| 88.1                                     | model_param = 0   variable = mean                         | model_param = 0   variable = std                                 | model_param = 0   variable = rhat                            | model_param = 0   variable = ess/grad_eval                        | model_param = 0   variable = ess^2/grad_eval                        | model_param = 0   variable = accept_total                        | model_param = 0   variable = accept_0                        | model_param = 0   variable = accept_1               | model_param = 0   variable = accept_2               |
|--|---|--|--|---|---|--|--|---|---|
| 88.0                                     | 1.0   | 1.0  | .04  |   |   | 1.0000   | 1.0000   | 0.0   | 0.0   |
| 87.9                                     |   |  | 0.005  |   | 0.005   | 0.9995   | 0.9995   | -0.2  | -0.2  |
| 07.0                                     | 3.0   | 1.0  | .03  | 4   | 0.004   | 0.9990   | 0.9990   | -0.4  | -0.4  |
| value                                    | 0.6   | 1.0  | .02  | 3   | 0.003   | 0.9985   | 0.9985   |   |   |
| 87.7                                     |   |  |  |   |   |  |  | -0.6  | -0.6  |
| 87.6                                     |   | 1.0  | .01  |   | 0.002   | 0.9980   | 0.9980   | -0.8  | -0.8  |
| 87.5                                     | • 0.2   |  | 0.003  |   | 0.001   | 0.9975   | 0.9975   |   |   |
| 87.4<br>drg                              | hmc drhmc ghmc hmc ref                                    | drghmc drhmc ghmc hmc ref  | drghmc drhmc ghmc hmc ref                                    | drghmc drhmc ghmc hmc   | drghmc drhmc ghmc hmc   | drghmc drhmc ghmc hmc  | drghmc drhmc ghmc hmc  | drghmc drhmc  | -1.0 drghmc drhmc                                   |
|  | model_param = 1   variable = mean 2.5                     | model_param = 1   variable = std                                 | model_param = 1   variable = rhat .35  •••                   | model_param = 1   variable = ess/grad_eval                        | model_param = 1   variable = ess^2/grad_eval                        | model_param = 1   variable = accept_total  1.0000                | model_param = 1   variable = accept_0  1.0000                | model_param = 1   variable = accept_1 0.0           | model_param = 1   variable = accept_2               |
| 4.5                                      | •   | 1 3  | 0.0016   | 0.  | .0016   |  |  |   |   |
| 4.0                                      | 2.0   |  | 0.0014   | 0.  | .0014   | 0.9995   | 0.9995   | -0.2  | -0.2  |
| 3.0                                      |   | - 1.2  | 0.0012   | 0.  | .0012   | 0.9990   | 0.9990   | -0.4  | -0.4  |
| value<br>2.5                             |   | 1.2  | 0.0010   | 0.  | .0010   | 0.9985   | 0.9985   |   |   |
| 2.0                                      | 1.0   |  | 10   | 0.  | .000.   | 0.9980   | 0 9980   | -0.6  | -0.6  |
| 1.5                                      |   |  | 0.0006   | 0.<br>4   | .0006   | 0.9980   | -  | -0.8  | -0.8  |
| 1.0                                      | 0.5   |  | 0.0002   |   | .0004   | 0.9975   | 0.9975   | -1.0  | _1.0  |
| 0.5 drg                                  | hmc drhmc ghmc hmc ref                                    | drghmc drhmc ghmc hmc ref  | drghmc drhmc ghmc hmc ref                                    | drghmc drhmc ghmc hmc   | drghmc drhmc ghmc hmc   | drghmc drhmc ghmc hmc  | drghmc drhmc ghmc hmc  | drghmc drhmc  | -1.0 drghmc drhmc                                   |
| 0 605                                    | model_param = 2   variable = mean  •                      | model_param = 2   variable = std                                 | model_param = 2   variable = rhat                            | model_param = 2   variable = ess/grad_eval                        | model_param = 2   variable = ess^2/grad_eval  0.08                  | model_param = 2   variable = accept_total  1.0000                | model_param = 2   variable = accept_0  1.0000                | model_param = 2   variable = accept_1  0.0          | model_param = 2   variable = accept_2 0.0           |
| 0.003                                    | 0.06  | 1.02   | 0.08   |   | 0.08  | 0.0005   |  |   |   |
| 0.600                                    | 0.09  | 5  | 0.07   |   | 0.06  | 0.9995   | 0.9995   | -0.2  | -0.2  |
| 0.595                                    | 0.04  | 1.01   | 0.05   |   |   | 0.9990   | 0.9990   | -0.4  | -0.4  |
| on on one one one one one one one one on |   | 1.01   | 0.04   | 4   | 0.04  | 0.9985   | 0.9985   |   |   |
| 0.585                                    | 0.03  | 3  | 0.03   | 3   |   | 0.9980   | 0.9980   | -0.6  | -0.6  |
| 0.580                                    | 0.02  | 1.00   | 0.02   | 2   | 0.02  | •••  | - • • • • • • • • • • • • • • • • • • •                      | -0.8  | -0.8  |
| 0.575                                    | 0.03  | 1.00   | 0.00   |   |   | 0.9975   | 0.9975   | -1.0  | <b>−</b> 1.0 • ••                                   |
| drg                                      | hmc drhmc ghmc hmc ref                                    | drghmc drhmc ghmc hmc ref  | drghmc drhmc ghmc hmc ref                                    | drghmc drhmc ghmc hmc   | drghmc drhmc ghmc hmc   | drghmc drhmc ghmc hmc  | drghmc drhmc ghmc hmc  | drghmc drhmc  | drghmc drhmc  |
|  | model_param = 3   variable = mean  0.10                   | model_param = 3   variable = std  1.0                            | model_param = 3   variable = rhat .06                        | model_param = 3   variable = ess/grad_eval                        | model_param = 3   variable = ess^2/grad_eval  •                     | model_param = 3   variable = accept_total  1.0000                | model_param = 3   variable = accept_0  1.0000  •••           | model_param = 3   variable = accept_1  0.0          | model_param = 3   variable = accept_2  0.0          |
| -0.44                                    | 0.10  | 1.0  | .05  |   | 0.030   | 0.9995   | 0.9995   |   |   |
| -0.46                                    | • 0.12  | 1.0  | .04  |   | 0.025   |  |  | -0.2  | -0.2  |
| -0.48<br>Φ                               | 0.10  |  | 0.020  |   | 0.020   | 0.9990   | 0.9990   | -0.4  | -0.4  |
| ng -0.50                                 | 0.08  | 1.0  | 0.015  |   | 0.015   | 0.9985   | 0.9985   | -0.6  | -0.6  |
| -0.52                                    | 0.06  | 1.0  | .02  |   | 0.010   | 0.9980   | 0.9980   |   |   |
| -0.54                                    | 0.04  | 1.0  | 0.005  |   | 0.005   | 0.9975   | 0.9975   | -0.8  | -0.8  |
| -0.56                                    | 0.02  | 2  | .00  | •••   | 0.000   | 0.9975   | 0.9975   | -1.0  | -1.0  |
| drg                                      | hmc drhmc ghmc hmc ref  model_param = 4   variable = mean | drghmc drhmc ghmc hmc ref $model\_param = 4 \mid variable = std$ | drghmc drhmc ghmc hmc ref  model_param = 4   variable = rhat | drghmc drhmc ghmc hmc  model_param = 4   variable = ess/grad_eval | drghmc drhmc ghmc hmc  model param = 4   variable = ess^2/grad_eval | drghmc drhmc ghmc hmc  model_param = 4   variable = accept_total | drghmc drhmc ghmc hmc  model_param = 4   variable = accept_0 | drghmc drhmc  model_param = 4   variable = accept_1 | drghmc drhmc  model param = 4   variable = accept 2 |
| 2 894                                    | • 0.03!   | 1 0015   |  | ••• 4   | 0.14  | 1.0000 ••  | 1.0000 ••••  | 0.0   | 0.0 ••• •   |
| 2.007                                    | 0.030   | 1.0012   | 0.12   | 2   | 0.12  | 0.9995   | 0.9995   | -0.2  | -0.2  |
| 2.892                                    | •   | 1.0010   | 0.10   |   | 0.10  |  | 0.0000   |   |   |
| e  | 0.029   | 1.0007   | 0.08   | 8   | 0.08  | 0.9990   | U.999U<br>—  | -0.4  | -0.4  |
| = 2.890<br>>                             | 0.020   | 1.0005   | 0.06   |   | 0.06  | 0.9985   | 0.9985   | -0.6  | -0.6  |
| 2.888                                    | 0.015   | 1.0002   | 0.04   | 4   | 0.04  | 0.9980   | 0.9980   |   |   |
|  | 0.010   | 1.0000   | 0.02   | 2   | 0.02  | 0.9975   | 0.9975   | -0.8  | -0.8  |
| 2.886                                    | 0.009   | 0.9997   | 0.00   |   | 0.00  | • •  | • • —  | -1.0  | -1.0  |
| drg                                      | hmc drhmc ghmc hmc ref<br>sampler                         | drghmc drhmc ghmc hmc ref<br>sampler                             | drghmc drhmc ghmc hmc ref<br>sampler                         | drghmc drhmc ghmc hmc<br>sampler                                  | drghmc drhmc ghmc hmc<br>sampler                                    | drghmc drhmc ghmc hmc<br>sampler                                 | drghmc drhmc ghmc hmc<br>sampler                             | drghmc drhmc<br>sampler                             | drghmc drhmc<br>sampler                             |