The major products A and B for the following reactions are, respectively (2019 Main, 9 April II)

$$I \xrightarrow{\text{KCN}} [A] \xrightarrow{\text{H}_2/\text{Pd}} [B]$$

(a)
$$OH$$
 CH_2NH_2

(c)
$$CN$$
; CH_2NH_2

4.

Step I
$$KCN$$
DMSO

[A]
Step II H_2/Pd

CH₂NH₂

[B]

Step I involves the nucleophilic substitution reaction in which I (Iodine) is substituted by

— CN group. In step II, H₂/Pd reagent is used for reduction process. Here, — CN group reduces itself to —CH₂NH₂.