

1. Sample  $\theta$  from  $g(\theta|\theta^{(n)})$ :

$$g(\theta|\theta^{(n)}) = \frac{\exp(\mathcal{E}(\theta|\theta^{(n)}))}{Z}$$
$$Z = \int \exp(\mathcal{E}(\theta'|\theta^{(n)})) d\theta'$$

2. Accept new  $\theta$  with Hastings probability

$$h(\theta, \theta^{(n)}) = \frac{P(y|\theta)}{P(y|\theta^{(n)})} \frac{g(\theta^{(n)}|\theta)}{g(\theta|\theta^{(n)})} = \frac{P(y|\theta)}{P(y|\theta^{(n)})} \exp(\mathcal{E}(\theta^{(n)}|\theta) - \mathcal{E}(\theta|\theta^{(n)}))$$

3. If accept, set  $\theta^{(n+1)} \leftarrow \theta$   
If reject, set  $\theta^{(n+1)} \leftarrow \theta^{(n)}$