

## QPM II: Problem Set 5

### Exponential Family

1. Assume  $Y \sim \text{Poisson}(\lambda)$ .
  - (1) Rewrite the pmf of  $Y$  in exponential family form  $\exp[y\theta - b(\theta) + c(y)]$ .
  - (2) Find the mean and variance of  $Y$ .

## Exponential Family

$$1) P(Y=y) = \frac{\lambda^y e^{-\lambda}}{y!}, \quad y=0,1,2,\dots$$

$$\lambda = e^\theta$$

$$e^{\theta y} \propto \frac{(e^\theta)^y e^{-e^\theta}}{y!} = \frac{e^{\theta y - e^\theta}}{y!} = \frac{e^{\theta y - e^\theta}}{\log(y!)} = e^{\theta y - e^\theta - \log(y!)}$$

$$P(Y=y) = \exp[y\theta - b(\theta) + c(y)]$$

$$P(Y=y) = \exp[y\theta - e^\theta - \log(y!)]$$

$$\theta = \log \lambda$$

$$b(\theta) = e^\theta$$

$$c(y) = \log(y!)$$

$$2) E[Y] = b'(\theta)$$

$$\text{Var}[Y] = b''(\theta)$$

$$b(\theta) = e^\theta$$

$$b'(\theta) = e^\theta = \lambda$$

$$b''(\theta) = e^\theta = \lambda$$

$$E[Y] = \text{Var}[Y] = \lambda$$

## Linear Models

2. `hierarchypaperdata.dta` is a panel dataset where each observation is a country-year, so each country appears in the dataset multiple times. The dataset is available on canvas. We wish to test the theory that war (using a one-year lag) has a negative effect on gender hierarchies.

```
hierarchies <- read_dta("hierarchypaperdata.dta")

# Create one-year lag variable using warDummy. Assuming it's a one-year backward lag.
hierarchies <- hierarchies %>%
  arrange(ccode, year) %>%
  group_by(ccode) %>%
  mutate(war_lag = lag(warDummy, n = 1)) %>%
  ungroup()
```

- (1) Fit a standard linear model to this dataset using clustered standard errors.
- (2) Interpret the results and identify at least three ways that this modeling strategy might be incorrect. You should include control variables, but it definitely does not need to be perfect.

```
clustered_model <- lm_robust(
  polempowerment ~ war_lag + ccode + cleanelec + polity + lpop + neighborpolempowerment,
  data = hierarchies,
  clusters = ccode
)

summary(clustered_model)
```

```
##
## Call:
## lm_robust(formula = polempowerment ~ war_lag + ccode + cleanelec +
##          polity + lpop + neighborpolempowerment, data = hierarchies,
##          clusters = ccode)
##
## Standard error type: CR2
##
```

```
## Coefficients:
##               Estimate Std. Error t value Pr(>|t|)    CI Lower
## (Intercept)    1.478e-01  6.362e-02  2.3233 2.432e-02  1.998e-02
## war_lag        -3.054e-02  1.598e-02 -1.9116 6.043e-02 -6.246e-02
## ccode           7.707e-05  4.364e-05  1.7658 8.319e-02 -1.047e-05
## cleanelec       3.965e-01  2.856e-02 13.8804 2.220e-21  3.395e-01
## polity         8.539e-04  2.520e-04  3.3885 1.500e-03  3.459e-04
## lpop           5.358e-03  6.372e-03  0.8408 4.053e-01 -7.509e-03
## neighborpolempowerment 2.618e-01  4.496e-02  5.8216 1.883e-07  1.720e-01
##               CI Upper    DF
## (Intercept)    0.2756303 49.40
## war_lag        0.0013792 63.61
## ccode          0.0001646 52.95
## cleanelec       0.4534960 66.96
## polity         0.0013619 43.64
## lpop           0.0182244 41.12
## neighborpolempowerment 0.3515371 65.97
##
## Multiple R-squared:  0.5976 ,    Adjusted R-squared:  0.5973
## F-statistic: 104.7 on 6 and 155 DF,  p-value: < 2.2e-16
```

**Interpretation & Improvements** The following variables are considered to be statistically significant. The political empowerment of neighboring countries (neighborpolempowerment) has a strong positive effect on political empowerment within the country. Political empowerment of neighboring countries is associated with a 0.2618 increase in political empowerment within the country. This suggests political empowerment in neighboring countries may act as a spillover effect, where a country's political empowerment improves when its neighbors have stronger political empowerment of all genders.

Additionally, clean elections has a strong positive relationship with political empowerment, showing that a 1-unit increase in the presence of clean elections in a country is associated with a 0.3965 increase in political empowerment. This suggests that countries with clean elections tend to have higher political empowerment. On a side note, I would hypothesize that this could have an inverted causal relationship, where countries of higher political empowerment lead to cleaner elections.

- Better Controls: There could be other unobserved variables (e.g., cultural factors, economic development, education) that are influential in measures of political empowerment that are not accounted for in the model.
- Non-linear relationships: This model assumes a linear relationship between the predictors and the dependent variable, which might not be true. These could be non-linear.
- Clustering is not sufficient: Clustered standard errors account for potential within-group correlation, but there could be correlation between neighboring countries. Seeing as war is not necessarily within a single country – multi-country civil wars would create issues with this clustering decision.

## GLM

3. Now we are going to turn things around and test the theory that the lagged measure of gender hierarchies has an “effect” on the probability of war.
- (1) Fit a logistic regression to this data. There are ways to do clustered standard errors for this. But for this case, just go ahead and calculate the bootstrap standard errors. Make sure you are re-sampling **countries** and not observations, since each country appears multiple times.
- (2) Interpret the results. You can provide additional plots or diagnostics that you think are helpful.

```

logit_model <- glm(warDummy ~ l_polempowerment + cleanelec + polity + lpop + neighborpolempowerment,
                  family = binomial(link = "logit"), data = hierarchies)

# Standard Error f(n)
logit_coefs <- function(data, indices) {
  model <- glm(warDummy ~ l_polempowerment + cleanelec + polity + lpop + neighborpolempowerment,
              family = binomial(link = "logit"), data = data[indices, ])
  return(coef(model))
}

# Bootstrapping stratified by country code
boot_results <- boot(data = hierarchies, statistic = logit_coefs, R = 100, strata = hierarchies$ccode)
boot_ci <- boot.ci(boot_results, type = "perc")

# Calculate t-statistics for bootstrap results
t_stats <- boot_results$t0 / apply(boot_results$t, 2, sd)
p_values <- 2 * (1 - pnorm(abs(t_stats)))
significant_coefs <- names(p_values[p_values < 0.05])
data.frame(coefficient = names(t_stats), t_stat = t_stats, p_value = p_values, significant = p_values <

```

```

##                                coefficient      t_stat      p_value
## (Intercept)                   (Intercept) -23.269660 0.000000e+00
## l_polempowerment              l_polempowerment -7.432742 1.063594e-13
## cleanelec                     cleanelec      1.174087 2.403600e-01
## polity                       polity      -10.302027 0.000000e+00
## lpop                         lpop       19.778986 0.000000e+00
## neighborpolempowerment neighborpolempowerment -6.453889 1.090152e-10
##                                significant
## (Intercept)                   TRUE
## l_polempowerment              TRUE
## cleanelec                     FALSE
## polity                       TRUE
## lpop                         TRUE
## neighborpolempowerment        TRUE

```

```

# Plot the coefficients with confidence intervals

```

```

boot_coefs <- data.frame(boot_results$t)
coef_names <- names(coef(logit_model))
colnames(boot_coefs) <- coef_names

boot_summary <- data.frame(
  Coefficients = coef_names[2:length(coef_names)], # Offset by 1, starting from the second element
  Mean = colMeans(boot_coefs[, 2:ncol(boot_coefs)]), # Adjust to exclude the first column if necessary
  Lower_CI = apply(boot_coefs[, 2:ncol(boot_coefs)], 2, function(x) quantile(x, probs = 0.025)),
  Upper_CI = apply(boot_coefs[, 2:ncol(boot_coefs)], 2, function(x) quantile(x, probs = 0.975))
)

boot_summary

```

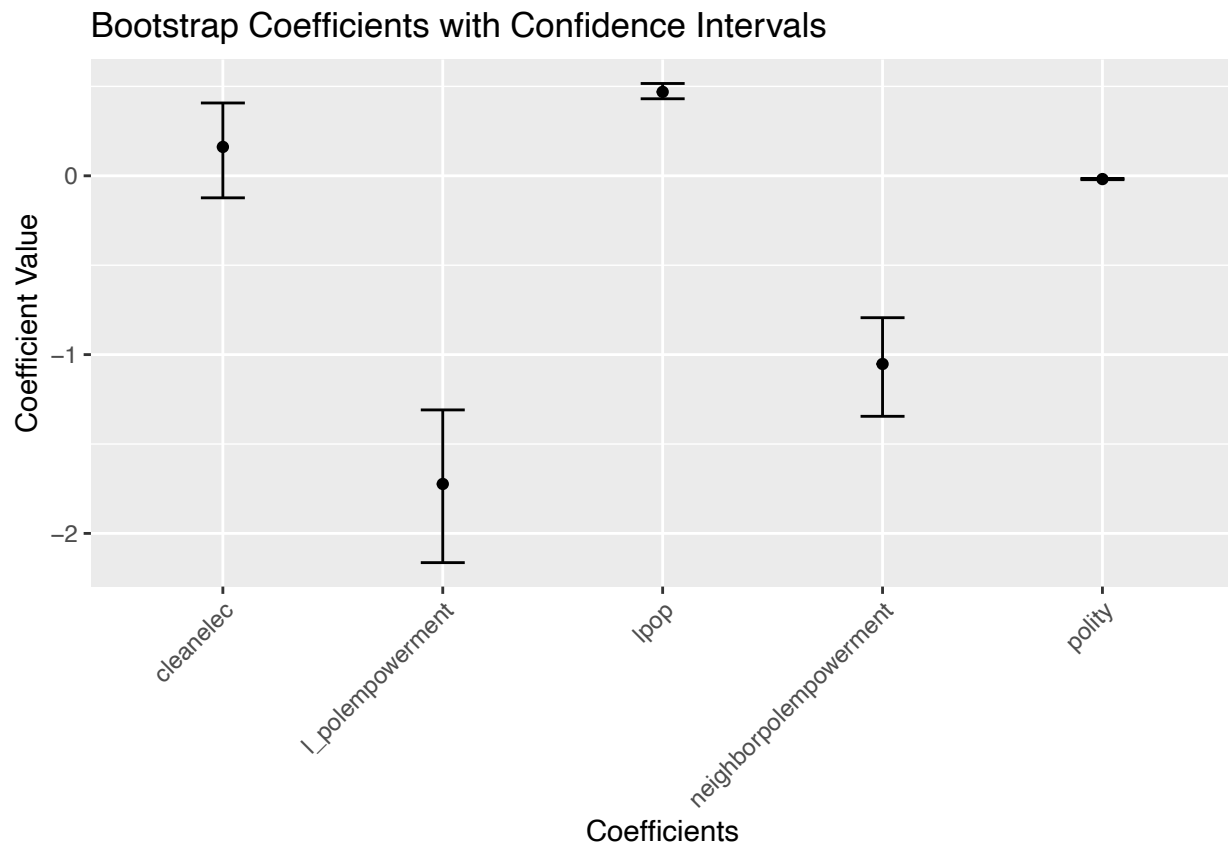
```

##                                Coefficients      Mean      Lower_CI
## l_polempowerment              l_polempowerment -1.7234393 -2.16339098
## cleanelec                     cleanelec      0.1615675 -0.12312340

```

```
## polity                                polity -0.0183344 -0.02160881
## lpop                                  lpop  0.4693715  0.43087995
## neighborpolempowerment neighborpolempowerment -1.0523484 -1.34511470
##                                     Upper_CI
## l_polempowerment      -1.30921947
## cleanelec              0.40722907
## polity                 -0.01469476
## lpop                   0.51635312
## neighborpolempowerment -0.79357430
```

```
ggplot(boot_summary, aes(x = Coefficients, y = Mean)) +
  geom_point() +
  geom_errorbar(aes(ymin = Lower_CI, ymax = Upper_CI), width = 0.2) +
  labs(title = "Bootstrap Coefficients with Confidence Intervals", y = "Coefficient Value") +
  theme(axis.text.x = element_text(angle = 45, hjust = 1))
```



##### Interpretation The bias values are small and generally close to zero, which indicates that the bootstrap has provided unbiased estimates for the coefficients, as each of the bootstrap samples are generally well-aligned with the original estimates. Given these controls, we can say that the lagged measure of gender hierarchies (*l\_polempowerment*) is statistically significant at the 95% threshold, and has a significant negative effect. This suggests that higher political empowerment in the past is associated with lower probability of war in the present/future.

## Count Models

4. Re-organize the data so that it is collapsed to one observation per country. The outcome variable should be the count of the number of total years where each country was at war. The explanatory variable should be the average polity score and the average polempowerment score across the time period.<sup>1</sup> Fit a Poisson regression to this model.
5. Is there evidence of zero-inflation and/or overdispersion? If so, choose an appropriate model to adjust. Again, be sure to interpret the results of your final model.

```
# Collapse data
country_data <- hierarchies %>%
  group_by(ccode) %>%
  summarise(
    total_wars = sum(warDummy, na.rm = TRUE),
    avg_polity = mean(polity, na.rm = TRUE),
    avg_polempowerment = mean(polempowerment, na.rm = TRUE)
  )

# Poisson!
poisson_model <- glm(total_wars ~ avg_polity + avg_polempowerment,
  data = country_data,
  family = poisson)
summary(poisson_model)

##
## Call:
## glm(formula = total_wars ~ avg_polity + avg_polempowerment, family = poisson,
##      data = country_data)
##
## Coefficients:
##              Estimate Std. Error z value Pr(>|z|)
## (Intercept)      3.387102   0.106997  31.656  <2e-16 ***
## avg_polity        0.005840   0.003669   1.592   0.111
## avg_polempowerment -2.666815   0.200602 -13.294  <2e-16 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## (Dispersion parameter for poisson family taken to be 1)
##
##      Null deviance: 1806.0  on 159  degrees of freedom
## Residual deviance: 1585.5  on 157  degrees of freedom
## (46 observations deleted due to missingness)
## AIC: 2024.9
##
## Number of Fisher Scoring iterations: 6

# Dispersion??
dispersion <- sum(resid(poisson_model, type = "pearson")^2) / poisson_model$df.residual
dispersion
```

---

<sup>1</sup>Yes, this is bad for causal inference but I need a Poisson example.

```
## [1] 11.85848
```

```
# Deal with overdispersion w/ negative binomial
nb_model <- glm.nb(total_wars ~ avg_polity + avg_polempowerment, data = country_data)
summary(nb_model)
```

```
##
## Call:
## glm.nb(formula = total_wars ~ avg_polity + avg_polempowerment,
##       data = country_data, init.theta = 0.5522879096, link = log)
##
## Coefficients:
##              Estimate Std. Error z value Pr(>|z|)
## (Intercept)      3.7293     0.4287   8.700  < 2e-16 ***
## avg_polity        0.0103     0.0132   0.780    0.436
## avg_polempowerment -3.3164     0.7399  -4.482 7.38e-06 ***
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## (Dispersion parameter for Negative Binomial(0.5523) family taken to be 1)
##
##      Null deviance: 197.78  on 159  degrees of freedom
## Residual deviance: 179.39  on 157  degrees of freedom
## (46 observations deleted due to missingness)
## AIC: 947.93
##
## Number of Fisher Scoring iterations: 1
##
##
##              Theta:  0.5523
##             Std. Err.: 0.0725
##
## 2 x log-likelihood:  -939.9320
```

```
# Expected decrease in number of wars when moving from 0 to 1 in polempowerment
expected_decrease <- 1 - exp(-3.3164)
print(paste("Expected decrease in wars (0 -> 1 polempowerment):", expected_decrease))
```

```
## [1] "Expected decrease in wars (0 -> 1 polempowerment): 0.963716783499912"
```

**Interpretation** Dispersion statistic = 11.85848 > 1 -> overdispersion is present! After running the negative binomial, we see that the  $\theta < 1$ , so this is an appropriate model for the data. The results show that avg\_polempowerment is statistically significant at the 95% threshold, and has a strong negative relationship with the number of wars. If we were to compare a country with no political empowerment (0) to full (1), the model indicates there is a 96.3% decrease in the expected number of wars.

## Bayesian Model

6. We will continue to use the same dataset `hierarchypaperdata.dta`. The data is measured over multiple years for all countries, so we would like to use a hierarchical model on countries.



Let

- $y_i$  be the number of total years the country was at war for country  $i$ .
- $n_i$  be the number of years for country  $i$ .
- $\theta_i$  be the expected number of wars per country-year.

Assume that

- $y_i \sim \text{Poisson}(n_i \theta_i)$ .
- $\theta_i \sim \text{Gamma}(\alpha, \beta)$  for a convenient conjugate prior.
- Here we can assume vague uniform priors for  $\alpha$  and  $\beta$ .

Fit a Bayesian model and provide basic diagnostics.

```
# Create stan dataset
country_data <- data.frame(
  country_id = unique(hierarchies$ccode),
  y = tapply(hierarchies$warDummy, hierarchies$ccode, sum), # sum(wars) for each country & all years
  n = tapply(hierarchies$year, hierarchies$ccode, length) # num years for each country
)

stan_data <- list(
  N = nrow(country_data),
  y = country_data$y,
  n = country_data$n
)

# Stan Model
fit <- stan(
  file = "poisson_war.stan",
  data = stan_data,
  iter = 2000,
  chains = 3,
  warmup = 500,
)
```

## Trying to compile a simple C file

```
## Running /Library/Frameworks/R.framework/Resources/bin/R CMD SHLIB foo.c
## using C compiler: 'Apple clang version 15.0.0 (clang-1500.3.9.4)'
## using SDK: 'MacOSX14.4.sdk'
## clang -arch arm64 -I"/Library/Frameworks/R.framework/Resources/include" -DNDEBUG -I"/Library/Frameworks/R.framework/Resources/include"
## In file included from <built-in>:1:
## In file included from /Library/Frameworks/R.framework/Versions/4.4-arm64/Resources/library/StanHeaders/include/Stancpp/StanHeaders.h:1:
## In file included from /Library/Frameworks/R.framework/Versions/4.4-arm64/Resources/library/RcppEigen/include/Eigen/Core:1:
## /Library/Frameworks/R.framework/Versions/4.4-arm64/Resources/library/RcppEigen/include/Eigen/src/Core/Matrix.h:1:
## #include <cmath>
##      ^~~~~~
## 1 error generated.
## make: *** [foo.o] Error 1
##
```

```

## SAMPLING FOR MODEL 'anon_model' NOW (CHAIN 1).
## Chain 1:
## Chain 1: Gradient evaluation took 2.4e-05 seconds
## Chain 1: 1000 transitions using 10 leapfrog steps per transition would take 0.24 seconds.
## Chain 1: Adjust your expectations accordingly!
## Chain 1:
## Chain 1:
## Chain 1: Iteration:    1 / 2000 [  0%] (Warmup)
## Chain 1: Iteration:   200 / 2000 [ 10%] (Warmup)
## Chain 1: Iteration:   400 / 2000 [ 20%] (Warmup)
## Chain 1: Iteration:   501 / 2000 [ 25%] (Sampling)
## Chain 1: Iteration:   700 / 2000 [ 35%] (Sampling)
## Chain 1: Iteration:   900 / 2000 [ 45%] (Sampling)
## Chain 1: Iteration:  1100 / 2000 [ 55%] (Sampling)
## Chain 1: Iteration:  1300 / 2000 [ 65%] (Sampling)
## Chain 1: Iteration:  1500 / 2000 [ 75%] (Sampling)
## Chain 1: Iteration:  1700 / 2000 [ 85%] (Sampling)
## Chain 1: Iteration:  1900 / 2000 [ 95%] (Sampling)
## Chain 1: Iteration:  2000 / 2000 [100%] (Sampling)
## Chain 1:
## Chain 1: Elapsed Time: 0.475 seconds (Warm-up)
## Chain 1:                0.773 seconds (Sampling)
## Chain 1:                1.248 seconds (Total)
## Chain 1:
##
## SAMPLING FOR MODEL 'anon_model' NOW (CHAIN 2).
## Chain 2:
## Chain 2: Gradient evaluation took 1.6e-05 seconds
## Chain 2: 1000 transitions using 10 leapfrog steps per transition would take 0.16 seconds.
## Chain 2: Adjust your expectations accordingly!
## Chain 2:
## Chain 2:
## Chain 2: Iteration:    1 / 2000 [  0%] (Warmup)
## Chain 2: Iteration:   200 / 2000 [ 10%] (Warmup)
## Chain 2: Iteration:   400 / 2000 [ 20%] (Warmup)
## Chain 2: Iteration:   501 / 2000 [ 25%] (Sampling)
## Chain 2: Iteration:   700 / 2000 [ 35%] (Sampling)
## Chain 2: Iteration:   900 / 2000 [ 45%] (Sampling)
## Chain 2: Iteration:  1100 / 2000 [ 55%] (Sampling)
## Chain 2: Iteration:  1300 / 2000 [ 65%] (Sampling)
## Chain 2: Iteration:  1500 / 2000 [ 75%] (Sampling)
## Chain 2: Iteration:  1700 / 2000 [ 85%] (Sampling)
## Chain 2: Iteration:  1900 / 2000 [ 95%] (Sampling)
## Chain 2: Iteration:  2000 / 2000 [100%] (Sampling)
## Chain 2:
## Chain 2: Elapsed Time: 0.47 seconds (Warm-up)
## Chain 2:                0.816 seconds (Sampling)
## Chain 2:                1.286 seconds (Total)
## Chain 2:
##
## SAMPLING FOR MODEL 'anon_model' NOW (CHAIN 3).
## Chain 3:
## Chain 3: Gradient evaluation took 1.6e-05 seconds
## Chain 3: 1000 transitions using 10 leapfrog steps per transition would take 0.16 seconds.

```

```
## Chain 3: Adjust your expectations accordingly!
## Chain 3:
## Chain 3:
## Chain 3: Iteration:    1 / 2000 [ 0%] (Warmup)
## Chain 3: Iteration:   200 / 2000 [ 10%] (Warmup)
## Chain 3: Iteration:   400 / 2000 [ 20%] (Warmup)
## Chain 3: Iteration:   501 / 2000 [ 25%] (Sampling)
## Chain 3: Iteration:   700 / 2000 [ 35%] (Sampling)
## Chain 3: Iteration:   900 / 2000 [ 45%] (Sampling)
## Chain 3: Iteration:  1100 / 2000 [ 55%] (Sampling)
## Chain 3: Iteration:  1300 / 2000 [ 65%] (Sampling)
## Chain 3: Iteration:  1500 / 2000 [ 75%] (Sampling)
## Chain 3: Iteration:  1700 / 2000 [ 85%] (Sampling)
## Chain 3: Iteration:  1900 / 2000 [ 95%] (Sampling)
## Chain 3: Iteration:  2000 / 2000 [100%] (Sampling)
## Chain 3:
## Chain 3: Elapsed Time: 0.505 seconds (Warm-up)
## Chain 3:           0.823 seconds (Sampling)
## Chain 3:           1.328 seconds (Total)
## Chain 3:
```

```
# Check model diagnostics
print(summary(fit), digits = 2)
```

```
## $summary
##           mean se_mean      sd  2.5%   25%   50%   75%  97.5%
## alpha_gamma 4.5e-01 1.6e-03 0.0574 3.5e-01 4.1e-01 4.5e-01 4.9e-01 5.7e-01
## beta_gamma  5.4e+00 1.9e-02 0.8809 3.8e+00 4.7e+00 5.3e+00 5.9e+00 7.3e+00
## theta[1]    2.1e-01 4.6e-04 0.0430 1.3e-01 1.8e-01 2.1e-01 2.4e-01 3.0e-01
## theta[2]    1.1e-01 3.0e-04 0.0307 5.9e-02 8.8e-02 1.1e-01 1.3e-01 1.8e-01
## theta[3]    9.7e-03 2.0e-04 0.0143 5.3e-06 8.6e-04 4.1e-03 1.2e-02 5.1e-02
## theta[4]    6.2e-02 2.7e-04 0.0232 2.5e-02 4.6e-02 6.0e-02 7.6e-02 1.2e-01
## theta[5]    1.4e-02 1.4e-04 0.0120 8.8e-04 5.2e-03 1.1e-02 1.9e-02 4.6e-02
## theta[6]    1.2e-02 1.2e-04 0.0101 7.9e-04 4.6e-03 9.3e-03 1.7e-02 3.9e-02
## theta[7]    8.0e-03 1.5e-04 0.0118 3.3e-06 5.8e-04 3.2e-03 1.0e-02 4.2e-02
## theta[8]    7.8e-03 1.5e-04 0.0117 2.6e-06 5.4e-04 3.2e-03 1.0e-02 4.1e-02
## theta[9]    8.2e-03 1.6e-04 0.0121 2.9e-06 7.3e-04 3.6e-03 1.1e-02 4.2e-02
## theta[10]   1.1e-02 2.0e-04 0.0159 5.0e-06 9.1e-04 4.6e-03 1.4e-02 5.6e-02
## theta[11]   9.5e-03 1.8e-04 0.0143 2.6e-06 7.1e-04 4.1e-03 1.2e-02 4.9e-02
## theta[12]   1.0e-02 2.1e-04 0.0154 5.0e-06 8.8e-04 4.4e-03 1.4e-02 5.6e-02
## theta[13]   1.1e-02 2.1e-04 0.0162 6.5e-06 8.4e-04 4.7e-03 1.4e-02 5.6e-02
## theta[14]   1.2e-02 2.3e-04 0.0172 6.3e-06 9.0e-04 4.6e-03 1.5e-02 6.0e-02
## theta[15]   1.2e-02 2.3e-04 0.0169 6.6e-06 9.5e-04 4.8e-03 1.5e-02 6.1e-02
## theta[16]   1.5e-01 3.5e-04 0.0348 9.1e-02 1.3e-01 1.5e-01 1.7e-01 2.3e-01
## theta[17]   1.1e-02 2.3e-04 0.0171 2.9e-06 8.8e-04 4.6e-03 1.5e-02 6.0e-02
## theta[18]   1.1e-01 3.1e-04 0.0298 6.1e-02 8.9e-02 1.1e-01 1.3e-01 1.7e-01
## theta[19]   3.7e-02 1.8e-04 0.0174 1.1e-02 2.4e-02 3.4e-02 4.6e-02 7.8e-02
## theta[20]   1.5e-01 3.4e-04 0.0355 9.2e-02 1.3e-01 1.5e-01 1.7e-01 2.3e-01
## theta[21]   1.0e-01 2.9e-04 0.0288 5.4e-02 8.2e-02 1.0e-01 1.2e-01 1.7e-01
## theta[22]   1.2e-02 1.0e-04 0.0099 7.7e-04 4.7e-03 9.3e-03 1.6e-02 3.7e-02
## theta[23]   3.9e-03 7.9e-05 0.0061 1.6e-06 2.9e-04 1.5e-03 5.0e-03 2.0e-02
## theta[24]   3.4e-01 5.3e-04 0.0520 2.5e-01 3.0e-01 3.4e-01 3.8e-01 4.5e-01
## theta[25]   2.9e-02 1.8e-04 0.0148 7.1e-03 1.8e-02 2.6e-02 3.7e-02 6.3e-02
## theta[26]   8.3e-03 1.7e-04 0.0123 2.3e-06 6.6e-04 3.5e-03 1.1e-02 4.2e-02
```

```

## theta[27] 9.7e-03 1.9e-04 0.0143 4.5e-06 8.7e-04 4.3e-03 1.2e-02 4.9e-02
## theta[28] 3.7e-02 1.9e-04 0.0170 1.1e-02 2.4e-02 3.4e-02 4.7e-02 7.7e-02
## theta[29] 1.1e-01 3.1e-04 0.0304 6.0e-02 8.9e-02 1.1e-01 1.3e-01 1.8e-01
## theta[30] 2.8e-02 1.7e-04 0.0149 7.0e-03 1.7e-02 2.6e-02 3.7e-02 6.4e-02
## theta[31] 4.5e-02 2.1e-04 0.0199 1.5e-02 3.1e-02 4.2e-02 5.7e-02 9.2e-02
## theta[32] 6.2e-02 2.4e-04 0.0224 2.6e-02 4.6e-02 5.9e-02 7.5e-02 1.1e-01
## theta[33] 1.2e-02 1.2e-04 0.0100 6.9e-04 4.7e-03 9.2e-03 1.6e-02 3.8e-02
## theta[34] 4.5e-02 2.0e-04 0.0192 1.6e-02 3.1e-02 4.2e-02 5.6e-02 9.0e-02
## theta[35] 1.2e-02 1.2e-04 0.0098 7.6e-04 4.7e-03 9.3e-03 1.6e-02 3.6e-02
## theta[36] 1.9e-01 4.0e-04 0.0406 1.2e-01 1.6e-01 1.9e-01 2.2e-01 2.8e-01
## theta[37] 4.6e-03 9.1e-05 0.0068 2.4e-06 3.4e-04 2.0e-03 6.0e-03 2.4e-02
## theta[38] 4.5e-02 2.2e-04 0.0196 1.6e-02 3.1e-02 4.2e-02 5.6e-02 9.1e-02
## theta[39] 7.7e-02 2.6e-04 0.0247 3.6e-02 6.0e-02 7.5e-02 9.2e-02 1.3e-01
## theta[40] 3.8e-03 7.8e-05 0.0057 2.4e-06 3.0e-04 1.6e-03 4.9e-03 2.1e-02
## theta[41] 1.9e-01 3.9e-04 0.0391 1.2e-01 1.6e-01 1.8e-01 2.1e-01 2.7e-01
## theta[42] 5.9e-03 1.1e-04 0.0087 3.1e-06 5.3e-04 2.5e-03 7.6e-03 3.1e-02
## theta[43] 6.0e-03 1.1e-04 0.0087 3.8e-06 5.0e-04 2.5e-03 7.8e-03 3.2e-02
## theta[44] 3.6e-03 7.2e-05 0.0053 1.1e-06 2.6e-04 1.4e-03 4.6e-03 1.9e-02
## theta[45] 7.8e-02 2.7e-04 0.0258 3.6e-02 5.9e-02 7.5e-02 9.4e-02 1.4e-01
## theta[46] 6.0e-03 1.2e-04 0.0090 1.7e-06 4.7e-04 2.5e-03 7.7e-03 3.3e-02
## theta[47] 2.8e-02 1.5e-04 0.0149 7.1e-03 1.7e-02 2.6e-02 3.6e-02 6.4e-02
## theta[48] 2.6e-01 7.4e-04 0.0682 1.4e-01 2.1e-01 2.6e-01 3.0e-01 4.1e-01
## theta[49] 6.3e-02 3.1e-04 0.0298 1.9e-02 4.1e-02 5.8e-02 7.9e-02 1.3e-01
## theta[50] 9.8e-03 1.9e-04 0.0144 2.8e-06 7.6e-04 4.1e-03 1.3e-02 5.2e-02
## theta[51] 6.2e-02 2.6e-04 0.0248 2.4e-02 4.4e-02 5.9e-02 7.7e-02 1.2e-01
## theta[52] 2.2e-01 1.0e-03 0.0952 7.7e-02 1.5e-01 2.1e-01 2.8e-01 4.5e-01
## theta[53] 4.3e-03 8.2e-05 0.0062 2.2e-06 3.5e-04 1.9e-03 5.5e-03 2.2e-02
## theta[54] 8.2e-02 2.9e-04 0.0281 3.6e-02 6.2e-02 7.8e-02 9.8e-02 1.5e-01
## theta[55] 1.8e-02 1.8e-04 0.0146 1.2e-03 7.2e-03 1.4e-02 2.5e-02 5.4e-02
## theta[56] 1.6e-02 3.2e-04 0.0239 5.0e-06 1.3e-03 6.8e-03 2.1e-02 8.5e-02
## theta[57] 1.6e-02 3.0e-04 0.0234 4.7e-06 1.2e-03 6.4e-03 2.0e-02 8.0e-02
## theta[58] 1.4e-01 3.6e-04 0.0331 7.9e-02 1.1e-01 1.3e-01 1.6e-01 2.1e-01
## theta[59] 6.1e-03 1.2e-04 0.0089 1.4e-06 4.4e-04 2.5e-03 8.0e-03 3.1e-02
## theta[60] 8.1e-03 1.6e-04 0.0122 2.5e-06 5.9e-04 3.0e-03 1.1e-02 4.4e-02
## theta[61] 4.1e-03 7.7e-05 0.0061 8.3e-07 2.9e-04 1.7e-03 5.2e-03 2.2e-02
## theta[62] 1.5e-02 2.9e-04 0.0219 5.7e-06 1.2e-03 6.1e-03 1.9e-02 7.8e-02
## theta[63] 1.4e-02 3.0e-04 0.0217 5.9e-06 1.1e-03 5.9e-03 1.9e-02 7.6e-02
## theta[64] 1.5e-02 3.2e-04 0.0234 1.1e-05 1.3e-03 6.1e-03 1.9e-02 8.1e-02
## theta[65] 8.4e-02 5.9e-04 0.0555 1.3e-02 4.4e-02 7.3e-02 1.1e-01 2.2e-01
## theta[66] 6.9e-02 2.7e-04 0.0271 2.7e-02 4.9e-02 6.5e-02 8.4e-02 1.3e-01
## theta[67] 1.2e-01 7.4e-04 0.0649 2.8e-02 7.1e-02 1.1e-01 1.5e-01 2.8e-01
## theta[68] 3.4e-02 7.2e-04 0.0529 7.4e-06 2.3e-03 1.3e-02 4.4e-02 1.8e-01
## theta[69] 1.5e-02 3.0e-04 0.0224 2.5e-06 1.1e-03 6.0e-03 1.9e-02 8.1e-02
## theta[70] 1.3e-01 3.4e-04 0.0332 7.1e-02 1.0e-01 1.2e-01 1.5e-01 2.0e-01
## theta[71] 2.4e-02 2.4e-04 0.0200 1.8e-03 9.7e-03 1.9e-02 3.3e-02 7.7e-02
## theta[72] 1.0e-01 3.2e-04 0.0280 5.4e-02 8.2e-02 9.9e-02 1.2e-01 1.6e-01
## theta[73] 5.0e-02 4.9e-04 0.0425 3.3e-03 1.9e-02 3.8e-02 6.8e-02 1.6e-01
## theta[74] 9.4e-02 2.9e-04 0.0282 4.8e-02 7.4e-02 9.1e-02 1.1e-01 1.6e-01
## theta[75] 3.4e-01 5.0e-04 0.0533 2.4e-01 3.0e-01 3.4e-01 3.7e-01 4.5e-01
## theta[76] 6.6e-02 4.0e-04 0.0367 1.5e-02 4.0e-02 6.0e-02 8.5e-02 1.6e-01
## theta[77] 6.6e-02 4.2e-04 0.0361 1.5e-02 4.0e-02 5.9e-02 8.5e-02 1.5e-01
## theta[78] 2.8e-02 2.8e-04 0.0240 1.7e-03 1.1e-02 2.2e-02 3.8e-02 9.3e-02
## theta[79] 5.0e-02 4.7e-04 0.0409 3.2e-03 2.1e-02 3.9e-02 6.8e-02 1.6e-01
## theta[80] 1.6e-02 3.0e-04 0.0236 6.9e-06 1.1e-03 6.2e-03 2.0e-02 8.4e-02

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## theta[81] 8.4e-02 6.1e-04 0.0544 1.3e-02 4.4e-02 7.3e-02 1.1e-01 2.2e-01
## theta[82] 1.2e-01 7.2e-04 0.0646 2.6e-02 6.8e-02 1.0e-01 1.5e-01 2.7e-01
## theta[83] 1.2e-01 6.9e-04 0.0640 2.8e-02 6.9e-02 1.0e-01 1.5e-01 2.7e-01
## theta[84] 9.0e-02 3.1e-04 0.0294 4.3e-02 6.9e-02 8.7e-02 1.1e-01 1.6e-01
## theta[85] 3.7e-03 7.7e-05 0.0056 1.3e-06 3.2e-04 1.6e-03 4.8e-03 1.9e-02
## theta[86] 1.2e-02 1.1e-04 0.0100 8.9e-04 4.9e-03 9.8e-03 1.7e-02 3.8e-02
## theta[87] 3.8e-03 7.0e-05 0.0055 1.4e-06 3.1e-04 1.6e-03 5.0e-03 2.0e-02
## theta[88] 5.8e-03 1.2e-04 0.0088 1.9e-06 4.2e-04 2.3e-03 7.7e-03 3.0e-02
## theta[89] 1.0e-02 2.0e-04 0.0152 2.4e-06 7.8e-04 4.2e-03 1.3e-02 5.3e-02
## theta[90] 1.0e-02 2.1e-04 0.0158 2.2e-06 6.5e-04 4.0e-03 1.3e-02 5.5e-02
## theta[91] 5.3e-02 4.0e-04 0.0336 8.4e-03 2.8e-02 4.6e-02 7.1e-02 1.4e-01
## theta[92] 8.7e-03 1.6e-04 0.0125 3.1e-06 7.2e-04 3.9e-03 1.1e-02 4.5e-02
## theta[93] 8.1e-03 1.6e-04 0.0119 4.3e-06 7.2e-04 3.4e-03 1.1e-02 4.2e-02
## theta[94] 1.1e-01 4.9e-04 0.0421 4.1e-02 7.6e-02 1.0e-01 1.3e-01 2.0e-01
## theta[95] 2.4e-02 2.4e-04 0.0200 1.8e-03 9.3e-03 1.9e-02 3.3e-02 7.6e-02
## theta[96] 7.7e-03 1.6e-04 0.0112 2.3e-06 5.8e-04 3.1e-03 1.0e-02 3.9e-02
## theta[97] 2.4e-02 2.5e-04 0.0203 1.5e-03 9.8e-03 1.9e-02 3.3e-02 7.8e-02
## theta[98] 4.1e-02 3.1e-04 0.0254 6.6e-03 2.2e-02 3.6e-02 5.4e-02 1.1e-01
## theta[99] 5.8e-02 3.3e-04 0.0309 1.4e-02 3.5e-02 5.3e-02 7.4e-02 1.3e-01
## theta[100] 4.0e-02 2.7e-04 0.0253 6.0e-03 2.1e-02 3.4e-02 5.3e-02 1.0e-01
## theta[101] 7.6e-03 1.5e-04 0.0112 3.0e-06 6.2e-04 3.1e-03 1.0e-02 4.1e-02
## theta[102] 7.8e-02 2.7e-04 0.0252 3.7e-02 6.0e-02 7.5e-02 9.3e-02 1.3e-01
## theta[103] 1.4e-01 5.1e-04 0.0474 6.2e-02 1.1e-01 1.4e-01 1.7e-01 2.5e-01
## theta[104] 7.0e-03 1.3e-04 0.0104 2.5e-06 5.6e-04 3.0e-03 8.9e-03 3.6e-02
## theta[105] 7.4e-03 1.4e-04 0.0110 2.2e-06 6.1e-04 3.2e-03 9.6e-03 3.9e-02
## theta[106] 7.4e-03 1.3e-04 0.0111 3.5e-06 5.9e-04 3.0e-03 9.5e-03 3.8e-02
## theta[107] 1.1e-01 4.3e-04 0.0416 4.3e-02 7.7e-02 1.0e-01 1.3e-01 2.0e-01
## theta[108] 7.5e-03 1.4e-04 0.0110 3.3e-06 6.1e-04 3.1e-03 9.8e-03 3.9e-02
## theta[109] 5.7e-02 3.3e-04 0.0302 1.4e-02 3.5e-02 5.2e-02 7.4e-02 1.3e-01
## theta[110] 3.6e-01 8.4e-04 0.0791 2.2e-01 3.0e-01 3.5e-01 4.1e-01 5.3e-01
## theta[111] 5.7e-02 3.3e-04 0.0308 1.3e-02 3.4e-02 5.2e-02 7.4e-02 1.3e-01
## theta[112] 3.0e-01 7.2e-04 0.0707 1.8e-01 2.5e-01 3.0e-01 3.5e-01 4.6e-01
## theta[113] 2.0e-01 6.3e-04 0.0575 1.0e-01 1.6e-01 1.9e-01 2.3e-01 3.3e-01
## theta[114] 2.6e-02 2.4e-04 0.0207 1.7e-03 1.0e-02 2.0e-02 3.6e-02 7.7e-02
## theta[115] 4.1e-02 2.6e-04 0.0255 7.1e-03 2.2e-02 3.6e-02 5.5e-02 1.0e-01
## theta[116] 2.1e-01 6.2e-04 0.0602 1.1e-01 1.7e-01 2.1e-01 2.5e-01 3.5e-01
## theta[117] 1.1e-01 4.8e-04 0.0419 4.2e-02 7.8e-02 1.0e-01 1.3e-01 2.0e-01
## theta[118] 2.6e-01 7.0e-04 0.0671 1.4e-01 2.1e-01 2.5e-01 3.0e-01 4.1e-01
## theta[119] 3.3e-02 3.1e-04 0.0278 1.9e-03 1.2e-02 2.5e-02 4.6e-02 1.0e-01
## theta[120] 2.8e-01 4.8e-04 0.0489 1.9e-01 2.4e-01 2.7e-01 3.1e-01 3.8e-01
## theta[121] 1.6e-01 8.1e-04 0.0755 4.5e-02 1.0e-01 1.4e-01 2.0e-01 3.3e-01
## theta[122] 5.4e-01 1.1e-03 0.1123 3.4e-01 4.6e-01 5.3e-01 6.1e-01 7.8e-01
## theta[123] 3.3e-01 8.6e-04 0.0870 1.9e-01 2.7e-01 3.2e-01 3.9e-01 5.2e-01
## theta[124] 7.9e-03 1.6e-04 0.0116 4.8e-06 6.6e-04 3.4e-03 1.0e-02 4.1e-02
## theta[125] 2.4e-01 6.4e-04 0.0638 1.4e-01 2.0e-01 2.4e-01 2.8e-01 3.8e-01
## theta[126] 8.1e-03 1.5e-04 0.0118 4.0e-06 6.8e-04 3.4e-03 1.1e-02 4.1e-02
## theta[127] 8.5e-02 2.7e-04 0.0268 4.0e-02 6.5e-02 8.2e-02 1.0e-01 1.4e-01
## theta[128] 2.8e-02 5.3e-04 0.0405 9.9e-06 2.0e-03 1.1e-02 3.6e-02 1.5e-01
## theta[129] 2.8e-02 5.2e-04 0.0411 1.1e-05 2.1e-03 1.1e-02 3.6e-02 1.5e-01
## theta[130] 1.4e-02 2.8e-04 0.0217 8.5e-06 1.0e-03 5.9e-03 1.8e-02 7.8e-02
## theta[131] 8.3e-03 1.6e-04 0.0121 4.2e-06 7.2e-04 3.4e-03 1.1e-02 4.2e-02
## theta[132] 8.5e-03 1.7e-04 0.0128 3.1e-06 6.4e-04 3.3e-03 1.1e-02 4.5e-02
## theta[133] 8.3e-03 1.7e-04 0.0126 3.4e-06 6.4e-04 3.2e-03 1.1e-02 4.5e-02
## theta[134] 7.5e-03 1.4e-04 0.0110 3.6e-06 5.9e-04 2.9e-03 9.8e-03 3.9e-02

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## theta[135] 1.0e-02 2.2e-04 0.0157 2.9e-06 7.1e-04 3.8e-03 1.3e-02 5.7e-02
## theta[136] 8.5e-03 1.6e-04 0.0128 4.6e-06 7.4e-04 3.5e-03 1.1e-02 4.5e-02
## theta[137] 1.0e-02 2.1e-04 0.0152 3.5e-06 7.2e-04 4.0e-03 1.3e-02 5.3e-02
## theta[138] 4.9e-02 2.8e-04 0.0249 1.3e-02 3.1e-02 4.5e-02 6.3e-02 1.1e-01
## theta[139] 2.1e-01 6.5e-04 0.0605 1.1e-01 1.7e-01 2.1e-01 2.5e-01 3.5e-01
## theta[140] 6.9e-03 1.3e-04 0.0098 4.7e-06 6.4e-04 3.0e-03 9.1e-03 3.5e-02
## theta[141] 9.3e-02 4.1e-04 0.0361 3.6e-02 6.6e-02 8.9e-02 1.1e-01 1.8e-01
## theta[142] 4.2e-01 8.4e-04 0.0798 2.8e-01 3.6e-01 4.1e-01 4.7e-01 5.9e-01
## theta[143] 2.6e-01 2.0e-03 0.1708 4.4e-02 1.4e-01 2.3e-01 3.4e-01 7.0e-01
## theta[144] 1.3e-01 3.5e-04 0.0330 7.1e-02 1.0e-01 1.2e-01 1.5e-01 2.0e-01
## theta[145] 3.1e-01 5.6e-04 0.0515 2.2e-01 2.7e-01 3.1e-01 3.4e-01 4.2e-01
## theta[146] 3.0e-01 6.1e-04 0.0598 1.9e-01 2.5e-01 2.9e-01 3.3e-01 4.2e-01
## theta[147] 1.1e-01 3.4e-04 0.0330 5.1e-02 8.2e-02 1.0e-01 1.2e-01 1.8e-01
## theta[148] 1.3e-01 4.1e-04 0.0416 5.8e-02 9.5e-02 1.2e-01 1.5e-01 2.2e-01
## theta[149] 1.4e-01 4.6e-04 0.0429 6.5e-02 1.0e-01 1.3e-01 1.6e-01 2.3e-01
## theta[150] 5.9e-02 3.4e-04 0.0276 1.7e-02 3.8e-02 5.5e-02 7.5e-02 1.2e-01
## theta[151] 2.5e-01 5.8e-04 0.0583 1.5e-01 2.1e-01 2.5e-01 2.9e-01 3.8e-01
## theta[152] 3.8e-02 2.4e-04 0.0205 9.0e-03 2.4e-02 3.5e-02 5.0e-02 8.6e-02
## theta[153] 1.1e-01 3.3e-04 0.0330 5.6e-02 8.7e-02 1.1e-01 1.3e-01 1.9e-01
## theta[154] 5.3e-02 5.4e-04 0.0434 4.0e-03 2.1e-02 4.2e-02 7.3e-02 1.6e-01
## theta[155] 4.0e-02 2.8e-04 0.0259 6.3e-03 2.2e-02 3.5e-02 5.4e-02 1.0e-01
## theta[156] 9.5e-03 1.8e-04 0.0140 4.1e-06 7.5e-04 3.9e-03 1.2e-02 4.9e-02
## theta[157] 2.9e-02 2.8e-04 0.0238 2.1e-03 1.2e-02 2.3e-02 4.0e-02 9.1e-02
## theta[158] 2.9e-02 2.6e-04 0.0239 2.1e-03 1.2e-02 2.3e-02 4.0e-02 8.9e-02
## theta[159] 3.7e-02 1.8e-04 0.0177 1.0e-02 2.4e-02 3.4e-02 4.7e-02 8.0e-02
## theta[160] 2.0e-01 4.6e-04 0.0440 1.2e-01 1.7e-01 2.0e-01 2.3e-01 2.9e-01
## theta[161] 1.6e-02 3.1e-04 0.0237 9.8e-06 1.2e-03 6.6e-03 2.0e-02 8.3e-02
## theta[162] 2.2e-01 9.8e-04 0.0839 8.4e-02 1.6e-01 2.1e-01 2.7e-01 4.2e-01
## theta[163] 1.6e-02 3.0e-04 0.0236 5.8e-06 1.1e-03 6.1e-03 2.0e-02 8.6e-02
## theta[164] 4.9e-02 5.0e-04 0.0400 3.5e-03 2.0e-02 3.9e-02 6.7e-02 1.5e-01
## theta[165] 1.5e-02 3.0e-04 0.0222 7.9e-06 1.2e-03 6.4e-03 2.1e-02 7.7e-02
## theta[166] 3.8e-01 6.4e-04 0.0564 2.8e-01 3.4e-01 3.8e-01 4.2e-01 5.0e-01
## theta[167] 1.2e-02 2.1e-04 0.0168 5.9e-06 1.0e-03 5.1e-03 1.5e-02 6.1e-02
## theta[168] 2.4e-02 1.7e-04 0.0155 3.9e-03 1.3e-02 2.1e-02 3.2e-02 6.3e-02
## theta[169] 4.8e-02 2.8e-04 0.0262 1.1e-02 3.0e-02 4.4e-02 6.2e-02 1.1e-01
## theta[170] 2.8e-02 6.0e-04 0.0423 1.5e-05 2.1e-03 1.2e-02 3.7e-02 1.5e-01
## theta[171] 6.2e-02 3.3e-04 0.0294 1.8e-02 4.0e-02 5.8e-02 7.8e-02 1.3e-01
## theta[172] 1.9e-01 5.6e-04 0.0517 9.9e-02 1.5e-01 1.8e-01 2.2e-01 3.0e-01
## theta[173] 1.7e-01 4.1e-04 0.0382 1.0e-01 1.4e-01 1.7e-01 1.9e-01 2.5e-01
## theta[174] 3.6e-01 7.8e-04 0.0698 2.4e-01 3.1e-01 3.6e-01 4.1e-01 5.1e-01
## theta[175] 6.3e-03 1.3e-04 0.0095 2.5e-06 5.0e-04 2.7e-03 8.0e-03 3.4e-02
## theta[176] 2.2e-01 5.9e-04 0.0544 1.3e-01 1.8e-01 2.2e-01 2.6e-01 3.4e-01
## theta[177] 4.9e-02 3.7e-04 0.0321 7.6e-03 2.6e-02 4.3e-02 6.5e-02 1.3e-01
## theta[178] 4.2e-01 7.3e-04 0.0774 2.8e-01 3.6e-01 4.1e-01 4.6e-01 5.8e-01
## theta[179] 3.5e-01 8.0e-04 0.0687 2.2e-01 3.0e-01 3.4e-01 3.9e-01 4.9e-01
## theta[180] 8.3e-03 1.6e-04 0.0124 4.0e-06 6.1e-04 3.3e-03 1.0e-02 4.6e-02
## theta[181] 5.3e-02 2.3e-04 0.0207 2.1e-02 3.8e-02 5.0e-02 6.5e-02 1.0e-01
## theta[182] 1.3e-01 3.3e-04 0.0329 7.7e-02 1.1e-01 1.3e-01 1.5e-01 2.1e-01
## theta[183] 2.8e-01 7.5e-04 0.0671 1.6e-01 2.3e-01 2.7e-01 3.2e-01 4.2e-01
## theta[184] 2.7e-01 6.5e-04 0.0636 1.6e-01 2.3e-01 2.7e-01 3.1e-01 4.1e-01
## theta[185] 2.3e-01 5.8e-04 0.0568 1.3e-01 1.9e-01 2.3e-01 2.6e-01 3.5e-01
## theta[186] 1.7e-02 3.5e-04 0.0255 6.6e-06 1.4e-03 7.3e-03 2.1e-02 9.3e-02
## theta[187] 2.3e-02 2.3e-04 0.0186 1.7e-03 9.1e-03 1.8e-02 3.1e-02 7.1e-02
## theta[188] 8.0e-03 1.6e-04 0.0119 4.5e-06 6.3e-04 3.4e-03 1.0e-02 4.2e-02

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## theta[189] 1.2e-02 2.4e-04 0.0186 2.5e-06 9.0e-04 4.6e-03 1.6e-02 6.4e-02
## theta[190] 5.4e-01 9.2e-04 0.0840 3.9e-01 4.9e-01 5.4e-01 6.0e-01 7.2e-01
## theta[191] 3.5e-01 7.5e-04 0.0666 2.3e-01 3.0e-01 3.4e-01 3.9e-01 4.9e-01
## theta[192] 2.4e-02 4.8e-04 0.0342 1.2e-05 1.9e-03 1.0e-02 3.1e-02 1.2e-01
## theta[193] 1.8e-01 3.8e-04 0.0387 1.1e-01 1.5e-01 1.8e-01 2.0e-01 2.6e-01
## theta[194] 9.9e-02 5.6e-04 0.0474 2.7e-02 6.4e-02 9.1e-02 1.3e-01 2.1e-01
## theta[195] 6.5e-02 2.7e-04 0.0240 2.8e-02 4.7e-02 6.2e-02 8.0e-02 1.2e-01
## theta[196] 1.1e-02 2.1e-04 0.0157 6.3e-06 9.9e-04 4.8e-03 1.5e-02 5.3e-02
## theta[197] 1.1e-02 2.2e-04 0.0159 3.0e-06 8.3e-04 4.2e-03 1.4e-02 5.5e-02
## theta[198] 8.9e-03 1.8e-04 0.0136 1.9e-06 6.1e-04 3.5e-03 1.1e-02 4.9e-02
## theta[199] 1.1e-02 2.0e-04 0.0159 5.6e-06 9.4e-04 4.7e-03 1.5e-02 5.7e-02
## theta[200] 8.4e-02 4.2e-04 0.0398 2.5e-02 5.5e-02 7.8e-02 1.1e-01 1.8e-01
## theta[201] 8.6e-02 4.6e-04 0.0415 2.5e-02 5.6e-02 8.0e-02 1.1e-01 1.8e-01
## theta[202] 8.2e-02 4.6e-04 0.0432 2.0e-02 4.9e-02 7.4e-02 1.1e-01 1.9e-01
## theta[203] 1.3e-02 2.6e-04 0.0204 3.1e-06 8.4e-04 4.7e-03 1.7e-02 7.4e-02
## theta[204] 1.7e-02 3.4e-04 0.0244 6.7e-06 1.3e-03 7.3e-03 2.2e-02 8.5e-02
## theta[205] 1.3e-02 2.7e-04 0.0197 3.8e-06 8.5e-04 4.9e-03 1.7e-02 6.8e-02
## theta[206] 7.6e-03 1.4e-04 0.0113 2.6e-06 6.2e-04 3.0e-03 9.9e-03 3.9e-02
## y_sim[1] 2.4e+01 9.2e-02 7.0410 1.2e+01 1.9e+01 2.4e+01 2.9e+01 3.9e+01
## y_sim[2] 1.3e+01 6.3e-02 4.9909 4.0e+00 9.0e+00 1.2e+01 1.6e+01 2.4e+01
## y_sim[3] 4.0e-01 1.2e-02 0.8601 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[4] 7.1e+00 5.0e-02 3.7118 1.0e+00 4.0e+00 7.0e+00 9.0e+00 1.6e+01
## y_sim[5] 1.4e+00 2.5e-02 1.6728 0.0e+00 0.0e+00 1.0e+00 2.0e+00 6.0e+00
## y_sim[6] 1.4e+00 2.3e-02 1.6611 0.0e+00 0.0e+00 1.0e+00 2.0e+00 6.0e+00
## y_sim[7] 4.1e-01 1.2e-02 0.8545 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[8] 4.1e-01 1.2e-02 0.8778 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[9] 4.0e-01 1.2e-02 0.8589 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[10] 3.9e-01 1.2e-02 0.8404 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[11] 4.0e-01 1.2e-02 0.8806 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[12] 4.0e-01 1.3e-02 0.8827 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[13] 4.0e-01 1.2e-02 0.8680 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[14] 3.9e-01 1.2e-02 0.8460 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[15] 3.7e-01 1.2e-02 0.8351 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[16] 1.8e+01 7.5e-02 5.8270 8.0e+00 1.3e+01 1.7e+01 2.1e+01 3.0e+01
## y_sim[17] 3.9e-01 1.2e-02 0.8254 0.0e+00 0.0e+00 0.0e+00 2.5e-01 3.0e+00
## y_sim[18] 1.3e+01 6.5e-02 5.0753 5.0e+00 9.0e+00 1.2e+01 1.6e+01 2.4e+01
## y_sim[19] 4.2e+00 3.6e-02 2.8028 0.0e+00 2.0e+00 4.0e+00 6.0e+00 1.1e+01
## y_sim[20] 1.8e+01 7.5e-02 5.8787 7.0e+00 1.3e+01 1.7e+01 2.1e+01 3.0e+01
## y_sim[21] 1.2e+01 6.3e-02 4.8342 4.0e+00 8.0e+00 1.1e+01 1.5e+01 2.3e+01
## y_sim[22] 1.3e+00 2.1e-02 1.5922 0.0e+00 0.0e+00 1.0e+00 2.0e+00 6.0e+00
## y_sim[23] 4.3e-01 1.3e-02 0.9375 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[24] 4.0e+01 1.1e-01 8.8439 2.4e+01 3.3e+01 3.9e+01 4.5e+01 5.8e+01
## y_sim[25] 3.4e+00 3.3e-02 2.5528 0.0e+00 1.0e+00 3.0e+00 5.0e+00 9.0e+00
## y_sim[26] 4.0e-01 1.3e-02 0.8855 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[27] 4.0e-01 1.2e-02 0.8608 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[28] 4.3e+00 3.8e-02 2.8088 0.0e+00 2.0e+00 4.0e+00 6.0e+00 1.1e+01
## y_sim[29] 1.3e+01 6.5e-02 4.9349 4.0e+00 9.0e+00 1.2e+01 1.6e+01 2.4e+01
## y_sim[30] 3.3e+00 3.3e-02 2.4755 0.0e+00 1.0e+00 3.0e+00 5.0e+00 9.0e+00
## y_sim[31] 5.2e+00 4.1e-02 3.3279 1.0e+00 3.0e+00 5.0e+00 7.0e+00 1.3e+01
## y_sim[32] 7.1e+00 4.9e-02 3.6866 1.0e+00 4.0e+00 7.0e+00 9.0e+00 1.6e+01
## y_sim[33] 1.4e+00 2.3e-02 1.6213 0.0e+00 0.0e+00 1.0e+00 2.0e+00 6.0e+00
## y_sim[34] 5.2e+00 4.1e-02 3.1990 1.0e+00 3.0e+00 5.0e+00 7.0e+00 1.3e+01
## y_sim[35] 1.4e+00 2.3e-02 1.6348 0.0e+00 0.0e+00 1.0e+00 2.0e+00 6.0e+00
## y_sim[36] 2.2e+01 8.4e-02 6.6109 1.1e+01 1.8e+01 2.2e+01 2.7e+01 3.7e+01

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## y_sim[37] 4.3e-01 1.3e-02 0.8877 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[38] 5.2e+00 4.3e-02 3.2189 0.0e+00 3.0e+00 5.0e+00 7.0e+00 1.3e+01
## y_sim[39] 9.0e+00 5.3e-02 4.1845 2.0e+00 6.0e+00 8.0e+00 1.2e+01 1.9e+01
## y_sim[40] 4.3e-01 1.4e-02 0.9341 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[41] 2.2e+01 8.3e-02 6.4148 1.0e+01 1.7e+01 2.1e+01 2.6e+01 3.5e+01
## y_sim[42] 4.1e-01 1.2e-02 0.8747 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[43] 4.1e-01 1.2e-02 0.8540 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[44] 4.0e-01 1.2e-02 0.8840 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[45] 9.1e+00 5.3e-02 4.2902 2.0e+00 6.0e+00 9.0e+00 1.2e+01 1.9e+01
## y_sim[46] 4.2e-01 1.3e-02 0.8978 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[47] 3.3e+00 3.2e-02 2.5118 0.0e+00 1.0e+00 3.0e+00 5.0e+00 9.0e+00
## y_sim[48] 1.2e+01 6.1e-02 4.7439 4.0e+00 9.0e+00 1.2e+01 1.5e+01 2.3e+01
## y_sim[49] 4.2e+00 3.7e-02 2.8756 0.0e+00 2.0e+00 4.0e+00 6.0e+00 1.1e+01
## y_sim[50] 4.1e-01 1.2e-02 0.8663 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[51] 6.1e+00 4.6e-02 3.4867 1.0e+00 4.0e+00 6.0e+00 8.0e+00 1.4e+01
## y_sim[52] 4.3e+00 3.6e-02 2.7319 0.0e+00 2.0e+00 4.0e+00 6.0e+00 1.1e+01
## y_sim[53] 4.2e-01 1.3e-02 0.8805 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[54] 8.1e+00 5.2e-02 3.9971 2.0e+00 5.0e+00 8.0e+00 1.0e+01 1.7e+01
## y_sim[55] 1.4e+00 2.3e-02 1.6161 0.0e+00 0.0e+00 1.0e+00 2.0e+00 6.0e+00
## y_sim[56] 3.7e-01 1.2e-02 0.8299 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[57] 3.7e-01 1.1e-02 0.8152 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[58] 1.6e+01 7.3e-02 5.4661 7.0e+00 1.2e+01 1.5e+01 1.9e+01 2.8e+01
## y_sim[59] 4.0e-01 1.3e-02 0.8838 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[60] 4.2e-01 1.3e-02 0.9001 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[61] 4.3e-01 1.3e-02 0.9102 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[62] 3.6e-01 1.2e-02 0.8393 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[63] 3.8e-01 1.2e-02 0.8524 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[64] 3.8e-01 1.2e-02 0.8472 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[65] 2.0e+00 2.6e-02 1.9533 0.0e+00 1.0e+00 2.0e+00 3.0e+00 7.0e+00
## y_sim[66] 6.1e+00 4.4e-02 3.4261 1.0e+00 4.0e+00 6.0e+00 8.0e+00 1.4e+01
## y_sim[67] 2.8e+00 3.1e-02 2.3054 0.0e+00 1.0e+00 2.0e+00 4.0e+00 9.0e+00
## y_sim[68] 2.8e-01 1.0e-02 0.6841 0.0e+00 0.0e+00 0.0e+00 0.0e+00 2.0e+00
## y_sim[69] 3.6e-01 1.1e-02 0.8008 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[70] 1.5e+01 6.8e-02 5.3845 6.0e+00 1.1e+01 1.4e+01 1.8e+01 2.7e+01
## y_sim[71] 1.3e+00 2.2e-02 1.5484 0.0e+00 0.0e+00 1.0e+00 2.0e+00 5.0e+00
## y_sim[72] 1.2e+01 6.3e-02 4.8186 4.0e+00 8.0e+00 1.1e+01 1.5e+01 2.3e+01
## y_sim[73] 1.2e+00 2.1e-02 1.5294 0.0e+00 0.0e+00 1.0e+00 2.0e+00 5.0e+00
## y_sim[74] 1.1e+01 6.1e-02 4.6643 3.0e+00 8.0e+00 1.0e+01 1.4e+01 2.1e+01
## y_sim[75] 3.9e+01 1.1e-01 8.7569 2.4e+01 3.3e+01 3.9e+01 4.5e+01 5.7e+01
## y_sim[76] 3.1e+00 3.4e-02 2.4829 0.0e+00 1.0e+00 3.0e+00 4.0e+00 9.0e+00
## y_sim[77] 3.1e+00 3.3e-02 2.3916 0.0e+00 1.0e+00 3.0e+00 4.0e+00 9.0e+00
## y_sim[78] 1.3e+00 2.1e-02 1.5830 0.0e+00 0.0e+00 1.0e+00 2.0e+00 6.0e+00
## y_sim[79] 1.2e+00 1.9e-02 1.4435 0.0e+00 0.0e+00 1.0e+00 2.0e+00 5.0e+00
## y_sim[80] 3.8e-01 1.1e-02 0.8219 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[81] 2.0e+00 2.8e-02 1.9340 0.0e+00 1.0e+00 2.0e+00 3.0e+00 7.0e+00
## y_sim[82] 2.8e+00 3.0e-02 2.2946 0.0e+00 1.0e+00 2.0e+00 4.0e+00 8.0e+00
## y_sim[83] 2.8e+00 3.1e-02 2.2995 0.0e+00 1.0e+00 2.0e+00 4.0e+00 8.0e+00
## y_sim[84] 9.0e+00 5.8e-02 4.2243 2.0e+00 6.0e+00 9.0e+00 1.1e+01 1.9e+01
## y_sim[85] 4.5e-01 1.4e-02 0.9327 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[86] 1.4e+00 2.2e-02 1.6096 0.0e+00 0.0e+00 1.0e+00 2.0e+00 5.0e+00
## y_sim[87] 4.4e-01 1.2e-02 0.9040 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[88] 4.0e-01 1.2e-02 0.8940 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[89] 3.9e-01 1.2e-02 0.8701 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[90] 4.3e-01 1.4e-02 0.9358 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00

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## y_sim[91] 2.2e+00 2.7e-02 2.0158 0.0e+00 1.0e+00 2.0e+00 3.0e+00 7.0e+00
## y_sim[92] 4.1e-01 1.1e-02 0.8367 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[93] 4.1e-01 1.3e-02 0.8725 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[94] 5.9e+00 4.5e-02 3.3755 1.0e+00 3.0e+00 5.0e+00 8.0e+00 1.4e+01
## y_sim[95] 1.3e+00 2.2e-02 1.6112 0.0e+00 0.0e+00 1.0e+00 2.0e+00 6.0e+00
## y_sim[96] 4.3e-01 1.3e-02 0.9258 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[97] 1.3e+00 2.2e-02 1.6164 0.0e+00 0.0e+00 1.0e+00 2.0e+00 5.0e+00
## y_sim[98] 2.2e+00 2.7e-02 2.0078 0.0e+00 1.0e+00 2.0e+00 3.0e+00 7.0e+00
## y_sim[99] 3.2e+00 3.2e-02 2.4821 0.0e+00 1.0e+00 3.0e+00 5.0e+00 9.0e+00
## y_sim[100] 2.2e+00 2.7e-02 2.1025 0.0e+00 1.0e+00 2.0e+00 3.0e+00 7.5e+00
## y_sim[101] 4.2e-01 1.3e-02 0.8914 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[102] 9.1e+00 5.2e-02 4.1186 2.0e+00 6.0e+00 9.0e+00 1.2e+01 1.8e+01
## y_sim[103] 7.6e+00 5.2e-02 3.8362 2.0e+00 5.0e+00 7.0e+00 1.0e+01 1.7e+01
## y_sim[104] 4.2e-01 1.2e-02 0.8618 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[105] 4.3e-01 1.3e-02 0.9241 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[106] 4.1e-01 1.2e-02 0.8685 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[107] 5.9e+00 4.3e-02 3.2866 1.0e+00 4.0e+00 6.0e+00 8.0e+00 1.3e+01
## y_sim[108] 4.1e-01 1.2e-02 0.8650 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[109] 3.1e+00 3.2e-02 2.4491 0.0e+00 1.0e+00 3.0e+00 4.0e+00 9.0e+00
## y_sim[110] 2.0e+01 7.8e-02 6.1510 9.0e+00 1.5e+01 1.9e+01 2.4e+01 3.3e+01
## y_sim[111] 3.1e+00 3.2e-02 2.4356 0.0e+00 1.0e+00 3.0e+00 4.0e+00 9.0e+00
## y_sim[112] 1.7e+01 7.1e-02 5.7513 7.0e+00 1.3e+01 1.6e+01 2.0e+01 3.0e+01
## y_sim[113] 1.0e+01 6.0e-02 4.3627 3.0e+00 7.0e+00 1.0e+01 1.3e+01 2.0e+01
## y_sim[114] 1.3e+00 2.1e-02 1.5458 0.0e+00 0.0e+00 1.0e+00 2.0e+00 5.0e+00
## y_sim[115] 2.2e+00 2.6e-02 2.0144 0.0e+00 1.0e+00 2.0e+00 3.0e+00 7.0e+00
## y_sim[116] 1.1e+01 5.8e-02 4.6713 4.0e+00 8.0e+00 1.1e+01 1.4e+01 2.2e+01
## y_sim[117] 5.9e+00 4.8e-02 3.3144 1.0e+00 3.0e+00 5.0e+00 8.0e+00 1.3e+01
## y_sim[118] 1.4e+01 6.5e-02 5.3164 5.0e+00 1.0e+01 1.4e+01 1.8e+01 2.6e+01
## y_sim[119] 1.3e+00 2.1e-02 1.5745 0.0e+00 0.0e+00 1.0e+00 2.0e+00 5.0e+00
## y_sim[120] 3.2e+01 1.0e-01 7.9244 1.8e+01 2.6e+01 3.2e+01 3.7e+01 4.9e+01
## y_sim[121] 3.7e+00 3.3e-02 2.6167 0.0e+00 2.0e+00 3.0e+00 5.0e+00 1.0e+01
## y_sim[122] 2.2e+01 8.4e-02 6.4730 1.0e+01 1.7e+01 2.1e+01 2.6e+01 3.5e+01
## y_sim[123] 1.4e+01 6.5e-02 5.1248 5.0e+00 1.0e+01 1.3e+01 1.7e+01 2.5e+01
## y_sim[124] 4.0e-01 1.3e-02 0.8748 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[125] 1.2e+01 6.4e-02 4.7032 4.0e+00 9.0e+00 1.2e+01 1.5e+01 2.3e+01
## y_sim[126] 4.1e-01 1.3e-02 0.9008 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[127] 8.9e+00 5.4e-02 4.1845 2.0e+00 6.0e+00 9.0e+00 1.1e+01 1.8e+01
## y_sim[128] 3.0e-01 9.6e-03 0.6983 0.0e+00 0.0e+00 0.0e+00 0.0e+00 2.0e+00
## y_sim[129] 3.0e-01 9.9e-03 0.6964 0.0e+00 0.0e+00 0.0e+00 0.0e+00 2.0e+00
## y_sim[130] 3.8e-01 1.2e-02 0.8383 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[131] 3.9e-01 1.2e-02 0.8618 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[132] 4.1e-01 1.2e-02 0.8712 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[133] 3.8e-01 1.2e-02 0.8536 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[134] 4.2e-01 1.3e-02 0.9003 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[135] 4.3e-01 1.4e-02 0.9507 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[136] 4.1e-01 1.2e-02 0.8790 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[137] 4.0e-01 1.3e-02 0.8754 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[138] 3.2e+00 3.2e-02 2.4058 0.0e+00 1.0e+00 3.0e+00 5.0e+00 9.0e+00
## y_sim[139] 1.1e+01 6.3e-02 4.7411 4.0e+00 8.0e+00 1.1e+01 1.4e+01 2.2e+01
## y_sim[140] 4.1e-01 1.2e-02 0.8520 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[141] 5.9e+00 4.6e-02 3.4113 1.0e+00 3.0e+00 5.0e+00 8.0e+00 1.4e+01
## y_sim[142] 2.5e+01 8.8e-02 6.7459 1.4e+01 2.0e+01 2.5e+01 2.9e+01 3.9e+01
## y_sim[143] 1.1e+00 1.8e-02 1.2416 0.0e+00 0.0e+00 1.0e+00 2.0e+00 4.0e+00
## y_sim[144] 1.5e+01 7.3e-02 5.3934 6.0e+00 1.1e+01 1.4e+01 1.8e+01 2.6e+01

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## y_sim[145] 3.6e+01 1.1e-01 8.4211 2.1e+01 3.0e+01 3.5e+01 4.1e+01 5.3e+01
## y_sim[146] 2.5e+01 8.9e-02 7.1499 1.2e+01 2.0e+01 2.4e+01 2.9e+01 4.1e+01
## y_sim[147] 9.8e+00 5.4e-02 4.3883 3.0e+00 7.0e+00 9.0e+00 1.2e+01 2.0e+01
## y_sim[148] 8.7e+00 5.3e-02 4.0705 2.0e+00 6.0e+00 8.0e+00 1.1e+01 1.8e+01
## y_sim[149] 9.7e+00 6.0e-02 4.3926 3.0e+00 7.0e+00 9.0e+00 1.2e+01 1.9e+01
## y_sim[150] 4.2e+00 3.9e-02 2.8826 0.0e+00 2.0e+00 4.0e+00 6.0e+00 1.1e+01
## y_sim[151] 1.7e+01 7.4e-02 5.8081 7.0e+00 1.3e+01 1.7e+01 2.1e+01 3.0e+01
## y_sim[152] 3.2e+00 3.1e-02 2.4803 0.0e+00 1.0e+00 3.0e+00 5.0e+00 9.0e+00
## y_sim[153] 1.1e+01 5.9e-02 4.5693 4.0e+00 7.8e+00 1.0e+01 1.4e+01 2.1e+01
## y_sim[154] 1.2e+00 2.2e-02 1.4905 0.0e+00 0.0e+00 1.0e+00 2.0e+00 5.0e+00
## y_sim[155] 2.2e+00 2.7e-02 2.1185 0.0e+00 1.0e+00 2.0e+00 3.0e+00 8.0e+00
## y_sim[156] 4.2e-01 1.3e-02 0.8802 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[157] 1.3e+00 2.1e-02 1.5301 0.0e+00 0.0e+00 1.0e+00 2.0e+00 5.0e+00
## y_sim[158] 1.3e+00 2.0e-02 1.5168 0.0e+00 0.0e+00 1.0e+00 2.0e+00 5.0e+00
## y_sim[159] 4.3e+00 3.6e-02 2.9048 0.0e+00 2.0e+00 4.0e+00 6.0e+00 1.1e+01
## y_sim[160] 1.9e+01 7.8e-02 6.2110 9.0e+00 1.5e+01 1.9e+01 2.3e+01 3.3e+01
## y_sim[161] 3.7e-01 1.2e-02 0.8250 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[162] 5.3e+00 4.2e-02 3.0838 1.0e+00 3.0e+00 5.0e+00 7.0e+00 1.2e+01
## y_sim[163] 3.8e-01 1.2e-02 0.8342 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[164] 1.2e+00 2.0e-02 1.4448 0.0e+00 0.0e+00 1.0e+00 2.0e+00 5.0e+00
## y_sim[165] 3.6e-01 1.1e-02 0.7845 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[166] 4.4e+01 1.3e-01 9.2628 2.7e+01 3.8e+01 4.4e+01 5.0e+01 6.3e+01
## y_sim[167] 3.8e-01 1.2e-02 0.8323 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[168] 2.3e+00 2.6e-02 2.0998 0.0e+00 1.0e+00 2.0e+00 3.0e+00 8.0e+00
## y_sim[169] 3.2e+00 3.3e-02 2.5325 0.0e+00 1.0e+00 3.0e+00 4.0e+00 9.5e+00
## y_sim[170] 3.1e-01 1.0e-02 0.7101 0.0e+00 0.0e+00 0.0e+00 0.0e+00 2.0e+00
## y_sim[171] 4.1e+00 3.6e-02 2.7500 0.0e+00 2.0e+00 4.0e+00 6.0e+00 1.1e+01
## y_sim[172] 1.2e+01 6.6e-02 4.9333 4.0e+00 9.0e+00 1.2e+01 1.5e+01 2.3e+01
## y_sim[173] 2.0e+01 7.9e-02 6.2368 9.0e+00 1.5e+01 1.9e+01 2.3e+01 3.4e+01
## y_sim[174] 2.5e+01 8.5e-02 6.7597 1.3e+01 2.0e+01 2.4e+01 2.9e+01 3.9e+01
## y_sim[175] 4.2e-01 1.2e-02 0.8889 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[176] 1.5e+01 7.4e-02 5.4305 6.0e+00 1.1e+01 1.5e+01 1.9e+01 2.7e+01
## y_sim[177] 2.2e+00 2.7e-02 2.0504 0.0e+00 1.0e+00 2.0e+00 3.0e+00 7.0e+00
## y_sim[178] 2.8e+01 8.9e-02 7.3958 1.5e+01 2.3e+01 2.8e+01 3.3e+01 4.5e+01
## y_sim[179] 2.4e+01 8.6e-02 6.7936 1.1e+01 1.9e+01 2.3e+01 2.8e+01 3.8e+01
## y_sim[180] 4.4e-01 1.4e-02 0.9277 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[181] 6.2e+00 4.9e-02 3.4493 1.0e+00 4.0e+00 6.0e+00 8.0e+00 1.4e+01
## y_sim[182] 1.6e+01 6.8e-02 5.4469 6.0e+00 1.2e+01 1.5e+01 1.9e+01 2.7e+01
## y_sim[183] 1.7e+01 8.1e-02 5.8404 7.0e+00 1.3e+01 1.7e+01 2.1e+01 3.0e+01
## y_sim[184] 1.7e+01 7.5e-02 5.6931 7.0e+00 1.3e+01 1.6e+01 2.0e+01 3.0e+01
## y_sim[185] 1.4e+01 6.8e-02 5.1398 5.0e+00 1.1e+01 1.4e+01 1.7e+01 2.6e+01
## y_sim[186] 3.5e-01 1.2e-02 0.8134 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[187] 1.3e+00 2.2e-02 1.5858 0.0e+00 0.0e+00 1.0e+00 2.0e+00 6.0e+00
## y_sim[188] 4.0e-01 1.3e-02 0.8910 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[189] 3.8e-01 1.2e-02 0.8283 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[190] 3.8e+01 1.1e-01 8.3171 2.3e+01 3.2e+01 3.7e+01 4.3e+01 5.5e+01
## y_sim[191] 2.5e+01 9.2e-02 6.8423 1.3e+01 2.0e+01 2.4e+01 2.9e+01 3.9e+01
## y_sim[192] 3.3e-01 1.1e-02 0.7295 0.0e+00 0.0e+00 0.0e+00 0.0e+00 2.0e+00
## y_sim[193] 2.1e+01 7.7e-02 6.2960 9.0e+00 1.6e+01 2.0e+01 2.4e+01 3.4e+01
## y_sim[194] 4.0e+00 3.8e-02 2.7528 0.0e+00 2.0e+00 3.0e+00 5.0e+00 1.0e+01
## y_sim[195] 7.1e+00 4.5e-02 3.7285 1.0e+00 4.0e+00 7.0e+00 9.0e+00 1.6e+01
## y_sim[196] 3.8e-01 1.2e-02 0.8153 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[197] 3.8e-01 1.1e-02 0.8287 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[198] 4.0e-01 1.3e-02 0.8732 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00

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## y_sim[199] 4.0e-01 1.2e-02 0.8492 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[200] 3.9e+00 3.4e-02 2.6911 0.0e+00 2.0e+00 4.0e+00 5.0e+00 1.0e+01
## y_sim[201] 4.0e+00 3.9e-02 2.7590 0.0e+00 2.0e+00 3.0e+00 5.0e+00 1.0e+01
## y_sim[202] 3.0e+00 3.1e-02 2.3705 0.0e+00 1.0e+00 3.0e+00 4.0e+00 9.0e+00
## y_sim[203] 3.9e-01 1.3e-02 0.8772 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[204] 3.5e-01 1.1e-02 0.7510 0.0e+00 0.0e+00 0.0e+00 0.0e+00 2.0e+00
## y_sim[205] 3.8e-01 1.2e-02 0.8240 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[206] 3.9e-01 1.2e-02 0.8630 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## lp__      1.7e+03 4.9e-01 14.1101 1.6e+03 1.7e+03 1.7e+03 1.7e+03 1.7e+03
##          n_eff Rhat
## alpha_gamma 1245 1
## beta_gamma  2047 1
## theta[1]    8851 1
## theta[2]    10616 1
## theta[3]    5244 1
## theta[4]    7584 1
## theta[5]    7257 1
## theta[6]    7282 1
## theta[7]    6098 1
## theta[8]    5819 1
## theta[9]    5553 1
## theta[10]   6490 1
## theta[11]   6037 1
## theta[12]   5399 1
## theta[13]   5842 1
## theta[14]   5614 1
## theta[15]   5614 1
## theta[16]   10073 1
## theta[17]   5344 1
## theta[18]   9015 1
## theta[19]   9418 1
## theta[20]   10637 1
## theta[21]   9691 1
## theta[22]   8910 1
## theta[23]   5886 1
## theta[24]   9514 1
## theta[25]   6692 1
## theta[26]   5065 1
## theta[27]   5606 1
## theta[28]   7750 1
## theta[29]   9333 1
## theta[30]   7520 1
## theta[31]   9375 1
## theta[32]   8837 1
## theta[33]   6724 1
## theta[34]   9440 1
## theta[35]   7131 1
## theta[36]   10116 1
## theta[37]   5538 1
## theta[38]   8238 1
## theta[39]   9041 1
## theta[40]   5459 1
## theta[41]   10284 1
## theta[42]   5887 1

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## theta[43]	6195	1
## theta[44]	5532	1
## theta[45]	8880	1
## theta[46]	5593	1
## theta[47]	9376	1
## theta[48]	8568	1
## theta[49]	9303	1
## theta[50]	5754	1
## theta[51]	9066	1
## theta[52]	8942	1
## theta[53]	5720	1
## theta[54]	9245	1
## theta[55]	6281	1
## theta[56]	5736	1
## theta[57]	6215	1
## theta[58]	8599	1
## theta[59]	5879	1
## theta[60]	5773	1
## theta[61]	6422	1
## theta[62]	5712	1
## theta[63]	5349	1
## theta[64]	5362	1
## theta[65]	8939	1
## theta[66]	9770	1
## theta[67]	7627	1
## theta[68]	5453	1
## theta[69]	5423	1
## theta[70]	9549	1
## theta[71]	7153	1
## theta[72]	7464	1
## theta[73]	7387	1
## theta[74]	9430	1
## theta[75]	11392	1
## theta[76]	8448	1
## theta[77]	7245	1
## theta[78]	7250	1
## theta[79]	7688	1
## theta[80]	6393	1
## theta[81]	7998	1
## theta[82]	8114	1
## theta[83]	8538	1
## theta[84]	9117	1
## theta[85]	5353	1
## theta[86]	7653	1
## theta[87]	6173	1
## theta[88]	5634	1
## theta[89]	6003	1
## theta[90]	5792	1
## theta[91]	7227	1
## theta[92]	5999	1
## theta[93]	5478	1
## theta[94]	7452	1
## theta[95]	7186	1
## theta[96]	5249	1

## theta[97]	6852	1
## theta[98]	6653	1
## theta[99]	8714	1
## theta[100]	8597	1
## theta[101]	5935	1
## theta[102]	8642	1
## theta[103]	8609	1
## theta[104]	6188	1
## theta[105]	6126	1
## theta[106]	6782	1
## theta[107]	9429	1
## theta[108]	6291	1
## theta[109]	8317	1
## theta[110]	8936	1
## theta[111]	8586	1
## theta[112]	9640	1
## theta[113]	8237	1
## theta[114]	7185	1
## theta[115]	9369	1
## theta[116]	9276	1
## theta[117]	7720	1
## theta[118]	9176	1
## theta[119]	8277	1
## theta[120]	10420	1
## theta[121]	8667	1
## theta[122]	10734	1
## theta[123]	10206	1
## theta[124]	5607	1
## theta[125]	9939	1
## theta[126]	5870	1
## theta[127]	9984	1
## theta[128]	5858	1
## theta[129]	6211	1
## theta[130]	5842	1
## theta[131]	5457	1
## theta[132]	5392	1
## theta[133]	5588	1
## theta[134]	5754	1
## theta[135]	5327	1
## theta[136]	6126	1
## theta[137]	5464	1
## theta[138]	8017	1
## theta[139]	8594	1
## theta[140]	5650	1
## theta[141]	7704	1
## theta[142]	8946	1
## theta[143]	7212	1
## theta[144]	8725	1
## theta[145]	8297	1
## theta[146]	9691	1
## theta[147]	9273	1
## theta[148]	10122	1
## theta[149]	8684	1
## theta[150]	6621	1

## theta[151]	10030	1
## theta[152]	7551	1
## theta[153]	9913	1
## theta[154]	6443	1
## theta[155]	8305	1
## theta[156]	6099	1
## theta[157]	7426	1
## theta[158]	8186	1
## theta[159]	9685	1
## theta[160]	9296	1
## theta[161]	5682	1
## theta[162]	7337	1
## theta[163]	6047	1
## theta[164]	6524	1
## theta[165]	5339	1
## theta[166]	7659	1
## theta[167]	6369	1
## theta[168]	8323	1
## theta[169]	8456	1
## theta[170]	4925	1
## theta[171]	8162	1
## theta[172]	8438	1
## theta[173]	8840	1
## theta[174]	8041	1
## theta[175]	5584	1
## theta[176]	8490	1
## theta[177]	7562	1
## theta[178]	11339	1
## theta[179]	7307	1
## theta[180]	5742	1
## theta[181]	8018	1
## theta[182]	10085	1
## theta[183]	8039	1
## theta[184]	9462	1
## theta[185]	9592	1
## theta[186]	5346	1
## theta[187]	6571	1
## theta[188]	5857	1
## theta[189]	6050	1
## theta[190]	8254	1
## theta[191]	7992	1
## theta[192]	5072	1
## theta[193]	10241	1
## theta[194]	7216	1
## theta[195]	8002	1
## theta[196]	5511	1
## theta[197]	5019	1
## theta[198]	5871	1
## theta[199]	6205	1
## theta[200]	9005	1
## theta[201]	8103	1
## theta[202]	8707	1
## theta[203]	6295	1
## theta[204]	5295	1

## theta[205]	5378	1
## theta[206]	6321	1
## y_sim[1]	5825	1
## y_sim[2]	6280	1
## y_sim[3]	5016	1
## y_sim[4]	5611	1
## y_sim[5]	4507	1
## y_sim[6]	5387	1
## y_sim[7]	5145	1
## y_sim[8]	5217	1
## y_sim[9]	5153	1
## y_sim[10]	5008	1
## y_sim[11]	5210	1
## y_sim[12]	4853	1
## y_sim[13]	4952	1
## y_sim[14]	4843	1
## y_sim[15]	5005	1
## y_sim[16]	6116	1
## y_sim[17]	4798	1
## y_sim[18]	6182	1
## y_sim[19]	6134	1
## y_sim[20]	6141	1
## y_sim[21]	5961	1
## y_sim[22]	5494	1
## y_sim[23]	5125	1
## y_sim[24]	6705	1
## y_sim[25]	6156	1
## y_sim[26]	4391	1
## y_sim[27]	5162	1
## y_sim[28]	5574	1
## y_sim[29]	5832	1
## y_sim[30]	5492	1
## y_sim[31]	6448	1
## y_sim[32]	5703	1
## y_sim[33]	5139	1
## y_sim[34]	6054	1
## y_sim[35]	5119	1
## y_sim[36]	6132	1
## y_sim[37]	4622	1
## y_sim[38]	5660	1
## y_sim[39]	6153	1
## y_sim[40]	4777	1
## y_sim[41]	6028	1
## y_sim[42]	5248	1
## y_sim[43]	4819	1
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## y_sim[45]	6594	1
## y_sim[46]	4962	1
## y_sim[47]	6237	1
## y_sim[48]	6002	1
## y_sim[49]	6087	1
## y_sim[50]	4936	1
## y_sim[51]	5789	1
## y_sim[52]	5848	1

## y_sim[53]	4409	1
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## y_sim[55]	5071	1
## y_sim[56]	5002	1
## y_sim[57]	5279	1
## y_sim[58]	5597	1
## y_sim[59]	4902	1
## y_sim[60]	5179	1
## y_sim[61]	5280	1
## y_sim[62]	4953	1
## y_sim[63]	4873	1
## y_sim[64]	5157	1
## y_sim[65]	5480	1
## y_sim[66]	5939	1
## y_sim[67]	5462	1
## y_sim[68]	4664	1
## y_sim[69]	5195	1
## y_sim[70]	6298	1
## y_sim[71]	5173	1
## y_sim[72]	5864	1
## y_sim[73]	5541	1
## y_sim[74]	5867	1
## y_sim[75]	6418	1
## y_sim[76]	5300	1
## y_sim[77]	5274	1
## y_sim[78]	5896	1
## y_sim[79]	5850	1
## y_sim[80]	5284	1
## y_sim[81]	4918	1
## y_sim[82]	5845	1
## y_sim[83]	5635	1
## y_sim[84]	5333	1
## y_sim[85]	4696	1
## y_sim[86]	5365	1
## y_sim[87]	5391	1
## y_sim[88]	5318	1
## y_sim[89]	4960	1
## y_sim[90]	4712	1
## y_sim[91]	5679	1
## y_sim[92]	5468	1
## y_sim[93]	4803	1
## y_sim[94]	5540	1
## y_sim[95]	5217	1
## y_sim[96]	5381	1
## y_sim[97]	5283	1
## y_sim[98]	5700	1
## y_sim[99]	5995	1
## y_sim[100]	6112	1
## y_sim[101]	4997	1
## y_sim[102]	6256	1
## y_sim[103]	5369	1
## y_sim[104]	5190	1
## y_sim[105]	5397	1
## y_sim[106]	5674	1



## y_sim[107]	5717	1
## y_sim[108]	5280	1
## y_sim[109]	5906	1
## y_sim[110]	6144	1
## y_sim[111]	5939	1
## y_sim[112]	6570	1
## y_sim[113]	5319	1
## y_sim[114]	5341	1
## y_sim[115]	6141	1
## y_sim[116]	6390	1
## y_sim[117]	4816	1
## y_sim[118]	6724	1
## y_sim[119]	5829	1
## y_sim[120]	6132	1
## y_sim[121]	6299	1
## y_sim[122]	5958	1
## y_sim[123]	6255	1
## y_sim[124]	4719	1
## y_sim[125]	5421	1
## y_sim[126]	4851	1
## y_sim[127]	5975	1
## y_sim[128]	5322	1
## y_sim[129]	4938	1
## y_sim[130]	4768	1
## y_sim[131]	4924	1
## y_sim[132]	5099	1
## y_sim[133]	5114	1
## y_sim[134]	4846	1
## y_sim[135]	4553	1
## y_sim[136]	5141	1
## y_sim[137]	4865	1
## y_sim[138]	5772	1
## y_sim[139]	5680	1
## y_sim[140]	4996	1
## y_sim[141]	5441	1
## y_sim[142]	5934	1
## y_sim[143]	5027	1
## y_sim[144]	5501	1
## y_sim[145]	6016	1
## y_sim[146]	6430	1
## y_sim[147]	6558	1
## y_sim[148]	5801	1
## y_sim[149]	5369	1
## y_sim[150]	5343	1
## y_sim[151]	6170	1
## y_sim[152]	6343	1
## y_sim[153]	5926	1
## y_sim[154]	4582	1
## y_sim[155]	6026	1
## y_sim[156]	4929	1
## y_sim[157]	5548	1
## y_sim[158]	5815	1
## y_sim[159]	6345	1
## y_sim[160]	6291	1

```

## y_sim[161]    4871    1
## y_sim[162]    5412    1
## y_sim[163]    5204    1
## y_sim[164]    5143    1
## y_sim[165]    4887    1
## y_sim[166]    5427    1
## y_sim[167]    4931    1
## y_sim[168]    6309    1
## y_sim[169]    5965    1
## y_sim[170]    4591    1
## y_sim[171]    5817    1
## y_sim[172]    5565    1
## y_sim[173]    6217    1
## y_sim[174]    6373    1
## y_sim[175]    5246    1
## y_sim[176]    5444    1
## y_sim[177]    5593    1
## y_sim[178]    6892    1
## y_sim[179]    6234    1
## y_sim[180]    4452    1
## y_sim[181]    5048    1
## y_sim[182]    6499    1
## y_sim[183]    5187    1
## y_sim[184]    5739    1
## y_sim[185]    5702    1
## y_sim[186]    4928    1
## y_sim[187]    5143    1
## y_sim[188]    5014    1
## y_sim[189]    5115    1
## y_sim[190]    5753    1
## y_sim[191]    5487    1
## y_sim[192]    4510    1
## y_sim[193]    6611    1
## y_sim[194]    5320    1
## y_sim[195]    6747    1
## y_sim[196]    4938    1
## y_sim[197]    5306    1
## y_sim[198]    4703    1
## y_sim[199]    5038    1
## y_sim[200]    6151    1
## y_sim[201]    5083    1
## y_sim[202]    5786    1
## y_sim[203]    4888    1
## y_sim[204]    4615    1
## y_sim[205]    4704    1
## y_sim[206]    5125    1
## lp__          838    1
##
## $c_summary
## , , chains = chain:1
##
##          stats
## parameter      mean      sd    2.5%    25%    50%    75%    97.5%
## alpha_gamma 4.5e-01 0.0569 3.5e-01 4.1e-01 4.5e-01 4.9e-01 5.7e-01

```

##	beta_gamma	5.4e+00	0.8815	3.8e+00	4.7e+00	5.3e+00	6.0e+00	7.3e+00
##	theta[1]	2.1e-01	0.0425	1.4e-01	1.8e-01	2.1e-01	2.4e-01	3.0e-01
##	theta[2]	1.1e-01	0.0308	5.8e-02	8.9e-02	1.1e-01	1.3e-01	1.8e-01
##	theta[3]	9.6e-03	0.0138	1.3e-05	9.4e-04	4.2e-03	1.3e-02	4.7e-02
##	theta[4]	6.2e-02	0.0227	2.6e-02	4.6e-02	6.0e-02	7.6e-02	1.1e-01
##	theta[5]	1.4e-02	0.0117	9.6e-04	5.0e-03	1.0e-02	1.9e-02	4.3e-02
##	theta[6]	1.2e-02	0.0108	6.2e-04	4.3e-03	8.9e-03	1.7e-02	4.0e-02
##	theta[7]	8.2e-03	0.0126	7.0e-07	4.7e-04	2.8e-03	1.1e-02	4.8e-02
##	theta[8]	8.1e-03	0.0116	2.9e-06	6.1e-04	3.5e-03	1.1e-02	4.2e-02
##	theta[9]	8.1e-03	0.0122	4.1e-06	6.4e-04	3.4e-03	1.0e-02	4.3e-02
##	theta[10]	1.0e-02	0.0149	3.6e-06	1.0e-03	4.8e-03	1.3e-02	5.4e-02
##	theta[11]	9.5e-03	0.0147	3.2e-06	6.3e-04	3.9e-03	1.2e-02	5.1e-02
##	theta[12]	1.0e-02	0.0152	6.8e-06	9.6e-04	4.0e-03	1.3e-02	5.3e-02
##	theta[13]	1.1e-02	0.0159	6.5e-06	8.2e-04	4.4e-03	1.4e-02	5.5e-02
##	theta[14]	1.2e-02	0.0169	5.3e-06	1.0e-03	4.6e-03	1.6e-02	5.8e-02
##	theta[15]	1.2e-02	0.0186	4.8e-06	7.9e-04	4.1e-03	1.5e-02	6.5e-02
##	theta[16]	1.5e-01	0.0362	9.0e-02	1.3e-01	1.5e-01	1.8e-01	2.3e-01
##	theta[17]	1.2e-02	0.0179	1.3e-06	8.3e-04	4.6e-03	1.4e-02	6.1e-02
##	theta[18]	1.1e-01	0.0314	5.7e-02	8.8e-02	1.1e-01	1.3e-01	1.8e-01
##	theta[19]	3.6e-02	0.0172	1.1e-02	2.4e-02	3.4e-02	4.6e-02	7.8e-02
##	theta[20]	1.5e-01	0.0352	9.1e-02	1.3e-01	1.5e-01	1.7e-01	2.3e-01
##	theta[21]	1.0e-01	0.0295	5.2e-02	8.2e-02	1.0e-01	1.2e-01	1.7e-01
##	theta[22]	1.2e-02	0.0096	8.8e-04	4.9e-03	9.2e-03	1.6e-02	3.7e-02
##	theta[23]	3.9e-03	0.0061	1.8e-06	2.7e-04	1.5e-03	5.1e-03	1.9e-02
##	theta[24]	3.4e-01	0.0528	2.5e-01	3.0e-01	3.4e-01	3.8e-01	4.5e-01
##	theta[25]	2.9e-02	0.0156	6.2e-03	1.8e-02	2.6e-02	3.7e-02	6.5e-02
##	theta[26]	8.4e-03	0.0126	2.2e-06	7.6e-04	3.3e-03	1.1e-02	4.3e-02
##	theta[27]	9.6e-03	0.0138	8.2e-06	8.8e-04	4.3e-03	1.3e-02	4.5e-02
##	theta[28]	3.7e-02	0.0169	1.1e-02	2.4e-02	3.4e-02	4.7e-02	7.7e-02
##	theta[29]	1.1e-01	0.0298	5.9e-02	8.8e-02	1.1e-01	1.3e-01	1.8e-01
##	theta[30]	2.8e-02	0.0154	7.1e-03	1.7e-02	2.5e-02	3.7e-02	6.5e-02
##	theta[31]	4.5e-02	0.0200	1.5e-02	3.0e-02	4.2e-02	5.6e-02	8.9e-02
##	theta[32]	6.2e-02	0.0229	2.5e-02	4.5e-02	6.0e-02	7.6e-02	1.1e-01
##	theta[33]	1.2e-02	0.0103	6.0e-04	4.4e-03	9.1e-03	1.6e-02	3.9e-02
##	theta[34]	4.5e-02	0.0189	1.6e-02	3.1e-02	4.3e-02	5.6e-02	9.1e-02
##	theta[35]	1.2e-02	0.0103	8.7e-04	4.5e-03	9.1e-03	1.6e-02	3.8e-02
##	theta[36]	1.9e-01	0.0392	1.2e-01	1.6e-01	1.9e-01	2.2e-01	2.8e-01
##	theta[37]	4.5e-03	0.0067	9.2e-07	2.7e-04	1.9e-03	5.8e-03	2.4e-02
##	theta[38]	4.5e-02	0.0197	1.6e-02	3.1e-02	4.2e-02	5.6e-02	9.1e-02
##	theta[39]	7.7e-02	0.0243	3.5e-02	6.0e-02	7.5e-02	9.2e-02	1.3e-01
##	theta[40]	3.8e-03	0.0057	3.9e-06	3.7e-04	1.7e-03	4.8e-03	2.0e-02
##	theta[41]	1.9e-01	0.0401	1.1e-01	1.6e-01	1.8e-01	2.1e-01	2.7e-01
##	theta[42]	5.9e-03	0.0085	2.7e-06	5.7e-04	2.6e-03	7.8e-03	2.8e-02
##	theta[43]	6.0e-03	0.0088	2.5e-06	4.8e-04	2.4e-03	7.6e-03	3.3e-02
##	theta[44]	3.5e-03	0.0051	9.4e-07	2.9e-04	1.3e-03	4.6e-03	1.9e-02
##	theta[45]	7.8e-02	0.0254	3.7e-02	5.9e-02	7.5e-02	9.4e-02	1.4e-01
##	theta[46]	6.0e-03	0.0089	2.8e-06	5.2e-04	2.7e-03	7.6e-03	3.2e-02
##	theta[47]	2.8e-02	0.0153	7.3e-03	1.8e-02	2.6e-02	3.6e-02	6.5e-02
##	theta[48]	2.6e-01	0.0695	1.4e-01	2.1e-01	2.5e-01	3.0e-01	4.1e-01
##	theta[49]	6.2e-02	0.0299	1.9e-02	4.0e-02	5.7e-02	7.9e-02	1.4e-01
##	theta[50]	9.9e-03	0.0143	3.4e-06	9.2e-04	4.3e-03	1.3e-02	4.7e-02
##	theta[51]	6.3e-02	0.0244	2.5e-02	4.5e-02	6.0e-02	7.7e-02	1.2e-01
##	theta[52]	2.2e-01	0.0966	7.7e-02	1.5e-01	2.1e-01	2.8e-01	4.5e-01
##	theta[53]	4.3e-03	0.0062	1.6e-06	3.6e-04	1.8e-03	5.6e-03	2.1e-02

##	theta[54]	8.2e-02	0.0278	3.7e-02	6.2e-02	7.9e-02	9.8e-02	1.5e-01
##	theta[55]	1.8e-02	0.0150	1.3e-03	7.1e-03	1.4e-02	2.5e-02	5.5e-02
##	theta[56]	1.6e-02	0.0228	8.1e-06	1.4e-03	7.1e-03	2.0e-02	8.2e-02
##	theta[57]	1.6e-02	0.0237	6.3e-06	1.4e-03	6.3e-03	2.0e-02	8.5e-02
##	theta[58]	1.4e-01	0.0333	8.1e-02	1.1e-01	1.3e-01	1.6e-01	2.1e-01
##	theta[59]	5.9e-03	0.0082	1.2e-06	5.1e-04	2.7e-03	8.0e-03	3.0e-02
##	theta[60]	8.2e-03	0.0122	3.3e-06	6.6e-04	3.0e-03	1.1e-02	4.2e-02
##	theta[61]	4.2e-03	0.0065	2.0e-06	2.7e-04	1.6e-03	5.2e-03	2.4e-02
##	theta[62]	1.5e-02	0.0218	5.6e-06	1.2e-03	5.8e-03	1.9e-02	8.0e-02
##	theta[63]	1.4e-02	0.0216	5.2e-06	1.1e-03	5.7e-03	1.9e-02	7.5e-02
##	theta[64]	1.6e-02	0.0247	1.3e-05	1.3e-03	5.9e-03	1.9e-02	8.8e-02
##	theta[65]	8.3e-02	0.0550	1.4e-02	4.3e-02	7.1e-02	1.1e-01	2.2e-01
##	theta[66]	6.9e-02	0.0266	2.7e-02	5.0e-02	6.5e-02	8.4e-02	1.3e-01
##	theta[67]	1.2e-01	0.0647	2.5e-02	7.2e-02	1.1e-01	1.5e-01	2.8e-01
##	theta[68]	3.5e-02	0.0543	5.7e-06	2.0e-03	1.3e-02	4.9e-02	1.8e-01
##	theta[69]	1.5e-02	0.0226	1.6e-06	8.4e-04	5.5e-03	1.9e-02	8.3e-02
##	theta[70]	1.3e-01	0.0331	7.2e-02	1.0e-01	1.2e-01	1.5e-01	2.0e-01
##	theta[71]	2.4e-02	0.0187	1.9e-03	1.0e-02	2.0e-02	3.3e-02	7.0e-02
##	theta[72]	1.0e-01	0.0273	5.5e-02	8.2e-02	9.8e-02	1.2e-01	1.6e-01
##	theta[73]	5.0e-02	0.0433	3.3e-03	1.8e-02	3.8e-02	6.7e-02	1.7e-01
##	theta[74]	9.4e-02	0.0293	4.8e-02	7.3e-02	9.2e-02	1.1e-01	1.6e-01
##	theta[75]	3.4e-01	0.0542	2.4e-01	3.0e-01	3.4e-01	3.7e-01	4.6e-01
##	theta[76]	6.6e-02	0.0369	1.6e-02	3.9e-02	6.0e-02	8.6e-02	1.6e-01
##	theta[77]	6.5e-02	0.0365	1.5e-02	3.9e-02	5.9e-02	8.6e-02	1.6e-01
##	theta[78]	2.8e-02	0.0244	1.7e-03	1.0e-02	2.2e-02	3.8e-02	9.3e-02
##	theta[79]	5.1e-02	0.0428	2.7e-03	2.1e-02	4.1e-02	6.8e-02	1.6e-01
##	theta[80]	1.6e-02	0.0242	8.2e-06	8.4e-04	5.9e-03	1.9e-02	8.6e-02
##	theta[81]	8.4e-02	0.0536	1.4e-02	4.6e-02	7.3e-02	1.1e-01	2.2e-01
##	theta[82]	1.2e-01	0.0627	2.8e-02	6.9e-02	1.1e-01	1.5e-01	2.8e-01
##	theta[83]	1.2e-01	0.0644	2.7e-02	6.9e-02	1.0e-01	1.5e-01	2.7e-01
##	theta[84]	9.0e-02	0.0286	4.3e-02	7.0e-02	8.8e-02	1.1e-01	1.6e-01
##	theta[85]	3.8e-03	0.0059	1.3e-06	3.4e-04	1.6e-03	4.8e-03	2.0e-02
##	theta[86]	1.2e-02	0.0101	7.5e-04	4.9e-03	9.9e-03	1.7e-02	3.8e-02
##	theta[87]	3.6e-03	0.0050	2.1e-06	3.9e-04	1.8e-03	5.0e-03	1.8e-02
##	theta[88]	5.9e-03	0.0087	1.3e-06	4.9e-04	2.7e-03	8.0e-03	3.1e-02
##	theta[89]	1.0e-02	0.0158	2.2e-06	7.8e-04	4.3e-03	1.3e-02	5.6e-02
##	theta[90]	1.0e-02	0.0154	2.1e-06	6.2e-04	4.0e-03	1.4e-02	5.4e-02
##	theta[91]	5.3e-02	0.0342	8.4e-03	2.8e-02	4.5e-02	7.0e-02	1.4e-01
##	theta[92]	9.0e-03	0.0132	4.6e-06	5.9e-04	3.6e-03	1.2e-02	4.8e-02
##	theta[93]	8.4e-03	0.0120	5.3e-06	8.3e-04	3.6e-03	1.1e-02	4.1e-02
##	theta[94]	1.1e-01	0.0450	4.0e-02	7.6e-02	1.0e-01	1.3e-01	2.1e-01
##	theta[95]	2.4e-02	0.0195	2.0e-03	1.0e-02	1.9e-02	3.3e-02	7.6e-02
##	theta[96]	7.8e-03	0.0113	3.7e-06	6.5e-04	3.5e-03	1.0e-02	3.8e-02
##	theta[97]	2.5e-02	0.0209	1.6e-03	1.0e-02	1.9e-02	3.3e-02	7.8e-02
##	theta[98]	4.1e-02	0.0258	7.5e-03	2.2e-02	3.5e-02	5.4e-02	1.1e-01
##	theta[99]	5.7e-02	0.0308	1.4e-02	3.5e-02	5.2e-02	7.4e-02	1.3e-01
##	theta[100]	4.0e-02	0.0256	6.7e-03	2.1e-02	3.4e-02	5.3e-02	1.0e-01
##	theta[101]	7.6e-03	0.0120	1.6e-06	5.8e-04	2.8e-03	9.4e-03	4.2e-02
##	theta[102]	7.8e-02	0.0264	3.7e-02	5.9e-02	7.5e-02	9.3e-02	1.4e-01
##	theta[103]	1.4e-01	0.0457	6.4e-02	1.1e-01	1.4e-01	1.7e-01	2.4e-01
##	theta[104]	7.0e-03	0.0105	1.7e-06	5.6e-04	3.1e-03	9.2e-03	3.8e-02
##	theta[105]	7.6e-03	0.0111	3.7e-06	5.7e-04	3.4e-03	9.8e-03	4.1e-02
##	theta[106]	7.1e-03	0.0105	3.0e-06	5.7e-04	3.0e-03	8.9e-03	3.8e-02
##	theta[107]	1.1e-01	0.0425	4.4e-02	7.8e-02	1.0e-01	1.3e-01	2.0e-01

##	theta[108]	7.8e-03	0.0115	2.5e-06	5.4e-04	3.1e-03	1.0e-02	4.2e-02
##	theta[109]	5.7e-02	0.0307	1.4e-02	3.4e-02	5.1e-02	7.5e-02	1.3e-01
##	theta[110]	3.6e-01	0.0816	2.1e-01	3.0e-01	3.5e-01	4.1e-01	5.4e-01
##	theta[111]	5.7e-02	0.0298	1.3e-02	3.4e-02	5.3e-02	7.4e-02	1.3e-01
##	theta[112]	3.0e-01	0.0692	1.8e-01	2.5e-01	2.9e-01	3.4e-01	4.5e-01
##	theta[113]	2.0e-01	0.0573	1.0e-01	1.6e-01	1.9e-01	2.3e-01	3.3e-01
##	theta[114]	2.6e-02	0.0214	1.8e-03	1.0e-02	2.0e-02	3.5e-02	8.0e-02
##	theta[115]	4.1e-02	0.0244	7.0e-03	2.3e-02	3.7e-02	5.4e-02	9.3e-02
##	theta[116]	2.1e-01	0.0585	1.2e-01	1.7e-01	2.1e-01	2.5e-01	3.4e-01
##	theta[117]	1.1e-01	0.0433	4.1e-02	7.9e-02	1.0e-01	1.4e-01	2.1e-01
##	theta[118]	2.6e-01	0.0642	1.4e-01	2.1e-01	2.5e-01	2.9e-01	4.0e-01
##	theta[119]	3.3e-02	0.0288	1.8e-03	1.2e-02	2.5e-02	4.6e-02	1.1e-01
##	theta[120]	2.8e-01	0.0476	1.9e-01	2.4e-01	2.7e-01	3.1e-01	3.8e-01
##	theta[121]	1.6e-01	0.0751	4.3e-02	1.0e-01	1.4e-01	2.0e-01	3.4e-01
##	theta[122]	5.4e-01	0.1073	3.4e-01	4.6e-01	5.3e-01	6.0e-01	7.7e-01
##	theta[123]	3.3e-01	0.0861	1.9e-01	2.7e-01	3.3e-01	3.9e-01	5.2e-01
##	theta[124]	8.0e-03	0.0120	2.8e-06	5.8e-04	3.5e-03	1.1e-02	4.0e-02
##	theta[125]	2.4e-01	0.0624	1.4e-01	2.0e-01	2.4e-01	2.8e-01	3.8e-01
##	theta[126]	8.1e-03	0.0115	7.1e-06	6.6e-04	3.3e-03	1.1e-02	4.1e-02
##	theta[127]	8.4e-02	0.0270	4.0e-02	6.4e-02	8.1e-02	1.0e-01	1.5e-01
##	theta[128]	2.8e-02	0.0404	1.1e-05	2.3e-03	1.1e-02	3.8e-02	1.4e-01
##	theta[129]	2.8e-02	0.0408	2.6e-05	2.2e-03	1.2e-02	3.5e-02	1.4e-01
##	theta[130]	1.4e-02	0.0225	4.8e-06	8.8e-04	5.1e-03	1.8e-02	7.7e-02
##	theta[131]	8.5e-03	0.0125	3.7e-06	7.1e-04	3.5e-03	1.1e-02	4.5e-02
##	theta[132]	8.2e-03	0.0125	2.1e-06	6.4e-04	3.1e-03	1.1e-02	4.4e-02
##	theta[133]	8.7e-03	0.0128	6.1e-06	7.2e-04	3.6e-03	1.2e-02	4.6e-02
##	theta[134]	7.8e-03	0.0119	5.4e-06	5.9e-04	2.8e-03	1.0e-02	4.2e-02
##	theta[135]	1.0e-02	0.0154	6.6e-06	7.5e-04	4.2e-03	1.3e-02	5.7e-02
##	theta[136]	8.9e-03	0.0139	8.0e-06	7.9e-04	3.6e-03	1.1e-02	4.5e-02
##	theta[137]	9.5e-03	0.0136	6.0e-06	8.5e-04	4.1e-03	1.3e-02	5.1e-02
##	theta[138]	4.9e-02	0.0253	1.2e-02	3.0e-02	4.6e-02	6.4e-02	1.1e-01
##	theta[139]	2.1e-01	0.0604	1.1e-01	1.7e-01	2.1e-01	2.5e-01	3.5e-01
##	theta[140]	6.6e-03	0.0092	4.7e-06	6.4e-04	2.6e-03	9.0e-03	3.2e-02
##	theta[141]	9.3e-02	0.0349	3.8e-02	6.7e-02	8.9e-02	1.1e-01	1.7e-01
##	theta[142]	4.2e-01	0.0790	2.8e-01	3.6e-01	4.1e-01	4.7e-01	5.9e-01
##	theta[143]	2.6e-01	0.1700	4.4e-02	1.4e-01	2.3e-01	3.4e-01	6.8e-01
##	theta[144]	1.3e-01	0.0322	7.2e-02	1.1e-01	1.2e-01	1.5e-01	2.0e-01
##	theta[145]	3.1e-01	0.0518	2.2e-01	2.8e-01	3.1e-01	3.4e-01	4.3e-01
##	theta[146]	3.0e-01	0.0614	1.9e-01	2.5e-01	2.9e-01	3.4e-01	4.2e-01
##	theta[147]	1.0e-01	0.0330	5.0e-02	8.0e-02	1.0e-01	1.3e-01	1.8e-01
##	theta[148]	1.3e-01	0.0421	5.5e-02	9.6e-02	1.2e-01	1.5e-01	2.3e-01
##	theta[149]	1.3e-01	0.0428	6.4e-02	1.0e-01	1.3e-01	1.6e-01	2.3e-01
##	theta[150]	5.9e-02	0.0274	1.7e-02	3.9e-02	5.5e-02	7.4e-02	1.2e-01
##	theta[151]	2.5e-01	0.0570	1.6e-01	2.1e-01	2.5e-01	2.9e-01	3.8e-01
##	theta[152]	3.8e-02	0.0207	8.3e-03	2.4e-02	3.4e-02	4.9e-02	8.7e-02
##	theta[153]	1.1e-01	0.0322	5.6e-02	8.7e-02	1.1e-01	1.3e-01	1.9e-01
##	theta[154]	5.3e-02	0.0432	4.0e-03	2.2e-02	4.2e-02	7.0e-02	1.6e-01
##	theta[155]	4.0e-02	0.0250	7.3e-03	2.2e-02	3.5e-02	5.3e-02	1.0e-01
##	theta[156]	9.6e-03	0.0151	3.0e-06	6.0e-04	3.3e-03	1.2e-02	5.3e-02
##	theta[157]	2.9e-02	0.0230	2.3e-03	1.2e-02	2.3e-02	4.0e-02	8.5e-02
##	theta[158]	3.0e-02	0.0244	2.2e-03	1.2e-02	2.3e-02	4.0e-02	8.9e-02
##	theta[159]	3.7e-02	0.0179	1.0e-02	2.4e-02	3.4e-02	4.7e-02	8.1e-02
##	theta[160]	2.0e-01	0.0419	1.3e-01	1.7e-01	2.0e-01	2.3e-01	2.9e-01
##	theta[161]	1.5e-02	0.0233	1.2e-05	1.3e-03	6.3e-03	1.8e-02	7.6e-02

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## theta[162] 2.2e-01 0.0828 8.6e-02 1.6e-01 2.1e-01 2.7e-01 4.1e-01
## theta[163] 1.6e-02 0.0238 3.6e-06 1.3e-03 6.3e-03 2.1e-02 7.8e-02
## theta[164] 5.1e-02 0.0413 4.4e-03 2.1e-02 4.1e-02 7.0e-02 1.5e-01
## theta[165] 1.5e-02 0.0222 8.1e-06 1.0e-03 6.3e-03 1.9e-02 7.3e-02
## theta[166] 3.8e-01 0.0535 2.9e-01 3.5e-01 3.8e-01 4.2e-01 5.0e-01
## theta[167] 1.2e-02 0.0177 1.2e-06 8.0e-04 4.8e-03 1.5e-02 6.3e-02
## theta[168] 2.4e-02 0.0159 3.6e-03 1.3e-02 2.1e-02 3.1e-02 6.4e-02
## theta[169] 4.8e-02 0.0271 1.0e-02 2.9e-02 4.4e-02 6.2e-02 1.1e-01
## theta[170] 2.9e-02 0.0434 1.7e-05 2.4e-03 1.2e-02 3.9e-02 1.6e-01
## theta[171] 6.2e-02 0.0292 2.0e-02 4.0e-02 5.9e-02 7.9e-02 1.3e-01
## theta[172] 1.9e-01 0.0511 1.0e-01 1.5e-01 1.8e-01 2.2e-01 3.0e-01
## theta[173] 1.7e-01 0.0376 1.0e-01 1.4e-01 1.7e-01 1.9e-01 2.5e-01
## theta[174] 3.6e-01 0.0687 2.4e-01 3.1e-01 3.6e-01 4.1e-01 5.0e-01
## theta[175] 6.1e-03 0.0092 4.9e-06 5.2e-04 2.7e-03 7.8e-03 3.4e-02
## theta[176] 2.2e-01 0.0548 1.3e-01 1.8e-01 2.2e-01 2.6e-01 3.5e-01
## theta[177] 5.0e-02 0.0328 7.5e-03 2.7e-02 4.3e-02 6.5e-02 1.3e-01
## theta[178] 4.2e-01 0.0800 2.8e-01 3.6e-01 4.1e-01 4.6e-01 5.8e-01
## theta[179] 3.5e-01 0.0708 2.2e-01 3.0e-01 3.4e-01 3.9e-01 5.0e-01
## theta[180] 8.5e-03 0.0122 2.6e-06 6.4e-04 3.6e-03 1.1e-02 4.6e-02
## theta[181] 5.3e-02 0.0208 1.9e-02 3.9e-02 5.0e-02 6.4e-02 1.0e-01
## theta[182] 1.3e-01 0.0334 7.8e-02 1.1e-01 1.3e-01 1.6e-01 2.1e-01
## theta[183] 2.8e-01 0.0666 1.6e-01 2.3e-01 2.7e-01 3.2e-01 4.3e-01
## theta[184] 2.7e-01 0.0604 1.7e-01 2.3e-01 2.7e-01 3.1e-01 4.0e-01
## theta[185] 2.3e-01 0.0581 1.3e-01 1.9e-01 2.2e-01 2.6e-01 3.5e-01
## theta[186] 1.6e-02 0.0261 3.8e-06 1.1e-03 6.2e-03 2.0e-02 8.9e-02
## theta[187] 2.3e-02 0.0185 2.0e-03 9.2e-03 1.8e-02 3.1e-02 7.1e-02
## theta[188] 8.1e-03 0.0125 3.1e-06 5.4e-04 3.2e-03 1.0e-02 4.3e-02
## theta[189] 1.3e-02 0.0199 1.8e-06 9.4e-04 4.7e-03 1.6e-02 6.4e-02
## theta[190] 5.4e-01 0.0843 3.9e-01 4.8e-01 5.4e-01 6.0e-01 7.1e-01
## theta[191] 3.5e-01 0.0686 2.2e-01 3.0e-01 3.4e-01 3.9e-01 4.9e-01
## theta[192] 2.3e-02 0.0345 8.5e-06 2.1e-03 9.6e-03 3.1e-02 1.2e-01
## theta[193] 1.8e-01 0.0406 1.1e-01 1.5e-01 1.8e-01 2.0e-01 2.7e-01
## theta[194] 9.9e-02 0.0455 3.1e-02 6.6e-02 9.1e-02 1.3e-01 2.0e-01
## theta[195] 6.5e-02 0.0243 2.8e-02 4.7e-02 6.2e-02 8.1e-02 1.2e-01
## theta[196] 1.1e-02 0.0153 8.2e-06 9.8e-04 4.7e-03 1.5e-02 5.0e-02
## theta[197] 1.0e-02 0.0152 1.8e-06 6.5e-04 3.6e-03 1.3e-02 5.4e-02
## theta[198] 8.8e-03 0.0130 1.9e-06 5.5e-04 3.6e-03 1.1e-02 4.7e-02
## theta[199] 1.1e-02 0.0151 1.4e-05 1.0e-03 4.8e-03 1.5e-02 5.4e-02
## theta[200] 8.5e-02 0.0422 2.5e-02 5.4e-02 7.7e-02 1.1e-01 1.9e-01
## theta[201] 8.6e-02 0.0431 2.3e-02 5.5e-02 7.8e-02 1.1e-01 1.9e-01
## theta[202] 8.3e-02 0.0430 2.1e-02 5.0e-02 7.5e-02 1.1e-01 1.8e-01
## theta[203] 1.3e-02 0.0201 2.3e-06 7.9e-04 4.5e-03 1.7e-02 6.9e-02
## theta[204] 1.7e-02 0.0237 8.8e-06 1.4e-03 8.3e-03 2.2e-02 8.3e-02
## theta[205] 1.3e-02 0.0184 5.5e-06 8.2e-04 5.0e-03 1.6e-02 6.6e-02
## theta[206] 7.5e-03 0.0109 4.6e-06 7.2e-04 3.1e-03 9.9e-03 3.8e-02
## y_sim[1] 2.4e+01 7.0859 1.2e+01 1.9e+01 2.4e+01 2.9e+01 3.9e+01
## y_sim[2] 1.3e+01 5.0057 4.0e+00 1.0e+01 1.2e+01 1.6e+01 2.4e+01
## y_sim[3] 3.9e-01 0.8368 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[4] 7.0e+00 3.7102 2.0e+00 4.0e+00 6.0e+00 9.0e+00 1.6e+01
## y_sim[5] 1.3e+00 1.6278 0.0e+00 0.0e+00 1.0e+00 2.0e+00 6.0e+00
## y_sim[6] 1.4e+00 1.7472 0.0e+00 0.0e+00 1.0e+00 2.0e+00 6.0e+00
## y_sim[7] 4.4e-01 0.9117 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[8] 4.3e-01 0.9386 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[9] 3.8e-01 0.8275 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00

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##	y_sim[10]	3.7e-01	0.7816	0.0e+00	0.0e+00	0.0e+00	1.0e+00	3.0e+00
##	y_sim[11]	3.8e-01	0.8605	0.0e+00	0.0e+00	0.0e+00	0.0e+00	3.0e+00
##	y_sim[12]	3.8e-01	0.8828	0.0e+00	0.0e+00	0.0e+00	0.0e+00	3.0e+00
##	y_sim[13]	4.0e-01	0.8990	0.0e+00	0.0e+00	0.0e+00	0.0e+00	3.0e+00
##	y_sim[14]	4.0e-01	0.8610	0.0e+00	0.0e+00	0.0e+00	0.0e+00	3.0e+00
##	y_sim[15]	3.8e-01	0.8659	0.0e+00	0.0e+00	0.0e+00	0.0e+00	3.0e+00
##	y_sim[16]	1.8e+01	5.8862	8.0e+00	1.4e+01	1.7e+01	2.1e+01	3.1e+01
##	y_sim[17]	3.7e-01	0.8429	0.0e+00	0.0e+00	0.0e+00	0.0e+00	3.0e+00
##	y_sim[18]	1.3e+01	5.1786	4.0e+00	9.0e+00	1.2e+01	1.6e+01	2.4e+01
##	y_sim[19]	4.1e+00	2.7509	0.0e+00	2.0e+00	4.0e+00	6.0e+00	1.0e+01
##	y_sim[20]	1.8e+01	5.9179	8.0e+00	1.4e+01	1.7e+01	2.1e+01	3.1e+01
##	y_sim[21]	1.2e+01	4.8619	4.0e+00	8.0e+00	1.2e+01	1.5e+01	2.3e+01
##	y_sim[22]	1.4e+00	1.6355	0.0e+00	0.0e+00	1.0e+00	2.0e+00	6.0e+00
##	y_sim[23]	4.1e-01	0.9284	0.0e+00	0.0e+00	0.0e+00	0.0e+00	3.0e+00
##	y_sim[24]	4.0e+01	8.9936	2.4e+01	3.3e+01	3.9e+01	4.6e+01	5.8e+01
##	y_sim[25]	3.4e+00	2.5626	0.0e+00	2.0e+00	3.0e+00	5.0e+00	9.0e+00
##	y_sim[26]	4.0e-01	0.9230	0.0e+00	0.0e+00	0.0e+00	0.0e+00	3.0e+00
##	y_sim[27]	3.9e-01	0.8505	0.0e+00	0.0e+00	0.0e+00	1.0e+00	3.0e+00
##	y_sim[28]	4.2e+00	2.7183	0.0e+00	2.0e+00	4.0e+00	6.0e+00	1.0e+01
##	y_sim[29]	1.3e+01	4.9530	4.0e+00	9.0e+00	1.2e+01	1.6e+01	2.4e+01
##	y_sim[30]	3.3e+00	2.5385	0.0e+00	1.0e+00	3.0e+00	5.0e+00	1.0e+01
##	y_sim[31]	5.2e+00	3.3449	0.0e+00	3.0e+00	5.0e+00	7.0e+00	1.3e+01
##	y_sim[32]	7.1e+00	3.7077	1.0e+00	4.0e+00	7.0e+00	9.0e+00	1.5e+01
##	y_sim[33]	1.4e+00	1.6323	0.0e+00	0.0e+00	1.0e+00	2.0e+00	6.0e+00
##	y_sim[34]	5.3e+00	3.2624	1.0e+00	3.0e+00	5.0e+00	7.0e+00	1.3e+01
##	y_sim[35]	1.4e+00	1.7306	0.0e+00	0.0e+00	1.0e+00	2.0e+00	6.0e+00
##	y_sim[36]	2.3e+01	6.5327	1.1e+01	1.8e+01	2.2e+01	2.7e+01	3.6e+01
##	y_sim[37]	4.3e-01	0.8731	0.0e+00	0.0e+00	0.0e+00	1.0e+00	3.0e+00
##	y_sim[38]	5.2e+00	3.1777	0.0e+00	3.0e+00	5.0e+00	7.0e+00	1.3e+01
##	y_sim[39]	8.9e+00	4.0722	2.0e+00	6.0e+00	8.0e+00	1.1e+01	1.8e+01
##	y_sim[40]	4.1e-01	0.9406	0.0e+00	0.0e+00	0.0e+00	0.0e+00	3.0e+00
##	y_sim[41]	2.2e+01	6.3459	1.1e+01	1.7e+01	2.1e+01	2.6e+01	3.5e+01
##	y_sim[42]	4.4e-01	0.9194	0.0e+00	0.0e+00	0.0e+00	1.0e+00	3.0e+00
##	y_sim[43]	3.9e-01	0.8304	0.0e+00	0.0e+00	0.0e+00	1.0e+00	3.0e+00
##	y_sim[44]	4.0e-01	0.8682	0.0e+00	0.0e+00	0.0e+00	0.0e+00	3.0e+00
##	y_sim[45]	9.1e+00	4.1916	2.0e+00	6.0e+00	9.0e+00	1.2e+01	1.9e+01
##	y_sim[46]	4.2e-01	0.9170	0.0e+00	0.0e+00	0.0e+00	1.0e+00	3.0e+00
##	y_sim[47]	3.3e+00	2.5138	0.0e+00	1.0e+00	3.0e+00	5.0e+00	9.0e+00
##	y_sim[48]	1.2e+01	4.8510	4.0e+00	9.0e+00	1.1e+01	1.5e+01	2.3e+01
##	y_sim[49]	4.1e+00	2.8671	0.0e+00	2.0e+00	4.0e+00	6.0e+00	1.1e+01
##	y_sim[50]	4.3e-01	0.9059	0.0e+00	0.0e+00	0.0e+00	1.0e+00	3.0e+00
##	y_sim[51]	6.1e+00	3.3948	1.0e+00	4.0e+00	6.0e+00	8.0e+00	1.4e+01
##	y_sim[52]	4.3e+00	2.8375	0.0e+00	2.0e+00	4.0e+00	6.0e+00	1.2e+01
##	y_sim[53]	4.2e-01	0.8830	0.0e+00	0.0e+00	0.0e+00	1.0e+00	3.0e+00
##	y_sim[54]	8.0e+00	3.9752	2.0e+00	5.0e+00	8.0e+00	1.1e+01	1.6e+01
##	y_sim[55]	1.3e+00	1.6100	0.0e+00	0.0e+00	1.0e+00	2.0e+00	6.0e+00
##	y_sim[56]	3.6e-01	0.8251	0.0e+00	0.0e+00	0.0e+00	0.0e+00	3.0e+00
##	y_sim[57]	3.9e-01	0.8605	0.0e+00	0.0e+00	0.0e+00	0.0e+00	3.0e+00
##	y_sim[58]	1.6e+01	5.3844	6.0e+00	1.2e+01	1.6e+01	1.9e+01	2.8e+01
##	y_sim[59]	3.9e-01	0.8166	0.0e+00	0.0e+00	0.0e+00	2.5e-01	3.0e+00
##	y_sim[60]	4.1e-01	0.9337	0.0e+00	0.0e+00	0.0e+00	0.0e+00	3.0e+00
##	y_sim[61]	4.4e-01	0.9440	0.0e+00	0.0e+00	0.0e+00	1.0e+00	3.0e+00
##	y_sim[62]	3.8e-01	0.8732	0.0e+00	0.0e+00	0.0e+00	0.0e+00	3.0e+00
##	y_sim[63]	4.0e-01	0.8679	0.0e+00	0.0e+00	0.0e+00	0.0e+00	3.0e+00

```

## y_sim[64] 3.9e-01 0.8764 0.0e+00 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[65] 2.0e+00 1.9529 0.0e+00 1.0e+00 2.0e+00 3.0e+00 7.0e+00
## y_sim[66] 6.2e+00 3.3871 1.0e+00 4.0e+00 6.0e+00 8.0e+00 1.4e+01
## y_sim[67] 2.8e+00 2.3095 0.0e+00 1.0e+00 2.0e+00 4.0e+00 9.0e+00
## y_sim[68] 3.1e-01 0.7373 0.0e+00 0.0e+00 0.0e+00 0.0e+00 2.0e+00
## y_sim[69] 3.5e-01 0.7865 0.0e+00 0.0e+00 0.0e+00 0.0e+00 2.5e+00
## y_sim[70] 1.5e+01 5.3552 6.0e+00 1.1e+01 1.4e+01 1.8e+01 2.7e+01
## y_sim[71] 1.3e+00 1.5694 0.0e+00 0.0e+00 1.0e+00 2.0e+00 5.0e+00
## y_sim[72] 1.2e+01 4.7488 4.0e+00 8.0e+00 1.1e+01 1.5e+01 2.2e+01
## y_sim[73] 1.2e+00 1.5729 0.0e+00 0.0e+00 1.0e+00 2.0e+00 5.0e+00
## y_sim[74] 1.1e+01 4.6398 3.0e+00 8.0e+00 1.1e+01 1.4e+01 2.1e+01
## y_sim[75] 3.9e+01 8.7467 2.3e+01 3.3e+01 3.9e+01 4.5e+01 5.8e+01
## y_sim[76] 3.1e+00 2.5857 0.0e+00 1.0e+00 3.0e+00 4.0e+00 9.0e+00
## y_sim[77] 3.0e+00 2.3797 0.0e+00 1.0e+00 3.0e+00 4.0e+00 9.0e+00
## y_sim[78] 1.3e+00 1.6083 0.0e+00 0.0e+00 1.0e+00 2.0e+00 6.0e+00
## y_sim[79] 1.2e+00 1.5159 0.0e+00 0.0e+00 1.0e+00 2.0e+00 5.0e+00
## y_sim[80] 3.8e-01 0.8184 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[81] 2.1e+00 1.9999 0.0e+00 1.0e+00 2.0e+00 3.0e+00 7.0e+00
## y_sim[82] 2.7e+00 2.2307 0.0e+00 1.0e+00 2.0e+00 4.0e+00 8.0e+00
## y_sim[83] 2.7e+00 2.2881 0.0e+00 1.0e+00 2.0e+00 4.0e+00 8.0e+00
## y_sim[84] 9.1e+00 4.1571 2.0e+00 6.0e+00 9.0e+00 1.1e+01 1.8e+01
## y_sim[85] 4.5e-01 0.9345 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[86] 1.4e+00 1.6235 0.0e+00 0.0e+00 1.0e+00 2.0e+00 5.0e+00
## y_sim[87] 4.3e-01 0.8929 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[88] 4.1e-01 0.9155 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[89] 4.2e-01 0.9574 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[90] 4.4e-01 0.9091 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[91] 2.1e+00 2.0354 0.0e+00 1.0e+00 2.0e+00 3.0e+00 7.0e+00
## y_sim[92] 4.3e-01 0.8620 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[93] 4.2e-01 0.8836 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[94] 6.0e+00 3.5453 1.0e+00 3.0e+00 5.0e+00 8.0e+00 1.4e+01
## y_sim[95] 1.3e+00 1.5909 0.0e+00 0.0e+00 1.0e+00 2.0e+00 5.5e+00
## y_sim[96] 4.3e-01 0.9115 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[97] 1.4e+00 1.7092 0.0e+00 0.0e+00 1.0e+00 2.0e+00 5.0e+00
## y_sim[98] 2.2e+00 2.0048 0.0e+00 1.0e+00 2.0e+00 3.0e+00 7.0e+00
## y_sim[99] 3.2e+00 2.5269 0.0e+00 1.0e+00 3.0e+00 4.2e+00 9.0e+00
## y_sim[100] 2.2e+00 2.0768 0.0e+00 1.0e+00 2.0e+00 3.0e+00 7.0e+00
## y_sim[101] 4.0e-01 0.8792 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[102] 9.1e+00 4.1275 2.0e+00 6.0e+00 9.0e+00 1.2e+01 1.9e+01
## y_sim[103] 7.7e+00 3.7610 2.0e+00 5.0e+00 7.0e+00 1.0e+01 1.6e+01
## y_sim[104] 4.3e-01 0.8798 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[105] 4.2e-01 0.9207 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[106] 4.1e-01 0.8566 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[107] 6.1e+00 3.3695 1.0e+00 4.0e+00 6.0e+00 8.0e+00 1.4e+01
## y_sim[108] 4.4e-01 0.9147 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[109] 3.2e+00 2.4844 0.0e+00 1.0e+00 3.0e+00 4.2e+00 9.5e+00
## y_sim[110] 2.0e+01 6.2882 9.0e+00 1.5e+01 1.9e+01 2.4e+01 3.3e+01
## y_sim[111] 3.2e+00 2.4336 0.0e+00 1.0e+00 3.0e+00 4.0e+00 9.0e+00
## y_sim[112] 1.7e+01 5.8037 7.0e+00 1.3e+01 1.6e+01 2.0e+01 3.0e+01
## y_sim[113] 1.0e+01 4.3572 3.0e+00 7.0e+00 1.0e+01 1.3e+01 2.1e+01
## y_sim[114] 1.3e+00 1.5472 0.0e+00 0.0e+00 1.0e+00 2.0e+00 5.0e+00
## y_sim[115] 2.2e+00 2.0250 0.0e+00 1.0e+00 2.0e+00 3.0e+00 7.0e+00
## y_sim[116] 1.1e+01 4.7451 4.0e+00 8.0e+00 1.1e+01 1.4e+01 2.2e+01
## y_sim[117] 6.0e+00 3.4258 1.0e+00 3.0e+00 5.5e+00 8.0e+00 1.3e+01

```



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## y_sim[118] 1.4e+01 5.3343 5.0e+00 1.0e+01 1.4e+01 1.7e+01 2.6e+01
## y_sim[119] 1.3e+00 1.6112 0.0e+00 0.0e+00 1.0e+00 2.0e+00 6.0e+00
## y_sim[120] 3.2e+01 7.7969 1.8e+01 2.7e+01 3.1e+01 3.7e+01 4.9e+01
## y_sim[121] 3.7e+00 2.6600 0.0e+00 2.0e+00 3.0e+00 5.0e+00 1.0e+01
## y_sim[122] 2.2e+01 6.3751 1.0e+01 1.7e+01 2.1e+01 2.6e+01 3.6e+01
## y_sim[123] 1.4e+01 5.1124 5.5e+00 1.0e+01 1.3e+01 1.7e+01 2.5e+01
## y_sim[124] 4.0e-01 0.8773 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[125] 1.2e+01 4.6536 4.0e+00 9.0e+00 1.2e+01 1.5e+01 2.2e+01
## y_sim[126] 4.1e-01 0.8734 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[127] 9.0e+00 4.2244 2.0e+00 6.0e+00 8.0e+00 1.1e+01 1.8e+01
## y_sim[128] 3.0e-01 0.6744 0.0e+00 0.0e+00 0.0e+00 0.0e+00 2.0e+00
## y_sim[129] 2.9e-01 0.6968 0.0e+00 0.0e+00 0.0e+00 0.0e+00 2.0e+00
## y_sim[130] 4.0e-01 0.8659 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[131] 4.1e-01 0.8827 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[132] 4.1e-01 0.8814 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[133] 4.0e-01 0.8708 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[134] 4.3e-01 0.9003 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[135] 4.3e-01 0.9368 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[136] 4.4e-01 0.9312 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[137] 3.6e-01 0.7976 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[138] 3.2e+00 2.4318 0.0e+00 1.0e+00 3.0e+00 5.0e+00 9.0e+00
## y_sim[139] 1.1e+01 4.7004 4.0e+00 8.0e+00 1.1e+01 1.4e+01 2.2e+01
## y_sim[140] 4.1e-01 0.8272 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[141] 5.9e+00 3.2951 1.0e+00 3.8e+00 6.0e+00 8.0e+00 1.4e+01
## y_sim[142] 2.6e+01 6.7521 1.4e+01 2.1e+01 2.5e+01 3.0e+01 4.0e+01
## y_sim[143] 1.1e+00 1.2284 0.0e+00 0.0e+00 1.0e+00 2.0e+00 4.0e+00
## y_sim[144] 1.5e+01 5.3127 6.0e+00 1.1e+01 1.4e+01 1.8e+01 2.6e+01
## y_sim[145] 3.6e+01 8.4977 2.1e+01 3.0e+01 3.5e+01 4.2e+01 5.4e+01
## y_sim[146] 2.5e+01 7.2353 1.2e+01 2.0e+01 2.4e+01 2.9e+01 4.1e+01
## y_sim[147] 9.7e+00 4.3763 3.0e+00 7.0e+00 9.0e+00 1.2e+01 1.9e+01
## y_sim[148] 8.8e+00 4.1314 2.0e+00 6.0e+00 8.0e+00 1.1e+01 1.8e+01
## y_sim[149] 9.7e+00 4.4111 3.0e+00 6.0e+00 9.0e+00 1.2e+01 1.9e+01
## y_sim[150] 4.2e+00 2.8459 0.0e+00 2.0e+00 4.0e+00 6.0e+00 1.1e+01
## y_sim[151] 1.7e+01 5.8338 7.0e+00 1.3e+01 1.7e+01 2.1e+01 3.1e+01
## y_sim[152] 3.2e+00 2.4865 0.0e+00 1.0e+00 3.0e+00 5.0e+00 9.0e+00
## y_sim[153] 1.1e+01 4.4619 4.0e+00 7.0e+00 1.0e+01 1.3e+01 2.0e+01
## y_sim[154] 1.2e+00 1.5444 0.0e+00 0.0e+00 1.0e+00 2.0e+00 5.0e+00
## y_sim[155] 2.2e+00 2.0787 0.0e+00 1.0e+00 2.0e+00 3.0e+00 7.0e+00
## y_sim[156] 4.0e-01 0.9192 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[157] 1.3e+00 1.4997 0.0e+00 0.0e+00 1.0e+00 2.0e+00 5.0e+00
## y_sim[158] 1.3e+00 1.4803 0.0e+00 0.0e+00 1.0e+00 2.0e+00 5.0e+00
## y_sim[159] 4.3e+00 2.9829 0.0e+00 2.0e+00 4.0e+00 6.0e+00 1.1e+01
## y_sim[160] 1.9e+01 6.1016 9.0e+00 1.5e+01 1.9e+01 2.3e+01 3.2e+01
## y_sim[161] 3.5e-01 0.8218 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[162] 5.4e+00 3.1154 1.0e+00 3.0e+00 5.0e+00 7.0e+00 1.3e+01
## y_sim[163] 3.8e-01 0.8513 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[164] 1.2e+00 1.4190 0.0e+00 0.0e+00 1.0e+00 2.0e+00 5.0e+00
## y_sim[165] 3.4e-01 0.7585 0.0e+00 0.0e+00 0.0e+00 0.0e+00 2.5e+00
## y_sim[166] 4.5e+01 8.9173 2.8e+01 3.8e+01 4.4e+01 5.0e+01 6.2e+01
## y_sim[167] 3.6e-01 0.8773 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[168] 2.3e+00 2.1249 0.0e+00 1.0e+00 2.0e+00 3.0e+00 8.0e+00
## y_sim[169] 3.2e+00 2.5699 0.0e+00 1.0e+00 3.0e+00 4.0e+00 9.0e+00
## y_sim[170] 3.3e-01 0.7386 0.0e+00 0.0e+00 0.0e+00 0.0e+00 2.0e+00
## y_sim[171] 4.2e+00 2.7657 0.0e+00 2.0e+00 4.0e+00 6.0e+00 1.1e+01

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## y_sim[172] 1.2e+01 5.0062 4.0e+00 9.0e+00 1.2e+01 1.5e+01 2.3e+01
## y_sim[173] 2.0e+01 6.2692 9.0e+00 1.5e+01 1.9e+01 2.3e+01 3.4e+01
## y_sim[174] 2.5e+01 6.6416 1.3e+01 2.0e+01 2.4e+01 2.9e+01 3.9e+01
## y_sim[175] 3.9e-01 0.8247 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[176] 1.5e+01 5.3758 6.0e+00 1.1e+01 1.5e+01 1.9e+01 2.7e+01
## y_sim[177] 2.2e+00 2.1019 0.0e+00 1.0e+00 2.0e+00 3.0e+00 8.0e+00
## y_sim[178] 2.8e+01 7.5453 1.5e+01 2.3e+01 2.8e+01 3.3e+01 4.5e+01
## y_sim[179] 2.4e+01 6.7725 1.2e+01 1.9e+01 2.3e+01 2.8e+01 3.7e+01
## y_sim[180] 4.6e-01 0.9307 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[181] 6.1e+00 3.4226 1.0e+00 4.0e+00 6.0e+00 8.0e+00 1.4e+01
## y_sim[182] 1.6e+01 5.3821 6.0e+00 1.2e+01 1.5e+01 1.9e+01 2.7e+01
## y_sim[183] 1.7e+01 5.6948 7.0e+00 1.3e+01 1.7e+01 2.1e+01 3.0e+01
## y_sim[184] 1.7e+01 5.5345 7.0e+00 1.3e+01 1.6e+01 2.0e+01 2.9e+01
## y_sim[185] 1.4e+01 5.1922 5.0e+00 1.1e+01 1.4e+01 1.7e+01 2.6e+01
## y_sim[186] 3.2e-01 0.7692 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[187] 1.3e+00 1.5611 0.0e+00 0.0e+00 1.0e+00 2.0e+00 5.0e+00
## y_sim[188] 4.1e-01 0.9317 0.0e+00 0.0e+00 0.0e+00 2.5e-01 3.0e+00
## y_sim[189] 3.7e-01 0.8335 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[190] 3.8e+01 8.4300 2.2e+01 3.2e+01 3.7e+01 4.3e+01 5.5e+01
## y_sim[191] 2.5e+01 7.0354 1.3e+01 2.0e+01 2.4e+01 2.9e+01 3.9e+01
## y_sim[192] 3.3e-01 0.7216 0.0e+00 0.0e+00 0.0e+00 0.0e+00 2.0e+00
## y_sim[193] 2.1e+01 6.4656 1.0e+01 1.6e+01 2.0e+01 2.4e+01 3.5e+01
## y_sim[194] 3.9e+00 2.7682 0.0e+00 2.0e+00 3.0e+00 5.0e+00 1.0e+01
## y_sim[195] 7.0e+00 3.6365 1.0e+00 4.0e+00 7.0e+00 9.0e+00 1.6e+01
## y_sim[196] 3.8e-01 0.8364 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[197] 3.7e-01 0.8127 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[198] 4.0e-01 0.8769 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[199] 3.7e-01 0.7846 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[200] 3.9e+00 2.8051 0.0e+00 2.0e+00 3.0e+00 5.0e+00 1.1e+01
## y_sim[201] 3.9e+00 2.7328 0.0e+00 2.0e+00 3.0e+00 6.0e+00 1.0e+01
## y_sim[202] 3.0e+00 2.3786 0.0e+00 1.0e+00 2.0e+00 4.0e+00 9.0e+00
## y_sim[203] 3.4e-01 0.8190 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[204] 3.5e-01 0.7247 0.0e+00 0.0e+00 0.0e+00 0.0e+00 2.0e+00
## y_sim[205] 3.5e-01 0.7763 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[206] 4.0e-01 0.8933 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## lp_ 1.7e+03 14.3524 1.6e+03 1.7e+03 1.7e+03 1.7e+03 1.7e+03
##
## , , chains = chain:2
##
## stats
## parameter mean sd 2.5% 25% 50% 75% 97.5%
## alpha_gamma 4.6e-01 0.0568 3.6e-01 4.2e-01 4.5e-01 4.9e-01 5.7e-01
## beta_gamma 5.4e+00 0.8586 3.9e+00 4.8e+00 5.3e+00 5.9e+00 7.2e+00
## theta[1] 2.1e-01 0.0437 1.3e-01 1.8e-01 2.1e-01 2.4e-01 3.0e-01
## theta[2] 1.1e-01 0.0304 6.1e-02 8.8e-02 1.1e-01 1.3e-01 1.7e-01
## theta[3] 9.6e-03 0.0142 3.4e-06 7.8e-04 4.1e-03 1.2e-02 5.1e-02
## theta[4] 6.2e-02 0.0225 2.5e-02 4.6e-02 6.0e-02 7.5e-02 1.1e-01
## theta[5] 1.4e-02 0.0124 9.9e-04 5.5e-03 1.1e-02 1.9e-02 4.7e-02
## theta[6] 1.2e-02 0.0102 8.7e-04 4.9e-03 9.5e-03 1.6e-02 3.9e-02
## theta[7] 8.1e-03 0.0115 7.1e-06 6.3e-04 3.7e-03 1.1e-02 4.1e-02
## theta[8] 8.0e-03 0.0121 4.2e-06 5.9e-04 3.2e-03 1.0e-02 4.2e-02
## theta[9] 8.3e-03 0.0121 1.3e-06 7.8e-04 3.6e-03 1.1e-02 4.0e-02
## theta[10] 1.1e-02 0.0169 9.7e-06 9.1e-04 4.7e-03 1.5e-02 5.7e-02
## theta[11] 9.3e-03 0.0133 1.8e-06 8.5e-04 4.4e-03 1.3e-02 4.4e-02

```

##	theta[12]	1.1e-02	0.0162	2.8e-06	7.5e-04	4.2e-03	1.5e-02	6.0e-02
##	theta[13]	1.1e-02	0.0154	8.1e-06	9.1e-04	5.1e-03	1.5e-02	5.5e-02
##	theta[14]	1.2e-02	0.0165	8.4e-06	9.5e-04	4.8e-03	1.6e-02	5.8e-02
##	theta[15]	1.1e-02	0.0151	1.4e-05	1.2e-03	5.5e-03	1.5e-02	5.4e-02
##	theta[16]	1.5e-01	0.0329	9.5e-02	1.3e-01	1.5e-01	1.7e-01	2.2e-01
##	theta[17]	1.2e-02	0.0178	5.1e-06	9.3e-04	4.8e-03	1.6e-02	6.3e-02
##	theta[18]	1.1e-01	0.0293	6.1e-02	9.0e-02	1.1e-01	1.3e-01	1.8e-01
##	theta[19]	3.7e-02	0.0178	1.0e-02	2.4e-02	3.4e-02	4.7e-02	7.7e-02
##	theta[20]	1.5e-01	0.0344	9.3e-02	1.3e-01	1.5e-01	1.8e-01	2.2e-01
##	theta[21]	1.0e-01	0.0298	5.1e-02	8.2e-02	1.0e-01	1.2e-01	1.7e-01
##	theta[22]	1.2e-02	0.0095	8.1e-04	4.7e-03	9.1e-03	1.6e-02	3.6e-02
##	theta[23]	3.9e-03	0.0060	2.5e-06	3.3e-04	1.6e-03	4.9e-03	2.1e-02
##	theta[24]	3.4e-01	0.0516	2.5e-01	3.0e-01	3.4e-01	3.8e-01	4.5e-01
##	theta[25]	2.8e-02	0.0146	7.3e-03	1.8e-02	2.6e-02	3.7e-02	6.3e-02
##	theta[26]	8.4e-03	0.0128	2.7e-06	6.2e-04	3.6e-03	1.1e-02	4.3e-02
##	theta[27]	1.0e-02	0.0148	6.7e-06	8.4e-04	4.6e-03	1.3e-02	5.1e-02
##	theta[28]	3.7e-02	0.0171	1.1e-02	2.5e-02	3.4e-02	4.7e-02	7.7e-02
##	theta[29]	1.1e-01	0.0315	6.0e-02	8.9e-02	1.1e-01	1.3e-01	1.8e-01
##	theta[30]	2.8e-02	0.0149	6.9e-03	1.7e-02	2.6e-02	3.6e-02	6.4e-02
##	theta[31]	4.5e-02	0.0192	1.5e-02	3.1e-02	4.2e-02	5.7e-02	9.2e-02
##	theta[32]	6.1e-02	0.0215	2.6e-02	4.6e-02	5.9e-02	7.4e-02	1.1e-01
##	theta[33]	1.2e-02	0.0101	8.0e-04	4.8e-03	9.3e-03	1.6e-02	3.9e-02
##	theta[34]	4.5e-02	0.0185	1.6e-02	3.1e-02	4.2e-02	5.5e-02	8.9e-02
##	theta[35]	1.2e-02	0.0099	6.8e-04	4.8e-03	9.2e-03	1.7e-02	3.6e-02
##	theta[36]	1.9e-01	0.0423	1.2e-01	1.6e-01	1.9e-01	2.2e-01	2.9e-01
##	theta[37]	4.7e-03	0.0070	3.4e-06	3.8e-04	2.1e-03	6.1e-03	2.4e-02
##	theta[38]	4.5e-02	0.0204	1.5e-02	3.0e-02	4.2e-02	5.6e-02	9.4e-02
##	theta[39]	7.7e-02	0.0245	3.7e-02	6.0e-02	7.5e-02	9.2e-02	1.3e-01
##	theta[40]	3.8e-03	0.0056	3.6e-06	2.9e-04	1.5e-03	4.9e-03	2.1e-02
##	theta[41]	1.8e-01	0.0374	1.2e-01	1.6e-01	1.8e-01	2.1e-01	2.6e-01
##	theta[42]	6.2e-03	0.0094	2.9e-06	5.3e-04	2.4e-03	7.7e-03	3.5e-02
##	theta[43]	5.8e-03	0.0083	5.8e-06	4.8e-04	2.3e-03	8.0e-03	2.9e-02
##	theta[44]	3.6e-03	0.0055	1.3e-06	2.7e-04	1.4e-03	4.7e-03	1.8e-02
##	theta[45]	7.8e-02	0.0268	3.5e-02	5.8e-02	7.5e-02	9.5e-02	1.4e-01
##	theta[46]	6.1e-03	0.0092	1.4e-06	4.0e-04	2.5e-03	7.7e-03	3.4e-02
##	theta[47]	2.8e-02	0.0146	6.9e-03	1.7e-02	2.5e-02	3.6e-02	6.3e-02
##	theta[48]	2.6e-01	0.0691	1.4e-01	2.1e-01	2.6e-01	3.0e-01	4.2e-01
##	theta[49]	6.2e-02	0.0296	1.8e-02	4.0e-02	5.7e-02	7.8e-02	1.3e-01
##	theta[50]	1.0e-02	0.0152	2.9e-06	5.8e-04	3.8e-03	1.4e-02	5.5e-02
##	theta[51]	6.2e-02	0.0243	2.4e-02	4.4e-02	5.9e-02	7.6e-02	1.2e-01
##	theta[52]	2.2e-01	0.0950	7.8e-02	1.5e-01	2.1e-01	2.8e-01	4.4e-01
##	theta[53]	4.4e-03	0.0066	2.6e-06	3.1e-04	2.0e-03	5.6e-03	2.4e-02
##	theta[54]	8.2e-02	0.0279	3.8e-02	6.2e-02	7.8e-02	9.8e-02	1.4e-01
##	theta[55]	1.8e-02	0.0147	9.5e-04	7.3e-03	1.3e-02	2.4e-02	5.5e-02
##	theta[56]	1.6e-02	0.0246	3.1e-06	1.4e-03	6.4e-03	2.1e-02	8.6e-02
##	theta[57]	1.5e-02	0.0233	3.0e-06	1.3e-03	6.6e-03	1.9e-02	7.6e-02
##	theta[58]	1.4e-01	0.0342	7.6e-02	1.1e-01	1.3e-01	1.6e-01	2.1e-01
##	theta[59]	6.3e-03	0.0089	1.9e-06	4.0e-04	2.6e-03	8.6e-03	3.1e-02
##	theta[60]	8.0e-03	0.0120	2.1e-06	5.8e-04	3.2e-03	1.0e-02	4.2e-02
##	theta[61]	4.1e-03	0.0058	1.0e-06	3.5e-04	1.9e-03	5.2e-03	2.1e-02
##	theta[62]	1.5e-02	0.0210	8.8e-06	1.4e-03	6.7e-03	1.9e-02	7.7e-02
##	theta[63]	1.4e-02	0.0219	5.9e-06	1.0e-03	5.6e-03	1.9e-02	8.2e-02
##	theta[64]	1.6e-02	0.0243	1.2e-05	1.3e-03	6.4e-03	2.0e-02	7.9e-02
##	theta[65]	8.4e-02	0.0549	1.3e-02	4.5e-02	7.4e-02	1.1e-01	2.2e-01

##	theta[66]	6.9e-02	0.0270	2.6e-02	4.9e-02	6.6e-02	8.4e-02	1.3e-01
##	theta[67]	1.2e-01	0.0633	3.2e-02	7.2e-02	1.1e-01	1.5e-01	2.8e-01
##	theta[68]	3.4e-02	0.0566	7.1e-06	2.5e-03	1.3e-02	4.2e-02	1.8e-01
##	theta[69]	1.6e-02	0.0230	5.0e-06	1.2e-03	6.5e-03	2.0e-02	8.1e-02
##	theta[70]	1.3e-01	0.0335	7.0e-02	1.0e-01	1.2e-01	1.5e-01	2.0e-01
##	theta[71]	2.4e-02	0.0200	1.8e-03	9.6e-03	1.8e-02	3.3e-02	7.7e-02
##	theta[72]	1.0e-01	0.0292	5.3e-02	8.1e-02	9.9e-02	1.2e-01	1.7e-01
##	theta[73]	5.1e-02	0.0454	2.9e-03	1.9e-02	3.9e-02	6.9e-02	1.7e-01
##	theta[74]	9.4e-02	0.0284	4.8e-02	7.3e-02	9.1e-02	1.1e-01	1.6e-01
##	theta[75]	3.4e-01	0.0527	2.5e-01	3.1e-01	3.4e-01	3.7e-01	4.5e-01
##	theta[76]	6.7e-02	0.0385	1.4e-02	3.9e-02	6.1e-02	8.6e-02	1.6e-01
##	theta[77]	6.6e-02	0.0363	1.5e-02	4.0e-02	5.9e-02	8.6e-02	1.5e-01
##	theta[78]	2.8e-02	0.0229	1.6e-03	1.2e-02	2.2e-02	3.8e-02	8.4e-02
##	theta[79]	4.9e-02	0.0408	3.4e-03	2.0e-02	3.9e-02	6.7e-02	1.6e-01
##	theta[80]	1.5e-02	0.0232	4.0e-06	1.2e-03	6.3e-03	2.0e-02	7.9e-02
##	theta[81]	8.4e-02	0.0537	1.3e-02	4.6e-02	7.4e-02	1.1e-01	2.1e-01
##	theta[82]	1.2e-01	0.0646	2.7e-02	6.9e-02	1.1e-01	1.5e-01	2.7e-01
##	theta[83]	1.2e-01	0.0639	2.8e-02	7.1e-02	1.1e-01	1.5e-01	2.7e-01
##	theta[84]	9.0e-02	0.0292	4.4e-02	6.9e-02	8.7e-02	1.1e-01	1.6e-01
##	theta[85]	3.7e-03	0.0056	1.4e-06	3.3e-04	1.6e-03	4.7e-03	1.8e-02
##	theta[86]	1.2e-02	0.0101	9.8e-04	4.8e-03	9.6e-03	1.6e-02	3.8e-02
##	theta[87]	3.8e-03	0.0059	2.0e-06	2.7e-04	1.6e-03	5.0e-03	2.1e-02
##	theta[88]	6.0e-03	0.0092	3.5e-06	4.2e-04	2.1e-03	7.9e-03	3.0e-02
##	theta[89]	1.0e-02	0.0151	3.9e-06	8.5e-04	4.2e-03	1.3e-02	5.2e-02
##	theta[90]	1.0e-02	0.0160	2.3e-06	7.2e-04	4.1e-03	1.3e-02	5.4e-02
##	theta[91]	5.3e-02	0.0344	7.1e-03	2.8e-02	4.6e-02	7.1e-02	1.4e-01
##	theta[92]	8.4e-03	0.0119	7.2e-06	8.0e-04	4.0e-03	1.1e-02	4.1e-02
##	theta[93]	8.0e-03	0.0118	3.9e-06	7.3e-04	3.3e-03	1.0e-02	4.3e-02
##	theta[94]	1.1e-01	0.0406	4.0e-02	7.6e-02	1.0e-01	1.3e-01	2.0e-01
##	theta[95]	2.4e-02	0.0195	2.0e-03	9.4e-03	1.9e-02	3.3e-02	7.4e-02
##	theta[96]	7.6e-03	0.0109	1.9e-06	5.5e-04	2.9e-03	1.0e-02	3.8e-02
##	theta[97]	2.4e-02	0.0210	1.6e-03	9.7e-03	1.8e-02	3.3e-02	7.9e-02
##	theta[98]	4.0e-02	0.0252	6.0e-03	2.1e-02	3.6e-02	5.3e-02	1.0e-01
##	theta[99]	5.8e-02	0.0300	1.5e-02	3.5e-02	5.4e-02	7.3e-02	1.3e-01
##	theta[100]	3.9e-02	0.0246	5.9e-03	2.1e-02	3.4e-02	5.3e-02	1.0e-01
##	theta[101]	7.6e-03	0.0106	4.2e-06	6.5e-04	3.3e-03	1.0e-02	3.8e-02
##	theta[102]	7.8e-02	0.0252	3.7e-02	6.0e-02	7.5e-02	9.4e-02	1.3e-01
##	theta[103]	1.4e-01	0.0486	6.0e-02	1.1e-01	1.4e-01	1.7e-01	2.5e-01
##	theta[104]	7.0e-03	0.0101	4.9e-06	6.3e-04	3.2e-03	9.1e-03	3.4e-02
##	theta[105]	7.4e-03	0.0109	3.5e-06	6.4e-04	3.0e-03	9.6e-03	3.9e-02
##	theta[106]	7.5e-03	0.0110	5.9e-06	5.6e-04	3.0e-03	9.9e-03	3.7e-02
##	theta[107]	1.1e-01	0.0417	4.3e-02	7.7e-02	1.0e-01	1.3e-01	2.1e-01
##	theta[108]	7.5e-03	0.0110	7.0e-06	6.5e-04	2.9e-03	9.6e-03	3.9e-02
##	theta[109]	5.7e-02	0.0304	1.5e-02	3.4e-02	5.2e-02	7.6e-02	1.2e-01
##	theta[110]	3.6e-01	0.0803	2.2e-01	3.0e-01	3.5e-01	4.1e-01	5.4e-01
##	theta[111]	5.7e-02	0.0308	1.3e-02	3.4e-02	5.1e-02	7.5e-02	1.3e-01
##	theta[112]	3.0e-01	0.0713	1.9e-01	2.5e-01	3.0e-01	3.4e-01	4.6e-01
##	theta[113]	2.0e-01	0.0583	9.6e-02	1.6e-01	1.9e-01	2.3e-01	3.3e-01
##	theta[114]	2.5e-02	0.0200	1.8e-03	1.0e-02	2.0e-02	3.6e-02	7.6e-02
##	theta[115]	4.1e-02	0.0261	7.7e-03	2.2e-02	3.5e-02	5.5e-02	1.1e-01
##	theta[116]	2.1e-01	0.0596	1.1e-01	1.7e-01	2.1e-01	2.5e-01	3.5e-01
##	theta[117]	1.1e-01	0.0425	4.1e-02	7.6e-02	1.0e-01	1.3e-01	2.0e-01
##	theta[118]	2.6e-01	0.0703	1.4e-01	2.1e-01	2.5e-01	3.0e-01	4.1e-01
##	theta[119]	3.3e-02	0.0275	2.6e-03	1.2e-02	2.5e-02	4.4e-02	1.0e-01

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## theta[120] 2.8e-01 0.0497 1.9e-01 2.4e-01 2.7e-01 3.1e-01 3.8e-01
## theta[121] 1.6e-01 0.0754 4.8e-02 1.0e-01 1.5e-01 2.0e-01 3.3e-01
## theta[122] 5.4e-01 0.1187 3.4e-01 4.6e-01 5.3e-01 6.1e-01 8.1e-01
## theta[123] 3.3e-01 0.0878 1.9e-01 2.6e-01 3.2e-01 3.8e-01 5.2e-01
## theta[124] 8.1e-03 0.0121 6.2e-06 6.5e-04 3.3e-03 1.0e-02 4.3e-02
## theta[125] 2.4e-01 0.0642 1.3e-01 2.0e-01 2.4e-01 2.8e-01 3.8e-01
## theta[126] 8.4e-03 0.0124 3.2e-06 7.0e-04 3.4e-03 1.1e-02 4.4e-02
## theta[127] 8.5e-02 0.0279 4.0e-02 6.5e-02 8.2e-02 1.0e-01 1.5e-01
## theta[128] 2.8e-02 0.0429 7.3e-06 1.9e-03 1.1e-02 3.6e-02 1.6e-01
## theta[129] 2.7e-02 0.0402 1.4e-05 2.2e-03 1.1e-02 3.5e-02 1.4e-01
## theta[130] 1.4e-02 0.0207 1.4e-05 1.2e-03 6.1e-03 1.8e-02 7.6e-02
## theta[131] 8.2e-03 0.0111 7.1e-06 9.9e-04 3.9e-03 1.1e-02 4.0e-02
## theta[132] 9.0e-03 0.0135 2.4e-06 5.7e-04 3.1e-03 1.2e-02 4.8e-02
## theta[133] 8.0e-03 0.0123 1.7e-06 5.4e-04 3.0e-03 1.0e-02 4.5e-02
## theta[134] 7.3e-03 0.0101 4.1e-06 6.9e-04 3.1e-03 9.8e-03 3.4e-02
## theta[135] 1.0e-02 0.0154 2.9e-06 7.0e-04 3.7e-03 1.3e-02 5.3e-02
## theta[136] 8.6e-03 0.0126 6.9e-06 7.6e-04 3.6e-03 1.1e-02 4.7e-02
## theta[137] 1.0e-02 0.0155 3.7e-06 7.0e-04 4.1e-03 1.3e-02 5.5e-02
## theta[138] 5.0e-02 0.0255 1.4e-02 3.1e-02 4.5e-02 6.3e-02 1.1e-01
## theta[139] 2.1e-01 0.0628 1.1e-01 1.7e-01 2.1e-01 2.5e-01 3.6e-01
## theta[140] 7.0e-03 0.0100 4.3e-06 6.6e-04 3.1e-03 9.3e-03 3.6e-02
## theta[141] 9.3e-02 0.0377 3.5e-02 6.5e-02 8.7e-02 1.1e-01 1.8e-01
## theta[142] 4.2e-01 0.0834 2.7e-01 3.6e-01 4.1e-01 4.7e-01 5.9e-01
## theta[143] 2.6e-01 0.1721 3.8e-02 1.4e-01 2.3e-01 3.5e-01 6.8e-01
## theta[144] 1.3e-01 0.0328 7.2e-02 1.0e-01 1.2e-01 1.5e-01 2.0e-01
## theta[145] 3.1e-01 0.0518 2.2e-01 2.7e-01 3.1e-01 3.4e-01 4.2e-01
## theta[146] 3.0e-01 0.0611 1.9e-01 2.5e-01 2.9e-01 3.3e-01 4.2e-01
## theta[147] 1.1e-01 0.0333 5.1e-02 8.2e-02 1.0e-01 1.2e-01 1.8e-01
## theta[148] 1.3e-01 0.0410 6.0e-02 9.7e-02 1.2e-01 1.5e-01 2.2e-01
## theta[149] 1.4e-01 0.0414 6.6e-02 1.1e-01 1.3e-01 1.6e-01 2.3e-01
## theta[150] 5.9e-02 0.0279 1.7e-02 3.8e-02 5.6e-02 7.6e-02 1.2e-01
## theta[151] 2.5e-01 0.0571 1.5e-01 2.1e-01 2.5e-01 2.8e-01 3.7e-01
## theta[152] 3.9e-02 0.0193 1.0e-02 2.5e-02 3.6e-02 4.9e-02 8.3e-02
## theta[153] 1.1e-01 0.0334 5.6e-02 8.7e-02 1.1e-01 1.3e-01 1.8e-01
## theta[154] 5.4e-02 0.0443 4.0e-03 2.1e-02 4.3e-02 7.5e-02 1.7e-01
## theta[155] 4.0e-02 0.0261 5.1e-03 2.1e-02 3.5e-02 5.4e-02 1.0e-01
## theta[156] 9.6e-03 0.0133 1.6e-05 8.7e-04 4.4e-03 1.3e-02 4.6e-02
## theta[157] 3.0e-02 0.0237 1.9e-03 1.2e-02 2.3e-02 4.0e-02 8.8e-02
## theta[158] 2.9e-02 0.0228 2.2e-03 1.2e-02 2.3e-02 4.0e-02 8.6e-02
## theta[159] 3.7e-02 0.0184 1.0e-02 2.4e-02 3.4e-02 4.7e-02 8.1e-02
## theta[160] 2.0e-01 0.0444 1.2e-01 1.7e-01 2.0e-01 2.3e-01 2.9e-01
## theta[161] 1.6e-02 0.0235 1.3e-05 1.4e-03 6.9e-03 2.0e-02 8.0e-02
## theta[162] 2.2e-01 0.0821 8.7e-02 1.6e-01 2.1e-01 2.7e-01 4.2e-01
## theta[163] 1.5e-02 0.0229 6.9e-06 1.2e-03 6.3e-03 2.0e-02 8.5e-02
## theta[164] 4.9e-02 0.0399 3.0e-03 2.1e-02 4.0e-02 6.6e-02 1.6e-01
## theta[165] 1.5e-02 0.0228 6.8e-06 1.1e-03 5.7e-03 2.1e-02 7.8e-02
## theta[166] 3.8e-01 0.0584 2.8e-01 3.4e-01 3.8e-01 4.2e-01 5.1e-01
## theta[167] 1.1e-02 0.0154 1.8e-05 1.1e-03 5.2e-03 1.5e-02 5.8e-02
## theta[168] 2.4e-02 0.0156 3.9e-03 1.3e-02 2.1e-02 3.2e-02 6.3e-02
## theta[169] 4.8e-02 0.0256 1.3e-02 3.0e-02 4.3e-02 6.2e-02 1.1e-01
## theta[170] 2.9e-02 0.0428 8.2e-06 1.7e-03 1.2e-02 3.6e-02 1.6e-01
## theta[171] 6.1e-02 0.0303 1.7e-02 4.1e-02 5.7e-02 7.6e-02 1.3e-01
## theta[172] 1.9e-01 0.0525 9.7e-02 1.5e-01 1.8e-01 2.1e-01 3.1e-01
## theta[173] 1.7e-01 0.0374 1.0e-01 1.4e-01 1.7e-01 1.9e-01 2.5e-01

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##	theta[174]	3.6e-01	0.0693	2.4e-01	3.1e-01	3.6e-01	4.1e-01	5.1e-01
##	theta[175]	6.3e-03	0.0099	2.1e-06	3.8e-04	2.3e-03	7.8e-03	3.5e-02
##	theta[176]	2.2e-01	0.0544	1.3e-01	1.8e-01	2.2e-01	2.6e-01	3.4e-01
##	theta[177]	5.0e-02	0.0320	8.5e-03	2.7e-02	4.2e-02	6.6e-02	1.3e-01
##	theta[178]	4.2e-01	0.0785	2.8e-01	3.6e-01	4.1e-01	4.7e-01	5.8e-01
##	theta[179]	3.4e-01	0.0659	2.3e-01	3.0e-01	3.4e-01	3.9e-01	4.8e-01
##	theta[180]	8.0e-03	0.0118	9.8e-06	8.0e-04	3.2e-03	1.1e-02	4.5e-02
##	theta[181]	5.4e-02	0.0208	2.2e-02	3.8e-02	5.0e-02	6.5e-02	1.0e-01
##	theta[182]	1.3e-01	0.0328	7.6e-02	1.1e-01	1.3e-01	1.5e-01	2.1e-01
##	theta[183]	2.7e-01	0.0685	1.6e-01	2.2e-01	2.7e-01	3.2e-01	4.2e-01
##	theta[184]	2.7e-01	0.0649	1.6e-01	2.3e-01	2.7e-01	3.1e-01	4.0e-01
##	theta[185]	2.3e-01	0.0564	1.3e-01	1.9e-01	2.2e-01	2.6e-01	3.5e-01
##	theta[186]	1.8e-02	0.0261	5.5e-06	1.2e-03	7.2e-03	2.2e-02	9.6e-02
##	theta[187]	2.2e-02	0.0190	1.4e-03	9.0e-03	1.7e-02	3.1e-02	7.4e-02
##	theta[188]	8.0e-03	0.0112	6.5e-06	7.7e-04	3.7e-03	1.0e-02	4.1e-02
##	theta[189]	1.2e-02	0.0171	1.1e-06	8.9e-04	4.5e-03	1.6e-02	6.0e-02
##	theta[190]	5.4e-01	0.0801	3.9e-01	4.9e-01	5.4e-01	5.9e-01	7.2e-01
##	theta[191]	3.5e-01	0.0627	2.4e-01	3.0e-01	3.5e-01	3.9e-01	4.7e-01
##	theta[192]	2.4e-02	0.0346	1.3e-05	1.8e-03	1.1e-02	3.2e-02	1.2e-01
##	theta[193]	1.8e-01	0.0369	1.1e-01	1.5e-01	1.7e-01	2.0e-01	2.6e-01
##	theta[194]	9.8e-02	0.0480	2.6e-02	6.2e-02	9.1e-02	1.2e-01	2.1e-01
##	theta[195]	6.5e-02	0.0243	2.7e-02	4.7e-02	6.2e-02	7.9e-02	1.2e-01
##	theta[196]	1.1e-02	0.0158	6.2e-06	1.2e-03	5.2e-03	1.4e-02	5.2e-02
##	theta[197]	1.1e-02	0.0154	7.2e-06	8.8e-04	4.7e-03	1.5e-02	5.5e-02
##	theta[198]	9.0e-03	0.0138	1.6e-06	6.1e-04	3.3e-03	1.2e-02	5.0e-02
##	theta[199]	1.1e-02	0.0165	1.9e-06	1.0e-03	5.0e-03	1.5e-02	5.7e-02
##	theta[200]	8.4e-02	0.0375	2.6e-02	5.6e-02	7.9e-02	1.1e-01	1.7e-01
##	theta[201]	8.7e-02	0.0408	2.5e-02	5.7e-02	8.2e-02	1.1e-01	1.8e-01
##	theta[202]	8.1e-02	0.0417	1.9e-02	5.1e-02	7.4e-02	1.1e-01	1.8e-01
##	theta[203]	1.4e-02	0.0199	6.3e-06	1.2e-03	5.4e-03	1.8e-02	7.1e-02
##	theta[204]	1.8e-02	0.0262	5.2e-06	1.1e-03	6.8e-03	2.4e-02	9.2e-02
##	theta[205]	1.3e-02	0.0204	1.9e-06	9.3e-04	4.7e-03	1.8e-02	6.8e-02
##	theta[206]	7.6e-03	0.0119	1.1e-06	5.1e-04	2.6e-03	9.8e-03	4.1e-02
##	y_sim[1]	2.4e+01	7.0646	1.2e+01	1.9e+01	2.4e+01	2.9e+01	4.0e+01
##	y_sim[2]	1.3e+01	5.0010	5.0e+00	9.0e+00	1.2e+01	1.6e+01	2.4e+01
##	y_sim[3]	4.2e-01	0.8795	0.0e+00	0.0e+00	0.0e+00	1.0e+00	3.0e+00
##	y_sim[4]	7.1e+00	3.6606	1.0e+00	4.0e+00	7.0e+00	9.0e+00	1.6e+01
##	y_sim[5]	1.5e+00	1.7850	0.0e+00	0.0e+00	1.0e+00	2.0e+00	6.0e+00
##	y_sim[6]	1.4e+00	1.6622	0.0e+00	0.0e+00	1.0e+00	2.0e+00	6.0e+00
##	y_sim[7]	4.2e-01	0.8497	0.0e+00	0.0e+00	0.0e+00	1.0e+00	3.0e+00
##	y_sim[8]	4.1e-01	0.8603	0.0e+00	0.0e+00	0.0e+00	1.0e+00	3.0e+00
##	y_sim[9]	3.9e-01	0.8611	0.0e+00	0.0e+00	0.0e+00	0.0e+00	3.0e+00
##	y_sim[10]	4.0e-01	0.9002	0.0e+00	0.0e+00	0.0e+00	1.0e+00	3.0e+00
##	y_sim[11]	3.7e-01	0.8364	0.0e+00	0.0e+00	0.0e+00	0.0e+00	3.0e+00
##	y_sim[12]	4.0e-01	0.8847	0.0e+00	0.0e+00	0.0e+00	2.5e-01	3.0e+00
##	y_sim[13]	4.0e-01	0.8453	0.0e+00	0.0e+00	0.0e+00	1.0e+00	3.0e+00
##	y_sim[14]	4.0e-01	0.8487	0.0e+00	0.0e+00	0.0e+00	0.0e+00	3.0e+00
##	y_sim[15]	3.5e-01	0.7712	0.0e+00	0.0e+00	0.0e+00	0.0e+00	3.0e+00
##	y_sim[16]	1.8e+01	5.7077	7.5e+00	1.4e+01	1.7e+01	2.1e+01	2.9e+01
##	y_sim[17]	4.4e-01	0.8678	0.0e+00	0.0e+00	0.0e+00	1.0e+00	3.0e+00
##	y_sim[18]	1.3e+01	5.0594	5.0e+00	9.0e+00	1.2e+01	1.6e+01	2.5e+01
##	y_sim[19]	4.2e+00	2.8071	0.0e+00	2.0e+00	4.0e+00	6.0e+00	1.1e+01
##	y_sim[20]	1.8e+01	5.7421	7.0e+00	1.4e+01	1.7e+01	2.1e+01	3.0e+01
##	y_sim[21]	1.2e+01	4.8627	4.0e+00	8.0e+00	1.1e+01	1.5e+01	2.3e+01

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## y_sim[22] 1.3e+00 1.5243 0.0e+00 0.0e+00 1.0e+00 2.0e+00 5.0e+00
## y_sim[23] 4.5e-01 0.9364 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[24] 4.0e+01 8.8335 2.4e+01 3.4e+01 3.9e+01 4.6e+01 5.7e+01
## y_sim[25] 3.4e+00 2.5566 0.0e+00 1.0e+00 3.0e+00 5.0e+00 9.0e+00
## y_sim[26] 4.1e-01 0.9054 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[27] 3.9e-01 0.8433 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[28] 4.4e+00 2.8411 0.0e+00 2.0e+00 4.0e+00 6.0e+00 1.1e+01
## y_sim[29] 1.3e+01 4.9655 4.0e+00 9.0e+00 1.2e+01 1.6e+01 2.4e+01
## y_sim[30] 3.2e+00 2.4170 0.0e+00 1.0e+00 3.0e+00 4.0e+00 9.0e+00
## y_sim[31] 5.2e+00 3.2428 1.0e+00 3.0e+00 5.0e+00 7.0e+00 1.3e+01
## y_sim[32] 7.1e+00 3.5651 2.0e+00 5.0e+00 7.0e+00 9.0e+00 1.5e+01
## y_sim[33] 1.4e+00 1.6799 0.0e+00 0.0e+00 1.0e+00 2.0e+00 6.0e+00
## y_sim[34] 5.2e+00 3.1229 1.0e+00 3.0e+00 5.0e+00 7.0e+00 1.3e+01
## y_sim[35] 1.3e+00 1.6012 0.0e+00 0.0e+00 1.0e+00 2.0e+00 5.0e+00
## y_sim[36] 2.2e+01 6.5838 1.1e+01 1.8e+01 2.2e+01 2.6e+01 3.7e+01
## y_sim[37] 4.1e-01 0.8453 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[38] 5.3e+00 3.3639 0.0e+00 3.0e+00 5.0e+00 7.0e+00 1.4e+01
## y_sim[39] 9.0e+00 4.2639 2.0e+00 6.0e+00 8.0e+00 1.2e+01 1.9e+01
## y_sim[40] 4.3e-01 0.9171 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[41] 2.1e+01 6.3393 1.0e+01 1.7e+01 2.1e+01 2.5e+01 3.5e+01
## y_sim[42] 4.3e-01 0.8913 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[43] 3.9e-01 0.8210 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[44] 4.0e-01 0.8732 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[45] 9.1e+00 4.4789 2.0e+00 6.0e+00 8.0e+00 1.2e+01 1.9e+01
## y_sim[46] 4.1e-01 0.8681 0.0e+00 0.0e+00 0.0e+00 2.5e-01 3.0e+00
## y_sim[47] 3.3e+00 2.5352 0.0e+00 1.0e+00 3.0e+00 5.0e+00 9.0e+00
## y_sim[48] 1.2e+01 4.7423 4.0e+00 9.0e+00 1.2e+01 1.5e+01 2.3e+01
## y_sim[49] 4.2e+00 2.9046 0.0e+00 2.0e+00 4.0e+00 6.0e+00 1.1e+01
## y_sim[50] 4.1e-01 0.8656 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[51] 6.1e+00 3.4330 1.0e+00 4.0e+00 6.0e+00 8.0e+00 1.4e+01
## y_sim[52] 4.3e+00 2.6657 0.0e+00 2.0e+00 4.0e+00 6.0e+00 1.0e+01
## y_sim[53] 4.4e-01 0.9230 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[54] 8.1e+00 3.9267 2.0e+00 5.0e+00 8.0e+00 1.0e+01 1.7e+01
## y_sim[55] 1.3e+00 1.6135 0.0e+00 0.0e+00 1.0e+00 2.0e+00 5.0e+00
## y_sim[56] 3.7e-01 0.8375 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[57] 3.6e-01 0.7909 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[58] 1.6e+01 5.6490 6.0e+00 1.2e+01 1.5e+01 1.9e+01 2.8e+01
## y_sim[59] 4.1e-01 0.8946 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[60] 4.1e-01 0.8584 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[61] 4.0e-01 0.8332 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[62] 3.6e-01 0.7873 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[63] 3.9e-01 0.8573 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[64] 4.0e-01 0.8689 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[65] 2.0e+00 1.9254 0.0e+00 1.0e+00 2.0e+00 3.0e+00 7.0e+00
## y_sim[66] 6.1e+00 3.4459 1.0e+00 3.0e+00 6.0e+00 8.0e+00 1.4e+01
## y_sim[67] 2.8e+00 2.3302 0.0e+00 1.0e+00 2.0e+00 4.0e+00 8.0e+00
## y_sim[68] 2.7e-01 0.6713 0.0e+00 0.0e+00 0.0e+00 0.0e+00 2.0e+00
## y_sim[69] 3.8e-01 0.8133 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[70] 1.5e+01 5.4429 6.0e+00 1.1e+01 1.4e+01 1.8e+01 2.7e+01
## y_sim[71] 1.2e+00 1.5012 0.0e+00 0.0e+00 1.0e+00 2.0e+00 5.0e+00
## y_sim[72] 1.2e+01 4.9163 4.0e+00 8.0e+00 1.2e+01 1.5e+01 2.3e+01
## y_sim[73] 1.3e+00 1.5819 0.0e+00 0.0e+00 1.0e+00 2.0e+00 5.0e+00
## y_sim[74] 1.1e+01 4.8229 3.0e+00 8.0e+00 1.0e+01 1.4e+01 2.2e+01
## y_sim[75] 4.0e+01 8.7390 2.4e+01 3.3e+01 3.9e+01 4.5e+01 5.7e+01

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## y_sim[76] 3.2e+00 2.5304 0.0e+00 1.0e+00 3.0e+00 5.0e+00 1.0e+01
## y_sim[77] 3.1e+00 2.3868 0.0e+00 1.0e+00 3.0e+00 4.0e+00 9.0e+00
## y_sim[78] 1.3e+00 1.5271 0.0e+00 0.0e+00 1.0e+00 2.0e+00 6.0e+00
## y_sim[79] 1.2e+00 1.4304 0.0e+00 0.0e+00 1.0e+00 2.0e+00 5.0e+00
## y_sim[80] 3.6e-01 0.8130 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[81] 2.0e+00 1.8856 0.0e+00 1.0e+00 2.0e+00 3.0e+00 7.0e+00
## y_sim[82] 2.8e+00 2.2891 0.0e+00 1.0e+00 2.0e+00 4.0e+00 8.0e+00
## y_sim[83] 2.9e+00 2.3576 0.0e+00 1.0e+00 2.0e+00 4.0e+00 9.0e+00
## y_sim[84] 9.0e+00 4.2589 2.0e+00 6.0e+00 9.0e+00 1.2e+01 1.9e+01
## y_sim[85] 4.4e-01 0.9067 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[86] 1.4e+00 1.6254 0.0e+00 0.0e+00 1.0e+00 2.0e+00 5.5e+00
## y_sim[87] 4.3e-01 0.9248 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[88] 4.1e-01 0.8984 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[89] 3.9e-01 0.8302 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[90] 4.3e-01 0.9289 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[91] 2.2e+00 2.0437 0.0e+00 1.0e+00 2.0e+00 3.0e+00 7.0e+00
## y_sim[92] 4.0e-01 0.7921 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[93] 4.1e-01 0.8415 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[94] 5.8e+00 3.3370 1.0e+00 3.0e+00 5.0e+00 8.0e+00 1.3e+01
## y_sim[95] 1.3e+00 1.5718 0.0e+00 0.0e+00 1.0e+00 2.0e+00 6.0e+00
## y_sim[96] 4.2e-01 0.9009 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[97] 1.3e+00 1.5431 0.0e+00 0.0e+00 1.0e+00 2.0e+00 5.0e+00
## y_sim[98] 2.2e+00 1.9806 0.0e+00 1.0e+00 2.0e+00 3.0e+00 7.0e+00
## y_sim[99] 3.2e+00 2.4199 0.0e+00 1.0e+00 3.0e+00 5.0e+00 9.0e+00
## y_sim[100] 2.2e+00 2.1026 0.0e+00 1.0e+00 2.0e+00 3.0e+00 8.0e+00
## y_sim[101] 4.4e-01 0.8937 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[102] 9.0e+00 4.0536 2.0e+00 6.0e+00 9.0e+00 1.1e+01 1.8e+01
## y_sim[103] 7.6e+00 3.9913 1.0e+00 5.0e+00 7.0e+00 1.0e+01 1.7e+01
## y_sim[104] 4.2e-01 0.8513 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[105] 4.2e-01 0.9132 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[106] 4.2e-01 0.8880 0.0e+00 0.0e+00 0.0e+00 2.5e-01 3.0e+00
## y_sim[107] 5.8e+00 3.2618 1.0e+00 3.0e+00 5.0e+00 8.0e+00 1.3e+01
## y_sim[108] 4.1e-01 0.8614 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[109] 3.1e+00 2.4240 0.0e+00 1.0e+00 3.0e+00 4.0e+00 9.0e+00
## y_sim[110] 2.0e+01 6.2098 9.0e+00 1.5e+01 1.9e+01 2.3e+01 3.4e+01
## y_sim[111] 3.0e+00 2.3660 0.0e+00 1.0e+00 3.0e+00 4.0e+00 9.0e+00
## y_sim[112] 1.7e+01 5.6729 7.0e+00 1.3e+01 1.6e+01 2.0e+01 3.0e+01
## y_sim[113] 1.0e+01 4.4377 3.0e+00 7.0e+00 1.0e+01 1.3e+01 2.0e+01
## y_sim[114] 1.3e+00 1.5231 0.0e+00 0.0e+00 1.0e+00 2.0e+00 5.0e+00
## y_sim[115] 2.2e+00 2.0172 0.0e+00 1.0e+00 2.0e+00 3.0e+00 7.0e+00
## y_sim[116] 1.1e+01 4.5657 4.0e+00 8.0e+00 1.1e+01 1.4e+01 2.2e+01
## y_sim[117] 5.8e+00 3.3410 1.0e+00 3.0e+00 5.0e+00 8.0e+00 1.4e+01
## y_sim[118] 1.4e+01 5.2949 5.0e+00 1.0e+01 1.4e+01 1.7e+01 2.6e+01
## y_sim[119] 1.3e+00 1.5409 0.0e+00 0.0e+00 1.0e+00 2.0e+00 5.0e+00
## y_sim[120] 3.2e+01 7.9334 1.8e+01 2.6e+01 3.2e+01 3.7e+01 4.8e+01
## y_sim[121] 3.6e+00 2.5776 0.0e+00 2.0e+00 3.0e+00 5.0e+00 1.0e+01
## y_sim[122] 2.2e+01 6.7079 1.0e+01 1.7e+01 2.1e+01 2.6e+01 3.6e+01
## y_sim[123] 1.3e+01 5.1091 5.0e+00 1.0e+01 1.3e+01 1.6e+01 2.5e+01
## y_sim[124] 4.4e-01 0.9251 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[125] 1.2e+01 4.7599 4.0e+00 9.0e+00 1.2e+01 1.5e+01 2.3e+01
## y_sim[126] 4.0e-01 0.9079 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[127] 8.9e+00 4.1918 2.0e+00 6.0e+00 9.0e+00 1.1e+01 1.9e+01
## y_sim[128] 3.0e-01 0.7116 0.0e+00 0.0e+00 0.0e+00 0.0e+00 2.0e+00
## y_sim[129] 3.0e-01 0.6457 0.0e+00 0.0e+00 0.0e+00 0.0e+00 2.0e+00

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## y_sim[130] 3.6e-01 0.7795 0.0e+00 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[131] 3.9e-01 0.8006 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[132] 4.5e-01 0.9433 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[133] 3.6e-01 0.8239 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[134] 4.3e-01 0.8806 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[135] 4.4e-01 0.9823 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[136] 4.1e-01 0.8719 0.0e+00 0.0e+00 0.0e+00 2.5e-01 3.0e+00
## y_sim[137] 4.2e-01 0.8996 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[138] 3.2e+00 2.4245 0.0e+00 1.0e+00 3.0e+00 4.0e+00 9.0e+00
## y_sim[139] 1.1e+01 4.8549 4.0e+00 8.0e+00 1.1e+01 1.4e+01 2.2e+01
## y_sim[140] 4.0e-01 0.8349 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[141] 5.9e+00 3.5016 1.0e+00 3.0e+00 5.0e+00 8.0e+00 1.4e+01
## y_sim[142] 2.5e+01 6.9640 1.3e+01 2.0e+01 2.5e+01 2.9e+01 4.0e+01
## y_sim[143] 1.1e+00 1.2231 0.0e+00 0.0e+00 1.0e+00 2.0e+00 4.0e+00
## y_sim[144] 1.5e+01 5.3106 6.0e+00 1.1e+01 1.4e+01 1.8e+01 2.7e+01
## y_sim[145] 3.6e+01 8.4051 2.1e+01 3.0e+01 3.5e+01 4.1e+01 5.3e+01
## y_sim[146] 2.5e+01 7.2763 1.2e+01 2.0e+01 2.4e+01 2.9e+01 4.1e+01
## y_sim[147] 9.9e+00 4.4040 3.0e+00 7.0e+00 9.0e+00 1.2e+01 2.0e+01
## y_sim[148] 8.6e+00 4.0418 2.0e+00 6.0e+00 8.0e+00 1.1e+01 1.8e+01
## y_sim[149] 9.8e+00 4.4257 3.0e+00 7.0e+00 9.0e+00 1.3e+01 2.0e+01
## y_sim[150] 4.2e+00 2.8751 0.0e+00 2.0e+00 4.0e+00 6.0e+00 1.1e+01
## y_sim[151] 1.7e+01 5.7919 7.0e+00 1.3e+01 1.7e+01 2.1e+01 3.0e+01
## y_sim[152] 3.2e+00 2.4965 0.0e+00 1.0e+00 3.0e+00 4.0e+00 9.5e+00
## y_sim[153] 1.1e+01 4.6174 4.0e+00 7.0e+00 1.0e+01 1.3e+01 2.1e+01
## y_sim[154] 1.2e+00 1.4730 0.0e+00 0.0e+00 1.0e+00 2.0e+00 5.0e+00
## y_sim[155] 2.2e+00 2.0799 0.0e+00 1.0e+00 2.0e+00 3.0e+00 7.0e+00
## y_sim[156] 4.3e-01 0.8502 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[157] 1.3e+00 1.5432 0.0e+00 0.0e+00 1.0e+00 2.0e+00 5.0e+00
## y_sim[158] 1.2e+00 1.4849 0.0e+00 0.0e+00 1.0e+00 2.0e+00 5.0e+00
## y_sim[159] 4.2e+00 2.9182 0.0e+00 2.0e+00 4.0e+00 6.0e+00 1.1e+01
## y_sim[160] 2.0e+01 6.2737 9.0e+00 1.5e+01 1.9e+01 2.3e+01 3.3e+01
## y_sim[161] 3.7e-01 0.8128 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[162] 5.2e+00 3.0105 4.8e-01 3.0e+00 5.0e+00 7.0e+00 1.2e+01
## y_sim[163] 3.6e-01 0.7905 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[164] 1.2e+00 1.4781 0.0e+00 0.0e+00 1.0e+00 2.0e+00 5.0e+00
## y_sim[165] 3.7e-01 0.8063 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[166] 4.4e+01 9.6396 2.6e+01 3.8e+01 4.4e+01 5.0e+01 6.5e+01
## y_sim[167] 3.8e-01 0.8033 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[168] 2.3e+00 2.1348 0.0e+00 1.0e+00 2.0e+00 3.0e+00 8.0e+00
## y_sim[169] 3.2e+00 2.4647 0.0e+00 1.0e+00 3.0e+00 4.0e+00 9.0e+00
## y_sim[170] 3.0e-01 0.7138 0.0e+00 0.0e+00 0.0e+00 0.0e+00 2.0e+00
## y_sim[171] 4.0e+00 2.7512 0.0e+00 2.0e+00 4.0e+00 6.0e+00 1.1e+01
## y_sim[172] 1.2e+01 4.8579 4.0e+00 9.0e+00 1.2e+01 1.6e+01 2.3e+01
## y_sim[173] 2.0e+01 6.1326 9.0e+00 1.5e+01 1.9e+01 2.3e+01 3.3e+01
## y_sim[174] 2.5e+01 6.8032 1.2e+01 2.0e+01 2.4e+01 2.9e+01 3.9e+01
## y_sim[175] 4.3e-01 0.9213 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[176] 1.5e+01 5.4748 6.0e+00 1.1e+01 1.5e+01 1.9e+01 2.7e+01
## y_sim[177] 2.2e+00 2.0689 0.0e+00 1.0e+00 2.0e+00 3.0e+00 7.0e+00
## y_sim[178] 2.8e+01 7.4561 1.5e+01 2.3e+01 2.8e+01 3.3e+01 4.5e+01
## y_sim[179] 2.3e+01 6.6253 1.1e+01 1.9e+01 2.3e+01 2.7e+01 3.8e+01
## y_sim[180] 4.2e-01 0.8975 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[181] 6.3e+00 3.4516 1.0e+00 4.0e+00 6.0e+00 8.0e+00 1.4e+01
## y_sim[182] 1.6e+01 5.4861 7.0e+00 1.2e+01 1.5e+01 1.9e+01 2.8e+01
## y_sim[183] 1.7e+01 5.8573 7.0e+00 1.3e+01 1.6e+01 2.0e+01 3.0e+01

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## y_sim[184] 1.7e+01 5.6819 7.0e+00 1.3e+01 1.7e+01 2.0e+01 3.0e+01
## y_sim[185] 1.4e+01 5.1270 5.0e+00 1.1e+01 1.4e+01 1.8e+01 2.5e+01
## y_sim[186] 3.8e-01 0.8266 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[187] 1.3e+00 1.5781 0.0e+00 0.0e+00 1.0e+00 2.0e+00 5.0e+00
## y_sim[188] 4.1e-01 0.8650 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[189] 3.5e-01 0.7476 0.0e+00 0.0e+00 0.0e+00 0.0e+00 2.0e+00
## y_sim[190] 3.7e+01 8.2361 2.3e+01 3.2e+01 3.7e+01 4.3e+01 5.5e+01
## y_sim[191] 2.5e+01 6.5775 1.3e+01 2.0e+01 2.4e+01 2.9e+01 3.9e+01
## y_sim[192] 3.3e-01 0.7395 0.0e+00 0.0e+00 0.0e+00 0.0e+00 2.0e+00
## y_sim[193] 2.0e+01 6.1024 1.0e+01 1.6e+01 2.0e+01 2.4e+01 3.3e+01
## y_sim[194] 3.9e+00 2.7550 0.0e+00 2.0e+00 4.0e+00 5.0e+00 1.0e+01
## y_sim[195] 7.1e+00 3.8318 1.0e+00 4.0e+00 6.0e+00 9.0e+00 1.6e+01
## y_sim[196] 3.8e-01 0.7915 0.0e+00 0.0e+00 0.0e+00 1.0e+00 2.5e+00
## y_sim[197] 3.9e-01 0.8512 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[198] 4.0e-01 0.8540 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[199] 4.3e-01 0.8957 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[200] 3.9e+00 2.5845 0.0e+00 2.0e+00 4.0e+00 5.0e+00 1.0e+01
## y_sim[201] 4.1e+00 2.8132 0.0e+00 2.0e+00 4.0e+00 6.0e+00 1.1e+01
## y_sim[202] 3.0e+00 2.3326 0.0e+00 1.0e+00 3.0e+00 4.0e+00 9.0e+00
## y_sim[203] 4.2e-01 0.8639 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[204] 3.6e-01 0.7858 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[205] 4.0e-01 0.8588 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[206] 3.8e-01 0.8086 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## lp_ 1.7e+03 13.6319 1.6e+03 1.7e+03 1.7e+03 1.7e+03 1.7e+03
##
## , , chains = chain:3
##
## stats
## parameter mean sd 2.5% 25% 50% 75% 97.5%
## alpha_gamma 4.5e-01 0.0586 3.5e-01 4.1e-01 4.5e-01 4.9e-01 5.8e-01
## beta_gamma 5.3e+00 0.9015 3.7e+00 4.7e+00 5.2e+00 5.9e+00 7.2e+00
## theta[1] 2.1e-01 0.0430 1.3e-01 1.8e-01 2.1e-01 2.4e-01 3.0e-01
## theta[2] 1.1e-01 0.0309 5.9e-02 8.8e-02 1.1e-01 1.3e-01 1.8e-01
## theta[3] 9.8e-03 0.0150 3.4e-06 8.9e-04 4.0e-03 1.2e-02 5.4e-02
## theta[4] 6.2e-02 0.0243 2.3e-02 4.5e-02 5.9e-02 7.6e-02 1.2e-01
## theta[5] 1.4e-02 0.0118 8.0e-04 5.3e-03 1.1e-02 1.9e-02 4.3e-02
## theta[6] 1.2e-02 0.0094 9.7e-04 4.8e-03 9.5e-03 1.7e-02 3.6e-02
## theta[7] 7.6e-03 0.0112 8.3e-06 6.2e-04 3.1e-03 9.5e-03 4.0e-02
## theta[8] 7.4e-03 0.0115 1.3e-06 4.7e-04 3.1e-03 9.6e-03 4.0e-02
## theta[9] 8.2e-03 0.0120 4.3e-06 8.1e-04 3.7e-03 1.1e-02 4.1e-02
## theta[10] 1.1e-02 0.0159 4.2e-06 7.8e-04 4.4e-03 1.4e-02 5.7e-02
## theta[11] 9.7e-03 0.0149 4.2e-06 6.6e-04 3.9e-03 1.2e-02 5.1e-02
## theta[12] 1.0e-02 0.0148 7.9e-06 9.5e-04 5.1e-03 1.4e-02 5.4e-02
## theta[13] 1.1e-02 0.0173 4.8e-06 7.8e-04 4.3e-03 1.4e-02 5.8e-02
## theta[14] 1.2e-02 0.0181 5.8e-06 7.2e-04 4.2e-03 1.5e-02 6.4e-02
## theta[15] 1.2e-02 0.0167 5.8e-06 9.2e-04 5.1e-03 1.6e-02 6.0e-02
## theta[16] 1.5e-01 0.0351 8.8e-02 1.3e-01 1.5e-01 1.7e-01 2.3e-01
## theta[17] 1.1e-02 0.0154 3.9e-06 8.2e-04 4.6e-03 1.5e-02 5.7e-02
## theta[18] 1.1e-01 0.0286 6.3e-02 9.0e-02 1.1e-01 1.3e-01 1.7e-01
## theta[19] 3.7e-02 0.0170 1.1e-02 2.5e-02 3.4e-02 4.6e-02 7.8e-02
## theta[20] 1.5e-01 0.0370 9.2e-02 1.2e-01 1.5e-01 1.7e-01 2.3e-01
## theta[21] 1.0e-01 0.0272 5.6e-02 8.3e-02 1.0e-01 1.2e-01 1.6e-01
## theta[22] 1.2e-02 0.0104 6.5e-04 4.6e-03 9.5e-03 1.7e-02 3.9e-02
## theta[23] 3.9e-03 0.0062 7.6e-07 2.6e-04 1.6e-03 4.9e-03 2.0e-02

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##	theta[24]	3.4e-01	0.0516	2.5e-01	3.1e-01	3.4e-01	3.7e-01	4.5e-01
##	theta[25]	2.8e-02	0.0143	7.5e-03	1.8e-02	2.6e-02	3.7e-02	6.2e-02
##	theta[26]	8.0e-03	0.0115	2.0e-06	5.9e-04	3.5e-03	1.1e-02	4.0e-02
##	theta[27]	9.4e-03	0.0143	1.9e-06	8.9e-04	4.1e-03	1.2e-02	4.8e-02
##	theta[28]	3.7e-02	0.0171	1.1e-02	2.4e-02	3.4e-02	4.6e-02	7.7e-02
##	theta[29]	1.1e-01	0.0298	6.1e-02	9.0e-02	1.1e-01	1.3e-01	1.8e-01
##	theta[30]	2.8e-02	0.0145	7.1e-03	1.8e-02	2.6e-02	3.7e-02	6.3e-02
##	theta[31]	4.5e-02	0.0204	1.5e-02	3.1e-02	4.2e-02	5.7e-02	9.6e-02
##	theta[32]	6.2e-02	0.0228	2.6e-02	4.6e-02	5.9e-02	7.5e-02	1.2e-01
##	theta[33]	1.2e-02	0.0095	7.5e-04	4.9e-03	9.3e-03	1.6e-02	3.6e-02
##	theta[34]	4.5e-02	0.0200	1.5e-02	3.0e-02	4.2e-02	5.6e-02	9.0e-02
##	theta[35]	1.2e-02	0.0094	7.4e-04	4.8e-03	9.7e-03	1.6e-02	3.5e-02
##	theta[36]	1.9e-01	0.0402	1.2e-01	1.7e-01	1.9e-01	2.2e-01	2.8e-01
##	theta[37]	4.6e-03	0.0066	3.6e-06	3.8e-04	2.0e-03	5.9e-03	2.5e-02
##	theta[38]	4.5e-02	0.0187	1.6e-02	3.1e-02	4.2e-02	5.5e-02	8.6e-02
##	theta[39]	7.8e-02	0.0253	3.7e-02	6.0e-02	7.5e-02	9.3e-02	1.4e-01
##	theta[40]	3.9e-03	0.0059	1.5e-06	2.5e-04	1.5e-03	4.9e-03	2.1e-02
##	theta[41]	1.9e-01	0.0398	1.2e-01	1.6e-01	1.8e-01	2.1e-01	2.7e-01
##	theta[42]	5.6e-03	0.0080	5.0e-06	4.9e-04	2.6e-03	7.6e-03	2.9e-02
##	theta[43]	6.1e-03	0.0089	4.3e-06	5.5e-04	2.5e-03	7.8e-03	3.3e-02
##	theta[44]	3.6e-03	0.0055	1.5e-06	2.3e-04	1.5e-03	4.5e-03	2.1e-02
##	theta[45]	7.8e-02	0.0252	3.7e-02	6.0e-02	7.5e-02	9.3e-02	1.4e-01
##	theta[46]	6.0e-03	0.0088	8.7e-07	4.9e-04	2.5e-03	7.6e-03	3.2e-02
##	theta[47]	2.8e-02	0.0148	7.5e-03	1.7e-02	2.6e-02	3.6e-02	6.4e-02
##	theta[48]	2.6e-01	0.0661	1.5e-01	2.2e-01	2.6e-01	3.0e-01	4.0e-01
##	theta[49]	6.4e-02	0.0301	1.9e-02	4.1e-02	5.9e-02	8.1e-02	1.4e-01
##	theta[50]	9.4e-03	0.0136	1.6e-06	8.3e-04	4.3e-03	1.3e-02	5.2e-02
##	theta[51]	6.2e-02	0.0255	2.3e-02	4.4e-02	5.9e-02	7.7e-02	1.2e-01
##	theta[52]	2.2e-01	0.0941	7.8e-02	1.5e-01	2.1e-01	2.8e-01	4.5e-01
##	theta[53]	4.1e-03	0.0058	2.7e-06	3.6e-04	2.0e-03	5.4e-03	2.1e-02
##	theta[54]	8.2e-02	0.0286	3.4e-02	6.1e-02	7.8e-02	9.9e-02	1.5e-01
##	theta[55]	1.8e-02	0.0139	1.6e-03	7.5e-03	1.4e-02	2.5e-02	5.4e-02
##	theta[56]	1.6e-02	0.0241	8.6e-06	1.1e-03	6.3e-03	2.2e-02	8.7e-02
##	theta[57]	1.6e-02	0.0232	4.5e-06	1.1e-03	6.2e-03	2.1e-02	8.6e-02
##	theta[58]	1.3e-01	0.0319	7.9e-02	1.1e-01	1.3e-01	1.5e-01	2.0e-01
##	theta[59]	6.0e-03	0.0095	1.4e-06	3.6e-04	2.3e-03	7.4e-03	3.2e-02
##	theta[60]	8.3e-03	0.0124	2.4e-06	5.4e-04	3.0e-03	1.1e-02	4.4e-02
##	theta[61]	4.0e-03	0.0061	4.2e-07	2.8e-04	1.5e-03	5.3e-03	2.1e-02
##	theta[62]	1.5e-02	0.0227	3.4e-06	1.1e-03	5.9e-03	1.9e-02	7.7e-02
##	theta[63]	1.4e-02	0.0216	6.6e-06	1.1e-03	6.4e-03	1.8e-02	7.9e-02
##	theta[64]	1.4e-02	0.0212	8.9e-06	1.3e-03	6.0e-03	1.8e-02	7.6e-02
##	theta[65]	8.4e-02	0.0566	1.2e-02	4.3e-02	7.2e-02	1.1e-01	2.2e-01
##	theta[66]	6.9e-02	0.0276	2.6e-02	4.9e-02	6.5e-02	8.4e-02	1.4e-01
##	theta[67]	1.2e-01	0.0668	2.6e-02	6.9e-02	1.0e-01	1.6e-01	2.7e-01
##	theta[68]	3.2e-02	0.0473	9.6e-06	2.4e-03	1.3e-02	4.2e-02	1.7e-01
##	theta[69]	1.5e-02	0.0217	1.5e-06	1.3e-03	6.0e-03	1.9e-02	7.6e-02
##	theta[70]	1.3e-01	0.0329	7.1e-02	1.0e-01	1.2e-01	1.5e-01	2.0e-01
##	theta[71]	2.5e-02	0.0212	1.9e-03	9.5e-03	1.9e-02	3.3e-02	8.3e-02
##	theta[72]	1.0e-01	0.0275	5.6e-02	8.3e-02	1.0e-01	1.2e-01	1.6e-01
##	theta[73]	4.9e-02	0.0386	3.8e-03	1.9e-02	3.9e-02	6.9e-02	1.5e-01
##	theta[74]	9.4e-02	0.0269	4.7e-02	7.5e-02	9.1e-02	1.1e-01	1.5e-01
##	theta[75]	3.4e-01	0.0531	2.5e-01	3.0e-01	3.4e-01	3.8e-01	4.5e-01
##	theta[76]	6.5e-02	0.0345	1.6e-02	4.0e-02	5.9e-02	8.4e-02	1.5e-01
##	theta[77]	6.6e-02	0.0356	1.6e-02	4.0e-02	6.0e-02	8.4e-02	1.5e-01

##	theta[78]	2.8e-02	0.0246	2.0e-03	1.1e-02	2.2e-02	3.8e-02	9.6e-02
##	theta[79]	4.9e-02	0.0392	3.6e-03	2.1e-02	3.8e-02	6.8e-02	1.5e-01
##	theta[80]	1.6e-02	0.0236	1.0e-05	1.3e-03	6.5e-03	2.1e-02	8.5e-02
##	theta[81]	8.4e-02	0.0558	1.2e-02	4.1e-02	7.2e-02	1.1e-01	2.2e-01
##	theta[82]	1.2e-01	0.0664	2.5e-02	6.6e-02	1.0e-01	1.5e-01	2.7e-01
##	theta[83]	1.2e-01	0.0639	2.7e-02	6.8e-02	1.0e-01	1.5e-01	2.7e-01
##	theta[84]	9.0e-02	0.0303	4.2e-02	6.9e-02	8.6e-02	1.1e-01	1.6e-01
##	theta[85]	3.7e-03	0.0055	1.3e-06	2.8e-04	1.6e-03	4.8e-03	1.9e-02
##	theta[86]	1.2e-02	0.0099	9.9e-04	4.8e-03	9.9e-03	1.8e-02	3.8e-02
##	theta[87]	3.8e-03	0.0056	6.4e-07	2.8e-04	1.5e-03	4.9e-03	2.0e-02
##	theta[88]	5.7e-03	0.0086	1.5e-06	3.6e-04	2.1e-03	7.3e-03	3.1e-02
##	theta[89]	9.7e-03	0.0148	1.8e-06	6.7e-04	4.0e-03	1.2e-02	5.3e-02
##	theta[90]	1.0e-02	0.0160	1.7e-06	6.2e-04	3.7e-03	1.4e-02	5.6e-02
##	theta[91]	5.3e-02	0.0324	1.1e-02	2.8e-02	4.7e-02	7.1e-02	1.3e-01
##	theta[92]	8.6e-03	0.0126	1.6e-06	8.3e-04	4.0e-03	1.1e-02	4.3e-02
##	theta[93]	7.9e-03	0.0118	2.8e-06	6.7e-04	3.3e-03	1.0e-02	4.1e-02
##	theta[94]	1.1e-01	0.0406	4.3e-02	7.6e-02	1.0e-01	1.3e-01	2.0e-01
##	theta[95]	2.4e-02	0.0210	1.3e-03	8.6e-03	1.8e-02	3.3e-02	7.8e-02
##	theta[96]	7.6e-03	0.0115	2.2e-06	5.5e-04	3.0e-03	9.6e-03	4.3e-02
##	theta[97]	2.4e-02	0.0190	1.3e-03	9.8e-03	2.0e-02	3.2e-02	7.4e-02
##	theta[98]	4.1e-02	0.0253	6.5e-03	2.2e-02	3.6e-02	5.4e-02	1.1e-01
##	theta[99]	5.8e-02	0.0319	1.2e-02	3.5e-02	5.2e-02	7.5e-02	1.3e-01
##	theta[100]	4.0e-02	0.0256	5.5e-03	2.0e-02	3.5e-02	5.4e-02	1.0e-01
##	theta[101]	7.7e-03	0.0110	3.5e-06	6.2e-04	3.2e-03	1.1e-02	4.3e-02
##	theta[102]	7.8e-02	0.0240	3.8e-02	6.0e-02	7.6e-02	9.2e-02	1.3e-01
##	theta[103]	1.4e-01	0.0479	6.3e-02	1.0e-01	1.3e-01	1.7e-01	2.5e-01
##	theta[104]	6.9e-03	0.0106	2.2e-06	4.9e-04	2.8e-03	8.6e-03	3.6e-02
##	theta[105]	7.2e-03	0.0111	9.2e-07	6.2e-04	3.2e-03	9.4e-03	3.7e-02
##	theta[106]	7.6e-03	0.0118	2.4e-06	6.2e-04	3.1e-03	9.9e-03	3.9e-02
##	theta[107]	1.1e-01	0.0405	4.2e-02	7.5e-02	1.0e-01	1.3e-01	1.9e-01
##	theta[108]	7.3e-03	0.0105	3.3e-06	6.5e-04	3.3e-03	9.7e-03	3.4e-02
##	theta[109]	5.7e-02	0.0295	1.3e-02	3.5e-02	5.3e-02	7.3e-02	1.3e-01
##	theta[110]	3.6e-01	0.0754	2.3e-01	3.0e-01	3.5e-01	4.0e-01	5.2e-01
##	theta[111]	5.8e-02	0.0318	1.4e-02	3.5e-02	5.2e-02	7.4e-02	1.3e-01
##	theta[112]	3.0e-01	0.0717	1.7e-01	2.5e-01	2.9e-01	3.5e-01	4.6e-01
##	theta[113]	2.0e-01	0.0568	1.0e-01	1.5e-01	1.9e-01	2.3e-01	3.2e-01
##	theta[114]	2.5e-02	0.0208	1.6e-03	1.0e-02	2.1e-02	3.5e-02	7.6e-02
##	theta[115]	4.1e-02	0.0261	6.7e-03	2.2e-02	3.5e-02	5.6e-02	1.1e-01
##	theta[116]	2.2e-01	0.0624	1.1e-01	1.7e-01	2.1e-01	2.5e-01	3.6e-01
##	theta[117]	1.1e-01	0.0398	4.3e-02	7.8e-02	1.0e-01	1.3e-01	1.9e-01
##	theta[118]	2.6e-01	0.0669	1.4e-01	2.1e-01	2.5e-01	3.0e-01	4.0e-01
##	theta[119]	3.3e-02	0.0272	1.7e-03	1.3e-02	2.6e-02	4.7e-02	1.0e-01
##	theta[120]	2.8e-01	0.0493	1.9e-01	2.4e-01	2.7e-01	3.1e-01	3.8e-01
##	theta[121]	1.6e-01	0.0761	4.5e-02	1.0e-01	1.5e-01	2.0e-01	3.4e-01
##	theta[122]	5.4e-01	0.1106	3.4e-01	4.6e-01	5.3e-01	6.1e-01	7.7e-01
##	theta[123]	3.3e-01	0.0872	1.9e-01	2.7e-01	3.2e-01	3.9e-01	5.2e-01
##	theta[124]	7.7e-03	0.0107	8.2e-06	7.5e-04	3.5e-03	1.0e-02	3.7e-02
##	theta[125]	2.4e-01	0.0648	1.4e-01	2.0e-01	2.4e-01	2.8e-01	3.8e-01
##	theta[126]	7.7e-03	0.0115	3.4e-06	7.0e-04	3.4e-03	1.1e-02	3.7e-02
##	theta[127]	8.5e-02	0.0254	4.2e-02	6.7e-02	8.3e-02	1.0e-01	1.4e-01
##	theta[128]	2.6e-02	0.0380	1.2e-05	2.0e-03	1.1e-02	3.5e-02	1.4e-01
##	theta[129]	2.9e-02	0.0423	6.7e-06	1.9e-03	1.1e-02	3.8e-02	1.6e-01
##	theta[130]	1.5e-02	0.0218	1.0e-05	1.0e-03	6.2e-03	1.9e-02	8.1e-02
##	theta[131]	8.1e-03	0.0127	3.1e-06	5.4e-04	2.9e-03	1.0e-02	4.3e-02

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## theta[132] 8.2e-03 0.0122 6.7e-06 7.4e-04 3.6e-03 1.0e-02 4.3e-02
## theta[133] 8.3e-03 0.0125 2.3e-06 6.5e-04 3.3e-03 1.1e-02 4.5e-02
## theta[134] 7.3e-03 0.0108 2.2e-06 5.3e-04 2.7e-03 9.6e-03 3.9e-02
## theta[135] 1.0e-02 0.0162 1.7e-06 6.8e-04 3.6e-03 1.3e-02 5.9e-02
## theta[136] 8.0e-03 0.0118 1.8e-06 6.0e-04 3.4e-03 1.1e-02 4.2e-02
## theta[137] 1.1e-02 0.0164 2.2e-06 6.5e-04 3.9e-03 1.5e-02 5.6e-02
## theta[138] 4.8e-02 0.0239 1.3e-02 3.1e-02 4.4e-02 6.1e-02 1.1e-01
## theta[139] 2.2e-01 0.0582 1.2e-01 1.7e-01 2.1e-01 2.5e-01 3.4e-01
## theta[140] 7.0e-03 0.0101 5.6e-06 6.1e-04 3.1e-03 9.1e-03 3.6e-02
## theta[141] 9.3e-02 0.0358 3.7e-02 6.6e-02 8.9e-02 1.1e-01 1.8e-01
## theta[142] 4.2e-01 0.0770 2.8e-01 3.7e-01 4.1e-01 4.7e-01 5.9e-01
## theta[143] 2.7e-01 0.1702 4.6e-02 1.5e-01 2.4e-01 3.4e-01 7.2e-01
## theta[144] 1.3e-01 0.0339 6.9e-02 1.0e-01 1.2e-01 1.5e-01 2.0e-01
## theta[145] 3.1e-01 0.0508 2.2e-01 2.7e-01 3.1e-01 3.4e-01 4.1e-01
## theta[146] 3.0e-01 0.0569 2.0e-01 2.6e-01 2.9e-01 3.3e-01 4.2e-01
## theta[147] 1.1e-01 0.0326 5.1e-02 8.3e-02 1.0e-01 1.2e-01 1.8e-01
## theta[148] 1.2e-01 0.0418 5.8e-02 9.3e-02 1.2e-01 1.5e-01 2.2e-01
## theta[149] 1.4e-01 0.0445 6.5e-02 1.0e-01 1.3e-01 1.6e-01 2.4e-01
## theta[150] 5.9e-02 0.0277 1.6e-02 3.9e-02 5.4e-02 7.5e-02 1.2e-01
## theta[151] 2.5e-01 0.0609 1.5e-01 2.1e-01 2.5e-01 2.9e-01 3.9e-01
## theta[152] 3.8e-02 0.0214 8.8e-03 2.2e-02 3.4e-02 5.0e-02 8.9e-02
## theta[153] 1.1e-01 0.0332 5.8e-02 8.8e-02 1.1e-01 1.3e-01 1.9e-01
## theta[154] 5.2e-02 0.0426 3.9e-03 2.1e-02 4.1e-02 7.4e-02 1.6e-01
## theta[155] 4.1e-02 0.0267 6.8e-03 2.2e-02 3.4e-02 5.6e-02 1.1e-01
## theta[156] 9.2e-03 0.0135 1.9e-06 8.1e-04 4.0e-03 1.1e-02 4.6e-02
## theta[157] 3.0e-02 0.0247 2.2e-03 1.2e-02 2.3e-02 4.0e-02 9.6e-02
## theta[158] 2.9e-02 0.0244 2.1e-03 1.1e-02 2.2e-02 4.0e-02 8.9e-02
## theta[159] 3.7e-02 0.0169 1.1e-02 2.5e-02 3.4e-02 4.6e-02 7.9e-02
## theta[160] 2.0e-01 0.0455 1.2e-01 1.7e-01 2.0e-01 2.3e-01 3.0e-01
## theta[161] 1.6e-02 0.0243 9.2e-06 1.0e-03 6.5e-03 2.0e-02 9.0e-02
## theta[162] 2.2e-01 0.0867 8.0e-02 1.6e-01 2.1e-01 2.7e-01 4.3e-01
## theta[163] 1.6e-02 0.0242 6.7e-06 9.7e-04 5.7e-03 2.0e-02 8.9e-02
## theta[164] 4.8e-02 0.0386 3.4e-03 1.9e-02 3.7e-02 6.6e-02 1.4e-01
## theta[165] 1.6e-02 0.0215 8.3e-06 1.5e-03 6.9e-03 2.1e-02 7.6e-02
## theta[166] 3.8e-01 0.0572 2.8e-01 3.4e-01 3.8e-01 4.2e-01 5.0e-01
## theta[167] 1.2e-02 0.0171 9.0e-06 1.0e-03 5.3e-03 1.6e-02 6.3e-02
## theta[168] 2.4e-02 0.0151 4.3e-03 1.3e-02 2.1e-02 3.2e-02 6.2e-02
## theta[169] 4.9e-02 0.0258 1.1e-02 3.0e-02 4.4e-02 6.2e-02 1.1e-01
## theta[170] 2.7e-02 0.0407 2.5e-05 2.2e-03 1.1e-02 3.6e-02 1.3e-01
## theta[171] 6.2e-02 0.0288 1.8e-02 4.0e-02 5.7e-02 7.8e-02 1.3e-01
## theta[172] 1.9e-01 0.0516 9.9e-02 1.5e-01 1.8e-01 2.2e-01 3.0e-01
## theta[173] 1.7e-01 0.0396 1.0e-01 1.4e-01 1.7e-01 1.9e-01 2.6e-01
## theta[174] 3.6e-01 0.0715 2.4e-01 3.1e-01 3.6e-01 4.1e-01 5.1e-01
## theta[175] 6.5e-03 0.0096 1.9e-06 5.8e-04 2.9e-03 8.3e-03 3.2e-02
## theta[176] 2.2e-01 0.0540 1.3e-01 1.9e-01 2.2e-01 2.6e-01 3.4e-01
## theta[177] 4.9e-02 0.0314 7.1e-03 2.5e-02 4.2e-02 6.4e-02 1.3e-01
## theta[178] 4.2e-01 0.0737 2.9e-01 3.6e-01 4.1e-01 4.6e-01 5.7e-01
## theta[179] 3.5e-01 0.0692 2.2e-01 3.0e-01 3.5e-01 3.9e-01 5.0e-01
## theta[180] 8.3e-03 0.0132 2.3e-06 4.3e-04 3.0e-03 1.0e-02 4.9e-02
## theta[181] 5.3e-02 0.0205 2.1e-02 3.8e-02 5.1e-02 6.5e-02 9.8e-02
## theta[182] 1.3e-01 0.0326 7.8e-02 1.1e-01 1.3e-01 1.6e-01 2.0e-01
## theta[183] 2.7e-01 0.0662 1.6e-01 2.3e-01 2.7e-01 3.2e-01 4.2e-01
## theta[184] 2.7e-01 0.0655 1.6e-01 2.3e-01 2.7e-01 3.1e-01 4.2e-01
## theta[185] 2.3e-01 0.0557 1.3e-01 1.9e-01 2.3e-01 2.6e-01 3.6e-01

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##	theta[186]	1.7e-02	0.0244	1.4e-05	1.8e-03	8.5e-03	2.2e-02	8.6e-02
##	theta[187]	2.2e-02	0.0183	1.7e-03	9.0e-03	1.8e-02	3.0e-02	6.7e-02
##	theta[188]	7.8e-03	0.0119	4.5e-06	6.0e-04	3.2e-03	1.0e-02	4.1e-02
##	theta[189]	1.2e-02	0.0188	6.6e-06	9.0e-04	4.6e-03	1.6e-02	6.6e-02
##	theta[190]	5.5e-01	0.0875	3.9e-01	4.9e-01	5.4e-01	6.0e-01	7.3e-01
##	theta[191]	3.5e-01	0.0685	2.2e-01	3.0e-01	3.4e-01	3.9e-01	5.0e-01
##	theta[192]	2.4e-02	0.0334	1.4e-05	1.7e-03	1.0e-02	3.1e-02	1.2e-01
##	theta[193]	1.8e-01	0.0385	1.1e-01	1.5e-01	1.7e-01	2.0e-01	2.6e-01
##	theta[194]	9.9e-02	0.0487	2.7e-02	6.4e-02	9.1e-02	1.3e-01	2.1e-01
##	theta[195]	6.5e-02	0.0234	2.9e-02	4.8e-02	6.3e-02	7.9e-02	1.2e-01
##	theta[196]	1.1e-02	0.0160	4.9e-06	8.5e-04	4.5e-03	1.5e-02	5.7e-02
##	theta[197]	1.1e-02	0.0169	4.3e-06	9.5e-04	4.7e-03	1.4e-02	5.9e-02
##	theta[198]	8.9e-03	0.0140	2.3e-06	6.9e-04	3.6e-03	1.1e-02	5.0e-02
##	theta[199]	1.1e-02	0.0159	5.6e-06	7.4e-04	4.4e-03	1.4e-02	5.8e-02
##	theta[200]	8.4e-02	0.0396	2.5e-02	5.5e-02	7.9e-02	1.1e-01	1.8e-01
##	theta[201]	8.6e-02	0.0407	2.5e-02	5.6e-02	7.9e-02	1.1e-01	1.8e-01
##	theta[202]	8.1e-02	0.0449	1.9e-02	4.7e-02	7.2e-02	1.1e-01	1.9e-01
##	theta[203]	1.4e-02	0.0213	1.7e-06	6.5e-04	4.6e-03	1.7e-02	7.5e-02
##	theta[204]	1.6e-02	0.0233	7.6e-06	1.3e-03	6.7e-03	2.1e-02	7.9e-02
##	theta[205]	1.3e-02	0.0201	5.0e-06	8.3e-04	5.0e-03	1.7e-02	7.1e-02
##	theta[206]	7.6e-03	0.0111	4.5e-06	6.4e-04	3.4e-03	9.9e-03	3.8e-02
##	y_sim[1]	2.4e+01	6.9767	1.1e+01	2.0e+01	2.4e+01	2.9e+01	3.9e+01
##	y_sim[2]	1.3e+01	4.9679	4.0e+00	9.0e+00	1.2e+01	1.6e+01	2.4e+01
##	y_sim[3]	4.0e-01	0.8638	0.0e+00	0.0e+00	0.0e+00	0.0e+00	3.0e+00
##	y_sim[4]	7.1e+00	3.7657	1.0e+00	4.0e+00	6.0e+00	9.0e+00	1.6e+01
##	y_sim[5]	1.3e+00	1.5956	0.0e+00	0.0e+00	1.0e+00	2.0e+00	6.0e+00
##	y_sim[6]	1.4e+00	1.5700	0.0e+00	0.0e+00	1.0e+00	2.0e+00	5.0e+00
##	y_sim[7]	3.7e-01	0.7974	0.0e+00	0.0e+00	0.0e+00	0.0e+00	3.0e+00
##	y_sim[8]	3.9e-01	0.8311	0.0e+00	0.0e+00	0.0e+00	0.0e+00	3.0e+00
##	y_sim[9]	4.4e-01	0.8868	0.0e+00	0.0e+00	0.0e+00	1.0e+00	3.0e+00
##	y_sim[10]	4.1e-01	0.8352	0.0e+00	0.0e+00	0.0e+00	1.0e+00	3.0e+00
##	y_sim[11]	4.4e-01	0.9409	0.0e+00	0.0e+00	0.0e+00	1.0e+00	3.0e+00
##	y_sim[12]	4.1e-01	0.8810	0.0e+00	0.0e+00	0.0e+00	1.0e+00	3.0e+00
##	y_sim[13]	4.0e-01	0.8593	0.0e+00	0.0e+00	0.0e+00	0.0e+00	3.0e+00
##	y_sim[14]	3.8e-01	0.8285	0.0e+00	0.0e+00	0.0e+00	0.0e+00	3.0e+00
##	y_sim[15]	3.8e-01	0.8648	0.0e+00	0.0e+00	0.0e+00	0.0e+00	3.0e+00
##	y_sim[16]	1.7e+01	5.8859	8.0e+00	1.3e+01	1.7e+01	2.1e+01	3.1e+01
##	y_sim[17]	3.6e-01	0.7603	0.0e+00	0.0e+00	0.0e+00	0.0e+00	2.0e+00
##	y_sim[18]	1.3e+01	4.9891	4.5e+00	9.0e+00	1.2e+01	1.6e+01	2.4e+01
##	y_sim[19]	4.3e+00	2.8489	0.0e+00	2.0e+00	4.0e+00	6.0e+00	1.1e+01
##	y_sim[20]	1.7e+01	5.9742	7.0e+00	1.3e+01	1.7e+01	2.1e+01	3.0e+01
##	y_sim[21]	1.2e+01	4.7797	4.0e+00	9.0e+00	1.2e+01	1.5e+01	2.2e+01
##	y_sim[22]	1.3e+00	1.6143	0.0e+00	0.0e+00	1.0e+00	2.0e+00	6.0e+00
##	y_sim[23]	4.4e-01	0.9475	0.0e+00	0.0e+00	0.0e+00	1.0e+00	3.0e+00
##	y_sim[24]	4.0e+01	8.7073	2.4e+01	3.4e+01	4.0e+01	4.5e+01	5.9e+01
##	y_sim[25]	3.4e+00	2.5406	0.0e+00	1.0e+00	3.0e+00	5.0e+00	9.0e+00
##	y_sim[26]	3.9e-01	0.8255	0.0e+00	0.0e+00	0.0e+00	1.0e+00	3.0e+00
##	y_sim[27]	4.1e-01	0.8886	0.0e+00	0.0e+00	0.0e+00	0.0e+00	3.0e+00
##	y_sim[28]	4.3e+00	2.8627	0.0e+00	2.0e+00	4.0e+00	6.0e+00	1.1e+01
##	y_sim[29]	1.3e+01	4.8869	4.0e+00	9.0e+00	1.2e+01	1.6e+01	2.4e+01
##	y_sim[30]	3.3e+00	2.4696	0.0e+00	2.0e+00	3.0e+00	5.0e+00	9.0e+00
##	y_sim[31]	5.2e+00	3.3963	0.0e+00	3.0e+00	5.0e+00	7.0e+00	1.3e+01
##	y_sim[32]	7.2e+00	3.7855	1.0e+00	4.0e+00	7.0e+00	9.0e+00	1.6e+01
##	y_sim[33]	1.3e+00	1.5495	0.0e+00	0.0e+00	1.0e+00	2.0e+00	5.0e+00

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## y_sim[34] 5.1e+00 3.2079 0.0e+00 3.0e+00 5.0e+00 7.0e+00 1.2e+01
## y_sim[35] 1.4e+00 1.5683 0.0e+00 0.0e+00 1.0e+00 2.0e+00 5.0e+00
## y_sim[36] 2.2e+01 6.7124 1.0e+01 1.8e+01 2.2e+01 2.7e+01 3.7e+01
## y_sim[37] 4.5e-01 0.9421 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[38] 5.2e+00 3.1100 1.0e+00 3.0e+00 5.0e+00 7.0e+00 1.2e+01
## y_sim[39] 9.1e+00 4.2139 2.0e+00 6.0e+00 9.0e+00 1.2e+01 1.9e+01
## y_sim[40] 4.6e-01 0.9443 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[41] 2.2e+01 6.5573 1.1e+01 1.7e+01 2.1e+01 2.6e+01 3.5e+01
## y_sim[42] 3.8e-01 0.8091 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[43] 4.3e-01 0.9080 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[44] 4.2e-01 0.9105 0.0e+00 0.0e+00 0.0e+00 2.5e-01 3.0e+00
## y_sim[45] 9.0e+00 4.1958 2.0e+00 6.0e+00 9.0e+00 1.1e+01 1.9e+01
## y_sim[46] 4.2e-01 0.9081 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[47] 3.3e+00 2.4875 0.0e+00 1.0e+00 3.0e+00 5.0e+00 9.0e+00
## y_sim[48] 1.2e+01 4.6386 4.5e+00 9.0e+00 1.1e+01 1.5e+01 2.2e+01
## y_sim[49] 4.2e+00 2.8545 0.0e+00 2.0e+00 4.0e+00 6.0e+00 1.1e+01
## y_sim[50] 3.8e-01 0.8253 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[51] 6.2e+00 3.6298 1.0e+00 4.0e+00 6.0e+00 8.0e+00 1.5e+01
## y_sim[52] 4.2e+00 2.6896 0.0e+00 2.0e+00 4.0e+00 6.0e+00 1.1e+01
## y_sim[53] 4.0e-01 0.8334 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[54] 8.0e+00 4.0898 2.0e+00 5.0e+00 7.0e+00 1.0e+01 1.7e+01
## y_sim[55] 1.4e+00 1.6254 0.0e+00 0.0e+00 1.0e+00 2.0e+00 6.0e+00
## y_sim[56] 3.8e-01 0.8274 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[57] 3.6e-01 0.7923 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[58] 1.6e+01 5.3615 7.0e+00 1.2e+01 1.5e+01 1.9e+01 2.7e+01
## y_sim[59] 4.0e-01 0.9365 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[60] 4.3e-01 0.9070 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[61] 4.5e-01 0.9486 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[62] 3.5e-01 0.8552 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[63] 3.6e-01 0.8318 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[64] 3.5e-01 0.7940 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[65] 2.1e+00 1.9817 0.0e+00 1.0e+00 2.0e+00 3.0e+00 7.0e+00
## y_sim[66] 6.0e+00 3.4435 1.0e+00 4.0e+00 6.0e+00 8.0e+00 1.4e+01
## y_sim[67] 2.8e+00 2.2765 0.0e+00 1.0e+00 2.0e+00 4.0e+00 9.0e+00
## y_sim[68] 2.6e-01 0.6395 0.0e+00 0.0e+00 0.0e+00 0.0e+00 2.0e+00
## y_sim[69] 3.6e-01 0.8026 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[70] 1.5e+01 5.3585 6.0e+00 1.1e+01 1.4e+01 1.8e+01 2.6e+01
## y_sim[71] 1.3e+00 1.5735 0.0e+00 0.0e+00 1.0e+00 2.0e+00 5.0e+00
## y_sim[72] 1.2e+01 4.7915 4.0e+00 8.0e+00 1.1e+01 1.5e+01 2.3e+01
## y_sim[73] 1.2e+00 1.4289 0.0e+00 0.0e+00 1.0e+00 2.0e+00 5.0e+00
## y_sim[74] 1.1e+01 4.5273 3.0e+00 8.0e+00 1.0e+01 1.4e+01 2.1e+01
## y_sim[75] 3.9e+01 8.7889 2.4e+01 3.3e+01 3.9e+01 4.5e+01 5.7e+01
## y_sim[76] 3.0e+00 2.3213 0.0e+00 1.0e+00 2.5e+00 4.0e+00 9.0e+00
## y_sim[77] 3.1e+00 2.4088 0.0e+00 1.0e+00 3.0e+00 4.0e+00 9.0e+00
## y_sim[78] 1.3e+00 1.6129 0.0e+00 0.0e+00 1.0e+00 2.0e+00 5.5e+00
## y_sim[79] 1.2e+00 1.3813 0.0e+00 0.0e+00 1.0e+00 2.0e+00 5.0e+00
## y_sim[80] 4.0e-01 0.8342 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[81] 2.0e+00 1.9146 0.0e+00 1.0e+00 2.0e+00 3.0e+00 7.0e+00
## y_sim[82] 2.8e+00 2.3627 0.0e+00 1.0e+00 2.0e+00 4.0e+00 9.0e+00
## y_sim[83] 2.8e+00 2.2512 0.0e+00 1.0e+00 2.0e+00 4.0e+00 8.0e+00
## y_sim[84] 8.8e+00 4.2546 2.0e+00 6.0e+00 8.0e+00 1.1e+01 1.9e+01
## y_sim[85] 4.5e-01 0.9570 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[86] 1.4e+00 1.5803 0.0e+00 0.0e+00 1.0e+00 2.0e+00 5.0e+00
## y_sim[87] 4.5e-01 0.8944 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00

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## y_sim[88] 4.0e-01 0.8681 0.0e+00 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[89] 3.7e-01 0.8156 0.0e+00 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[90] 4.4e-01 0.9690 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[91] 2.2e+00 1.9679 0.0e+00 1.0e+00 2.0e+00 3.0e+00 7.0e+00
## y_sim[92] 4.1e-01 0.8545 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[93] 4.1e-01 0.8923 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[94] 5.9e+00 3.2365 1.0e+00 3.0e+00 5.0e+00 8.0e+00 1.3e+01
## y_sim[95] 1.3e+00 1.6702 0.0e+00 0.0e+00 1.0e+00 2.0e+00 5.5e+00
## y_sim[96] 4.5e-01 0.9641 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[97] 1.4e+00 1.5926 0.0e+00 0.0e+00 1.0e+00 2.0e+00 5.5e+00
## y_sim[98] 2.2e+00 2.0381 0.0e+00 1.0e+00 2.0e+00 3.0e+00 7.0e+00
## y_sim[99] 3.2e+00 2.4997 0.0e+00 1.0e+00 3.0e+00 5.0e+00 9.0e+00
## y_sim[100] 2.3e+00 2.1277 0.0e+00 1.0e+00 2.0e+00 3.0e+00 7.0e+00
## y_sim[101] 4.2e-01 0.9014 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[102] 9.1e+00 4.1764 2.0e+00 6.0e+00 9.0e+00 1.2e+01 1.8e+01
## y_sim[103] 7.6e+00 3.7539 2.0e+00 5.0e+00 7.0e+00 1.0e+01 1.6e+01
## y_sim[104] 4.1e-01 0.8543 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[105] 4.4e-01 0.9388 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[106] 4.0e-01 0.8610 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[107] 5.9e+00 3.2216 1.0e+00 4.0e+00 5.0e+00 8.0e+00 1.3e+01
## y_sim[108] 3.8e-01 0.8152 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[109] 3.1e+00 2.4394 0.0e+00 1.0e+00 3.0e+00 4.0e+00 9.0e+00
## y_sim[110] 2.0e+01 5.9524 9.0e+00 1.5e+01 1.9e+01 2.4e+01 3.3e+01
## y_sim[111] 3.2e+00 2.5046 0.0e+00 1.0e+00 3.0e+00 5.0e+00 9.0e+00
## y_sim[112] 1.7e+01 5.7802 7.0e+00 1.3e+01 1.7e+01 2.0e+01 2.9e+01
## y_sim[113] 1.0e+01 4.2927 3.0e+00 7.0e+00 1.0e+01 1.3e+01 2.0e+01
## y_sim[114] 1.3e+00 1.5678 0.0e+00 0.0e+00 1.0e+00 2.0e+00 6.0e+00
## y_sim[115] 2.2e+00 2.0020 0.0e+00 1.0e+00 2.0e+00 3.0e+00 7.0e+00
## y_sim[116] 1.1e+01 4.7027 3.0e+00 8.0e+00 1.1e+01 1.4e+01 2.2e+01
## y_sim[117] 5.9e+00 3.1693 1.0e+00 4.0e+00 5.5e+00 8.0e+00 1.3e+01
## y_sim[118] 1.4e+01 5.3234 5.0e+00 1.0e+01 1.4e+01 1.8e+01 2.6e+01
## y_sim[119] 1.3e+00 1.5716 0.0e+00 0.0e+00 1.0e+00 2.0e+00 5.0e+00
## y_sim[120] 3.2e+01 8.0430 1.7e+01 2.6e+01 3.2e+01 3.7e+01 5.0e+01
## y_sim[121] 3.7e+00 2.6121 0.0e+00 2.0e+00 3.0e+00 5.0e+00 1.0e+01
## y_sim[122] 2.2e+01 6.3314 1.1e+01 1.7e+01 2.1e+01 2.6e+01 3.5e+01
## y_sim[123] 1.4e+01 5.1498 5.0e+00 1.0e+01 1.3e+01 1.7e+01 2.5e+01
## y_sim[124] 3.8e-01 0.8183 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[125] 1.2e+01 4.6953 4.0e+00 9.0e+00 1.2e+01 1.5e+01 2.2e+01
## y_sim[126] 4.1e-01 0.9211 0.0e+00 0.0e+00 0.0e+00 2.5e-01 3.0e+00
## y_sim[127] 8.9e+00 4.1395 2.0e+00 6.0e+00 9.0e+00 1.1e+01 1.8e+01
## y_sim[128] 3.0e-01 0.7087 0.0e+00 0.0e+00 0.0e+00 0.0e+00 2.0e+00
## y_sim[129] 3.2e-01 0.7435 0.0e+00 0.0e+00 0.0e+00 0.0e+00 2.0e+00
## y_sim[130] 3.7e-01 0.8664 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[131] 3.8e-01 0.8990 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[132] 3.7e-01 0.7794 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[133] 3.9e-01 0.8657 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[134] 4.1e-01 0.9200 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[135] 4.1e-01 0.9326 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[136] 3.8e-01 0.8305 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[137] 4.1e-01 0.9236 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[138] 3.2e+00 2.3616 0.0e+00 1.0e+00 3.0e+00 5.0e+00 8.5e+00
## y_sim[139] 1.1e+01 4.6670 4.0e+00 8.0e+00 1.1e+01 1.4e+01 2.2e+01
## y_sim[140] 4.3e-01 0.8926 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[141] 6.0e+00 3.4343 1.0e+00 3.0e+00 6.0e+00 8.0e+00 1.4e+01

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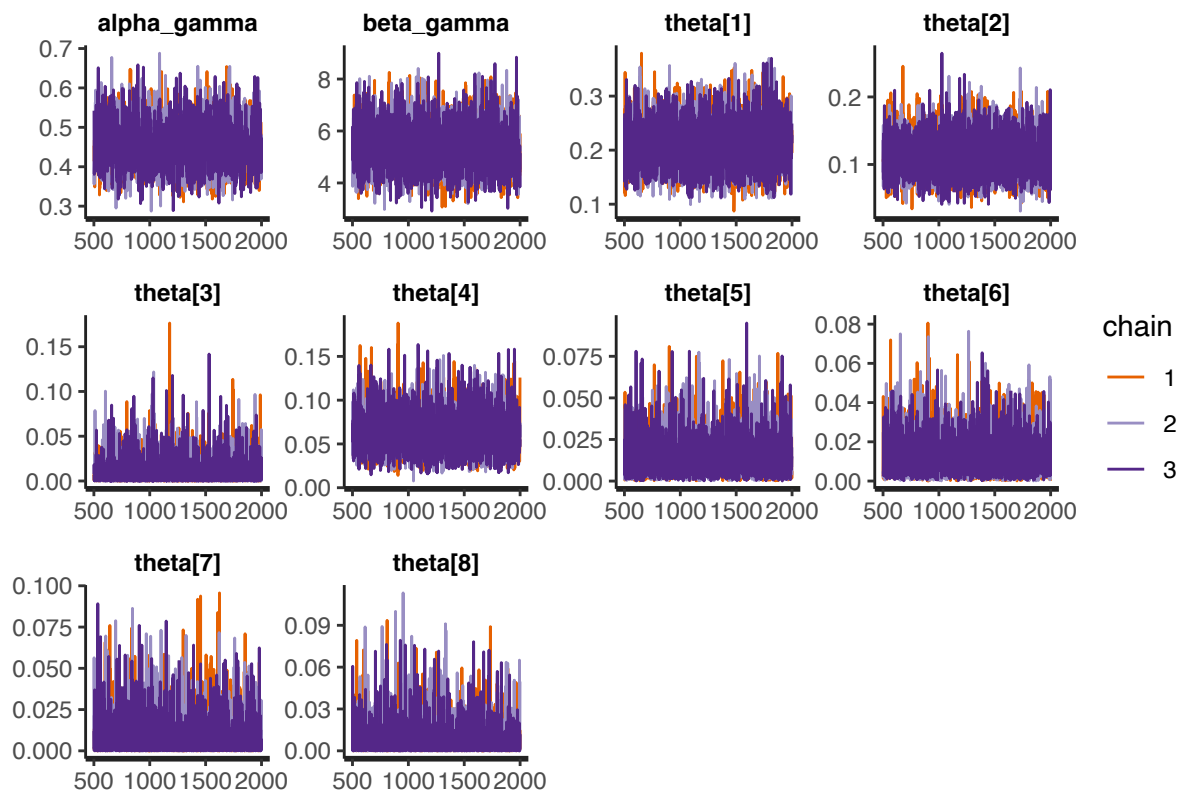
## y_sim[142] 2.5e+01 6.5077 1.4e+01 2.1e+01 2.5e+01 2.9e+01 3.9e+01
## y_sim[143] 1.1e+00 1.2731 0.0e+00 0.0e+00 1.0e+00 2.0e+00 4.0e+00
## y_sim[144] 1.5e+01 5.5550 5.0e+00 1.1e+01 1.4e+01 1.8e+01 2.7e+01
## y_sim[145] 3.6e+01 8.3633 2.1e+01 3.0e+01 3.5e+01 4.1e+01 5.3e+01
## y_sim[146] 2.5e+01 6.9374 1.3e+01 2.0e+01 2.4e+01 2.9e+01 4.0e+01
## y_sim[147] 9.9e+00 4.3851 3.0e+00 7.0e+00 1.0e+01 1.2e+01 2.0e+01
## y_sim[148] 8.7e+00 4.0362 2.0e+00 6.0e+00 8.0e+00 1.1e+01 1.8e+01
## y_sim[149] 9.7e+00 4.3426 3.0e+00 7.0e+00 9.0e+00 1.2e+01 1.9e+01
## y_sim[150] 4.2e+00 2.9269 0.0e+00 2.0e+00 4.0e+00 6.0e+00 1.1e+01
## y_sim[151] 1.7e+01 5.8012 7.0e+00 1.3e+01 1.7e+01 2.1e+01 3.0e+01
## y_sim[152] 3.2e+00 2.4592 0.0e+00 1.0e+00 3.0e+00 4.0e+00 9.0e+00
## y_sim[153] 1.1e+01 4.6191 3.5e+00 8.0e+00 1.1e+01 1.4e+01 2.2e+01
## y_sim[154] 1.2e+00 1.4531 0.0e+00 0.0e+00 1.0e+00 2.0e+00 5.0e+00
## y_sim[155] 2.3e+00 2.1945 0.0e+00 1.0e+00 2.0e+00 3.0e+00 8.0e+00
## y_sim[156] 4.2e-01 0.8698 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[157] 1.3e+00 1.5475 0.0e+00 0.0e+00 1.0e+00 2.0e+00 5.0e+00
## y_sim[158] 1.3e+00 1.5830 0.0e+00 0.0e+00 1.0e+00 2.0e+00 6.0e+00
## y_sim[159] 4.3e+00 2.8123 0.0e+00 2.0e+00 4.0e+00 6.0e+00 1.1e+01
## y_sim[160] 1.9e+01 6.2548 8.0e+00 1.5e+01 1.9e+01 2.4e+01 3.3e+01
## y_sim[161] 3.9e-01 0.8403 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[162] 5.2e+00 3.1232 1.0e+00 3.0e+00 5.0e+00 7.0e+00 1.3e+01
## y_sim[163] 3.9e-01 0.8595 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[164] 1.1e+00 1.4371 0.0e+00 0.0e+00 1.0e+00 2.0e+00 5.0e+00
## y_sim[165] 3.9e-01 0.7874 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[166] 4.4e+01 9.2219 2.8e+01 3.8e+01 4.4e+01 5.0e+01 6.3e+01
## y_sim[167] 4.1e-01 0.8144 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[168] 2.3e+00 2.0398 0.0e+00 1.0e+00 2.0e+00 3.0e+00 7.0e+00
## y_sim[169] 3.2e+00 2.5632 0.0e+00 1.0e+00 3.0e+00 4.0e+00 1.0e+01
## y_sim[170] 2.8e-01 0.6758 0.0e+00 0.0e+00 0.0e+00 0.0e+00 2.0e+00
## y_sim[171] 4.1e+00 2.7339 0.0e+00 2.0e+00 4.0e+00 6.0e+00 1.1e+01
## y_sim[172] 1.2e+01 4.9378 4.0e+00 9.0e+00 1.2e+01 1.5e+01 2.4e+01
## y_sim[173] 2.0e+01 6.3110 9.0e+00 1.5e+01 1.9e+01 2.3e+01 3.4e+01
## y_sim[174] 2.4e+01 6.8361 1.2e+01 2.0e+01 2.4e+01 2.9e+01 4.0e+01
## y_sim[175] 4.3e-01 0.9175 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[176] 1.5e+01 5.4435 6.0e+00 1.1e+01 1.5e+01 1.9e+01 2.7e+01
## y_sim[177] 2.1e+00 1.9784 0.0e+00 1.0e+00 2.0e+00 3.0e+00 7.0e+00
## y_sim[178] 2.8e+01 7.1862 1.6e+01 2.3e+01 2.8e+01 3.3e+01 4.4e+01
## y_sim[179] 2.4e+01 6.9719 1.1e+01 1.9e+01 2.3e+01 2.8e+01 3.9e+01
## y_sim[180] 4.3e-01 0.9542 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[181] 6.2e+00 3.4741 1.0e+00 4.0e+00 6.0e+00 8.0e+00 1.4e+01
## y_sim[182] 1.6e+01 5.4750 6.5e+00 1.2e+01 1.5e+01 1.9e+01 2.8e+01
## y_sim[183] 1.7e+01 5.9606 7.0e+00 1.3e+01 1.7e+01 2.1e+01 3.0e+01
## y_sim[184] 1.7e+01 5.8587 7.0e+00 1.3e+01 1.6e+01 2.0e+01 3.0e+01
## y_sim[185] 1.4e+01 5.0999 6.0e+00 1.1e+01 1.4e+01 1.7e+01 2.6e+01
## y_sim[186] 3.5e-01 0.8422 0.0e+00 0.0e+00 0.0e+00 0.0e+00 2.0e+00
## y_sim[187] 1.3e+00 1.6185 0.0e+00 0.0e+00 1.0e+00 2.0e+00 6.0e+00
## y_sim[188] 4.0e-01 0.8755 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[189] 4.1e-01 0.8965 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[190] 3.8e+01 8.2873 2.3e+01 3.2e+01 3.7e+01 4.3e+01 5.5e+01
## y_sim[191] 2.5e+01 6.9076 1.2e+01 2.0e+01 2.4e+01 2.9e+01 3.9e+01
## y_sim[192] 3.3e-01 0.7276 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[193] 2.1e+01 6.3169 9.0e+00 1.6e+01 2.0e+01 2.5e+01 3.4e+01
## y_sim[194] 4.0e+00 2.7369 0.0e+00 2.0e+00 3.0e+00 5.2e+00 1.0e+01
## y_sim[195] 7.2e+00 3.7156 1.0e+00 4.0e+00 7.0e+00 9.0e+00 1.5e+01

```

```
## y_sim[196] 3.9e-01 0.8179 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[197] 3.9e-01 0.8220 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[198] 4.0e-01 0.8889 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[199] 4.2e-01 0.8630 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## y_sim[200] 4.0e+00 2.6806 0.0e+00 2.0e+00 4.0e+00 5.0e+00 1.0e+01
## y_sim[201] 4.0e+00 2.7305 0.0e+00 2.0e+00 3.0e+00 5.0e+00 1.0e+01
## y_sim[202] 3.1e+00 2.4013 0.0e+00 1.0e+00 3.0e+00 4.0e+00 9.0e+00
## y_sim[203] 4.0e-01 0.9430 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[204] 3.4e-01 0.7416 0.0e+00 0.0e+00 0.0e+00 0.0e+00 2.0e+00
## y_sim[205] 3.9e-01 0.8344 0.0e+00 0.0e+00 0.0e+00 0.0e+00 3.0e+00
## y_sim[206] 4.1e-01 0.8849 0.0e+00 0.0e+00 0.0e+00 1.0e+00 3.0e+00
## lp__       1.7e+03 14.3285 1.6e+03 1.7e+03 1.7e+03 1.7e+03 1.7e+03
```

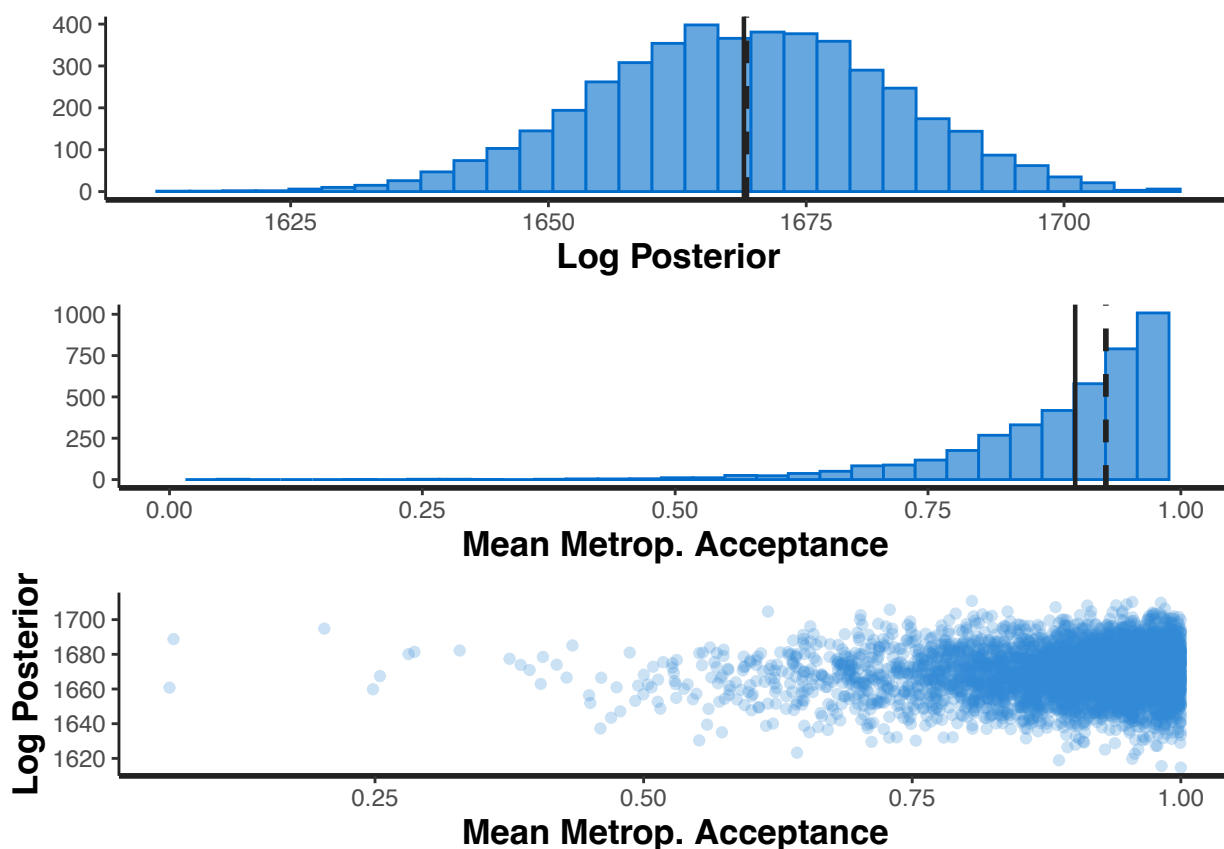
```
stan_trace(fit)
```

```
## 'pars' not specified. Showing first 10 parameters by default.
```



```
rstan::stan_diag(fit)
```

```
## Warning: Removed 2 rows containing missing values or values outside the scale range
## ('geom_bar()').
```



```
# Check effective sample size and R-hat values
print(fit, probs = c(0.025, 0.975))
```

```
## Inference for Stan model: anon_model.
## 3 chains, each with iter=2000; warmup=500; thin=1;
## post-warmup draws per chain=1500, total post-warmup draws=4500.
##
##               mean se_mean    sd    2.5%   97.5% n_eff Rhat
## alpha_gamma    0.45     0.00  0.06     0.35     0.57 1245    1
## beta_gamma     5.36     0.02  0.88     3.81     7.25 2047    1
## theta[1]       0.21     0.00  0.04     0.13     0.30 8851    1
## theta[2]       0.11     0.00  0.03     0.06     0.18 10616   1
## theta[3]       0.01     0.00  0.01     0.00     0.05 5244    1
## theta[4]       0.06     0.00  0.02     0.02     0.12 7584    1
## theta[5]       0.01     0.00  0.01     0.00     0.05 7257    1
## theta[6]       0.01     0.00  0.01     0.00     0.04 7282    1
## theta[7]       0.01     0.00  0.01     0.00     0.04 6098    1
## theta[8]       0.01     0.00  0.01     0.00     0.04 5819    1
## theta[9]       0.01     0.00  0.01     0.00     0.04 5553    1
## theta[10]      0.01     0.00  0.02     0.00     0.06 6490    1
## theta[11]      0.01     0.00  0.01     0.00     0.05 6037    1
## theta[12]      0.01     0.00  0.02     0.00     0.06 5399    1
## theta[13]      0.01     0.00  0.02     0.00     0.06 5842    1
## theta[14]      0.01     0.00  0.02     0.00     0.06 5614    1
## theta[15]      0.01     0.00  0.02     0.00     0.06 5614    1
## theta[16]      0.15     0.00  0.03     0.09     0.23 10073   1
```

## theta[17]	0.01	0.00	0.02	0.00	0.06	5344	1
## theta[18]	0.11	0.00	0.03	0.06	0.17	9015	1
## theta[19]	0.04	0.00	0.02	0.01	0.08	9418	1
## theta[20]	0.15	0.00	0.04	0.09	0.23	10637	1
## theta[21]	0.10	0.00	0.03	0.05	0.17	9691	1
## theta[22]	0.01	0.00	0.01	0.00	0.04	8910	1
## theta[23]	0.00	0.00	0.01	0.00	0.02	5886	1
## theta[24]	0.34	0.00	0.05	0.25	0.45	9514	1
## theta[25]	0.03	0.00	0.01	0.01	0.06	6692	1
## theta[26]	0.01	0.00	0.01	0.00	0.04	5065	1
## theta[27]	0.01	0.00	0.01	0.00	0.05	5606	1
## theta[28]	0.04	0.00	0.02	0.01	0.08	7750	1
## theta[29]	0.11	0.00	0.03	0.06	0.18	9333	1
## theta[30]	0.03	0.00	0.01	0.01	0.06	7520	1
## theta[31]	0.04	0.00	0.02	0.02	0.09	9375	1
## theta[32]	0.06	0.00	0.02	0.03	0.11	8837	1
## theta[33]	0.01	0.00	0.01	0.00	0.04	6724	1
## theta[34]	0.04	0.00	0.02	0.02	0.09	9440	1
## theta[35]	0.01	0.00	0.01	0.00	0.04	7131	1
## theta[36]	0.19	0.00	0.04	0.12	0.28	10116	1
## theta[37]	0.00	0.00	0.01	0.00	0.02	5538	1
## theta[38]	0.04	0.00	0.02	0.02	0.09	8238	1
## theta[39]	0.08	0.00	0.02	0.04	0.13	9041	1
## theta[40]	0.00	0.00	0.01	0.00	0.02	5459	1
## theta[41]	0.19	0.00	0.04	0.12	0.27	10284	1
## theta[42]	0.01	0.00	0.01	0.00	0.03	5887	1
## theta[43]	0.01	0.00	0.01	0.00	0.03	6195	1
## theta[44]	0.00	0.00	0.01	0.00	0.02	5532	1
## theta[45]	0.08	0.00	0.03	0.04	0.14	8880	1
## theta[46]	0.01	0.00	0.01	0.00	0.03	5593	1
## theta[47]	0.03	0.00	0.01	0.01	0.06	9376	1
## theta[48]	0.26	0.00	0.07	0.14	0.41	8568	1
## theta[49]	0.06	0.00	0.03	0.02	0.13	9303	1
## theta[50]	0.01	0.00	0.01	0.00	0.05	5754	1
## theta[51]	0.06	0.00	0.02	0.02	0.12	9066	1
## theta[52]	0.22	0.00	0.10	0.08	0.45	8942	1
## theta[53]	0.00	0.00	0.01	0.00	0.02	5720	1
## theta[54]	0.08	0.00	0.03	0.04	0.15	9245	1
## theta[55]	0.02	0.00	0.01	0.00	0.05	6281	1
## theta[56]	0.02	0.00	0.02	0.00	0.09	5736	1
## theta[57]	0.02	0.00	0.02	0.00	0.08	6215	1
## theta[58]	0.14	0.00	0.03	0.08	0.21	8599	1
## theta[59]	0.01	0.00	0.01	0.00	0.03	5879	1
## theta[60]	0.01	0.00	0.01	0.00	0.04	5773	1
## theta[61]	0.00	0.00	0.01	0.00	0.02	6422	1
## theta[62]	0.01	0.00	0.02	0.00	0.08	5712	1
## theta[63]	0.01	0.00	0.02	0.00	0.08	5349	1
## theta[64]	0.02	0.00	0.02	0.00	0.08	5362	1
## theta[65]	0.08	0.00	0.06	0.01	0.22	8939	1
## theta[66]	0.07	0.00	0.03	0.03	0.13	9770	1
## theta[67]	0.12	0.00	0.06	0.03	0.28	7627	1
## theta[68]	0.03	0.00	0.05	0.00	0.18	5453	1
## theta[69]	0.02	0.00	0.02	0.00	0.08	5423	1
## theta[70]	0.13	0.00	0.03	0.07	0.20	9549	1

## theta[71]	0.02	0.00	0.02	0.00	0.08	7153	1
## theta[72]	0.10	0.00	0.03	0.05	0.16	7464	1
## theta[73]	0.05	0.00	0.04	0.00	0.16	7387	1
## theta[74]	0.09	0.00	0.03	0.05	0.16	9430	1
## theta[75]	0.34	0.00	0.05	0.24	0.45	11392	1
## theta[76]	0.07	0.00	0.04	0.02	0.16	8448	1
## theta[77]	0.07	0.00	0.04	0.02	0.15	7245	1
## theta[78]	0.03	0.00	0.02	0.00	0.09	7250	1
## theta[79]	0.05	0.00	0.04	0.00	0.16	7688	1
## theta[80]	0.02	0.00	0.02	0.00	0.08	6393	1
## theta[81]	0.08	0.00	0.05	0.01	0.22	7998	1
## theta[82]	0.12	0.00	0.06	0.03	0.27	8114	1
## theta[83]	0.12	0.00	0.06	0.03	0.27	8538	1
## theta[84]	0.09	0.00	0.03	0.04	0.16	9117	1
## theta[85]	0.00	0.00	0.01	0.00	0.02	5353	1
## theta[86]	0.01	0.00	0.01	0.00	0.04	7653	1
## theta[87]	0.00	0.00	0.01	0.00	0.02	6173	1
## theta[88]	0.01	0.00	0.01	0.00	0.03	5634	1
## theta[89]	0.01	0.00	0.02	0.00	0.05	6003	1
## theta[90]	0.01	0.00	0.02	0.00	0.06	5792	1
## theta[91]	0.05	0.00	0.03	0.01	0.14	7227	1
## theta[92]	0.01	0.00	0.01	0.00	0.04	5999	1
## theta[93]	0.01	0.00	0.01	0.00	0.04	5478	1
## theta[94]	0.11	0.00	0.04	0.04	0.20	7452	1
## theta[95]	0.02	0.00	0.02	0.00	0.08	7186	1
## theta[96]	0.01	0.00	0.01	0.00	0.04	5249	1
## theta[97]	0.02	0.00	0.02	0.00	0.08	6852	1
## theta[98]	0.04	0.00	0.03	0.01	0.11	6653	1
## theta[99]	0.06	0.00	0.03	0.01	0.13	8714	1
## theta[100]	0.04	0.00	0.03	0.01	0.10	8597	1
## theta[101]	0.01	0.00	0.01	0.00	0.04	5935	1
## theta[102]	0.08	0.00	0.03	0.04	0.13	8642	1
## theta[103]	0.14	0.00	0.05	0.06	0.25	8609	1
## theta[104]	0.01	0.00	0.01	0.00	0.04	6188	1
## theta[105]	0.01	0.00	0.01	0.00	0.04	6126	1
## theta[106]	0.01	0.00	0.01	0.00	0.04	6782	1
## theta[107]	0.11	0.00	0.04	0.04	0.20	9429	1
## theta[108]	0.01	0.00	0.01	0.00	0.04	6291	1
## theta[109]	0.06	0.00	0.03	0.01	0.13	8317	1
## theta[110]	0.36	0.00	0.08	0.22	0.53	8936	1
## theta[111]	0.06	0.00	0.03	0.01	0.13	8586	1
## theta[112]	0.30	0.00	0.07	0.18	0.46	9640	1
## theta[113]	0.20	0.00	0.06	0.10	0.33	8237	1
## theta[114]	0.03	0.00	0.02	0.00	0.08	7185	1
## theta[115]	0.04	0.00	0.03	0.01	0.10	9369	1
## theta[116]	0.21	0.00	0.06	0.11	0.35	9276	1
## theta[117]	0.11	0.00	0.04	0.04	0.20	7720	1
## theta[118]	0.26	0.00	0.07	0.14	0.41	9176	1
## theta[119]	0.03	0.00	0.03	0.00	0.10	8277	1
## theta[120]	0.28	0.00	0.05	0.19	0.38	10420	1
## theta[121]	0.16	0.00	0.08	0.05	0.33	8667	1
## theta[122]	0.54	0.00	0.11	0.34	0.78	10734	1
## theta[123]	0.33	0.00	0.09	0.19	0.52	10206	1
## theta[124]	0.01	0.00	0.01	0.00	0.04	5607	1

## theta[125]	0.24	0.00	0.06	0.14	0.38	9939	1
## theta[126]	0.01	0.00	0.01	0.00	0.04	5870	1
## theta[127]	0.08	0.00	0.03	0.04	0.14	9984	1
## theta[128]	0.03	0.00	0.04	0.00	0.15	5858	1
## theta[129]	0.03	0.00	0.04	0.00	0.15	6211	1
## theta[130]	0.01	0.00	0.02	0.00	0.08	5842	1
## theta[131]	0.01	0.00	0.01	0.00	0.04	5457	1
## theta[132]	0.01	0.00	0.01	0.00	0.04	5392	1
## theta[133]	0.01	0.00	0.01	0.00	0.05	5588	1
## theta[134]	0.01	0.00	0.01	0.00	0.04	5754	1
## theta[135]	0.01	0.00	0.02	0.00	0.06	5327	1
## theta[136]	0.01	0.00	0.01	0.00	0.05	6126	1
## theta[137]	0.01	0.00	0.02	0.00	0.05	5464	1
## theta[138]	0.05	0.00	0.02	0.01	0.11	8017	1
## theta[139]	0.21	0.00	0.06	0.11	0.35	8594	1
## theta[140]	0.01	0.00	0.01	0.00	0.04	5650	1
## theta[141]	0.09	0.00	0.04	0.04	0.18	7704	1
## theta[142]	0.42	0.00	0.08	0.28	0.59	8946	1
## theta[143]	0.26	0.00	0.17	0.04	0.70	7212	1
## theta[144]	0.13	0.00	0.03	0.07	0.20	8725	1
## theta[145]	0.31	0.00	0.05	0.22	0.42	8297	1
## theta[146]	0.30	0.00	0.06	0.19	0.42	9691	1
## theta[147]	0.11	0.00	0.03	0.05	0.18	9273	1
## theta[148]	0.13	0.00	0.04	0.06	0.22	10122	1
## theta[149]	0.14	0.00	0.04	0.07	0.23	8684	1
## theta[150]	0.06	0.00	0.03	0.02	0.12	6621	1
## theta[151]	0.25	0.00	0.06	0.15	0.38	10030	1
## theta[152]	0.04	0.00	0.02	0.01	0.09	7551	1
## theta[153]	0.11	0.00	0.03	0.06	0.19	9913	1
## theta[154]	0.05	0.00	0.04	0.00	0.16	6443	1
## theta[155]	0.04	0.00	0.03	0.01	0.10	8305	1
## theta[156]	0.01	0.00	0.01	0.00	0.05	6099	1
## theta[157]	0.03	0.00	0.02	0.00	0.09	7426	1
## theta[158]	0.03	0.00	0.02	0.00	0.09	8186	1
## theta[159]	0.04	0.00	0.02	0.01	0.08	9685	1
## theta[160]	0.20	0.00	0.04	0.12	0.29	9296	1
## theta[161]	0.02	0.00	0.02	0.00	0.08	5682	1
## theta[162]	0.22	0.00	0.08	0.08	0.42	7337	1
## theta[163]	0.02	0.00	0.02	0.00	0.09	6047	1
## theta[164]	0.05	0.00	0.04	0.00	0.15	6524	1
## theta[165]	0.02	0.00	0.02	0.00	0.08	5339	1
## theta[166]	0.38	0.00	0.06	0.28	0.50	7659	1
## theta[167]	0.01	0.00	0.02	0.00	0.06	6369	1
## theta[168]	0.02	0.00	0.02	0.00	0.06	8323	1
## theta[169]	0.05	0.00	0.03	0.01	0.11	8456	1
## theta[170]	0.03	0.00	0.04	0.00	0.15	4925	1
## theta[171]	0.06	0.00	0.03	0.02	0.13	8162	1
## theta[172]	0.19	0.00	0.05	0.10	0.30	8438	1
## theta[173]	0.17	0.00	0.04	0.10	0.25	8840	1
## theta[174]	0.36	0.00	0.07	0.24	0.51	8041	1
## theta[175]	0.01	0.00	0.01	0.00	0.03	5584	1
## theta[176]	0.22	0.00	0.05	0.13	0.34	8490	1
## theta[177]	0.05	0.00	0.03	0.01	0.13	7562	1
## theta[178]	0.42	0.00	0.08	0.28	0.58	11339	1

## theta[179]	0.35	0.00	0.07	0.22	0.49	7307	1
## theta[180]	0.01	0.00	0.01	0.00	0.05	5742	1
## theta[181]	0.05	0.00	0.02	0.02	0.10	8018	1
## theta[182]	0.13	0.00	0.03	0.08	0.21	10085	1
## theta[183]	0.28	0.00	0.07	0.16	0.42	8039	1
## theta[184]	0.27	0.00	0.06	0.16	0.41	9462	1
## theta[185]	0.23	0.00	0.06	0.13	0.35	9592	1
## theta[186]	0.02	0.00	0.03	0.00	0.09	5346	1
## theta[187]	0.02	0.00	0.02	0.00	0.07	6571	1
## theta[188]	0.01	0.00	0.01	0.00	0.04	5857	1
## theta[189]	0.01	0.00	0.02	0.00	0.06	6050	1
## theta[190]	0.54	0.00	0.08	0.39	0.72	8254	1
## theta[191]	0.35	0.00	0.07	0.23	0.49	7992	1
## theta[192]	0.02	0.00	0.03	0.00	0.12	5072	1
## theta[193]	0.18	0.00	0.04	0.11	0.26	10241	1
## theta[194]	0.10	0.00	0.05	0.03	0.21	7216	1
## theta[195]	0.07	0.00	0.02	0.03	0.12	8002	1
## theta[196]	0.01	0.00	0.02	0.00	0.05	5511	1
## theta[197]	0.01	0.00	0.02	0.00	0.06	5019	1
## theta[198]	0.01	0.00	0.01	0.00	0.05	5871	1
## theta[199]	0.01	0.00	0.02	0.00	0.06	6205	1
## theta[200]	0.08	0.00	0.04	0.02	0.18	9005	1
## theta[201]	0.09	0.00	0.04	0.02	0.18	8103	1
## theta[202]	0.08	0.00	0.04	0.02	0.19	8707	1
## theta[203]	0.01	0.00	0.02	0.00	0.07	6295	1
## theta[204]	0.02	0.00	0.02	0.00	0.09	5295	1
## theta[205]	0.01	0.00	0.02	0.00	0.07	5378	1
## theta[206]	0.01	0.00	0.01	0.00	0.04	6321	1
## y_sim[1]	24.33	0.09	7.04	12.00	39.00	5825	1
## y_sim[2]	12.90	0.06	4.99	4.00	24.00	6280	1
## y_sim[3]	0.40	0.01	0.86	0.00	3.00	5016	1
## y_sim[4]	7.06	0.05	3.71	1.00	16.00	5611	1
## y_sim[5]	1.38	0.02	1.67	0.00	6.00	4507	1
## y_sim[6]	1.38	0.02	1.66	0.00	6.00	5387	1
## y_sim[7]	0.41	0.01	0.85	0.00	3.00	5145	1
## y_sim[8]	0.41	0.01	0.88	0.00	3.00	5217	1
## y_sim[9]	0.40	0.01	0.86	0.00	3.00	5153	1
## y_sim[10]	0.39	0.01	0.84	0.00	3.00	5008	1
## y_sim[11]	0.40	0.01	0.88	0.00	3.00	5210	1
## y_sim[12]	0.40	0.01	0.88	0.00	3.00	4853	1
## y_sim[13]	0.40	0.01	0.87	0.00	3.00	4952	1
## y_sim[14]	0.39	0.01	0.85	0.00	3.00	4843	1
## y_sim[15]	0.37	0.01	0.84	0.00	3.00	5005	1
## y_sim[16]	17.64	0.07	5.83	8.00	30.00	6116	1
## y_sim[17]	0.39	0.01	0.83	0.00	3.00	4798	1
## y_sim[18]	12.86	0.06	5.08	5.00	24.00	6182	1
## y_sim[19]	4.22	0.04	2.80	0.00	11.00	6134	1
## y_sim[20]	17.61	0.08	5.88	7.00	30.00	6141	1
## y_sim[21]	11.93	0.06	4.83	4.00	23.00	5961	1
## y_sim[22]	1.34	0.02	1.59	0.00	6.00	5494	1
## y_sim[23]	0.43	0.01	0.94	0.00	3.00	5125	1
## y_sim[24]	39.72	0.11	8.84	24.00	58.00	6705	1
## y_sim[25]	3.36	0.03	2.55	0.00	9.00	6156	1
## y_sim[26]	0.40	0.01	0.89	0.00	3.00	4391	1

## y_sim[27]	0.40	0.01	0.86	0.00	3.00	5162	1
## y_sim[28]	4.26	0.04	2.81	0.00	11.00	5574	1
## y_sim[29]	12.68	0.06	4.93	4.00	24.00	5832	1
## y_sim[30]	3.28	0.03	2.48	0.00	9.00	5492	1
## y_sim[31]	5.21	0.04	3.33	1.00	13.00	6448	1
## y_sim[32]	7.11	0.05	3.69	1.00	16.00	5703	1
## y_sim[33]	1.37	0.02	1.62	0.00	6.00	5139	1
## y_sim[34]	5.18	0.04	3.20	1.00	13.00	6054	1
## y_sim[35]	1.38	0.02	1.63	0.00	6.00	5119	1
## y_sim[36]	22.34	0.08	6.61	11.00	36.52	6132	1
## y_sim[37]	0.43	0.01	0.89	0.00	3.00	4622	1
## y_sim[38]	5.23	0.04	3.22	0.00	13.00	5660	1
## y_sim[39]	9.00	0.05	4.18	2.00	19.00	6153	1
## y_sim[40]	0.43	0.01	0.93	0.00	3.00	4777	1
## y_sim[41]	21.51	0.08	6.41	10.00	35.00	6028	1
## y_sim[42]	0.41	0.01	0.87	0.00	3.00	5248	1
## y_sim[43]	0.41	0.01	0.85	0.00	3.00	4819	1
## y_sim[44]	0.40	0.01	0.88	0.00	3.00	5008	1
## y_sim[45]	9.07	0.05	4.29	2.00	19.00	6594	1
## y_sim[46]	0.42	0.01	0.90	0.00	3.00	4962	1
## y_sim[47]	3.28	0.03	2.51	0.00	9.00	6237	1
## y_sim[48]	12.09	0.06	4.74	4.00	23.00	6002	1
## y_sim[49]	4.15	0.04	2.88	0.00	11.00	6087	1
## y_sim[50]	0.41	0.01	0.87	0.00	3.00	4936	1
## y_sim[51]	6.14	0.05	3.49	1.00	14.00	5789	1
## y_sim[52]	4.26	0.04	2.73	0.00	11.00	5848	1
## y_sim[53]	0.42	0.01	0.88	0.00	3.00	4409	1
## y_sim[54]	8.05	0.05	4.00	2.00	17.00	5882	1
## y_sim[55]	1.35	0.02	1.62	0.00	6.00	5071	1
## y_sim[56]	0.37	0.01	0.83	0.00	3.00	5002	1
## y_sim[57]	0.37	0.01	0.82	0.00	3.00	5279	1
## y_sim[58]	15.76	0.07	5.47	7.00	28.00	5597	1
## y_sim[59]	0.40	0.01	0.88	0.00	3.00	4902	1
## y_sim[60]	0.42	0.01	0.90	0.00	3.00	5179	1
## y_sim[61]	0.43	0.01	0.91	0.00	3.00	5280	1
## y_sim[62]	0.36	0.01	0.84	0.00	3.00	4953	1
## y_sim[63]	0.38	0.01	0.85	0.00	3.00	4873	1
## y_sim[64]	0.38	0.01	0.85	0.00	3.00	5157	1
## y_sim[65]	2.04	0.03	1.95	0.00	7.00	5480	1
## y_sim[66]	6.11	0.04	3.43	1.00	14.00	5939	1
## y_sim[67]	2.81	0.03	2.31	0.00	9.00	5462	1
## y_sim[68]	0.28	0.01	0.68	0.00	2.00	4664	1
## y_sim[69]	0.36	0.01	0.80	0.00	3.00	5195	1
## y_sim[70]	14.84	0.07	5.38	6.00	27.00	6298	1
## y_sim[71]	1.28	0.02	1.55	0.00	5.00	5173	1
## y_sim[72]	11.89	0.06	4.82	4.00	23.00	5864	1
## y_sim[73]	1.22	0.02	1.53	0.00	5.00	5541	1
## y_sim[74]	10.93	0.06	4.66	3.00	21.00	5867	1
## y_sim[75]	39.49	0.11	8.76	24.00	57.00	6418	1
## y_sim[76]	3.10	0.03	2.48	0.00	9.00	5300	1
## y_sim[77]	3.09	0.03	2.39	0.00	9.00	5274	1
## y_sim[78]	1.31	0.02	1.58	0.00	6.00	5896	1
## y_sim[79]	1.18	0.02	1.44	0.00	5.00	5850	1
## y_sim[80]	0.38	0.01	0.82	0.00	3.00	5284	1

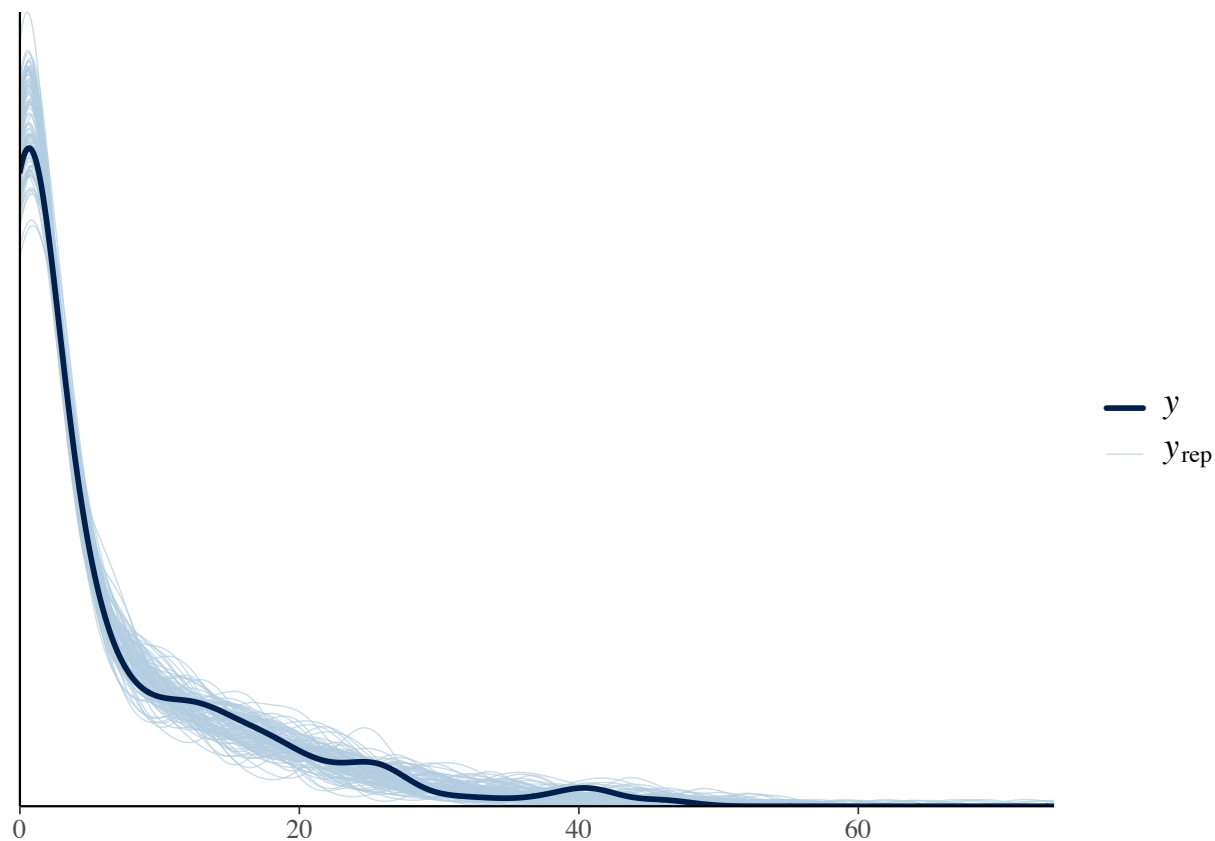


## y_sim[81]	2.04	0.03	1.93	0.00	7.00	4918	1
## y_sim[82]	2.79	0.03	2.29	0.00	8.00	5845	1
## y_sim[83]	2.81	0.03	2.30	0.00	8.00	5635	1
## y_sim[84]	8.98	0.06	4.22	2.00	19.00	5333	1
## y_sim[85]	0.45	0.01	0.93	0.00	3.00	4696	1
## y_sim[86]	1.37	0.02	1.61	0.00	5.00	5365	1
## y_sim[87]	0.44	0.01	0.90	0.00	3.00	5391	1
## y_sim[88]	0.40	0.01	0.89	0.00	3.00	5318	1
## y_sim[89]	0.39	0.01	0.87	0.00	3.00	4960	1
## y_sim[90]	0.43	0.01	0.94	0.00	3.00	4712	1
## y_sim[91]	2.15	0.03	2.02	0.00	7.00	5679	1
## y_sim[92]	0.41	0.01	0.84	0.00	3.00	5468	1
## y_sim[93]	0.41	0.01	0.87	0.00	3.00	4803	1
## y_sim[94]	5.88	0.05	3.38	1.00	14.00	5540	1
## y_sim[95]	1.33	0.02	1.61	0.00	6.00	5217	1
## y_sim[96]	0.43	0.01	0.93	0.00	3.00	5381	1
## y_sim[97]	1.34	0.02	1.62	0.00	5.00	5283	1
## y_sim[98]	2.20	0.03	2.01	0.00	7.00	5700	1
## y_sim[99]	3.18	0.03	2.48	0.00	9.00	5995	1
## y_sim[100]	2.25	0.03	2.10	0.00	7.52	6112	1
## y_sim[101]	0.42	0.01	0.89	0.00	3.00	4997	1
## y_sim[102]	9.06	0.05	4.12	2.00	18.00	6256	1
## y_sim[103]	7.64	0.05	3.84	2.00	17.00	5369	1
## y_sim[104]	0.42	0.01	0.86	0.00	3.00	5190	1
## y_sim[105]	0.43	0.01	0.92	0.00	3.00	5397	1
## y_sim[106]	0.41	0.01	0.87	0.00	3.00	5674	1
## y_sim[107]	5.94	0.04	3.29	1.00	13.00	5717	1
## y_sim[108]	0.41	0.01	0.86	0.00	3.00	5280	1
## y_sim[109]	3.14	0.03	2.45	0.00	9.00	5906	1
## y_sim[110]	19.71	0.08	6.15	9.00	33.00	6144	1
## y_sim[111]	3.13	0.03	2.44	0.00	9.00	5939	1
## y_sim[112]	16.91	0.07	5.75	7.00	30.00	6570	1
## y_sim[113]	10.33	0.06	4.36	3.00	20.00	5319	1
## y_sim[114]	1.32	0.02	1.55	0.00	5.00	5341	1
## y_sim[115]	2.20	0.03	2.01	0.00	7.00	6141	1
## y_sim[116]	11.35	0.06	4.67	4.00	22.00	6390	1
## y_sim[117]	5.88	0.05	3.31	1.00	13.00	4816	1
## y_sim[118]	14.20	0.06	5.32	5.00	26.00	6724	1
## y_sim[119]	1.29	0.02	1.57	0.00	5.00	5829	1
## y_sim[120]	31.99	0.10	7.92	18.00	49.00	6132	1
## y_sim[121]	3.65	0.03	2.62	0.00	10.00	6299	1
## y_sim[122]	21.62	0.08	6.47	10.48	35.00	5958	1
## y_sim[123]	13.65	0.06	5.12	5.00	25.00	6255	1
## y_sim[124]	0.40	0.01	0.87	0.00	3.00	4719	1
## y_sim[125]	12.08	0.06	4.70	4.00	23.00	5421	1
## y_sim[126]	0.41	0.01	0.90	0.00	3.00	4851	1
## y_sim[127]	8.94	0.05	4.18	2.00	18.00	5975	1
## y_sim[128]	0.30	0.01	0.70	0.00	2.00	5322	1
## y_sim[129]	0.30	0.01	0.70	0.00	2.00	4938	1
## y_sim[130]	0.38	0.01	0.84	0.00	3.00	4768	1
## y_sim[131]	0.39	0.01	0.86	0.00	3.00	4924	1
## y_sim[132]	0.41	0.01	0.87	0.00	3.00	5099	1
## y_sim[133]	0.38	0.01	0.85	0.00	3.00	5114	1
## y_sim[134]	0.42	0.01	0.90	0.00	3.00	4846	1

## y_sim[135]	0.43	0.01	0.95	0.00	3.00	4553	1
## y_sim[136]	0.41	0.01	0.88	0.00	3.00	5141	1
## y_sim[137]	0.40	0.01	0.88	0.00	3.00	4865	1
## y_sim[138]	3.19	0.03	2.41	0.00	9.00	5772	1
## y_sim[139]	11.34	0.06	4.74	4.00	22.00	5680	1
## y_sim[140]	0.41	0.01	0.85	0.00	3.00	4996	1
## y_sim[141]	5.93	0.05	3.41	1.00	14.00	5441	1
## y_sim[142]	25.22	0.09	6.75	14.00	39.00	5934	1
## y_sim[143]	1.07	0.02	1.24	0.00	4.00	5027	1
## y_sim[144]	14.75	0.07	5.39	6.00	26.00	5501	1
## y_sim[145]	35.80	0.11	8.42	21.00	53.00	6016	1
## y_sim[146]	24.90	0.09	7.15	12.00	41.00	6430	1
## y_sim[147]	9.85	0.05	4.39	3.00	20.00	6558	1
## y_sim[148]	8.70	0.05	4.07	2.00	18.00	5801	1
## y_sim[149]	9.73	0.06	4.39	3.00	19.00	5369	1
## y_sim[150]	4.19	0.04	2.88	0.00	11.00	5343	1
## y_sim[151]	17.17	0.07	5.81	7.00	30.00	6170	1
## y_sim[152]	3.22	0.03	2.48	0.00	9.00	6343	1
## y_sim[153]	10.81	0.06	4.57	4.00	21.00	5926	1
## y_sim[154]	1.19	0.02	1.49	0.00	5.00	4582	1
## y_sim[155]	2.24	0.03	2.12	0.00	8.00	6026	1
## y_sim[156]	0.42	0.01	0.88	0.00	3.00	4929	1
## y_sim[157]	1.30	0.02	1.53	0.00	5.00	5548	1
## y_sim[158]	1.28	0.02	1.52	0.00	5.00	5815	1
## y_sim[159]	4.29	0.04	2.90	0.00	11.00	6345	1
## y_sim[160]	19.42	0.08	6.21	9.00	33.00	6291	1
## y_sim[161]	0.37	0.01	0.83	0.00	3.00	4871	1
## y_sim[162]	5.30	0.04	3.08	1.00	12.00	5412	1
## y_sim[163]	0.38	0.01	0.83	0.00	3.00	5204	1
## y_sim[164]	1.18	0.02	1.44	0.00	5.00	5143	1
## y_sim[165]	0.36	0.01	0.78	0.00	3.00	4887	1
## y_sim[166]	44.44	0.13	9.26	27.00	63.00	5427	1
## y_sim[167]	0.38	0.01	0.83	0.00	3.00	4931	1
## y_sim[168]	2.28	0.03	2.10	0.00	8.00	6309	1
## y_sim[169]	3.18	0.03	2.53	0.00	9.52	5965	1
## y_sim[170]	0.31	0.01	0.71	0.00	2.00	4591	1
## y_sim[171]	4.10	0.04	2.75	0.00	11.00	5817	1
## y_sim[172]	12.35	0.07	4.93	4.00	23.00	5565	1
## y_sim[173]	19.58	0.08	6.24	9.00	33.52	6217	1
## y_sim[174]	24.53	0.08	6.76	13.00	39.00	6373	1
## y_sim[175]	0.42	0.01	0.89	0.00	3.00	5246	1
## y_sim[176]	15.26	0.07	5.43	6.00	27.00	5444	1
## y_sim[177]	2.19	0.03	2.05	0.00	7.00	5593	1
## y_sim[178]	28.33	0.09	7.40	15.00	45.00	6892	1
## y_sim[179]	23.57	0.09	6.79	11.00	38.00	6234	1
## y_sim[180]	0.44	0.01	0.93	0.00	3.00	4452	1
## y_sim[181]	6.19	0.05	3.45	1.00	14.00	5048	1
## y_sim[182]	15.59	0.07	5.45	6.00	27.00	6499	1
## y_sim[183]	17.07	0.08	5.84	7.00	30.00	5187	1
## y_sim[184]	16.93	0.08	5.69	7.00	30.00	5739	1
## y_sim[185]	14.23	0.07	5.14	5.00	26.00	5702	1
## y_sim[186]	0.35	0.01	0.81	0.00	3.00	4928	1
## y_sim[187]	1.33	0.02	1.59	0.00	6.00	5143	1
## y_sim[188]	0.40	0.01	0.89	0.00	3.00	5014	1

```
## y_sim[189]      0.38      0.01  0.83      0.00      3.00  5115      1
## y_sim[190]     37.58      0.11  8.32     23.00     55.00  5753      1
## y_sim[191]     24.71      0.09  6.84     13.00     39.00  5487      1
## y_sim[192]      0.33      0.01  0.73      0.00      2.00  4510      1
## y_sim[193]     20.54      0.08  6.30      9.00     34.00  6611      1
## y_sim[194]      3.95      0.04  2.75      0.00     10.00  5320      1
## y_sim[195]      7.09      0.05  3.73      1.00     16.00  6747      1
## y_sim[196]      0.38      0.01  0.82      0.00      3.00  4938      1
## y_sim[197]      0.38      0.01  0.83      0.00      3.00  5306      1
## y_sim[198]      0.40      0.01  0.87      0.00      3.00  4703      1
## y_sim[199]      0.40      0.01  0.85      0.00      3.00  5038      1
## y_sim[200]      3.93      0.03  2.69      0.00     10.00  6151      1
## y_sim[201]      3.99      0.04  2.76      0.00     10.00  5083      1
## y_sim[202]      3.05      0.03  2.37      0.00      9.00  5786      1
## y_sim[203]      0.39      0.01  0.88      0.00      3.00  4888      1
## y_sim[204]      0.35      0.01  0.75      0.00      2.00  4615      1
## y_sim[205]      0.38      0.01  0.82      0.00      3.00  4704      1
## y_sim[206]      0.39      0.01  0.86      0.00      3.00  5125      1
## lp_--          1668.96      0.49 14.11 1641.01 1695.83   838      1
##
## Samples were drawn using NUTS(diag_e) at Wed Dec  4 16:01:35 2024.
## For each parameter, n_eff is a crude measure of effective sample size,
## and Rhat is the potential scale reduction factor on split chains (at
## convergence, Rhat=1).
```

```
# Posterior predictive checks
y_sim <- extract(fit, pars = "y_sim")$y_sim
ppc_dens_overlay(y = country_data$y, yrep = y_sim[1:100, ])
```

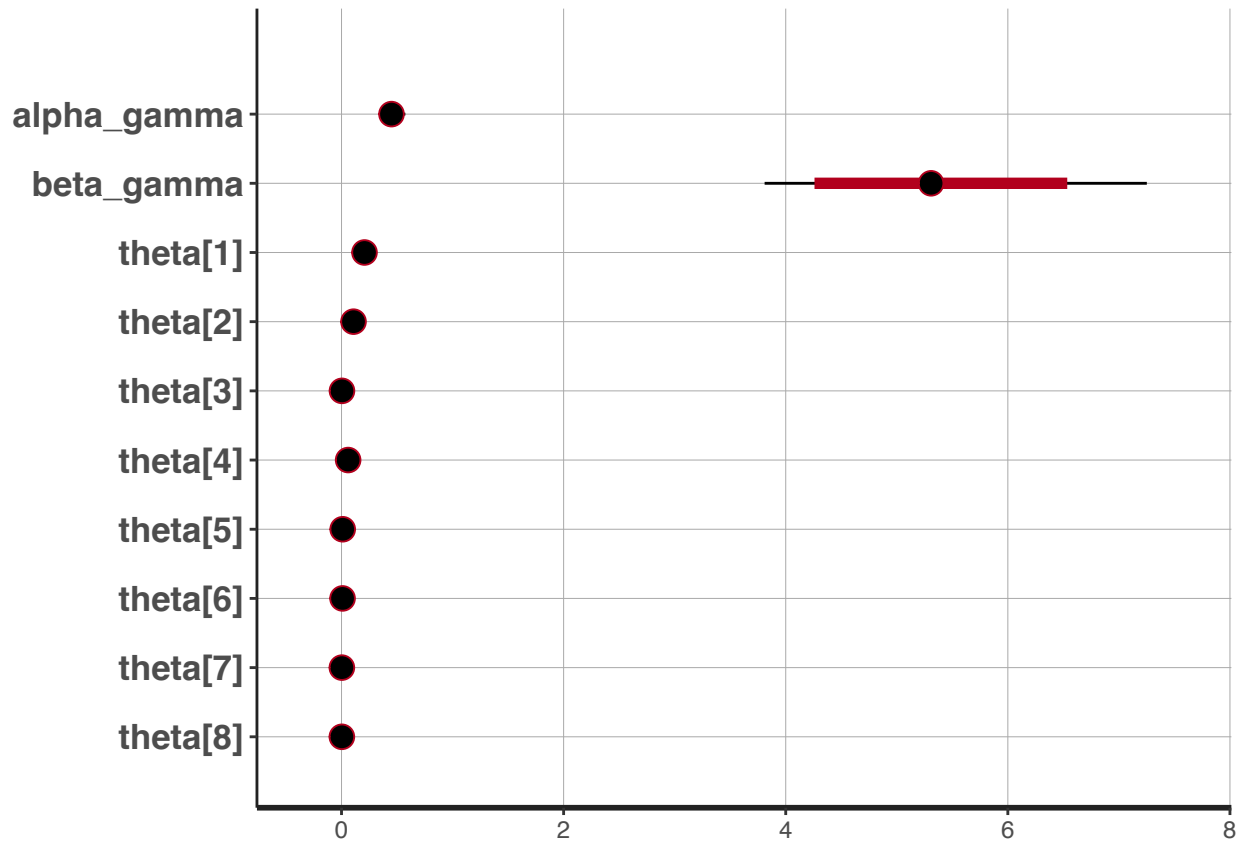


```
plot(fit)
```

```
## 'pars' not specified. Showing first 10 parameters by default.
```

```
## ci_level: 0.8 (80% intervals)
```

```
## outer_level: 0.95 (95% intervals)
```



Density of simulated ( $y_{\text{sim}}$ ) and observed data ( $\text{country\_data}\$y$ ) overlaps well, so the model seems to fit the data well.  $R_{\text{hat}} < 1.01$  and  $n_{\text{eff}}$  seem to be relatively large for all estimated thetas. Traceplots seem to show convergence with stable means, and fairly indistinct patterns.