$$\begin{array}{c|cccc} \mathbf{P}_1 & \xrightarrow{f_1} & \mathbf{S}_1 \\ f & \mathbf{Rel} & \mathbf{Rel} & \mathbf{g} \\ \mathbf{P}_2 & \xrightarrow{\mathbf{Rel}} & \mathbf{S}_2 \\ h & \mathbf{Rel} & \mathbf{Rel} & k \\ \mathbf{P}_3 & \xrightarrow{\mathbf{Rel}} & \mathbf{S}_3 \\ \end{array}$$

$$\begin{array}{c|ccccc} \mathbf{P}_1 & \xrightarrow{f_1} & \mathbf{S}_1 \\ \mathbf{Rel} & \mathbf{Rel} & k & \mathbf{g} \\ \mathbf{P}_3 & \xrightarrow{\mathbf{Rel}} & \mathbf{S}_3 \\ \end{array}$$