

t3_bcialg_4 (TM- bLpc7BZ8DbQCYs6ZT3kgi4CTFPZXvhmzs)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $l1_bcialg_4 : \iota \Rightarrow o$ be given. Let $v3_bcialg_1 : \iota \Rightarrow o$ be given. Let $v4_bcialg_1 : \iota \Rightarrow o$ be given. Let $v5_bcialg_1 : \iota \Rightarrow o$ be given. Let $v7_bcialg_1 : \iota \Rightarrow o$ be given. Let $l2_bcialg_1 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $r1_bcialg_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_bcialg_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_bcialg_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_bcialg_4 : \iota \Rightarrow o$ be given. Let $l2_struct_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
& \forall X0. ((\neg v2_struct_0 X0) \wedge (l1_bcialg_4 X0)) \Rightarrow (((\neg v2_struct_0 \\
& X0) \wedge ((v3_bcialg_1 X0) \wedge ((v4_bcialg_1 X0) \wedge ((v5_bcialg_1 X0) \wedge \\
& ((v7_bcialg_1 X0) \wedge (l2_bcialg_1 X0)))))) \wedge (\forall X1. (m1_subset_1 \\
& X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. (m1_subset_1 X2 (u1_struct_0 \\
& X0)) \Rightarrow ((r1_bcialg_1 X0 (k1_bcialg_1 X0 (k1_bcialg_4 X0 X1 X2) X1) \\
& X2) \wedge (\forall X3. (m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow ((r1_bcialg_1 \\
& X0 (k1_bcialg_1 X0 X3 X1) X2) \Rightarrow (r1_bcialg_1 X0 X3 (k1_bcialg_4 X0 \\
& X1 X2)))))) \Rightarrow ((\neg v2_struct_0 X0) \wedge ((v3_bcialg_1 X0) \wedge ((v4_bcialg_1 \\
& X0) \wedge ((v5_bcialg_1 X0) \wedge ((v7_bcialg_1 X0) \wedge ((v2_bcialg_4 X0) \wedge \\
& (l1_bcialg_4 X0))))))))))
\end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0. ((\neg v2_struct_0 X0) \wedge ((v3_bcialg_1 X0) \wedge ((v4_bcialg_1 \\
& X0) \wedge ((v5_bcialg_1 X0) \wedge ((v7_bcialg_1 X0) \wedge ((v2_bcialg_4 X0) \wedge \\
& (l1_bcialg_4 X0)))))) \Rightarrow (\forall X1. (m1_subset_1 X1 (u1_struct_0 \\
& X0)) \Rightarrow (\forall X2. (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow ((r1_bcialg_1 \\
& X0 (k1_bcialg_1 X0 (k1_bcialg_4 X0 X1 X2) X1) X2) \wedge (\forall X3. (m1_subset_1 \\
& X3 (u1_struct_0 X0)) \Rightarrow ((r1_bcialg_1 X0 (k1_bcialg_1 X0 X3 X1) X2) \Rightarrow \\
& (r1_bcialg_1 X0 X3 (k1_bcialg_4 X0 X1 X2))))))
\end{aligned} \tag{2}$$

Assume the following.

$$\forall X0. (l1_bcialg_4 X0) \Rightarrow ((l2_bcialg_1 X0) \wedge (l2_struct_0 X0)) \tag{3}$$

Theorem 1

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge (l1_bialg_4 X0)) \Rightarrow & (((\neg v2_struct_0 \\ X0) \wedge ((v3_bialg_1 X0) \wedge ((v4_bialg_1 X0) \wedge ((v5_bialg_1 X0) \wedge & \\ ((v7_bialg_1 X0) \wedge (l2_bialg_1 X0)))))) \wedge (\forall X1.(m1_subset_1 & \\ X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 & \\ X0)) \Rightarrow ((r1_bialg_1 X0 (k1_bialg_1 X0 (k1_bialg_4 X0 X1 X2) X1) & \\ X2) \wedge (\forall X3.(m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow ((r1_bialg_1 & \\ X0 (k1_bialg_1 X0 X3 X1) X2) \Rightarrow (r1_bialg_1 X0 X3 (k1_bialg_4 X0 & \\ X1 X2)))))) \Leftrightarrow ((\neg v2_struct_0 X0) \wedge ((v3_bialg_1 X0) \wedge ((v4_bialg_1 & \\ X0) \wedge ((v5_bialg_1 X0) \wedge ((v7_bialg_1 X0) \wedge ((v2_bialg_4 X0) \wedge & \\ (l1_bialg_4 X0)))))))) \end{aligned}$$