l55_aff_1 (TMQ2M32YdXmNZVR8vkk1gmuzR8xzTDLW4vv)

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Let $v7\_struct\_0 : \iota \Rightarrow o$ be given. Let $v1\_diraf : \iota \Rightarrow o$ be given. Let $l1\_analoaf : \iota \Rightarrow o$ 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 $r5\_aff\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r2\_aff\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r3\_aff\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2\_aff\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.((\neg v7\_struct\_0\ X0) \wedge ((v1\_diraf\ X0) \wedge (l1\_analoaf\ X0))) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0)) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ X0)) \Rightarrow (\forall X3.(m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))) \Rightarrow (\forall X4.(m1\_subset\_1\ X4\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))) \Rightarrow (((r2\_aff\_1\ X0\ X1\ X2\ X3) \wedge (r5\_aff\_1\ X0\ X3\ X4)) \Rightarrow (r2\_aff\_1\ X0\ X1\ X2\ X4))))))) \tag{1}$$

Assume the following.

$$\forall X0.((\neg v7\_struct\_0\ X0) \wedge ((v1\_diraf\ X0) \wedge (l1\_analoaf\ X0))) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))) \Rightarrow ((r3\_aff\_1\ X0\ X1\ X2) \Rightarrow (r3\_aff\_1\ X0\ X2\ X1)))) \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((\neg v7\_struct\_0\ X0) \wedge ((v1\_diraf\ X0) \wedge (l1\_analoaf\ X0))) \wedge ((m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))) \wedge (m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))))) \Rightarrow ((r5\_aff\_1\ X0\ X1\ X2) \Rightarrow (r5\_aff\_1\ X0\ X2\ X1)) \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((\neg v7\_struct\_0\ X0) \wedge ((v1\_diraf\ X0) \wedge (l1\_analoaf\ X0))) \wedge ((m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))) \wedge (m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))))) \Rightarrow ((r5\_aff\_1\ X0\ X1\ X2) \Leftrightarrow (r3\_aff\_1\ X0\ X1\ X2)) \tag{4}$$

Assume the following.

$$\begin{array}{c}\forall X0.((\neg v7\_struct\_0\ X0)\wedge((v1\_diraf\ X0)\wedge(l1\_analoaf\ X0)))\Rightarrow\\ (\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0)))\Rightarrow\\ (\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0)))\Rightarrow\\ ((r3\_aff\_1\ X0\ X1\ X2)\Leftrightarrow(\exists X3.(m1\_subset\_1\ X3\ (u1\_struct\_0\\ X0))\wedge(\exists X4.(m1\_subset\_1\ X4\ (u1\_struct\_0\ X0))\wedge((X1 = k2\_aff\_1\\ X0\ X3\ X4)\wedge((X3\neq X4)\wedge(r2\_aff\_1\ X0\ X3\ X4\ X2)))))))\end{array} \tag{5}$$

Theorem 1

$$\begin{array}{c}\forall X0.((\neg v7\_struct\_0\ X0)\wedge((v1\_diraf\ X0)\wedge(l1\_analoaf\ X0)))\Rightarrow\\ (\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0)))\Rightarrow\\ (\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0)))\Rightarrow\\ (\forall X3.(m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0)))\Rightarrow\\ (((r5\_aff\_1\ X0\ X1\ X2)\wedge(r5\_aff\_1\ X0\ X2\ X3))\Rightarrow(r5\_aff\_1\ X0\ X1\ X3)))))\end{array}$$