

$$\begin{array}{ccc} \overline{h}_{\infty} \left(\overline{K}_N \triangleleft \Gamma \right) & \xrightarrow{\quad \Gamma_i \quad} & \overline{h}_{\infty} \overline{K}_{2^N} \\ \mathcal{H} = \underbrace{\mathcal{H} \Gamma_i}_{\vdash} \Gamma & & \end{array}$$

$$\begin{array}{ccc} \overline{h}_{\infty} \left(\overline{K}_N \triangleleft \Gamma \right) & & \overline{h}_{\infty} \left(\overline{K}_N \triangleleft \Gamma \right) \\ \uparrow \scriptstyle \mathcal{H} \quad \downarrow \scriptstyle \mathcal{H} & \begin{array}{l} \searrow \scriptstyle \mathcal{H} = \mathcal{H} \mathcal{H} \\ \nearrow \scriptstyle \mathcal{H} = \mathcal{H} \mathcal{H} \end{array} & \\ \overline{h}_{\infty} \left(\overline{K}_N \triangleleft \Gamma \right) & & \end{array}$$

$$\mathcal{H} = \underbrace{\mathcal{H} \mathcal{H} \mathcal{H}}$$