* Aldehyde + Ketone Redox warm-up Answers

① C-O bonds: C-H bonds

② C-H bonds: C-O bonds

③ Carboxylic Acids: Dicarboxylic Acids

④ Aldehyde

⑤ $Ag[NH_3]_2^+$ $\xrightarrow[NH_3]{Ag_2O}$ or $\xrightarrow[NH_3]{AgNO_3}$

⑥ 1° ROH: 2° ROH

⑦ $NaBH_4$ is a weak reducer + will only reduce aldehydes + ketones. $LiAlH_4$ is a strong reducer + will reduce many final groups.

⑧ hydride (H^-)

⑨ Clemmensen: Wolf-Kishner

⑩ Aldehydes or Ketones: Hydroxylamine (H_2N-OH): 1° Amines

⑪ Aldehydes or Ketones: 1^{o} Amines (RNH_2): 2^{o} Amines

⑫ Aldehydes or Ketones: 2^{o} Amines (R_2NH): 3^{o} Amines