Conjunction Introduction (∧ Intro)

Conjunction Elimination $(\land Elim)$

$$| P_1 \wedge \ldots \wedge P_i \wedge \ldots \wedge P_i \rangle$$

$$| P_i \wedge \ldots \wedge P_i \wedge \ldots \wedge P_i \rangle$$

$$| P_i \wedge \ldots \wedge P_i \wedge \ldots \wedge P_i \rangle$$

$$\begin{vmatrix} P_1 \wedge \ldots \wedge P_i \wedge \ldots \wedge P_r \\ \vdots \\ P_i \end{vmatrix}$$

 \perp Introduction

$$\perp$$
 Elimination (\perp Elim)

Identity Introduction (= Intro)

Identity Elimination (= Elim)

$$\begin{array}{c} P(n) \\ \vdots \\ n=m \\ \vdots \\ P(m) \end{array}$$

Disjunction Introduction (∨ Intro)

$$\begin{array}{c|c}
P_i \\
\vdots \\
P_1 \lor \dots \lor P_i \lor \dots \lor P_n
\end{array}$$

Disjunction Elimination (∨ Elim)



Conditional Introduction $(\rightarrow Intro)$



Conditional Elimination $(\rightarrow Elim)$



Universal Elimination



Universal Introduction (∀ Intro)



where c does not occur outside the subproof where it is introduced.

Negation Introduction (¬ Intro)



Negation Elimination (¬ Elim)

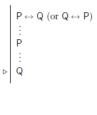
$(\leftrightarrow Intro)$

Biconditional Introduction



Reiteration (Reit)

Biconditional Elimination $(\leftrightarrow Elim)$



Existential Introduction (∃ Intro)

Existential Elimination (∃ Elim)



where c does not occur outside the subproof where it is introduced.