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singelton_append_equals_lemma  THM

⊢  ∀a:T, R,S:T List, b:T. [a] = (R @ (b.S)) ⇒ a = b  by UnivCD
|
1. T : Type
2. a : T
3. R : T List
4. S : T List
5. b : T
6. [a] = (R @ (b.S))
⊢  a = b  by ListInd 3 THEN AbReduce 0 THEN Thin 3
|
|\
| 3. S : T List
| 4. b : T
| 5. [a] = b.S
| ⊢  a = b  by ListInd 3 THEN AbReduce 0 THEN Thin 3
| |
| |\
| | 3. b : T
| | 4. [a] = [b]
| | ⊢  a = b
| | | by ApFunToHypEquands ‘L’ (Case of L; nil → a ; h.t → h) T -1
| | |    THEN
| | |    Reduce -1
| | |
| | 5. a = b
| | ⊢  a = b  by Auto
| |
| .\
| . 3. b : T
| . 4. u : T
| . 5. v : T List
| . 6. [a] = b.v ⇒ a = b
| . 7. [a] = [b; u/ v]
| . ⊢  a = b
| .   by ApFunToHypEquands ‘L’ (Case of L; nil → a ; h.t → h) T -1
| .      THEN
| .      Reduce -1
|
.\
. 3. S : T List
. 4. b : T
. 5. u : T
. 6. v : T List
. 7. [a] = (v @ (b.S)) ⇒ a = b
. 8. [a] = u.(v @ (b.S))
. ⊢  a = b
. | by MoveToConcl -1 THEN TryOnAllHyps Thin THEN ListInd -1
. |    THEN
. |    AbReduce 0
. |
. |\
. | 7. [a] = [u; b/ S]
. | ⊢  a = b
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. |   by ApFunToHypEquands 'L'
. |      (Case of L; nil → 0 ; h.t → Case of t; nil → 1 ; h.t → 2)
. |      ℤ
. |      -1
. |      THEN
. |      Reduce -1
. |
. .\
. . 7. u1 : T
. . 8. v1 : T List
. . 9. [a] = u.(v1 @ (b.S)) ⇒ a = b
. . 10. [a] = [u; u1/ v1 @ (b.S)]
. . ⊢  a = b
. .   by ApFunToHypEquands 'L'
. .      (Case of L; nil → 0 ; h.t → Case of t; nil → 1 ; h.t → 2)
. .      ℤ
. .      -1
. .      THEN
. .      Reduce -1
END
```