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

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

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

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

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

$$d_{ij} \sim \text{Gaussian}(\mu_j^d, \lambda_j^d)$$

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

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

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

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

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