













$$\begin{aligned} & \underset{\substack{k \neq 0 \\ maximizing log-likelihood \\ = \underset{\substack{w \neq in \\ m}}{\text{Maximize: } w_k \tau} & \underset{\substack{w \neq 0 \\ m}}{\text{Maximize: } w_k \tau} & \underset{\substack{w \neq 0 \\ m}}{\text{Maximize: } w_k \tau} & \underset{\substack{w \neq 0 \\ m}}{\text{Maximize: } w_k \tau} & \underset{\substack{w \neq 0 \\ m}}{\text{Maximize: } w_k \tau} & \underset{\substack{w \neq 0 \\ m}}{\text{Maximize: } w_k \tau} & \underset{\substack{w \neq 0 \\ m}}{\text{Maximize: } w_k \tau} & \underset{\substack{w \neq 0 \\ m}}{\text{Maximize: } w_k \tau} & \underset{\substack{w \neq 0 \\ m}}{\text{Maximize: } w_k \tau} & \underset{\substack{w \neq 0 \\ m}}{\text{Maximize: } w_k \tau} & \underset{\substack{w \neq 0 \\ m}}{\text{Maximize: } w_k \tau} & \underset{\substack{w \neq 0 \\ m}}{\text{Maximize: } w_k \tau} & \underset{\substack{w \neq 0 \\ m}}{\text{Maximize: } w_k \tau} & \underset{\substack{w \neq 0 \\ m}}{\text{Maximize: } w_k \tau} & \underset{\substack{w \neq 0 \\ m}}{\text{Maximize: } w_k \tau} & \underset{\substack{w \neq 0 \\ m}}{\text{Maximize: } w_k \tau} & \underset{\substack{w \neq 0 \\ m}}{\text{Maximize: } w_k \tau} & \underset{\substack{w \neq 0 \\ m}}{\text{Maximize: } w_k \tau} & \underset{\substack{w \neq 0 \\ m}}{\text{Maximize: } w_k \tau} & \underset{\substack{w \neq 0 \\ m}}{\text{Maximize: } w_k \tau} & \underset{\substack{w \neq 0 \\ m}}{\text{Maximize: } w_k \tau} & \underset{\substack{w \neq 0 \\ m}}{\text{Maximize: } w_k \tau} & \underset{\substack{w \neq 0 \\ m}}{\text{Maximize: } w_k \tau} & \underset{\substack{w \neq 0 \\ m}}{\text{Maximize: } w_k \tau} & \underset{\substack{w \neq 0 \\ m}}{\text{Maximize: } w_k \tau} & \underset{\substack{w \neq 0 \\ m}}{\text{Maximize: } w_k \tau} & \underset{\substack{w \neq 0 \\ m}}{\text{Maximize: } w_k \tau} & \underset{\substack{w \neq 0 \\ m}}{\text{Maximize: } w_k \tau} & \underset{\substack{w \neq 0 \\ m}}{\text{Maximize: } w_k \tau} & \underset{\substack{w \neq 0 \\ m}}{\text{Maximize: } w_k \tau} & \underset{\substack{w \neq 0 \\ m}}{\text{Maximize: } w_k \tau} & \underset{\substack{w \neq 0 \\ m}}{\text{Maximize: } w_k \tau} & \underset{\substack{w \neq 0 \\ m}}{\text{Maximize: } w_k \tau} & \underset{\substack{w \neq 0 \\ m}}{\text{Maximize: } w_k \tau} & \underset{\substack{w \neq 0 \\ m}}{\text{Maximize: } w_k \tau} & \underset{\substack{w \neq 0 \\ m}}{\text{Maximize: } w_k \tau} & \underset{\substack{w \neq 0 \\ m}}{\text{Maximize: } w_k \tau} & \underset{\substack{w \neq 0 \\ m}}{\text{Maximize: } w_k \tau} & \underset{\substack{w \neq 0 \\ m}}{\text{Maximize: } w_k \tau} & \underset{\substack{w \neq 0 \\ m}}{\text{Maximize: } w_k \tau} & \underset{\substack{w \neq 0 \\ m}}{\text{Maximize: } w_k \tau} & \underset{\substack{w \neq 0 \\ m}}{\text{Maximize: } w_k \tau} & \underset{\substack{w \neq 0 \\ m}}{\text{Maximize: } w_k \tau} & \underset{\substack{w \neq 0 \\ m}}{\text{Maximize: } w_k \tau} & \underset{\substack{w \neq 0 \\ m}}{\text{Maximize: } w_k \tau} & \underset{\substack{w \neq 0 \\ m}}{\text{Maximize: } w_k \tau} & \underset{\substack{w \neq 0 \\ m}}{\text{Maximize: } w_k \tau} & \underset{\substack{w \neq 0 \\ m}}{\text{Maximize: } w_k \tau} & \underset{\substack{w \neq 0 \\ m}}{\text{Maximize: } w_k \tau} & \underset{\substack{w \neq 0 \\ m}}{\text{Maximize: } w_k \tau} & \underset{\substack{w \neq 0 \\ m}}{\text{Maximize: } w_k \tau} & \underset{\substack{w \neq$$





















