t51_waybel_2 (TMbfafN3pj51aCtxUKToG8Fms27EAnAUq2B)

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Let $v3\_orders\_2 : \iota \Rightarrow o$ be given. Let $v4\_orders\_2 : \iota \Rightarrow o$ be given. Let $v5\_orders\_2 : \iota \Rightarrow o$ be given. Let $v24\_waybel\_0 : \iota \Rightarrow o$ be given. Let $v1\_lattice3 : \iota \Rightarrow o$ be given. Let $v2\_lattice3 : \iota \Rightarrow o$ be given. Let $l1\_orders\_2 : \iota \Rightarrow o$ be given. Let $v2\_waybel\_2 : \iota \Rightarrow o$ be given. Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $v1\_waybel\_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_zfmisc\_1 : \iota \Rightarrow \iota$ be given. Let $u1\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $k12\_lattice3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_yellow\_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4\_yellow\_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v12\_waybel\_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.((v3\_orders\_2\ X0) \wedge ((v4\_orders\_2\ X0) \wedge ((v5\_orders\_2\ X0) \wedge ((v24\_waybel\_0\ X0) \wedge ((v1\_lattice3\ X0) \wedge ((v2\_lattice3\ X0) \wedge (l1\_orders\_2\ X0)))))))) \Rightarrow ((v2\_waybel\_2\ X0) \Leftrightarrow (\forall X1.((\neg v1\_xboole\_0\ X1) \wedge ((v1\_waybel\_0\ X1\ X0) \wedge ((v12\_waybel\_0\ X1\ X0) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0)))))) \Rightarrow (\forall X2.((\neg v1\_xboole\_0\ X2) \wedge ((v1\_waybel\_0\ X2\ X0) \wedge ((v12\_waybel\_0\ X2\ X0) \wedge (m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0)))))) \Rightarrow (k12\_lattice3\ X0\ (k1\_yellow\_0\ X0\ X1)\ (k1\_yellow\_0\ X0\ X2) = k1\_yellow\_0\ X0\ (k4\_yellow\_4\ X0\ X1\ X2)))))) \tag{1}$$

Assume the following.

$$\forall X0.((v3\_orders\_2\ X0) \wedge ((v4\_orders\_2\ X0) \wedge ((v5\_orders\_2\ X0) \wedge ((v24\_waybel\_0\ X0) \wedge ((v2\_lattice3\ X0) \wedge (l1\_orders\_2\ X0)))))) \Rightarrow ((\forall X1.((\neg v1\_xboole\_0\ X1) \wedge ((v1\_waybel\_0\ X1\ X0) \wedge ((v12\_waybel\_0\ X1\ X0) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0)))))) \Rightarrow (\forall X2.((\neg v1\_xboole\_0\ X2) \wedge ((v1\_waybel\_0\ X2\ X0) \wedge ((v12\_waybel\_0\ X2\ X0) \wedge (m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0)))))) \Rightarrow (k12\_lattice3\ X0\ (k1\_yellow\_0\ X0\ X1)\ (k1\_yellow\_0\ X0\ X2) = k1\_yellow\_0\ X0\ (k4\_yellow\_4\ X0\ X1\ X2)))) \Rightarrow (\forall X1.((\neg v1\_xboole\_0\ X1) \wedge ((v1\_waybel\_0\ X1\ X0) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))))) \Rightarrow (\forall X2.((\neg v1\_xboole\_0\ X2) \wedge ((v1\_waybel\_0\ X2\ X0) \wedge (m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))))) \Rightarrow (k12\_lattice3\ X0\ (k1\_yellow\_0\ X0\ X1)\ (k1\_yellow\_0\ X0\ X2) = k1\_yellow\_0\ X0\ (k4\_yellow\_4\ X0\ X1\ X2)))))) \tag{2}$$

Theorem 1

$$\forall X0.((v3\_orders\_2\ X0)\wedge((v4\_orders\_2\ X0)\wedge((v5\_orders\_2\ X0)\wedge((v24\_waybel\_0\ X0)\wedge((v1\_lattice3\ X0)\wedge((v2\_lattice3\ X0)\wedge(l1\_orders\_2\ X0)))))))\Rightarrow((v2\_waybel\_2\ X0)\Leftrightarrow(\forall X1.((\neg v1\_xboole\_0\ X1)\wedge((v1\_waybel\_0\ X1\ X0)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0)))))\Rightarrow(\forall X2.((\neg v1\_xboole\_0\ X2)\wedge((v1\_waybel\_0\ X2\ X0)\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0)))))\Rightarrow(k12\_lattice3\ X0\ (k1\_yellow\_0\ X0\ X1)\ (k1\_yellow\_0\ X0\ X2) = k1\_yellow\_0\ X0\ (k4\_yellow\_4\ X0\ X1\ X2)))))$$