

connex_iff_trichot^{12,41}

$\forall T:\text{Type}, R:(T \rightarrow T \rightarrow \mathbb{P}).$
 $(\forall a, b:T. \text{Dec}(R(a,b)))$
 $\Rightarrow (\text{Connex}(T;x,y.R(x,y))$
 $\iff \{\forall a, b:T.$
 $\quad \text{strict_part}(x,y.R(x,y);a;b)$
 $\quad \vee \text{Symmetrize}(x,y.R(x,y);a;b)$
 $\quad \vee \text{strict_part}(x,y.R(x,y);b;a)\}$

ProofTree