$$P(\delta_{ij} = 1 | \mathbf{x}, \theta^{(n)}) = \frac{P(\mathbf{x}, \delta_{ij} = 1 | \theta^{(n)})}{P(\mathbf{x} | \theta^{(n)})}$$

$$= \frac{P(\mathbf{x} | \delta_{ij} = 1, \theta^{(n)}) P(\delta_{ij} = 1 | \theta^{(n)})}{P(\mathbf{x} | \theta^{(n)})}$$

$$= \frac{P(\mathbf{x} | \delta_{ij} = 1, \theta^{(n)}) P(\delta_{ij} = 1 | \theta^{(n)})}{P(\mathbf{x} | \delta_{ij} = 1, \theta^{(n)}) P(\delta_{ij} = 1 | \theta^{(n)}) + P(\mathbf{x}, \delta_{ij} = 0 | \theta^{(n)})}$$