Notice that the FCD for lambda is given by:

If all groups are equally likely, we expect , where N is the total number of individuals and K is the total number of clusters.

A mildly informative prior would be , where Q is set to an integer (e.g., 5). Bigger Q’s result in weaker priors. Furthermore, I would like that is small (e.g., 1). Therefore

#----------------------------------------------

Finally, using a geometric distribution, we assume that . This implies that:

This did not eliminate

#----------------------------------------------

Notice that the FCD for lambda is given by:

If all groups are equally likely, we expect , where N is the total number of individuals and K is the total number of clusters.

A mildly informative prior would be , where Q is set to an integer (e.g., 5). Bigger Q’s result in weaker priors. Finally, using the stick-breaking prior results below, we assume that . This implies that:

This is too strong for

#----------------------------------------------

<https://en.wikipedia.org/wiki/Dirichlet_distribution#Gamma_distribution>

Notice that a Dirichlet random variable with parameters can be generated by generating K independent random variables from

Note that

For the stick-breaking prior, we assume that

where and

This implies that:

Therefore, one option for prior for is