

l71_bcialg_4
(TMMtptu4NQEVT9K6y6t92bSnyV96DKun9Hab)

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Let $v5_bcialg_4 : \iota \Rightarrow o$ be given. Let $k2_bcialg_4 : \iota$ be given. Let $v6_bcialg_4 : \iota \Rightarrow o$ be given. Let $v7_bcialg_4 : \iota \Rightarrow o$ be given. Let $v5_bcialg_1 : \iota \Rightarrow o$ be given. Let $v2_bcialg_4 : \iota \Rightarrow o$ be given. 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 $v7_bcialg_1 : \iota \Rightarrow o$ be given. Let $l1_bcialg_4 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k1_bcialg_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_struct_0 : \iota \Rightarrow \iota$ be given. Let $v8_bcialg_1 : \iota \Rightarrow o$ be given. Let $v13_struct_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $np_1 : \iota$ be given. Let $v1_bcialg_4 : \iota \Rightarrow o$ be given. Let $l2_struct_0 : \iota \Rightarrow o$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Let $l2_bcialg_1 : \iota \Rightarrow o$ be given. Let $k1_bcialg_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v7_struct_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v3_bcialg_1 X0) \wedge ((v4_bcialg_1 \\ & X0) \wedge ((v5_bcialg_1 X0) \wedge ((v7_bcialg_1 X0) \wedge ((v2_bcialg_4 X0) \wedge \\ & (l1_bcialg_4 X0)))))) \Rightarrow (\forall X1. (m1_subset_1 X1 (u1_struct_0 \\ & X0)) \Rightarrow ((k1_bcialg_4 X0 (k4_struct_0 X0) X1 = X1) \wedge (k1_bcialg_4 X0 \\ & X1 (k4_struct_0 X0) = X1))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & (v3_bcialg_1 k2_bcialg_4) \wedge ((v4_bcialg_1 k2_bcialg_4) \wedge ((v5_bcialg_1 \\ & k2_bcialg_4) \wedge ((v7_bcialg_1 k2_bcialg_4) \wedge ((v8_bcialg_1 k2_bcialg_4) \wedge \\ & (v2_bcialg_4 k2_bcialg_4)))))) \end{aligned} \quad (2)$$

Assume the following.

$$(v13_struct_0 k2_bcialg_4 np_1) \wedge (v1_bcialg_4 k2_bcialg_4) \quad (3)$$

Assume the following.

$$\forall X0. (l2_struct_0 X0) \Rightarrow (l1_struct_0 X0) \quad (4)$$

Assume the following.

$$\forall X0. (l1_bcialg_4 X0) \Rightarrow ((l2_bcialg_1 X0) \wedge (l2_struct_0 X0)) \quad (5)$$

Assume the following.

$$\forall X0.(l2_struct_0 X0) \Rightarrow (m1_subset_1 (k4_struct_0 X0) (u1_struct_0 X0)) \quad (6)$$

Assume the following.

$$l1_bcialg_4 k2_bcialg_4 \quad (7)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge (l2_bcialg_1 X0)) \Rightarrow ((v5_bcialg_1 X0) \Leftrightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (k1_bcialg_1 X0 X1 X1 = k4_struct_0 X0))) \quad (8)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge (l1_bcialg_4 X0)) \Rightarrow ((v7_bcialg_4 X0) \Leftrightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (k1_bcialg_4 X0 (k1_bcialg_1 X0 X1 X2) X2 = k1_bcialg_4 X0 X1 X2)))) \quad (9)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge (l1_bcialg_4 X0)) \Rightarrow ((v6_bcialg_4 X0) \Leftrightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (k1_bcialg_4 X0 X1 X2 = k1_bcialg_4 X0 X2 X1)))) \quad (10)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge (l1_bcialg_4 X0)) \Rightarrow ((v5_bcialg_4 X0) \Leftrightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (k1_bcialg_4 X0 X1 X1 = X1))) \quad (11)$$

Assume the following.

$$\forall X0.(l1_struct_0 X0) \Rightarrow ((v7_struct_0 X0) \Leftrightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (X1 = X2)))) \quad (12)$$

Assume the following.

$$\forall X0.(l1_struct_0 X0) \Rightarrow ((v13_struct_0 X0 np_1) \Rightarrow ((\neg v2_struct_0 X0) \wedge (v7_struct_0 X0))) \quad (13)$$

Theorem 1

$$(v5_bcialg_4 k2_bcialg_4) \wedge ((v6_bcialg_4 k2_bcialg_4) \wedge ((v7_bcialg_4 k2_bcialg_4) \wedge ((v5_bcialg_1 k2_bcialg_4) \wedge (v2_bcialg_4 k2_bcialg_4))))$$