

$$\begin{array}{c}
 \textcircled{\textcolor{red}{X}}_f * \textcircled{\textcolor{red}{X}}_g \xrightarrow{\text{coh}_f^{-1}} \textcircled{\textcolor{red}{X}}_f \times \textcircled{\textcolor{red}{X}}_g \xrightarrow{\pi_2} \textcircled{\textcolor{red}{X}}_g \xrightarrow{rO_g} \textcolor{brown}{Y}_g
 \end{array}$$