Inference at $*$ 1 0
of proof for Lemma connex_functionality_wrt_iff:

1. T : Type
2. R : $T \to T \to \mathbb{P}$
3. R' : $T \to T \to \mathbb{P}$
4. $\forall x,\, y{:}T.\ R(x,y) \iff R'(x,y)$

$\vdash$ $(\forall x,\, y{:}T.\ R(x,y) \vee R(y,x)) \iff (\forall x,\, y{:}T.\ R'(x,y) \vee R'(y,x))$
by PERMUTE{1:n,
2:n,
2:n,
2:n,
3:n,
3:n,
4:n,
5:n,
6:n,
7:n,
7:n,
8:n,
9:n,
10:n,
11:n,
12:n,
13:n,
14:n,
15:n,
16:n,
16:n,
15:n,
7:n,
3:n,
17:n,
18:n}

1: . . . . .wf. . . . . NILNIL

$\vdash$ $(\forall x,\, y{:}T.\ R(x,y) \vee R(y,x)) \in \mathbb{P}$
2: . . . . .wf. . . . . NILNIL

$\vdash$ $(\forall x,\, y{:}T.\ R'(x,y) \vee R'(y,x)) \in \mathbb{P}$
3: . . . . .wf. . . . . NILNIL

$\vdash$ $T \in$ Type

4: . . . . .wf. . . . . NILNIL

$\vdash (\lambda x.\forall y{:}T.\ R(x,y) \vee R(y,x)) \in T \rightarrow \mathbb{P}$
5: . . . . .wf. . . . . NILNIL

$\vdash (\lambda x.\forall y{:}T.\ R'(x,y) \vee R'(y,x)) \in T \rightarrow \mathbb{P}$
6: . . . . .wf. . . . . NILNIL

$\vdash T = T$
7: . . . . .wf. . . . . NILNIL

5. T
$\vdash T \in$ Type
8: . . . . .wf. . . . . NILNIL

5. $x : T$
$\vdash (\lambda y.R(x,y) \vee R(y,x)) \in T \rightarrow \mathbb{P}$
9: . . . . .wf. . . . . NILNIL

5. $x : T$
$\vdash (\lambda y.R'(x,y) \vee R'(y,x)) \in T \rightarrow \mathbb{P}$
10: . . . . .wf. . . . . NILNIL

5. T
$\vdash T = T$
11: . . . . .wf. . . . . NILNIL

5. $x : T$
6. $y : T$
$\vdash R(x,y) \in \mathbb{P}$
12: . . . . .wf. . . . . NILNIL

5. $x : T$
6. $y : T$
$\vdash R'(x,y) \in \mathbb{P}$
13: . . . . .wf. . . . . NILNIL

5. $x : T$
6. $y : T$
$\vdash R(y,x) \in \mathbb{P}$
14: . . . . .wf. . . . . NILNIL

5. $x : T$
6. $y : T$
$\vdash R'(y,x) \in \mathbb{P}$
15: . . . . .wf. . . . . NILNIL

5. $x : T$
6. T
$\vdash x \in T$
16: . . . . .wf. . . . . NILNIL

5. T
6. $y : T$
$\vdash y \in T$
17: . . . . .wf. . . . . NILNIL

$\vdash (\forall x,\ y{:}T.\ R'(x,y) \vee R'(y,x)) = (\forall x,\ y{:}T.\ R'(x,y) \vee R'(y,x))$
18:

$\vdash (\forall x,\ y{:}T.\ R'(x,y) \vee R'(y,x)) \iff (\forall x,\ y{:}T.\ R'(x,y) \vee R'(y,x))$
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http://www.nuprl.org/FDLcontent/p0_942988_/p121_80569_{connex_functionality_wrt_iff}1_0.html