t61_lattice2 (TMFtj9bUbnMLK3gb417MBFdiGwrFGbWKYrE)

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Let $v2\_struct\_0 : \iota \Rightarrow o$ be given. Let $v10\_lattices : \iota \Rightarrow o$ be given. Let $v13\_lattices : \iota \Rightarrow o$ be given. Let $l3\_lattices : \iota \Rightarrow o$ be given. Let $k5\_lattices : \iota \Rightarrow \iota$ be given. Let $k6\_lattices : \iota \Rightarrow \iota$ be given. Let $k1\_lattice2 : \iota \Rightarrow \iota$ be given. Let $v14\_lattices : \iota \Rightarrow o$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $k4\_lattices : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3\_lattices : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u2\_lattices : \iota \Rightarrow \iota$ be given. Let $u1\_lattices : \iota \Rightarrow \iota$ be given. Let $v6\_lattices : \iota \Rightarrow o$ be given. Let $l1\_lattices : \iota \Rightarrow o$ be given. Let $k2\_lattices : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v3\_lattices : \iota \Rightarrow o$ be given. Let $l2\_lattices : \iota \Rightarrow o$ be given. Let $v4\_lattices : \iota \Rightarrow o$ be given. Let $v5\_lattices : \iota \Rightarrow o$ be given. Let $v7\_lattices : \iota \Rightarrow o$ be given. Let $v8\_lattices : \iota \Rightarrow o$ be given. Let $v9\_lattices : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge ((v10\_lattices\ X0) \wedge (l3\_lattices\ X0))) \Rightarrow ((v13\_lattices\ X0) \Leftrightarrow (v14\_lattices\ (k1\_lattice2\ X0))) \tag{1}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge ((v10\_lattices\ X0) \wedge (l3\_lattices\ X0))) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0)) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ X0)) \Rightarrow (\forall X3.(m1\_subset\_1\ X3\ (u1\_struct\_0\ (k1\_lattice2\ X0))) \Rightarrow (\forall X4.(m1\_subset\_1\ X4\ (u1\_struct\_0\ (k1\_lattice2\ X0))) \Rightarrow (((X1 = X3) \wedge (X2 = X4)) \Rightarrow ((k4\_lattices\ X0\ X1\ X2 = k3\_lattices\ (k1\_lattice2\ X0)\ X3\ X4) \wedge (k3\_lattices\ X0\ X1\ X2 = k4\_lattices\ (k1\_lattice2\ X0)\ X3\ X4)))))))) \tag{2}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge(l3\_lattices\ X0))\Rightarrow((u1\_struct\_0\ X0 = u1\_struct\_0\ (k1\_lattice2\ X0))\wedge((r1\_funct\_2\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X0))\ (u1\_struct\_0\ X0)\ (k2\_zfmisc\_1\ (u1\_struct\_0\ (k1\_lattice2\ X0))\ (u1\_struct\_0\ (k1\_lattice2\ X0)))\ (u1\_struct\_0\ (k1\_lattice2\ X0))\ (u2\_lattices\ X0)\ (u1\_lattices\ (k1\_lattice2\ X0)))\wedge(r1\_funct\_2\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X0))\ (u1\_struct\_0\ X0)\ (k2\_zfmisc\_1\ (u1\_struct\_0\ (k1\_lattice2\ X0))\ (u1\_struct\_0\ (k1\_lattice2\ X0)))\ (u1\_struct\_0\ (k1\_lattice2\ X0))\ (u1\_lattices\ X0)\ (u2\_lattices\ (k1\_lattice2\ X0))))) \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((\neg v2\_struct\_0\ X0)\wedge((v6\_lattices\ X0)\wedge(l1\_lattices\ X0)))\wedge((m1\_subset\_1\ X1\ (u1\_struct\_0\ X0))\wedge(m1\_subset\_1\ X2\ (u1\_struct\_0\ X0))))\Rightarrow(k4\_lattices\ X0\ X1\ X2 = k2\_lattices\ X0\ X1\ X2) \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v2\_struct\_0\ X0)\wedge((v10\_lattices\ X0)\wedge((v14\_lattices\ X0)\wedge(l3\_lattices\ X0))))\wedge(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0)))\Rightarrow(k3\_lattices\ X0\ (k6\_lattices\ X0)\ X1 = k6\_lattices\ X0) \tag{5}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v10\_lattices\ X0)\wedge(l3\_lattices\ X0)))\Rightarrow((v3\_lattices\ (k1\_lattice2\ X0))\wedge(v10\_lattices\ (k1\_lattice2\ X0))) \tag{6}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge(l3\_lattices\ X0))\Rightarrow((\neg v2\_struct\_0\ (k1\_lattice2\ X0))\wedge(v3\_lattices\ (k1\_lattice2\ X0))) \tag{7}$$

Assume the following.

$$\forall X0.(l3\_lattices\ X0)\Rightarrow((l1\_lattices\ X0)\wedge(l2\_lattices\ X0)) \tag{8}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge(l2\_lattices\ X0))\Rightarrow(m1\_subset\_1\ (k6\_lattices\ X0)\ (u1\_struct\_0\ X0)) \tag{9}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge(l1\_lattices\ X0))\Rightarrow(m1\_subset\_1\ (k5\_lattices\ X0)\ (u1\_struct\_0\ X0)) \tag{10}$$

Assume the following.

$$\forall X0.(l3\_lattices\ X0)\Rightarrow((v3\_lattices\ (k1\_lattice2\ X0))\wedge (l3\_lattices\ (k1\_lattice2\ X0))) \tag{11}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge(l1\_lattices\ X0))\Rightarrow((v13\_lattices\ X0)\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0))\Rightarrow((X1 = k5\_lattices\ X0)\Leftrightarrow(\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ X0))\Rightarrow((k2\_lattices\ X0\ X1\ X2 = X1)\wedge(k2\_lattices\ X0\ X2\ X1 = X1)))))) \tag{12}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge(l1\_lattices\ X0))\Rightarrow((v13\_lattices\ X0)\Leftrightarrow(\exists X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0))\wedge(\forall X2.\ (m1\_subset\_1\ X2\ (u1\_struct\_0\ X0))\Rightarrow((k2\_lattices\ X0\ X1\ X2 = X1)\wedge (k2\_lattices\ X0\ X2\ X1 = X1))))) \tag{13}$$

Assume the following.

$$\forall X0.(l3\_lattices\ X0)\Rightarrow(((\neg v2\_struct\_0\ X0)\wedge(v10\_lattices\ X0))\Rightarrow((\neg v2\_struct\_0\ X0)\wedge((v4\_lattices\ X0)\wedge((v5\_lattices\ X0)\wedge((v6\_lattices\ X0)\wedge((v7\_lattices\ X0)\wedge((v8\_lattices\ X0)\wedge(v9\_lattices\ X0)))))))) \tag{14}$$

Theorem 1

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v10\_lattices\ X0)\wedge((v13\_lattices\ X0)\wedge(l3\_lattices\ X0))))\Rightarrow(k5\_lattices\ X0 = k6\_lattices\ (k1\_lattice2\ X0))$$