

t17_bcialg_1

(TMb2kxZsHjseGsR3NnrSvHS1v6Dcm5vBmZL)

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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 $v8_bcialg_1 : \iota \Rightarrow o$ be given. Let $l1_bcialg_1 : \iota \Rightarrow o$ be given. Let $l2_struct_0 : \iota \Rightarrow o$ be given. Assume the following.

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

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v3_bcialg_1 X0) \wedge ((v4_bcialg_1 \\ & X0) \wedge ((v5_bcialg_1 X0) \wedge ((v7_bcialg_1 X0) \wedge (l2_bcialg_1 X0)))))) \Rightarrow \\ & (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (k1_bcialg_1 X0 \\ & X1 (k4_struct_0 X0) = X1)) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v3_bcialg_1 X0) \wedge ((v4_bcialg_1 \\ & X0) \wedge ((v5_bcialg_1 X0) \wedge ((v7_bcialg_1 X0) \wedge (l2_bcialg_1 X0)))))) \Rightarrow \\ & ((\forall X1.((\neg v2_struct_0 X1) \wedge ((v3_bcialg_1 X1) \wedge ((v4_bcialg_1 \\ & X1) \wedge ((v5_bcialg_1 X1) \wedge ((v7_bcialg_1 X1) \wedge (l2_bcialg_1 X1)))))) \Rightarrow \\ & (\forall X2.(m1_subset_1 X2 (u1_struct_0 X1)) \Rightarrow (\forall X3.(m1_subset_1 \\ & X3 (u1_struct_0 X1)) \Rightarrow (k1_bcialg_1 X1 (k1_bcialg_1 X1 X2 X3) (k1_bcialg_1 \\ & X1 X3 X2) = k1_bcialg_1 X1 X2 X3))) \Rightarrow ((\neg v2_struct_0 X0) \wedge ((v3_bcialg_1 \\ & X0) \wedge ((v4_bcialg_1 X0) \wedge ((v5_bcialg_1 X0) \wedge ((v7_bcialg_1 X0) \wedge \\ & ((v8_bcialg_1 X0) \wedge (l2_bcialg_1 X0)))))))) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0.(l2_bcialg_1 X0) \Rightarrow ((l1_bcialg_1 X0) \wedge (l2_struct_0 X0)) \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((l1_bcialg_1 X0) \wedge ((m1_subset_1 \\ & X1 (u1_struct_0 X0)) \wedge (m1_subset_1 X2 (u1_struct_0 X0)))) \Rightarrow (m1_subset_1 \\ & (k1_bcialg_1 X0 X1 X2) (u1_struct_0 X0)) \end{aligned} \quad (5)$$

Theorem 1

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v3_bcialg_1 X0) \wedge ((v4_bcialg_1 \\ & X0) \wedge ((v5_bcialg_1 X0) \wedge ((v7_bcialg_1 X0) \wedge (l2_bcialg_1 X0)))))) \Rightarrow \\ & ((\forall X1. ((\neg v2_struct_0 X1) \wedge ((v3_bcialg_1 X1) \wedge ((v4_bcialg_1 \\ & X1) \wedge ((v5_bcialg_1 X1) \wedge ((v7_bcialg_1 X1) \wedge (l2_bcialg_1 X1)))))) \Rightarrow \\ & (\forall X2. (m1_subset_1 X2 (u1_struct_0 X1)) \Rightarrow (\forall X3. (m1_subset_1 \\ & X3 (u1_struct_0 X1)) \Rightarrow (k1_bcialg_1 X1 (k1_bcialg_1 X1 X2 X3) (k1_bcialg_1 \\ & X1 (k1_bcialg_1 X1 X2 X3) (k1_bcialg_1 X1 X3 X2)) = k4_struct_0 X1)))))) \Rightarrow \\ & ((\neg v2_struct_0 X0) \wedge ((v3_bcialg_1 X0) \wedge ((v4_bcialg_1 X0) \wedge ((v5_bcialg_1 \\ & X0) \wedge ((v7_bcialg_1 X0) \wedge ((v8_bcialg_1 X0) \wedge (l2_bcialg_1 X0)))))))) \end{aligned}$$