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0: N_1(x) /\ N_2(y) /\ ADD_3(x,y,z) |- ADD_1(x,s(y),s(z)) (N L.Unf.) [1,2]
1: N_2(y) /\ ADD_3(0,y,z) /\ N_4(0) |- ADD_1(0,s(y),s(z)) (ADD R.Unf.) [3]
3: N_2(y) /\ ADD_3(0,y,z) /\ N_4(0) |- y=z /\ N_1(s(y)) (R.And) [5,6]
5: N_2(y) /\ ADD_3(0,y,z) /\ N_4(0) |- y=z (ADD L.Unf.) [7,8]
7: N_2(z) /\ N_3(z) /\ N_4(0) /\ ADD_5(0,z,z) |- T (Id)
8: 0=s(w) /\ N_2(y) /\ ADD_3(w,y,b) /\ N_4(0) /\ ADD_5(0,y,s(b)) |- y=s(b) (Ex Falso)
6: N_2(y) /\ ADD_3(0,y,z) /\ N_4(0) |- N_1(s(y)) (N R.Unf.) [9]
9: N_2(y) /\ ADD_3(0,y,z) /\ N_4(0) |- T (Id)
2: N_1(w) /\ N_2(y) /\ ADD_3(s(w),y,z) /\ N_4(s(w)) |- ADD_1(s(w),s(z)) (ADD R.Unf.) [4]
4: N_1(w) /\ N_2(y) /\ ADD_3(s(w),y,z) /\ N_4(s(w)) |- ADD_1(w,s(y),z) (ADD L.Unf.) [10,11]
10: s(w)=0 /\ N_1(w) /\ N_2(z) /\ N_3(z) /\ N_4(s(w)) /\ ADD_5(s(w),z,z) |- ADD_1(w,s(z),z) (Ex Falso)
11: N_1(w) /\ N_2(y) /\ ADD_3(w,y,c) /\ N_4(s(w)) /\ ADD_5(s(w),y,s(c)) |- ADD_1(w,s(y),s(c)) (Weaken) [12]
12: N_1(w) /\ N_2(y) /\ ADD_3(w,y,c) |- ADD_1(w,s(y),s(c)) (Subst) [13]
13: N_1(x) /\ N_2(y) /\ ADD_3(x,y,z) |- ADD_1(x,s(y),s(z)) (Back1) [0]

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Miss !!!

Root list: 0

Measures proposed for the roots in cycles:

0: [1, 3]

Checking the link of IAAs from buds to roots:

13 to 0: | 1 -> 1 [true] | 2 -> 2 [false] | 3 -> 3 [true] ==> true

The proof has succeeded