Natural deduction rules with generic abbreviations

(R) $P \,\triangleright\, P$

(A+) $P \,\triangleright\, P \vee Q$

(A–) $P \vee Q, [P ... R], [Q ... R] \,\triangleright\, R$

(C+) $[P ... Q] \,\triangleright\, P \rightarrow Q$

(C–) $P \rightarrow Q, P \,\triangleright\, Q$

(E+) $[P ... Q], [Q ... P] \,\triangleright\, P \leftrightarrow Q$

(E–) $P \leftrightarrow Q, P \,\triangleright\, Q \;||\; P \leftrightarrow Q, Q \,\triangleright\, P$

(K+) $P, Q \,\triangleright\, P \wedge Q$

(K–) $P \wedge Q \,\triangleright\, P \;||\; P \wedge Q \,\triangleright\, Q$

(N+) $[P ... Q, \neg Q] \,\triangleright\, \neg P$

(N–) $[\neg P ... Q, \neg Q] \,\triangleright\, P$

(MT) $P \rightarrow Q, \neg Q \,\triangleright\, \neg P$

(HS) $P \rightarrow Q, Q \rightarrow R \,\triangleright\, P \rightarrow R$

(DS) $P \vee Q, \neg P \,\triangleright\, Q \;||\; P \vee Q, \neg Q \,\triangleright\, P$

(CD) $P \vee Q, P \rightarrow R, Q \rightarrow S \,\triangleright\, R \vee S$

(DD) $\neg R \vee \neg S, P \rightarrow R, Q \rightarrow S \,\triangleright\, \neg P \vee \neg Q$

(DN) $\neg\neg P \,\triangleright\, P$

(F+) $P, \neg P \,\triangleright\, \bot$

(F–) $\bot \,\triangleright\, P$

(FN+) $[P ... \bot] \,\triangleright\, \neg P$

(FN–) $[\neg P ... \bot] \,\triangleright\, P$