

$$\begin{array}{ccccccc}
& \dots & & \dots & & \dots & \\
& \downarrow & & \downarrow & & \downarrow & \\
0 & \longrightarrow & C_{q+1}(A) & \longrightarrow & C_{q+1}(X) & \longrightarrow & C_{q+1}(X, A) \longrightarrow 0 \\
& \downarrow & & \downarrow & & \downarrow & \\
0 & \longrightarrow & C_q(A) & \longrightarrow & C_q(X) & \longrightarrow & C_q(X, A) \longrightarrow 0 \\
& \downarrow & & \downarrow & & \downarrow & \\
0 & \longrightarrow & C_{q-1}(A) & \longrightarrow & C_{q-1}(X) & \longrightarrow & C_{q-1}(X, A) \longrightarrow 0 \\
& \downarrow & & \downarrow & & \downarrow & \\
& \dots & & \dots & & \dots &
\end{array}$$