

t55_bciideal

(TMZBReqghNt2CVPvVxtnvoBodZds1TwzbZU)

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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 $l2_bcialg_1 : \iota \Rightarrow o$ be given. Let $m2_bcialg_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m4_bciideal : \iota \Rightarrow \iota \Rightarrow o$ 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. Assume the following.

$$\begin{aligned}
 & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v3_bcialg_1 X0) \wedge ((v4_bcialg_1 \\
 & X0) \wedge ((v5_bcialg_1 X0) \wedge ((v7_bcialg_1 X0) \wedge ((v8_bcialg_1 X0) \wedge \\
 & (l2_bcialg_1 X0)))))) \Rightarrow (\forall X1. (m2_bcialg_1 X1 X0) \Rightarrow ((m4_bciideal \\
 & X1 X0) \Leftrightarrow (\forall X2. (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3. \\
 & (m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow (\forall X4. (m1_subset_1 X4 \\
 & (u1_struct_0 X0)) \Rightarrow (((k1_bcialg_1 X0 (k1_bcialg_1 X0 X2 X3) X4 \in \\
 & X1) \wedge (k1_bcialg_1 X0 X3 X4 \in X1)) \Rightarrow (k1_bcialg_1 X0 X2 X4 \in X1))))))
 \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
 & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v3_bcialg_1 X0) \wedge ((v4_bcialg_1 \\
 & X0) \wedge ((v5_bcialg_1 X0) \wedge ((v7_bcialg_1 X0) \wedge ((v8_bcialg_1 X0) \wedge \\
 & (l2_bcialg_1 X0)))))) \Rightarrow (\forall X1. (m2_bcialg_1 X1 X0) \Rightarrow ((\forall X2. \\
 & (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3. (m1_subset_1 X3 \\
 & (u1_struct_0 X0)) \Rightarrow (\forall X4. (m1_subset_1 X4 (u1_struct_0 X0)) \Rightarrow \\
 & ((k1_bcialg_1 X0 (k1_bcialg_1 X0 X2 X3) X4 \in X1) \Rightarrow (k1_bcialg_1 X0 \\
 & (k1_bcialg_1 X0 X2 X4) (k1_bcialg_1 X0 X3 X4) \in X1)))))) \Rightarrow (m4_bciideal \\
 & X1 X0))
 \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v3_bcialg_1 X0) \wedge ((v4_bcialg_1 \\
& X0) \wedge ((v5_bcialg_1 X0) \wedge ((v7_bcialg_1 X0) \wedge ((v8_bcialg_1 X0) \wedge \\
& (l2_bcialg_1 X0)))))) \Rightarrow (\forall X1.(m2_bcialg_1 X1 X0) \Rightarrow ((\forall X2. \\
& (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 \\
& (u1_struct_0 X0)) \Rightarrow (\forall X4.(m1_subset_1 X4 (u1_struct_0 X0)) \Rightarrow \\
& (((k1_bcialg_1 X0 (k1_bcialg_1 X0 X2 X3) X4 \in X1) \wedge (k1_bcialg_1 X0 \\
& X3 X4 \in X1)) \Rightarrow (k1_bcialg_1 X0 X2 X4 \in X1)))))) \Rightarrow (\forall X2.(m1_subset_1 \\
& X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 (u1_struct_0 \\
& X0)) \Rightarrow (\forall X4.(m1_subset_1 X4 (u1_struct_0 X0)) \Rightarrow ((k1_bcialg_1 \\
& X0 (k1_bcialg_1 X0 X2 X3) X4 \in X1) \Rightarrow (k1_bcialg_1 X0 (k1_bcialg_1 X0 \\
& X2 X4) (k1_bcialg_1 X0 X3 X4) \in X1))))))
\end{aligned} \tag{3}$$

Theorem 1

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v3_bcialg_1 X0) \wedge ((v4_bcialg_1 \\
& X0) \wedge ((v5_bcialg_1 X0) \wedge ((v7_bcialg_1 X0) \wedge ((v8_bcialg_1 X0) \wedge \\
& (l2_bcialg_1 X0)))))) \Rightarrow (\forall X1.(m2_bcialg_1 X1 X0) \Rightarrow ((m4_bciideal \\
& X1 X0) \Leftrightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3. \\
& (m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow (\forall X4.(m1_subset_1 X4 \\
& (u1_struct_0 X0)) \Rightarrow ((k1_bcialg_1 X0 (k1_bcialg_1 X0 X2 X3) X4 \in X1) \Rightarrow \\
& (k1_bcialg_1 X0 (k1_bcialg_1 X0 X2 X4) (k1_bcialg_1 X0 X3 X4) \in X1))))))
\end{aligned}$$