

$$\begin{array}{c}
\frac{\overline{A \vee B}^1}{\overline{A \vee B}^1} \quad \frac{\frac{\overline{\neg A \wedge \neg B}^0}{\neg A} \wedge_{E_l} \quad \overline{A}^2}{\perp} \neg_E \quad \frac{\frac{\overline{\neg A \wedge \neg B}^0}{\neg B} \wedge_{E_r} \quad \overline{B}^2}{\perp} \neg_E \\
\frac{\perp}{\perp} \vee_E \\
\frac{\perp}{\neg(A \vee B)}^1 \neg_I \\
\frac{\neg(A \vee B)}{\neg A \wedge \neg B \rightarrow \neg(A \vee B)}^0 \rightarrow_I
\end{array}$$