t48_yellow20 (TMZSMWTuoWUuJzwuY-wzVTPHsWUtTfMMNuw5)

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Let $v2\_struct\_0 : \iota \Rightarrow o$ be given. Let $v2\_altcat\_1 : \iota \Rightarrow o$ be given. Let $v11\_altcat\_1 : \iota \Rightarrow o$ be given. Let $v12\_altcat\_1 : \iota \Rightarrow o$ be given. Let $l2\_altcat\_1 : \iota \Rightarrow o$ be given. Let $v3\_altcat\_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1\_altcat\_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_yellow18 : \iota \Rightarrow \iota$ be given. Let $r2\_yellow18 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $k1\_altcat\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8\_altcat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v6\_altcat\_1 : \iota \Rightarrow o$ be given. Let $u1\_altcat\_1 : \iota \Rightarrow \iota$ be given. Let $k2\_funct\_4 : \iota \Rightarrow \iota$ be given. Let $k4\_altcat\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u2\_altcat\_1 : \iota \Rightarrow \iota$ be given. Let $k1\_functor0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_binop\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge (l2\_altcat\_1\ X0)) \Rightarrow (\forall X1.((\neg v2\_struct\_0\ X1) \wedge (l2\_altcat\_1\ X1)) \Rightarrow ((r2\_yellow18\ X0\ X1) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ X0)) \Rightarrow (\forall X3.(m1\_subset\_1\ X3\ (u1\_struct\_0\ X0)) \Rightarrow (\forall X4.(m1\_subset\_1\ X4\ (u1\_struct\_0\ X1)) \Rightarrow (\forall X5.(m1\_subset\_1\ X5\ (u1\_struct\_0\ X1)) \Rightarrow (((X4 = X2) \wedge (X5 = X3)) \Rightarrow (k1\_altcat\_1\ X0\ X2\ X3 = k1\_altcat\_1\ X1\ X5\ X4)))))))) \tag{1}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge ((v2\_altcat\_1\ X0) \wedge (l2\_altcat\_1\ X0))) \Rightarrow (\forall X1.((\neg v2\_struct\_0\ X1) \wedge ((v2\_altcat\_1\ X1) \wedge (m1\_altcat\_2\ X1\ X0))) \Rightarrow (m1\_altcat\_2\ (k1\_yellow18\ X1)\ (k1\_yellow18\ X0))) \tag{2}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge ((v2\_altcat\_1\ X0) \wedge ((v11\_altcat\_1\ X0) \wedge ((v12\_altcat\_1\ X0) \wedge (l2\_altcat\_1\ X0))))) \Rightarrow (\forall X1.((\neg v2\_struct\_0\ X1) \wedge ((v2\_altcat\_1\ X1) \wedge ((v11\_altcat\_1\ X1) \wedge ((v12\_altcat\_1\ X1) \wedge (l2\_altcat\_1\ X1))))) \Rightarrow ((r2\_yellow18\ X0\ X1) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ X0)) \Rightarrow (\forall X3.(m1\_subset\_1\ X3\ (u1\_struct\_0\ X1)) \Rightarrow ((X2 = X3) \Rightarrow (k8\_altcat\_1\ X0\ X2 = k8\_altcat\_1\ X1\ X3)))))) \tag{3}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v2\_altcat\_1\ X0)\wedge((v12\_altcat\_1\ X0)\wedge(l2\_altcat\_1\ X0))))\Rightarrow((\neg v2\_struct\_0\ (k1\_yellow18\ X0))\wedge((v2\_altcat\_1\ (k1\_yellow18\ X0))\wedge((v6\_altcat\_1\ (k1\_yellow18\ X0))\wedge(v12\_altcat\_1\ (k1\_yellow18\ X0)))))) \tag{4}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v2\_altcat\_1\ X0)\wedge((v11\_altcat\_1\ X0)\wedge(l2\_altcat\_1\ X0))))\Rightarrow((\neg v2\_struct\_0\ (k1\_yellow18\ X0))\wedge((v2\_altcat\_1\ (k1\_yellow18\ X0))\wedge((v6\_altcat\_1\ (k1\_yellow18\ X0))\wedge(v11\_altcat\_1\ (k1\_yellow18\ X0)))))) \tag{5}$$

Assume the following.

$$\forall X0.(l2\_altcat\_1\ X0)\Rightarrow(\forall X1.(m1\_altcat\_2\ X1\ X0)\Rightarrow(l2\_altcat\_1\ X1)) \tag{6}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v2\_altcat\_1\ X0)\wedge(l2\_altcat\_1\ X0)))\Rightarrow((\neg v2\_struct\_0\ (k1\_yellow18\ X0))\wedge((v2\_altcat\_1\ (k1\_yellow18\ X0))\wedge((v6\_altcat\_1\ (k1\_yellow18\ X0))\wedge(l2\_altcat\_1\ (k1\_yellow18\ X0))))) \tag{7}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v2\_altcat\_1\ X0)\wedge(l2\_altcat\_1\ X0)))\Rightarrow(\forall X1.((\neg v2\_struct\_0\ X1)\wedge((v2\_altcat\_1\ X1)\wedge((v6\_altcat\_1\ X1)\wedge(l2\_altcat\_1\ X1))))\Rightarrow((X1 = k1\_yellow18\ X0)\Leftrightarrow(r2\_yellow18\ X0\ X1))) \tag{8}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge(l2\_altcat\_1\ X0))\Rightarrow(\forall X1.((\neg v2\_struct\_0\ X1)\wedge(l2\_altcat\_1\ X1))\Rightarrow((r2\_yellow18\ X0\ X1)\Leftrightarrow((u1\_struct\_0\ X1 = u1\_struct\_0\ X0)\wedge((u1\_altcat\_1\ X1 = k2\_funct\_4\ (u1\_altcat\_1\ X0))\wedge(\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ X0))\Rightarrow(\forall X3.(m1\_subset\_1\ X3\ (u1\_struct\_0\ X0))\Rightarrow(\forall X4.(m1\_subset\_1\ X4\ (u1\_struct\_0\ X0))\Rightarrow(\forall X5.(m1\_subset\_1\ X5\ (u1\_struct\_0\ X1))\Rightarrow(\forall X6.(m1\_subset\_1\ X6\ (u1\_struct\_0\ X1))\Rightarrow(\forall X7.(m1\_subset\_1\ X7\ (u1\_struct\_0\ X1))\Rightarrow(((X5 = X2)\wedge((X6 = X3)\wedge(X7 = X4)))\Rightarrow(k4\_altcat\_1\ (u1\_struct\_0\ X1)\ (u1\_altcat\_1\ X1)\ (u2\_altcat\_1\ X1)\ X5\ X6\ X7 = k1\_functor0\ (k1\_binop\_1\ (u1\_altcat\_1\ X0)\ X3\ X2)\ (k1\_binop\_1\ (u1\_altcat\_1\ X0)\ X4\ X3)\ (k1\_binop\_1\ (u1\_altcat\_1\ X0)\ X4\ X2)\ (k4\_altcat\_1\ (u1\_struct\_0\ X0)\ (u1\_altcat\_1\ X0)\ (u2\_altcat\_1\ X0)\ X4\ X3\ X2)))))))))))))))) \tag{9}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v12\_altcat\_1\ X0)\wedge(l2\_altcat\_1\ X0)))\Rightarrow(\forall X1.(m1\_altcat\_2\ X1\ X0)\Rightarrow(((\neg v2\_struct\_0\ X1)\Rightarrow((v3\_altcat\_2\ X1\ X0)\Leftrightarrow(\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ X1))\Rightarrow(\forall X3.(m1\_subset\_1\ X3\ (u1\_struct\_0\ X0))\Rightarrow((X2 = X3)\Rightarrow(k8\_altcat\_1\ X0\ X3 \in k1\_altcat\_1\ X1\ X2\ X2))))))\wedge((v2\_struct\_0\ X1)\Rightarrow(v3\_altcat\_2\ X1\ X0))))) \tag{10}$$

Theorem 1

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v2\_altcat\_1\ X0)\wedge((v11\_altcat\_1\ X0)\wedge((v12\_altcat\_1\ X0)\wedge(l2\_altcat\_1\ X0)))))\Rightarrow(\forall X1.((\neg v2\_struct\_0\ X1)\wedge((v2\_altcat\_1\ X1)\wedge((v3\_altcat\_2\ X1\ X0)\wedge(m1\_altcat\_2\ X1\ X0))))\Rightarrow((v2\_altcat\_1\ (k1\_yellow18\ X1))\wedge((v3\_altcat\_2\ (k1\_yellow18\ X1)\ (k1\_yellow18\ X0))\wedge(m1\_altcat\_2\ (k1\_yellow18\ X1)\ (k1\_yellow18\ X0)))))$$