

$$\begin{array}{ccccc}
\Omega(A) & \hookrightarrow & P & \xrightarrow{\pi_A} & \twoheadrightarrow A \\
\downarrow \Omega(f) & & \downarrow p_f & & \downarrow f \\
\Omega(B) & \hookrightarrow & P & \xrightarrow{\pi_B} & \twoheadrightarrow B \\
\parallel & & \downarrow i_{\phi_1^B} & & \downarrow \phi_1^B \\
\Omega(B) & \hookrightarrow & I & \xrightarrow{\rho_{\Omega(B)}} & \twoheadrightarrow \Sigma \circ \Omega(B)
\end{array}$$