$$\begin{array}{c}
\mathbf{U}_{f} \times S(\mathbf{X}_{f} * \mathbf{X}_{g} * \mathbf{X}_{h}) & \xrightarrow{\operatorname{dyn}_{(f \S g) \S h}} & S(\mathbf{X}_{f} * \mathbf{X}_{g} * \mathbf{X}_{h}) \\
\operatorname{Id}_{\mathbf{U}_{f}} \times (\operatorname{coh}_{(f \S g) \S h} \times \operatorname{Id}_{S(\mathbf{X}_{h})}) \uparrow & \xrightarrow{\operatorname{coh}_{(f \S g) \S h}} & \operatorname{coh}_{(f \S g) \S h} \\
\mathbf{U}_{f} \times (S(\mathbf{X}_{f} * \mathbf{X}_{g}) \times S(\mathbf{X}_{h})) & \xrightarrow{\operatorname{dyn}'_{(f \S g) \S h}} & S(\mathbf{X}_{f} * \mathbf{X}_{g}) \times S(\mathbf{X}_{h}) \\
\operatorname{Id}_{\mathbf{U}_{f}} \times (\operatorname{coh}_{f \S g} \times \operatorname{Id}_{S(\mathbf{X}_{h})}) \uparrow & \xrightarrow{\operatorname{coh}_{f \S g}} \times \operatorname{Id}_{S(\mathbf{X}_{h})} \\
\mathbf{U}_{f} \times ((S(\mathbf{X}_{f}) \times S(\mathbf{X}_{g})) \times S(\mathbf{X}_{h})) & \xrightarrow{\operatorname{dyn}'_{(f \S g) \S h}} & (S(\mathbf{X}_{f}) \times S(\mathbf{X}_{g})) \times S(\mathbf{X}_{h})
\end{array}$$