

# t34\_bcialg\_1 (TMJAoQqMhwHLy- HeA67gBnh29uu7GAjmHHE4)

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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  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_struct.0 : \iota \Rightarrow \iota$  be given. Let  $k2\_bcialg\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_bcialg\_1 : \iota \Rightarrow \iota$  be given. Let  $k1\_zfmisc.1 : \iota \Rightarrow \iota$  be given. Let  $k1\_bcialg\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_struct.0 : \iota \Rightarrow \iota$  be given. Let  $v1\_xboole.0 : \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0. \forall X1. \forall X2. ((X0 \in X1) \wedge (m1\_subset\_1 X1 (k1\_zfmisc.1 X2))) \Rightarrow (m1\_subset\_1 X0 X2) \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2\_struct.0 X0) \wedge ((v3\_bcialg\_1 X0) \wedge ((v4\_bcialg\_1 \\ & X0) \wedge ((v5\_bcialg\_1 X0) \wedge ((v7\_bcialg\_1 X0) \wedge (l2\_bcialg\_1 X0)))))) \Rightarrow \\ & (\forall X1. (m1\_subset\_1 X1 (u1\_struct.0 X0)) \Rightarrow ((X1 \in k5\_bcialg\_1 \\ & X0) \Leftrightarrow (\forall X2. (m1\_subset\_1 X2 (u1\_struct.0 X0)) \Rightarrow (k2\_bcialg\_1 \\ & X0 (k2\_bcialg\_1 X0 (k1\_bcialg\_1 X0 X1 X2)) = k1\_bcialg\_1 X0 X1 X2)))) \quad (2) \end{aligned}$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2\_struct.0 X0) \wedge ((v3\_bcialg\_1 X0) \wedge ((v4\_bcialg\_1 \\ & X0) \wedge ((v5\_bcialg\_1 X0) \wedge ((v7\_bcialg\_1 X0) \wedge (l2\_bcialg\_1 X0)))))) \Rightarrow \\ & (\forall X1. (m1\_subset\_1 X1 (u1\_struct.0 X0)) \Rightarrow ((X1 \in k5\_bcialg\_1 \\ & X0) \Leftrightarrow (k2\_bcialg\_1 X0 (k2\_bcialg\_1 X0 X1) = X1))) \quad (3) \end{aligned}$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2\_struct.0 X0) \wedge ((v3\_bcialg\_1 X0) \wedge ((v4\_bcialg\_1 \\ & X0) \wedge ((v5\_bcialg\_1 X0) \wedge ((v7\_bcialg\_1 X0) \wedge (l2\_bcialg\_1 X0)))))) \Rightarrow \\ & (k4\_struct.0 X0 \in k5\_bcialg\_1 X0) \quad (4) \end{aligned}$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2\_struct.0 X0) \wedge ((v3\_bcialg\_1 X0) \wedge ((v4\_bcialg\_1 \\ & X0) \wedge ((v5\_bcialg\_1 X0) \wedge ((v7\_bcialg\_1 X0) \wedge (l2\_bcialg\_1 X0)))))) \Rightarrow \\ & ((\neg v1\_xboole.0 (k5\_bcialg\_1 X0)) \wedge (m1\_subset\_1 (k5\_bcialg\_1 \\ & X0) (k1\_zfmisc.1 (u1\_struct.0 X0)))) \quad (5) \end{aligned}$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v2\_struct\_0 X0)\wedge(l2\_bialg\_1 X0))\wedge(m1\_subset\_1 X1 (u1\_struct\_0 X0)))\Rightarrow(m1\_subset\_1 (k2\_bialg\_1 X0 X1) (u1\_struct\_0 X0)) \quad (6)$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0 X0)\wedge(l2\_bialg\_1 X0))\Rightarrow(\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0))\Rightarrow(k2\_bialg\_1 X0 X1 = k1\_bialg\_1 X0 (k4\_struct\_0 X0) X1)) \quad (7)$$

**Theorem 1**

$$\forall X0.((\neg v2\_struct\_0 X0)\wedge((v3\_bialg\_1 X0)\wedge((v4\_bialg\_1 X0)\wedge((v5\_bialg\_1 X0)\wedge((v7\_bialg\_1 X0)\wedge(l2\_bialg\_1 X0))))))\Rightarrow(\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0))\Rightarrow(k2\_bialg\_1 X0 X1 \in k5\_bialg\_1 X0))$$