

Inference at *
of proof for Lemma wellfounded_functionality_wrt_iff:

$\vdash \forall T_1, T_2 : \text{Type}, r_1 : (T_1 \rightarrow T_1 \rightarrow \mathbb{P}), r_2 : (T_2 \rightarrow T_2 \rightarrow \mathbb{P}).$
 $(T_1 = T_2)$
 $\Rightarrow (\forall x, y : T_1. r_1(x, y) \iff r_2(x, y))$
 $\Rightarrow (\text{WellFnd}\{i\}(T_1; x, y. r_1(x, y)) \iff \text{WellFnd}\{i\}(T_2; x, y. r_2(x, y)))$
by ((UnivCD)
CollapseTHENA ((Auto_aux (first_nat 1:n) ((first_nat 1:n), (first_nat 3:n)
)) (first_tok :t) inil_term)))

1:

1. $T_1 : \text{Type}$
 2. $T_2 : \text{Type}$
 3. $r_1 : T_1 \rightarrow T_1 \rightarrow \mathbb{P}$
 4. $r_2 : T_2 \rightarrow T_2 \rightarrow \mathbb{P}$
 5. $T_1 = T_2$
 6. $\forall x, y : T_1. r_1(x, y) \iff r_2(x, y)$
- $\vdash \text{WellFnd}\{i\}(T_1; x, y. r_1(x, y)) \iff \text{WellFnd}\{i\}(T_2; x, y. r_2(x, y))$