t31_twoscomp (TMdX-eHr9XL15QaPpNesLRgEK9XuGL2rdAyW)

October 27, 2020

Let $v1\_xtuple\_0 : \iota \Rightarrow o$ be given. Let $u1\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $k37\_twoscomp : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2\_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_tarski : \iota \Rightarrow \iota$ be given. Let $k4\_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k10\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3\_twoscomp : \iota$ be given. Let $k10\_xtuple\_0 : \iota \Rightarrow \iota$ be given. Let $v1\_relat\_1 : \iota \Rightarrow o$ be given. Let $v1\_funct\_1 : \iota \Rightarrow o$ be given. Let $v1\_finseq\_1 : \iota \Rightarrow o$ be given. Let $v2\_struct\_0 : \iota \Rightarrow o$ be given. Let $v11\_struct\_0 : \iota \Rightarrow o$ be given. Let $v1\_msualg\_1 : \iota \Rightarrow o$ be given. Let $v1\_circcomb : \iota \Rightarrow o$ be given. Let $v2\_circcomb : \iota \Rightarrow o$ be given. Let $v3\_circcomb : \iota \Rightarrow o$ be given. Let $l1\_msualg\_1 : \iota \Rightarrow o$ be given. Let $k5\_circcomb : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u4\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1\_msualg\_1 : \iota \Rightarrow \iota$ be given. Let $u2\_msualg\_1 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.\forall X1.k10\_xtuple\_0\ (k10\_finseq\_1\ X0\ X1) = k2\_tarski\ X0\ X1 \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.(v1\_relat\_1\ (k10\_finseq\_1\ X0\ X1))\wedge(v1\_funct\_1\ (k10\_finseq\_1\ X0\ X1)) \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.v1\_finseq\_1\ (k10\_finseq\_1\ X0\ X1) \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.(\neg v2\_struct\_0\ (k37\_twoscomp\ X0\ X1))\wedge((\neg v11\_struct\_0\ (k37\_twoscomp\ X0\ X1))\wedge((v1\_msualg\_1\ (k37\_twoscomp\ X0\ X1))\wedge((v1\_circcomb\ (k37\_twoscomp\ X0\ X1))\wedge((v2\_circcomb\ (k37\_twoscomp\ X0\ X1))\wedge((v3\_circcomb\ (k37\_twoscomp\ X0\ X1))\wedge(l1\_msualg\_1\ (k37\_twoscomp\ X0\ X1))))))) \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1\ X1)\wedge((v1\_funct\_1\ X1)\wedge(v1\_finseq\_1\ X1)))\Rightarrow(\forall X2.((\neg v11\_struct\_0\ X2)\wedge((v1\_msualg\_1\ X2)\wedge(l1\_msualg\_1\ X2)))\Rightarrow((X2 = k5\_circcomb\ X0\ X1)\Leftrightarrow((u1\_struct\_0\ X2 = k2\_xboole\_0\ (k10\_xtuple\_0\ X1)\ (k1\_tarski\ (k4\_tarski\ X1\ X0)))\wedge((u4\_struct\_0\ X2 = k1\_tarski\ (k4\_tarski\ X1\ X0))\wedge((k1\_funct\_1\ (u1\_msualg\_1\ X2)\ (k4\_tarski\ X1\ X0) = X1)\wedge(k1\_funct\_1\ (u2\_msualg\_1\ X2)\ (k4\_tarski\ X1\ X0) = k4\_tarski\ X1\ X0))))))) \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.k37\_twoscomp\ X0\ X1 = k5\_circcomb\ k3\_twoscomp\ (k10\_finseq\_1\ X0\ X1) \tag{6}$$

Theorem 1

$$\forall X0.(\neg v1\_xtuple\_0\ X0)\Rightarrow(\forall X1.(\neg v1\_xtuple\_0\ X1)\Rightarrow(u1\_struct\_0\ (k37\_twoscomp\ X0\ X1) = k2\_xboole\_0\ (k2\_tarski\ X0\ X1)\ (k1\_tarski\ (k4\_tarski\ (k10\_finseq\_1\ X0\ X1)\ k3\_twoscomp))))$$