Inference at $*$
of proof for Lemma equiv_rel_functionality_wrt_iff:

$\vdash \forall T,\ T'$:Type, E:$(T \to T \to \mathbb{P})$, E':$(T' \to T' \to \mathbb{P})$.
$(T = T')$
$\Rightarrow (\forall x,\ y{:}T.\ E(x,y) \iff E'(x,y))$
$\Rightarrow (\text{EquivRel}(T;x,y.E(x,y)) \iff \text{EquivRel}(T';x,y.E'(x,y)))$
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 : Type
2. T' : Type
3. E : $T \to T \to \mathbb{P}$
4. E' : $T' \to T' \to \mathbb{P}$
5. $T = T'$
6. $\forall x,\ y{:}T.\ E(x,y) \iff E'(x,y)$

$\vdash \text{EquivRel}(T;x,y.E(x,y)) \iff \text{EquivRel}(T';x,y.E'(x,y))$

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http://www.nuprl.org/FDLcontent/p0_942988_/p121_81922_{equiv_rel_functionality_wrt_iff}.html