

$$\begin{array}{c}
\frac{\frac{\Gamma, \perp, h \Rightarrow \Delta, h}{\Gamma, (\ulcorner \psi \urcorner = \ulcorner h \urcorner), h \Rightarrow \Delta, \psi} L\perp}{\Gamma, (\ulcorner \psi \urcorner = \ulcorner h \urcorner) \wedge h \Rightarrow \Delta, \psi} h \neq \psi \quad R\wedge \\
\frac{\Gamma, ((\ulcorner \psi \urcorner = \ulcorner h \urcorner) \wedge h) \vee \tau(T)(\ulcorner \psi \urcorner) \Rightarrow \Delta, \psi}{\Gamma, (((\#0 = \ulcorner h \urcorner) \wedge h) \vee \tau(T))(\ulcorner \psi \urcorner) \Rightarrow \Delta, \psi} L\vee \quad \text{definition subst} \\
\frac{\Gamma, \tau([h, T])(\ulcorner \psi \urcorner) \Rightarrow \Delta, \psi}{\Gamma \Rightarrow \Delta, \tau([h, T])(\ulcorner \psi \urcorner) \supset \psi} R\supset \quad \text{definition } \tau \\
\hline
\Gamma \Rightarrow \Delta, \tau([h, T])(\ulcorner \psi \urcorner) \leftrightarrow \psi
\end{array}
\qquad
\begin{array}{c}
\frac{h \text{ in } T \wedge \text{paProvesAllTauDisq}(h, T)}{\Gamma \Rightarrow \Delta, \tau(T)(\ulcorner \psi \urcorner) \leftrightarrow \psi} \\
\frac{\Gamma \Rightarrow \Delta, \tau(T)(\ulcorner \psi \urcorner) \leftrightarrow \psi}{\Gamma \Rightarrow \Delta, \tau(T)(\ulcorner \psi \urcorner) \supset \psi} R \leftrightarrow \text{elim_to_right} \\
\frac{\Gamma \Rightarrow \Delta, \tau(T)(\ulcorner \psi \urcorner) \supset \psi}{\Gamma, \tau(T)(\ulcorner \psi \urcorner) \Rightarrow \Delta, \psi} R \supset \text{elim} \\
\frac{\Gamma, \tau(T)(\ulcorner \psi \urcorner) \Rightarrow \Delta, \psi}{\Gamma, ((\ulcorner \psi \urcorner = \ulcorner h \urcorner) \wedge h) \vee \tau(T)(\ulcorner \psi \urcorner) \Rightarrow \Delta, \psi} L\vee \\
\frac{\Gamma, ((\ulcorner \psi \urcorner = \ulcorner h \urcorner) \wedge h) \vee \tau(T)(\ulcorner \psi \urcorner) \Rightarrow \Delta, \psi}{\Gamma, (((\#0 = \ulcorner h \urcorner) \wedge h) \vee \tau(T))(\ulcorner \psi \urcorner) \Rightarrow \Delta, \psi} \text{definition subst} \\
\frac{\Gamma, (((\#0 = \ulcorner h \urcorner) \wedge h) \vee \tau(T))(\ulcorner \psi \urcorner) \Rightarrow \Delta, \psi}{\Gamma, \tau([h, T])(\ulcorner \psi \urcorner) \Rightarrow \Delta, \psi} \text{definition } \tau \\
\frac{\Gamma, \tau([h, T])(\ulcorner \psi \urcorner) \Rightarrow \Delta, \psi}{\Gamma \Rightarrow \Delta, \tau([h, T])(\ulcorner \psi \urcorner) \supset \psi} R \supset \\
\hline
\Gamma \Rightarrow \Delta, \tau([h, T])(\ulcorner \psi \urcorner) \leftrightarrow \psi
\end{array}
\qquad
\begin{array}{c}
\frac{h \text{ in } T \wedge \text{paProvesAllTauDisq}(h, T)}{\Gamma \Rightarrow \Delta, \tau(T)(\ulcorner \psi \urcorner) \leftrightarrow \psi} \\
\frac{\Gamma \Rightarrow \Delta, \tau(T)(\ulcorner \psi \urcorner) \leftrightarrow \psi}{\Gamma \Rightarrow \Delta, \psi \supset \tau(T)(\ulcorner \psi \urcorner)} R \leftrightarrow \text{elim_to_left} \\
\frac{\Gamma \Rightarrow \Delta, \psi \supset \tau(T)(\ulcorner \psi \urcorner)}{\Gamma, \psi \Rightarrow \Delta, \tau(T)(\ulcorner \psi \urcorner)} R \supset \text{elim} \\
\frac{\Gamma, \psi \Rightarrow \Delta, \tau(T)(\ulcorner \psi \urcorner)}{\Gamma, \psi \Rightarrow \Delta, ((\ulcorner \psi \urcorner = \ulcorner h \urcorner) \wedge h) \vee \tau(T)(\ulcorner \psi \urcorner)} R_{wk} \\
\frac{\Gamma, \psi \Rightarrow \Delta, ((\ulcorner \psi \urcorner = \ulcorner h \urcorner) \wedge h) \vee \tau(T)(\ulcorner \psi \urcorner)}{\Gamma, \psi \Rightarrow \Delta, (((\#0 = \ulcorner h \urcorner) \wedge h) \vee \tau(T))(\ulcorner \psi \urcorner)} R\vee \\
\frac{\Gamma, \psi \Rightarrow \Delta, (((\#0 = \ulcorner h \urcorner) \wedge h) \vee \tau(T))(\ulcorner \psi \urcorner)}{\Gamma, \tau([h, T])(\ulcorner \psi \urcorner) \Rightarrow \Delta, \psi} \text{definition subst} \\
\frac{\Gamma, \tau([h, T])(\ulcorner \psi \urcorner) \Rightarrow \Delta, \psi}{\Gamma \Rightarrow \Delta, \tau([h, T])(\ulcorner \psi \urcorner) \supset \psi} \text{definition } \tau \\
\frac{\Gamma \Rightarrow \Delta, \tau([h, T])(\ulcorner \psi \urcorner) \supset \psi}{\Gamma \Rightarrow \Delta, \tau([h, T])(\ulcorner \psi \urcorner) \leftrightarrow \psi} R \supset \\
\hline
\Gamma \Rightarrow \Delta, \tau([h, T])(\ulcorner \psi \urcorner) \leftrightarrow \psi
\end{array}$$