t1_yellow20 (TMFf2iMPmGTe5dmb77UGNZA2ZSMvB6FQeVP)

October 27, 2020

Let $v2\_struct\_0 : \iota \Rightarrow o$ be given. Let $v2\_altcat\_1 : \iota \Rightarrow o$ be given. Let $v12\_altcat\_1 : \iota \Rightarrow o$ be given. Let $l2\_altcat\_1 : \iota \Rightarrow o$ be given. Let $v6\_functor0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v8\_functor0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l2\_functor0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v7\_functor0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v21\_functor0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $k3\_functor0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k15\_functor0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1\_altcat\_2 : \iota \Rightarrow o$ be given. Let $k13\_functor0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l1\_altcat\_1 : \iota \Rightarrow o$ be given. Let $k11\_functor0 : \iota \Rightarrow \iota$ be given. Let $k12\_functor0 : \iota \Rightarrow \iota$ be given. Let $g2\_functor0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1\_functor0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u2\_functor0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v9\_functor0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge ((v2\_altcat\_1\ X0) \wedge ((v12\_altcat\_1\ X0) \wedge (l2\_altcat\_1\ X0)))) \Rightarrow (\forall X1.((\neg v2\_struct\_0\ X1) \wedge ((v2\_altcat\_1\ X1) \wedge ((v12\_altcat\_1\ X1) \wedge (l2\_altcat\_1\ X1)))) \Rightarrow (\forall X2.((v6\_functor0\ X2\ X0\ X1) \wedge ((v8\_functor0\ X2\ X0\ X1) \wedge (l2\_functor0\ X2\ X0\ X1))) \Rightarrow (((v21\_functor0\ X2\ X0\ X1) \wedge (v7\_functor0\ X2\ X0\ X1)) \Rightarrow (v6\_functor0\ (k15\_functor0\ X0\ X1\ X2)\ X1\ X0))))) \tag{1}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge ((v2\_altcat\_1\ X0) \wedge ((v12\_altcat\_1\ X0) \wedge (l2\_altcat\_1\ X0)))) \Rightarrow (\forall X1.((\neg v2\_struct\_0\ X1) \wedge ((v2\_altcat\_1\ X1) \wedge ((v12\_altcat\_1\ X1) \wedge (l2\_altcat\_1\ X1)))) \Rightarrow (\forall X2.((v8\_functor0\ X2\ X0\ X1) \wedge (l2\_functor0\ X2\ X0\ X1)) \Rightarrow ((v21\_functor0\ X2\ X0\ X1) \Rightarrow ((v21\_functor0\ (k15\_functor0\ X0\ X1\ X2)\ X1\ X0) \wedge (v8\_functor0\ (k15\_functor0\ X0\ X1\ X2)\ X1\ X0))))) \tag{2}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge(l2\_altcat\_1\ X0))\Rightarrow(\forall X1.((\neg v2\_struct\_0\ X1)\wedge((v1\_altcat\_2\ X1)\wedge(l2\_altcat\_1\ X1)))\Rightarrow(\forall X2.((\neg v2\_struct\_0\ X2)\wedge((v1\_altcat\_2\ X2)\wedge(l2\_altcat\_1\ X2)))\Rightarrow(\forall X3.((v6\_functor0\ X3\ X0\ X1)\wedge((v8\_functor0\ X3\ X0\ X1)\wedge(l2\_functor0\ X3\ X0\ X1)))\Rightarrow(\forall X4.(l2\_functor0\ X4\ X1\ X2)\Rightarrow(\forall X5.(m1\_subset\_1\ X5\ (u1\_struct\_0\ X0))\Rightarrow(k3\_functor0\ X0\ X2\ (k13\_functor0\ X0\ X1\ X2\ X3\ X4)\ X5 = k3\_functor0\ X1\ X2\ X4\ (k3\_functor0\ X0\ X1\ X3\ X5)))))))) \tag{3}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge(l1\_altcat\_1\ X0))\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0))\Rightarrow(k3\_functor0\ X0\ X0\ (k11\_functor0\ X0)\ X1 = X1)) \tag{4}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v2\_altcat\_1\ X0)\wedge((v12\_altcat\_1\ X0)\wedge((v1\_altcat\_2\ X0)\wedge(l2\_altcat\_1\ X0)))))\Rightarrow(\forall X1.((\neg v2\_struct\_0\ X1)\wedge((v2\_altcat\_1\ X1)\wedge((v12\_altcat\_1\ X1)\wedge((v1\_altcat\_2\ X1)\wedge(l2\_altcat\_1\ X1)))))\Rightarrow(\forall X2.((v8\_functor0\ X2\ X0\ X1)\wedge(l2\_functor0\ X2\ X0\ X1))\Rightarrow((v21\_functor0\ X2\ X0\ X1)\Rightarrow(k13\_functor0\ X0\ X1\ X0\ X2\ (k15\_functor0\ X0\ X1\ X2) = k12\_functor0\ X0)))) \tag{5}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v2\_altcat\_1\ X0)\wedge((v12\_altcat\_1\ X0)\wedge((v1\_altcat\_2\ X0)\wedge(l2\_altcat\_1\ X0)))))\Rightarrow(\forall X1.((\neg v2\_struct\_0\ X1)\wedge((v2\_altcat\_1\ X1)\wedge((v12\_altcat\_1\ X1)\wedge((v1\_altcat\_2\ X1)\wedge(l2\_altcat\_1\ X1)))))\Rightarrow(\forall X2.((v8\_functor0\ X2\ X0\ X1)\wedge(l2\_functor0\ X2\ X0\ X1))\Rightarrow((v21\_functor0\ X2\ X0\ X1)\Rightarrow(\forall X3.((v8\_functor0\ X3\ X1\ X0)\wedge(l2\_functor0\ X3\ X1\ X0))\Rightarrow((g2\_functor0\ X1\ X0\ (u1\_functor0\ X1\ X0\ X3)\ (u2\_functor0\ X1\ X0\ X3) = k15\_functor0\ X0\ X1\ X2)\Rightarrow(k13\_functor0\ X1\ X0\ X1\ X3\ X2 = k12\_functor0\ X1)))))) \tag{6}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v2\_altcat\_1\ X0)\wedge((v12\_altcat\_1\ X0)\wedge(l2\_altcat\_1\ X0))))\Rightarrow(k12\_functor0\ X0 = k11\_functor0\ X0) \tag{7}$$

Assume the following.

$$\forall X0.(l2\_altcat\_1\ X0)\Rightarrow(l1\_altcat\_1\ X0) \tag{8}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((\neg v2\_struct\_0\ X0)\wedge(l1\_altcat\_1\ X0))\wedge(((\neg v2\_struct\_0\ X1)\wedge(l1\_altcat\_1\ X1))\wedge(l2\_functor0\ X2\ X0\ X1)))\Rightarrow((v9\_functor0\ (k15\_functor0\ X0\ X1\ X2)\ X1\ X0)\wedge(l2\_functor0\ (k15\_functor0\ X0\ X1\ X2)\ X1\ X0)) \tag{9}$$

Assume the following.

$$\forall X0.(l2\_altcat\_1\ X0)\Rightarrow(((\neg v2\_struct\_0\ X0)\wedge(v12\_altcat\_1\ X0))\Rightarrow((\neg v2\_struct\_0\ X0)\wedge(v1\_altcat\_2\ X0))) \tag{10}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((l1\_altcat\_1\ X0)\wedge((l1\_altcat\_1\ X1)\wedge(l2\_functor0\ X2\ X0\ X1)))\Rightarrow((v9\_functor0\ X2\ X0\ X1)\Rightarrow(X2 = g2\_functor0\ X0\ X1\ (u1\_functor0\ X0\ X1\ X2)\ (u2\_functor0\ X0\ X1\ X2))) \tag{11}$$

Theorem 1

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v2\_altcat\_1\ X0)\wedge((v12\_altcat\_1\ X0)\wedge(l2\_altcat\_1\ X0))))\Rightarrow(\forall X1.((\neg v2\_struct\_0\ X1)\wedge((v2\_altcat\_1\ X1)\wedge((v12\_altcat\_1\ X1)\wedge(l2\_altcat\_1\ X1))))\Rightarrow(\forall X2.((v6\_functor0\ X2\ X0\ X1)\wedge((v8\_functor0\ X2\ X0\ X1)\wedge(l2\_functor0\ X2\ X0\ X1)))\Rightarrow(((v7\_functor0\ X2\ X0\ X1)\wedge(v21\_functor0\ X2\ X0\ X1))\Rightarrow(\forall X3.(m1\_subset\_1\ X3\ (u1\_struct\_0\ X0))\Rightarrow(\forall X4.(m1\_subset\_1\ X4\ (u1\_struct\_0\ X1))\Rightarrow((k3\_functor0\ X0\ X1\ X2\ X3 = X4)\Leftrightarrow(k3\_functor0\ X1\ X0\ (k15\_functor0\ X0\ X1\ X2)\ X4 = X3)))))))$$