

AutoAd[bb[j, k], UU@a[1, j, k]][UU@a[1, 0, j]]

$$\begin{aligned} & UU \left[ a[1, 0, j] + a[1 - e^{-bj}, 0, k] + \right. \\ & a \left[ \frac{(-1 + e^{-bj}) b_0}{b_j}, j, k \right] + \delta a \left[ -1 - e^{-bj} + \frac{1 - e^{-2bj}}{b_j}, 0, k \right] + \\ & \delta a \left[ b_0 \left( 1 + \frac{-1 + e^{-bj}}{b_j} \right), \zeta, k \right] + \delta a \left[ \frac{e^{-2bj} b_0 (1 + e^{bj} (-1 + bj))}{b_j^2}, j, k \right] + \\ & \delta a a \left[ \frac{2 e^{-bj} b_0 (\sinh[b_j] - b_j)}{b_j^3}, j, k, j, k \right] + \\ & \delta a a \left[ \frac{b_0 (1 - e^{-bj} - b_j)}{b_j^2}, \zeta, j, j, k \right] + \\ & \delta a a \left[ \frac{1 - e^{-bj}}{b_j}, \zeta, k, 0, j \right] + \delta a a \left[ \frac{-1 + e^{-bj}}{b_j}, \zeta, j, 0, k \right] + \\ & \delta a a \left[ \frac{e^{-2bj} (-1 - e^{bj} (-1 + bj))}{b_j}, \zeta, k, 0, k \right] + \\ & \delta a a \left[ \frac{-1 + e^{-bj} + b_j}{b_j^2}, 0, j, j, k \right] + \\ & \delta a a \left[ \frac{e^{-2bj} (1 + e^{2bj} (-1 + bj) + e^{bj} b_j)}{b_j^2}, 0, k, j, k \right] + \\ & \left. \delta a a \left[ -\frac{e^{-2bj} b_0 (-1 + e^{bj} + e^{bj} (-2 + e^{bj}) b_j)}{b_j^2}, \zeta, k, j, k \right] \right] \end{aligned}$$