

$$\begin{aligned}
& \mathbb{E}_{\{\} \rightarrow \{1\}} \left[\theta, \theta, \frac{B}{1 - B + B^2} + \right. \\
& \frac{B \left(-B + 2 B^2 + 2 B^4 + a \left(-1 + B - B^3 + B^4 \right) - 2 x y - B^3 \left(3 + 2 x y \right) \right) \epsilon}{\left(1 - B + B^2 \right)^3} + \\
& \frac{1}{2 \left(1 - B + B^2 \right)^5} \\
& \left. B \left(4 B^8 + a^2 \left(1 - B + B^2 \right)^2 \left(1 + B - 6 B^2 + B^3 + B^4 \right) + 6 B^5 x^2 y^2 + \right. \right. \\
& \quad 2 x y \left(-2 + 3 x y \right) - B^7 \left(11 + 4 x y \right) - 2 B^2 \left(1 + 6 x^2 y^2 \right) - \\
& \quad 2 B^4 \left(1 - 2 x y + 6 x^2 y^2 \right) + B \left(1 + 8 x y + 6 x^2 y^2 \right) + \\
& \quad B^6 \left(6 + 8 x y + 6 x^2 y^2 \right) + B^3 \left(4 + 4 x y + 30 x^2 y^2 \right) + \\
& \quad \left. \left. 2 a \left(1 - B + B^2 \right) \left(2 B^6 + 2 x y + 8 B^3 \left(1 + x y \right) - 5 B^2 \left(1 + 2 x y \right) - \right. \right. \right. \\
& \quad \left. \left. \left. 2 B^5 \left(1 + 2 x y \right) - B^4 \left(7 + 2 x y \right) + B \left(2 + 4 x y \right) \right) \right) \epsilon^2 + \mathbf{0}[\epsilon]^3 \right]
\end{aligned}$$