

$$\begin{array}{ccc}
 Q & \xrightarrow{i} & U(F_C(Q)) \\
 & \searrow \varphi & \downarrow U(F) \\
 & & U(\mathcal{C})
 \end{array}
 \qquad
 \begin{array}{ccc}
 & & F_C(Q) \\
 & & \downarrow F \\
 & & \mathcal{C}
 \end{array}$$