

$$\begin{array}{c}
\frac{}{\vdash \textcolor{red}{p}^\perp \Downarrow [\cdot][\cdot]p; \cdot} \text{I} \quad \frac{}{\vdash \textcolor{red}{t}^\perp \Downarrow [\cdot][\cdot]t; \cdot} \text{I} \\
\hline
\vdash \textcolor{red}{p}^\perp \otimes \textcolor{red}{t}^\perp \Downarrow [\cdot][\cdot]p, t; \cdot \quad \otimes \\
\hline
\vdash [\cdot][\cdot]p, p^\perp \otimes t^\perp; t \quad * \\
\hline
\vdash \textcolor{red}{r} \oplus \textcolor{red}{t} \Downarrow [\cdot][\cdot]p, p^\perp \otimes t^\perp; \cdot \quad \oplus \\
\hline
\vdash [\cdot][\cdot]p^\perp \otimes t^\perp, r \oplus t; p \quad * \\
\hline
\vdash \textcolor{red}{p} \oplus \textcolor{red}{q} \Downarrow [\cdot][\cdot]p^\perp \otimes t^\perp, r \oplus t; \cdot \quad \oplus \\
\hline
\vdash [\cdot][4 : r \oplus t]; \cdot //^1 \vdash [\cdot][\cdot]p^\perp \otimes t^\perp, p \oplus q; \cdot \quad \text{K} \\
\hline
\vdash [\cdot][5 : p \oplus q, 4 : r \oplus t]; \cdot //^1 \vdash [\cdot][\cdot]p^\perp \otimes t^\perp; \cdot \quad \text{K} \\
\hline
\vdash [\cdot][5 : p \oplus q, 4 : r \oplus t]; \cdot //^1 \vdash [\cdot][\cdot]; p^\perp \otimes t^\perp \quad * \\
\hline
\vdash \textcolor{red}{!}^1 p^\perp \otimes \textcolor{red}{t}^\perp \Downarrow [\cdot][5 : p \oplus q, 4 : r \oplus t]; \cdot \quad ! \\
\hline
\vdash [\cdot][\cdot]; ?^4 r \oplus t, ?^5 p \oplus q, \textcolor{red}{!}^1 p^\perp \otimes \textcolor{red}{t}^\perp \quad *
\end{array}$$