### Table S1

| Term                      | Variable                                                                 | Effect Type | Number of Terms |
|---------------------------|--------------------------------------------------------------------------|-------------|-----------------|
| \((\log MFI)_{ijk}\)     | Sample measurement for a single feature                                  |             |                 |
| \(\mu\)                  | Mean \(\log\)(MFI) for that feature                                     | Fixed       | 1               |
| \(g_i\)                  | Group effect of interest (dose and infection status)                     | Fixed       | 4 groups        |
|                           |                                                                         |             | \(V1/V2 \times \text{infected/not}\) |
| \(b_j\)                  | Batch main effect                                                       | Random,     | 2 batches       |
|                           | \(b \sim N(0, \sigma_b^2)\)                                            |             |                 |
| \((gb)_{ij}\)            | Group x batch interaction                                               | Random,     | 4 groups x 2 batches = 8 |
|                           | \((gb) \sim N(0, \sigma_{gb}^2)\)                                       |             |                 |
| \(\epsilon_{ijk}\)      | Residual error                                                          | Random,     |                 |
|                           | \(\epsilon \sim N(0, \sigma^2)\)                                       |             |                 |