

$$\mathbb{E} \left[\mathbf{a}_3 \alpha_1 + \mathbf{a}_3 \alpha_2 + \mathbf{t}_3 (\tau_1 + \tau_2), \right.$$

$$\mathbf{y}_3 \eta_1 + e^{-\gamma \alpha_1} \mathbf{y}_3 \eta_2 + e^{-\gamma \alpha_2} \mathbf{x}_3 \xi_1 + \frac{(\mathbf{1} - \mathbf{T}_3) \eta_2 \xi_1}{\hbar} + \mathbf{x}_3 \xi_2,$$

$$\mathbf{1} + \frac{\mathbf{1}}{4 \hbar} \eta_2 \xi_1 \left(8 \hbar \mathbf{a}_3 \mathbf{T}_3 + 4 e^{-\gamma \alpha_1 - \gamma \alpha_2} \gamma \hbar^2 \mathbf{x}_3 \mathbf{y}_3 + 2 e^{-\gamma \alpha_1} \gamma \hbar \mathbf{y}_3 \eta_2 - \right.$$

$$6 e^{-\gamma \alpha_1} \gamma \hbar \mathbf{T}_3 \mathbf{y}_3 \eta_2 + 2 e^{-\gamma \alpha_2} \gamma \hbar \mathbf{x}_3 \xi_1 - 6 e^{-\gamma \alpha_2} \gamma \hbar \mathbf{T}_3 \mathbf{x}_3 \xi_1 +$$

$$\left. \gamma \eta_2 \xi_1 - 4 \gamma \mathbf{T}_3 \eta_2 \xi_1 + 3 \gamma \mathbf{T}_3^2 \eta_2 \xi_1 \right) \epsilon + \mathbf{0}[\epsilon]^2 \left. \right]$$