$



29. Distinction between pairs of compounds $\text{Methylamine } (CH_3NH_2) \text{ and dimethylamine } \\ (CH_3)_2NH$



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30. Distinction between pairs of compounds $\mbox{Benzoic acid } (C_6H_5COOH) \mbox{ and Phenol}$ $(C_6H_5OH) \mbox{}$

- (a) $FeCl_3$ test.
- (b) $NaHCO_3$ test.

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31. Distinction between pairs of compounds

Ethyl cyanide (CH_3CH_2CN) and ethyl isocyanide $\left(CH_3CH_2N \stackrel{=}{\longrightarrow} C\right)$



32. Distinction between pairs of compounds Acetaldehyde (CH_3CHO) and acetone (CH_3COCH_3)





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34. Distinction between pairs of compounds $\hbox{Chlorobenzene } (C_6H_5Cl) \hbox{ and benzyl chloride} \\ (C_6H_5CH_2Cl)$



35. Distinction between pairs of compounds $\hbox{p-chlorotoluene} \ \, (\hbox{p-}ClC_6H_4CH_3) \ \, \hbox{and} \ \, \hbox{benzyl}$ $\hbox{chloride} \ \, (C_6H_5CH_2Cl)$



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36. Distinction between pairs of compounds $(C_6H_5Cl) \qquad \text{and}$ chlorocyclohexane



Bromobenzene C_6H_5Br and benzyl bromide



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38. Distinction between pairs of compounds

Propanone (CH_3COCH_3) and ethanol



Ethanol (CH_3CH_2OH) and 1-Propanol $(CH_3CH_2CH_2OH)$



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40. Distinction between pairs of compounds

Ethyl alcohol and 2-propanol



Acetophenone $(C_6H_5COCH_3)$ and

benzophenone $(C_6H_5COC_6H_5)$



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42. Distinction between pairs of compounds

Aniline $(C_6H_5NH_2)$ and N-methylaniline



Aniline and Nitrobenzene



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44. Distinction between pairs of compounds

Aniline and N, N-dimethylaniline

- 1. Carbylamine test.
- 2. Reaction with Hinsberg's reagent.



Acetic acid and Acetone

Iodoform test.



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46. Distinction between pairs of compounds

Methanol and Ethanol



47. Distinction between pairs of compounds Methylamine and methylethylamine.



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48. Distinction between pairs of compounds Benzene and phenol.



49. Distinction between pairs of compounds n-Hexylamine and aniline



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Phenol and Benzyl alcohol.

- 1. Litmus Test.
- 2. Bromine water test.



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52. Distinction between pairs of compounds

Ethane and Ethane or Acetylene.



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Ethylene and Acetylene.



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54. Distinction between pairs of compounds

But-1-yne and But-2-yne



Cyclohexene and Cyclohexane

- (a) Br_2 test.
- (b) Baeyer's reagent test.



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56. Distinction between pairs of compounds

Chloroform $(CHCl_3)$ and Carbon

tetrachloride (CCl_4)



57. Distinction between pairs of compounds $\hbox{Chlorobenzene } (C_6H_5Cl) \hbox{ and n-hexylchloride}$ $(C_6H_{13}Cl)$



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58. Distinction between pairs of compounds

Ethyl bromide (CH_3CH_2Br) and

bromobenzene (C_6H_5Br)



3-Bromoprop-1-ene $(CH_2=CH-CH_2Br)$

and 1-Bromopropane $(CH_3CH_2CH_2Br)$.

- (a) Br_2 test.
- (b) Baeyer's reagent test.



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60. Distinction between pairs of compounds

1, 1-Dichloroethane and 1, 2-dichloroethane.



61. Distinction between pairs of compounds $\text{n-Propyl} \quad \text{iodide} \quad (CH_3CH_2CH_2I) \quad \text{and} \\ \text{isopropyl iodide} \ (CH_3CHICH_3)$



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Methanol (CH_3OH) and Phenol (C_6H_5OH)

- (i) Br_2 -water test.
- (ii) $FeCl_3$ test.
- (iii) Litmus test.



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64. Distinction between pairs of compounds

Phenol (C_6H_5OH) and Cyclohexanol

 $(C_6H_{11}OH)$

- (i) Br_2 -water test.
- (ii) $FeCl_3$ test.



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65. Distinction between pairs of compounds Propan-1-ol $(CH_3CH_2CH_2OH)$ and Propan-2ol $(CH_3CHOHCH_3)$



66. Distinction between pairs of compounds $(CH_3CH_2CH_2CH_2OH) \quad \text{ and }$

butan-2-ol $\left(CH_3CHOHCH_2C\overset{3}{H_3}
ight)$



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67. Distinction between pairs of compounds Secondary butylalcohol $(CH_3CHOHCH_2CH_3)$ and tertiary butyl alcohol $[(CH_3)_3COH]$

- (a) Lucas Test.
- (b) Iodoform test.



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68. Distinction between pairs of compounds $\hbox{Phenyl acetaldehyde } (C_6H_5CH_2CHO) \hbox{ and }$ acetophenone $(C_6H_5COCH_3)$

(a) By the use of Tollens' reagent and Fehling solution.

Iodoform Test.



Pentanal $(CH_3CH_2CH_2CH_2CHO)$ and

diethyl ketone $(CH_3CH_2COCH_2CH_3)$

(a) Fehling Solution test.

Tollens' reagent Test.



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70. Distinction between pairs of compounds Diethyl Ketone $(CH_3CH_2COCH_2CH_3)$ and acetone (CH_3COCH_3)

(a) Iodoform test.

Sodium bisulfite test.



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71. Distinction between pairs of compounds

Propanal (CH_3CH_2CHO) and Propanone

 (CH_3COCH_3)

(a) By the use of Tollens' reagent and Fehling

Solution.

(b) By iodoform test.



72. Distinction between pairs of compounds $\hbox{Ethylamine } (CH_3CH_2NH_2) \hbox{ and diethylamine } \\ (CH_3CH_2NHCH_2CH_3)$



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73. Distinction between pairs of compounds Pentan-2-one, $(CH_3COCH_2CH_2CH_3)$ and pentan-3-one.



74. Give one chemical test to distinguish between pair of compounds

Formic acid and acetic acid.



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75. Distinction between pairs of compounds

Ethanol (CH_3CH_2OH) and Phenol

 (C_6H_5OH)



76. Distinction between pairs of compounds Ethanol (CH_3CH_2OH) and benzyl alcohol $(C_6H_5CH_2OH)$



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77. Distinction between pairs of compounds

Benzaldehyde (C_6H_5CHO) and acetone

- (CH_3COCH_3)
- (a) Tollens' reagent test.
- (b) Iodoform test.



Phenol (C_6H_5OH) and Acetic acid

 (CH_3COOH)

- (a) $FeCl_3$ test.
- (b) $NaHCO_3$ test.



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79. Distinction between pairs of compounds

Nitroethane $\left(C_2H_5NO_2
ight)$ and ethyl nitrite

 (C_2H_5ONO)

 HNO_2 test.



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80. Distinction between pairs of compounds

Ethylamine $(C_2H_5NH_2)$ and Aniline

 $(C_6H_5NH_2)$



81. Distinction between pairs of compounds $\text{Methylamine } (CH_3NH_2) \text{ and dimethylamine } \\ (CH_3)_2NH$

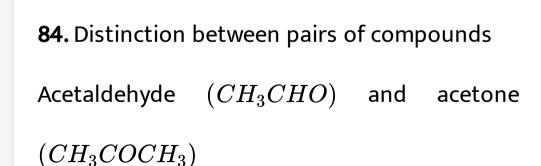


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- (a) $FeCl_3$ test.
- (b) $NaHCO_3$ test.

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83. Distinction between pairs of compounds $\hbox{Ethylamine } (CH_3CH_2NH_2) \hbox{ and diethylamine } \\ (CH_3CH_2NHCH_2CH_3)$







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86. Distinction between pairs of compounds $\hbox{Chlorobenzene } (C_6H_5Cl) \hbox{ and benzyl chloride} \\ (C_6H_5CH_2Cl)$



87. Distinction between pairs of compounds p-chlorotoluene (p- $ClC_6H_4CH_3$) and benzyl chloride $(C_6H_5CH_2Cl)$



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88. Distinction between pairs of compounds $\hbox{Chlorobenzene} \qquad (C_6H_5Cl) \qquad \hbox{and}$ $\hbox{chlorocyclohexane}$



Bromobenzene C_6H_5Br and benzyl bromide



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90. Distinction between pairs of compounds

Propanone (CH_3COCH_3) and ethanol



Ethanol (CH_3CH_2OH) and Phenol (C_6H_5OH)



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92. Distinction between pairs of compounds

Ethyl alcohol and 2-propanol



Acetophenone $(C_6H_5COCH_3)$ and

benzophenone $(C_6H_5COC_6H_5)$



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94. Distinction between pairs of compounds

Aniline $(C_6H_5NH_2)$ and N-methylaniline



Aniline and Nitrobenzene



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96. Distinction between pairs of compounds

Aniline and N, N-dimethylaniline

- 1. Carbylamine test.
- 2. Reaction with Hinsberg's reagent.



Acetic acid and Acetone

Iodoform test.



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98. Distinction between pairs of compounds

Methanol and Ethanol



99. Distinction between pairs of compounds Methylamine and methylethylamine.



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100. Distinction between pairs of compounds Benzene and phenol.



101. Distinction between pairs of compounds n-Hexylamine and aniline



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102. Distinction between pairs of compounds $\hbox{Propanol } (CH_3CH_2CH_2OH) \hbox{ and Propanone } \\ (CH_3COCH_3)$



Phenol and Benzyl alcohol.

- 1. Litmus Test.
- 2. Bromine water test.



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104. Distinction between pairs of compounds

Ethane and Ethyne or Acetylene.



Ethylene and Acetylene.



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106. Distinction between pairs of compounds

But-1-yne and But-2-yne



Cyclohexane and Cyclohexene

- (a) Br_2 test.
- (b) Baeyer's reagent test.



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108. Distinction between pairs of compounds

Chloroform $(CHCl_3)$ and Carbon

tetrachloride (CCl_4)



109. Distinction between pairs of compounds $\hbox{Chlorobenzene } (C_6H_5Cl) \hbox{ and n-hexylchloride} \\ (C_6H_{13}Cl)$



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110. Distinction between pairs of compounds

Ethyl bromide (CH_3CH_2Br) and

bromobenzene (C_6H_5Br)



3-Bromoprop-1-ene $(CH_2=CH-CH_2Br)$

and 1-Bromopropane $(CH_3CH_2CH_2Br)$.

- (a) Br_2 test.
- (b) Baeyer's reagent test.



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112. Distinction between pairs of compounds

1, 1-Dichloroethane and 1, 2-dichloroethane.



113. Distinction between pairs of compounds $\hbox{n-Propyl} \quad \hbox{iodide} \quad (CH_3CH_2CH_2I) \quad \hbox{and} \\ \hbox{isopropyl iodide} \ (CH_3CHICH_3)$



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114. Distinction between pairs of compounds $(CH_3OH) \quad \text{and} \quad \text{ethanol}$ (CH_3CH_2OH)



Methanol (CH_3OH) and Phenol (C_6H_5OH)

- (i) Br_2 -water test.
- (ii) $FeCl_3$ test.
- (iii) Litmus test.



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116. Distinction between pairs of compounds

Phenol (C_6H_5OH) and Cyclohexanol

 $(C_6H_{11}OH)$

- (i) Br_2 -water test.
- (ii) $FeCl_3$ test.



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117. Distinction between pairs of compounds Propan-1-ol $(CH_3CH_2CH_2OH)$ and Propan-2ol $(CH_3CHOHCH_3)$



Butan-1-ol $(CH_3CH_2CH_2CH_2OH)$ and butan-2-ol $\left(CH_3CHOHCH_2CH_3\right)$



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119. Distinction between pairs of compounds Secondary butylalcohol $(CH_3CHOHCH_2CH_3)$ and tertiary butyl alcohol $\lceil (CH_3)_3COH \rceil$

- (a) Lucas Test.
- (b) Iodoform test.



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120. Distinction between pairs of compounds

Phenyl acetaldehyde $(C_6H_5CH_2CHO)$ and

acetophenone $(C_6H_5COCH_3)$

(a) By the use of Tollens' reagent and Fehling solution.

Iodoform Test.



Pentanal $(CH_3CH_2CH_2CH_2CHO)$ and diethyl ketone $(CH_3CH_2COCH_2CH_3)$

(a) Fehling Solution test.

Tollens' reagent Test.



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122. Distinction between pairs of compounds Diethyl Ketone $(CH_3CH_2COCH_2CH_3)$ and acetone (CH_3COCH_3)

(a) Iodoform test.

Sodium bisulfite test.



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123. Distinction between pairs of compounds

Propanal (CH_3CH_2CHO) and Propanone

 (CH_3COCH_3)

(a) By the use of Tollens' reagent and Fehling Solution.

(b) By iodoform test.



124. Distinction between pairs of compounds $\hbox{Ethylamine } (CH_3CH_2NH_2) \hbox{ and diethylamine } \\ (CH_3CH_2NHCH_2CH_3)$



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125. Distinction between pairs of compounds Pentan-2-one, $(CH_3COCH_2CH_2CH_3)$ and pentan-3-one.



126. Give one chemical test to distinguish between pair of compounds

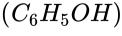
Formic acid and acetic acid.



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127. Distinction between pairs of compounds

Ethanol (CH_3CH_2OH) and Phenol





128. Distinction between pairs of compounds Ethanol (CH_3CH_2OH) and benzyl alcohol $(C_6H_5CH_2OH)$



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129. Distinction between pairs of compounds Benzaldehyde (C_6H_5CHO) and acetone (CH_3COCH_3)

- (a) Tollens' reagent test.
- (b) Iodoform test.



Phenol (C_6H_5OH) and Acetic acid

 (CH_3COOH)

- (a) $FeCl_3$ test.
- (b) $NaHCO_3$ test.



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131. Distinction between pairs of compounds

Nitroethane $\left(C_2H_5NO_2
ight)$ and ethyl nitrite

 (C_2H_5ONO)

 HNO_2 test.



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132. Distinction between pairs of compounds

Ethylamine $(C_2H_5NH_2)$ and Aniline

 $(C_6H_5NH_2)$





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134. Distinction between pairs of compounds $\mbox{Benzoic acid } (C_6H_5COOH) \mbox{ and Phenol}$ $(C_6H_5OH) \mbox{}$

- (a) $FeCl_3$ test.
- (b) $NaHCO_3$ test.

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135. Distinction between pairs of compounds

Ethyl cyanide (CH_3CH_2CN) and ethyl isocyanide $\left(CH_3CH_2N \stackrel{=}{\longrightarrow} C\right)$



136. Distinction between pairs of compounds Acetaldehyde (CH_3CHO) and acetone (CH_3COCH_3)



137. Distinction between pairs of compounds $\mbox{Acetaldehyde } (CH_3CHO) \mbox{ and benzaldehyde } \\ (C_6H_5CHO).$



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138. Distinction between pairs of compounds $\hbox{Chlorobenzene } (C_6H_5Cl) \hbox{ and benzyl chloride} \\ (C_6H_5CH_2Cl)$



139. Distinction between pairs of compounds p-chlorotoluene (p- $ClC_6H_4CH_3$) and benzyl chloride $(C_6H_5CH_2Cl)$



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140. Distinction between pairs of compounds $(C_6H_5Cl) \qquad \text{and}$ chlorocyclohexane



Bromobenzene C_6H_5Br and benzyl bromide



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142. Distinction between pairs of compounds

Propanone (CH_3COCH_3) and ethanol



Ethanol (CH_3CH_2OH) and Phenol (C_6H_5OH)



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144. Distinction between pairs of compounds

Ethyl alcohol and 2-propanol



Acetophenone $(C_6H_5COCH_3)$ and

benzophenone $(C_6H_5COC_6H_5)$



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146. Distinction between pairs of compounds

Aniline $(C_6H_5NH_2)$ and N-methylaniline



Aniline and Nitrobenzene



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148. Distinction between pairs of compounds

Aniline and N, N-dimethylaniline

- 1. Carbylamine test.
- 2. Reaction with Hinsberg's reagent.



Acetic acid and Acetone

Iodoform test.



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150. Distinction between pairs of compounds

Methanol and Ethanol



151. Distinction between pairs of compounds Methylamine and methylethylamine.



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152. Distinction between pairs of compounds Benzene and phenol.



153. Distinction between pairs of compounds n-Hexylamine and aniline



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Phenol and Benzyl alcohol.

- 1. Litmus Test.
- 2. Bromine water test.

