$$\mathscr{L}(\boldsymbol{\theta}) = \sum_{i=1}^{N} \log \mathcal{N}(z_i \mid \mu, \sigma^2) = -\frac{1}{2} \log \sigma^2 - \frac{1}{2\sigma^2} \sum_{i=1}^{N} w_i (z_i - \mu)^2 + \text{const}.$$