



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

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

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

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

$$\mu^c \sim \text{Gaussian}(0, 0.7)$$

$$\delta^c \sim \text{Gaussian}(0, 0.3)$$

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

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

$$\mu^d \sim \text{Gaussian}(0, 1)_{T(0,6)}$$

$$\delta^d \sim \text{Gaussian}(0, 0.7)$$

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

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

$$\sigma_j^c, \sigma_j^d \sim \text{Uniform}(0, 4)$$

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

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

$$\tau_i^h \leftarrow \theta_{iA}^h - \theta_{iB}^h \quad \tau_i^f \leftarrow \theta_{iB}^f - \theta_{iA}^f$$