

t18_bcialg_1

(TMFnTDm6Pz2qbDKYXqRtLMydKJdsoUUxGKf)

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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 $v6_bcialg_1 : \iota \Rightarrow o$ be given. Let $v8_bcialg_1 : \iota \Rightarrow o$ 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 $k2_bcialg_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_struct_0 : \iota \Rightarrow \iota$ be given. Assume the following.

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

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge (l2_bcialg_1 X0)) \Rightarrow ((v8_bcialg_1 \\ & X0) \Leftrightarrow (\forall X1. (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (k2_bcialg_1 \\ & X0 X1 = k4_struct_0 X0))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge (l2_bcialg_1 X0)) \Rightarrow ((v6_bcialg_1 \\ & X0) \Leftrightarrow (\forall X1. (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. \\ & (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (k1_bcialg_1 X0 (k1_bcialg_1 \\ & X0 X1 X2) X1 = k4_struct_0 X0)))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge (l2_bcialg_1 X0)) \Rightarrow ((v5_bcialg_1 \\ & X0) \Leftrightarrow (\forall X1. (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (k1_bcialg_1 \\ & X0 X1 X1 = k4_struct_0 X0))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge (l2_bialg_1 X0)) \Rightarrow (\forall X1. \\ & (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (k2_bialg_1 X0 X1 = k1_bialg_1 \\ & X0 (k4_struct_0 X0) X1)) \end{aligned} \tag{5}$$

Theorem 1

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v3_bialg_1 X0) \wedge ((v4_bialg_1 \\ & X0) \wedge ((v5_bialg_1 X0) \wedge ((v7_bialg_1 X0) \wedge (l2_bialg_1 X0)))))) \Rightarrow \\ & ((v6_bialg_1 X0) \Leftrightarrow ((\neg v2_struct_0 X0) \wedge ((v3_bialg_1 X0) \wedge ((v4_bialg_1 \\ & X0) \wedge ((v5_bialg_1 X0) \wedge ((v7_bialg_1 X0) \wedge ((v8_bialg_1 X0) \wedge \\ & (l2_bialg_1 X0)))))))) \end{aligned}$$