

$$\begin{aligned}
S\ K\ K &\equiv (\lambda x\ y\ z. x\ z\ (y\ z))\ (\lambda x\ y. x)\ (\lambda x\ y. x) \rightarrow_{\beta} \\
&\rightarrow_{\beta} (\lambda y\ z. [\lambda x\ y. x]\ z\ (y\ z))\ (\lambda x\ y. x) \rightarrow_{\beta} \\
&\rightarrow_{\beta} (\lambda y\ z. [\lambda y. z]\ (y\ z))\ (\lambda x\ y. x) \rightarrow_{\beta} (\lambda y\ z. z)\ (\lambda x\ y. x) \rightarrow_{\beta} \\
&\rightarrow_{\beta} (\lambda z. z) \equiv I
\end{aligned}$$