

# t51\_tdlat\_3 (TMSNsQALy- WXYD3tpgR2j1DVgWBqUgX1ToEY)

October 27, 2020

Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v2\_pre\_topc : \iota \Rightarrow o$  be given. Let  $l1\_pre\_topc : \iota \Rightarrow o$  be given. Let  $k4\_tdlat\_1 : \iota \Rightarrow \iota$  be given. Let  $k12\_tdlat\_1 : \iota \Rightarrow \iota$  be given. Let  $v4\_tdlat\_3 : \iota \Rightarrow o$  be given. Let  $v10\_lattices : \iota \Rightarrow o$  be given. Let  $v12\_lattices : \iota \Rightarrow o$  be given. Let  $l3\_lattices : \iota \Rightarrow o$  be given. Let  $v15\_lattices : \iota \Rightarrow o$  be given. Let  $v16\_lattices : \iota \Rightarrow o$  be given. Let  $v17\_lattices : \iota \Rightarrow o$  be given. Let  $v11\_lattices : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} \forall X0. ((\neg v2\_struct\_0 X0) \wedge ((v2\_pre\_topc X0) \wedge (l1\_pre\_topc \\ X0))) \Rightarrow ((v4\_tdlat\_3 X0) \Leftrightarrow ((\neg v2\_struct\_0 (k4\_tdlat\_1 X0)) \wedge ((v10\_lattices \\ (k4\_tdlat\_1 X0)) \wedge ((v12\_lattices (k4\_tdlat\_1 X0)) \wedge (l3\_lattices \\ (k4\_tdlat\_1 X0)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} \forall X0. ((v2\_pre\_topc X0) \wedge (l1\_pre\_topc X0)) \Rightarrow ((\neg v2\_struct\_0 \\ (k4\_tdlat\_1 X0)) \wedge ((v10\_lattices (k4\_tdlat\_1 X0)) \wedge ((v15\_lattices \\ (k4\_tdlat\_1 X0)) \wedge ((v16\_lattices (k4\_tdlat\_1 X0)) \wedge (l3\_lattices \\ (k4\_tdlat\_1 X0)))))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} \forall X0. ((v2\_pre\_topc X0) \wedge (l1\_pre\_topc X0)) \Rightarrow ((\neg v2\_struct\_0 \\ (k12\_tdlat\_1 X0)) \wedge ((v10\_lattices (k12\_tdlat\_1 X0)) \wedge ((v17\_lattices \\ (k12\_tdlat\_1 X0)) \wedge (l3\_lattices (k12\_tdlat\_1 X0)))))) \end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned} \forall X0. (l3\_lattices X0) \Rightarrow (((\neg v2\_struct\_0 X0) \wedge ((v10\_lattices \\ X0) \wedge (v11\_lattices X0))) \Rightarrow ((\neg v2\_struct\_0 X0) \wedge ((v10\_lattices \\ X0) \wedge (v12\_lattices X0)))) \end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned} \forall X0. (l3\_lattices X0) \Rightarrow (((\neg v2\_struct\_0 X0) \wedge (v17\_lattices \\ X0)) \Rightarrow ((\neg v2\_struct\_0 X0) \wedge ((v11\_lattices X0) \wedge ((v15\_lattices \\ X0) \wedge (v16\_lattices X0)))))) \end{aligned} \tag{5}$$

**Theorem 1**

$$\forall X0.((\neg v2\_struct\_0 X0) \wedge ((v2\_pre\_topc X0) \wedge (l1\_pre\_topc X0))) \Rightarrow ((k4\_tdlat\_1 X0 = k12\_tdlat\_1 X0) \Rightarrow (v4\_tdlat\_3 X0))$$