

## t58\_kurato\_1

(TMX71d3RCPT5uT3ao5TtBCKBjohmUe5dBZn)

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Let  $r1\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k3\_kurato\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_topmetr : \iota$  be given. Let  $k6\_kurato\_1 : \iota$  be given. Let  $k4\_kurato\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_setfam\_1 : \iota \Rightarrow o$  be given. Let  $v3\_setfam\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $v1\_tops\_2 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v2\_tops\_2 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v1\_pre\_topc : \iota \Rightarrow o$  be given. Let  $v2\_pre\_topc : \iota \Rightarrow o$  be given. Let  $l1\_pre\_topc : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} & \forall X0.((v1\_setfam\_1 X0) \wedge ((v3\_setfam\_1 X0 (u1\_struct\_0 k3\_topmetr)) \wedge \\ & (m1\_subset\_1 X0 (k1\_zfmisc\_1 (k1\_zfmisc\_1 (u1\_struct\_0 k3\_topmetr)))))) \Rightarrow \\ & (\forall X1.((v1\_setfam\_1 X1) \wedge ((v3\_setfam\_1 X1 (u1\_struct\_0 \\ & k3\_topmetr)) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k1\_zfmisc\_1 (u1\_struct\_0 \\ & k3\_topmetr)))))) \Rightarrow ((v1\_tops\_2 X0 k3\_topmetr) \wedge (v2\_tops\_2 X1 \\ & k3\_topmetr)) \Rightarrow (r1\_xboole\_0 X0 X1))) \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0. \forall X1. (r1\_xboole\_0 X0 X1) \Rightarrow (r1\_xboole\_0 X1 X0) \tag{2}$$

Assume the following.

$$v1\_setfam\_1 (k3\_kurato\_1 k3\_topmetr k6\_kurato\_1) \tag{3}$$

Assume the following.

$$v3\_setfam\_1 (k4\_kurato\_1 k3\_topmetr k6\_kurato\_1) (u1\_struct\_0 k3\_topmetr) \tag{4}$$

Assume the following.

$$v3\_setfam\_1 (k3\_kurato\_1 k3\_topmetr k6\_kurato\_1) (u1\_struct\_0 k3\_topmetr) \tag{5}$$

Assume the following.

$$(\neg v2\_struct\_0 k3\_topmetr) \wedge ((v1\_pre\_topc k3\_topmetr) \wedge (v2\_pre\_topc k3\_topmetr)) \tag{6}$$

Assume the following.

$$v1\_tops\_2 (k4\_kurato\_1 k3\_topmetr k6\_kurato\_1) k3\_topmetr \quad (7)$$

Assume the following.

$$v2\_tops\_2 (k3\_kurato\_1 k3\_topmetr k6\_kurato\_1) k3\_topmetr \quad (8)$$

Assume the following.

$$v1\_setfam\_1 (k4\_kurato\_1 k3\_topmetr k6\_kurato\_1) \quad (9)$$

Assume the following.

$$m1\_subset\_1 k6\_kurato\_1 (k1\_zfmisc\_1 (u1\_struct\_0 k3\_topmetr)) \quad (10)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.(((\neg v2\_struct\_0 X0)\wedge((v2\_pre\_topc X0)\wedge \\ (l1\_pre\_topc X0)))\wedge(m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 \\ X0))))\Rightarrow(m1\_subset\_1 (k4\_kurato\_1 X0 X1) (k1\_zfmisc\_1 (k1\_zfmisc\_1 \\ (u1\_struct\_0 X0)))) \end{aligned} \quad (11)$$

Assume the following.

$$(v2\_pre\_topc k3\_topmetr)\wedge(l1\_pre\_topc k3\_topmetr) \quad (12)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.(((\neg v2\_struct\_0 X0)\wedge((v2\_pre\_topc X0)\wedge \\ (l1\_pre\_topc X0)))\wedge(m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 \\ X0))))\Rightarrow(m1\_subset\_1 (k3\_kurato\_1 X0 X1) (k1\_zfmisc\_1 (k1\_zfmisc\_1 \\ (u1\_struct\_0 X0)))) \end{aligned} \quad (13)$$

**Theorem 1**

$$r1\_xboole\_0 (k3\_kurato\_1 k3\_topmetr k6\_kurato\_1) (k4\_kurato\_1 k3\_topmetr k6\_kurato\_1)$$