1   Latent Factor Model (Single Graph)

$$\text{logodds}(y_{ij}) = \theta_{ij}$$
$$\theta_{ij} = \mu + u_i^T D u_j + s_i + s_j + \epsilon_{ij}$$
$$\mu \sim \mathcal{N}(0,\ \sigma^2)$$
$$d_{ii} \sim \mathcal{N}(0,\ \sigma_D^2)$$
$$U_i \sim \text{MVN}(0,\ \sigma_U^2 I)$$
$$s_i \sim \mathcal{N}(0,\ \sigma_s^2)$$
$$\epsilon_{ij} \sim \mathcal{N}(0,\ \sigma_\epsilon^2)$$