t4_petri (TMaWreGqV82tdfemvE4mXozXAMqo4o7QWDm)

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Let $v2\_struct\_0 : \iota \Rightarrow o$ be given. Let $v11\_struct\_0 : \iota \Rightarrow o$ be given. Let $v2\_petri : \iota \Rightarrow o$ be given. Let $v3\_petri : \iota \Rightarrow o$ be given. Let $l1\_petri : \iota \Rightarrow o$ 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 $k7\_petri : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1\_petri : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u4\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $u1\_petri : \iota \Rightarrow \iota$ be given. Let $k4\_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_xtuple\_0 : \iota \Rightarrow \iota$ be given. Let $k2\_xtuple\_0 : \iota \Rightarrow \iota$ be given. Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3\_petri : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_domain\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l1\_struct\_0 : \iota \Rightarrow o$ be given. Let $l5\_struct\_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.\forall X1.(k1\_xtuple\_0\ (k4\_tarski\ X0\ X1) = X0) \wedge (k2\_xtuple\_0\ (k4\_tarski\ X0\ X1) = X1) \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((\neg v1\_xboole\_0\ X0) \wedge ((\neg v1\_xboole\_0\ X1) \wedge ((\neg v1\_xboole\_0\ X2) \wedge (m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1)))))) \Rightarrow (\forall X3.(m1\_petri\ X3\ X0\ X1\ X2) \Leftrightarrow (m1\_subset\_1\ X3\ X2)) \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v2\_struct\_0\ X0) \wedge ((\neg v11\_struct\_0\ X0) \wedge ((v2\_petri\ X0) \wedge ((v3\_petri\ X0) \wedge (l1\_petri\ X0))))) \wedge (m1\_subset\_1\ X1\ (u1\_petri\ X0))) \Rightarrow (k3\_petri\ X0\ X1 = k2\_xtuple\_0\ X1) \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((\neg v1\_xboole\_0\ X0) \wedge ((\neg v1\_xboole\_0\ X1) \wedge ((m1\_subset\_1\ X2\ X0) \wedge (m1\_subset\_1\ X3\ X1)))) \Rightarrow (k1\_domain\_1\ X0\ X1\ X2\ X3 = k4\_tarski\ X2\ X3) \tag{4}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge(l1\_struct\_0\ X0))\Rightarrow(\neg v1\_xboole\_0\ (u1\_struct\_0\ X0)) \tag{5}$$

Assume the following.

$$\forall X0.((v2\_petri\ X0)\wedge(l1\_petri\ X0))\Rightarrow(\neg v1\_xboole\_0\ (u1\_petri\ X0)) \tag{6}$$

Assume the following.

$$\forall X0.((\neg v11\_struct\_0\ X0)\wedge(l5\_struct\_0\ X0))\Rightarrow(\neg v1\_xboole\_0\ (u4\_struct\_0\ X0)) \tag{7}$$

Assume the following.

$$\forall X0.(l1\_petri\ X0)\Rightarrow(m1\_subset\_1\ (u1\_petri\ X0)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X0)\ (u4\_struct\_0\ X0)))) \tag{8}$$

Assume the following.

$$\forall X0.(l5\_struct\_0\ X0)\Rightarrow(l1\_struct\_0\ X0) \tag{9}$$

Assume the following.

$$\forall X0.(l1\_petri\ X0)\Rightarrow(l5\_struct\_0\ X0) \tag{10}$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v2\_struct\_0\ X0)\wedge((\neg v11\_struct\_0\ X0)\wedge((v2\_petri\ X0)\wedge((v3\_petri\ X0)\wedge(l1\_petri\ X0)))))\wedge(m1\_subset\_1\ X1\ (u1\_petri\ X0)))\Rightarrow(m1\_subset\_1\ (k3\_petri\ X0\ X1)\ (u4\_struct\_0\ X0)) \tag{11}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((\neg v11\_struct\_0\ X0)\wedge((v2\_petri\ X0)\wedge((v3\_petri\ X0)\wedge(l1\_petri\ X0)))))\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0)))\Rightarrow(k7\_petri\ X0\ X1 = ReplSep\ (toset\ (\lambda X2 : \iota.m1\_subset\_1\ X2\ (u4\_struct\_0\ X0)))\ (\lambda X2 : \iota.\exists X3.(m1\_petri\ X3\ (u1\_struct\_0\ X0)\ (u4\_struct\_0\ X0)\ (u1\_petri\ X0))\wedge(\exists X4.(m1\_subset\_1\ X4\ (u1\_struct\_0\ X0))\wedge((X4 \in X1)\wedge(X3 = k1\_domain\_1\ (u1\_struct\_0\ X0)\ (u4\_struct\_0\ X0)\ X4\ X2))))\ (\lambda X2 : \iota.X2))) \tag{12}$$

Theorem 1

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((\neg v11\_struct\_0\ X0)\wedge((v2\_petri\ X0)\wedge((v3\_petri\ X0)\wedge(l1\_petri\ X0)))))\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0)))\Rightarrow(\forall X2.(X2 \in k7\_petri\ X0\ X1)\Leftrightarrow(\exists X3.(m1\_petri\ X3\ (u1\_struct\_0\ X0)\ (u4\_struct\_0\ X0)\ (u1\_petri\ X0))\wedge(\exists X4.(m1\_subset\_1\ X4\ (u1\_struct\_0\ X0))\wedge((X4 \in X1)\wedge(X3 = k4\_tarski\ X4\ X2))))))$$