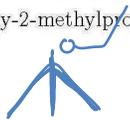


1. 3-ethyl-4-methylpentanal
2. 6-methyl-2-heptanone
3. 1-ethoxy-2,3-dimethylbutane
4. 3-ethyl-3-pentanol
5. 3,5-dimethyl-2,4-hexanedione
6. 1-hydroxy-1-methoxy-2,3-dimethylbutane
7. 2,4-dimethyl-3-hexene-2-ol
8. Benzaldehyde
9. 1-ethoxy-1-methoxy-2-methylbutane
10. 2,3,3-trimethylbutanal

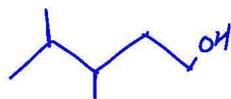
1. 2-methoxybutane
2. 3,5-dimethylhexanal
3. 2-methyl-1-propoxybutane
4. 3-ethyl-3-methylpentanal
5. 2-methoxy-4,4-dimethylpentane
6. 2-methoxy-2,3,3-trimethylbutane
7. 3,3-dimethyl-2-hexanone
8. 4,5-dimethyl-3-hexanone
9. 2,3-dimethyl-2-pentanol
10. 2-methoxy-2,3-dimethylpentane

1. Phenol
2. 3-hexanol
3. 1-ethoxybutane
4. 2-methylpentanal
5. 2-methyl-3-pentanone
6. 2-methyl-2,3-butanediol
7. 3-heptenal
8. Cyclohexanol
9. 2-hydroxy-4-heptanone
10. Phenoxyethane

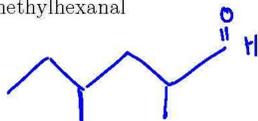
(a) 2-ethoxy-2-methylpropane



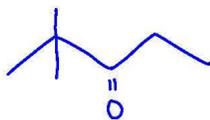
(b) 3,4-dimethyl-1-pentanol



(c) 2,4-dimethylhexanal



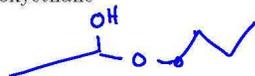
(d) 2,2-dimethyl-3-pentanone



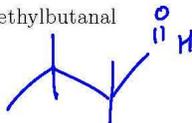
(e) phenol



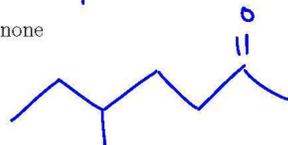
(f) 1-hydroxy-1-butoxyethane



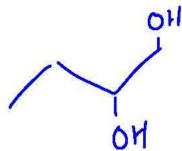
(g) 2,2,3,3-tetramethylbutanal



(h) 5-methyl-2-heptanone



(i) 1,2-butanediol



(j) 3-hexynal



(a) 3-heptanol



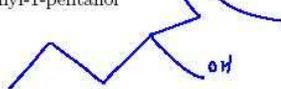
(b) 3-pentanone



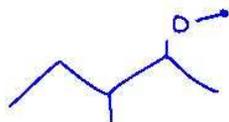
(c) 2-methyl-2-pentanol



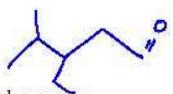
(d) 2-ethyl-1-pentanol



(e) 2-methoxy-3-methylpentane



(f) 3-ethyl-4-methylpentanal



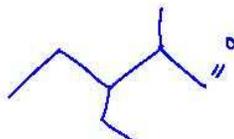
(g) 2,2-dimethyl-3-hexanone



(h) 3-methoxy-3-ethylpentane



(i) 3-ethyl-2-methylpentanal

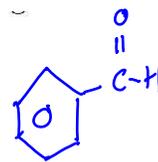


(j) 2,4-dimethyl-2-pentanol

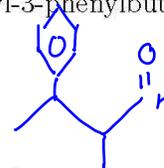


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(a) Benzaldehyde



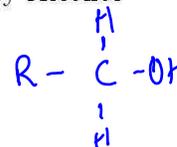
(b) 2-methyl-3-phenylbutanal



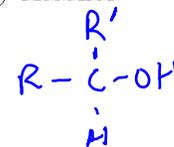
(c) cyclopentanone



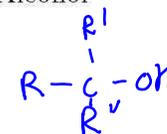
(d) Primary Alcohol



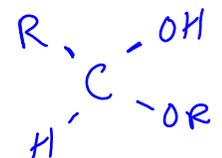
(e) Secondary Alcohol



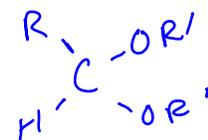
(f) Tertiary Alcohol



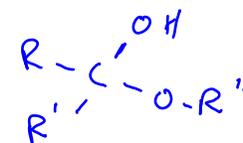
(g) Hemiacetal



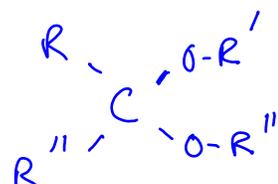
(h) Acetal



(i) Hemiketal



(j) Ketal



- (a) $\underline{1^\circ \text{ Alc}}$ $\xrightarrow{[\text{O}]}$ Aldehyde
- (b) $\underline{\text{Ald}}$ + $2 \text{Cu}^{2+} \xrightarrow[\text{H}_2\text{O}]{\text{NaOH}}$ Carboxylic Acid Salt + Cu_2O
- (c) Aldehyde + Ketone $\xrightarrow{\text{dilute NaOH}}$ $\underline{\text{Aldol}}$
- (d) Hemiacetal + Alcohol $\xrightarrow{[\text{dryHCl}]}$ $\underline{\text{Acetal}}$
- (e) Aldehyde $\xrightarrow{[\text{O}]}$ $\underline{\text{C.A.}}$
- (f) $\underline{2^\circ \text{ Alc}}$ $\xrightarrow{[\text{O}]}$ Ketone
- (g) $\underline{\text{Ketone}}$ + $\underline{\text{Alc}}$ $\xrightarrow{[\text{dryHCl}]}$ Hemiketal
- (h) $\underline{\text{Ketone}}$ + $2 \text{Ag}^+ \xrightarrow[\text{H}_2\text{O}]{\text{NH}_3}$ No Reaction
- (i) Secondary Alcohol $\xrightarrow{[-\text{H}_2\text{O}]}$ $\underline{\text{Alkene}}$ + H_2O
- (j) Ketone $\xrightarrow{[\text{O}]}$ $\underline{\text{N.R.}}$
- (k) Tertiary Alcohol $\xrightarrow{[\text{O}]}$ $\underline{\text{N.R.}}$
- (l) Ketone $\xrightarrow[\Delta]{\text{H}_2/\text{Ni}_2}$ $\underline{2^\circ \text{ Alc}}$
- (m) $\underline{\text{Ald or Ket.}}$ + $\text{HCN} \xrightarrow{[\text{OH}^-]}$ Cyanhydrin
- (n) $\underline{1^\circ \text{ Alc}}$ + $\underline{\text{C.A.}}$ $\xrightarrow{[\text{H}^+]}$ Ester + H_2O
- (o) $\underline{1^\circ \text{ Alc}}$ + $\underline{1^\circ \text{ Alc}}$ $\xrightarrow{[-\text{H}_2\text{O}]}$ Ether + H_2O
- (p) Aldehyde $\xrightarrow[\Delta]{\text{H}_2/\text{Ni}_2}$ $\underline{1^\circ \text{ Alc}}$

- (a) $\underline{1^\circ \text{ Alc}}$ + $\underline{1^\circ \text{ Alc}}$ $\xrightarrow{[-\text{H}_2\text{O}]}$ Ether + H_2O
- (b) Hemiketal + Alcohol $\xrightarrow{[\text{dryHCl}]}$ $\underline{\text{Ketal}}$
- (c) Tertiary Alcohol $\xrightarrow{[-\text{H}_2\text{O}]}$ $\underline{\text{Alkene}}$ + H_2O
- (d) $\underline{\text{Aldehyde}}$ $\xrightarrow{[\text{O}]}$ Carboxylic Acid
- (e) $\underline{\text{C.A.}}$ + $\underline{1^\circ \text{ Alc}}$ $\xrightarrow{[\text{H}^+]}$ Ester + H_2O
- (f) Aldehyde + Alcohol $\xrightarrow{[\text{H}^+]}$ $\underline{\text{hemiacetal}}$
- (g) Aldehyde $\xrightarrow[\Delta]{\text{H}_2/\text{Ni}_2}$ $\underline{1^\circ \text{ Alcohol}}$ } sort of silly
the re
- (h) Primary Alcohol $\xrightarrow{[\text{O}]}$ $\underline{\text{Aldehyde}}$
- (i) Aldehyde + $2 \text{Ag}^+ \xrightarrow[\text{H}_2\text{O}]{\text{NH}_3}$ $\underline{\text{Carb. Acid Salt}}$ + 2Ag (s)
- (j) Ketone $\xrightarrow[\Delta]{\text{H}_2/\text{Ni}_2}$ $\underline{2^\circ \text{ Alc}}$
- (k) Tertiary Alcohol $\xrightarrow{[\text{O}]}$ $\underline{\text{N.R.}}$
- (l) Secondary Alcohol $\xrightarrow{[\text{O}]}$ $\underline{\text{Ketone}}$
- (m) $\underline{\text{Ald/Ket.}}$ + $\underline{\text{Ald/Ket}}$ $\xrightarrow{\text{dilute NaOH}}$ Aldol
- (n) $\underline{2^\circ/3^\circ \text{ Alc}}$ $\xrightarrow{[-\text{H}_2\text{O}]}$ Alkene + H_2O
- (o) $\underline{\text{Ald/Ket}}$ + $\text{HCN} \xrightarrow{[\text{OH}^-]}$ Cyanhydrin
- (p) $\underline{\text{Hemiacetal}}$ + $\underline{1^\circ \text{ Alc}}$ $\xrightarrow{[\text{dryHCl}]}$ Acetal
- (q) $\underline{\text{Ald}}$ + $2 \text{Cu}^{2+} \xrightarrow[\text{H}_2\text{O}]{\text{NaOH}}$ Carboxylic Acid Salt + Cu_2O
- (r) Ketone + $\underline{1^\circ \text{ Alcohol}}$ $\xrightarrow{[\text{H}^+]}$ Hemiketal

