mixture part of the model. The distributions of θ's, α's, β's and γ's are all close to be classical estimates, denoted by an "X", even though some shrinkage can be detected in the extreme γ's, in particular γ_{31} and γ_{34}. The distributions of the cell variances σ_{ij} are all similar, as one would expect from the small number of replications in each cell. However, this common distribution depends on information coming from all the cells and, as a result, it is quite different from the prior distribution.

Consider next the distribution of the allocations. The distributions of $\boldsymbol{\pi}^\alpha$ and $\boldsymbol{\pi}^\beta$ are very concentrated, as seen from the following tables.

$\boldsymbol{\pi}^\alpha$	112	123	211	111	121
Frequency	51202	28469	10117	8622	1590

$\boldsymbol{\pi}^\beta$	1123	1234	1122	1111	1112	2113	2311	1121	1211	2111	1213
Frequency	73491	18652	1861	1839	1221	1025	606	461	264	187	173

For both factors, the most probable allocation vector is the one that puts together the first two levels, with the remaining levels in separate groups. The second most likely vector corresponds to all different levels for each factor. In both cases these two top vectors account for most of the probability. Next we note that the temperature levels are ordered and this information ought to be incorporated in the prior, if we wanted to provide more than just an example. One possible approach would be to give unit prior probability to the set of allocations $\boldsymbol{z}^\beta$ that group together only consecutive levels of temperature. It is reassuring to see that the posterior of $\boldsymbol{\pi}^\beta$, under no such restriction, assigns probability 0.99 to this set.

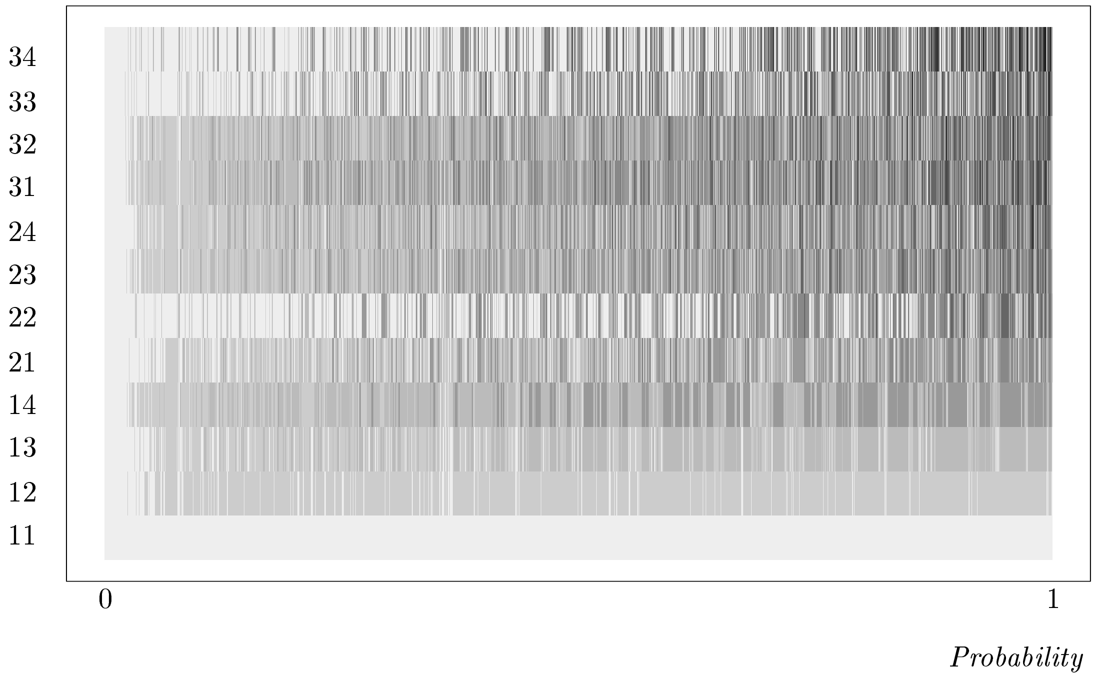

Figure 9: Fabric strength data set. A graphical display of the probability distribution of $\boldsymbol{\pi}^\gamma$.

The distribution of $\boldsymbol{\pi}^\gamma$ is much more spread. Its support contained 58,738 vectors, of which 45,209 were visited only once and 58,120 less than 10 times, for a total probability of 0.83. The