

35 Butanone, $\text{CH}_3\text{CH}_2\text{COCH}_3$, and HCN mixed with a little KCN react together in a nucleophilic addition reaction.

Which description of the mechanism of this nucleophilic addition reaction is correct?

- A** The π bond pair of $\text{C}=\text{O}$ accepts H^+ from HCN and then CN^- acts as a nucleophile.
- B** A π bond pair from CN^- attacks the δ^+ C and HCN then donates H^+ to O.
- C** The lone pair on O accepts H^+ from HCN and then CN^- acts as a nucleophile.
- D** A lone pair from CN^- attacks the δ^+ C and then O^- accepts H^+ from HCN.