$$\tilde{\phi} \in {}^{K^{\mathbb{C}}}\underset{\infty}{\triangle}\mathbb{C} \xleftarrow[\text{K equiv}]{} {}^{Z}\underset{\bullet}{\triangle}\mathbb{C} \bowtie \cdot\cdot \bowtie {}^{Z}\underset{\bullet}{\triangle}\mathbb{C} \ni \phi$$

$${}^{h}\widetilde{\overbrace{{}_{1}\rceil \bowtie \cdot\cdot \bowtie {}_{\ell}\rceil}} = {}^{hu_1}_{1}\rceil \, {}^{hu_2}_{2}\rceil \cdots {}^{hu_\ell}_{\ell}\rceil$$

$$c \in S_j$$

$$q \in K^{\mathbb{C}}: \quad q Z_c^1 = Z_c^1 \Rightarrow P_c^1 \overset{*}{q} = P_c^1 \overset{*}{q} P_c^1$$

$$u \in Z_c^1 \Rightarrow qu \in Z_c^1 \Rightarrow u| \overset{*}{q} \overbrace{z_1 + z_{1/2} + z_0} = qu| \overbrace{z_1 + z_{1/2} + z_0} = qu| z_1$$

$$Z_j = Z^1_{u_j}: \quad P_j = P^1_{u_j}$$

$${}^{q}\chi = \Delta^j \left(qu_j\right)$$

$$q \in K^{\mathbb{C}}: \quad \bigwedge_{1 \leqslant j \leqslant \ell} q Z_j = Z_j \Rightarrow \overset{*}{q} P_j = P_j \overset{*}{q} P_j$$

$$\phi \in {}^{Z}\underset{\bullet}{\triangle}\overset{k_1}{\mathbb{C}} \bowtie \cdot\cdot \bowtie {}^{Z}\underset{\bullet}{\triangle}\overset{k_\ell}{\mathbb{C}} \Rightarrow {}^{hq}\tilde{\phi} = {}^{q}\chi \, {}^{h}\tilde{\phi}$$

$$\phi = {}_{1}\rceil \bowtie \cdot\cdot \bowtie {}_{\ell}\rceil$$

$${}^{z}_{j}\rceil = {}^{z}\mathcal{E}^j_{b_j}$$

$${}^{h}_{j}\tilde{\rceil} = {}^{hu_j}\mathcal{E}^j_{b_j} = {}^{u_j}\mathcal{E}^j_{\overset{*}{h} b_j} = {}^{u_j}\mathcal{E}^j_{\overset{*}{h} b_j} = {}^{u_j}\mathcal{E}^j_{P_j \overset{*}{h} b_j} = \bar{\Delta}^j \left(P_j \overset{*}{h} b_j\right)$$

$${}^{hq}_{j}\tilde{\rceil} = \bar{\Delta}^j \left(P_j (\overset{*}{hq}) b_j\right) = \bar{\Delta}^j \left(P_j \overset{*}{q}\overset{*}{h} b_j\right) = \bar{\Delta}^j \left(P_j \overset{*}{q} P_j \overset{*}{h} b_j\right) = \bar{\Delta}^j \left(P_j \overset{*}{q} u_j\right) \bar{\Delta}^j \left(P_j \overset{*}{h} b_j\right) = \Delta^j \left(qu_j\right) \bar{\Delta}^j \left(P_j \overset{*}{h} b_j\right)$$