



Figure 20.12: **(a)**: A generic mixture model for data  $v^{1:N}$ . Each  $z^n$  indicates the cluster of each datapoint.  $\theta$  is a set of parameters and  $z^n = k$  selects parameter  $\theta^k$  for datapoint  $v^n$ . **(b)**: For a potentially large number of clusters one way to control complexity is to constrain the joint indicator distribution. **(c)**: Plate notation of (b).