

# Restored6.R

SIU850486795

2023-11-14

```
# Restored6.R
# Multiple regression for restored prairie diversity

# Load necessary libraries
library(ggplot2)
library(car)

## Loading required package: carData
library(QuantPsyc)

## Loading required package: boot
##
## Attaching package: 'boot'
## The following object is masked from 'package:car':
##
##      logit
## Loading required package: MASS
##
## Attaching package: 'QuantPsyc'
## The following object is masked from 'package:base':
##
##      norm
library(MuMIn)

# Read in data set
RPdat <- read.table(header=T,colClasses=c("factor",rep("numeric",10)),text="
site_id age linear ph organic TE PE TA PA exotic bc
3      5      1.29  7.33 12.28 12.25  31.77 9.94  35.61  24.05 0.982
4      6      1.39  7.93 8.54  8.69  45.50 8.89  36.80  19.87 0.898
5     14      1.21  7.90 7.11  9.31  31.83 9.11  35.52  3.68  0.791
7      5      1.24  8.03 6.28  9.42  28.26 8.00  36.48  10.25 1.000
8      3      1.28  7.67 5.69  6.61  43.13 8.00  36.48  18.00 0.998
9     10      1.12  7.97 7.92  8.97  41.19 8.00  36.48  4.50  0.712
10     8      1.04  8.10 11.04 7.19  28.99 7.22  29.60  0.90  0.623
13     2      1.22  7.53 9.43  7.06  33.20 8.94  30.46  17.70 0.892
14     6      1.43  7.80 7.81  7.42  37.36 8.94  30.46  19.70 0.841
15     8      1.10  6.70 11.44 7.72  38.73 7.94  33.94  12.97 0.646
22    24      1.33  7.70 8.94  8.11  46.30 9.06  34.67  13.65 0.994
23     6      1.06  6.47 4.31  9.81  27.33 7.89  36.66  9.20  0.676
```

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30      4      1.47  7.80 15.56 11.89  29.17  9.72  36.09  8.33  0.994
31      5      1.29  7.60 10.03 12.25  31.77  9.94  35.61  18.08 0.894
32      5      1.36  7.53  9.07 12.25  31.77  9.94  35.61  23.85 0.953
33      7      1.06  6.77  9.46  8.22  43.67  8.28  35.84  0.20  0.474
34      9      1.02  6.53 10.21  7.81  41.78  8.28  35.84  5.67  0.503
35      6      1.06  6.47 10.47  8.53  38.07  8.28  35.84  10.14 0.684
36      9      1.03  6.33 10.29  7.81  41.78  8.28  35.84  6.33  0.632
39     14      1.02  7.30  9.39 10.50  30.26  9.72  36.27  3.57  0.589
40     15      1.12  7.63 13.47 10.72  29.43 10.50  36.02  21.71 1.000
41      6      1.02  7.57  5.98  8.69  45.50  8.67  36.47  0.09  0.315
42      4      1.28  6.77  3.78 11.89  29.17  9.72  36.09  11.35 1.000
43      4      1.34  7.93  9.06 11.89  29.17  9.72  36.09  19.10 1.000
44      6      1.42  7.57  9.12  8.69  45.50  8.89  36.80  23.30 0.924
45      9      1.11  6.20  8.62  7.94  42.92  8.56  35.24  9.08  0.660
56      5      1.04  6.97 10.81  9.42  29.81  8.72  38.35  16.75 0.967
65      9      1.22  7.37 17.36  8.06  41.38  9.06  34.23  18.00 0.808
74     12      1.02  7.27 12.30  9.33  32.16  7.89  36.66  3.17  0.739
75      6      1.08  7.30  8.03  9.81  27.33  7.89  36.66  2.22  0.634
77      9      1.32  7.93  8.03  5.94  39.49  7.17  38.30  16.43 0.965
80     10      1.27  8.13  5.82  7.56  41.58  8.17  34.42  18.28 0.959
89     11      1.02  7.40  7.26  9.19  32.51  8.39  35.63  13.00 0.735
90      3      1.18  7.57 10.06  7.61  41.01  8.39  34.67  20.60 0.926
91      6      1.02  7.00 10.90  9.03  24.98  7.72  28.71  10.30 0.680
92      9      1.05  7.07 10.37  7.81  29.42  8.94  30.46  22.72 0.865
96     14      1.15  7.33  7.11 10.67  32.95  9.00  37.38  28.40 0.955
97      5      1.00  6.73  6.22  9.64  31.49  9.50  35.36  7.53  0.916
98      3      1.36  8.10  7.82  9.28  46.10 10.39  37.25  21.40 0.937
100    17      1.30  7.87 10.42  9.17  33.58 10.72  37.59  25.03 0.970
101     3      1.26  7.93  8.64  8.56  40.66 10.72  37.59  15.37 0.772
102    11      1.25  8.10  3.61 11.69  40.36 10.00  36.28  9.57  0.972
105    13      1.05  7.93 14.54  8.53  35.57  8.00  36.48  13.77 0.718
106    10      1.02  6.97  8.19  7.64  47.79  8.00  36.48  14.25 0.624

```

")

```

# Apply transformations here
RPdat <- transform(RPdat,y=bc)

```

```

# Print data
RPdat

```

```

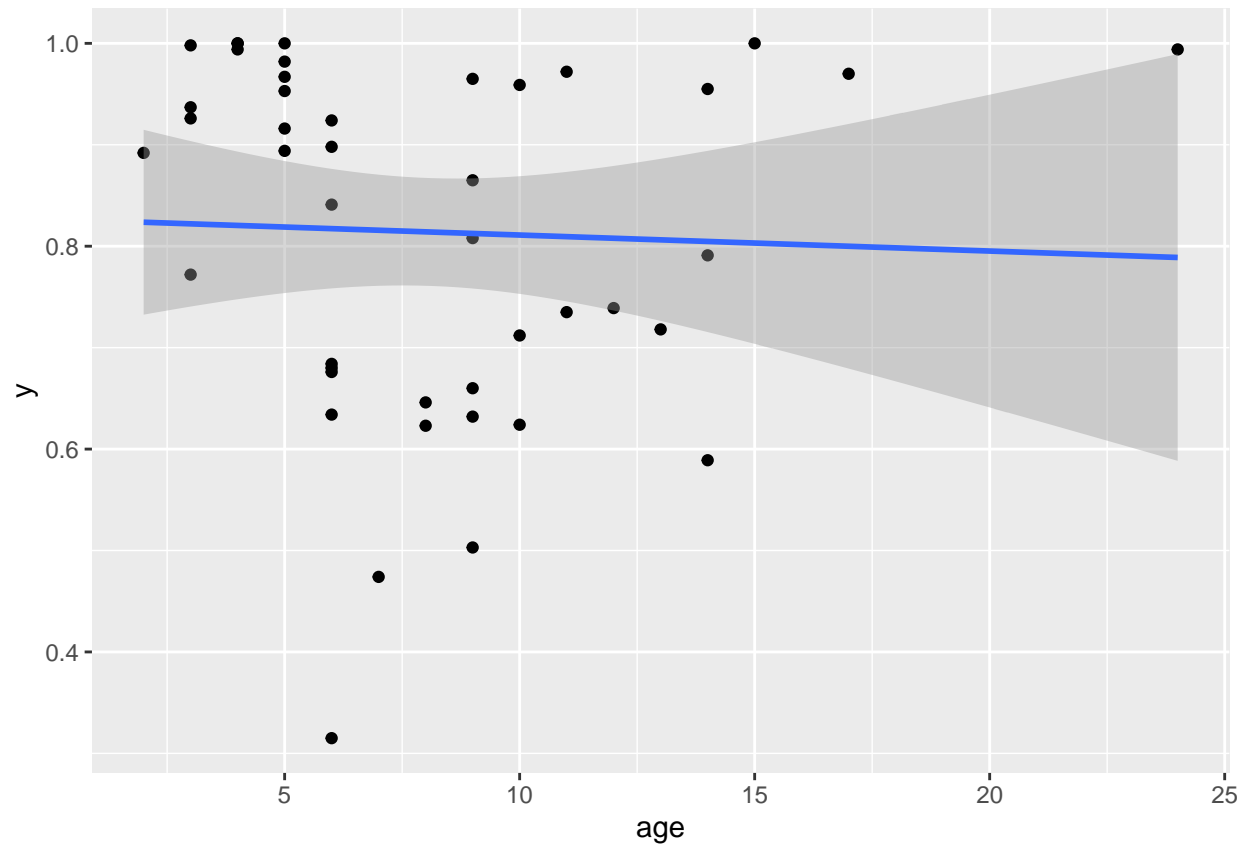
##      site_id age linear  ph organic  TE  PE  TA  PA exotic  bc  y
## 1         3   5   1.29 7.33   12.28 12.25 31.77  9.94 35.61 24.05 0.982 0.982
## 2         4   6   1.39 7.93    8.54  8.69 45.50  8.89 36.80 19.87 0.898 0.898
## 3         5  14   1.21 7.90    7.11  9.31 31.83  9.11 35.52  3.68 0.791 0.791
## 4         7   5   1.24 8.03    6.28  9.42 28.26  8.00 36.48 10.25 1.000 1.000
## 5         8   3   1.28 7.67    5.69  6.61 43.13  8.00 36.48 18.00 0.998 0.998
## 6         9  10   1.12 7.97    7.92  8.97 41.19  8.00 36.48  4.50 0.712 0.712
## 7        10   8   1.04 8.10   11.04  7.19 28.99  7.22 29.60  0.90 0.623 0.623
## 8        13   2   1.22 7.53    9.43  7.06 33.20  8.94 30.46 17.70 0.892 0.892
## 9        14   6   1.43 7.80    7.81  7.42 37.36  8.94 30.46 19.70 0.841 0.841
## 10       15   8   1.10 6.70   11.44  7.72 38.73  7.94 33.94 12.97 0.646 0.646
## 11       22  24   1.33 7.70    8.94  8.11 46.30  9.06 34.67 13.65 0.994 0.994
## 12       23   6   1.06 6.47    4.31  9.81 27.33  7.89 36.66  9.20 0.676 0.676
## 13       30   4   1.47 7.80   15.56 11.89 29.17  9.72 36.09  8.33 0.994 0.994

```

```
## 14      31      5      1.29 7.60      10.03 12.25 31.77      9.94 35.61      18.08 0.894 0.894
## 15      32      5      1.36 7.53      9.07 12.25 31.77      9.94 35.61      23.85 0.953 0.953
## 16      33      7      1.06 6.77      9.46 8.22 43.67      8.28 35.84      0.20 0.474 0.474
## 17      34      9      1.02 6.53      10.21 7.81 41.78      8.28 35.84      5.67 0.503 0.503
## 18      35      6      1.06 6.47      10.47 8.53 38.07      8.28 35.84      10.14 0.684 0.684
## 19      36      9      1.03 6.33      10.29 7.81 41.78      8.28 35.84      6.33 0.632 0.632
## 20      39     14      1.02 7.30      9.39 10.50 30.26      9.72 36.27      3.57 0.589 0.589
## 21      40     15      1.12 7.63      13.47 10.72 29.43      10.50 36.02      21.71 1.000 1.000
## 22      41      6      1.02 7.57      5.98 8.69 45.50      8.67 36.47      0.09 0.315 0.315
## 23      42      4      1.28 6.77      3.78 11.89 29.17      9.72 36.09      11.35 1.000 1.000
## 24      43      4      1.34 7.93      9.06 11.89 29.17      9.72 36.09      19.10 1.000 1.000
## 25      44      6      1.42 7.57      9.12 8.69 45.50      8.89 36.80      23.30 0.924 0.924
## 26      45      9      1.11 6.20      8.62 7.94 42.92      8.56 35.24      9.08 0.660 0.660
## 27      56      5      1.04 6.97      10.81 9.42 29.81      8.72 38.35      16.75 0.967 0.967
## 28      65      9      1.22 7.37      17.36 8.06 41.38      9.06 34.23      18.00 0.808 0.808
## 29      74     12      1.02 7.27      12.30 9.33 32.16      7.89 36.66      3.17 0.739 0.739
## 30      75      6      1.08 7.30      8.03 9.81 27.33      7.89 36.66      2.22 0.634 0.634
## 31      77      9      1.32 7.93      8.03 5.94 39.49      7.17 38.30      16.43 0.965 0.965
## 32      80     10      1.27 8.13      5.82 7.56 41.58      8.17 34.42      18.28 0.959 0.959
## 33      89     11      1.02 7.40      7.26 9.19 32.51      8.39 35.63      13.00 0.735 0.735
## 34      90      3      1.18 7.57      10.06 7.61 41.01      8.39 34.67      20.60 0.926 0.926
## 35      91      6      1.02 7.00      10.90 9.03 24.98      7.72 28.71      10.30 0.680 0.680
## 36      92      9      1.05 7.07      10.37 7.81 29.42      8.94 30.46      22.72 0.865 0.865
## 37      96     14      1.15 7.33      7.11 10.67 32.95      9.00 37.38      28.40 0.955 0.955
## 38      97      5      1.00 6.73      6.22 9.64 31.49      9.50 35.36      7.53 0.916 0.916
## 39      98      3      1.36 8.10      7.82 9.28 46.10      10.39 37.25      21.40 0.937 0.937
## 40     100     17      1.30 7.87      10.42 9.17 33.58      10.72 37.59      25.03 0.970 0.970
## 41     101      3      1.26 7.93      8.64 8.56 40.66      10.72 37.59      15.37 0.772 0.772
## 42     102     11      1.25 8.10      3.61 11.69 40.36      10.00 36.28      9.57 0.972 0.972
## 43     105     13      1.05 7.93      14.54 8.53 35.57      8.00 36.48      13.77 0.718 0.718
## 44     106     10      1.02 6.97      8.19 7.64 47.79      8.00 36.48      14.25 0.624 0.624
```

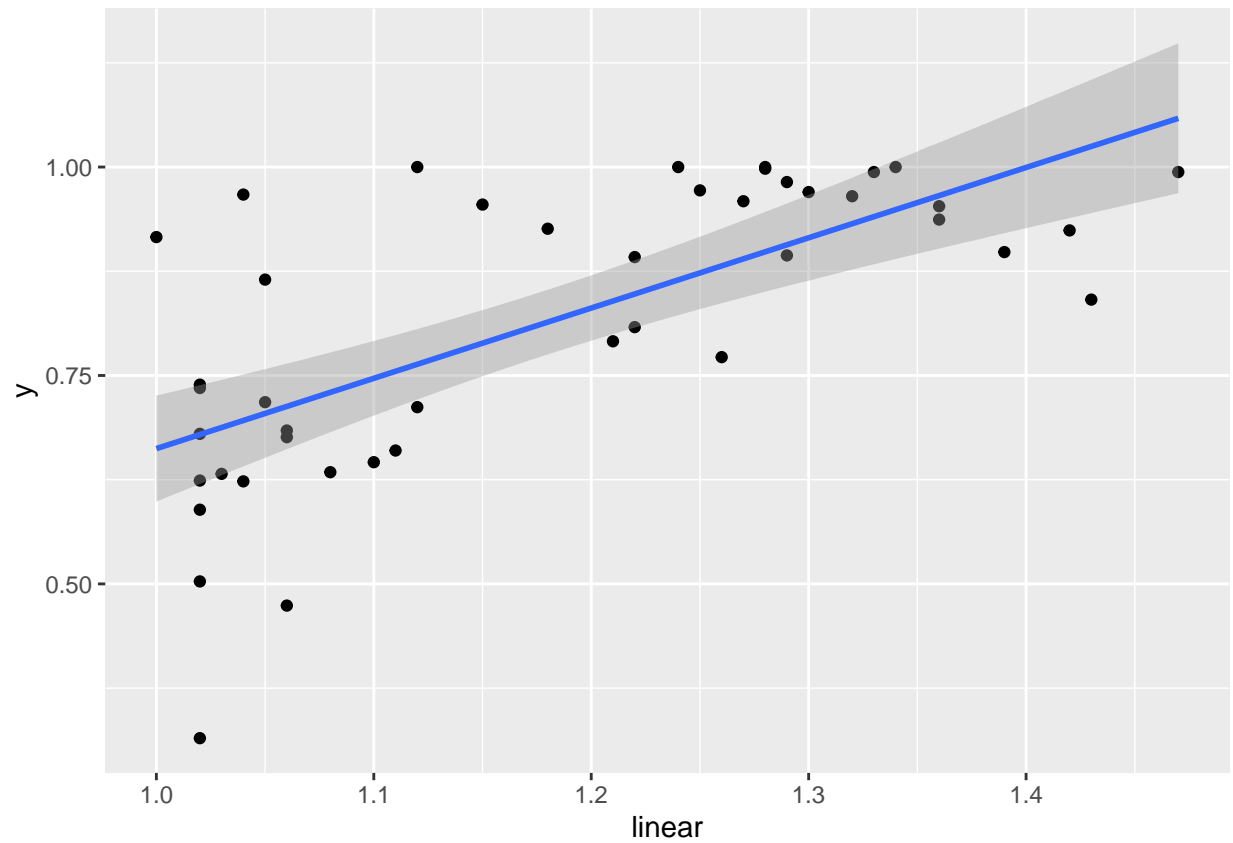
```
# Graphics using ggplot2
ggplot(RPdat,aes(age,y))+
  geom_point()+
  stat_smooth(method="lm")
```

```
## `geom_smooth()` using formula = 'y ~ x'
```



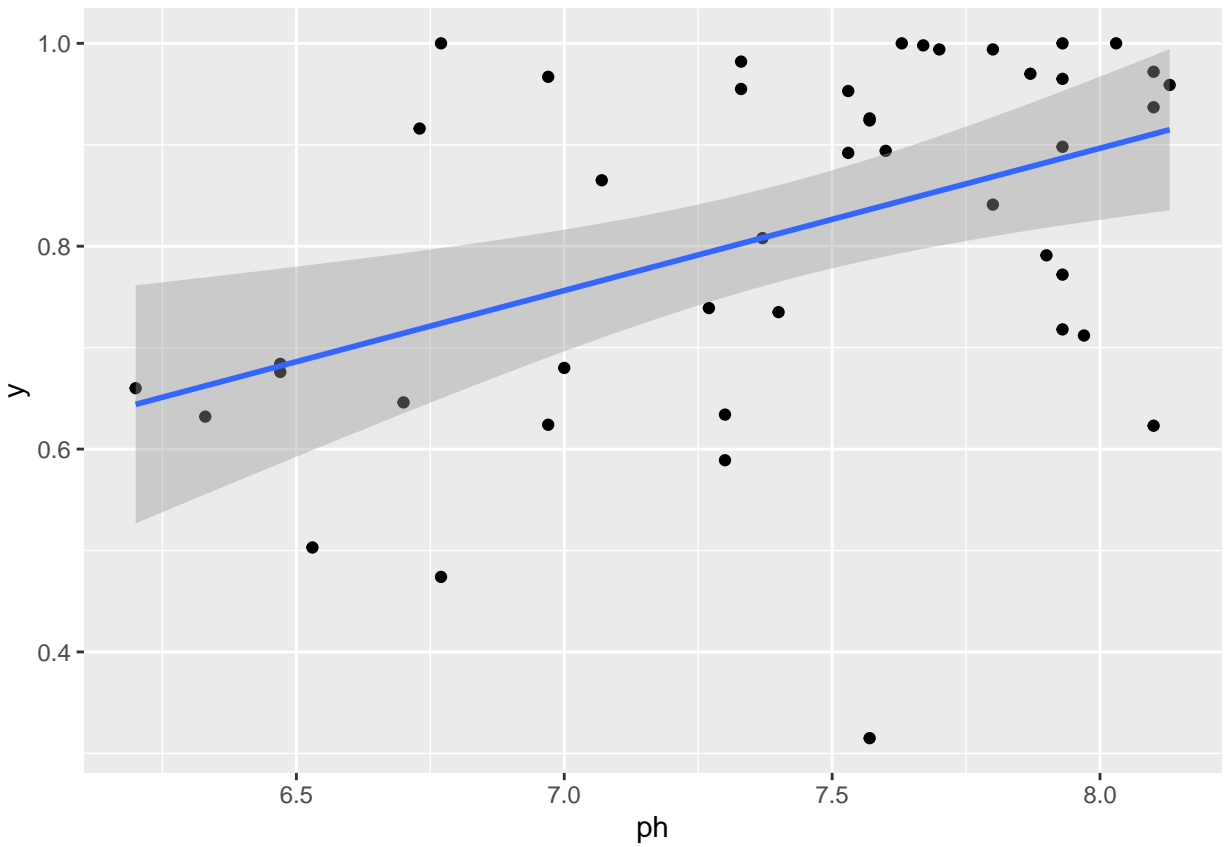
```
ggplot(RPdat,aes(linear,y))+  
  geom_point()+  
  stat_smooth(method="lm")
```

```
## `geom_smooth()` using formula = 'y ~ x'
```



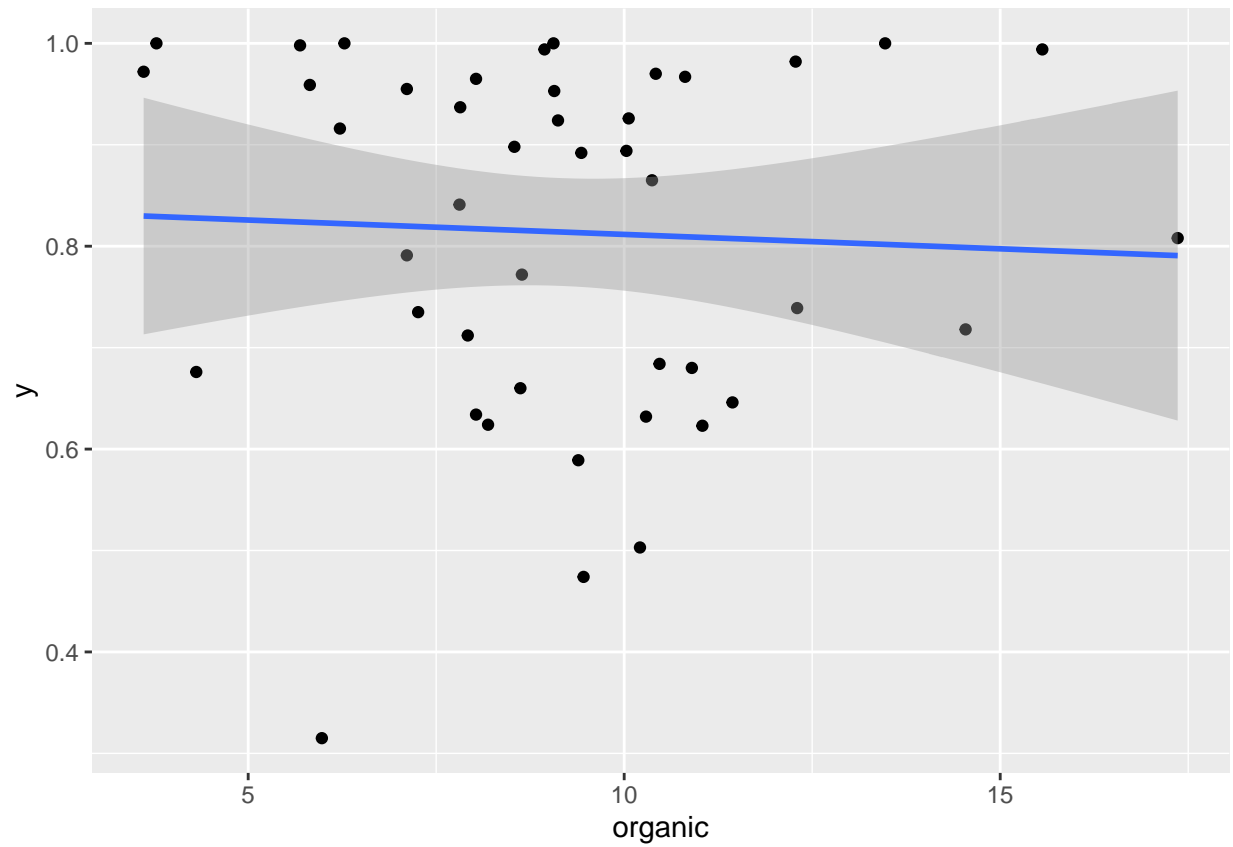
```
ggplot(RPdat,aes(ph,y))+  
  geom_point()+  
  stat_smooth(method="lm")
```

```
## `geom_smooth()` using formula = 'y ~ x'
```



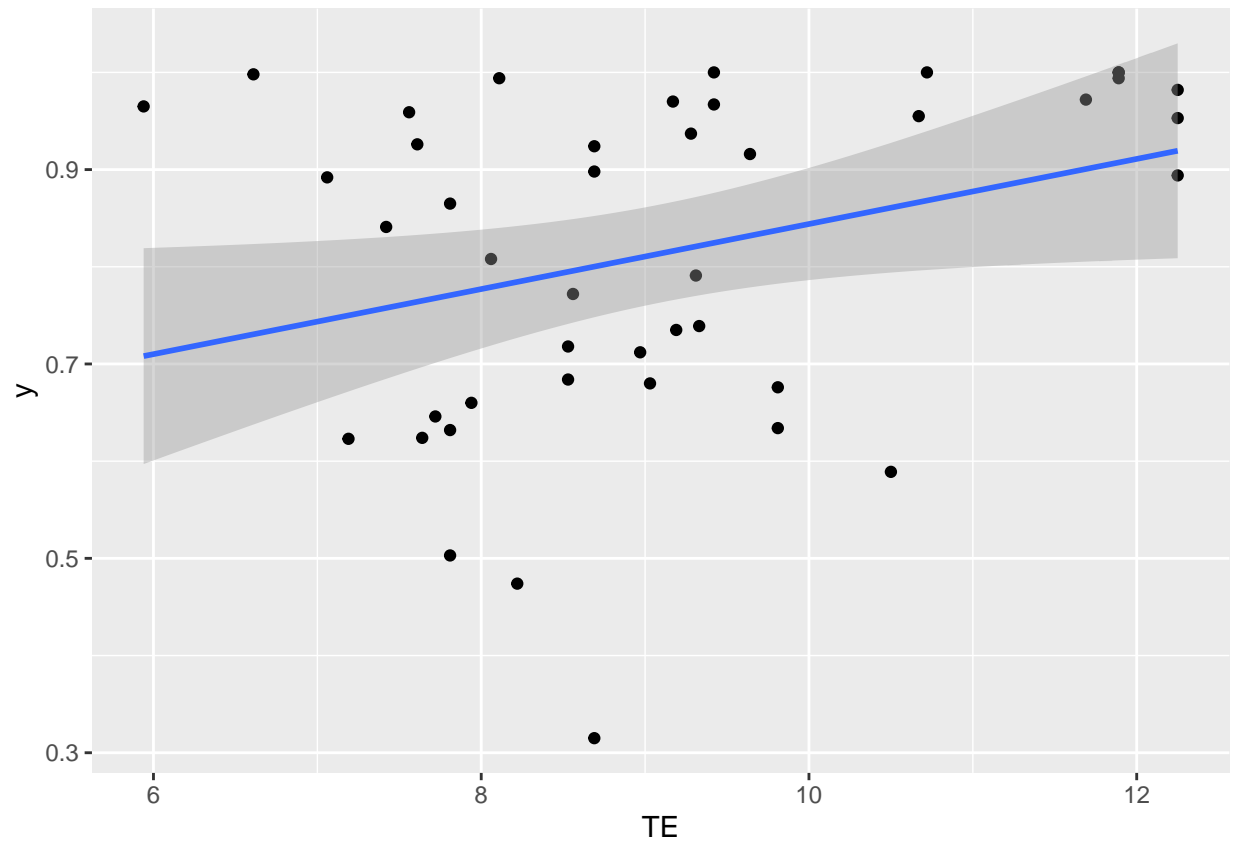
```
ggplot(RPdat,aes(organic,y))+  
  geom_point()+  
  stat_smooth(method="lm")
```

```
## `geom_smooth()` using formula = 'y ~ x'
```



```
ggplot(RPdat,aes(TE,y))+  
  geom_point()+  
  stat_smooth(method="lm")
```

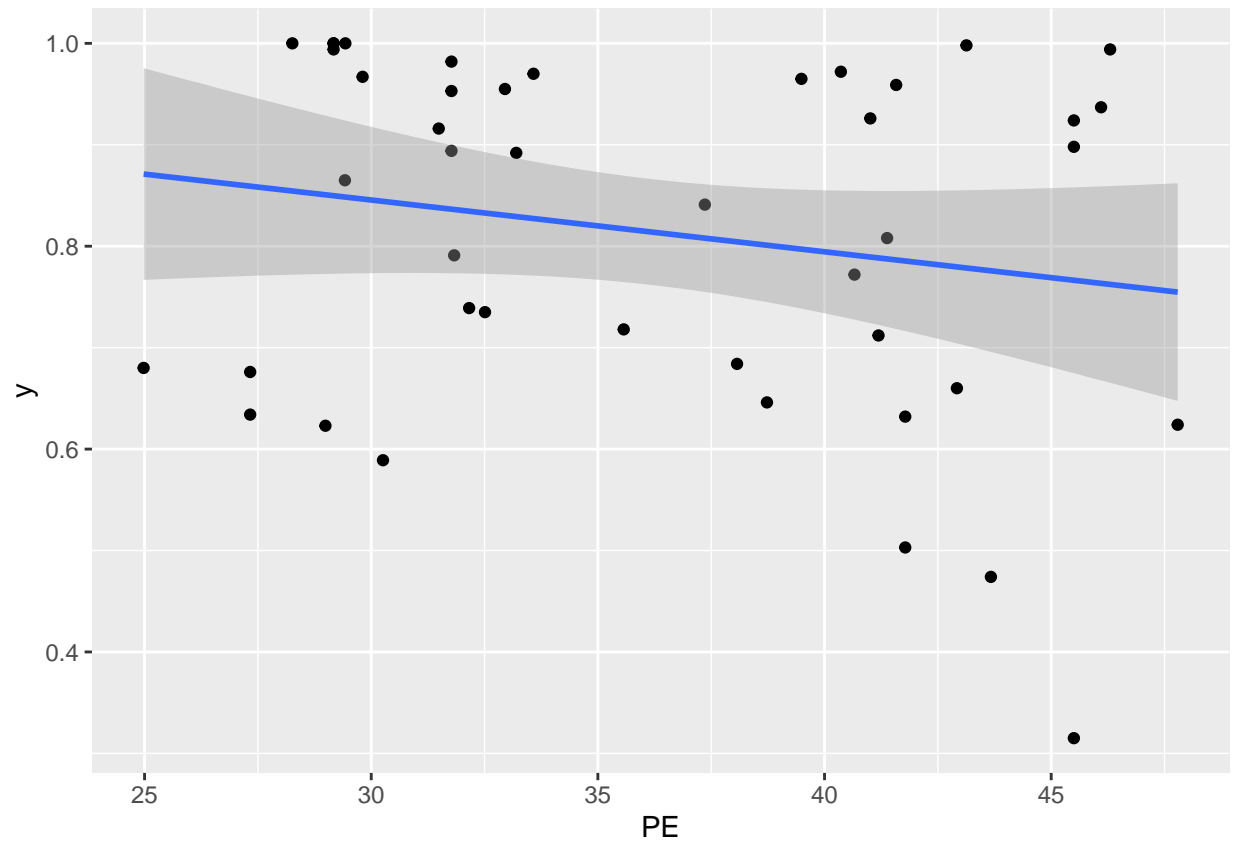
```
## `geom_smooth()` using formula = 'y ~ x'
```



```
ggplot(RPdat,aes(PE,y))+  
  geom_point()+  
  stat_smooth(method="lm")
```

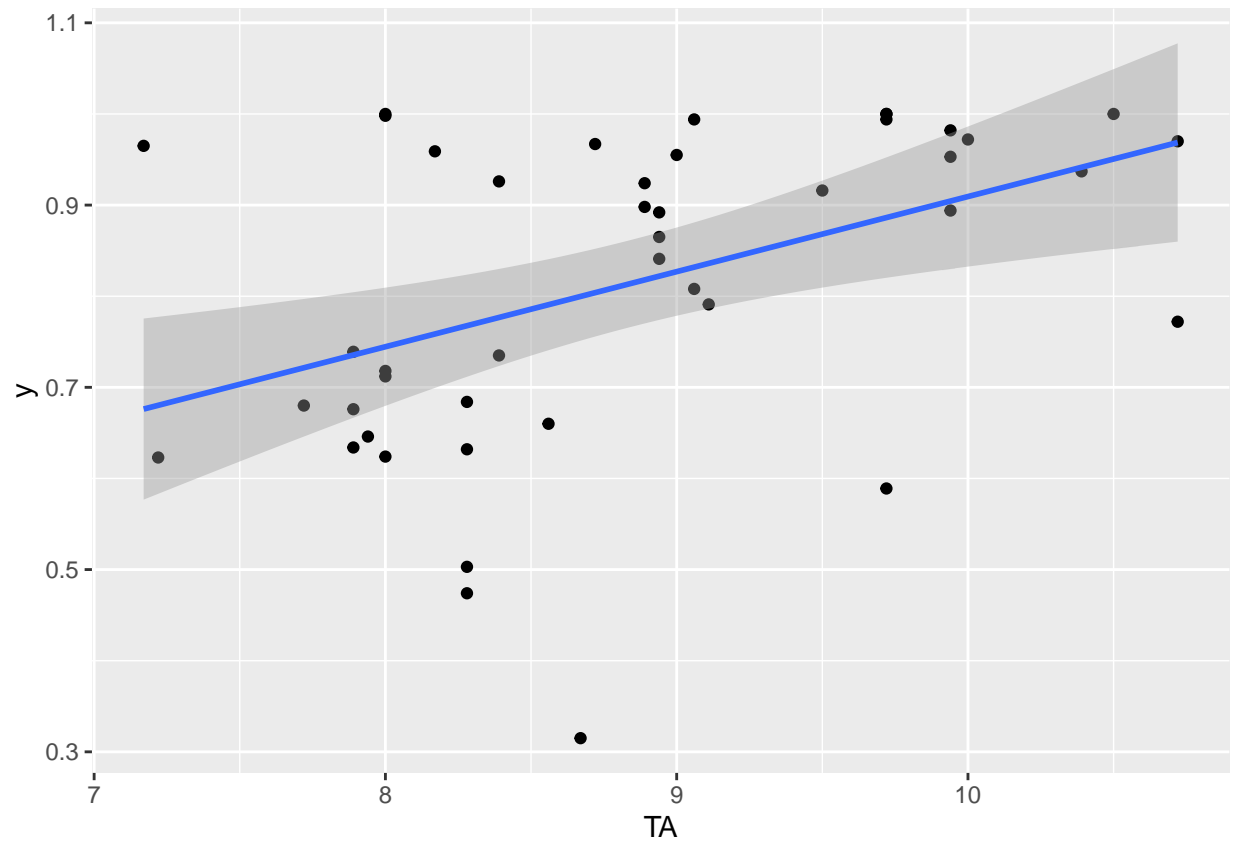
```
## `geom_smooth()` using formula = 'y ~ x'
```





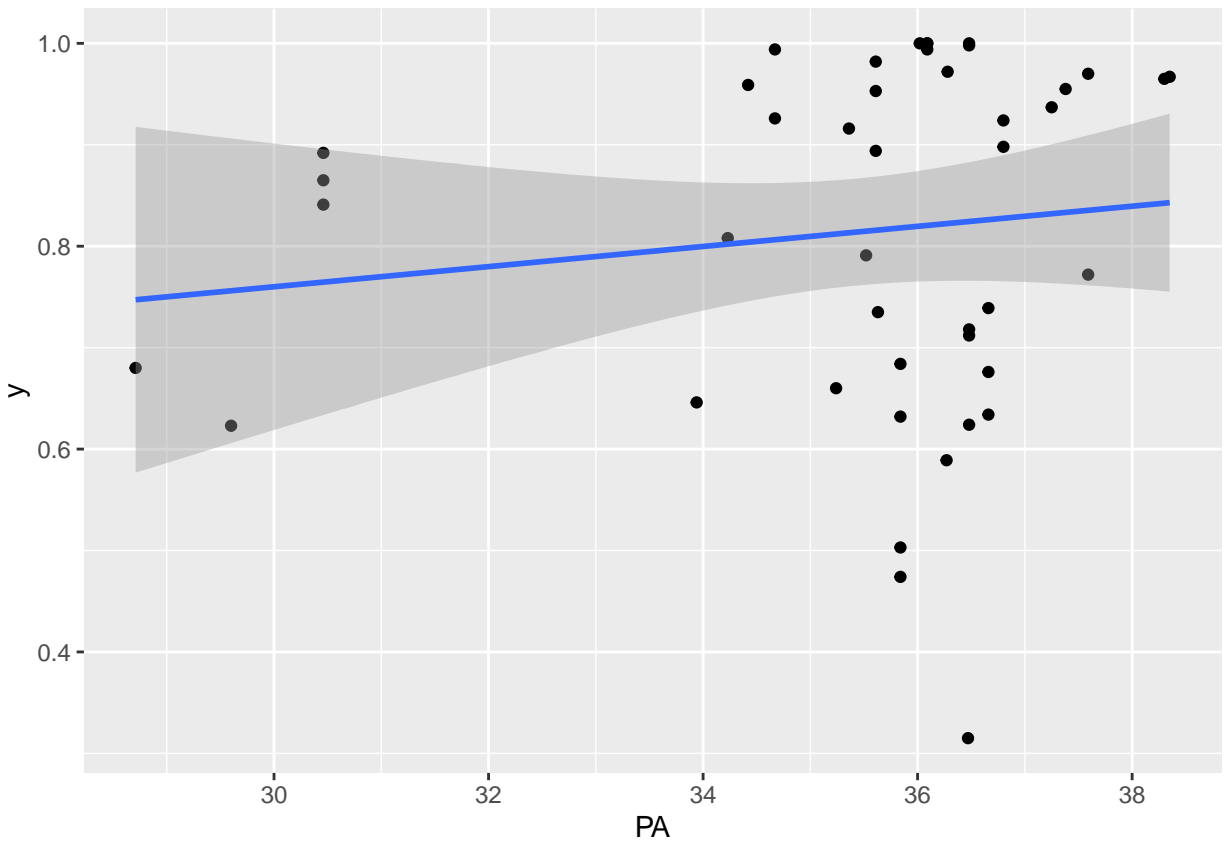
```
ggplot(RPdat,aes(TA,y))+  
  geom_point()+  
  stat_smooth(method="lm")
```

```
## `geom_smooth()` using formula = 'y ~ x'
```



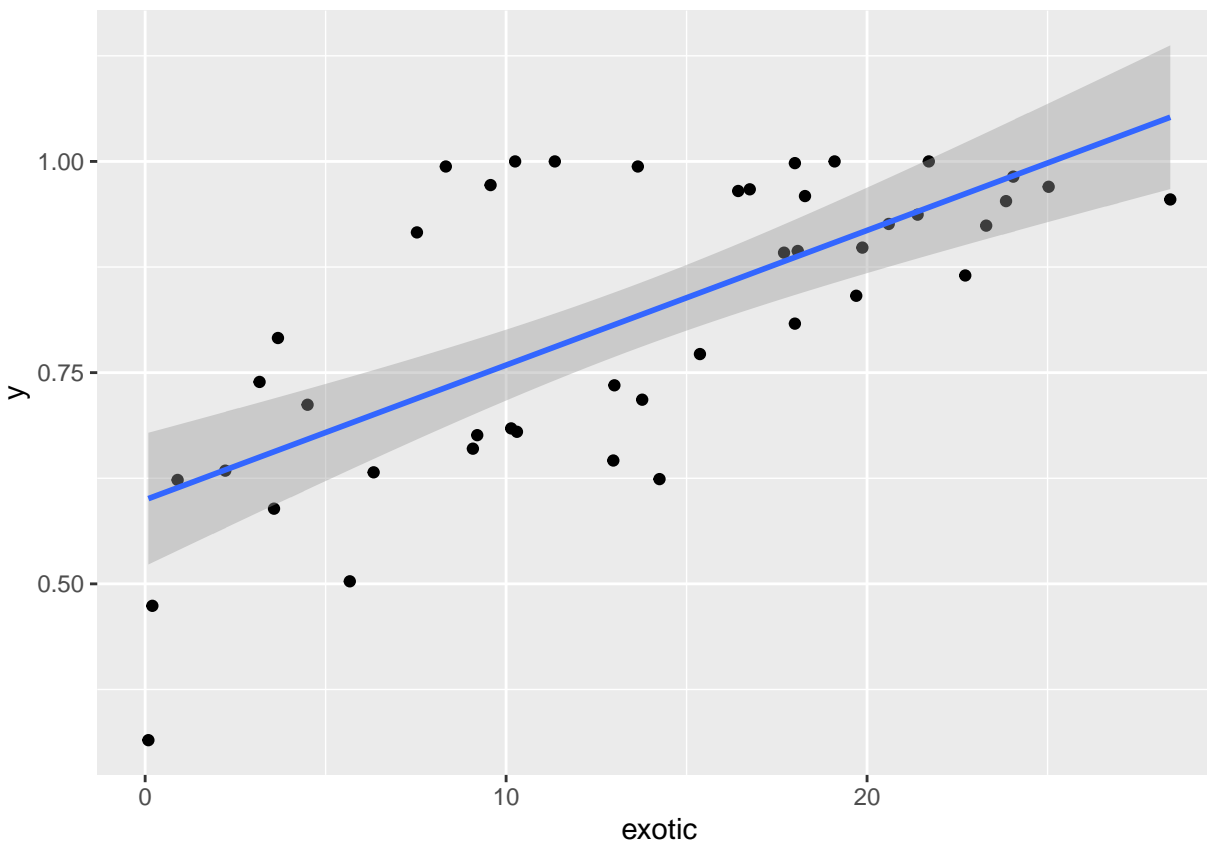
```
ggplot(RPdat,aes(PA,y))+  
  geom_point()+  
  stat_smooth(method="lm")
```

```
## `geom_smooth()` using formula = 'y ~ x'
```



```
ggplot(RPdat,aes(exotic,y))+  
  geom_point()+  
  stat_smooth(method="lm")
```

```
## `geom_smooth()` using formula = 'y ~ x'
```



```
# Multiple regression analysis with model selection
regout <- lm(y~age+linear+ph+organic+TE+PE+TA+PA+exotic,data=RPdat,na.action="na.fail")
summary(regout)
```

```
##
## Call:
## lm(formula = y ~ age + linear + ph + organic + TE + PE + TA +
##      PA + exotic, data = RPdat, na.action = "na.fail")
##
## Residuals:
```

	Min	1Q	Median	3Q	Max
	-0.198267	-0.053885	-0.001945	0.054828	0.231468

```
##
## Coefficients:
```

	Estimate	Std. Error	t value	Pr(> t )
(Intercept)	-0.0683471	0.3357204	-0.204	0.839893
age	0.0035781	0.0036414	0.983	0.332744
linear	0.5862673	0.1711714	3.425	0.001622 **
ph	0.0178935	0.0349836	0.511	0.612320
organic	-0.0064604	0.0054312	-1.190	0.242477
TE	-0.0077078	0.0163306	-0.472	0.639953
PE	-0.0102409	0.0033348	-3.071	0.004179 **
TA	0.0002143	0.0246675	0.009	0.993119
PA	0.0108436	0.0080602	1.345	0.187425
exotic	0.0105987	0.0025273	4.194	0.000185 ***

```
## ---
```

```
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## Residual standard error: 0.09789 on 34 degrees of freedom
## Multiple R-squared:  0.7462, Adjusted R-squared:  0.679
## F-statistic: 11.11 on 9 and 34 DF,  p-value: 7.736e-08

# 95% confidence intervals for regression coefficients
confint(regout)

##              2.5 %      97.5 %
## (Intercept) -0.750612919  0.613918819
## age          -0.003822199  0.010978352
## linear        0.238405042  0.934129494
## ph            -0.053201771  0.088988729
## organic       -0.017497878  0.004576981
## TE            -0.040895596  0.025480008
## PE            -0.017018112 -0.003463785
## TA            -0.049916108  0.050344711
## PA            -0.005536716  0.027223833
## exotic        0.005462724  0.015734710

# Standardized regression coefficients
lm.beta(regout)

##      age      linear      ph      organic      TE      PE
## 0.091615894 0.475982612 0.056460086 -0.107269297 -0.072828470 -0.387657512
##      TA      PA      exotic
## 0.001149076 0.139057709 0.464098171

# Tolerance values (1/vif)
tol <- 1/vif(regout)
tol

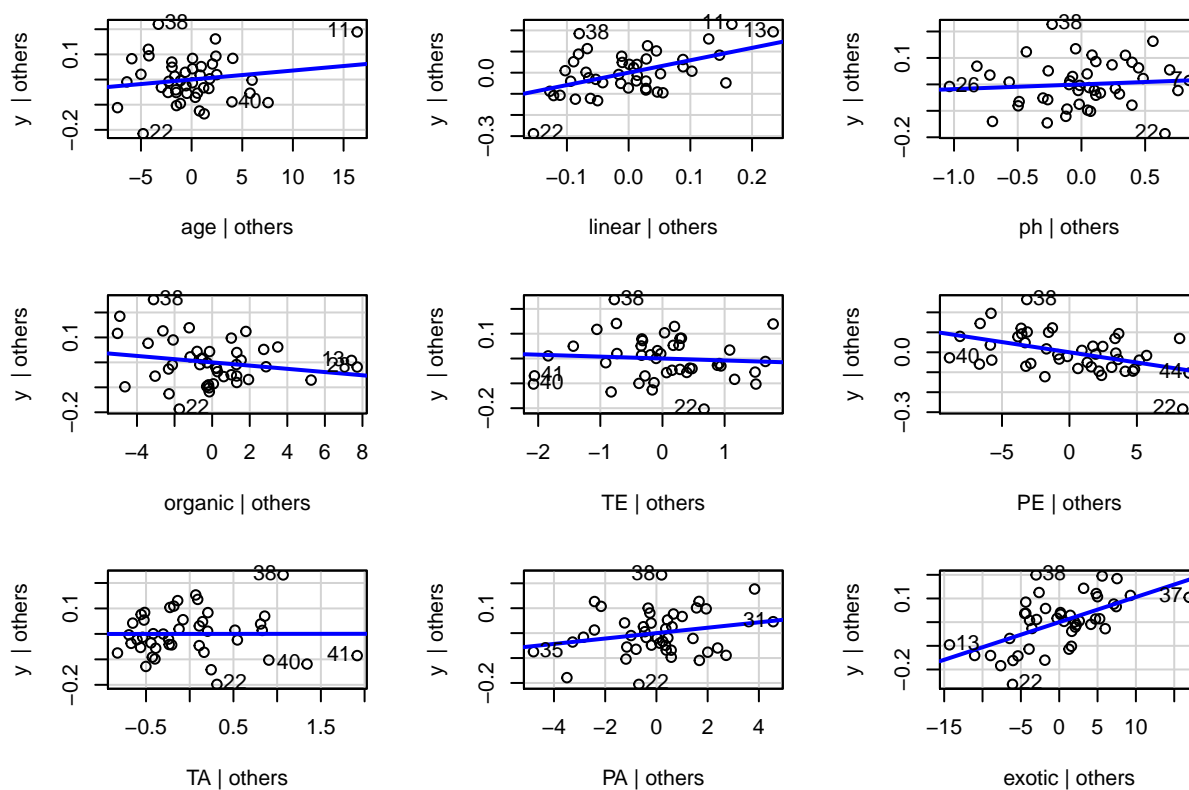
##      age      linear      ph      organic      TE      PE      TA      PA
## 0.8586913 0.3865181 0.6126332 0.9179390 0.3135278 0.4684500 0.4267028 0.6986929
##      exotic
## 0.6095555

# Variance inflation factors
vif(regout)

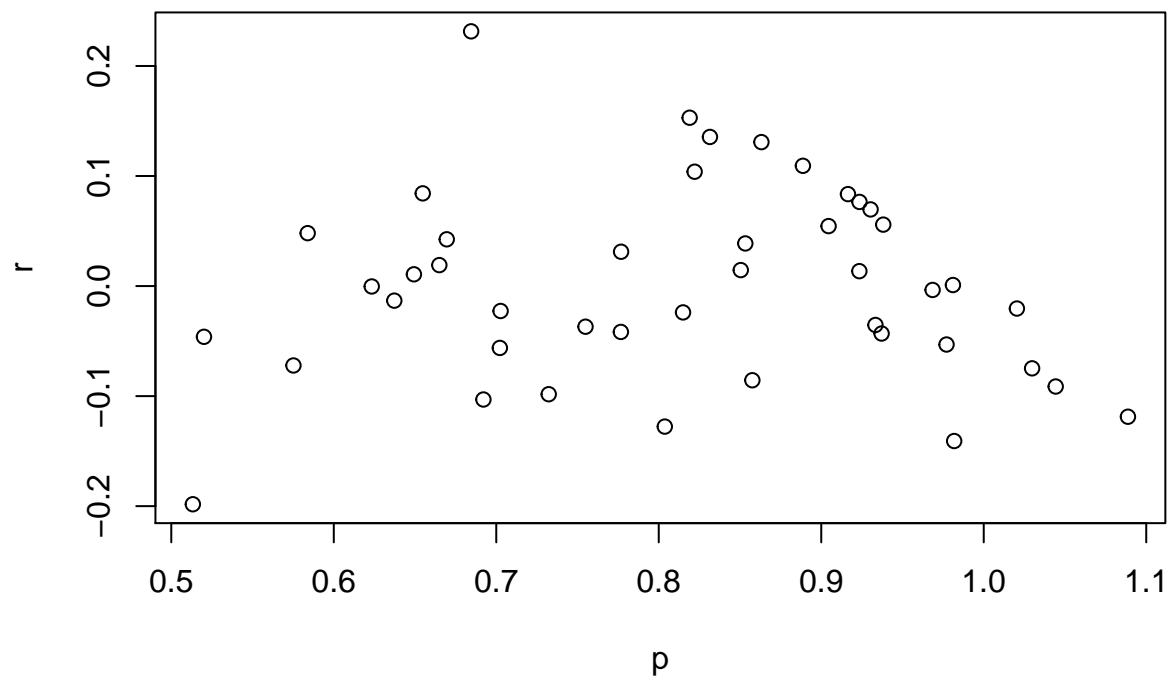
##      age      linear      ph      organic      TE      PE      TA      PA
## 1.164563 2.587201 1.632298 1.089397 3.189510 2.134699 2.343552 1.431244
##      exotic
## 1.640540

# Residual-residual plots
avPlots(regout)
```

## Added-Variable Plots

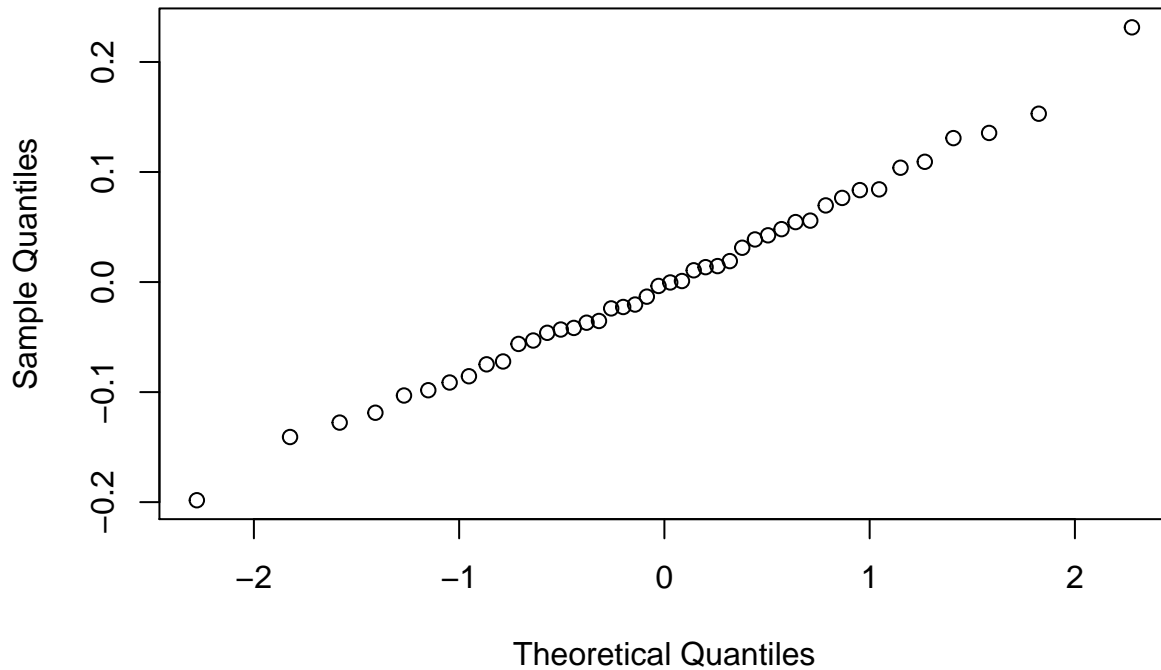


```
# Diagnostic plots to check regression assumptions
p <- predict(regout)
r <- resid(regout)
plot(p,r)
```



`qqnorm(r)`

## Normal Q-Q Plot



```
# Model selection using AICc (all possible models)
dredge(regout)
```

```
## Fixed term is "(Intercept)"

## Global model call: lm(formula = y ~ age + linear + ph + organic + TE + PE + TA +
##      PA + exotic, data = RPdat, na.action = "na.fail")
## ---
## Model selection table
##      (Intrc)      age  exotc  liner      orgnc      PA      PE
## 39  0.2459000          0.01019 0.6059          1.045e-02 -0.007851
## 55 -0.0790900          0.01027 0.5910          1.045e-02 -0.008646
## 47  0.3334000          0.01068 0.5877 -0.0067790 -0.008144
## 40  0.1946000  3.897e-03 0.01003 0.6347          -0.008183
## 63  0.0295400          0.01067 0.5772 -0.0057180 9.333e-03 -0.008808
## 48  0.2849000  4.484e-03 0.01055 0.6187 -0.0075930 -0.008560
## 56 -0.1050000  3.455e-03 0.01012 0.6174          9.823e-03 -0.008892
## 103 0.1080000          0.01035 0.5371          -0.007721
## 119 -0.2232000          0.01042 0.5203          1.054e-02 -0.008519
## 311 -0.0753500          0.01020 0.6206          1.295e-02 -0.010010
## 295 0.2301000          0.01021 0.5995          -0.007624
## 167 0.2379000          0.01016 0.6031          -0.007825
## 183 -0.0559400          0.01047 0.6047          1.105e-02 -0.008828
## 111 0.1958000          0.01083 0.5191 -0.0067710 -0.008013
## 64  0.0151400  4.024e-03 0.01056 0.6060 -0.0065510 8.438e-03 -0.009118
## 127 -0.1142000          0.01082 0.5069 -0.0057000 9.423e-03 -0.008681
## 175 0.3220000          0.01063 0.5837 -0.0067910 -0.008106
```



## 303	0.3277000		0.01068	0.5855	-0.0067590		-0.008063
## 104	0.1016000	3.378e-03	0.01016	0.5810			-0.008044
## 319	0.0335000		0.01060	0.6070	-0.0057290	1.184e-02	-0.010180
## 296	0.1853000	3.882e-03	0.01004	0.6307			-0.008045
## 168	0.2039000	3.932e-03	0.01008	0.6384			-0.008218
## 312	-0.1014000	3.478e-03	0.01005	0.6476		1.235e-02	-0.010270
## 120	-0.2115000	2.882e-03	0.01027	0.5586		9.994e-03	-0.008754
## 112	0.1976000	3.995e-03	0.01067	0.5691	-0.0074990		-0.008427
## 191	0.0462800		0.01082	0.5884	-0.0056290	9.828e-03	-0.008950
## 184	-0.0751900	3.620e-03	0.01038	0.6371		1.060e-02	-0.009149
## 359	0.0733800		0.01038	0.5224			-0.007299
## 375	-0.2072000		0.01036	0.5509		1.258e-02	-0.009649
## 231	0.0961500		0.01029	0.5329			-0.007683
## 176	0.2929000	4.513e-03	0.01059	0.6218	-0.0075900		-0.008590
## 304	0.2881000	4.490e-03	0.01055	0.6199	-0.0076060		-0.008606
## 247	-0.2003000		0.01061	0.5336		1.109e-02	-0.008688
## 439	-0.0820500		0.01014	0.6191		1.299e-02	-0.010080
## 423	0.2325000		0.01024	0.6001			-0.007597
## 320	0.0190800	4.048e-03	0.01049	0.6364	-0.0065660	1.098e-02	-0.010510
## 128	-0.0862900	3.479e-03	0.01068	0.5515	-0.0064250	8.624e-03	-0.008985
## 367	0.1728000		0.01085	0.5099	-0.0067040		-0.007741
## 239	0.1804000		0.01076	0.5135	-0.0067860		-0.007964
## 192	0.0390500	4.157e-03	0.01077	0.6232	-0.0064480	9.130e-03	-0.009336
## 383	-0.0979200		0.01076	0.5378	-0.0057100	1.148e-02	-0.009819
## 360	0.0778300	3.321e-03	0.01019	0.5702			-0.007749
## 431	0.3225000		0.01062	0.5839	-0.0067970		-0.008126
## 232	0.1067000	3.398e-03	0.01019	0.5831			-0.008063
## 255	-0.0979500		0.01096	0.5175	-0.0056200	9.869e-03	-0.008811
## 376	-0.1940000	2.979e-03	0.01019	0.5928		1.217e-02	-0.009975
## 424	0.1967000	3.954e-03	0.01018	0.6347			-0.007923
## 447	0.0207900		0.01047	0.6037	-0.0058020	1.192e-02	-0.010320
## 248	-0.1804000	3.054e-03	0.01050	0.5788		1.070e-02	-0.008994
## 440	-0.0975200	3.499e-03	0.01009	0.6487		1.232e-02	-0.010240
## 368	0.1895000	3.975e-03	0.01068	0.5656	-0.0074720		-0.008329
## 240	0.2017000	4.011e-03	0.01069	0.5708	-0.0074980		-0.008442
## 263	-0.0718200		0.01064	0.4834			
## 487	0.0789500		0.01046	0.5237			-0.007225
## 503	-0.2088000		0.01034	0.5507		1.260e-02	-0.009670
## 432	0.2920000	4.515e-03	0.01060	0.6214	-0.0075790		-0.008558
## 384	-0.0677600	3.581e-03	0.01061	0.5864	-0.0064570	1.084e-02	-0.010230
## 7	0.0420800		0.01059	0.5335			
## 327	-0.2704000		0.01085	0.3839			
## 256	-0.0612600	3.619e-03	0.01088	0.5689	-0.0063360	9.249e-03	-0.009188
## 448	0.0166900	4.034e-03	0.01046	0.6357	-0.0065780	1.100e-02	-0.010540
## 495	0.1718000		0.01083	0.5096	-0.0067140		-0.007757
## 271	-0.0138000		0.01100	0.4685	-0.0048920		
## 264	-0.1124000	2.565e-03	0.01055	0.4998			
## 391	-0.0001245		0.01120	0.5054			
## 488	0.0895000	3.398e-03	0.01035	0.5739			-0.007605
## 511	-0.1050000		0.01067	0.5363	-0.0057590	1.153e-02	-0.009920
## 71	-0.1266000		0.01077	0.4486			
## 279	-0.1122000		0.01065	0.4819		1.308e-03	
## 504	-0.1887000	3.009e-03	0.01025	0.5941		1.212e-02	-0.009914
## 15	0.1005000		0.01095	0.5182	-0.0049550		

## 23	-0.1171000		0.01064	0.5232		4.814e-03	
## 335	-0.2127000		0.01122	0.3685	-0.0049200		
## 8	0.0056350	2.369e-03	0.01050	0.5491			
## 496	0.1942000	4.006e-03	0.01075	0.5673	-0.0074350		-0.008262
## 135	-0.0294700		0.01021	0.5086			
## 455	-0.1988000		0.01145	0.4051			
## 328	-0.2789000	1.683e-03	0.01077	0.4037			
## 115	-0.2211000		0.01445			1.228e-02	-0.007258
## 99	0.1670000		0.01451				-0.006275
## 272	-0.0546200	2.929e-03	0.01093	0.4858	-0.0053620		
## 343	-0.3135000		0.01087	0.3821		1.388e-03	
## 399	0.0508600		0.01151	0.4897	-0.0046940		
## 392	-0.0350800	3.017e-03	0.01119	0.5287			
## 323	-0.2324000		0.01376				
## 107	0.2740000		0.01494		-0.0084470		-0.006700
## 79	-0.0685600		0.01114	0.4329	-0.0049820		
## 512	-0.0683500	3.578e-03	0.01060	0.5863	-0.0064600	1.084e-02	-0.010240
## 287	-0.0202700		0.01100	0.4683	-0.0048660	1.996e-04	
## 355	-0.0233000		0.01410				-0.004270
## 87	-0.2961000		0.01083	0.4363		5.025e-03	
## 199	-0.2028000		0.01038	0.4218			
## 407	-0.0490100		0.01123	0.5039		1.626e-03	
## 280	-0.1318000	2.525e-03	0.01055	0.4988		6.488e-04	
## 16	0.0636400	2.736e-03	0.01088	0.5349	-0.0053950		
## 123	-0.0840800		0.01482		-0.0071710	1.082e-02	-0.007502
## 72	-0.1343000	1.601e-03	0.01069	0.4677			
## 143	0.0264200		0.01056	0.4914	-0.0050970		
## 31	-0.0330200		0.01096	0.5115	-0.0044550	3.860e-03	
## 24	-0.1337000	2.116e-03	0.01055	0.5382		4.330e-03	
## 227	0.0249300		0.01353				-0.005972
## 136	-0.0555900	2.166e-03	0.01017	0.5254			
## 363	0.0940700		0.01454		-0.0077350		-0.004863
## 151	-0.1508000		0.01033	0.5046		4.087e-03	
## 463	-0.1480000		0.01176	0.3891	-0.0047110		
## 331	-0.1606000		0.01408		-0.0062850		
## 336	-0.2192000	2.055e-03	0.01114	0.3918	-0.0052470		
## 456	-0.2014000	2.135e-03	0.01141	0.4327			
## 235	0.1326000		0.01397		-0.0084190		-0.006398
## 351	-0.2217000		0.01122	0.3683	-0.0048850	2.754e-04	
## 371	-0.2413000		0.01423			9.594e-03	-0.005936
## 243	-0.2696000		0.01384			1.101e-02	-0.006968
## 400	0.0174500	3.349e-03	0.01153	0.5138	-0.0051910		
## 471	-0.2511000		0.01148	0.4033		1.725e-03	
## 100	0.1672000	-4.494e-04	0.01449				-0.006248
## 116	-0.2247000	-8.817e-04	0.01440			1.241e-02	-0.007215
## 344	-0.3083000	1.619e-03	0.01078	0.4018		9.580e-04	
## 339	-0.3082000		0.01376			2.426e-03	
## 451	-0.2023000		0.01407				
## 207	-0.1474000		0.01074	0.4041	-0.0051290		
## 324	-0.2297000	-6.988e-04	0.01373				
## 288	-0.0322000	2.980e-03	0.01093	0.4866	-0.0054620	-7.140e-04	
## 37	0.0448600			0.9077			-0.008346
## 95	-0.2120000		0.01115	0.4246	-0.0044550	4.072e-03	
## 80	-0.0744200	1.977e-03	0.01106	0.4555	-0.0052970		

## 108	0.2748000	3.412e-04	0.01496		-0.0085230		-0.006725
## 415	0.0335400		0.01151	0.4894	-0.0046210	5.500e-04	
## 408	-0.0616700	2.963e-03	0.01120	0.5274		9.053e-04	
## 215	-0.3322000		0.01051	0.4165		4.277e-03	
## 67	-0.0379600		0.01429				
## 144	0.0002187	2.528e-03	0.01054	0.5097	-0.0054890		
## 251	-0.1336000		0.01418		-0.0073170	9.427e-03	-0.007194
## 88	-0.2918000	1.293e-03	0.01076	0.4524		4.713e-03	
## 483	-0.0330200		0.01394				-0.004419
## 356	-0.0228500	-3.383e-04	0.01408				-0.004253
## 379	-0.1052000		0.01461		-0.0070550	8.319e-03	-0.006255
## 200	-0.2045000	1.358e-03	0.01034	0.4397			
## 32	-0.0434200	2.520e-03	0.01089	0.5281	-0.0049490	3.179e-03	
## 159	-0.0667500		0.01062	0.4899	-0.0046910	2.988e-03	
## 53	-0.2617000			0.8957		9.815e-03	-0.009096
## 124	-0.0855400	-1.661e-04	0.01481		-0.0071310	1.085e-02	-0.007493
## 38	-0.0143300	4.789e-03		0.9372			-0.008744
## 152	-0.1633000	1.987e-03	0.01028	0.5204		3.700e-03	
## 464	-0.1470000	2.476e-03	0.01174	0.4199	-0.0050760		
## 228	0.0242400	-6.124e-04	0.01349				-0.005933
## 195	-0.2067000		0.01305				
## 459	-0.1349000		0.01434		-0.0062340		
## 491	0.0793500		0.01426		-0.0078710		-0.005130
## 347	-0.1926000		0.01407		-0.0061560	9.766e-04	
## 332	-0.1604000	-1.710e-04	0.01407		-0.0062500		
## 364	0.0948400	3.759e-04	0.01456		-0.0078180		-0.004889
## 165	-0.0734400			0.8444			-0.007892
## 75	0.0356400		0.01462		-0.0066700		
## 479	-0.1686000		0.01176	0.3887	-0.0046260	6.476e-04	
## 259	0.3739000		0.01534				
## 352	-0.2072000	2.084e-03	0.01114	0.3924	-0.0052990	-3.720e-04	
## 83	-0.2851000		0.01423			7.223e-03	
## 236	0.1333000	1.747e-04	0.01398		-0.0084580		-0.006411
## 499	-0.2608000		0.01398			9.775e-03	-0.006203
## 372	-0.2439000	-7.287e-04	0.01420			9.750e-03	-0.005925
## 244	-0.2740000	-9.393e-04	0.01379			1.114e-02	-0.006919
## 472	-0.2381000	2.058e-03	0.01143	0.4305		1.214e-03	
## 45	0.0791600			0.9060	-0.0029820		-0.008485
## 101	-0.0416000			0.8682			-0.008271
## 54	-0.2914000	4.390e-03		0.9237		9.027e-03	-0.009401
## 416	0.0303400	3.378e-03	0.01153	0.5142	-0.0052500	-4.183e-04	
## 35	0.8141000		0.01620				-0.006030
## 51	0.3950000		0.01611			1.292e-02	-0.007069
## 293	0.0514700			0.9102			-0.008439
## 467	-0.2810000		0.01409			2.597e-03	
## 340	-0.3110000	-8.419e-04	0.01373			2.621e-03	
## 208	-0.1467000	1.730e-03	0.01071	0.4259	-0.0053940		
## 452	-0.2015000	-6.008e-04	0.01403				
## 223	-0.2482000		0.01080	0.4016	-0.0046970	3.176e-03	
## 43	0.9123000		0.01663		-0.0094370		-0.006513
## 203	-0.1337000		0.01337		-0.0067380		
## 96	-0.2000000	1.707e-03	0.01108	0.4450	-0.0047890	3.588e-03	
## 68	-0.0347900	-1.287e-03	0.01423				
## 291	0.5753000		0.01568				-0.003754

##	267	0.4395000		0.01566	-0.0072490		
##	166	-0.1084000	4.356e-03		0.8814		-0.008326
##	309	-0.2554000			0.9311	1.301e-02	-0.010830
##	181	-0.3062000			0.8513	8.482e-03	-0.008663
##	163	0.5721000		0.01473			-0.005626
##	46	0.0271800	5.119e-03		0.9370	-0.0039630	-0.008957
##	216	-0.3265000	1.139e-03	0.01047	0.4318		4.041e-03
##	160	-0.0737100	2.388e-03	0.01059	0.5075	-0.0051380	2.417e-03
##	59	0.5333000		0.01649		-0.0081000	1.126e-02
##	117	-0.3526000			0.8548		9.863e-03
##	484	-0.0330000	-3.864e-04	0.01391			-0.004406
##	61	-0.2277000			0.8951	-0.0019140	9.432e-03
##	171	0.6728000		0.01517		-0.0093290	-0.006110
##	507	-0.1291000		0.01427		-0.0072090	8.539e-03
##	211	-0.3675000		0.01317			5.316e-03
##	252	-0.1355000	-2.142e-04	0.01416		-0.0072650	9.466e-03
##	299	0.6892000		0.01612		-0.0085980	-0.004427
##	421	-0.0227700			0.8513		-0.009347
##	102	-0.0468300	4.617e-03		0.9204		-0.008700
##	294	-0.0004228	4.811e-03		0.9426		-0.008945
##	380	-0.1055000	-2.790e-05	0.01461		-0.0070480	8.326e-03
##	91	-0.1749000		0.01453		-0.0058600	5.892e-03
##	196	-0.2047000	-1.441e-03	0.01298			
##	173	-0.0392300			0.8403	-0.0033340	-0.008031
##	229	-0.1720000			0.7992		-0.007796
##	437	-0.3543000			0.8687		1.380e-02
##	179	0.2854000		0.01504			1.081e-02
##	275	0.2787000		0.01533			2.979e-03
##	76	0.0357900	-7.306e-04	0.01458		-0.0065210	
##	387	0.3593000		0.01522			
##	260	0.3703000	3.652e-04	0.01535			
##	475	-0.1710000		0.01435		-0.0060820	1.139e-03
##	460	-0.1349000	-8.415e-05	0.01434		-0.0062170	
##	348	-0.1945000	-2.409e-04	0.01406		-0.0060990	1.046e-03
##	307	0.3594000		0.01582			9.529e-03
##	84	-0.2910000	-1.627e-03	0.01416			7.514e-03
##	310	-0.2851000	4.411e-03		0.9597		1.226e-02
##	492	0.0802700	3.091e-04	0.01429		-0.0079370	-0.005146
##	480	-0.1446000	2.481e-03	0.01174	0.4200	-0.0050870	-7.637e-05
##	109	-0.0064630			0.8671	-0.0029450	-0.008409
##	3	0.5994000		0.01595			
##	182	-0.3259000	4.130e-03		0.8859		7.988e-03
##	301	0.0914500			0.9104	-0.0030270	-0.008653
##	131	0.3316000		0.01423			
##	357	-0.0428400			0.8677		-0.008256
##	62	-0.2413000	4.662e-03		0.9246	-0.0029250	8.394e-03
##	36	0.8102000	6.250e-04	0.01622			-0.006070
##	118	-0.3329000	4.177e-03		0.9031		9.088e-03
##	52	0.3948000	1.622e-04	0.01612			1.290e-02
##	187	0.4223000		0.01538		-0.0082820	9.022e-03
##	500	-0.2652000	-8.155e-04	0.01393			9.963e-03
##	44	0.9063000	1.484e-03	0.01669		-0.0097530	-0.006623
##	422	-0.0596700	4.232e-03		0.8868		-0.009685
##	219	-0.2547000		0.01343		-0.0062080	3.812e-03

## 419	0.5277000		0.01510				-0.004265
## 174	-0.0682100	4.687e-03		0.8791	-0.0041770		-0.008534
## 468	-0.2850000	-7.440e-04	0.01405			2.760e-03	
## 204	-0.1344000	-8.827e-04	0.01332		-0.0065590		
## 292	0.5704000	7.143e-04	0.01570				-0.003795
## 268	0.4316000	9.553e-04	0.01569		-0.0074310		
## 315	0.4970000		0.01620		-0.0079390	8.096e-03	-0.005781
## 224	-0.2352000	1.551e-03	0.01076	0.4215	-0.0049870	2.787e-03	
## 283	0.3964000		0.01565		-0.0070770	1.299e-03	
## 395	0.4209000		0.01550		-0.0072690		
## 245	-0.4050000			0.8059		8.485e-03	-0.008568
## 11	0.6654000		0.01628		-0.0076850		
## 373	-0.3283000			0.8959		1.282e-02	-0.010650
## 317	-0.2207000			0.9307	-0.0019560	1.263e-02	-0.010900
## 230	-0.1559000	4.106e-03		0.8565			-0.008253
## 189	-0.2672000			0.8479	-0.0023450	7.936e-03	-0.008712
## 164	0.5709000	3.294e-04	0.01474				-0.005648
## 139	0.3975000		0.01456		-0.0076870		
## 429	0.0258000			0.8471	-0.0041010		-0.009705
## 302	0.0493500	5.160e-03		0.9452	-0.0040530		-0.009268
## 110	-0.0004230	4.972e-03		0.9229	-0.0039220		-0.008917
## 427	0.6350000		0.01542		-0.0088920		-0.005074
## 438	-0.3696000	3.747e-03		0.8993		1.308e-02	-0.012120
## 125	-0.3185000			0.8547	-0.0018680	9.489e-03	-0.009081
## 60	0.5359000	9.617e-04	0.01653		-0.0083270	1.106e-02	-0.007406
## 212	-0.3740000	-1.675e-03	0.01308			5.606e-03	
## 19	0.3179000		0.01586			7.976e-03	
## 172	0.6712000	1.181e-03	0.01524		-0.0095820		-0.006202
## 485	-0.1070000			0.8137			-0.009170
## 300	0.6831000	1.491e-03	0.01618		-0.0089150		-0.004537
## 261	-0.2926000			0.7957			
## 5	-0.1806000			0.8429			
## 358	-0.0336500	4.646e-03		0.9258			-0.008860
## 237	-0.1369000			0.7957	-0.0033020		-0.007936
## 92	-0.1837000	-1.087e-03	0.01447		-0.0056040	6.144e-03	
## 445	-0.3051000			0.8650	-0.0030370	1.325e-02	-0.012120
## 508	-0.1303000	-1.265e-04	0.01426		-0.0071790	8.574e-03	-0.006629
## 133	-0.3448000			0.7503			
## 501	-0.4158000			0.8392		1.362e-02	-0.011790
## 403	0.2692000		0.01524			2.933e-03	
## 276	0.2782000	2.031e-04	0.01534			2.931e-03	
## 435	0.2932000		0.01514			9.979e-03	-0.006087
## 147	0.1673000		0.01434			5.409e-03	
## 180	0.2854000	1.899e-05	0.01504			1.081e-02	-0.006603
## 388	0.3573000	3.251e-04	0.01523				
## 4	0.6012000	-2.100e-04	0.01594				
## 318	-0.2342000	4.687e-03		0.9607	-0.0029730	1.163e-02	-0.011280
## 308	0.3587000	3.404e-04	0.01583			9.456e-03	-0.005415
## 132	0.3348000	-4.915e-04	0.01421				
## 365	-0.0012380			0.8691	-0.0029610		-0.008470
## 476	-0.1725000	-1.599e-04	0.01434		-0.0060450	1.183e-03	
## 190	-0.2734000	4.409e-03		0.8837	-0.0032290	7.203e-03	-0.009122
## 374	-0.3064000	4.302e-03		0.9483		1.221e-02	-0.011090
## 430	-0.0048260	4.602e-03		0.8849	-0.0049030		-0.010140

## 27	0.4313000		0.01617	-0.0067950	6.414e-03	
## 246	-0.3771000	3.864e-03		0.8595	8.022e-03	-0.008956
## 126	-0.2793000	4.467e-03		0.9061	-0.0028630	8.461e-03 -0.009465
## 188	0.4253000	8.279e-04	0.01543		-0.0084760	8.873e-03 -0.006922
## 443	0.4258000		0.01543		-0.0082280	8.563e-03 -0.006577
## 420	0.5251000	5.402e-04	0.01513			-0.004283
## 262	-0.3438000	3.391e-03		0.8137		
## 6	-0.2272000	3.196e-03		0.8605		
## 220	-0.2637000	-1.104e-03	0.01336		-0.0059480	4.066e-03
## 486	-0.0920100	4.072e-03		0.8704		-0.009602
## 12	0.6625000	4.136e-04	0.01629		-0.0077650	
## 238	-0.1107000	4.462e-03		0.8571	-0.0041220	-0.008467
## 325	-0.4400000			0.7279		
## 69	-0.3003000			0.7877		
## 284	0.3977000	8.857e-04	0.01568		-0.0072800	1.041e-03
## 396	0.4168000	9.099e-04	0.01556		-0.0074390	
## 155	0.2818000		0.01461		-0.0071780	3.667e-03
## 411	0.3820000		0.01551		-0.0071060	1.220e-03
## 316	0.4993000	1.120e-03	0.01625		-0.0082000	7.809e-03 -0.005815
## 389	-0.3455000			0.7619		
## 21	-0.3087000			0.8359		3.848e-03
## 253	-0.3657000			0.8030	-0.0023110	7.947e-03 -0.008617
## 381	-0.2932000			0.8960	-0.0019170	1.245e-02 -0.010720
## 140	0.3969000	1.290e-04	0.01457		-0.0077120	
## 13	-0.1706000			0.8420	-0.0009787	
## 20	0.3190000	-5.870e-04	0.01584			8.085e-03
## 493	-0.0551800			0.8115	-0.0040300	-0.009531
## 269	-0.2834000			0.7949	-0.0008993	
## 446	-0.3091000	4.063e-03		0.8971	-0.0038190	1.233e-02 -0.012340
## 277	-0.3041000			0.7953		3.695e-04
## 428	0.6320000	1.303e-03	0.01551		-0.0091570	-0.005142
## 366	0.0234200	5.030e-03		0.9324	-0.0040080	-0.009200
## 197	-0.4777000			0.6888		
## 134	-0.3743000	2.570e-03		0.7691		
## 502	-0.3892000	3.646e-03		0.8888		1.304e-02 -0.012060
## 141	-0.3300000			0.7475	-0.0016760	
## 149	-0.3961000			0.7499		1.679e-03
## 148	0.1682000	-7.215e-04	0.01432			5.534e-03
## 404	0.2693000	1.742e-04	0.01525			2.894e-03
## 509	-0.3653000			0.8365	-0.0029930	1.309e-02 -0.011950
## 436	0.2933000	1.116e-04	0.01514			9.953e-03 -0.006086
## 28	0.4314000	3.774e-05	0.01617		-0.0068040	6.405e-03
## 382	-0.2510000	4.601e-03		0.9521	-0.0029460	1.161e-02 -0.011230
## 70	-0.3114000	2.756e-03		0.8164		
## 326	-0.4521000	2.844e-03		0.7572		
## 22	-0.3301000	3.014e-03		0.8538		3.170e-03
## 254	-0.3212000	4.161e-03		0.8597	-0.0031630	7.250e-03 -0.009052
## 390	-0.3810000	3.095e-03		0.7854		
## 453	-0.4915000			0.6948		
## 14	-0.2131000	3.309e-03		0.8597	-0.0015410	
## 85	-0.4353000			0.7794		3.983e-03
## 494	-0.0280400	4.486e-03		0.8734	-0.0048620	-0.010080
## 270	-0.3300000	3.500e-03		0.8130	-0.0014930	
## 278	-0.3283000	3.422e-03		0.8143		-5.118e-04

## 77	-0.2903000		0.7870	-0.0009508	
## 333	-0.4309000		0.7273	-0.0008631	
## 341	-0.4529000		0.7275		4.137e-04
## 29	-0.3001000		0.8356	-0.0004923	3.739e-03
## 397	-0.3343000		0.7595	-0.0012730	
## 405	-0.3497000		0.7618		1.384e-04
## 444	0.4296000	8.839e-04 0.01549		-0.0084260	8.323e-03 -0.006581
## 156	0.2816000	-6.821e-05 0.01461		-0.0071630	3.683e-03
## 412	0.3857000	8.472e-04 0.01556		-0.0072950	9.858e-04
## 198	-0.4786000	2.028e-03	0.7139		
## 285	-0.2887000		0.7947	-0.0008782	1.640e-04
## 205	-0.4629000		0.6860	-0.0016580	
## 213	-0.5332000		0.6879		1.788e-03
## 142	-0.3573000	2.715e-03	0.7665	-0.0021040	
## 150	-0.4104000	2.513e-03	0.7683		1.204e-03
## 157	-0.3717000		0.7474	-0.0014900	1.308e-03
## 510	-0.3226000	3.994e-03	0.8901	-0.0037960	1.231e-02 -0.012300
## 86	-0.4252000	2.541e-03	0.8070		3.381e-03
## 454	-0.4934000	2.523e-03	0.7265		
## 78	-0.2967000	2.870e-03	0.8164	-0.0014450	
## 30	-0.3110000	3.112e-03	0.8538	-0.0011300	2.899e-03
## 334	-0.4381000	2.951e-03	0.7572	-0.0013710	
## 342	-0.4418000	2.865e-03	0.7577		-3.336e-04
## 93	-0.4273000		0.7792	-0.0004449	3.885e-03
## 398	-0.3669000	3.207e-03	0.7831	-0.0017430	
## 461	-0.4802000		0.6927	-0.0012330	
## 406	-0.3625000	3.132e-03	0.7861		-6.205e-04
## 469	-0.4971000		0.6947		1.848e-04
## 286	-0.3008000	3.567e-03	0.8140	-0.0016240	-9.291e-04
## 349	-0.4380000		0.7271	-0.0008350	2.183e-04
## 413	-0.3287000		0.7596	-0.0012960	-1.741e-04
## 206	-0.4608000	2.175e-03	0.7124	-0.0020040	
## 214	-0.5221000	1.955e-03	0.7123		1.401e-03
## 221	-0.5090000		0.6857	-0.0014550	1.426e-03
## 158	-0.3784000	2.676e-03	0.7662	-0.0020020	6.743e-04
## 94	-0.4069000	2.634e-03	0.8077	-0.0009961	3.139e-03
## 462	-0.4787000	2.636e-03	0.7251	-0.0016270	
## 470	-0.4798000	2.551e-03	0.7271		-4.423e-04
## 350	-0.4149000	3.006e-03	0.7584	-0.0014730	-7.151e-04
## 414	-0.3323000	3.284e-03	0.7840	-0.0019030	-1.116e-03
## 477	-0.4765000		0.6928	-0.0012480	-1.164e-04
## 222	-0.4900000	2.118e-03	0.7115	-0.0018670	9.031e-04
## 478	-0.4498000	2.702e-03	0.7263	-0.0017570	-9.033e-04
## 193	-0.6232000				
## 225	-0.4487000				-0.004815
## 449	-0.6361000				
## 194	-0.6138000	-3.047e-03			
## 201	-0.5933000		-0.0032090		
## 321	-0.4586000				
## 209	-0.7035000				2.598e-03
## 241	-0.6408000				6.925e-03 -0.005424
## 233	-0.4003000		-0.0044060		-0.005018
## 226	-0.4465000	-2.445e-03			-0.004670
## 481	-0.4378000				-0.005056

## 450	-0.6268000	-2.739e-03			
## 457	-0.6090000		-0.0028630		
## 353	-0.3438000				-0.002409
## 465	-0.6746000			1.258e-03	
## 97	-0.0442500				-0.005638
## 202	-0.5895000	-2.836e-03	-0.0026800		
## 210	-0.7118000	-3.187e-03		3.183e-03	
## 65	-0.2258000				
## 322	-0.4484000	-2.249e-03			
## 129	0.0852700				
## 337	-0.5325000			2.366e-03	
## 329	-0.4403000		-0.0017300		
## 217	-0.6532000		-0.0029440	1.858e-03	
## 242	-0.6493000	-2.686e-03		7.319e-03	-0.005300
## 249	-0.5773000		-0.0036550	6.082e-03	-0.005519
## 497	-0.6493000			9.030e-03	-0.006706
## 234	-0.4031000	-2.106e-03	-0.0039780		-0.004874
## 489	-0.3772000		-0.0046330		-0.005483
## 482	-0.4328000	-2.477e-03			-0.004968
## 113	-0.4573000			1.310e-02	-0.006690
## 161	0.2579000				-0.004187
## 81	-0.5131000			8.423e-03	
## 66	-0.2165000	-3.048e-03			
## 369	-0.4971000			6.655e-03	-0.003552
## 137	0.1176000		-0.0041310		
## 98	-0.0415300	-2.339e-03			-0.005501
## 105	-0.0031140		-0.0034470		-0.005804
## 385	0.0886200				
## 458	-0.6047000	-2.557e-03	-0.0024060		
## 130	0.0991900	-1.912e-03			
## 354	-0.3389000	-2.075e-03			-0.002314
## 73	-0.2050000		-0.0019970		
## 466	-0.6846000	-2.839e-03		1.900e-03	
## 145	0.0119800			2.385e-03	
## 361	-0.3102000		-0.0024190		-0.002576
## 473	-0.6275000		-0.0027850	5.793e-04	
## 338	-0.5391000	-2.409e-03		2.927e-03	
## 330	-0.4347000	-2.145e-03	-0.0013340		
## 218	-0.6723000	-2.980e-03	-0.0022860	2.571e-03	
## 345	-0.5062000		-0.0014680	2.021e-03	
## 498	-0.6595000	-2.897e-03		9.710e-03	-0.006728
## 250	-0.5943000	-2.396e-03	-0.0031100	6.559e-03	-0.005394
## 505	-0.5810000		-0.0039840	8.339e-03	-0.006948
## 169	0.3089000		-0.0052150		-0.004434
## 114	-0.4665000	-2.798e-03		1.350e-02	-0.006558
## 177	0.0911100			6.146e-03	-0.004725
## 121	-0.4208000		-0.0019970	1.270e-02	-0.006754
## 490	-0.3784000	-2.138e-03	-0.0042140		-0.005369
## 417	0.2852000				-0.004918
## 162	0.2642000	-1.354e-03			-0.004102
## 82	-0.5231000	-3.446e-03		9.025e-03	
## 89	-0.4968000		-0.0009049	8.221e-03	
## 393	0.1192000		-0.0039370		
## 74	-0.2017000	-2.934e-03	-0.0014510		



## 138	0.1271000	-1.620e-03	-0.0038390		
## 386	0.1008000	-1.705e-03			
## 153	0.0730700		-0.0039320	1.399e-03	
## 106	-0.0057310	-2.080e-03	-0.0030240		-0.005662
## 370	-0.5037000	-2.374e-03		7.185e-03	-0.003534
## 401	0.0401000			1.572e-03	
## 146	0.0153800	-2.031e-03		2.755e-03	
## 257	0.5092000				
## 377	-0.4626000		-0.0018830	6.294e-03	-0.003620
## 362	-0.3110000	-1.904e-03	-0.0020380		-0.002463
## 474	-0.6465000	-2.641e-03	-0.0022140	1.316e-03	
## 346	-0.5217000	-2.320e-03	-0.0009547	2.681e-03	
## 433	0.0678100			9.227e-03	-0.006604
## 185	0.1645000		-0.0045910	5.095e-03	-0.004850
## 425	0.3506000		-0.0056960		-0.005445
## 170	0.3115000	-9.367e-04	-0.0050290		-0.004366
## 178	0.0924100	-1.557e-03		6.368e-03	-0.004647
## 506	-0.5998000	-2.593e-03	-0.0034220	9.044e-03	-0.006933
## 122	-0.4406000	-2.668e-03	-0.0013980	1.320e-02	-0.006608
## 418	0.2934000	-1.445e-03			-0.004865
## 90	-0.5201000	-3.431e-03	-0.0001651	8.985e-03	
## 394	0.1276000	-1.436e-03	-0.0036890		
## 409	0.0991100		-0.0038520	6.304e-04	
## 1	0.8140000				
## 265	0.5329000		-0.0025050		
## 273	0.4044000			3.280e-03	
## 289	0.5759000				-0.001224
## 154	0.0702200	-1.720e-03	-0.0035640	1.805e-03	
## 258	0.5167000	-7.680e-04			
## 402	0.0402900	-1.810e-03		1.984e-03	
## 378	-0.4781000	-2.245e-03	-0.0013820	6.891e-03	-0.003585
## 33	0.9986000				-0.005103
## 441	0.1464000		-0.0050470	8.349e-03	-0.006911
## 434	0.0680600	-1.863e-03		9.665e-03	-0.006617
## 186	0.1614000	-1.164e-03	-0.0043330	5.320e-03	-0.004784
## 426	0.3541000	-1.016e-03	-0.0055030		-0.005390
## 49	0.5325000			1.433e-02	-0.006261
## 17	0.4622000			9.928e-03	
## 9	0.8400000		-0.0028370		
## 2	0.8268000	-1.579e-03			
## 305	0.4397000			6.013e-03	-0.002254
## 297	0.6142000		-0.0028940		-0.001427
## 281	0.4408000		-0.0021440	2.772e-03	
## 274	0.4064000	-9.612e-04		3.508e-03	
## 266	0.5376000	-5.856e-04	-0.0023990		
## 290	0.5805000	-6.668e-04			-0.001190
## 410	0.0944300	-1.503e-03	-0.0035370	1.050e-03	
## 41	1.0440000		-0.0041790		-0.005306
## 34	1.0040000	-9.050e-04			-0.005048
## 442	0.1418000	-1.454e-03	-0.0047400	8.745e-03	-0.006902
## 18	0.4656000	-2.049e-03		1.030e-02	
## 25	0.4888000		-0.0015560	9.579e-03	
## 57	0.5778000		-0.0025930	1.381e-02	-0.006345
## 50	0.5341000	-1.416e-03		1.454e-02	-0.006191

## 10	0.8489000	-1.382e-03			-0.0025860			
## 313	0.4822000				-0.0024220	5.550e-03	-0.002344	
## 306	0.4414000	-9.197e-04				6.216e-03	-0.002241	
## 298	0.6161000	-4.356e-04			-0.0028080		-0.001398	
## 282	0.4396000	-7.832e-04			-0.0019740	2.999e-03		
## 42	1.0460000	-5.651e-04			-0.0040660		-0.005266	
## 26	0.4849000	-1.949e-03			-0.0011420	1.003e-02		
## 58	0.5745000	-1.204e-03			-0.0023260	1.404e-02	-0.006277	
## 314	0.4808000	-7.137e-04			-0.0022650	5.737e-03	-0.002329	
##	ph	TA	TE	df	logLik	AICc	delta	weight
## 39				5	42.236	-72.9	0.00	0.100
## 55				6	43.531	-72.8	0.10	0.095
## 47				6	43.166	-72.1	0.83	0.066
## 40				6	42.955	-71.6	1.25	0.053
## 63				7	44.214	-71.3	1.57	0.045
## 48				7	44.152	-71.2	1.70	0.043
## 56				7	44.125	-71.1	1.75	0.041
## 103	0.028650			6	42.649	-71.0	1.87	0.039
## 119	0.029380			7	43.992	-70.9	2.02	0.036
## 311		-0.0084540		7	43.787	-70.5	2.43	0.030
## 295		0.0016430		6	42.247	-70.2	2.67	0.026
## 167	0.0012200			6	42.238	-70.2	2.69	0.026
## 183	-0.0064100			7	43.595	-70.1	2.81	0.024
## 111	0.028580			7	43.595	-70.1	2.81	0.024
## 64				8	45.034	-70.0	2.94	0.023
## 127	0.029240			8	44.685	-69.3	3.64	0.016
## 175	0.0017780			7	43.171	-69.2	3.66	0.016
## 303		0.0005762		7	43.168	-69.2	3.67	0.016
## 104	0.020750			7	43.165	-69.2	3.67	0.016
## 319		-0.0084930		8	44.481	-68.8	4.05	0.013
## 296		0.0009841		7	42.960	-68.8	4.08	0.013
## 168	-0.0015060			7	42.959	-68.8	4.09	0.013
## 312		-0.0085800		8	44.396	-68.7	4.22	0.012
## 120	0.022590			8	44.387	-68.7	4.23	0.012
## 112	0.019220			8	44.342	-68.6	4.32	0.011
## 191	-0.0051030			8	44.256	-68.4	4.50	0.011
## 184	-0.0086070			8	44.242	-68.4	4.52	0.010
## 359	0.029850	0.0030030		7	42.688	-68.3	4.63	0.010
## 375	0.026750	-0.0069520		8	44.165	-68.2	4.68	0.010
## 231	0.028750	0.0017440		7	42.654	-68.2	4.70	0.010
## 176	-0.0012860			8	44.155	-68.2	4.70	0.010
## 304		-0.0003201		8	44.152	-68.2	4.70	0.009
## 247	0.029080	-0.0059070		8	44.048	-68.0	4.91	0.009
## 439	0.0019490	-0.0092230		8	43.791	-67.5	5.42	0.007
## 423	-0.0008417	0.0019610		7	42.248	-67.4	5.51	0.006
## 320		-0.0086460		9	45.320	-67.3	5.55	0.006
## 128	0.021030			9	45.270	-67.2	5.65	0.006
## 367	0.029340	0.0019210		8	43.612	-67.1	5.78	0.006
## 239	0.028710	0.0023000		8	43.604	-67.1	5.80	0.005
## 192	-0.0074350			9	45.124	-67.0	5.94	0.005
## 383	0.026590	-0.0070000		9	44.866	-66.4	6.45	0.004
## 360	0.021700	0.0020680		8	43.184	-66.3	6.64	0.004
## 431	0.0019530	-0.0001658		8	43.171	-66.2	6.66	0.004
## 232	0.020660	-0.0007595		8	43.166	-66.2	6.67	0.004

## 255	0.029000	-0.0046030		9	44.720	-66.1	6.75	0.003
## 376	0.019540		-0.0074640	9	44.589	-65.9	7.01	0.003
## 424		-0.0042130	0.0025590	8	42.977	-65.8	7.05	0.003
## 447		0.0041040	-0.0101100	9	44.498	-65.7	7.19	0.003
## 248	0.021790	-0.0078860		9	44.486	-65.7	7.21	0.003
## 440		-0.0011780	-0.0081150	9	44.397	-65.5	7.39	0.002
## 368	0.019540		0.0006783	9	44.344	-65.4	7.50	0.002
## 240	0.019150	-0.0005959		9	44.342	-65.4	7.50	0.002
## 263			0.0189200	5	38.449	-65.3	7.57	0.002
## 487	0.030070	-0.0023190	0.0038870	8	42.693	-65.3	7.62	0.002
## 503	0.026690	0.0005529	-0.0071730	9	44.165	-65.0	7.86	0.002
## 432		-0.0015750	0.0002733	9	44.155	-65.0	7.88	0.002
## 384	0.017910		-0.0076230	10	45.490	-64.3	8.58	0.001
## 7				4	36.614	-64.2	8.69	0.001
## 327	0.041200		0.0197800	6	39.172	-64.1	8.82	0.001
## 256	0.020360	-0.0067830		10	45.346	-64.0	8.87	0.001
## 448		0.0007861	-0.0089560	10	45.321	-64.0	8.92	0.001
## 495	0.029300	0.0004786	0.0017370	9	43.612	-63.9	8.96	0.001
## 271			0.0188700	6	38.857	-63.4	9.45	0.001
## 264			0.0191200	6	38.713	-63.2	9.74	0.001
## 391		-0.0173900	0.0242600	6	38.708	-63.1	9.75	0.001
## 488	0.021970	-0.0048180	0.0038830	9	43.207	-63.1	9.77	0.001
## 511	0.026320	0.0027110	-0.0080860	10	44.874	-63.1	9.81	0.001
## 71	0.035940			5	37.121	-62.7	10.23	0.001
## 279			0.0184400	6	38.466	-62.7	10.23	0.001
## 504	0.019650	-0.0017680	-0.0067620	10	44.593	-62.5	10.37	0.001
## 15				5	36.999	-62.4	10.47	0.001
## 23				5	36.833	-62.1	10.81	0.000
## 335	0.041330		0.0197300	7	39.598	-62.1	10.81	0.000
## 8				5	36.821	-62.1	10.83	0.000
## 496	0.019670	-0.0021670	0.0015010	10	44.349	-62.0	10.86	0.000
## 135		0.0119900		5	36.794	-62.0	10.88	0.000
## 455	0.042020	-0.0183300	0.0254200	7	39.470	-61.8	11.06	0.000
## 328	0.037420		0.0198300	7	39.283	-61.5	11.44	0.000
## 115	0.090140			6	37.847	-61.4	11.47	0.000
## 99	0.091600			5	36.461	-61.3	11.55	0.000
## 272			0.0190900	7	39.204	-61.3	11.60	0.000
## 343	0.041260		0.0192800	7	39.191	-61.3	11.62	0.000
## 399		-0.0162600	0.0238600	7	39.086	-61.1	11.83	0.000
## 392		-0.0205100	0.0254400	7	39.070	-61.0	11.86	0.000
## 323	0.086030		0.0245700	5	36.286	-61.0	11.90	0.000
## 107	0.088880			6	37.586	-60.9	11.99	0.000
## 79	0.036090			6	37.518	-60.8	12.13	0.000
## 512	0.017890	0.0002143	-0.0077080	11	45.490	-60.7	12.16	0.000
## 287			0.0188000	7	38.857	-60.6	12.29	0.000
## 355	0.088860		0.0157700	6	37.410	-60.5	12.34	0.000
## 87	0.036640			6	37.365	-60.5	12.43	0.000
## 199	0.036400	0.0124000		6	37.318	-60.4	12.53	0.000
## 407		-0.0177200	0.0237700	7	38.734	-60.4	12.54	0.000
## 280			0.0188800	7	38.717	-60.3	12.57	0.000
## 16				6	37.277	-60.3	12.61	0.000
## 123	0.088000			7	38.685	-60.3	12.63	0.000
## 72	0.032340			6	37.212	-60.2	12.74	0.000
## 143		0.0126900		6	37.204	-60.1	12.76	0.000

## 31			6 37.137 -60.0 12.89 0.000
## 24			6 36.997 -59.7 13.17 0.000
## 227 0.087060	0.0201100		6 36.997 -59.7 13.17 0.000
## 136	0.0107800		6 36.967 -59.7 13.23 0.000
## 363 0.086640		0.0141700	7 38.381 -59.7 13.24 0.000
## 151	0.0096750		6 36.946 -59.6 13.27 0.000
## 463 0.042100	-0.0171900	0.0250300	8 39.864 -59.6 13.28 0.000
## 331 0.083910		0.0242600	6 36.905 -59.5 13.35 0.000
## 336 0.036730		0.0197900	8 39.765 -59.4 13.48 0.000
## 456 0.037330	-0.0204200	0.0261300	8 39.647 -59.2 13.71 0.000
## 235 0.084380	0.0199700		7 38.143 -59.2 13.72 0.000
## 351 0.041340		0.0196300	8 39.599 -59.1 13.81 0.000
## 371 0.088950		0.0087070	7 38.081 -59.1 13.84 0.000
## 243 0.087460	0.0125400		7 38.052 -59.0 13.90 0.000
## 400	-0.0195900	0.0251300	8 39.536 -59.0 13.93 0.000
## 471 0.042110	-0.0186700	0.0249100	8 39.499 -58.9 14.01 0.000
## 100 0.091960			6 36.468 -58.7 14.23 0.000
## 116 0.090850			7 37.877 -58.6 14.25 0.000
## 344 0.037610		0.0194800	8 39.292 -58.5 14.42 0.000
## 339 0.085770		0.0236500	6 36.337 -58.4 14.49 0.000
## 451 0.087380	-0.0074970	0.0269900	6 36.330 -58.4 14.50 0.000
## 207 0.036580	0.0131200		7 37.743 -58.4 14.52 0.000
## 324 0.086630		0.0244500	6 36.304 -58.3 14.56 0.000
## 288		0.0193500	8 39.209 -58.3 14.59 0.000
## 37			4 33.654 -58.3 14.61 0.000
## 95 0.036640			7 37.677 -58.2 14.65 0.000
## 80 0.031650			7 37.659 -58.2 14.69 0.000
## 108 0.088570			7 37.591 -58.1 14.82 0.000
## 415	-0.0163900	0.0237000	8 39.089 -58.1 14.83 0.000
## 408	-0.0206300	0.0251500	8 39.078 -58.0 14.85 0.000
## 215 0.036910	0.0099890		7 37.488 -57.9 15.03 0.000
## 67 0.089020			4 33.444 -57.9 15.03 0.000
## 144	0.0113400		7 37.441 -57.8 15.12 0.000
## 251 0.085070	0.0135100		8 38.932 -57.7 15.14 0.000
## 88 0.033690			7 37.424 -57.7 15.16 0.000
## 483 0.088190	0.0042310	0.0141000	7 37.423 -57.7 15.16 0.000
## 356 0.089140		0.0157400	7 37.414 -57.7 15.18 0.000
## 379 0.086920		0.0081850	8 38.900 -57.7 15.21 0.000
## 200 0.033310	0.0116100		7 37.383 -57.7 15.24 0.000
## 32			7 37.370 -57.6 15.26 0.000
## 159	0.0109500		7 37.284 -57.5 15.44 0.000
## 53			5 34.419 -57.3 15.63 0.000
## 124 0.088150			8 38.686 -57.3 15.63 0.000
## 38			5 34.393 -57.2 15.69 0.000
## 152	0.0087890		7 37.091 -57.1 15.82 0.000
## 464 0.036660	-0.0195300	0.0258200	9 40.104 -56.9 15.98 0.000
## 228 0.087530	0.0202500		7 37.011 -56.9 15.98 0.000
## 195 0.083380	0.0256800		5 34.221 -56.9 16.03 0.000
## 459 0.085110	-0.0065580	0.0263800	7 36.940 -56.8 16.12 0.000
## 491 0.085460	0.0073040	0.0112500	8 38.423 -56.7 16.16 0.000
## 347 0.083850		0.0239000	7 36.913 -56.7 16.18 0.000
## 332 0.084070		0.0242300	7 36.906 -56.7 16.19 0.000
## 364 0.086310		0.0141700	8 38.387 -56.7 16.23 0.000
## 165	0.0199600		5 34.105 -56.6 16.26 0.000

## 75	0.086730			5	34.058	-56.5	16.36	0.000
## 479	0.042130	-0.0173400	0.0248400	9	39.868	-56.4	16.45	0.000
## 259			0.0256700	4	32.682	-56.3	16.55	0.000
## 352	0.036650		0.0199200	9	39.766	-56.2	16.65	0.000
## 83	0.087920			5	33.878	-56.2	16.72	0.000
## 236	0.084230	0.0199300		8	38.144	-56.2	16.72	0.000
## 499	0.087890	0.0067210	0.0059210	8	38.116	-56.1	16.77	0.000
## 372	0.089550		0.0085410	8	38.102	-56.1	16.80	0.000
## 244	0.088190	0.0126700		8	38.087	-56.1	16.83	0.000
## 472	0.037560	-0.0205900	0.0257400	9	39.661	-56.0	16.86	0.000
## 45				5	33.777	-56.0	16.92	0.000
## 101	0.017580			5	33.759	-55.9	16.95	0.000
## 54				6	35.055	-55.8	17.05	0.000
## 416		-0.0195300	0.0252700	9	39.538	-55.8	17.11	0.000
## 35				4	32.386	-55.7	17.15	0.000
## 51				5	33.658	-55.7	17.16	0.000
## 293			-0.0006741	5	33.656	-55.7	17.16	0.000
## 467	0.087210	-0.0080930	0.0262000	7	36.389	-55.7	17.23	0.000
## 340	0.086480		0.0234300	7	36.362	-55.6	17.28	0.000
## 208	0.032650	0.0121500		8	37.850	-55.6	17.31	0.000
## 452	0.087830	-0.0071140	0.0267600	7	36.344	-55.6	17.32	0.000
## 223	0.036940	0.0112700		8	37.835	-55.6	17.34	0.000
## 43				5	33.558	-55.5	17.35	0.000
## 203	0.081020	0.0258900		6	34.870	-55.5	17.42	0.000
## 96	0.032750			8	37.780	-55.4	17.45	0.000
## 68	0.090100			5	33.498	-55.4	17.47	0.000
## 291			0.0179600	5	33.415	-55.3	17.64	0.000
## 267			0.0252900	5	33.385	-55.2	17.70	0.000
## 166		0.0167800		6	34.715	-55.2	17.73	0.000
## 309			-0.0108200	6	34.697	-55.1	17.77	0.000
## 181		0.0145400		6	34.651	-55.0	17.86	0.000
## 163		0.0279600		5	33.271	-55.0	17.93	0.000
## 46				6	34.614	-55.0	17.93	0.000
## 216	0.034290	0.0094590		8	37.534	-55.0	17.94	0.000
## 160		0.0100100		8	37.493	-54.9	18.02	0.000
## 59				6	34.546	-54.8	18.07	0.000
## 117	0.018180			6	34.535	-54.8	18.09	0.000
## 484	0.088480	0.0044440	0.0139900	8	37.429	-54.7	18.15	0.000
## 61				6	34.470	-54.7	18.22	0.000
## 171		0.0275400		6	34.465	-54.7	18.23	0.000
## 507	0.085430	0.0092220	0.0043510	9	38.968	-54.6	18.25	0.000
## 211	0.083280	0.0224700		6	34.451	-54.6	18.26	0.000
## 252	0.085260	0.0135300		9	38.934	-54.6	18.32	0.000
## 299			0.0161200	6	34.420	-54.6	18.32	0.000
## 421		0.0322100	-0.0125600	6	34.412	-54.6	18.34	0.000
## 102	0.007043			6	34.409	-54.5	18.34	0.000
## 294			-0.0014440	6	34.399	-54.5	18.36	0.000
## 380	0.086940		0.0081790	9	38.900	-54.5	18.39	0.000
## 91	0.086110			6	34.344	-54.4	18.48	0.000
## 196	0.084540	0.0259200		6	34.291	-54.3	18.58	0.000
## 173		0.0206600		6	34.261	-54.3	18.64	0.000
## 229	0.019410	0.0204800		6	34.235	-54.2	18.69	0.000
## 437		0.0348200	-0.0242900	7	35.623	-54.1	18.76	0.000
## 179		0.0205600		6	34.125	-54.0	18.91	0.000

## 275		0.0245400	5	32.747	-53.9	18.98	0.000
## 76	0.087390		6	34.075	-53.9	19.01	0.000
## 387	0.0027620	0.0247800	5	32.687	-53.8	19.10	0.000
## 260		0.0257300	5	32.686	-53.8	19.10	0.000
## 475	0.085090	-0.0068420	8	36.951	-53.8	19.10	0.000
## 460	0.085180	-0.0065070	8	36.940	-53.8	19.13	0.000
## 348	0.084070		8	36.915	-53.7	19.18	0.000
## 307		0.0109500	6	33.966	-53.7	19.23	0.000
## 84	0.089250		6	33.965	-53.7	19.23	0.000
## 310		-0.0109400	7	35.347	-53.6	19.31	0.000
## 492	0.085200	0.0071600	9	38.427	-53.6	19.33	0.000
## 480	0.036650	-0.0195200	10	40.104	-53.5	19.35	0.000
## 109	0.017330		6	33.880	-53.5	19.40	0.000
## 3			3	30.033	-53.5	19.43	0.000
## 182	0.0118400		7	35.211	-53.3	19.58	0.000
## 301		-0.0012000	6	33.781	-53.3	19.60	0.000
## 131	0.0329000		4	31.154	-53.3	19.61	0.000
## 357	0.017620	0.0001055	6	33.759	-53.2	19.64	0.000
## 62			7	35.176	-53.2	19.65	0.000
## 36			5	32.398	-53.2	19.68	0.000
## 118	0.008596		7	35.080	-53.0	19.84	0.000
## 52			6	33.659	-53.0	19.84	0.000
## 187	0.0214100		7	35.073	-53.0	19.86	0.000
## 500	0.088490	0.0072180	9	38.142	-53.0	19.90	0.000
## 44			6	33.629	-53.0	19.90	0.000
## 422	0.0284100	-0.0118400	7	34.995	-52.9	20.01	0.000
## 219	0.081140	0.0235700	7	34.987	-52.9	20.03	0.000
## 419		0.0141700	6	33.545	-52.8	20.07	0.000
## 174		0.0174100	7	34.964	-52.8	20.07	0.000
## 468	0.087760	-0.0076570	8	36.409	-52.7	20.19	0.000
## 204	0.081800	0.0260300	7	34.896	-52.7	20.21	0.000
## 292		0.0180000	6	33.432	-52.6	20.30	0.000
## 268		0.0254400	6	33.414	-52.6	20.33	0.000
## 315		0.0103100	7	34.829	-52.5	20.34	0.000
## 224	0.033380	0.0106200	9	37.920	-52.5	20.35	0.000
## 283		0.0248000	6	33.397	-52.5	20.37	0.000
## 395		0.0035470	6	33.394	-52.5	20.38	0.000
## 245	0.019440	0.0150700	7	34.785	-52.5	20.43	0.000
## 11			4	30.734	-52.4	20.45	0.000
## 373	0.014500	-0.0100300	7	34.770	-52.4	20.46	0.000
## 317		-0.0108700	7	34.751	-52.4	20.50	0.000
## 230	0.009744	0.0172200	7	34.747	-52.4	20.51	0.000
## 189		0.0153800	7	34.728	-52.3	20.55	0.000
## 164		0.0278600	6	33.274	-52.3	20.61	0.000
## 139		0.0329100	5	31.893	-52.2	20.68	0.000
## 429		0.0346400	7	34.647	-52.2	20.71	0.000
## 302		-0.0022050	7	34.629	-52.1	20.75	0.000
## 110	0.005889		7	34.626	-52.1	20.75	0.000
## 427		0.0173000	7	34.622	-52.1	20.76	0.000
## 438		0.0313200	8	36.101	-52.1	20.80	0.000
## 125	0.017990		7	34.584	-52.1	20.83	0.000
## 60			7	34.576	-52.0	20.85	0.000
## 212	0.084620	0.0225800	7	34.545	-52.0	20.91	0.000
## 19			4	30.486	-51.9	20.95	0.000

## 172	0.0271800		7 34.511 -51.9 20.98 0.000
## 485 0.015900	0.0318100	-0.0117100	7 34.499 -51.9 21.00 0.000
## 300		0.0161300	7 34.495 -51.9 21.01 0.000
## 261		0.0184300	4 30.448 -51.9 21.02 0.000
## 5			3 29.221 -51.8 21.05 0.000
## 358 0.006542		-0.0011290	7 34.413 -51.7 21.18 0.000
## 237 0.019180	0.0211700		7 34.390 -51.7 21.22 0.000
## 92 0.087080			7 34.382 -51.7 21.24 0.000
## 445	0.0365200	-0.0250200	8 35.757 -51.4 21.49 0.000
## 508 0.085530	0.0092890	0.0042970	10 38.968 -51.3 21.62 0.000
## 133	0.0309200		4 30.143 -51.3 21.63 0.000
## 501 0.012430	0.0344800	-0.0234800	8 35.679 -51.2 21.65 0.000
## 403	0.0020660	0.0238900	6 32.750 -51.2 21.66 0.000
## 276		0.0245900	6 32.748 -51.2 21.67 0.000
## 435	0.0166800	0.0039740	7 34.150 -51.2 21.70 0.000
## 147	0.0296300		5 31.361 -51.1 21.75 0.000
## 180	0.0205600		7 34.125 -51.1 21.75 0.000
## 388	0.0025270	0.0249100	6 32.690 -51.1 21.78 0.000
## 4			4 30.034 -51.0 21.85 0.000
## 318		-0.0110100	8 35.474 -50.8 22.06 0.000
## 308		0.0110200	7 33.970 -50.8 22.06 0.000
## 132	0.0330200		5 31.161 -50.7 22.15 0.000
## 365 0.017160		-0.0004297	7 33.880 -50.6 22.24 0.000
## 476 0.085220	-0.0067560	0.0259800	9 36.952 -50.6 22.28 0.000
## 190	0.0128100		8 35.358 -50.6 22.29 0.000
## 374 0.004379		-0.0106900	8 35.354 -50.6 22.30 0.000
## 430	0.0309800	-0.0137000	8 35.336 -50.6 22.33 0.000
## 27			5 31.026 -50.5 22.42 0.000
## 246 0.010340	0.0122900		8 35.248 -50.4 22.51 0.000
## 126 0.007647			8 35.196 -50.3 22.62 0.000
## 188	0.0212600		8 35.097 -50.1 22.81 0.000
## 443	0.0192200	0.0022450	8 35.082 -50.0 22.84 0.000
## 420	0.0138300	0.0124800	7 33.555 -50.0 22.89 0.000
## 262		0.0186900	5 30.770 -50.0 22.93 0.000
## 6			4 29.491 -50.0 22.94 0.000
## 220 0.082110	0.0235900		8 35.028 -49.9 22.95 0.000
## 486 0.006375	0.0283900	-0.0115300	8 35.008 -49.9 22.99 0.000
## 12			5 30.739 -49.9 22.99 0.000
## 238 0.008621	0.0178000		8 34.989 -49.9 23.03 0.000
## 325 0.029910		0.0190500	5 30.711 -49.8 23.05 0.000
## 69 0.024930			4 29.394 -49.8 23.13 0.000
## 284		0.0250400	7 33.422 -49.7 23.16 0.000
## 396	0.0029060	0.0244800	7 33.420 -49.7 23.16 0.000
## 155	0.0306900		6 31.988 -49.7 23.19 0.000
## 411	0.0032390	0.0237800	7 33.404 -49.7 23.19 0.000
## 316		0.0105200	8 34.871 -49.6 23.26 0.000
## 389	0.0153000	0.0137600	5 30.601 -49.6 23.27 0.000
## 21			4 29.320 -49.6 23.28 0.000
## 253 0.019280	0.0158900		8 34.860 -49.6 23.29 0.000
## 381 0.014280		-0.0100800	8 34.822 -49.5 23.36 0.000
## 140	0.0328800		6 31.894 -49.5 23.38 0.000
## 13			4 29.231 -49.4 23.46 0.000
## 20			5 30.496 -49.4 23.48 0.000
## 493 0.015140	0.0342100	-0.0133400	8 34.727 -49.3 23.55 0.000

## 269		0.0184200	5	30.458	-49.3	23.56	0.000
## 446	0.0331600	-0.0238400	9	36.315	-49.3	23.56	0.000
## 277		0.0182900	5	30.449	-49.3	23.57	0.000
## 428	0.0165600	0.0094660	8	34.679	-49.2	23.65	0.000
## 366	0.004995	-0.0019550	8	34.637	-49.2	23.73	0.000
## 197	0.027080	0.0314700	5	30.357	-49.1	23.76	0.000
## 134		0.0294000	5	30.323	-49.1	23.83	0.000
## 502	0.004049	0.0313000	9	36.107	-48.9	23.97	0.000
## 141		0.0313700	5	30.177	-48.8	24.12	0.000
## 149		0.0300600	5	30.162	-48.7	24.15	0.000
## 148		0.0297300	6	31.376	-48.5	24.41	0.000
## 404		0.0019490	7	32.751	-48.4	24.50	0.000
## 509	0.012000	0.0361600	9	35.810	-48.3	24.57	0.000
## 436		0.0166000	8	34.150	-48.2	24.71	0.000
## 28			6	31.026	-47.8	25.11	0.000
## 382	0.003350	-0.0108300	9	35.477	-47.7	25.23	0.000
## 70	0.018860		5	29.586	-47.6	25.30	0.000
## 326	0.023670	0.0191400	6	30.928	-47.6	25.31	0.000
## 22			5	29.558	-47.5	25.35	0.000
## 254	0.009423	0.0132100	9	35.389	-47.5	25.41	0.000
## 390		0.0120700	6	30.864	-47.5	25.43	0.000
## 453	0.029730	0.0151500	6	30.863	-47.5	25.44	0.000
## 14			5	29.518	-47.5	25.44	0.000
## 85	0.025440		5	29.502	-47.4	25.47	0.000
## 494	0.004483	0.0309500	9	35.343	-47.4	25.50	0.000
## 270		0.0186800	6	30.797	-47.3	25.57	0.000
## 278		0.0188800	6	30.771	-47.3	25.62	0.000
## 77	0.024880		5	29.405	-47.2	25.66	0.000
## 333	0.029860	0.0190300	6	30.720	-47.2	25.72	0.000
## 341	0.029920	0.0189000	6	30.713	-47.2	25.74	0.000
## 29			5	29.323	-47.1	25.83	0.000
## 397		0.0158500	6	30.621	-47.0	25.92	0.000
## 405		0.0152800	6	30.601	-46.9	25.96	0.000
## 444		0.0186700	9	35.108	-46.9	25.97	0.000
## 156		0.0306900	7	31.988	-46.9	26.03	0.000
## 412		0.0027020	8	33.427	-46.7	26.15	0.000
## 198	0.022530	0.0301700	6	30.464	-46.7	26.24	0.000
## 285		0.0183600	6	30.458	-46.6	26.25	0.000
## 205	0.027040	0.0319100	6	30.390	-46.5	26.38	0.000
## 213	0.027250	0.0305500	6	30.379	-46.5	26.40	0.000
## 142		0.0298800	6	30.375	-46.5	26.41	0.000
## 150		0.0288100	6	30.333	-46.4	26.50	0.000
## 157		0.0306500	6	30.188	-46.1	26.79	0.000
## 510	0.002703	0.0331300	10	36.317	-46.0	26.92	0.000
## 86	0.019770		6	29.663	-45.1	27.84	0.000
## 454	0.024230	0.0125500	7	31.031	-45.0	27.94	0.000
## 78	0.018550		6	29.610	-44.9	27.94	0.000
## 30			6	29.572	-44.9	28.02	0.000
## 334	0.023370	0.0191200	7	30.951	-44.8	28.10	0.000
## 342	0.023610	0.0192600	7	30.929	-44.7	28.15	0.000
## 93	0.025400		6	29.504	-44.7	28.15	0.000
## 398		0.0127100	7	30.900	-44.7	28.20	0.000
## 461	0.029670	0.0156800	7	30.882	-44.7	28.24	0.000
## 406		0.0121300	7	30.866	-44.6	28.27	0.000



## 469	0.029740	0.0151200	0.0143600	7	30.864	-44.6	28.28	0.000
## 286			0.0190200	7	30.802	-44.5	28.40	0.000
## 349	0.029870		0.0189600	7	30.721	-44.3	28.56	0.000
## 413		0.0158900	0.0136200	7	30.621	-44.1	28.76	0.000
## 206	0.022150	0.0306200		7	30.511	-43.9	28.98	0.000
## 214	0.022830	0.0295000		7	30.477	-43.8	29.05	0.000
## 221	0.027180	0.0311300		7	30.403	-43.7	29.20	0.000
## 158		0.0295300		7	30.378	-43.6	29.25	0.000
## 94	0.019490			7	29.674	-42.2	30.66	0.000
## 462	0.023900	0.0131400	0.0150900	8	31.063	-42.0	30.88	0.000
## 470	0.024150	0.0125800	0.0154500	8	31.032	-41.9	30.94	0.000
## 350	0.023220		0.0193800	8	30.954	-41.8	31.10	0.000
## 414		0.0128700	0.0151300	8	30.908	-41.7	31.19	0.000
## 477	0.029660	0.0157100	0.0142700	8	30.882	-41.6	31.24	0.000
## 222	0.022360	0.0301500		8	30.517	-40.9	31.97	0.000
## 478	0.023710	0.0132600	0.0153800	9	31.068	-38.8	34.05	0.000
## 193	0.114100	0.0669200		4	23.740	-38.5	34.44	0.000
## 225	0.117900	0.0636500		5	24.826	-38.1	34.82	0.000
## 449	0.117000	0.0531000	0.0124500	5	24.018	-36.5	36.43	0.000
## 194	0.116100	0.0669200		5	23.936	-36.3	36.60	0.000
## 201	0.113300	0.0675100		5	23.831	-36.1	36.81	0.000
## 321	0.134200		0.0305100	4	22.511	-36.0	36.90	0.000
## 209	0.114100	0.0655300		5	23.774	-36.0	36.92	0.000
## 241	0.118600	0.0595300		6	25.063	-35.9	37.04	0.000
## 233	0.117000	0.0643100		6	25.005	-35.7	37.15	0.000
## 226	0.119500	0.0637500		6	24.957	-35.6	37.25	0.000
## 481	0.117600	0.0658600	-0.0021410	6	24.832	-35.4	37.50	0.000
## 450	0.118700	0.0540500	0.0116000	6	24.177	-34.1	38.81	0.000
## 457	0.116200	0.0540700	0.0120400	6	24.092	-33.9	38.98	0.000
## 353	0.136500		0.0256200	5	22.700	-33.8	39.07	0.000
## 465	0.117000	0.0528600	0.0120600	6	24.026	-33.8	39.11	0.000
## 97	0.143300			4	21.403	-33.8	39.11	0.000
## 202	0.115400	0.0674100		6	23.999	-33.7	39.16	0.000
## 210	0.116300	0.0652200		6	23.987	-33.7	39.19	0.000
## 65	0.140300			3	20.122	-33.6	39.25	0.000
## 322	0.135900		0.0300700	5	22.611	-33.6	39.25	0.000
## 129		0.0824100		3	20.102	-33.6	39.29	0.000
## 337	0.134000		0.0296100	5	22.537	-33.5	39.40	0.000
## 329	0.134000		0.0304600	5	22.536	-33.5	39.40	0.000
## 217	0.113400	0.0664600		6	23.848	-33.4	39.47	0.000
## 242	0.120400	0.0594000		7	25.223	-33.3	39.56	0.000
## 249	0.117800	0.0605800		7	25.185	-33.3	39.63	0.000
## 497	0.117400	0.0683400	-0.0097390	7	25.163	-33.2	39.68	0.000
## 234	0.118500	0.0643300		7	25.102	-33.1	39.80	0.000
## 489	0.116400	0.0685200	-0.0040370	7	25.026	-32.9	39.95	0.000
## 482	0.119100	0.0665000	-0.0026600	7	24.966	-32.8	40.07	0.000
## 113	0.141500			5	22.188	-32.8	40.10	0.000
## 161		0.0800200		4	20.796	-32.6	40.33	0.000
## 81	0.138800			4	20.443	-31.9	41.03	0.000
## 66	0.142400			4	20.288	-31.6	41.34	0.000
## 369	0.136900		0.0207900	6	22.864	-31.5	41.43	0.000
## 137		0.0830300		4	20.231	-31.4	41.46	0.000
## 98	0.144800			5	21.505	-31.4	41.46	0.000
## 105	0.142800			5	21.497	-31.4	41.48	0.000

## 385	0.0740200	0.0077780	4	20.195	-31.4	41.53	0.000
## 458 0.117900	0.0548000	0.0113100	7	24.229	-31.3	41.55	0.000
## 130	0.0825800		4	20.168	-31.3	41.58	0.000
## 354 0.137900		0.0254100	6	22.786	-31.3	41.59	0.000
## 73 0.140000			4	20.152	-31.3	41.61	0.000
## 466 0.118600	0.0537300	0.0109700	7	24.195	-31.3	41.61	0.000
## 145	0.0811400		4	20.127	-31.2	41.66	0.000
## 361 0.136300		0.0252200	6	22.749	-31.2	41.67	0.000
## 473 0.116200	0.0539400	0.0118700	7	24.093	-31.1	41.82	0.000
## 338 0.135700		0.0289300	6	22.650	-31.0	41.86	0.000
## 330 0.135600		0.0300500	6	22.626	-31.0	41.91	0.000
## 218 0.115600	0.0659600		7	24.031	-31.0	41.94	0.000
## 345 0.133800		0.0297000	6	22.554	-30.8	42.05	0.000
## 498 0.119200	0.0692700	-0.0109200	8	25.348	-30.6	42.31	0.000
## 250 0.119500	0.0603100		8	25.309	-30.5	42.39	0.000
## 505 0.116400	0.0704300	-0.0107900	8	25.306	-30.5	42.39	0.000
## 169	0.0806600		5	21.005	-30.4	42.46	0.000
## 114 0.143300			6	22.339	-30.4	42.48	0.000
## 177	0.0764400		5	20.951	-30.3	42.57	0.000
## 121 0.141300			6	22.219	-30.2	42.72	0.000
## 490 0.117800	0.0688300	-0.0043140	8	25.125	-30.1	42.76	0.000
## 417	0.0865500	-0.0064390	5	20.839	-30.1	42.79	0.000
## 162	0.0801900		5	20.829	-30.1	42.81	0.000
## 82 0.141000			5	20.657	-29.7	43.16	0.000
## 89 0.138700			5	20.449	-29.3	43.57	0.000
## 393	0.0751700	0.0072580	5	20.312	-29.0	43.85	0.000
## 74 0.142000			5	20.304	-29.0	43.86	0.000
## 138	0.0831300		5	20.278	-29.0	43.92	0.000
## 386	0.0748000	0.0072040	5	20.247	-28.9	43.98	0.000
## 153	0.0822500		5	20.239	-28.9	43.99	0.000
## 106 0.144200			6	21.577	-28.9	44.01	0.000
## 370 0.138500		0.0201700	7	22.976	-28.8	44.05	0.000
## 401	0.0737200	0.0072870	5	20.205	-28.8	44.06	0.000
## 146	0.0811300		5	20.200	-28.8	44.07	0.000
## 257		0.0334800	3	17.643	-28.7	44.21	0.000
## 377 0.136700		0.0207400	7	22.893	-28.7	44.22	0.000
## 362 0.137600		0.0250900	7	22.820	-28.5	44.36	0.000
## 474 0.118000	0.0545200	0.0109000	8	24.237	-28.4	44.53	0.000
## 346 0.135500		0.0290200	7	22.657	-28.2	44.69	0.000
## 433	0.0890400	-0.0142000	6	21.128	-28.0	44.91	0.000
## 185	0.0776200		6	21.110	-27.9	44.94	0.000
## 425	0.0895500	-0.0087160	6	21.085	-27.9	44.99	0.000
## 170	0.0807600		6	21.021	-27.8	45.12	0.000
## 178	0.0765100		6	20.996	-27.7	45.17	0.000
## 506 0.118100	0.0709700	-0.0116900	9	25.452	-27.6	45.28	0.000
## 122 0.143100			7	22.355	-27.6	45.29	0.000
## 418	0.0870700	-0.0067740	6	20.878	-27.5	45.41	0.000
## 90 0.141000			6	20.657	-27.0	45.85	0.000
## 394	0.0757500	0.0068070	6	20.348	-26.4	46.47	0.000
## 409	0.0750200	0.0070720	6	20.313	-26.4	46.54	0.000
## 1			2	15.324	-26.4	46.54	0.000
## 265		0.0334000	4	17.685	-26.3	46.55	0.000
## 273		0.0322300	4	17.683	-26.3	46.55	0.000
## 289		0.0310200	4	17.682	-26.3	46.55	0.000

## 154	0.0821400		6	20.291	-26.3	46.58	0.000
## 258		0.0333400	4	17.652	-26.3	46.61	0.000
## 402	0.0744600	0.0065500	6	20.263	-26.3	46.64	0.000
## 378	0.138300	0.0201600	8	22.991	-25.9	47.02	0.000
## 33			3	16.160	-25.7	47.17	0.000
## 441	0.0914600	-0.0154800	7	21.320	-25.5	47.36	0.000
## 434	0.0898300	-0.0150000	7	21.191	-25.3	47.62	0.000
## 186	0.0776000		7	21.135	-25.2	47.73	0.000
## 426	0.0898200	-0.0088750	7	21.104	-25.1	47.80	0.000
## 49			4	16.901	-24.8	48.12	0.000
## 17			3	15.683	-24.8	48.13	0.000
## 9			3	15.372	-24.1	48.75	0.000
## 2			3	15.360	-24.1	48.77	0.000
## 305		0.0266700	5	17.789	-24.0	48.89	0.000
## 297		0.0305300	5	17.738	-23.9	49.00	0.000
## 281		0.0323600	5	17.713	-23.8	49.05	0.000
## 274		0.0319700	5	17.697	-23.8	49.08	0.000
## 266		0.0333000	5	17.691	-23.8	49.09	0.000
## 290		0.0309700	5	17.689	-23.8	49.09	0.000
## 410	0.0755300	0.0064770	7	20.353	-23.6	49.30	0.000
## 41			4	16.269	-23.5	49.38	0.000
## 34			4	16.172	-23.3	49.57	0.000
## 442	0.0919400	-0.0160200	8	21.358	-22.6	50.29	0.000
## 18			4	15.744	-22.5	50.43	0.000
## 25			4	15.698	-22.4	50.52	0.000
## 57			5	16.943	-22.3	50.58	0.000
## 50			5	16.932	-22.3	50.61	0.000
## 10			4	15.400	-21.8	51.12	0.000
## 313		0.0265900	6	17.827	-21.4	51.51	0.000
## 306		0.0264500	6	17.802	-21.3	51.56	0.000
## 298		0.0305100	6	17.741	-21.2	51.68	0.000
## 282		0.0321400	6	17.722	-21.2	51.72	0.000
## 42			5	16.274	-21.0	51.92	0.000
## 26			5	15.752	-19.9	52.97	0.000
## 58			6	16.965	-19.7	53.23	0.000
## 314		0.0264300	7	17.835	-18.6	54.33	0.000

## Models ranked by AICc(x)