

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