t5_net_1 (TMPFnMHMy-ATjnpJ7kgZXgw5dAuoRdFb75Ec)

October 27, 2020

Let $v1\_net\_1 : \iota \Rightarrow o$ be given. Let $l1\_petri : \iota \Rightarrow o$ be given. Let $k4\_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_net\_1 : \iota \Rightarrow \iota$ be given. Let $u4\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $u1\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.(k4\_tarski\ X0\ X1 \in k2\_zfmisc\_1\ X2\ X3) \Leftrightarrow ((X0 \in X2) \wedge (X1 \in X3)) \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_net\_1\ X1) \wedge (l1\_petri\ X1)) \Rightarrow (\neg(X0 \in u1\_struct\_0\ X1) \wedge (X0 \in u4\_struct\_0\ X1)) \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(X2 = k2\_xboole\_0\ X0\ X1) \Leftrightarrow (\forall X3.(X3 \in X2) \Leftrightarrow ((X3 \in X0) \vee (X3 \in X1))) \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.(r1\_tarski\ X0\ X1) \Leftrightarrow (\forall X2.(X2 \in X0) \Rightarrow (X2 \in X1)) \tag{4}$$

Assume the following.

$$\forall X0.(l1\_petri\ X0) \Rightarrow ((v1\_net\_1\ X0) \Leftrightarrow ((r1\_xboole\_0\ (u1\_struct\_0\ X0)\ (u4\_struct\_0\ X0)) \wedge (r1\_tarski\ (k1\_net\_1\ X0)\ (k2\_xboole\_0\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X0)\ (u4\_struct\_0\ X0))\ (k2\_zfmisc\_1\ (u4\_struct\_0\ X0)\ (u1\_struct\_0\ X0)))))) \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.k2\_xboole\_0\ X0\ X1 = k2\_xboole\_0\ X1\ X0 \tag{6}$$

Theorem 1

$$\forall X0.\forall X1.\forall X2.((v1\_net\_1\ X2) \wedge (l1\_petri\ X2)) \Rightarrow (((k4\_tarski\ X0\ X1 \in k1\_net\_1\ X2) \wedge (X0 \in u4\_struct\_0\ X2)) \Rightarrow (X1 \in u1\_struct\_0\ X2))$$