

$$\begin{array}{ccccc}
A_1 & \xlongequal{\quad} & A_1 & & \\
\downarrow i_1 & & \downarrow i_2 f_A & & \\
B_1 & \xrightarrow{f_B} & B_2 & \xrightarrow{g_B} \twoheadrightarrow & B_3 \xrightarrow{\delta_B} \\
\downarrow p_2 & & \downarrow x & \triangle & \parallel \\
C_1 & \xrightarrow{\psi} & E & \xrightarrow{\varphi} \twoheadrightarrow & B_3 \xrightarrow{(p_2)_* \delta_B} \\
\downarrow \varepsilon_1 & & \downarrow \eta & &
\end{array}$$

$$\begin{array}{ccccc}
& & A_3 & \xlongequal{\quad} & A_3 \\
& & \downarrow y & \square & \downarrow i_3 \\
C_1 & \xrightarrow{\psi} & E & \xrightarrow{\varphi} \twoheadrightarrow & B_3 \xrightarrow{(p_1)_* \delta_B} \\
\parallel & & \downarrow z & & \downarrow p_3 \\
C_1 & \xrightarrow{f_C} \dashrightarrow & C_2 & \dashrightarrow \twoheadrightarrow & C_3 \xrightarrow{\delta_C} \\
& & \downarrow (g_A)_* \varepsilon_2 & & \downarrow \varepsilon_3
\end{array}$$