

$$\begin{array}{ccc}
 M & \xrightarrow{q} & Q \\
 \parallel & & \downarrow \\
 M & \xrightarrow{\tilde{p}} & \tilde{P} \\
 \parallel & & \downarrow \\
 M & \xrightarrow{p} & P
 \end{array}$$

$$\begin{array}{ccccccc}
 M & \hookrightarrow^j & Y & \longrightarrow & C_0 \\
 \parallel & & \downarrow & & \downarrow \\
 M & \hookrightarrow^{\tilde{i}} & \tilde{X} & \longrightarrow & C_2 \\
 \parallel & & \downarrow & & \downarrow \\
 M & \hookrightarrow^i & X & \longrightarrow & C_3
 \end{array}$$