Inference at $*$ 1 1 2
 of proof for Lemma connex_iff_trichot:

1. T : Type
2. R : $T \to T \to \mathbb{P}$
3. $\forall a, b{:}T.\ \mathrm{Dec}(R(a,b))$
4. $\forall x, y{:}T.\ R(x,y) \vee R(y,x)$
5. a : T
6. b : T
7. $R(b,a)$

$\vdash (R(a,b)\ \&\ (\neg R(b,a))) \vee (R(a,b)\ \&\ R(b,a)) \vee (R(b,a)\ \&\ (\neg R(a,b)))$
 by ((((Decide $R(a,b)$)
 CollapseTHENM (ProveProp))$\cdot$)
 CollapseTHENA (
  (Auto_aux (first_nat 1:n) ((first_nat 1:n),(first_nat 3:n)) (first_tok :t) inil_term)))$\cdot$

  .

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http://www.nuprl.org/FDLcontent/p0_942988_/p121_80447_{connex_iff_trichot}1_1_2.html