

t38_functor3

(TMYQXfpQeoW7h19tivRLJ7JgmYCn739j8k3)

October 27, 2020

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 $v15_functor0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m2_functor0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_functor3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $r1_functor3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_functor2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8_functor3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_altcat_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_functor0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m2_functor2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_functor2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_altcat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r2_functor2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_functor2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v3_altcat_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. (((\neg v2_struct_0 \\ & X0) \wedge ((v2_altcat_1 X0) \wedge ((v12_altcat_1 X0) \wedge (l2_altcat_1 X0)))) \wedge \\ & (((\neg v2_struct_0 X1) \wedge ((v2_altcat_1 X1) \wedge ((v12_altcat_1 X1) \wedge \\ & l2_altcat_1 X1)))) \wedge (((v15_functor0 X2 X0 X1) \wedge (m2_functor0 X2 \\ & X0 X1)) \wedge ((v15_functor0 X3 X0 X1) \wedge (m2_functor0 X3 X0 X1)))) \Rightarrow (\forall X4. \\ & (m2_functor2 X4 X0 X1 X2 X3) \Rightarrow (m1_functor2 X4 X0 X1 X2 X3)) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. (((\neg v2_struct_0 \\ & X0) \wedge ((v2_altcat_1 X0) \wedge ((v11_altcat_1 X0) \wedge ((v12_altcat_1 X0) \wedge \\ & (l2_altcat_1 X0)))) \wedge (((\neg v2_struct_0 X1) \wedge ((v2_altcat_1 X1) \wedge \\ & ((v11_altcat_1 X1) \wedge ((v12_altcat_1 X1) \wedge (l2_altcat_1 X1)))) \wedge \\ & (((v15_functor0 X2 X0 X1) \wedge (m2_functor0 X2 X0 X1)) \wedge ((v15_functor0 \\ & X3 X0 X1) \wedge (m2_functor0 X3 X0 X1)))) \Rightarrow (\forall X4. (m1_functor3 \\ & X4 X0 X1 X2 X3) \Rightarrow (m2_functor2 X4 X0 X1 X2 X3)) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.(((\neg v2_struct_0 \\
& X0)\wedge((v2_altcat_1 X0)\wedge((v11_altcat_1 X0)\wedge((v12_altcat_1 X0)\wedge \\
& (l2_altcat_1 X0))))))\wedge(((\neg v2_struct_0 X1)\wedge((v2_altcat_1 X1)\wedge \\
& ((v11_altcat_1 X1)\wedge((v12_altcat_1 X1)\wedge(l2_altcat_1 X1))))))\wedge \\
& (((v15_functor0 X2 X0 X1)\wedge(m2_functor0 X2 X0 X1))\wedge(((v15_functor0 \\
& X3 X0 X1)\wedge(m2_functor0 X3 X0 X1))\wedge(m1_functor3 X4 X0 X1 X2 X3))))\Rightarrow \\
& (m1_functor3 (k8_functor3 X0 X1 X2 X3 X4) X0 X1 X3 X2)
\end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.\forall X5. \\
& (((\neg v2_struct_0 X0)\wedge((v2_altcat_1 X0)\wedge((v12_altcat_1 X0)\wedge(\\
& l2_altcat_1 X0))))\wedge(((\neg v2_struct_0 X1)\wedge((v2_altcat_1 X1)\wedge(\\
& (v12_altcat_1 X1)\wedge(l2_altcat_1 X1))))\wedge((m2_functor0 X2 X0 X1)\wedge \\
& ((m2_functor0 X3 X0 X1)\wedge((m1_functor2 X4 X0 X1 X2 X3)\wedge(m1_subset_1 \\
& X5 (u1_struct_0 X0))))))\Rightarrow(m1_subset_1 (k2_functor2 X0 X1 X2 X3 \\
& X4 X5) (k1_altcat_1 X1 (k3_functor0 X0 X1 X2 X5) (k3_functor0 X0 X1 \\
& X3 X5)))
\end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0)\wedge((v2_altcat_1 X0)\wedge((v11_altcat_1 \\
& X0)\wedge((v12_altcat_1 X0)\wedge(l2_altcat_1 X0))))\Rightarrow(\forall X1.((\\
& \neg v2_struct_0 X1)\wedge((v2_altcat_1 X1)\wedge((v11_altcat_1 X1)\wedge((v12_altcat_1 \\
& X1)\wedge(l2_altcat_1 X1))))))\Rightarrow(\forall X2.((v15_functor0 X2 X0 X1)\wedge \\
& (m2_functor0 X2 X0 X1))\Rightarrow(\forall X3.((v15_functor0 X3 X0 X1)\wedge(\\
& m2_functor0 X3 X0 X1))\Rightarrow(\forall X4.(m1_functor3 X4 X0 X1 X2 X3)\Rightarrow \\
& ((r1_functor3 X0 X1 X2 X3)\Rightarrow(\forall X5.(m1_functor3 X5 X0 X1 X3 X2)\Rightarrow \\
& ((X5 = k8_functor3 X0 X1 X2 X3 X4)\Leftrightarrow(\forall X6.(m1_subset_1 X6 (u1_struct_0 \\
& X0))\Rightarrow(k1_funct_1 X5 X6 = k1_altcat_3 X1 (k3_functor0 X0 X1 X2 X6) \\
& (k3_functor0 X0 X1 X3 X6) (k2_functor2 X0 X1 X2 X3 X4 X6))))))))))
\end{aligned} \tag{5}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0)\wedge((v2_altcat_1 X0)\wedge((v11_altcat_1 \\
& X0)\wedge((v12_altcat_1 X0)\wedge(l2_altcat_1 X0))))\Rightarrow(\forall X1.((\\
& \neg v2_struct_0 X1)\wedge((v2_altcat_1 X1)\wedge((v11_altcat_1 X1)\wedge((v12_altcat_1 \\
& X1)\wedge(l2_altcat_1 X1))))))\Rightarrow(\forall X2.((v15_functor0 X2 X0 X1)\wedge \\
& (m2_functor0 X2 X0 X1))\Rightarrow(\forall X3.((v15_functor0 X3 X0 X1)\wedge(\\
& m2_functor0 X3 X0 X1))\Rightarrow((r1_functor3 X0 X1 X2 X3)\Leftrightarrow((r2_functor2 \\
& X0 X1 X2 X3)\wedge((r1_functor2 X0 X1 X3 X2)\wedge(\exists X4.(m2_functor2 \\
& X4 X0 X1 X2 X3)\wedge(\forall X5.(m1_subset_1 X5 (u1_struct_0 X0))\Rightarrow(\\
& v3_altcat_3 (k2_functor2 X0 X1 X2 X3 X4 X5) X1 (k3_functor0 X0 X1 X2 \\
& X5) (k3_functor0 X0 X1 X3 X5))))))))))
\end{aligned} \tag{6}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_altcat_1 X0) \wedge ((v12_altcat_1 \\
& X0) \wedge (l2_altcat_1 X0)))) \Rightarrow (\forall X1.((\neg v2_struct_0 X1) \wedge ((v2_altcat_1 \\
& X1) \wedge ((v12_altcat_1 X1) \wedge (l2_altcat_1 X1)))) \Rightarrow (\forall X2.(m2_functor0 \\
& X2 X0 X1) \Rightarrow (\forall X3.(m2_functor0 X3 X0 X1) \Rightarrow ((r1_functor2 X0 X1 \\
& X2 X3) \Rightarrow (\forall X4.(m1_functor2 X4 X0 X1 X2 X3) \Rightarrow (\forall X5.(m1_subset_1 \\
& X5 (u1_struct_0 X0) \Rightarrow (\forall X6.(m1_subset_1 X6 (k1_altcat_1 \\
& X1 (k3_functor0 X0 X1 X2 X5) (k3_functor0 X0 X1 X3 X5))) \Rightarrow ((X6 = k2_functor2 \\
& X0 X1 X2 X3 X4 X5) \Leftrightarrow (X6 = k1_funct_1 X4 X5))))))))))
\end{aligned} \tag{7}$$

Theorem 1

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_altcat_1 X0) \wedge ((v11_altcat_1 \\
& X0) \wedge ((v12_altcat_1 X0) \wedge (l2_altcat_1 X0)))) \Rightarrow (\forall X1.((\neg v2_struct_0 X1) \wedge ((v2_altcat_1 X1) \wedge ((v11_altcat_1 X1) \wedge ((v12_altcat_1 \\
& X1) \wedge (l2_altcat_1 X1)))) \Rightarrow (\forall X2.((v15_functor0 X2 X1 X0) \wedge \\
& (m2_functor0 X2 X1 X0)) \Rightarrow (\forall X3.((v15_functor0 X3 X1 X0) \wedge \\
& m2_functor0 X3 X1 X0)) \Rightarrow (\forall X4.(m1_functor3 X4 X1 X0 X2 X3) \Rightarrow \\
& (\forall X5.(m1_subset_1 X5 (u1_struct_0 X1)) \Rightarrow ((r1_functor3 \\
& X1 X0 X2 X3) \Rightarrow (k2_functor2 X1 X0 X3 X2 (k8_functor3 X1 X0 X2 X3 X4) X5 = \\
& k1_altcat_3 X0 (k3_functor0 X1 X0 X2 X5) (k3_functor0 X1 X0 X3 X5) \\
& (k2_functor2 X1 X0 X2 X3 X4 X5))))))))))
\end{aligned}$$