t3_bcialg_4 (TM-bLpc7BZ8DbQCYs6ZT3kgi4CTFPZXvhmzs)

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Let $v2\_struct\_0 : \iota \Rightarrow o$ be given. Let $l1\_bcialg\_4 : \iota \Rightarrow o$ 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 $r1\_bcialg\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_bcialg\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_bcialg\_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2\_bcialg\_4 : \iota \Rightarrow o$ be given. Let $l2\_struct\_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge (l1\_bcialg\_4\ X0)) \Rightarrow ((((\neg v2\_struct\_0\ X0) \wedge ((v3\_bcialg\_1\ X0) \wedge ((v4\_bcialg\_1\ X0) \wedge ((v5\_bcialg\_1\ X0) \wedge ((v7\_bcialg\_1\ X0) \wedge (l2\_bcialg\_1\ X0)))))) \wedge (\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0)) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ X0)) \Rightarrow ((r1\_bcialg\_1\ X0\ (k1\_bcialg\_1\ X0\ (k1\_bcialg\_4\ X0\ X1\ X2)\ X1)\ X2) \wedge (\forall X3.(m1\_subset\_1\ X3\ (u1\_struct\_0\ X0)) \Rightarrow ((r1\_bcialg\_1\ X0\ (k1\_bcialg\_1\ X0\ X3\ X1)\ X2) \Rightarrow (r1\_bcialg\_1\ X0\ X3\ (k1\_bcialg\_4\ X0\ X1\ X2))))))))) \Rightarrow ((\neg v2\_struct\_0\ X0) \wedge ((v3\_bcialg\_1\ X0) \wedge ((v4\_bcialg\_1\ X0) \wedge ((v5\_bcialg\_1\ X0) \wedge ((v7\_bcialg\_1\ X0) \wedge ((v2\_bcialg\_4\ X0) \wedge (l1\_bcialg\_4\ X0)))))))) \tag{1}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge ((v3\_bcialg\_1\ X0) \wedge ((v4\_bcialg\_1\ X0) \wedge ((v5\_bcialg\_1\ X0) \wedge ((v7\_bcialg\_1\ X0) \wedge ((v2\_bcialg\_4\ X0) \wedge (l1\_bcialg\_4\ X0)))))))) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0)) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ X0)) \Rightarrow ((r1\_bcialg\_1\ X0\ (k1\_bcialg\_1\ X0\ (k1\_bcialg\_4\ X0\ X1\ X2)\ X1)\ X2) \wedge (\forall X3.(m1\_subset\_1\ X3\ (u1\_struct\_0\ X0)) \Rightarrow ((r1\_bcialg\_1\ X0\ (k1\_bcialg\_1\ X0\ X3\ X1)\ X2) \Rightarrow (r1\_bcialg\_1\ X0\ X3\ (k1\_bcialg\_4\ X0\ X1\ X2))))))) \tag{2}$$

Assume the following.

$$\forall X0.(l1\_bcialg\_4\ X0) \Rightarrow ((l2\_bcialg\_1\ X0) \wedge (l2\_struct\_0\ X0)) \tag{3}$$

Theorem 1

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge(l1\_bcialg\_4\ X0))\Rightarrow((((\neg v2\_struct\_0\ X0)\wedge((v3\_bcialg\_1\ X0)\wedge((v4\_bcialg\_1\ X0)\wedge((v5\_bcialg\_1\ X0)\wedge((v7\_bcialg\_1\ X0)\wedge(l2\_bcialg\_1\ X0))))))\wedge(\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0))\Rightarrow(\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ X0))\Rightarrow((r1\_bcialg\_1\ X0\ (k1\_bcialg\_1\ X0\ (k1\_bcialg\_4\ X0\ X1\ X2)\ X1)\ X2)\wedge(\forall X3.(m1\_subset\_1\ X3\ (u1\_struct\_0\ X0))\Rightarrow((r1\_bcialg\_1\ X0\ (k1\_bcialg\_1\ X0\ X3\ X1)\ X2)\Rightarrow(r1\_bcialg\_1\ X0\ X3\ (k1\_bcialg\_4\ X0\ X1\ X2))))))))\Leftrightarrow((\neg v2\_struct\_0\ X0)\wedge((v3\_bcialg\_1\ X0)\wedge((v4\_bcialg\_1\ X0)\wedge((v5\_bcialg\_1\ X0)\wedge((v7\_bcialg\_1\ X0)\wedge((v2\_bcialg\_4\ X0)\wedge(l1\_bcialg\_4\ X0))))))))$$