$$H^{p+2}(X) \xrightarrow{-H^{p+2}(f)} H^{p+2}(Y)$$

$$H^{p+1}(X) \xrightarrow{-H^{p+1}(f)} H^{p+1}(Y)$$

$$H^{p}(X) \xrightarrow{-H^{p}(f)} H^{p}(Y)$$

$$H^{p}(X) \xrightarrow{-H^{p}(f)} H^{p}(Y)$$

$$H^{p}(X) \xrightarrow{-H^{p}(f)} H^{p}(Y)$$

$$H^{p-1}(X) \xrightarrow{-H^{p-1}(f)} H^{p-1}(Y)$$