

t53_bciideal
(TMHd3Xj7Lvev4BsoaP5uss1qjEWvH7XH3jq)

October 27, 2020

Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v3_bciideal_1 : \iota \Rightarrow o$ be given. Let $v4_bciideal_1 : \iota \Rightarrow o$ be given. Let $v5_bciideal_1 : \iota \Rightarrow o$ be given. Let $v7_bciideal_1 : \iota \Rightarrow o$ be given. Let $v8_bciideal_1 : \iota \Rightarrow o$ be given. Let $l2_bciideal_1 : \iota \Rightarrow o$ be given. Let $m2_bciideal_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k1_bciideal_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m4_bciideal : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $l1_bciideal_1 : \iota \Rightarrow o$ be given. Let $l2_struct_0 : \iota \Rightarrow o$ be given. Let $k4_struct_0 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge ((v3_bciideal_1 X0) \wedge ((v4_bciideal_1 \\ X0) \wedge ((v5_bciideal_1 X0) \wedge ((v7_bciideal_1 X0) \wedge (l2_bciideal_1 X0)))))) \Rightarrow \\ (\forall X1.(m2_bciideal_1 X1 X0) \Rightarrow ((\neg v1_xboole_0 X1) \wedge (m1_subset_1 \\ X1 (k1_zfmisc_1 (u1_struct_0 X0)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0.(l2_bciideal_1 X0) \Rightarrow ((l1_bciideal_1 X0) \wedge (l2_struct_0 X0)) \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. \forall X2. ((l1_bciideal_1 X0) \wedge ((m1_subset_1 \\ X1 (u1_struct_0 X0)) \wedge (m1_subset_1 X2 (u1_struct_0 X0)))) \Rightarrow (m1_subset_1 \\ (k1_bciideal_1 X0 X1 X2) (u1_struct_0 X0)) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge ((v3_bciideal_1 X0) \wedge ((v4_bciideal_1 \\ X0) \wedge ((v5_bciideal_1 X0) \wedge ((v7_bciideal_1 X0) \wedge ((v8_bciideal_1 X0) \wedge \\ (l2_bciideal_1 X0))))))) \Rightarrow (\forall X1.((\neg v1_xboole_0 X1) \wedge (m1_subset_1 \\ X1 (k1_zfmisc_1 (u1_struct_0 X0)))) \Rightarrow ((m4_bciideal X1 X0) \Leftrightarrow ((k4_struct_0 \\ X0 \in X1) \wedge (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3. \\ (m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow (\forall X4.(m1_subset_1 X4 \\ (u1_struct_0 X0)) \Rightarrow (((k1_bciideal_1 X0 (k1_bciideal_1 X0 X2 X3) X4 \in \\ X1) \wedge (k1_bciideal_1 X0 X3 X4 \in X1)) \Rightarrow (k1_bciideal_1 X0 X2 X4 \in X1)))))))))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v3_bcialg_1 X0) \wedge ((v4_bcialg_1 \\
& X0) \wedge ((v5_bcialg_1 X0) \wedge ((v7_bcialg_1 X0) \wedge (l2_bcialg_1 X0)))))) \Rightarrow \\
& (\forall X1.((\neg v1_xboole_0 X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 \\
& (u1_struct_0 X0)))) \Rightarrow ((m2_bcialg_1 X1 X0) \Leftrightarrow ((k4_struct_0 X0 \in X1) \wedge \\
& (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 \\
& X3 (u1_struct_0 X0)) \Rightarrow (((k1_bcialg_1 X0 X2 X3 \in X1) \wedge (X3 \in X1)) \Rightarrow (X2 \in \\
& X1)))))))
\end{aligned} \tag{5}$$

Theorem 1

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