

$${}^w g = w \rtimes \frac{a}{\bar{b}} \left| \frac{b}{\bar{a}} \right. = \underline{a + w \bar{b}} \; {}_{-1} \underline{b + w \bar{a}}$$

$$\dot{w} \; {}^w \underline{g} = \underline{a + w \bar{b}} \; \dot{w} \; \underline{\dot{a} + \overset{*}{b} w} \; {}_{-1}$$

$$\dot{w} \; {}^w \underline{g^\ddagger} = \underline{\dot{a} + \overset{t}{b} \bar{w}} \; \dot{w} \; \underline{\bar{a} + \dot{w} b}$$