



$$\begin{aligned}\pi(\tilde{y}_k, \theta_k, \lambda_k, \tau_1, \tau_2) = & \pi(\tilde{y}_k \mid \theta_k) \\ & \cdot [\lambda_k \cdot \text{normal}(\theta_k \mid 0, \tau_1) + (1 - \lambda_k) \cdot \text{normal}(\theta_k \mid 0, \tau_2)] \\ & \cdot \pi(\lambda_k) \cdot \pi(\tau_1) \cdot \pi(\tau_2)\end{aligned}$$