$$\overbrace{\begin{cases} x \\ {}_{\sigma}\mathord{\vdash}^{i}{}_{\ell} \\ {}_{\mu\sigma}\mathord{\vdash}^{i}{}_{\ell} \end{cases}} \rtimes \underbrace{\curvearrowright \,:\vdash} \rtimes \overbrace{\bullet:\vdash} = \begin{cases} x \\ {}_{\sigma}\mathord{\vdash}^{i}{}_{\ell} \\ {}_{\mu\sigma}\mathord{\vdash}^{i}{}_{\ell} \end{cases} \rtimes \underbrace{\curvearrowright \bullet:\vdash\vdash}$$

$$\text{LHS} = \begin{cases} {}^{x}\curvearrowright \\ {}^{x}_{\sigma}\mathord{\vdash}^{i}{}_{\ell}\,\vdash \\ {}^{x^{-1}}_{\mu}\curvearrowright^{\nu} \overbrace{\underbrace{\partial_{\nu}\,{}_{\sigma}\mathord{\vdash}^{i}{}_{\ell}}_{\vdash} + \underbrace{{}^{x}_{\sigma}\mathord{\vdash}^{i}{}_{\ell}{}^{m}\partial_{j}^{\tau}{}_{\nu\tau}\mathord{\vdash}^{j}{}_{m}}_{\vdash}} \end{cases} \rtimes \underbrace{\bullet:\vdash}$$

$$= \begin{cases} {}^{x}\curvearrowright\bullet \\ {}^{x}\curvearrowright{}_{\vdash}{}^{i}\,{}^{x}\vdash\vdash \\ {}^{x}\curvearrowright^{-1\nu}_{\mu}\bullet \left({}^{x}\curvearrowright \underbrace{\partial_{\nu}\mathord{\vdash}^{i}}_{{}^{x}\vdash\vdash} + {}^{x}\curvearrowright\underbrace{\mathord{\vdash}^{i}{}^{m}\partial_{j}^{\tau}}^{{}^{x}\vdash\vdash}{}^{x}\curvearrowright^{-1\lambda}_{\nu}\overbrace{\underbrace{\partial_{\lambda}{}_{\tau}\mathord{\vdash}^{j}{}_{m}}_{\vdash} + \underbrace{{}^{x}_{\tau}\mathord{\vdash}^{j}{}_{m}{}^{\varrho n}\partial_{k}{}_{\lambda\varrho}\mathord{\vdash}^{k}{}_{n}}_{\vdash}} \right) \end{cases}$$

$$\text{RHS} = \begin{cases} {}^{x}\overbrace{\curvearrowright\bullet} \\ {}^{x}\curvearrowright{}_{\vdash}{}^{i}\,{}^{x}\vdash\vdash \\ {}^{x}_{\mu}\curvearrowright^{-1}\bullet^{\lambda} \overbrace{\underbrace{\partial_{\lambda}{}^{\sim}\curvearrowright^{i}{}_{\sim\vdash}}_{\vdash} + \underbrace{{}^{x}{}^{\sim}\curvearrowright^{i}{}_{\vdash}{}^{\varrho n}\partial_{k}\vdash\mathord{\vdash}^{k}{}_{n}}} \end{cases}$$

$$= \begin{cases} {}^{x}\curvearrowright\bullet \\ {}^{x}\curvearrowright{}_{\vdash}{}^{i}\,{}^{x}\vdash\vdash \\ {}^{x}\curvearrowright^{-1\nu}_{\mu}\bullet\,{}^{x}\curvearrowright^{-1\lambda}_{\nu} \left({}^{x}_{\lambda}\curvearrowright^{\varkappa}\,{}^{x}\curvearrowright\underbrace{\partial_{\varkappa}\mathord{\vdash}^{i}}_{{}^{x}\vdash\vdash} + {}^{x}\curvearrowright\underbrace{\mathord{\vdash}^{i}{}^{m}\partial_{j}^{\tau}}^{{}^{x}\vdash\vdash}\underbrace{\partial_{\lambda}{}_{\tau}\mathord{\vdash}^{j}{}_{m}}\,{}^{x}\vdash + {}^{x}\curvearrowright\underbrace{\mathord{\vdash}^{i}{}^{m}\partial_{j}^{\tau}}^{{}^{x}\vdash\vdash x}\underbrace{{}_{\tau}\mathord{\vdash}^{j}{}_{m}{}^{\varrho n}\partial_{k}{}_{\lambda\varrho}\mathord{\vdash}^{k}{}_{n}}_{\vdash} \right) \end{cases}$$