Exercise 104 - Applications

Question

Develop syntheses of the following using aniline, benzaldehyde and any organic molecule of four carbons or less.

$$H_2N$$
 Ph
 H_2N
 C
 CH_3
 $H+$
 Ph
 N

CHO
$$H_2NOH, H^+$$

$$H_3PO_4$$

$$H_3PO_4$$

Question

It is possible to synthesize ketones from nitriles as the following scheme shows:

Give mechanisms for these processes.

Ph—C
$$\equiv$$
N:
$$\begin{array}{c}
1) \text{ CH}_3\text{Li} \\
2) \text{ H}^+, \text{H}_2\text{O} \\
\hline
\text{Ph}
\end{array}$$
CH₃