$$\acute{\mathbb{1}} \underset{0}{\blacktriangleright} \mathbb{1} \ni \mathbb{1} \text{ inj}$$

$$\acute{\mathbb{1}} \xleftarrow[\text{inj C*-hom}]{\mathbb{1}} \mathbb{1} \Longrightarrow \ulcorner \mathbb{1} \urcorner \urcorner = \ulcorner \urcorner \urcorner \text{ monometric}$$

$$\lightning \bigvee_{\ulcorner \mathbb{1} \urcorner \urcorner < \ulcorner \urcorner \urcorner}^{\urcorner \in \mathbb{1}_+} \ulcorner \urcorner \urcorner \in \sigma_{\mathbb{1}} (\urcorner) \subset 0|\ulcorner \urcorner \urcorner \underset{\mathrm{RR}}{\supset} 0|\ulcorner \mathbb{1} \urcorner \urcorner \supset \sigma_{\acute{\mathbb{1}}} \Longrightarrow \bigvee \urcorner \in 0|\ulcorner \urcorner \urcorner \underset{0}{\triangleright} \mathbb{R}_+ \begin{cases} 0|\ulcorner \mathbb{1} \urcorner \urcorner \, \urcorner & = 0 \\ \ulcorner \urcorner \urcorner \, \urcorner & = 1 \end{cases}$$

$$\Longrightarrow \sigma_{\mathbb{1}} \left(\urcorner \urcorner \right) = {}^{\sigma_{\mathbb{1}}(\urcorner)} \urcorner \ni {}^{\ulcorner \urcorner \urcorner} \urcorner = 1 \Longrightarrow {}^{\urcorner} \urcorner \neq 0$$

$$\sigma_{\acute{\mathbb{1}}} \left(\mathbb{1} {}^{\urcorner} \urcorner \right) = \sigma_{\acute{\mathbb{1}}} \left({}^{\mathbb{1} \urcorner} \urcorner \right) = {}^{\sigma_{\acute{\mathbb{1}}}(\mathbb{1} \urcorner)} \urcorner = 0 \Longrightarrow \mathbb{1} {}^{\urcorner} \urcorner = 0 \Longrightarrow \mathbb{1} \text{ not inj } \lightning$$

$$\Longrightarrow \bigwedge_{\urcorner \in \mathbb{1}} \ulcorner \mathbb{1} \urcorner \urcorner^2 = \ulcorner (\mathbb{1} \urcorner)^* (\mathbb{1} \urcorner) \urcorner = \ulcorner \mathbb{1} (\urcorner^* \urcorner) \urcorner = \ulcorner \urcorner^* \urcorner \urcorner = \ulcorner \urcorner \urcorner^2 \Longrightarrow \ulcorner \mathbb{1} \urcorner \urcorner = \ulcorner \urcorner \urcorner$$