

t53_scmpds_2

(TMUm8BREqZUYHVPm9qVca3m3j8fy3sRdta7)

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Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k1_scmpds_2 : \iota$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v5_funct_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_memstr_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_2 : \iota$ be given. Let $v1_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_int_1 : \iota \Rightarrow o$ be given. Let $v1_ami_2 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_extpro_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k15_scmpds_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_struct_0 : \iota \Rightarrow \iota$ be given. Let $k4_card_1 : \iota \Rightarrow \iota$ be given. Let $k5_memstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_scmpds_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_int_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_int_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned}
 & \forall X0.((v1_relat_1 X0) \wedge ((v4_relat_1 X0 (u1_struct_0 k1_scmpds_2)) \wedge \\
 & ((v1_funct_1 X0) \wedge ((v5_funct_1 X0 (k2_memstr_0 np_2 k1_scmpds_2)) \wedge \\
 & (v1_partfun1 X0 (u1_struct_0 k1_scmpds_2)))))) \Rightarrow (\forall X1. \\
 & (v1_int_1 X1) \Rightarrow (\forall X2.(v1_int_1 X2) \Rightarrow (\forall X3.((v1_ami_2 \\
 & X3) \wedge (m1_subset_1 X3 (u1_struct_0 k1_scmpds_2)) \Rightarrow (\forall X4. \\
 & ((v1_ami_2 X4) \wedge (m1_subset_1 X4 (u1_struct_0 k1_scmpds_2)) \Rightarrow \\
 & ((k1_funct_1 (k2_extpro_1 np_2 k1_scmpds_2 (k15_scmpds_2 X3 \\
 & X4 X1 X2) X0) (k4_struct_0 k1_scmpds_2) = k4_card_1 (k5_memstr_0 \\
 & np_2 k1_scmpds_2 X0)) \wedge (((k2_scmpds_2 (k1_funct_1 X0 X3) X1) \neq k2_scmpds_2 \\
 & (k1_funct_1 X0 X4) X2) \Rightarrow (k1_funct_1 (k2_extpro_1 np_2 k1_scmpds_2 \\
 & (k15_scmpds_2 X3 X4 X1 X2) X0) (k2_scmpds_2 (k1_funct_1 X0 X3) X1) = \\
 & k5_int_1 (k1_funct_1 X0 (k2_scmpds_2 (k1_funct_1 X0 X3) X1)) (k1_funct_1 \\
 & X0 (k2_scmpds_2 (k1_funct_1 X0 X4) X2)))) \wedge ((k1_funct_1 (k2_extpro_1 \\
 & np_2 k1_scmpds_2 (k15_scmpds_2 X3 X4 X1 X2) X0) (k2_scmpds_2 (k1_funct_1 \\
 & X0 X4) X2) = k6_int_1 (k1_funct_1 X0 (k2_scmpds_2 (k1_funct_1 X0 \\
 & X3) X1)) (k1_funct_1 X0 (k2_scmpds_2 (k1_funct_1 X0 X4) X2))) \wedge (\\
 & \forall X5.((v1_ami_2 X5) \wedge (m1_subset_1 X5 (u1_struct_0 k1_scmpds_2)) \Rightarrow \\
 & (\neg (X5 \neq k2_scmpds_2 (k1_funct_1 X0 X3) X1) \wedge ((X5 \neq k2_scmpds_2 (k1_funct_1 \\
 & X0 X4) X2) \wedge (k1_funct_1 (k2_extpro_1 np_2 k1_scmpds_2 (k15_scmpds_2 \\
 & X3 X4 X1 X2) X0) X5 \neq k1_funct_1 X0 X5)))))))))
 \end{aligned}
 \tag{1}$$

Theorem 1

$$\begin{aligned} & \forall X0.((v1_relat_1 X0) \wedge ((v4_relat_1 X0 (u1_struct_0 k1_scmpds_2)) \wedge \\ & ((v1_funct_1 X0) \wedge ((v5_funct_1 X0 (k2_memstr_0 np_2 k1_scmpds_2)) \wedge \\ & (v1_partfun1 X0 (u1_struct_0 k1_scmpds_2)))))) \Rightarrow (\forall X1. \\ & (v1_int_1 X1) \Rightarrow (\forall X2.((v1_ami_2 X2) \wedge (m1_subset_1 X2 (u1_struct_0 \\ & k1_scmpds_2))) \Rightarrow ((k1_funct_1 (k2_extpro_1 np_2 k1_scmpds_2 \\ & (k15_scmpds_2 X2 X2 X1 X1) X0) (k4_struct_0 k1_scmpds_2) = k4_card_1 \\ & (k5_memstr_0 np_2 k1_scmpds_2 X0)) \wedge ((k1_funct_1 (k2_extpro_1 \\ np_2 k1_scmpds_2 (k15_scmpds_2 X2 X2 X1 X1) X0) (k2_scmpds_2 (k1_funct_1 \\ X0 X2) X1) = k6_int_1 (k1_funct_1 X0 (k2_scmpds_2 (k1_funct_1 X0 \\ X2) X1)) (k1_funct_1 X0 (k2_scmpds_2 (k1_funct_1 X0 X2) X1))) \wedge (\\ & \forall X3.((v1_ami_2 X3) \wedge (m1_subset_1 X3 (u1_struct_0 k1_scmpds_2))) \Rightarrow \\ & ((X3 \neq k2_scmpds_2 (k1_funct_1 X0 X2) X1) \Rightarrow (k1_funct_1 (k2_extpro_1 \\ np_2 k1_scmpds_2 (k15_scmpds_2 X2 X2 X1 X1) X0) X3 = k1_funct_1 X0 \\ X3)))))) \end{aligned}$$