

t18_bcialg_4
(TMQCBjw8ekg7GpAGrU83tC74Lb385EURurp)

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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 $v2_bcialg_4 : \iota \Rightarrow o$ be given. Let $l1_bcialg_4 : \iota \Rightarrow o$ be given. Let $k4_binop_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $u1_bcialg_4 : \iota \Rightarrow \iota$ be given. Let $k4_struct_0 : \iota \Rightarrow \iota$ be given. Let $r3_binop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $l2_bcialg_1 : \iota \Rightarrow o$ be given. Let $l2_struct_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} \forall X0. (&(\neg v2_struct_0 X0) \wedge ((v3_bcialg_1 X0) \wedge ((v4_bcialg_1 \\ &X0) \wedge ((v5_bcialg_1 X0) \wedge ((v7_bcialg_1 X0) \wedge ((v2_bcialg_4 X0) \wedge \\ &(l1_bcialg_4 X0)))))) \Rightarrow (r3_binop_1 (u1_struct_0 X0) (k4_struct_0 \\ &X0) (u1_bcialg_4 X0)) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0. (l1_bcialg_4 X0) \Rightarrow &((v1_funct_1 (u1_bcialg_4 X0)) \wedge \\ &((v1_funct_2 (u1_bcialg_4 X0) (k2_zfmisc_1 (u1_struct_0 X0) (\\ &u1_struct_0 X0)) (u1_struct_0 X0)) \wedge (m1_subset_1 (u1_bcialg_4 \\ &X0) (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X0) (\\ &u1_struct_0 X0)) (u1_struct_0 X0)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0. (l1_bcialg_4 X0) \Rightarrow ((l2_bcialg_1 X0) \wedge (l2_struct_0 X0)) \quad (3)$$

Assume the following.

$$\forall X0. (l2_struct_0 X0) \Rightarrow (m1_subset_1 (k4_struct_0 X0) (u1_struct_0 X0)) \quad (4)$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. ((v1_funct_1 X1) \wedge ((v1_funct_2 X1 (k2_zfmisc_1 \\
& X0 X0) X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 \\
& X0 X0) X0)))))) \Rightarrow ((\exists X2. (m1_subset_1 X2 X0) \wedge (r3_binop_1 X0 \\
& X2 X1)) \Rightarrow (\forall X2. (m1_subset_1 X2 X0) \Rightarrow ((X2 = k4_binop_1 X0 X1) \Leftrightarrow \\
& (r3_binop_1 X0 X2 X1))))
\end{aligned} \tag{5}$$

Theorem 1

$$\begin{aligned}
& \forall X0. ((\neg v2_struct_0 X0) \wedge ((v3_bcialg_1 X0) \wedge ((v4_bcialg_1 \\
& X0) \wedge ((v5_bcialg_1 X0) \wedge ((v7_bcialg_1 X0) \wedge ((v2_bcialg_4 X0) \wedge \\
& (l1_bcialg_4 X0))))))) \Rightarrow (k4_binop_1 (u1_struct_0 X0) (u1_bcialg_4 \\
& X0) = k4_struct_0 X0)
\end{aligned}$$