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

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

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

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

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

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

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

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