

l13_bcialg_1

(TMXah1HVEChgfE9KNLVECSfRMhzkJVDRoNX)

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Let $v2_struct_0 : \iota \Rightarrow o$ 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 $k1_bcialg_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_struct_0 : \iota \Rightarrow \iota$ be given. Let $k2_bcialg_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge (l2_bcialg_1 X0)) \Rightarrow (((\neg v2_struct_0 X0) \wedge ((v3_bcialg_1 X0) \wedge ((v4_bcialg_1 X0) \wedge ((v5_bcialg_1 X0) \wedge ((v7_bcialg_1 X0) \wedge (l2_bcialg_1 X0)))))) \Leftrightarrow ((v5_bcialg_1 X0) \wedge ((v7_bcialg_1 X0) \wedge (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow ((k1_bcialg_1 X0 (k1_bcialg_1 X0 (k1_bcialg_1 X0 X1 X2) (k1_bcialg_1 X0 X1 X3)) (k1_bcialg_1 X0 X3 X2) = k4_struct_0 X0) \wedge (k1_bcialg_1 X0 (k1_bcialg_1 X0 X1 (k1_bcialg_1 X0 X1 X2)) X2 = k4_struct_0 X0)))))))))) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. (((\neg v2_struct_0 X0) \wedge (l2_bcialg_1 X0)) \wedge (m1_subset_1 X1 (u1_struct_0 X0))) \Rightarrow (m1_subset_1 (k2_bcialg_1 X0 X1) (u1_struct_0 X0)) \quad (2)$$

Assume the following.

$$\forall X0. ((\neg v2_struct_0 X0) \wedge (l2_bcialg_1 X0)) \Rightarrow ((v7_bcialg_1 X0) \Leftrightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (((k1_bcialg_1 X0 X1 X2 = k4_struct_0 X0) \wedge (k1_bcialg_1 X0 X2 X1 = k4_struct_0 X0)) \Rightarrow (X1 = X2)))))) \quad (3)$$

Assume the following.

$$\forall X0. ((\neg v2_struct_0 X0) \wedge (l2_bcialg_1 X0)) \Rightarrow ((v5_bcialg_1 X0) \Leftrightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (k1_bcialg_1 X0 X1 X1 = k4_struct_0 X0))) \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge (l2_bcialg_1 X0)) \Rightarrow (\forall X1. \\ & (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (k2_bcialg_1 X0 X1 = k1_bcialg_1 \\ & X0 (k4_struct_0 X0) X1)) \end{aligned} \tag{5}$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v3_bcialg_1 X0) \wedge ((v4_bcialg_1 \\ & X0) \wedge ((v5_bcialg_1 X0) \wedge ((v7_bcialg_1 X0) \wedge (l2_bcialg_1 X0)))))) \Rightarrow \\ & (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow ((k1_bcialg_1 \\ & X0 X1 (k4_struct_0 X0) = k4_struct_0 X0) \Rightarrow (X1 = k4_struct_0 X0))) \end{aligned}$$