

$$\begin{array}{ccccc}
 & S & \xlongequal{\quad} & S & \xrightarrow{q} & M \\
 \nearrow \pi_\beta & & \searrow \iota_\beta & \nearrow \pi_{\beta+1} & \searrow \delta & \nearrow r \\
 P_\beta & \xrightarrow{\alpha_\beta} & P_{\beta+1} & \xrightarrow{\delta \circ \pi_{\beta+1}} & R & 
 \end{array}$$