

pred!^{11,40}

$\text{pred!}(e;e') \equiv_{\text{def}} ((\neg(\uparrow\text{first}(e'))) \text{c} \wedge (e = \text{pred}(e'))) \vee ((\uparrow\text{rcv?}(e')) \text{c} \wedge (e = \text{sender}(e')))$

clarification:

$\text{pred!}(E;\text{pred?};\text{info};e;e')$
 $\equiv_{\text{def}} ((\neg(\uparrow\text{first}(\text{pred?};e'))) \text{c} \wedge (e = \text{pred}(\text{pred?};e') \in E))$
 $\vee ((\uparrow\text{rcv?}(\text{info};e')) \text{c} \wedge (e = \text{sender}(\text{info};e') \in E))$