

$$V@r_{2,1}[i_, j_] :=$$

$$\begin{aligned} & \left(-6 p_i x_i + 6 p_j x_i - 3 (-1 + 3 T) p_i p_j x_i^2 + 3 (-1 + 3 T) p_j^2 x_i^2 + 4 (-1 + T) p_i^2 p_j x_i^3 - \right. \\ & 2 (-1 + T) (5 + T) p_i p_j^2 x_i^3 + 2 (-1 + T) (3 + T) p_j^3 x_i^3 + 18 p_i p_j x_i x_j - \\ & 18 p_j^2 x_i x_j - 6 p_i^2 p_j x_i^2 x_j + 6 (2 + T) p_i p_j^2 x_i^2 x_j - 6 (1 + T) p_j^3 x_i^2 x_j - \\ & \left. 6 p_i p_j^2 x_i x_j^2 + 6 p_j^3 x_i x_j^2 \right) / 12 \end{aligned}$$