

Inference at * 1 2
of proof for Lemma wellfounded_functionality_wrt_iff:

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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.  $\forall x, y : T_1. r_1(x, y) \iff r_2(x, y)$ 
 $\vdash \text{WellFnd}\{i\}(T_1; x, y. r_1(x, y)) \Leftarrow \text{WellFnd}\{i\}(T_2; x, y. r_2(x, y))$ 
  by ((BackThruLemma 'wellfounded_functionality_wrt_implies')
    CollapseTHEN (
      (Auto_aux (first_nat 1:n) ((first_nat 1:n), (first_nat 3:n)) (first_tok :t) inil_term)))·

1:

 $\vdash T_2 = T_1$ 
2:

 $\vdash \forall x, y : T_2. \{r_2(x, y) \Leftarrow r_1(x, y)\}$ 
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