

$$\begin{aligned} \lambda \underline{\mathbb{V}} \left(\underline{d}_\mu \underline{\mathbb{V}} + \bar{\mathbb{A}}_\mu \underline{\mathbb{V}} \right) &= \lambda \underline{\mathbb{V}} \left(\bar{\mathbb{A}} \right)_\mu \underline{\mathbb{V}} = \lambda \underline{\mathbb{V}} \left(\overbrace{\underline{\mathbb{V}} \underline{\mathbb{A}} \underline{d}_\mu}^\nu \right)_\mu \\ \lambda \underline{\mathbb{V}} \left(\bar{\mathbb{A}} \right)_\mu \underline{\mathbb{V}} \underline{\mathbb{V}}^\nu &= \left(\overbrace{\underline{\mathbb{V}} \underline{\mathbb{A}} \underline{d}_\mu}^\nu \right)_\mu \end{aligned}$$

$${}_m \mathbb{A} \left(\underline{d} + \bar{\mathbb{A}} \right)_{\lambda \underline{\mathbb{V}}} = \lambda \underline{\mathbb{V}} \left(\overbrace{\underline{\mathbb{V}} \underline{d} \underline{\mathbb{V}}}^n \right) {}_n \mathbb{A}$$

$$\begin{aligned} \text{LHS} &= \overbrace{{}_m \mathbb{A}^\mu \underline{\mathbb{V}}} \left(\underline{d} + \bar{\mathbb{A}} \right)_{\lambda \underline{\mathbb{V}}} = \lambda \underline{\mathbb{V}} \left(\overbrace{m \mathbb{A}^\mu}^\mu \underline{\mathbb{V}} \underline{\mathbb{V}}^\nu \right) + \overbrace{{}_m \mathbb{A}^\mu \underline{\mathbb{V}}} \bar{\mathbb{A}}_{\lambda \underline{\mathbb{V}}} = \\ &\overbrace{\lambda \underline{\mathbb{V}} \overbrace{m \mathbb{A}^\mu}^\mu} \underline{\mathbb{V}} \underline{\mathbb{V}}^\nu + \overbrace{{}_m \mathbb{A}^\mu} \overbrace{\bar{\mathbb{A}}_{\lambda \underline{\mathbb{V}}}} = \overbrace{\lambda \underline{\mathbb{V}} \overbrace{m \mathbb{A}^\mu}^\mu} + \overbrace{{}_m \mathbb{A}^\mu} \overbrace{\left(\overbrace{\underline{\mathbb{V}} \underline{\mathbb{A}} \underline{d}_\mu}^\nu \right)_\lambda} \underline{\mathbb{V}}^\nu = \\ &\lambda \underline{\mathbb{V}} \left(\overbrace{d_m \mathbb{A}^\mu} + \overbrace{{}_m \mathbb{A}^\mu} \overbrace{\left(\overbrace{\underline{\mathbb{V}} \underline{\mathbb{A}} \underline{d}_\mu}^\nu \right)_\lambda} \right) \underline{\mathbb{V}}^\nu {}_n \mathbb{A} = \lambda \underline{\mathbb{V}} \left(\overbrace{\underline{\mathbb{V}} \underline{d} \underline{\mathbb{V}}}^n \right) {}_n \mathbb{A} \end{aligned}$$

$${}_m \mathbb{A} \left(\underline{d} + \bar{\mathbb{A}} \right)_{\ell \mathbb{A}} = \overbrace{m \left(\overbrace{\underline{\mathbb{V}} \underline{d} \underline{\mathbb{V}}}^n \right)_\ell} {}_n \mathbb{A}$$

$$\text{LHS} = \overbrace{{}_m \mathbb{A} \left(\underline{d} + \bar{\mathbb{A}} \right)_{\ell \mathbb{A} \lambda \underline{\mathbb{V}}}} = \overbrace{\ell \mathbb{A}^\lambda} \overbrace{{}_m \mathbb{A} \left(\underline{d} + \bar{\mathbb{A}} \right)_{\lambda \underline{\mathbb{V}}}} = \overbrace{\ell \mathbb{A}^\lambda} \overbrace{\lambda \underline{\mathbb{V}} \left(\overbrace{\underline{\mathbb{V}} \underline{d} \underline{\mathbb{V}}}^n \right) {}_n \mathbb{A}} {}_n \mathbb{A} = \overbrace{\ell \mathbb{A}^\lambda} \overbrace{m \left(\overbrace{\underline{\mathbb{V}} \underline{d} \underline{\mathbb{V}}}^n \right)_\ell} {}_n \mathbb{A} = \overbrace{m \left(\overbrace{\underline{\mathbb{V}} \underline{d} \underline{\mathbb{V}}}^n \right)_\ell} {}_n \mathbb{A}$$