Inference at $*$ 1
of proof for Lemma equiv_rel_self_functionality:

$\vdash \forall T$:Type, R:($T \to T \to \mathbb{P}$).
EquivRel(T;x,y.$R(x,y)$)
$\Rightarrow$ ($\forall a$, a', b, b':T. $R(a,b) \Rightarrow R(a',b') \Rightarrow (R(a,a') \iff R(b,b'))$)
by ((GenUnivCD)
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. R : $T \to T \to \mathbb{P}$
3. EquivRel(T;x,y.$R(x,y)$)
4. a : T
5. a' : T
6. b : T
7. b' : T
8. $R(a,b)$
9. $R(a',b')$
10. $R(a,a')$

$\vdash R(b,b')$

2:

1. T : Type
2. R : $T \to T \to \mathbb{P}$
3. EquivRel(T;x,y.$R(x,y)$)
4. a : T
5. a' : T
6. b : T
7. b' : T
8. $R(a,b)$
9. $R(a',b')$
10. $R(b,b')$

$\vdash R(a,a')$

.

---

http://www.nuprl.org/FDLcontent/p0_942988_/p121_81216_{equiv_rel_self_functionality}1.html