

$$\begin{aligned} \Lambda[k_-] := & (1 - t_k) (\alpha^2 \beta^2 + 4 \alpha \beta \delta \mu + 2 \delta^2 \mu^2) / 2 + 2 \mu^2 (\alpha \beta + \delta \mu) c_k - \\ & \beta (2 \mu - 1) (\alpha \beta + 2 \delta \mu) u_k + 2 \beta \delta \mu^2 c_k u_k - \beta^2 \delta (3 \mu - 1) u_k^2 / 2 + \\ & \alpha (\alpha \beta + 2 \delta \mu) w_k + 2 \alpha \delta \mu^2 c_k w_k - 2 (t_k - 1) \delta^2 (\alpha \beta + \delta \mu) u_k w_k + 2 \delta^2 \mu^2 c_k u_k w_k - \\ & \beta \delta^2 (2 \mu - 1) u_k^2 w_k + \alpha^2 \delta (1 + \mu) w_k^2 / 2 + \alpha \delta^2 u_k w_k^2 - (t_k - 1) \delta^4 u_k^2 w_k^2 / 2; \end{aligned}$$

$$\Lambda[k] \ /. \ \{\delta \rightarrow 0, \ \mu \rightarrow 1\}$$

$$2 \alpha \beta c_k + \frac{1}{2} \alpha^2 \beta^2 (1 - t_k) - \alpha \beta^2 u_k + \alpha^2 \beta w_k$$