Inference at * 1
of proof for Lemma connex_iff_trichot:

⊢∀T:Type, R:(T→T→ ℙ).
(∀a, b:T. Dec(R(a,b)))
⇒ (Connex(T;x,y.R(x,y))
⟺ (∀a, b:T.
strict_part(x,y.R(x,y);a;b)
∨ Symmetrize(x,y.R(x,y);a;b)
∨ strict_part(x,y.R(x,y);b;a)))
by ((((Unfolds “connex strict_part symmetrize“ 0)
CollapseTHEN (GenRepD))·)

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→T→ ℙ
3. ∀a, b:T. Dec(R(a,b))
4. ∀x, y:T. R(x,y) ∨ R(y,x)
5. a : T
6. b : T

⊢ (R(a,b) & (¬R(b,a))) ∨ (R(a,b) & R(b,a)) ∨ (R(b,a) & (¬R(a,b)))

2:

1. T : Type
2. R : T→T→ ℙ
3. ∀a, b:T. Dec(R(a,b))
4. ∀a, b:T. (R(a,b) & (¬R(b,a))) ∨ (R(a,b) & R(b,a)) ∨ (R(b,a) & (¬R(a,b)))
5. x : T
6. y : T

⊢ R(x,y) ∨ R(y,x)

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