

t52_bcialg_5

(TMPjeGH7f2DKmZGiS2gpUiAthnJ14w2U7xG)

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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 $v8_bcialg_1 : \iota \Rightarrow o$ be given. Let $v1_bcialg_5 : \iota \Rightarrow o$ be given. Let $l2_bcialg_1 : \iota \Rightarrow o$ be given. Let $m1_bcialg_5 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6_numbers : \iota$ be given. Let $np_1 : \iota$ 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 $v10_bcialg_3 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} \forall X0. (&(\neg v2_struct_0 X0) \wedge ((v3_bcialg_1 X0) \wedge ((v4_bcialg_1 \\ &X0) \wedge ((v5_bcialg_1 X0) \wedge ((v7_bcialg_1 X0) \wedge (l2_bcialg_1 X0)))))) \Rightarrow \\ &(((\neg v2_struct_0 X0) \wedge ((v3_bcialg_1 X0) \wedge ((v4_bcialg_1 X0) \wedge (\\ &v5_bcialg_1 X0) \wedge ((v7_bcialg_1 X0) \wedge ((v8_bcialg_1 X0) \wedge ((v10_bcialg_3 \\ &X0) \wedge (l2_bcialg_1 X0)))))))) \Leftrightarrow ((v8_bcialg_1 X0) \wedge (m1_bcialg_5 \\ &X0 k6_numbers np_1 k6_numbers np_1))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0. (&(\neg v2_struct_0 X0) \wedge ((v3_bcialg_1 X0) \wedge ((v4_bcialg_1 \\ &X0) \wedge ((v5_bcialg_1 X0) \wedge ((v7_bcialg_1 X0) \wedge ((v8_bcialg_1 X0) \wedge \\ &(l2_bcialg_1 X0))))))) \Rightarrow (((\neg v2_struct_0 X0) \wedge ((v3_bcialg_1 X0) \wedge \\ &((v4_bcialg_1 X0) \wedge ((v5_bcialg_1 X0) \wedge ((v7_bcialg_1 X0) \wedge ((v8_bcialg_1 \\ &X0) \wedge ((v10_bcialg_3 X0) \wedge (l2_bcialg_1 X0)))))))) \Leftrightarrow (\forall X1. \\ &(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. (m1_subset_1 X2 \\ &(u1_struct_0 X0)) \Rightarrow (k1_bcialg_1 X0 X1 X2 = k1_bcialg_1 X0 (k1_bcialg_1 \\ &X0 X1 X2) X2)))) \end{aligned} \quad (2)$$

Theorem 1

$$\begin{aligned} \forall X0. (&(\neg v2_struct_0 X0) \wedge ((v3_bcialg_1 X0) \wedge ((v4_bcialg_1 \\ &X0) \wedge ((v5_bcialg_1 X0) \wedge ((v7_bcialg_1 X0) \wedge ((v8_bcialg_1 X0) \wedge \\ &((v1_bcialg_5 X0) \wedge (l2_bcialg_1 X0)))))))) \Rightarrow (((v8_bcialg_1 X0) \wedge \\ &(m1_bcialg_5 X0 k6_numbers np_1 k6_numbers np_1)) \Leftrightarrow (\forall X1. \\ &(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. (m1_subset_1 X2 \\ &(u1_struct_0 X0)) \Rightarrow (k1_bcialg_1 X0 X1 X2 = k1_bcialg_1 X0 (k1_bcialg_1 \\ &X0 X1 X2) X2)))) \end{aligned}$$