$$egin{aligned} \left[\mu,oldsymbol{lpha},\sigma,\sigma_{lpha}\mid\mathbf{y}
ight] & \propto \prod_{i=1}^{N}\prod_{j=1}^{M}\left[y_{i,j}\mid gig(\mu,oldsymbol{lpha},\mathbf{x}ig),\sigma^{2}
ight] imes \ & \left[lpha_{j}\mid 0,\sigma_{lpha}
ight] \left[\mu
ight] \left[\sigma
ight] \left[\sigma_{lpha}
ight] \end{aligned}$$

 $g(\mu, \boldsymbol{\alpha}, \mathbf{x}) = \mu + \sum \alpha_j x_{i,j}$