$$
\begin{array}{llll}
\text{Terms} & M ::= & u & \textit{Hypotheses} \\
& \mid & \langle M_1, M_2 \rangle \mid \mathrm{fst}\, M \mid \mathrm{snd}\, M & \textit{Conjunction} \\
& \mid & \lambda u{:}A.\ M \mid M_1\, M_2 & \textit{Implication} \\
& \mid & \mathrm{inl}^A\, M \mid \mathrm{inr}^A\, M & \textit{Disjunction} \\
& \mid & (\,\textbf{case}\ M\ \textbf{of}\ \mathrm{inl}\, u_1 \Rightarrow M_1 \mid \mathrm{inr}\, u_2 \Rightarrow M_2) & \\
& \mid & \mu^p u{:}A.\ M \mid M_1 \cdot_A M_2 & \textit{Negation} \\
& \mid & \langle\,\rangle & \textit{Truth} \\
& \mid & \mathrm{abort}^A\, M & \textit{Falsehood}
\end{array}
$$

and the reduction rules

$$
\begin{array}{rcc}
\mathrm{fst}\, \langle M, N \rangle & \longrightarrow_R & M \\
\mathrm{snd}\, \langle M, N \rangle & \longrightarrow_R & N \\
(\lambda u{:}A.\ M)\, N & \longrightarrow_R & [N/u]M \\
\textbf{case}\ \mathrm{inl}^B\, M\ \textbf{of}\ \mathrm{inl}\, u \Rightarrow N_1 \mid \mathrm{inr}\, w \Rightarrow N_2 & \longrightarrow_R & [M/u]N_1 \\
\textbf{case}\ \mathrm{inr}^A\, M\ \textbf{of}\ \mathrm{inl}\, u \Rightarrow N_1 \mid \mathrm{inr}\, w \Rightarrow N_2 & \longrightarrow_R & [M/w]N_2 \\
(\mu^p u{:}A.\ M) \cdot_C N & \longrightarrow_R & [N/u][C/p]M \\
\textit{no rule for truth} & & \\
\textit{no rule for falsehood} & &
\end{array}
$$

The expansion rules are given below.

$$
\begin{array}{rcl}
M : A \wedge B & \longrightarrow_E & \langle \mathrm{fst}\, M, \mathrm{snd}\, M \rangle \\
M : A \supset B & \longrightarrow_E & \lambda u{:}A.\ M\, u \\
M : A \vee B & \longrightarrow_E & \textbf{case}\ M\ \textbf{of}\ \mathrm{inl}\, u \Rightarrow \mathrm{inl}^B\, u \mid \mathrm{inr}\, w \Rightarrow \mathrm{inr}^A\, w \\
M : \neg A & \longrightarrow_E & \mu^p u{:}A.\ M \cdot_p u \\
M : \top & \longrightarrow_E & \langle\,\rangle \\
M : \bot & \longrightarrow_E & \mathrm{abort}^\bot\, M
\end{array}
$$