

Define [

$$\text{dm}_{i,j \rightarrow k} = \text{Module} \left[\{i1, i2, i3, i4\}, \right. \\ \left. \left(\left(s\Upsilon_{i \rightarrow i4, i4, i1, i1} // a\Delta t_{i1 \rightarrow i1, i2} // a\Delta t_{i2 \rightarrow i2, i3} // \overline{aSt}_{i3} \right) \right. \right. \\ \left. \left. \left(s\Upsilon_{j \rightarrow -i1, -i1, -i4, -i4} // b\Delta t_{-i1 \rightarrow -i1, -i2} // b\Delta t_{-i2 \rightarrow -i2, -i3} \right) \right) // \left(P_{i1, -i3} P_{i3, -i1} \text{amt}_{i2, -i4 \rightarrow k} \text{bmt}_{i4, -i2 \rightarrow k} \right) \right]]$$

$$\text{Define} \left[dS_i = s\Upsilon_{i \rightarrow 1, 1, 2, 2} // \left(bSt_1 \overline{aSt}_2 \right) // dm_{2, 1 \rightarrow i}, \right.$$

$$\overline{dS}_i = s\Upsilon_{i \rightarrow 1, 1, 2, 2} // \left(\overline{bSt}_1 aSt_2 \right) // dm_{2, 1 \rightarrow i},$$

$$d\Delta_{i \rightarrow j, k} = \left(b\Delta t_{i \rightarrow 1, 3} a\Delta t_{i \rightarrow 4, 2} \right) // \left(dm_{3, 4 \rightarrow k} dm_{1, 2 \rightarrow j} \right)]$$

(*Notice we take co-opposite on the $\mathbb{A}$ -side! to make the double*)