$$\alpha \sim \text{Categorical}(k, \tfrac{1}{k})$$

$$\delta \sim \text{Categorical}(k,)$$

$$z_i \sim \text{Bernoulli}(\tfrac{1}{2})$$

$$\theta_j \leftarrow \begin{cases} \alpha & \text{if } z_j = 1 \\ \delta & \text{if } z_j = 0 \end{cases}$$

$$y_{ij} \sim \text{Categorical}(k, \theta_j)$$