Inference at $*$ 2
 of proof for Lemma exists_functionality_wrt_iff:

1. S : Type
2. T : Type
3. P : $S \rightarrow \mathbb{P}$
4. Q : $S \rightarrow \mathbb{P}$
5. $S = T$
6. $\forall x{:}S.\ P(x) \iff Q(x)$
7. $\exists y{:}T.\ Q(y)$

$\vdash \exists x{:}S.\ P(x)$

 by InteriorProof ((((((D 7)
 CollapseTHEN (With y (D 0)))·)
 CollapseTHENM (
 HypBackchain))·)
 CollapseTHEN ((Auto_aux (first_nat 1:n) ((first_nat
 1:n),(first_nat 3:n)) (first_tok :t) inil_term)))·

 .

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http://www.nuprl.org/FDLcontent/p0_942988_/p121_99078_{exists_functionality_wrt_iff}2.html