



$$\mu^c \sim \text{Gaussian}(0, 1)$$

$$\delta \sim \text{Gaussian}(0, 1)$$

$$\mu_A^c \leftarrow \mu^c + \frac{\delta}{2}$$

$$\mu_B^c \leftarrow \mu^c - \frac{\delta}{2}$$

$$\sigma_j^c \sim \text{Uniform}(0, 5)$$

$$c_{ij} \sim \text{Gaussian}(\mu_j^c, \sigma_j^c)$$

$$d_{ij} \sim \text{Gaussian}(0, 1)$$

$$\theta_{ij}^h \leftarrow \phi\left(\frac{1}{2}d_{ij} - c_{ij}\right)$$

$$\theta_{ij}^f \leftarrow \phi\left(-\frac{1}{2}d_{ij} - c_{ij}\right)$$

$$y_{ij}^h \sim \text{Binomial}(\theta_{ij}^h, s)$$

$$y_{ij}^f \sim \text{Binomial}(\theta_{ij}^f, n)$$