

Inference at *
of proof for Lemma trans_functionality_wrt_iff:

$\vdash \forall T:\text{Type}, R, R':(T \rightarrow T \rightarrow \mathbb{P}).$
 $(\forall x, y:T. R(x,y) \iff R'(x,y)) \Rightarrow (\text{Trans}(T;y,x.R(x,y)) \iff \text{Trans}(T;y,x.R'(x,y)))$
by (((UnivCD)
CollapseTHEN ((Auto_aux (first_nat 1:n) ((first_nat 1:n),(first_nat
3:n)) (first_tok :t) inil_term)))
CollapseTHEN (Unfold 'trans' 0)).

1:

1. $T : \text{Type}$
 2. $R : T \rightarrow T \rightarrow \mathbb{P}$
 3. $R' : T \rightarrow T \rightarrow \mathbb{P}$
 4. $\forall x, y:T. R(x,y) \iff R'(x,y)$
- $\vdash (\forall a, b, c:T. R(b,a) \Rightarrow R(c,b) \Rightarrow R(c,a))$
 $\iff (\forall a, b, c:T. R'(b,a) \Rightarrow R'(c,b) \Rightarrow R'(c,a))$