

Untitled

Mina Azizi-Rad

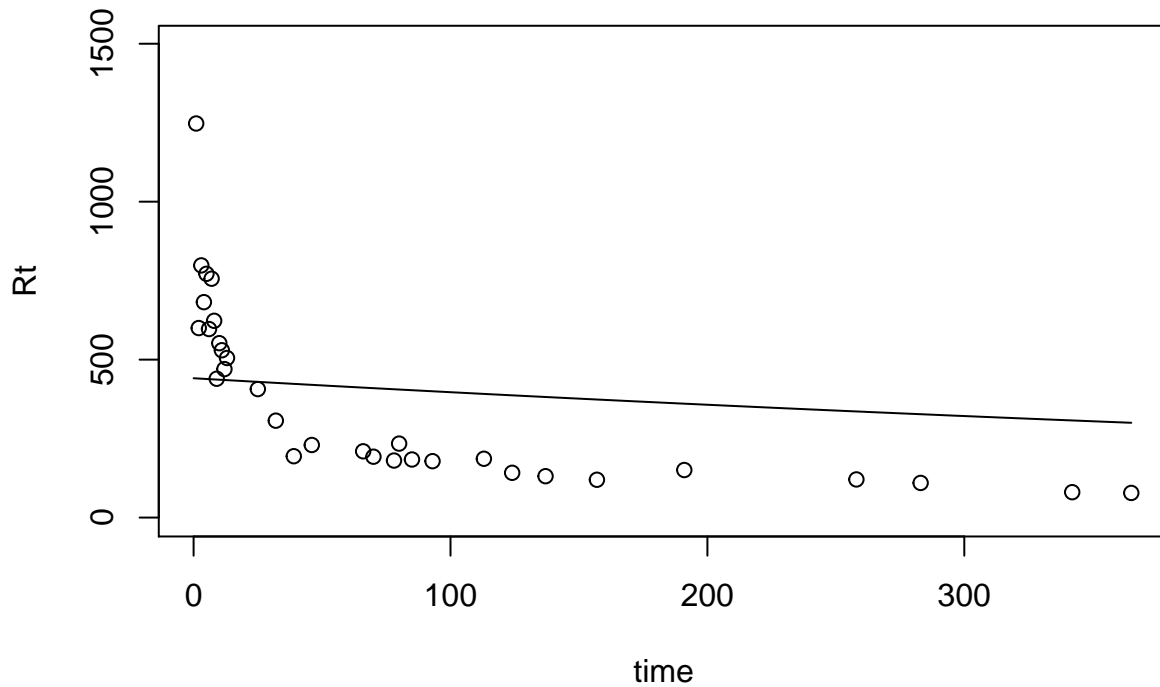
7/9/2021

Dataset Bracho2016SBB

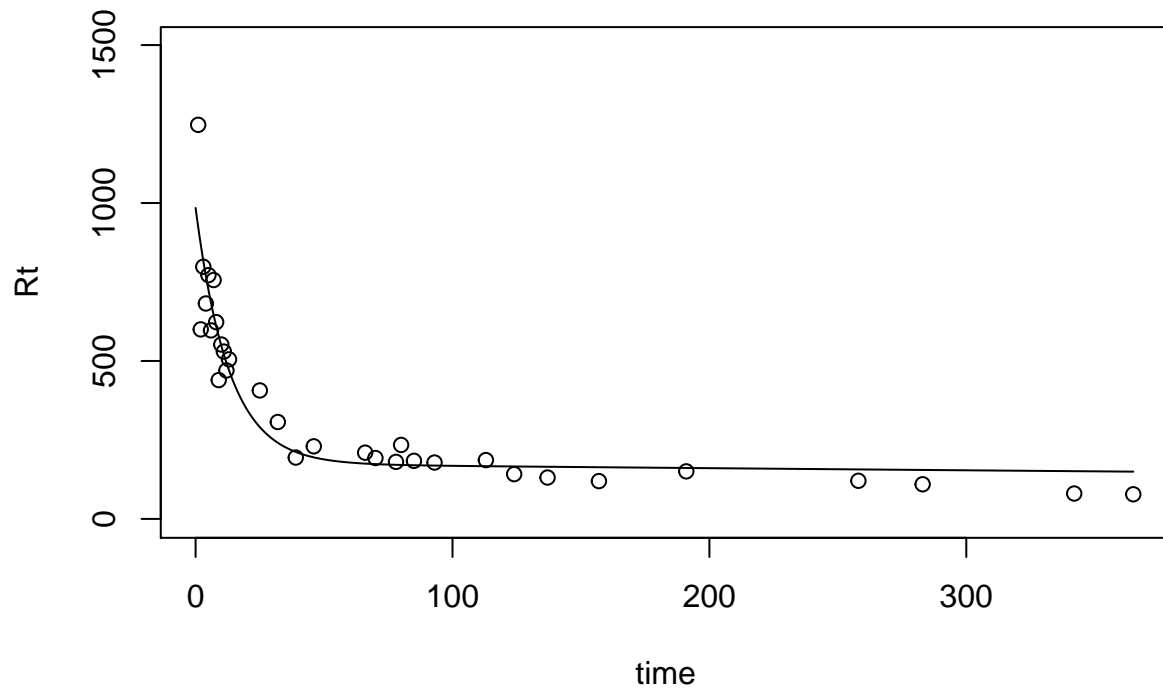
This is the results of a depth-warming experiment with two levels of Control and warming. The dataset has 9 column of time, three depth on each warming and control. The variables V3, V5, V7, V9, V11 and V15 are the sd.

initial carbon unit is percent

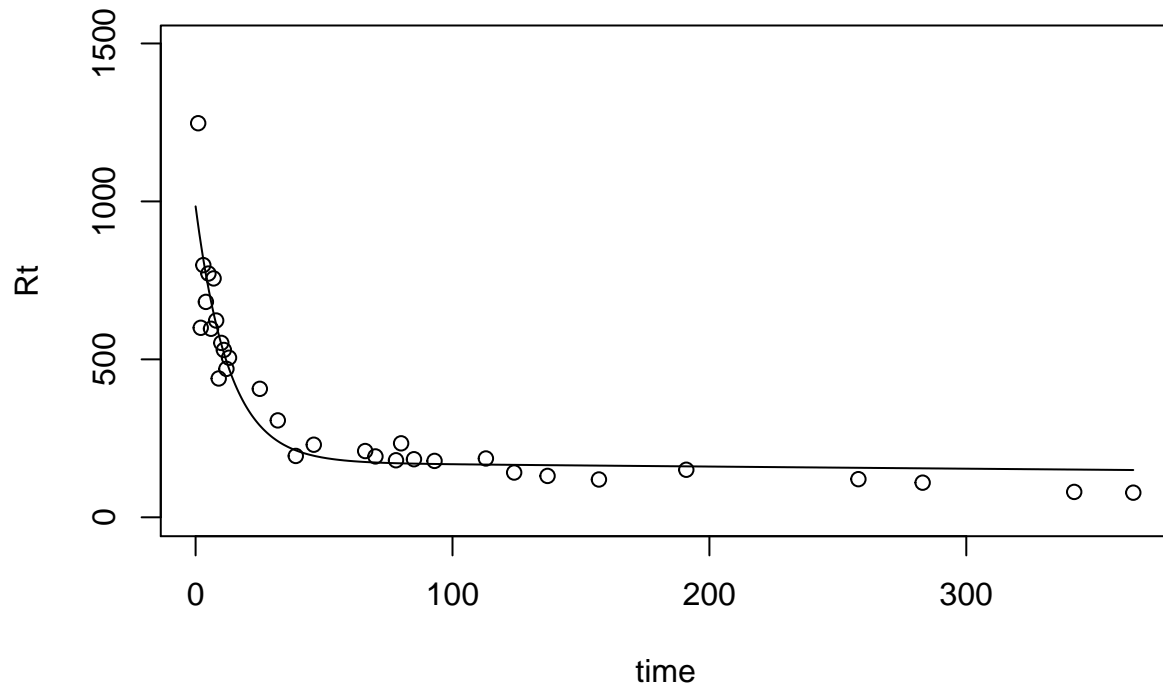
```
## [1] "Best fit parameter: 0.00105506793796161"
```



```
## [1] "AIC = -20.0869976787292"
## [1] "k1= 0.0772295541587677"
## [2] "k2= 0.000429510155114074"
## [3] "proportion of C0 in pool 1= 0.0250708211456562"
```

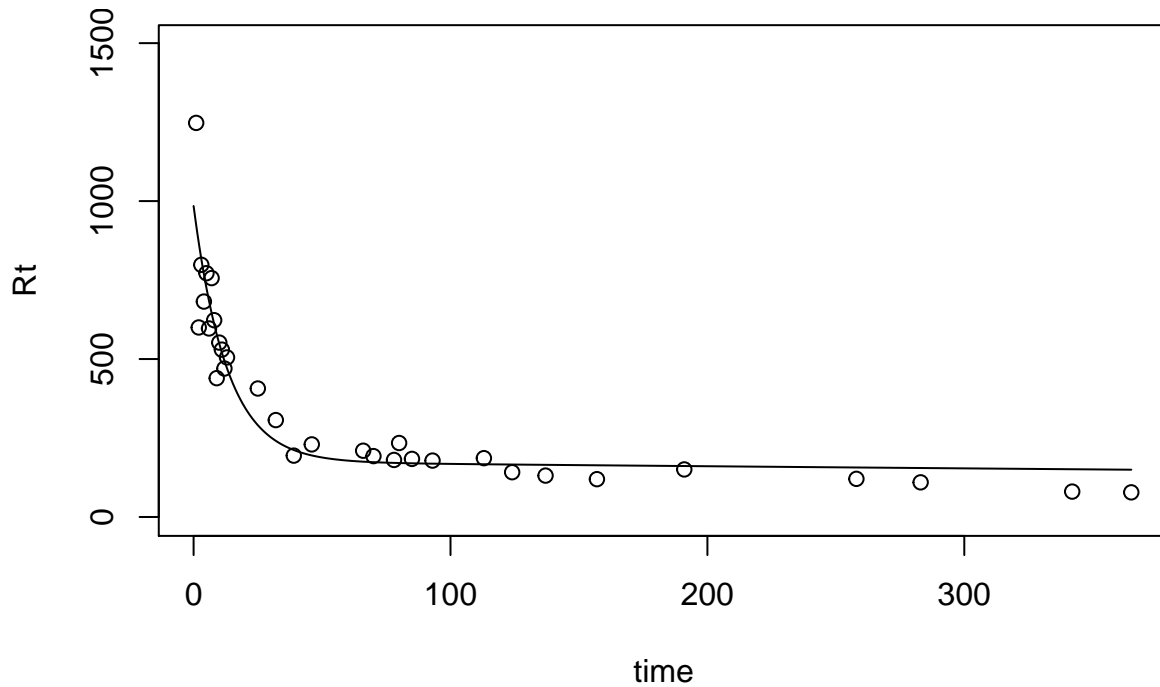


```
## [1] "AIC = -12.0867118045138"
## [1] "k1= 0.0772251658116616"
## [2] "k2= 0.000429501957300442"
## [3] "a21= 0.144170703622162"
## [4] "a12= 6.79112385409963e-06"
## [5] "Proportion of C0 in pool 1= 0.0293229848154219"
```

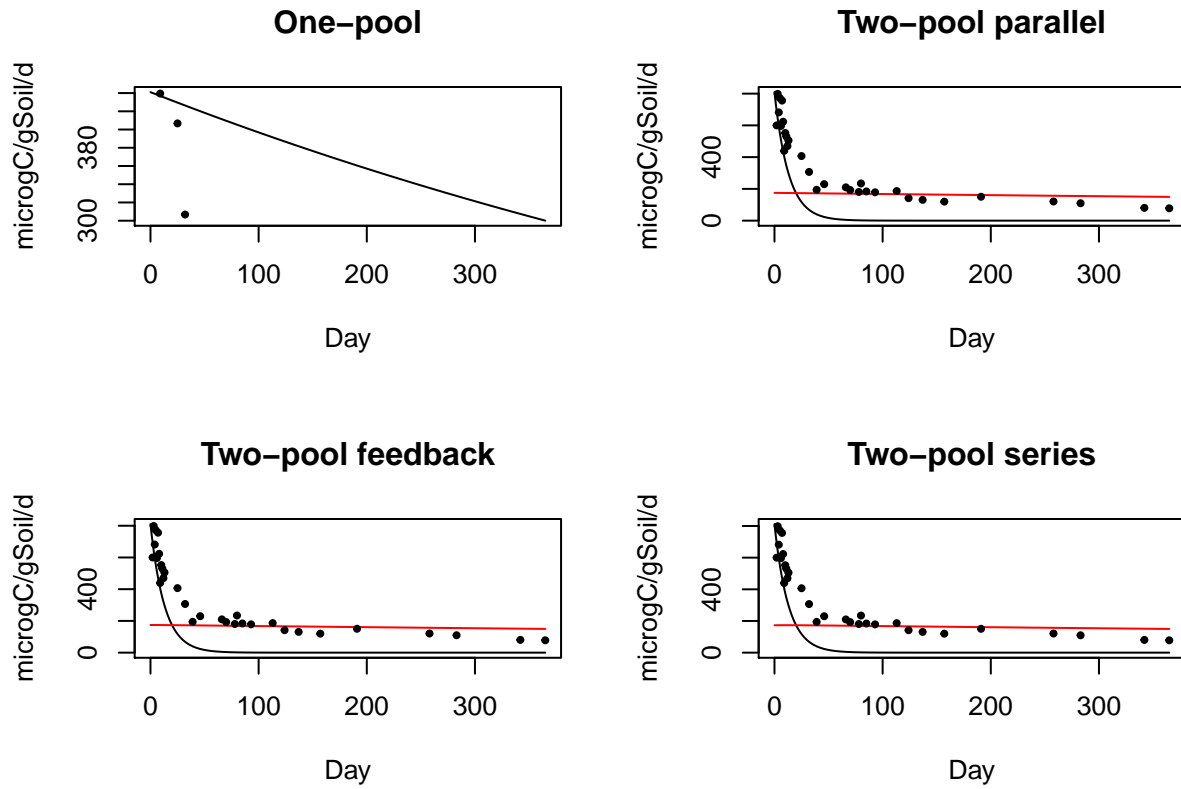


```
## [1] "AIC = -8.08671180172514"
## [1] "k1= 0.0772255510491349"
## [2] "k2= 0.000429502232294404"
## [3] "a21= 0.331092850481058"
```

```
## [4] "Proportion of C0 in pool 1= 0.0375855859495757"
```

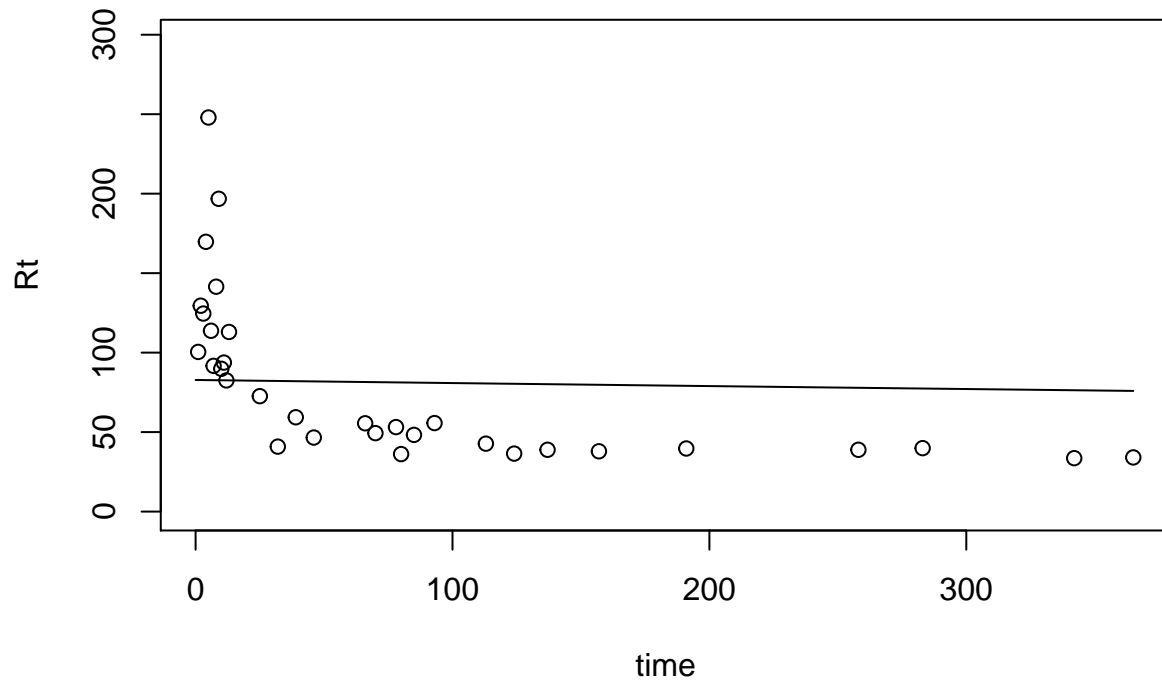


```
## [1] "AIC = -10.0867118017904"
## Warning: `funs()` was deprecated in dplyr 0.8.0.
## Please use a list of either functions or lambdas:
##
##   # Simple named list:
##   list(mean = mean, median = median)
##
##   # Auto named with `tibble::lst()`:
##   tibble::lst(mean, median)
##
##   # Using lambdas
##   list(~ mean(., trim = .2), ~ median(., na.rm = TRUE))
```

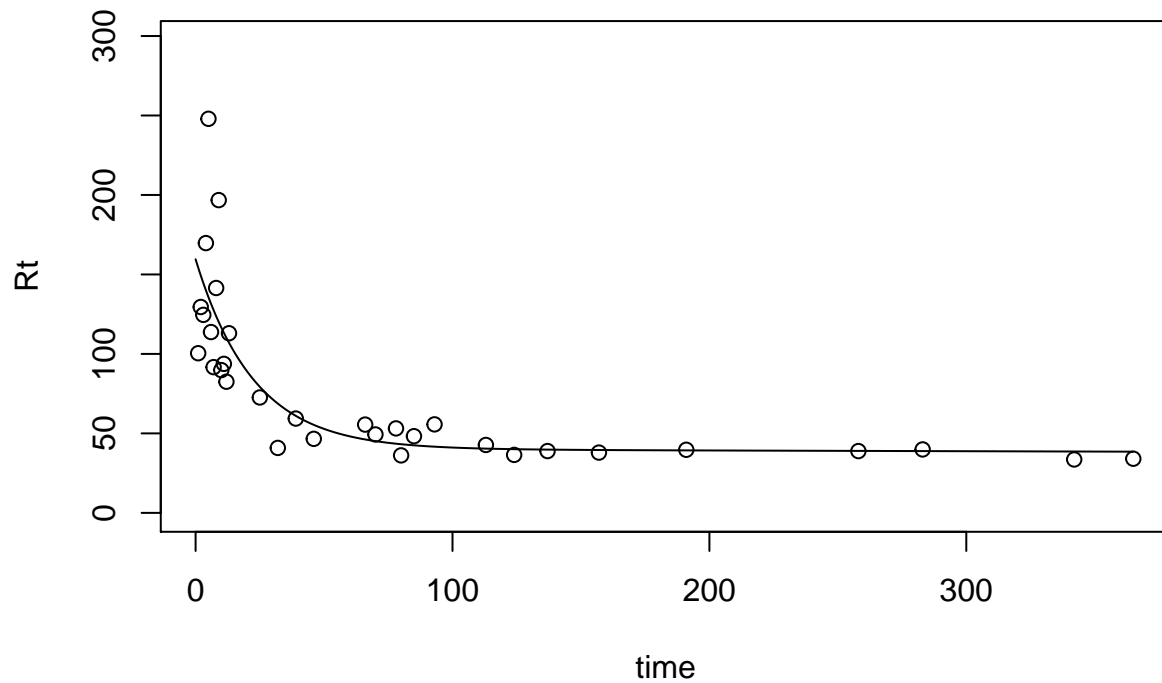


model	AIC	k1	k2	C0Inp1	a21	a12	AICc	wi	MeanTrT	q05
One-pool	-20.1	0.00106	NA	NA	NA	NA	-20	0.987	NA	NA
Two-pool parallel	-12.1	0.0772	0.00043	0.0251	NA	NA	-11.2	0.0126	2270	1550
Two-pool feedback	-8.09	0.0772	0.00043	0.0293	0.144	6.79e-06	-5.78	0.000824	349	11.4
Two-pool series	-10.1	0.0772	0.00043	0.0376	0.331	NA	-8.61	0.00339	784	17.7

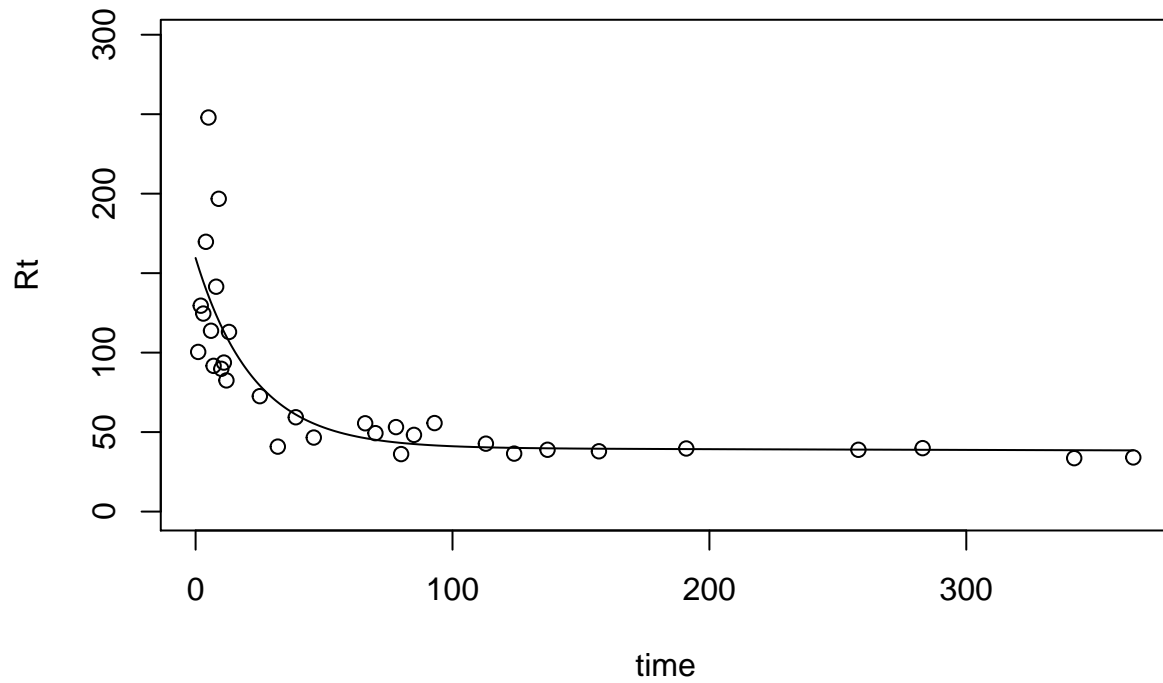
[1] "Best fit parameter: 0.00023770786173684"



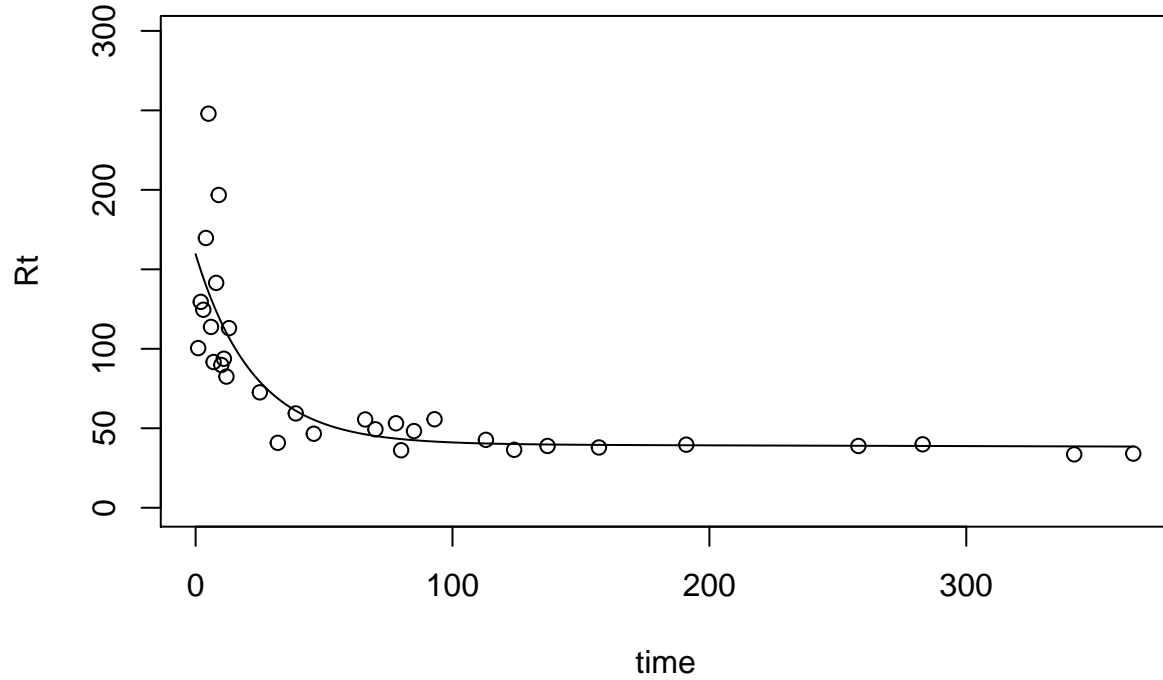
```
## [1] "AIC = -13.7083870705158"
## [1] "k1= 0.0445029279776546"
## [2] "k2= 0.000116224491609493"
## [3] "proportion of C0 in pool 1= 0.00770138304924062"
```



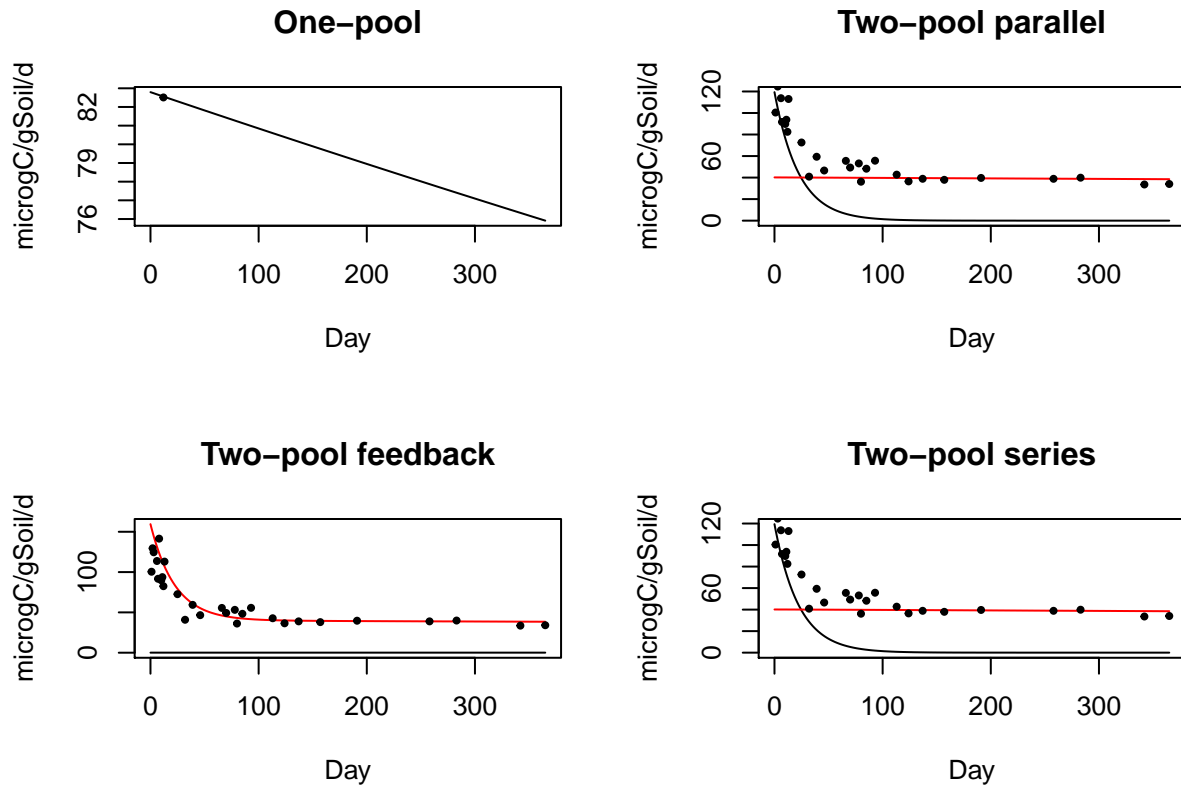
```
## [1] "AIC = -7.57061458423223"
## [1] "k1= 0.00011622467542314"
## [2] "k2= 0.0445029529333431"
## [3] "a21= 0.997954146697736"
## [4] "a12= 7.25312948535173e-07"
## [5] "Proportion of C0 in pool 1= 0.989712399648457"
```



```
## [1] "AIC = -3.57061453516395"
## [1] "k1= 0.0445039581496787"
## [2] "k2= 0.000116225404315938"
## [3] "a21= 0.147565721263555"
## [4] "Proportion of C0 in pool 1= 0.00903847211543102"
```

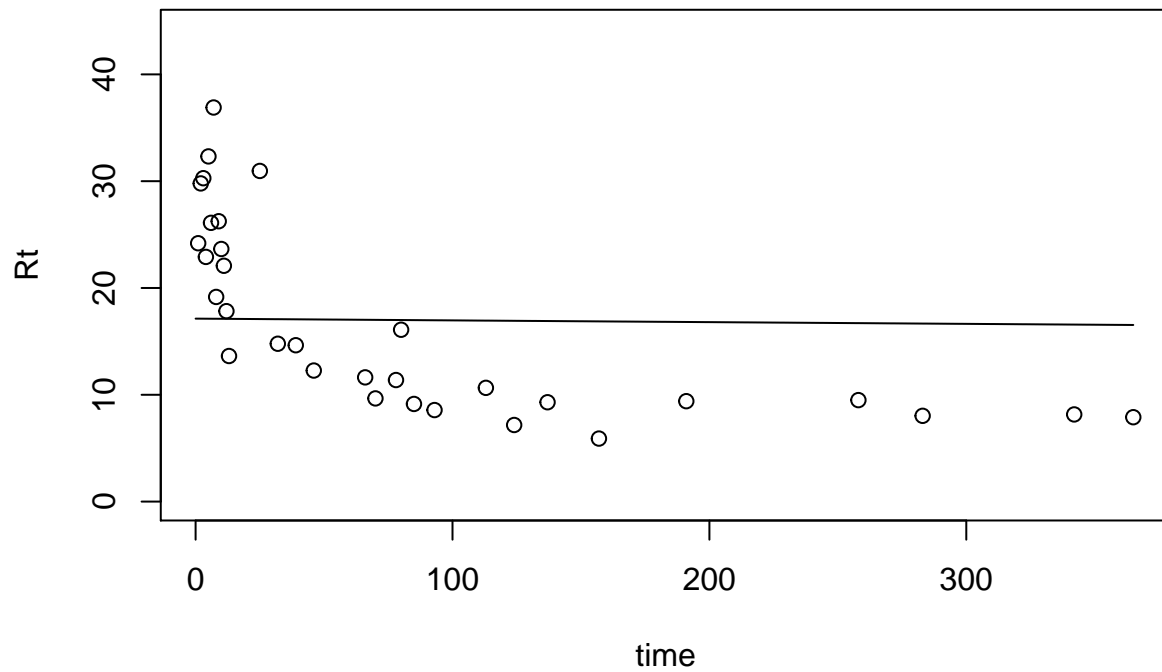


```
## [1] "AIC = -5.57061458453883"
```

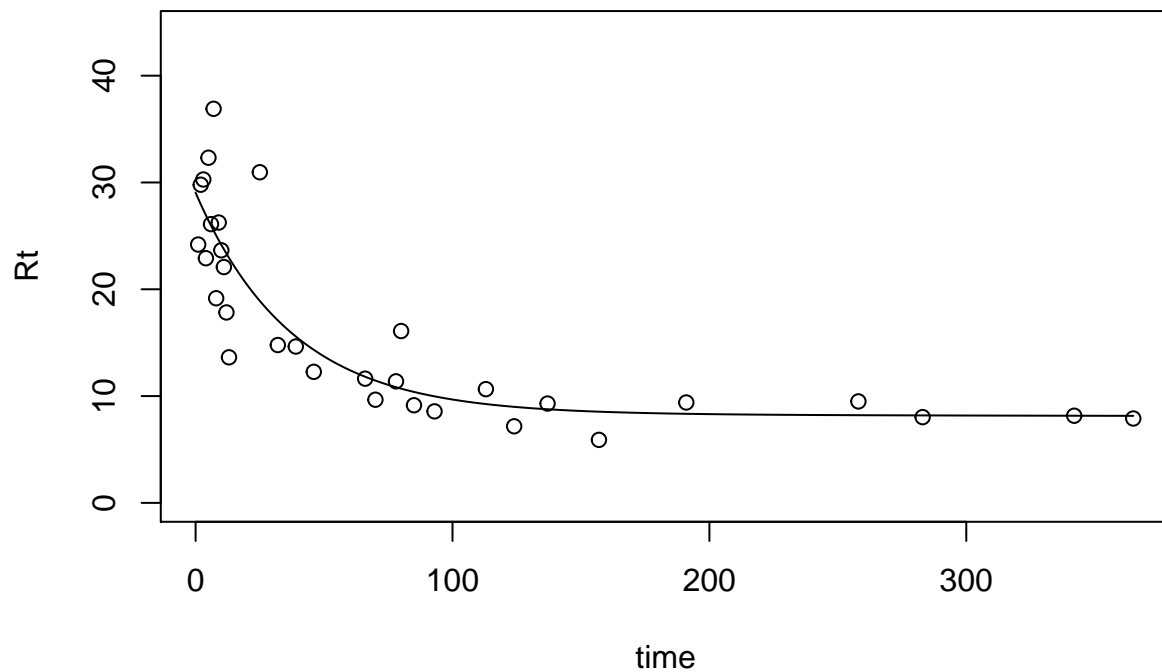


model	AIC	k1	k2	C0Inp1	a21	a12	AICc	wi	MeanTrT	q05
One-pool	-13.7	0.000238	NA	NA	NA	NA	-13.6	0.967	NA	NA
Two-pool parallel	-7.57	0.0445	0.000116	0.0077	NA	NA	-6.71	0.0313	8540	5900
Two-pool feedback	-3.57	0.000116	0.0445	0.99	0.998	7.25e-07	-1.26	0.00205	8630	5990
Two-pool series	-5.57	0.0445	0.000116	0.00904	0.148	NA	-4.09	0.00842	1290	19.8

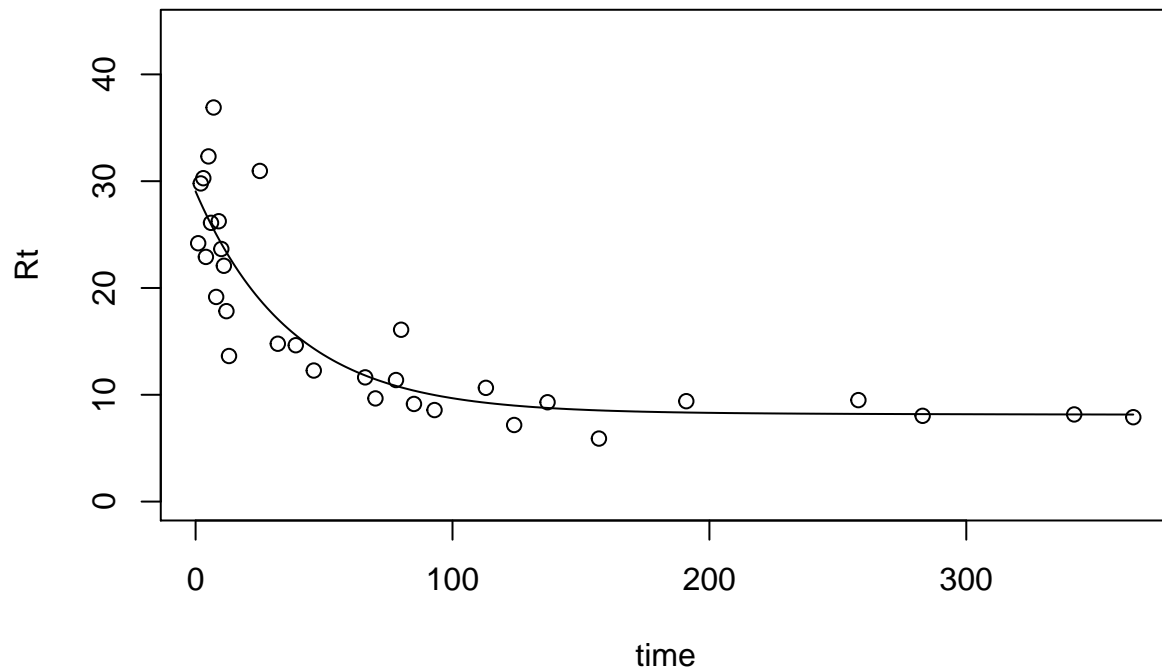
```
## [1] "control"
## [1] 50
## [1] "Best fit parameter: 9.67834616625116e-05"
```

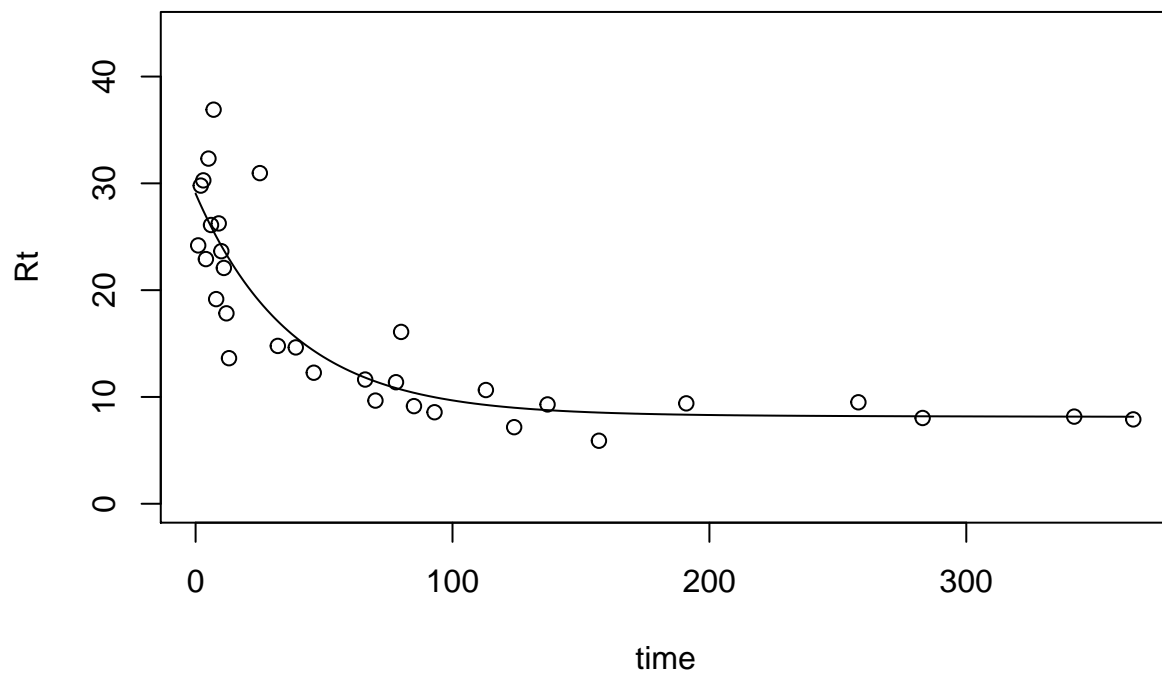
```
## [1] "AIC = -6.63626589624584"
## [1] "k1= 0.0267662349526235"
## [2] "k2= 4.70347390998378e-05"
## [3] "proportion of C0 in pool 1= 0.00438084533059108"
```



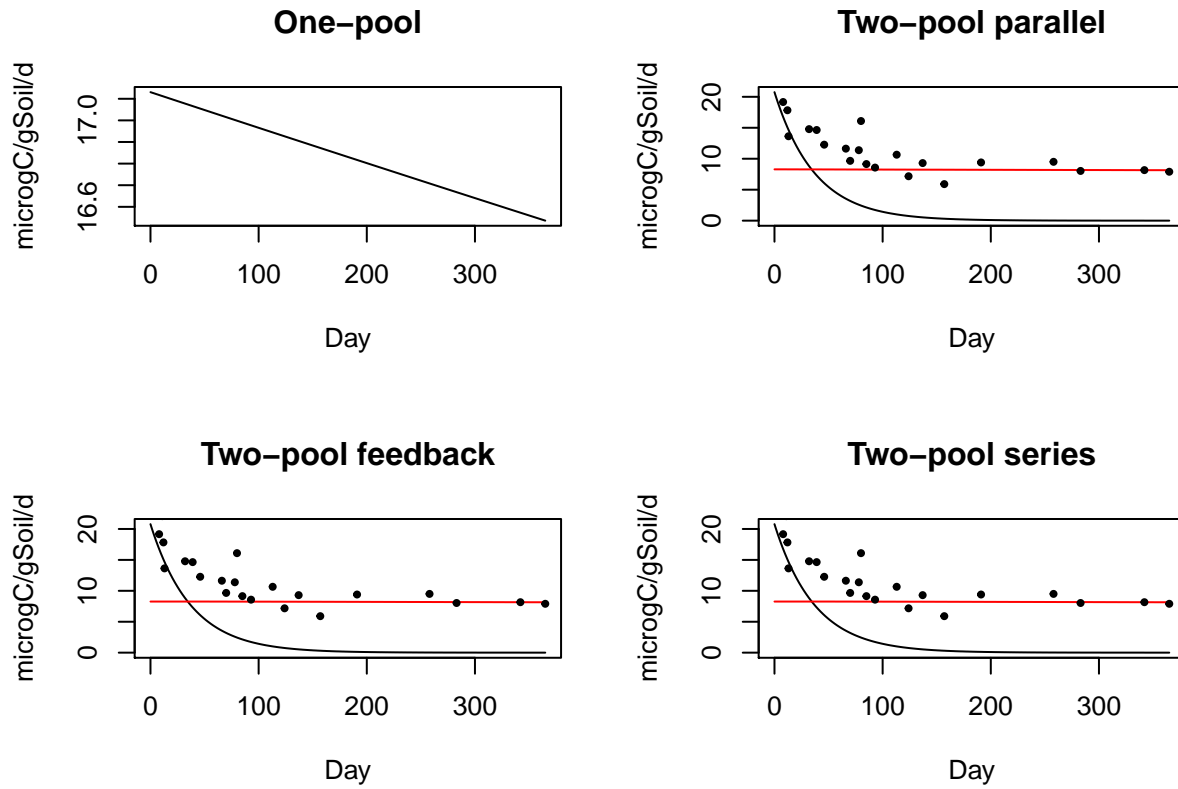
```
## [1] "AIC = 0.221415717106698"
## [1] "k1= 0.026765968961415"
## [2] "k2= 4.70359170601173e-05"
## [3] "a21= 0.421842348221997"
## [4] "a12= 6.72343674683051e-05"
## [5] "Proportion of C0 in pool 1= 0.00758718361102639"
```



```
## [1] "AIC = 4.22141571742011"
## [1] "k1= 0.0267661951086602"
## [2] "k2= 4.70346980580624e-05"
## [3] "a21= 0.428254575839624"
## [4] "Proportion of C0 in pool 1= 0.00767235565516011"
```

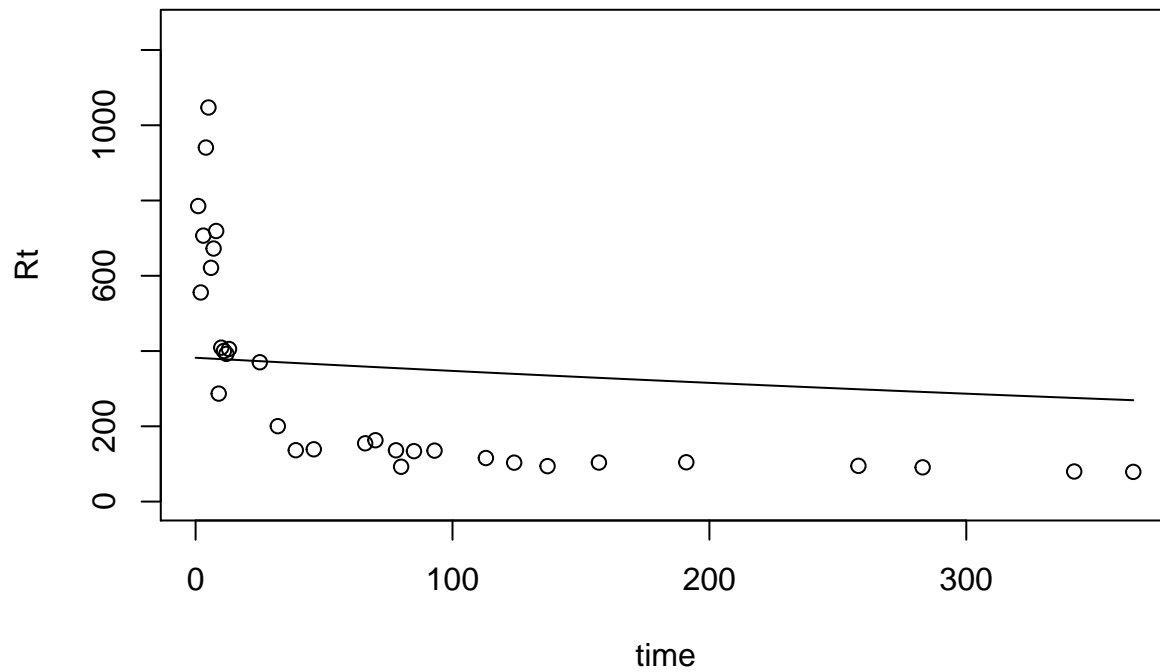


```
## [1] "AIC = 2.22141571742233"
```

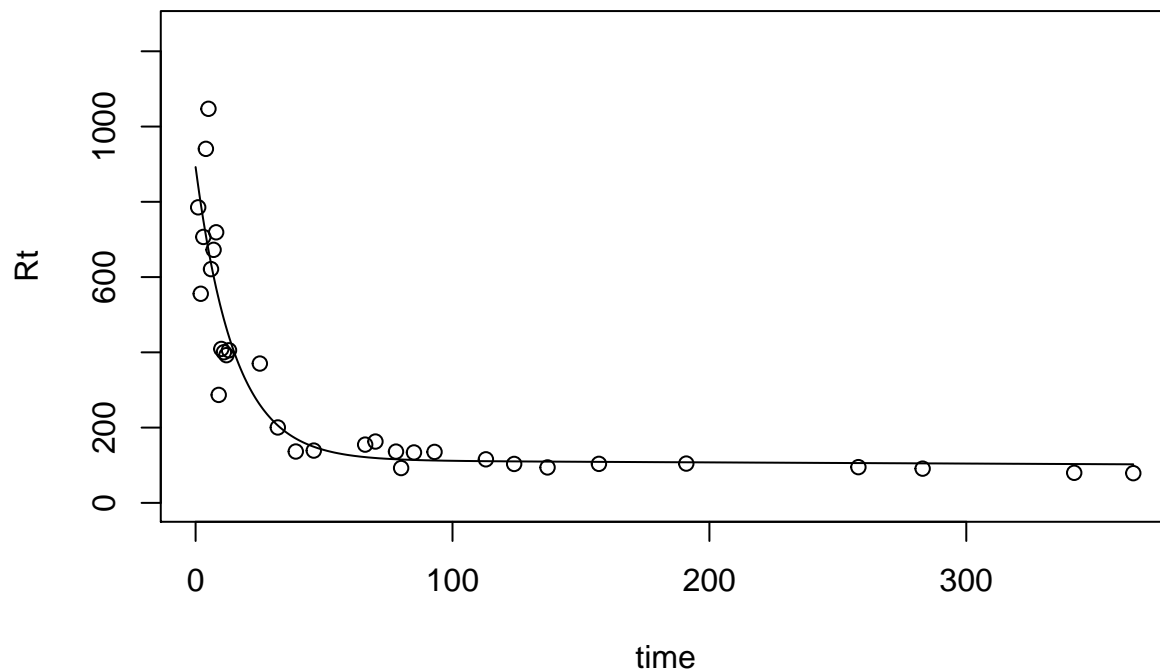


model	AIC	k1	k2	C0Inp1	a21	a12	AICc	wi	MeanTrT	q05
One-pool	-6.64	9.68e-05	NA	NA	NA	NA	-6.5	0.977	NA	NA
Two-pool parallel	0.221	0.0268	4.7e-05	0.00438	NA	NA	1.08	0.022	21200	14600
Two-pool feedback	4.22	0.0268	4.7e-05	0.00759	0.422	6.72e-05	6.53	0.00144	9010	74.4
Two-pool series	2.22	0.0268	4.7e-05	0.00767	0.428	NA	3.7	0.00594	9140	77.1

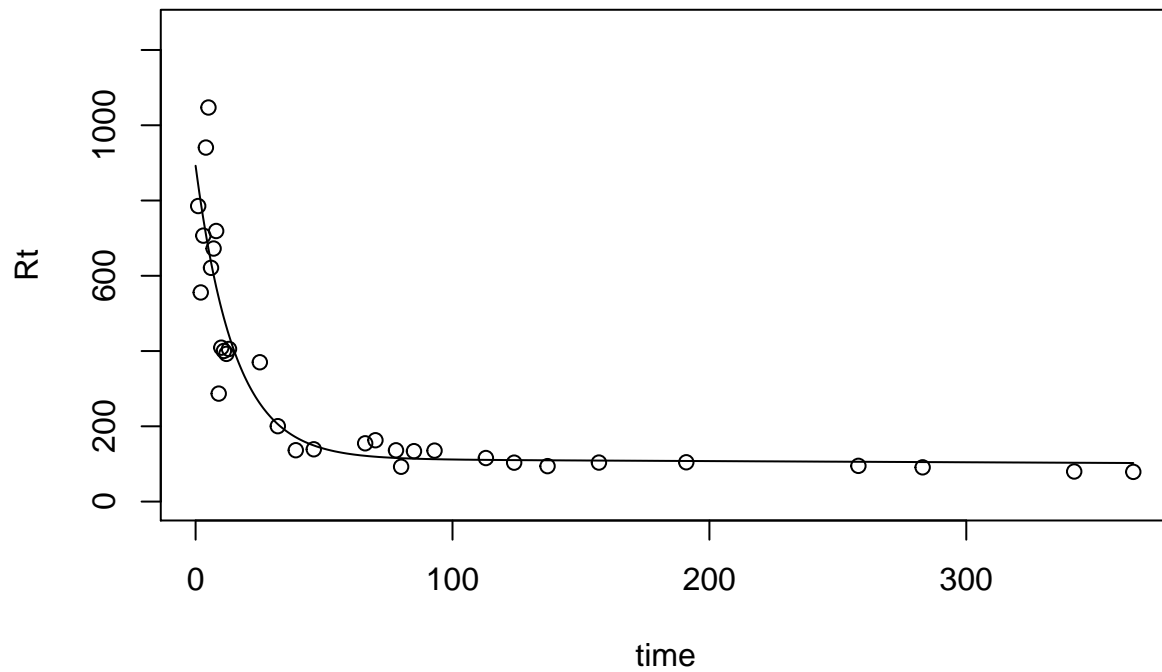
```
## [1] "Best fit parameter: 0.000958259675920023"
```



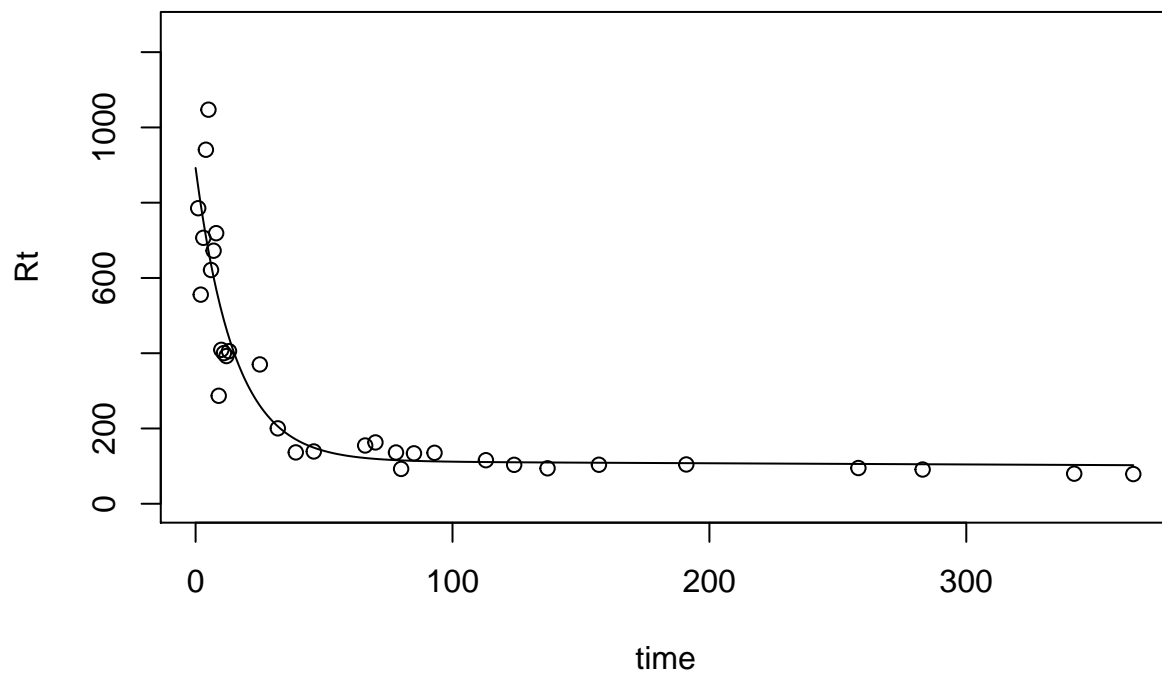
```
## [1] "AIC = -20.2477613597089"
## [1] "k1= 0.0665018197880694"
## [2] "k2= 0.000294788147436428"
## [3] "proportion of C0 in pool 1= 0.0293440407050292"
```



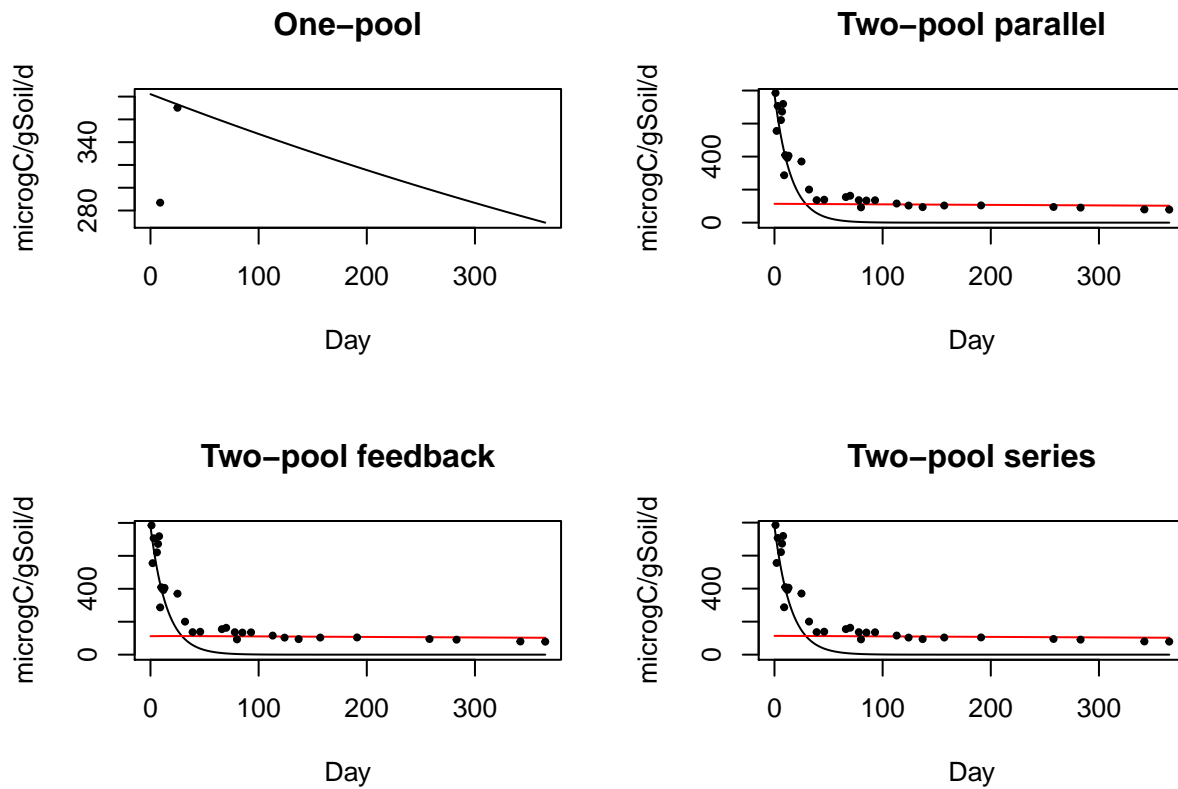
```
## [1] "AIC = -12.8338927001362"
## [1] "k1= 0.0665018214275023"
## [2] "k2= 0.000294788274991318"
## [3] "a21= 0.385191480955395"
## [4] "a12= 1.16305214781232e-06"
## [5] "Proportion of C0 in pool 1= 0.0478621865741534"
```



```
## [1] "AIC = -8.83389270022145"
## [1] "k1= 0.0665018218693894"
## [2] "k2= 0.000294788147329322"
## [3] "a21= 0.101201448878462"
## [4] "Proportion of C0 in pool 1= 0.032664423692857"
```

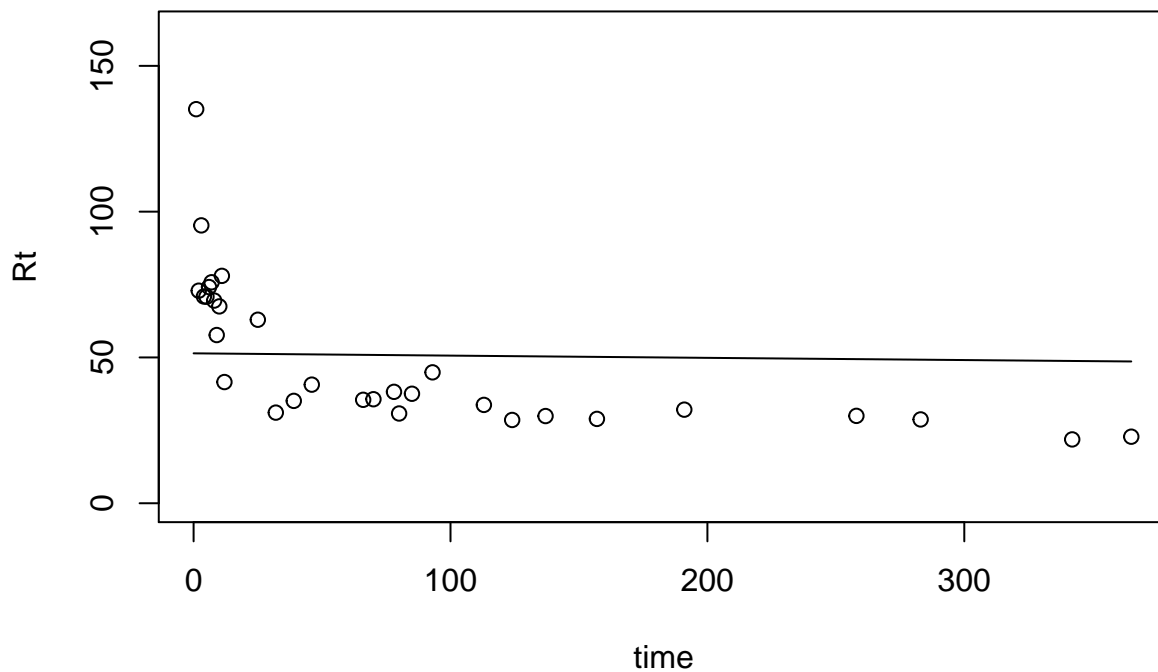


```
## [1] "AIC = -10.8338927001549"
```

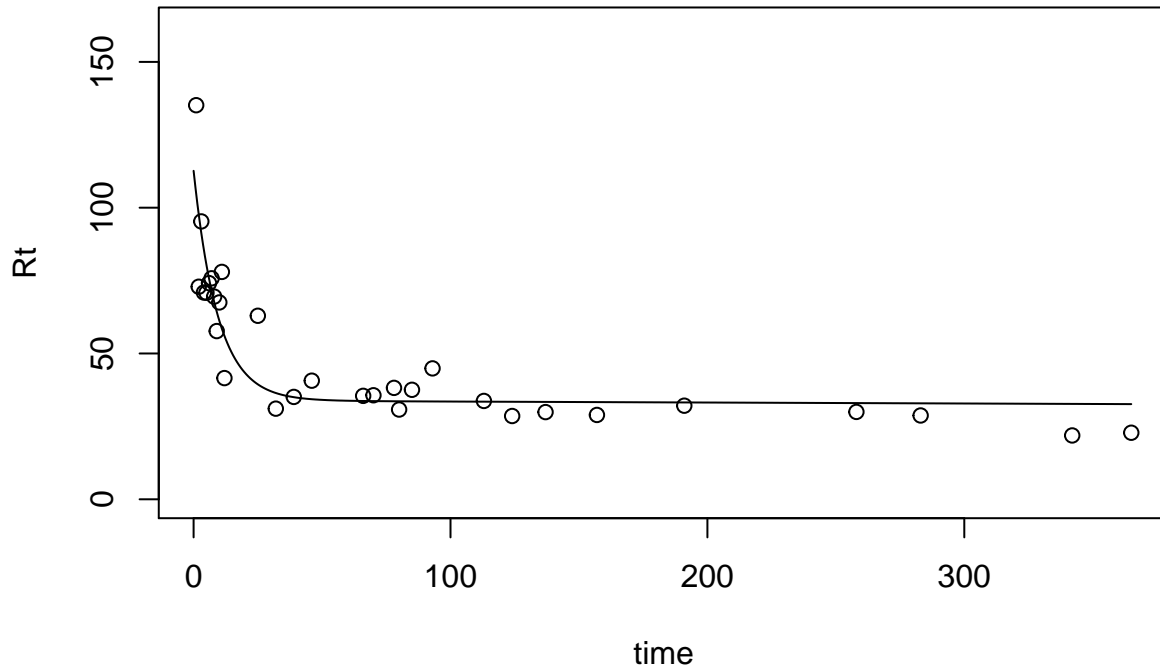


model	AIC	k1	k2	C0Inp1	a21	a12	AICc	wi	MeanTrT	q05
One-pool	-20.2	0.000958	NA	NA	NA	NA	-20.1	0.982	NA	NA
Two-pool parallel	-12.8	0.0665	0.000295	0.0293	NA	NA	-12	0.0168	3290	2250
Two-pool feedback	-8.83	0.0665	0.000295	0.0479	0.385	1.16e-06	-6.53	0.0011	1320	25
Two-pool series	-10.8	0.0665	0.000295	0.0327	0.101	NA	-9.35	0.00452	358	12.2

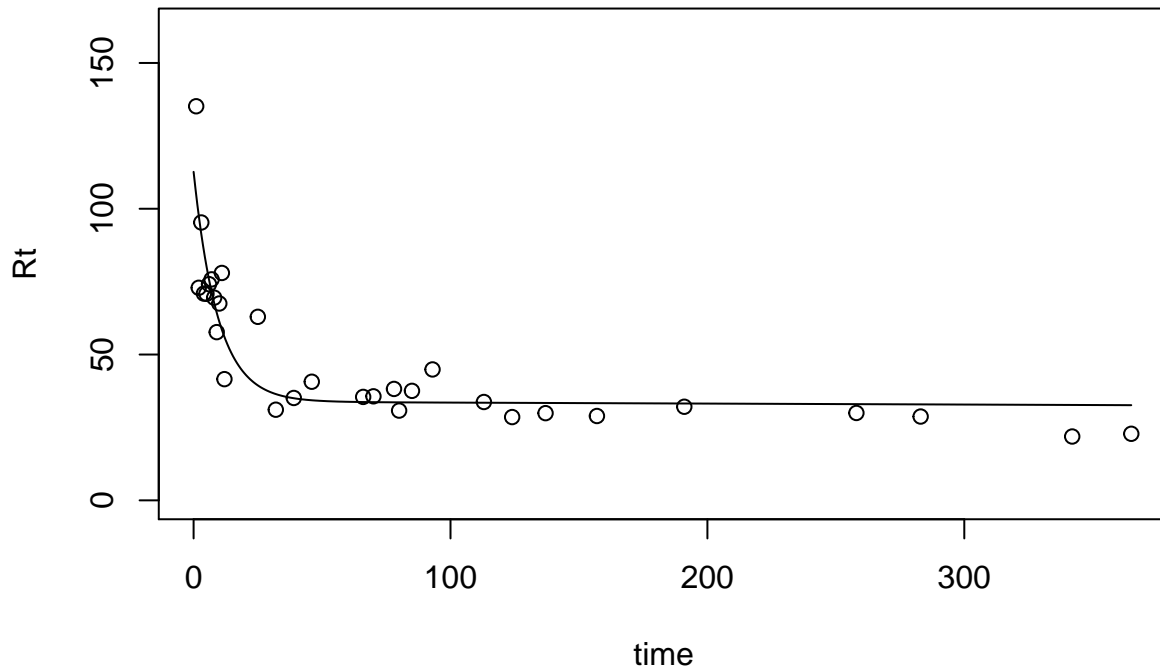
[1] "Best fit parameter: 0.000152687930301548"



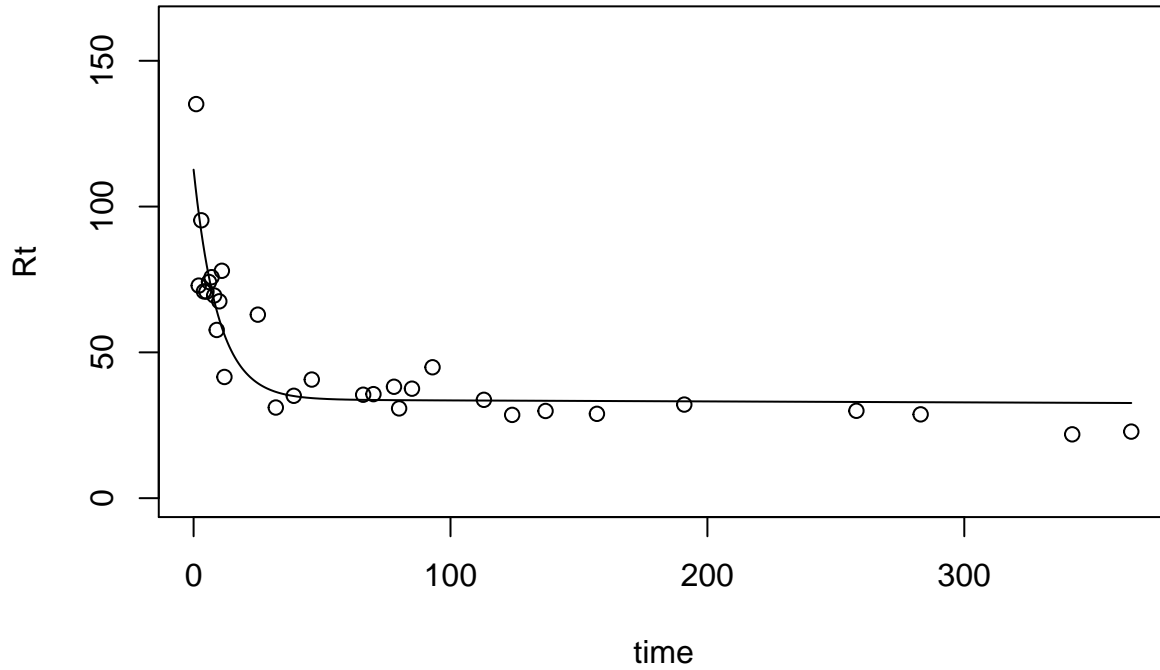
```
## [1] "AIC = -10.8358191336638"
## [1] "k1= 0.105451659119656"
## [2] "k2= 0.000100785656325084"
## [3] "proportion of C0 in pool 1= 0.00221926010180984"
```



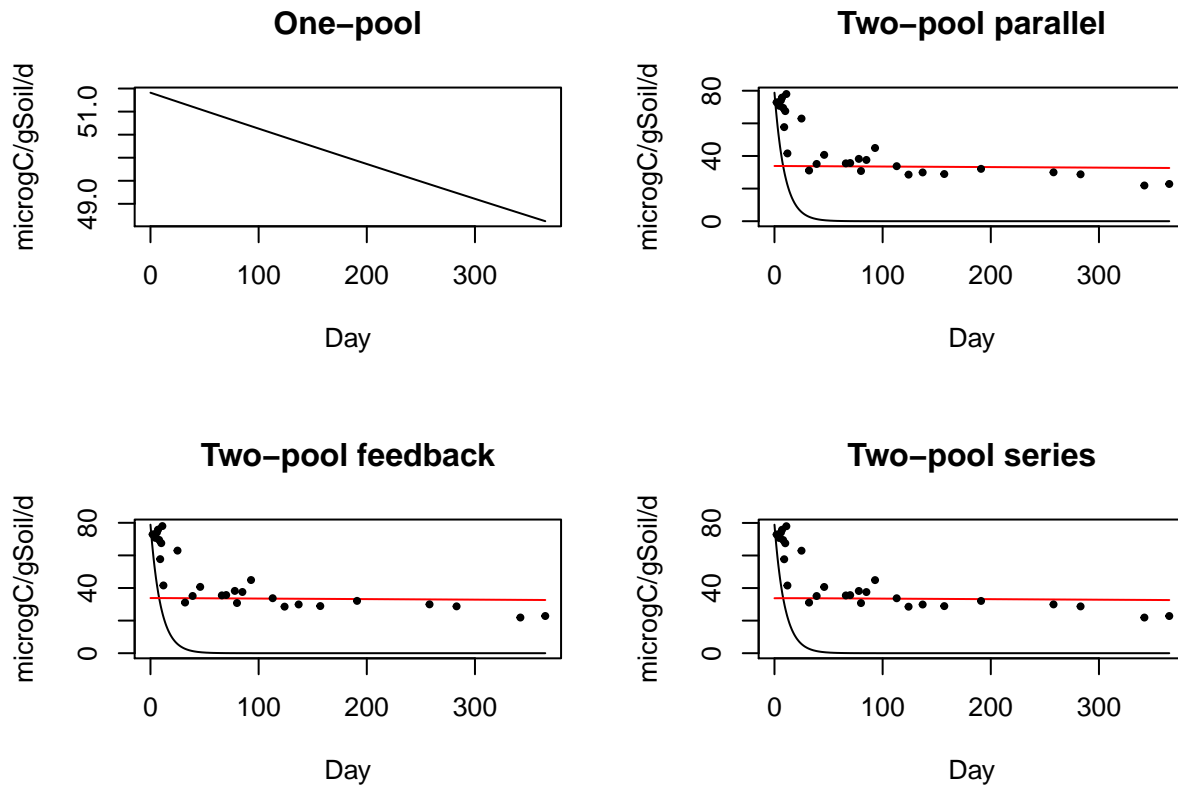
```
## [1] "AIC = -3.53835305681173"
## [1] "k1= 0.105457903603928"
## [2] "k2= 0.000100786529028083"
## [3] "a21= 0.313671990480888"
## [4] "a12= 2.44461872100921e-06"
## [5] "Proportion of C0 in pool 1= 0.00323481701901257"
```



```
## [1] "AIC = 0.461646948716984"
## [1] "k1= 0.10545779785676"
## [2] "k2= 0.000100786437001749"
## [3] "a21= 0.601743424695732"
## [4] "Proportion of C0 in pool 1= 0.00558031993906705"
```

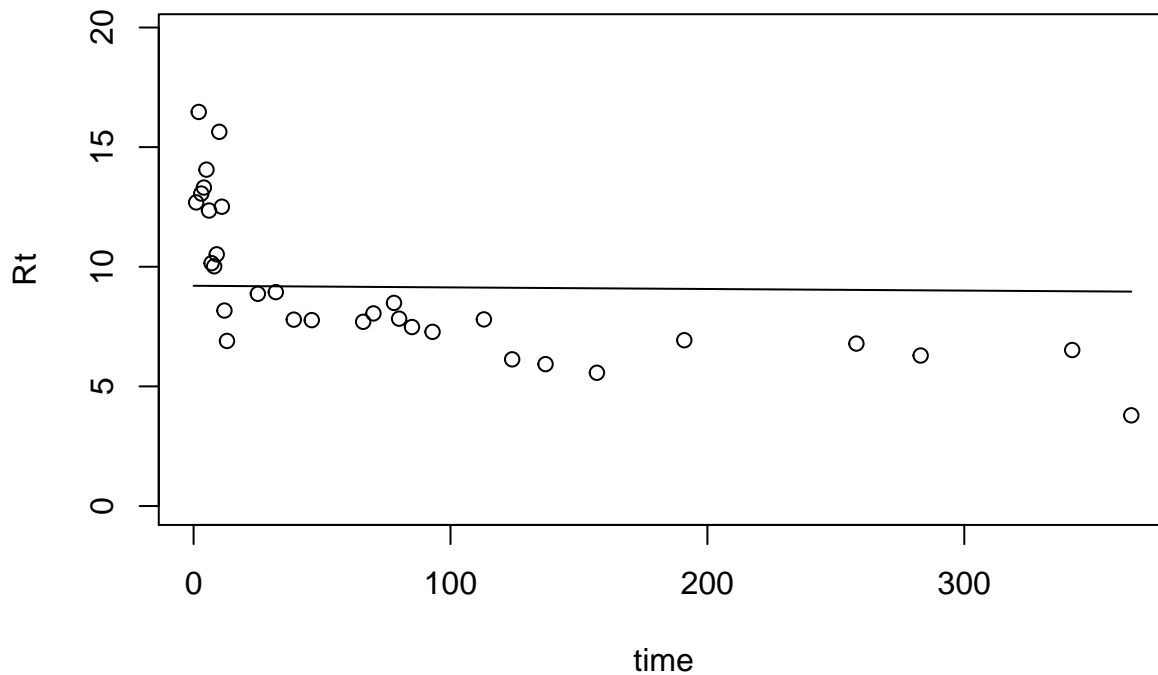


```
## [1] "AIC = -1.53835304996442"
```

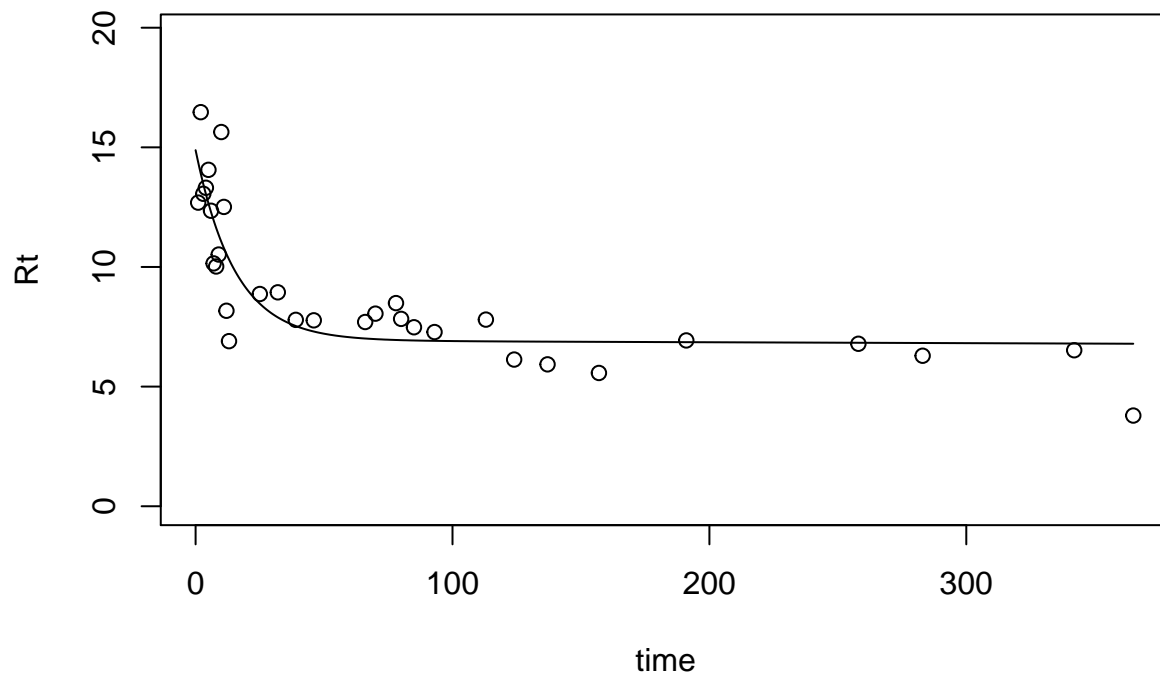


model	AIC	k1	k2	C0Inp1	a21	a12	AICc	wi	MeanTrT	q05
One-pool	-10.8	0.000153	NA	NA	NA	NA	-10.7	0.981	NA	NA
Two-pool parallel	-3.54	0.105	0.000101	0.00222	NA	NA	-2.68	0.0178	9900	6860
Two-pool feedback	0.462	0.105	0.000101	0.00323	0.314	2.44e-06	2.77	0.00116	3120	12.4
Two-pool series	-1.54	0.105	0.000101	0.00558	0.602	NA	-0.0569	0.00479	5980	1850

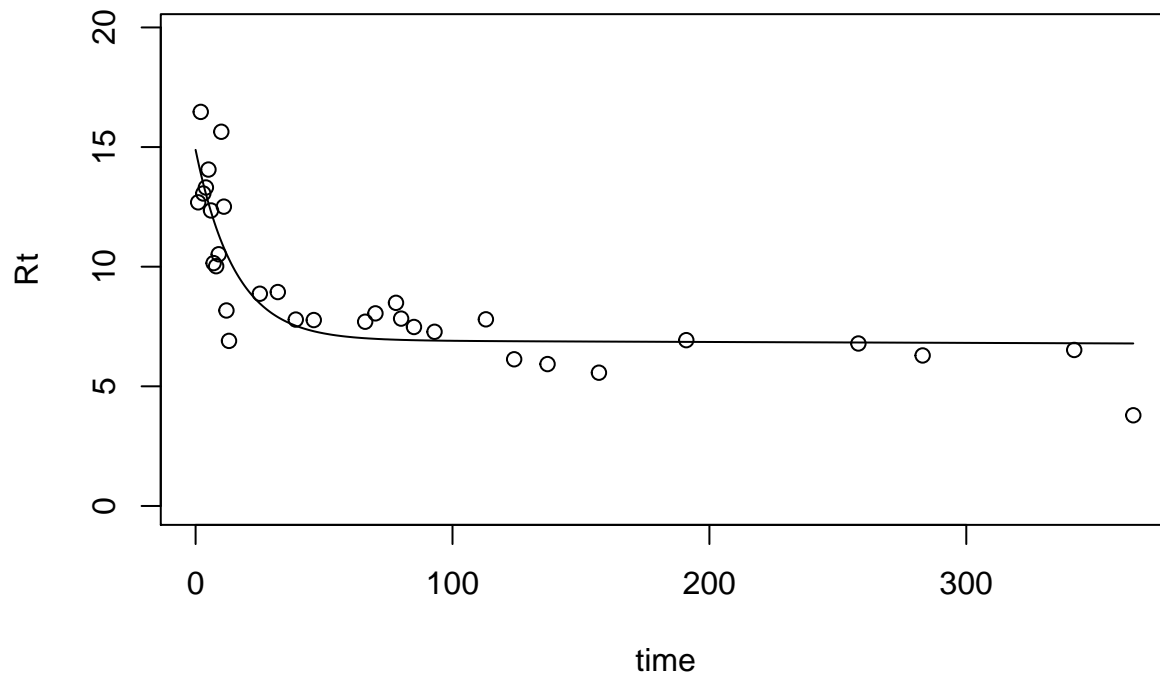
```
## [1] "Best fit parameter: 7.34617745506498e-05"
```



```
## [1] "AIC = -2.41748075538344"
## [1] "k1= 0.0655612363584034"
## [2] "k2= 5.53632707814719e-05"
## [3] "proportion of C0 in pool 1= 0.00096799265066233"
```

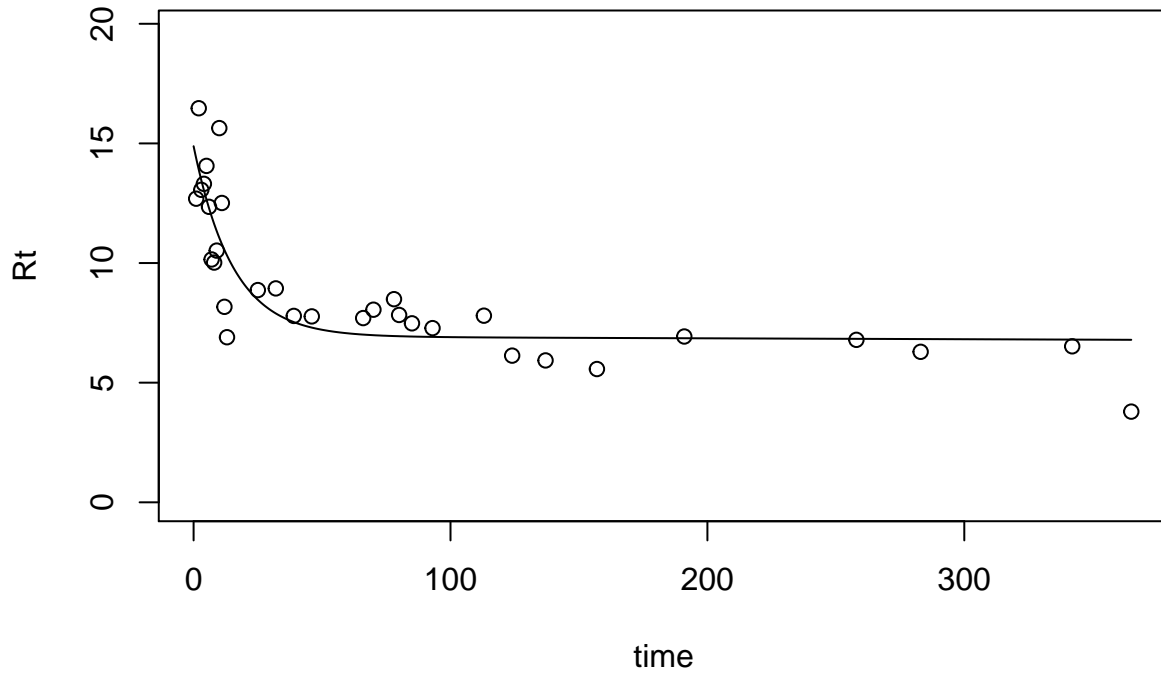


```
## [1] "AIC = 4.17810423493086"
## [1] "k1= 0.0655634238113439"
## [2] "k2= 5.6050737099715e-05"
## [3] "a21= 0.870788942767429"
## [4] "a12= 0.014071889698593"
## [5] "Proportion of C0 in pool 1= 0.00754625466182485"
```

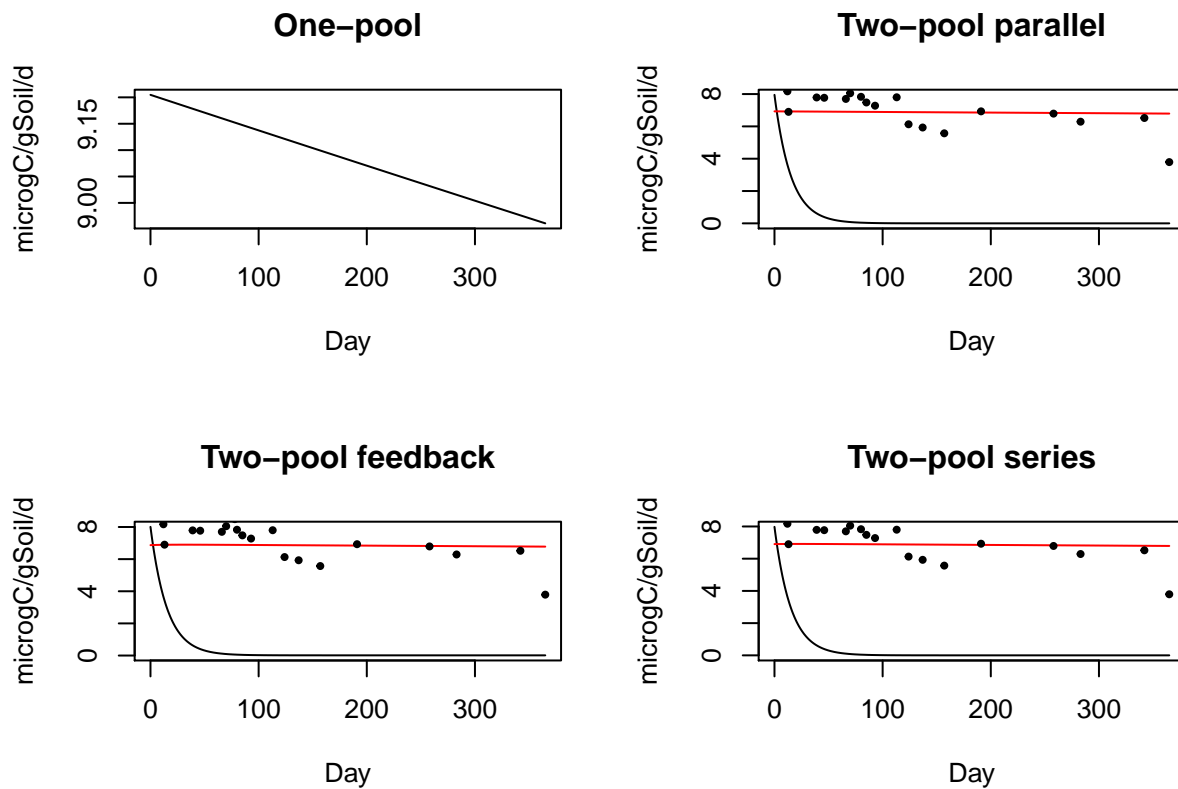


```
## [1] "AIC = 8.17810423550197"
## [1] "k1= 0.0655644160432501"
## [2] "k2= 5.53634903036572e-05"
## [3] "a21= 0.789433702827975"
```

[4] "Proportion of C0 in pool 1= 0.00461157102317789"



[1] "AIC = 6.1781042351739"



model	AIC	k1	k2	C0Inp1	a21	a12	AICc	wi	MeanTrT	q05
One-pool	-2.42	7.35e-05	NA	NA	NA	NA	-2.28	0.973	NA	NA

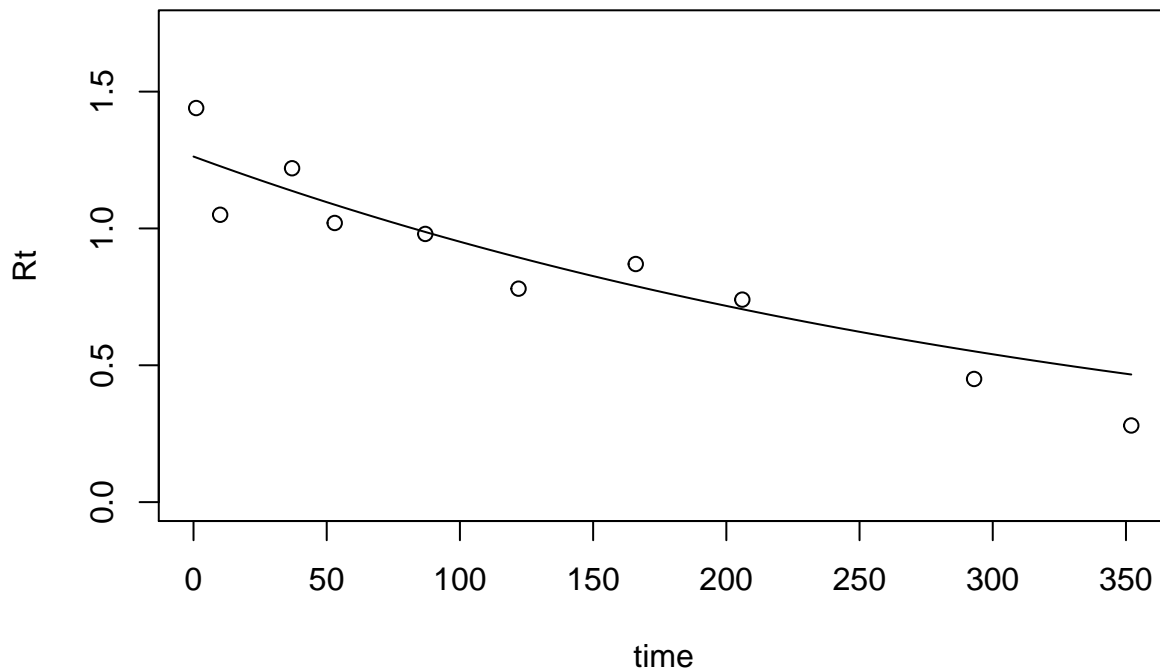
model	AIC	k1	k2	C0Inp1	a21	a12	AICc	wi	MeanTrT	q05
Two-pool parallel	4.18	0.0656	5.54e- 05	0.000968	NA	NA	5.04	0.0251	18000	12500
Two-pool feedback	8.18	0.0656	5.61e- 05	0.00755	0.871	0.0141	10.5	0.00164	15700	10000
Two-pool series	6.18	0.0656	5.54e- 05	0.00461	0.789	NA	7.66	0.00675	14300	8260

Dataset NeffHooper2002

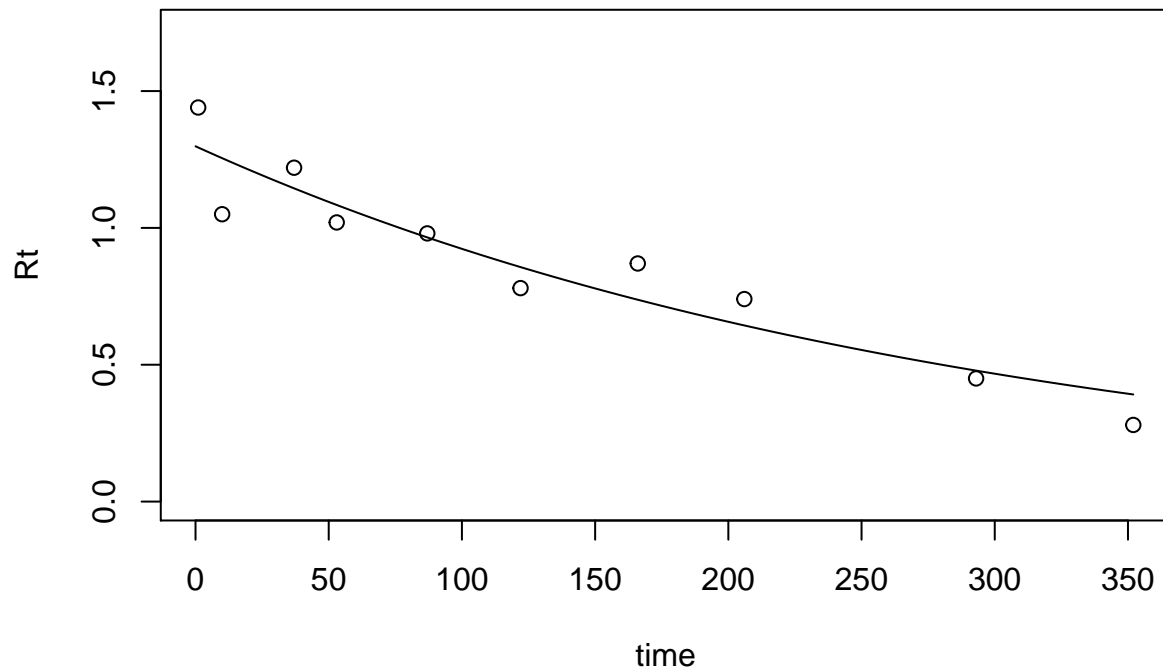
A dataset with 14 variables and 6 different soil types of Five laboratory replicates from composite field samples from each site and treatment combination were incubated at 10 and 30deg for 352 d. Air samples were taken at time 0 and at 24 h by syringe through a septum in the Mason jar lid, and injected into a sealed jar attached to the LI-COR 6200 Infrared gas analyser.

Share key between variables and initial carbon is the site and vegetation.

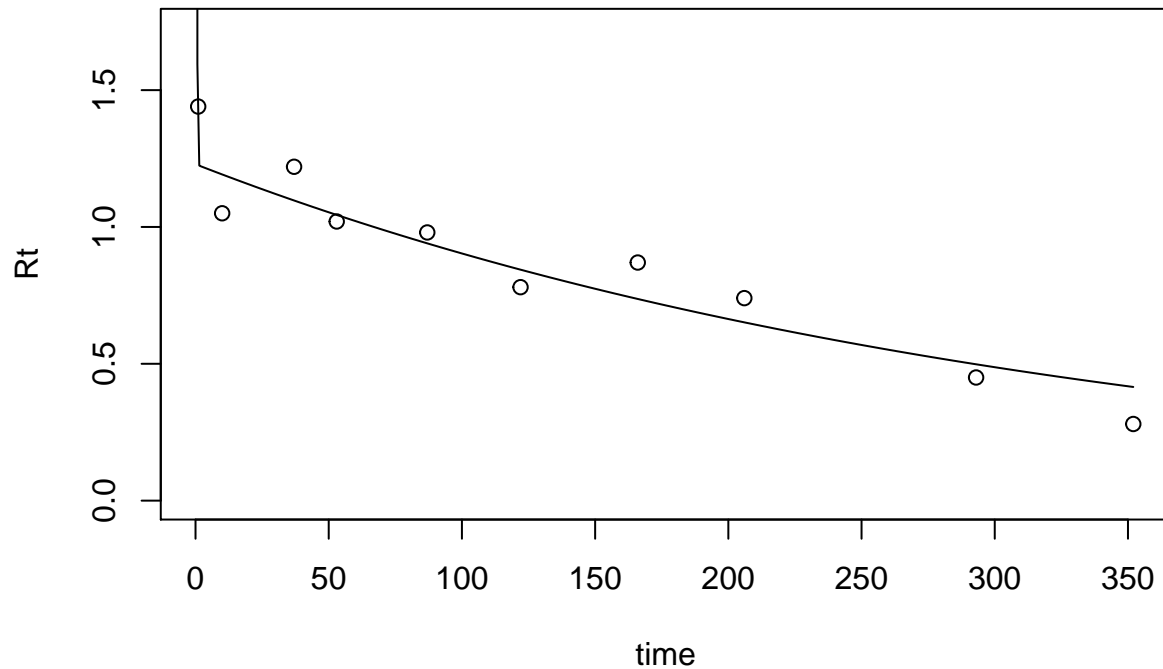
```
## [1] "Best fit parameter: 0.00282996672341093"
```



```
## [1] "AIC = 10.5195346671158"
## [1] "k1= 0.00340653176552947"
## [2] "k2= 2.12417409679818e-11"
## [3] "proportion of C0 in pool 1= 0.854155486718598"
```

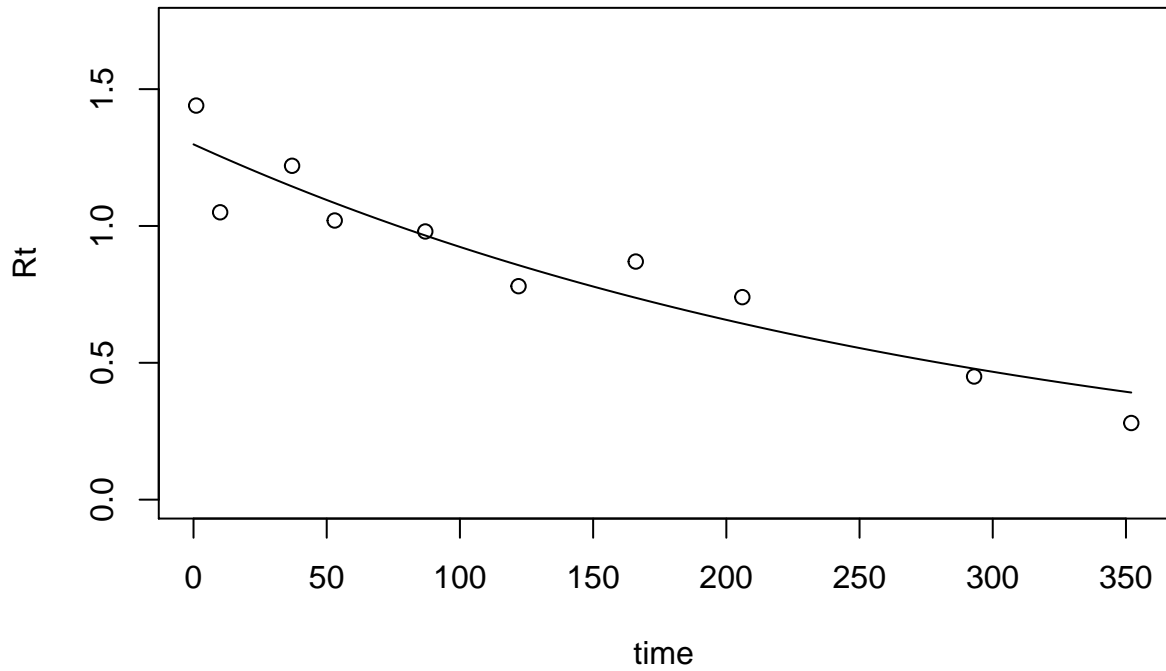


```
## [1] "AIC = 14.8583451305727"
## [1] "k1= 10.1758503686051"
## [2] "k2= 0.00308250016650107"
## [3] "a21= 0.0747774730766597"
## [4] "a12= 4.7629360160506e-05"
## [5] "Proportion of C0 in pool 1= 0.114847720907218"
```



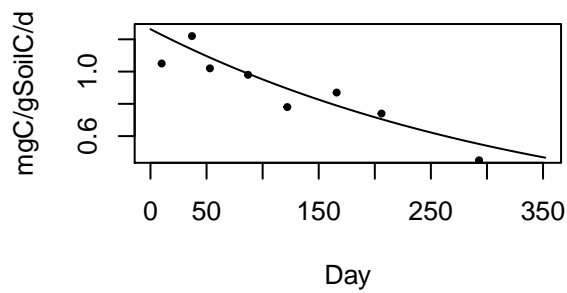
```
## [1] "AIC = 19.4707098660004"
## [1] "k1= 2.22635041796356e-11"
## [2] "k2= 0.0034065281911502"
## [3] "a21= 0.999803578982484"
```

```
## [4] "Proportion of C0 in pool 1= 0.145844178898595"
```

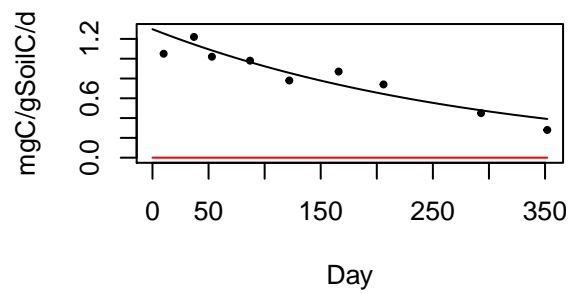


```
## [1] "AIC = 16.8583451305662"
```

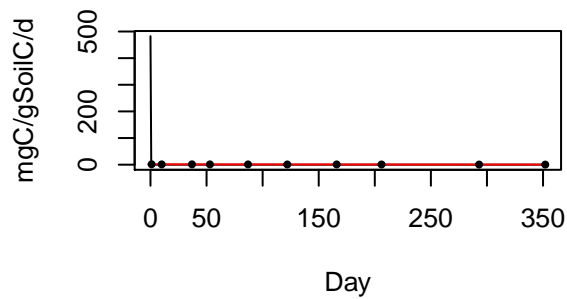
One-pool



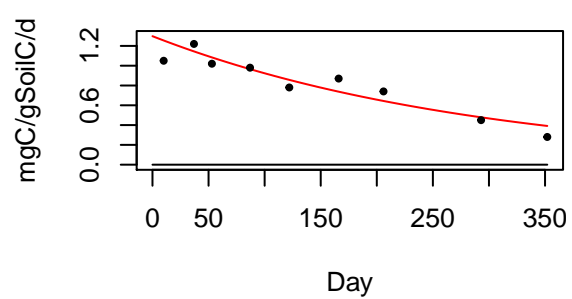
Two-pool parallel



Two-pool feedback



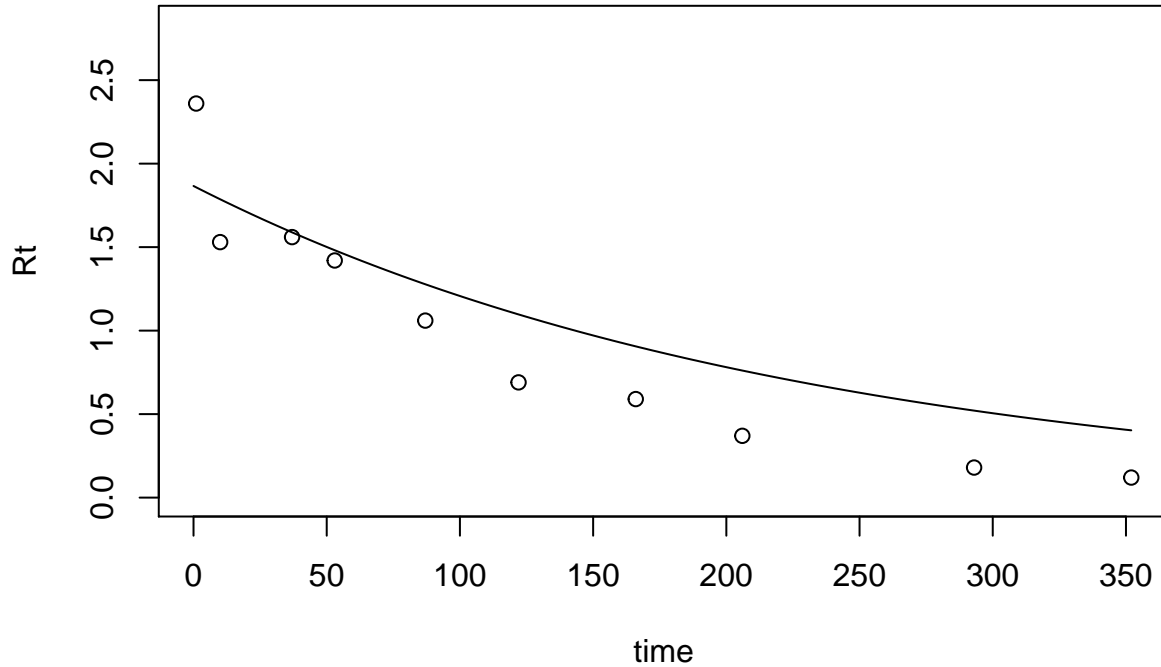
Two-pool series



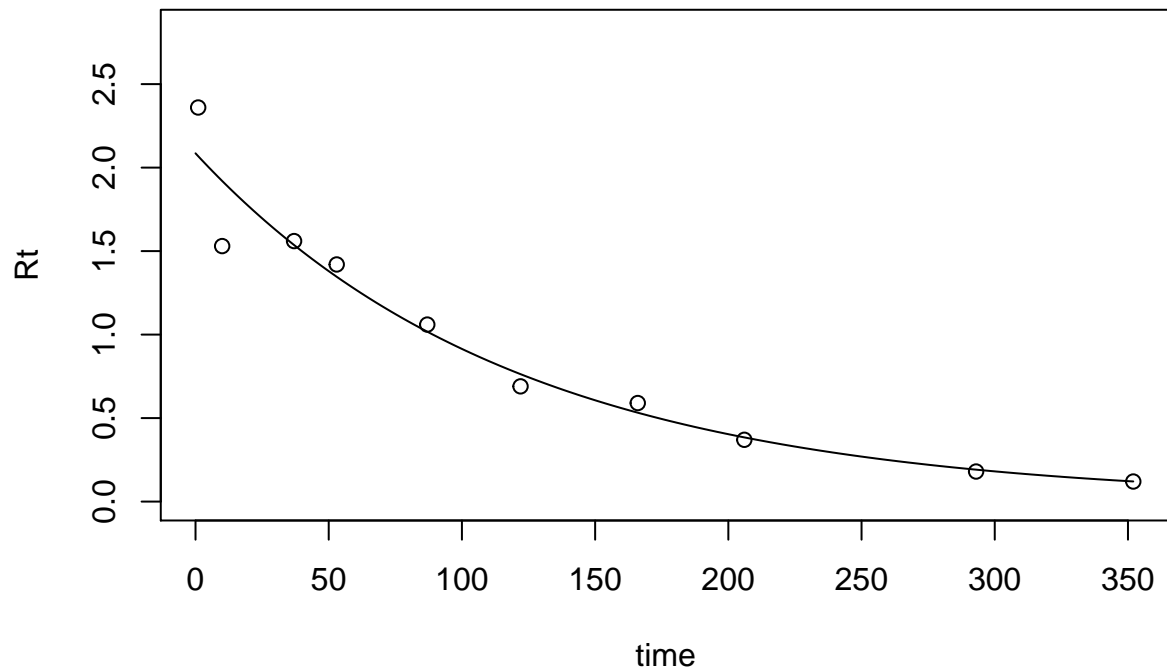
model	AIC	k1	k2	C0Inp1	a21	a12	AICc	wi	MeanTrT	q05
One-pool	10.5	0.00283	NA	NA	NA	NA	11	0.981	NA	NA

model	AIC	k1	k2	C0Inp1	a21	a12	AICc	wi	MeanTrT	q05
Two-pool parallel	14.9	0.00341	2.12e-11	0.854	NA	NA	18.9	0.0195	6.87e+09	258
Two-pool feedback	19.5	10.2	0.00308	0.115	0.0748	4.76e-05	34.5	7.93e-06	24.4	0.0764
Two-pool series	16.9	2.23e-11	0.00341	0.146	1	NA	24.9	0.000969	4.49e+10	3.11e+10

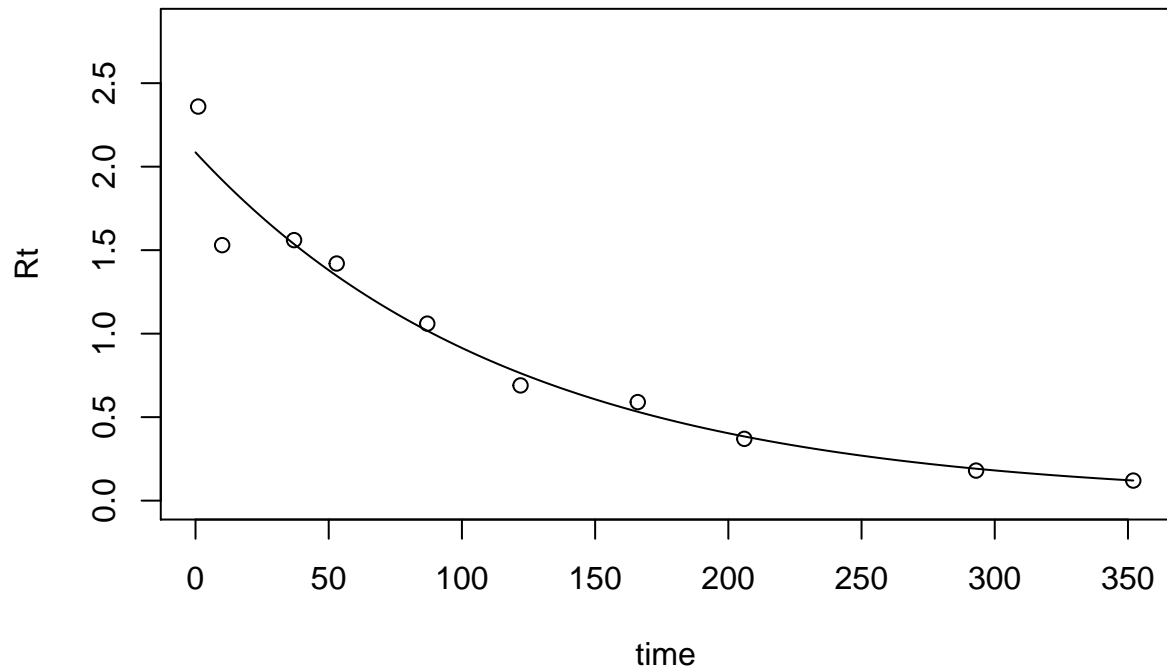
```
## [1] "Best fit parameter: 0.004355157483794"
```



```
## [1] "AIC = 6.63724618033214"
## [1] "k1= 0.00830173526897007"
## [2] "k2= 4.99037691664537e-05"
## [3] "proportion of C0 in pool 1= 0.583782588382955"
```

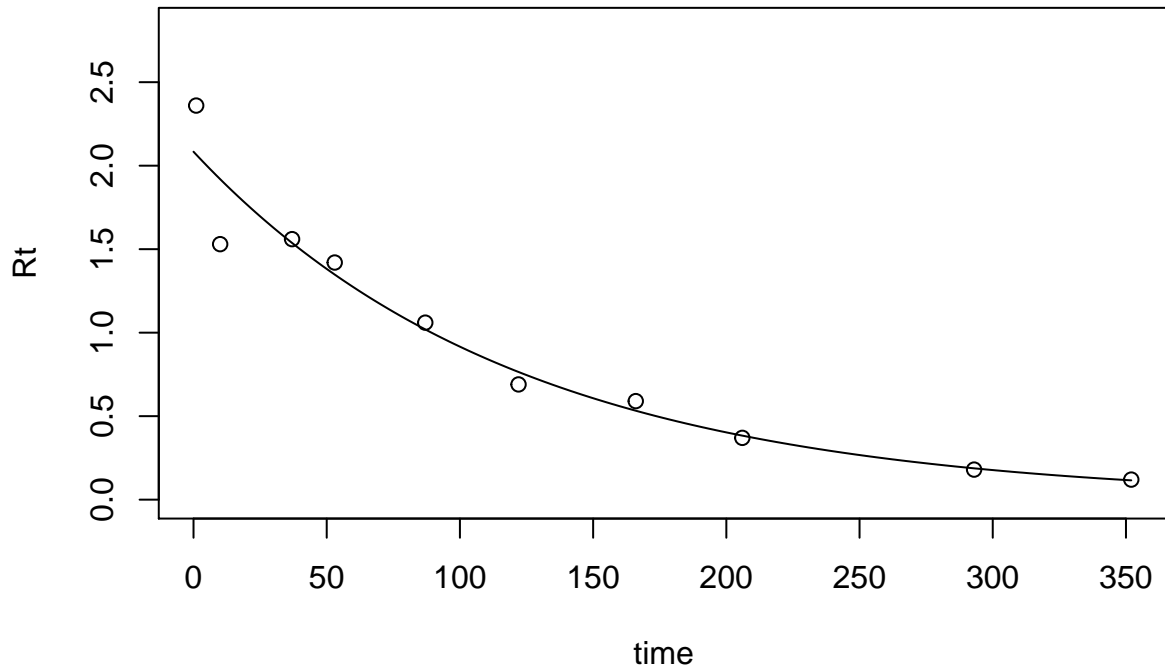



```
## [1] "AIC = 13.3457635119217"
## [1] "k1= 0.00830175811548877"
## [2] "k2= 4.9916686653531e-05"
## [3] "a21= 0.00247070955668083"
## [4] "a12= 4.32346726142452e-07"
## [5] "Proportion of C0 in pool 1= 0.585234849267625"
```



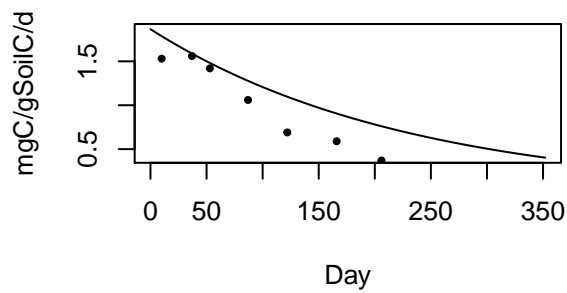
```
## [1] "AIC = 17.3457635118556"
## [1] "k1= 2.49602030625869e-17"
## [2] "k2= 0.00821765658246511"
## [3] "a21= 3.06415202191435e-05"
```

```
## [4] "Proportion of C0 in pool 1= 0.408264465292647"
```

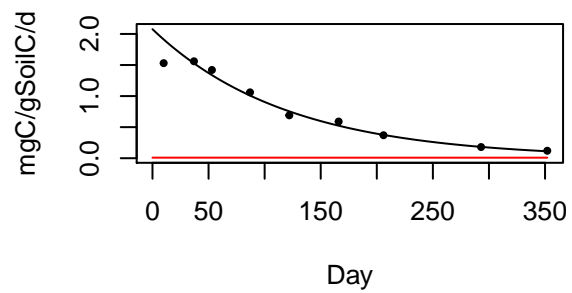


```
## [1] "AIC = 15.345364693477"
```

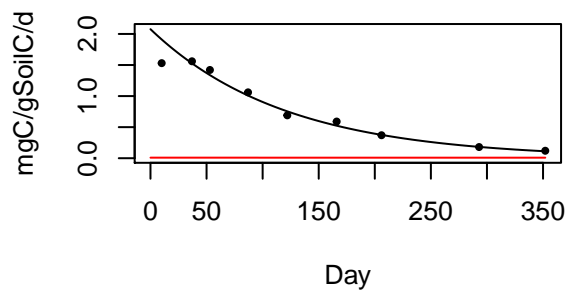
One-pool



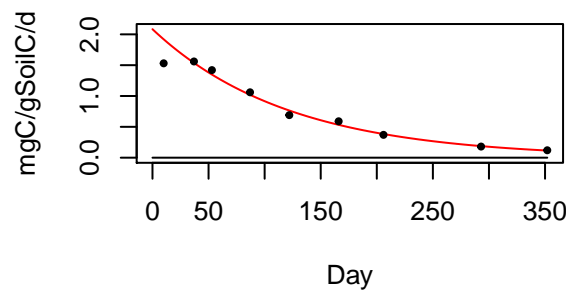
Two-pool parallel



Two-pool feedback



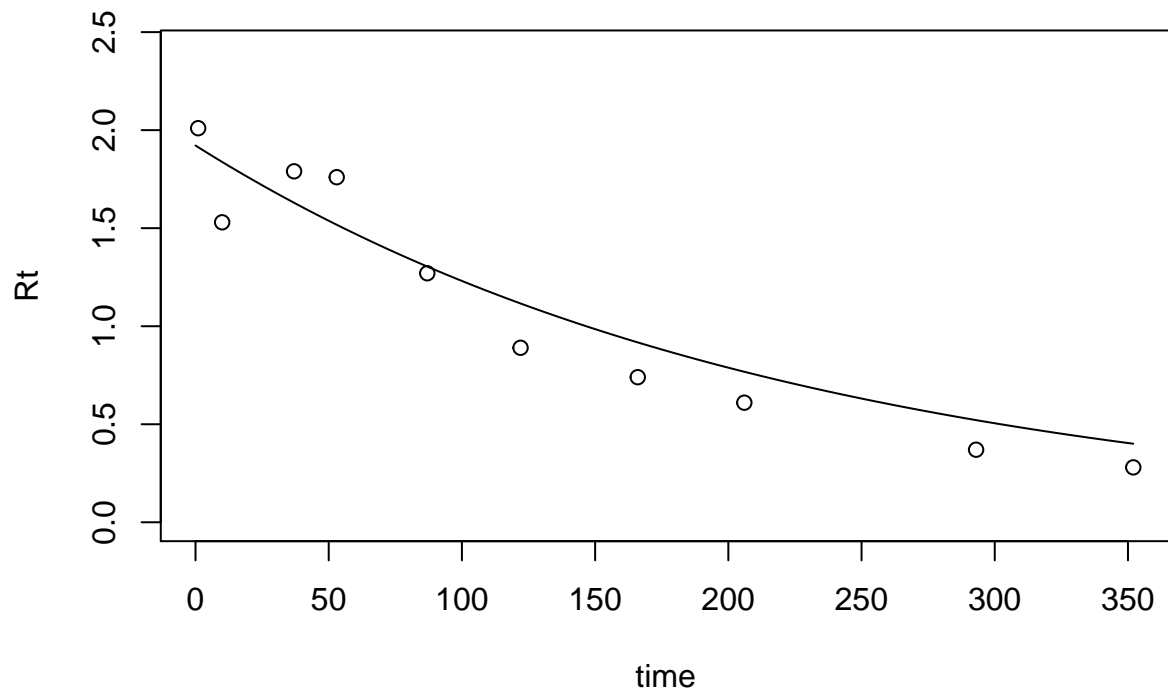
Two-pool series



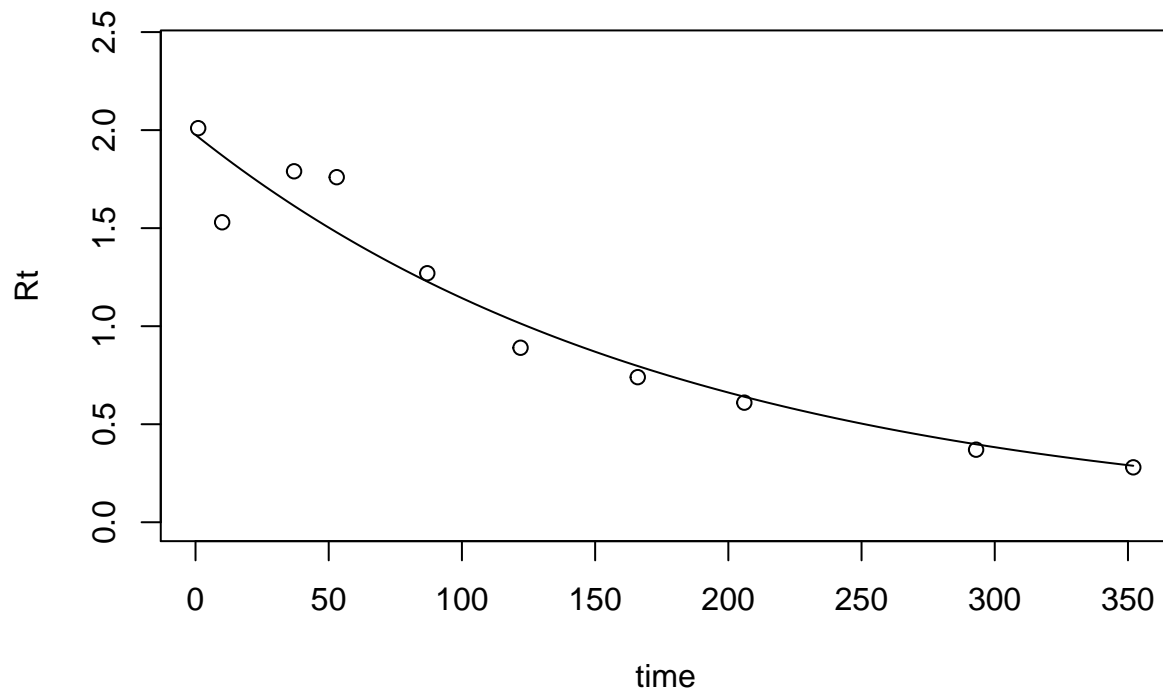
model	AIC	k1	k2	C0Inp1	a21	a12	AICc	wi	MeanTrT	q05
One-pool	6.64	0.00436	NA	NA	NA	NA	7.14	0.994	NA	NA

model	AIC	k1	k2	C0Inp1	a21	a12	AICc	wi	MeanTrT	q05
Two-pool parallel	13.3	0.0083	4.99e-05	0.584	NA	NA	17.3	0.00603	8410	227
Two-pool feedback	17.3	0.0083	4.99e-05	0.585	0.00247	4.32e-07	32.3	3.34e-06	170	83.8
Two-pool series	15.3	2.5e-17	0.00822	0.408	3.06e-05	NA	23.3	3e-04	4.01e+16	2.75e+16

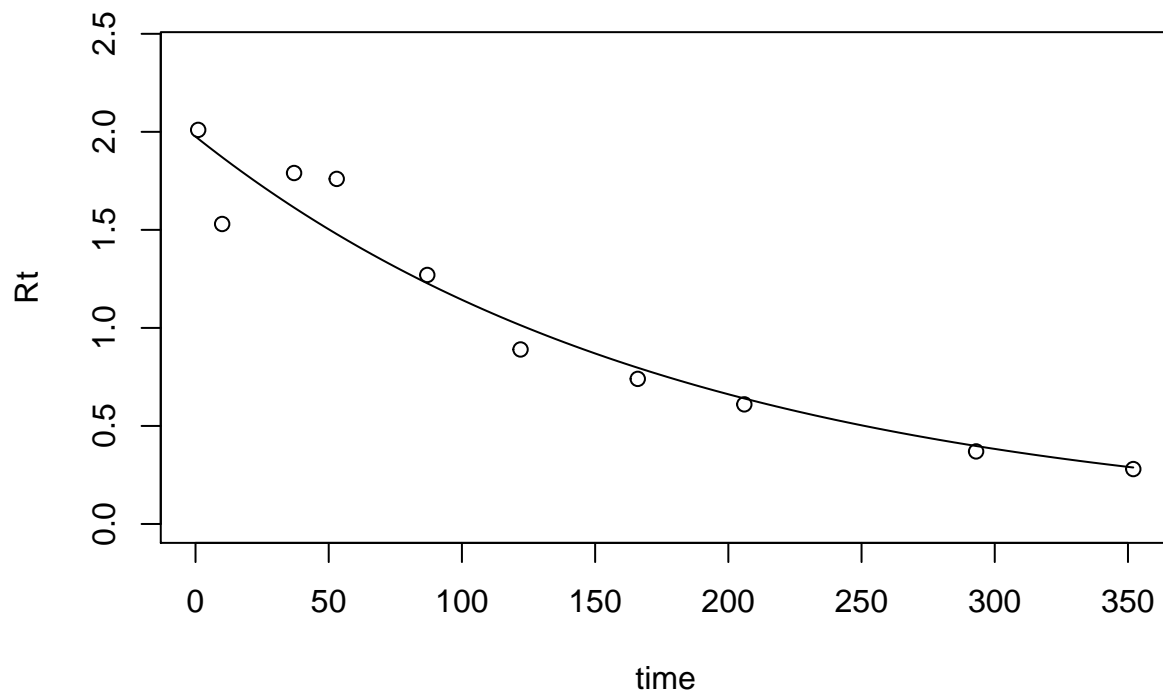
```
## [1] "Best fit parameter: 0.00445430274854594"
```



```
## [1] "AIC = 8.79477988222916"
## [1] "k1= 0.00547121721686497"
## [2] "k2= 2.99964731892586e-12"
## [3] "proportion of C0 in pool 1= 0.837160375956941"
```

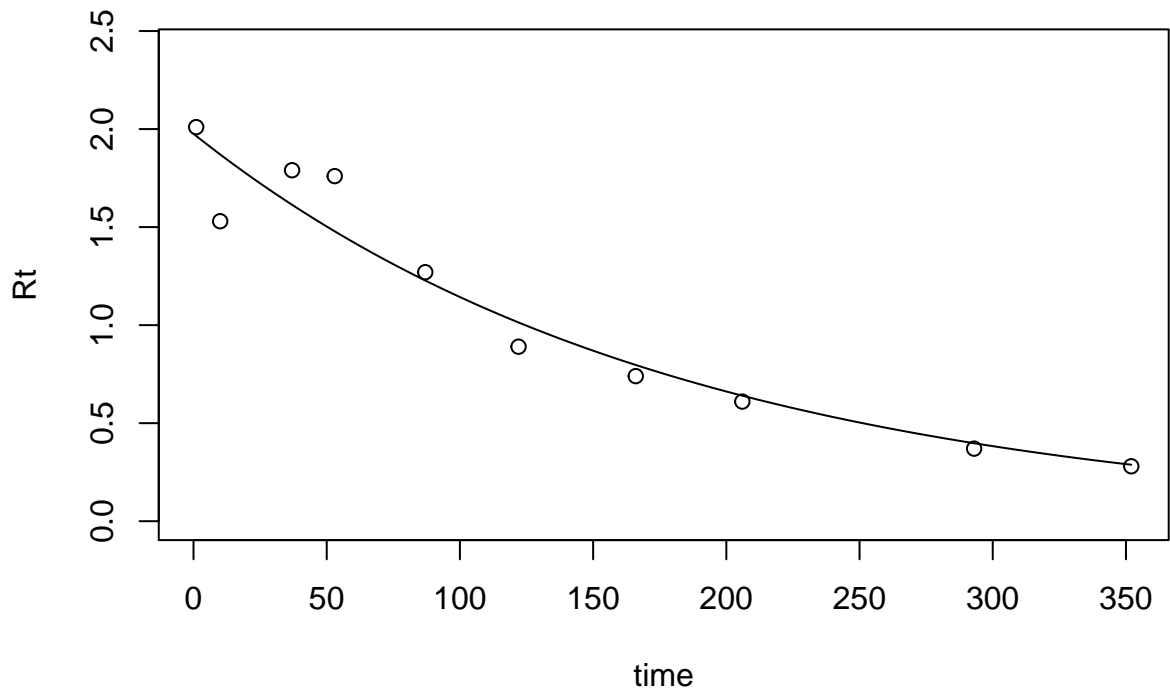


```
## [1] "AIC = 13.3744887703382"
## [1] "k1= 0.00547123908744833"
## [2] "k2= 6.71237694980315e-08"
## [3] "a21= 0.00260635535003906"
## [4] "a12= 0.999995094349074"
## [5] "Proportion of C0 in pool 1= 0.839342711540865"
```



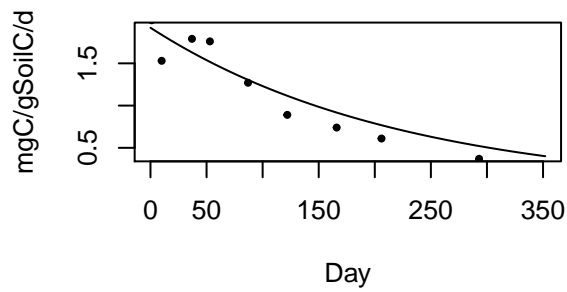
```
## [1] "AIC = 17.3744856025086"
## [1] "k1= 0.00547122766810634"
## [2] "k2= 3.04100819699516e-08"
```

```
## [3] "a21= 0.00220594194239454"
## [4] "Proportion of C0 in pool 1= 0.83900827438533"
```

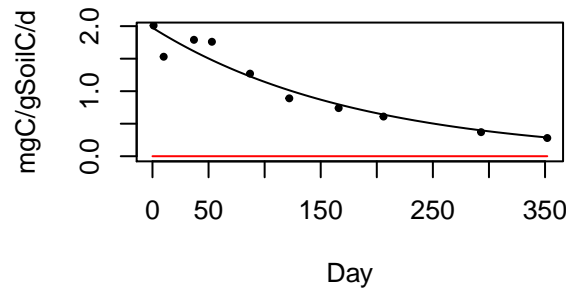


```
## [1] "AIC = 15.3744873318281"
```

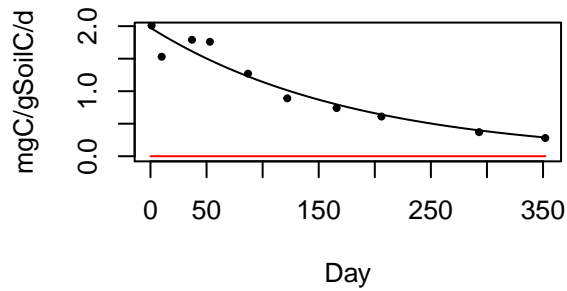
One-pool



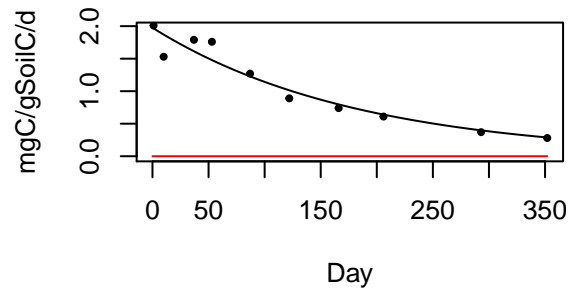
Two-pool parallel



Two-pool feedback

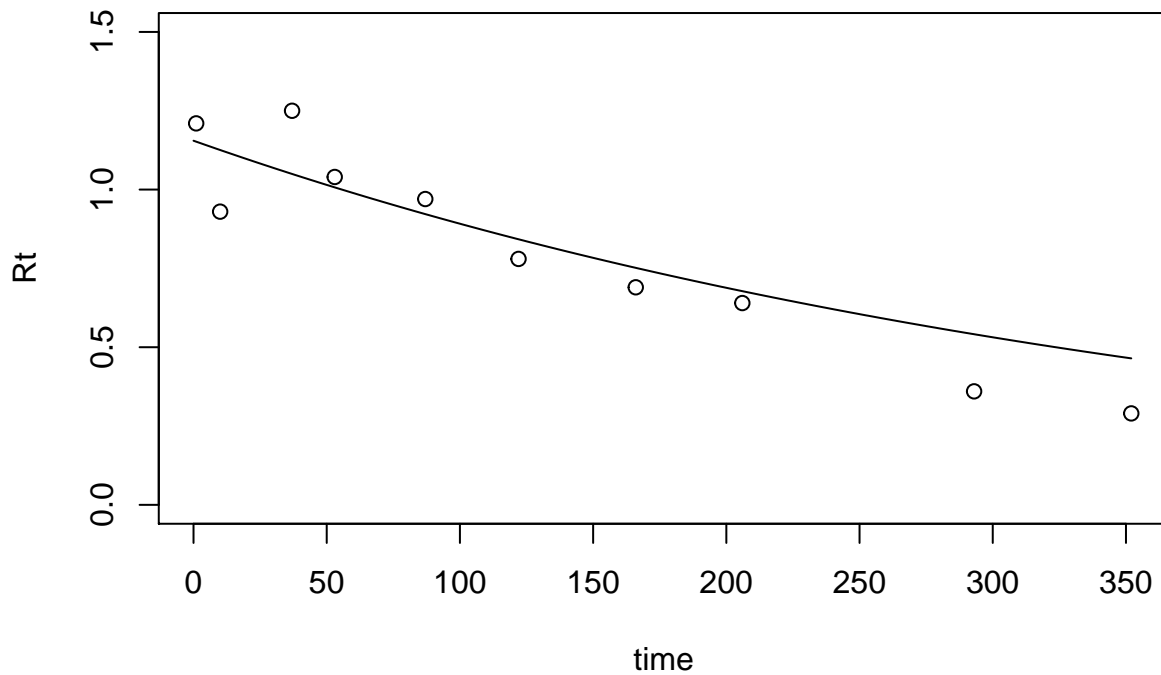


Two-pool series

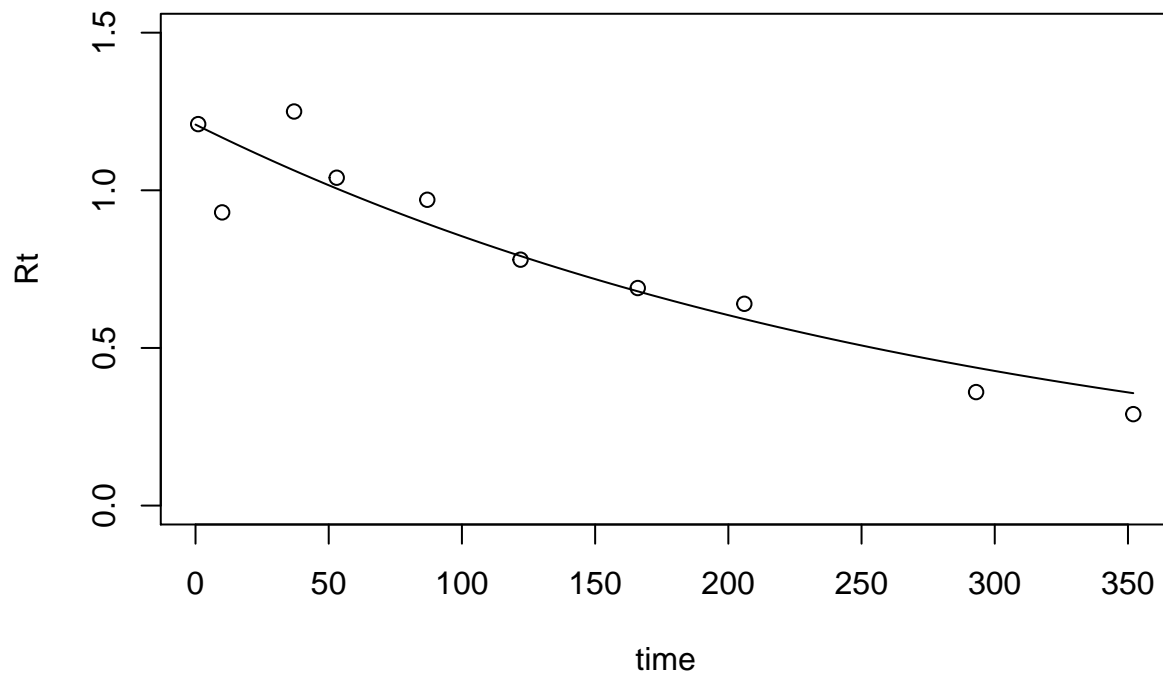


model	AIC	k1	k2	C0Inp1	a21	a12	AICc	wi	MeanTrT	q05
One-pool	8.79	0.00445	NA	NA	NA	NA	9.29	0.983	NA	NA
Two-pool parallel	13.4	0.00547	3e-12	0.837	NA	NA	17.4	0.0173	5.43e+10	166
Two-pool feedback	17.4	0.00547	6.71e-08	0.839	0.00261	1	32.4	9.57e-06	39100	127
Two-pool series	15.4	0.00547	3.04e-08	0.839	0.00221	NA	23.4	0.000861	72700	127

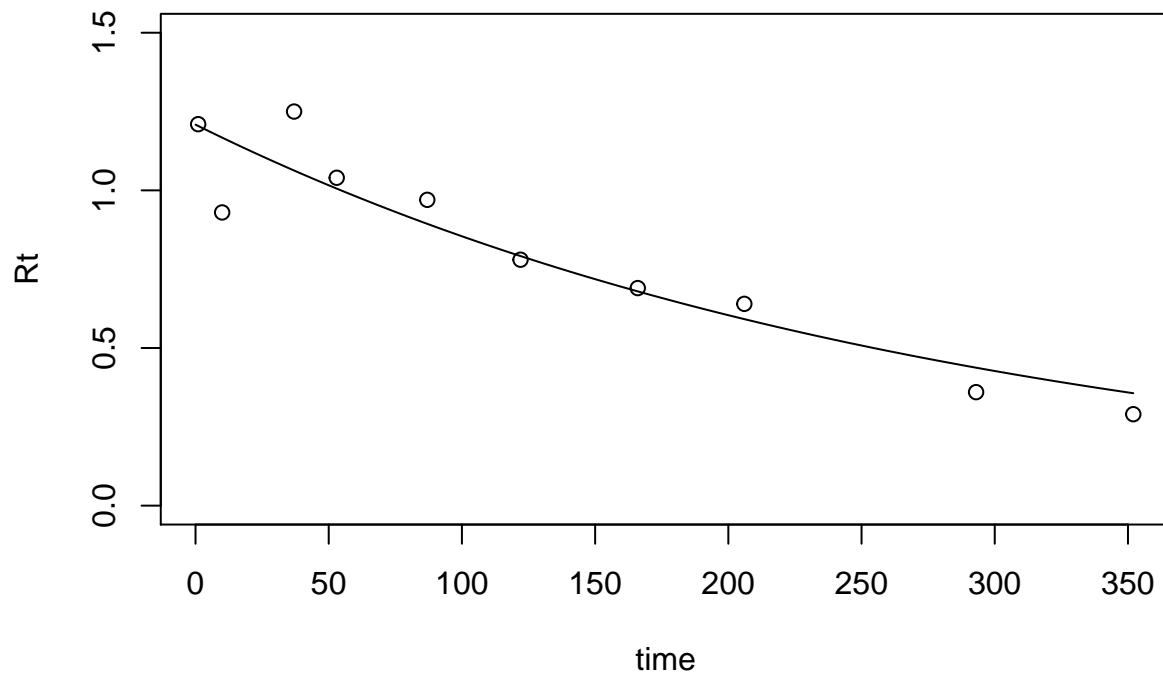
```
## [1] "Best fit parameter: 0.00258738137733153"
```



```
## [1] "AIC = 10.3010664419094"
## [1] "k1= 0.00346767981356344"
## [2] "k2= 9.03921679400822e-11"
## [3] "proportion of C0 in pool 1= 0.780720884903023"
```

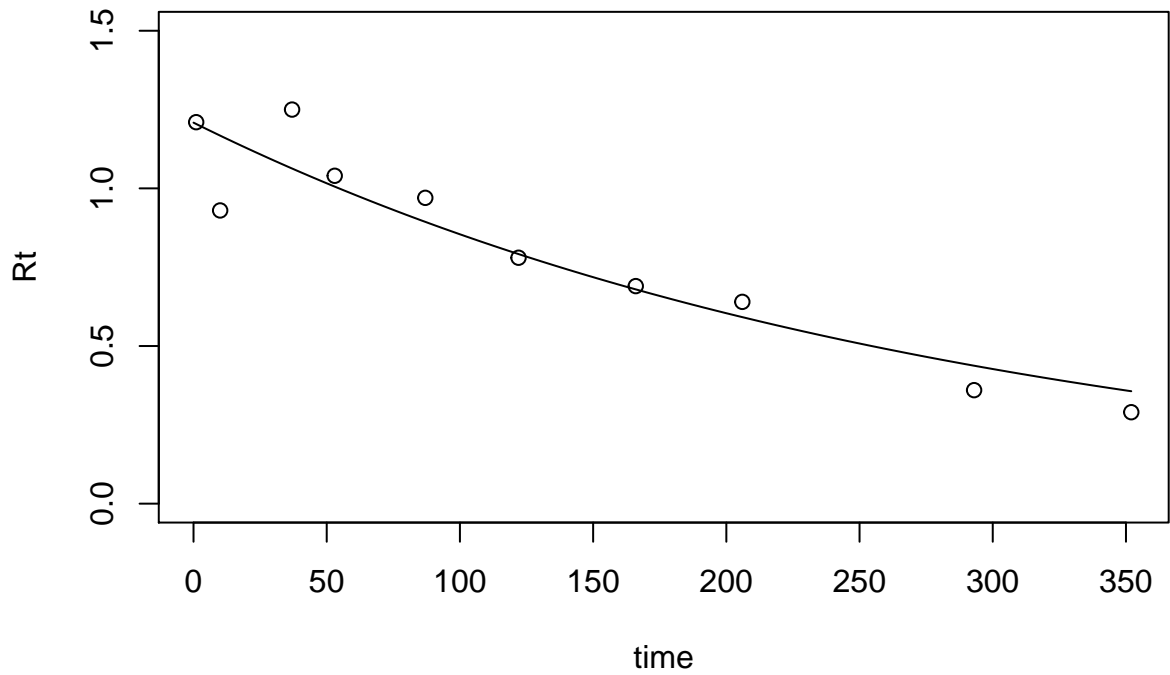


```
## [1] "AIC = 14.9953914761822"
## [1] "k1= 0.00346768701019248"
## [2] "k2= 1.62073123139726e-08"
## [3] "a21= 0.00353395724096645"
## [4] "a12= 8.79416502619357e-07"
## [5] "Proportion of C0 in pool 1= 0.783485130940606"
```



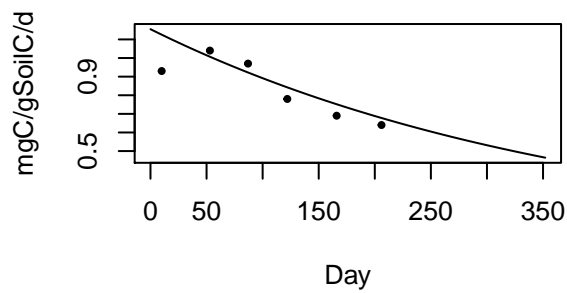
```
## [1] "AIC = 18.9953897133457"
## [1] "k1= 0.00346768027128274"
## [2] "k2= 9.05418161308681e-10"
## [3] "a21= 0.00079392010033108"
```

```
## [4] "Proportion of C0 in pool 1= 0.781340203361968"
```

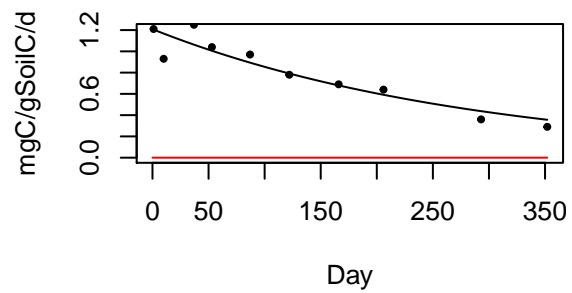


```
## [1] "AIC = 16.9953913869235"
```

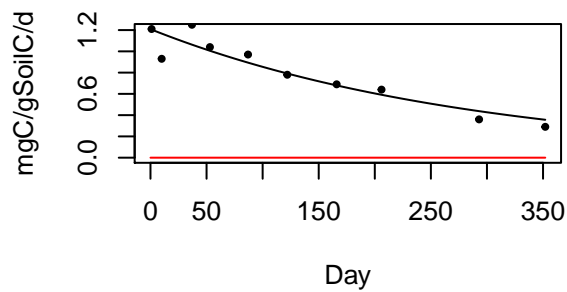
One-pool



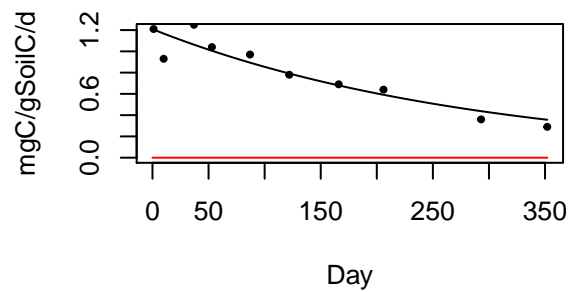
Two-pool parallel



Two-pool feedback



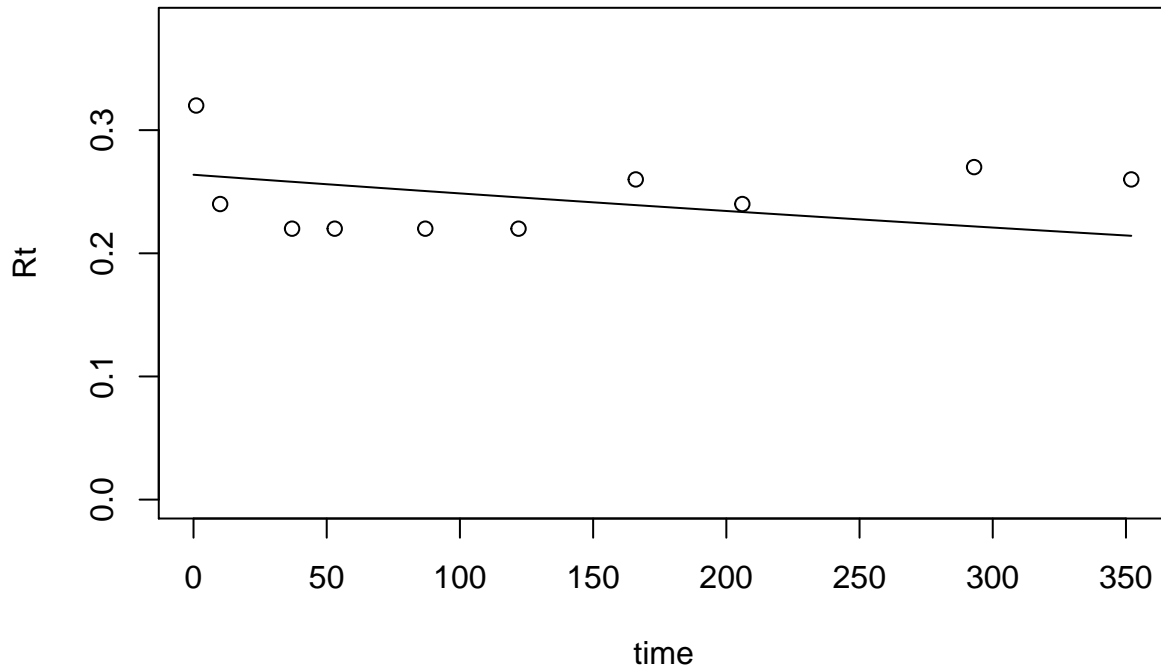
Two-pool series



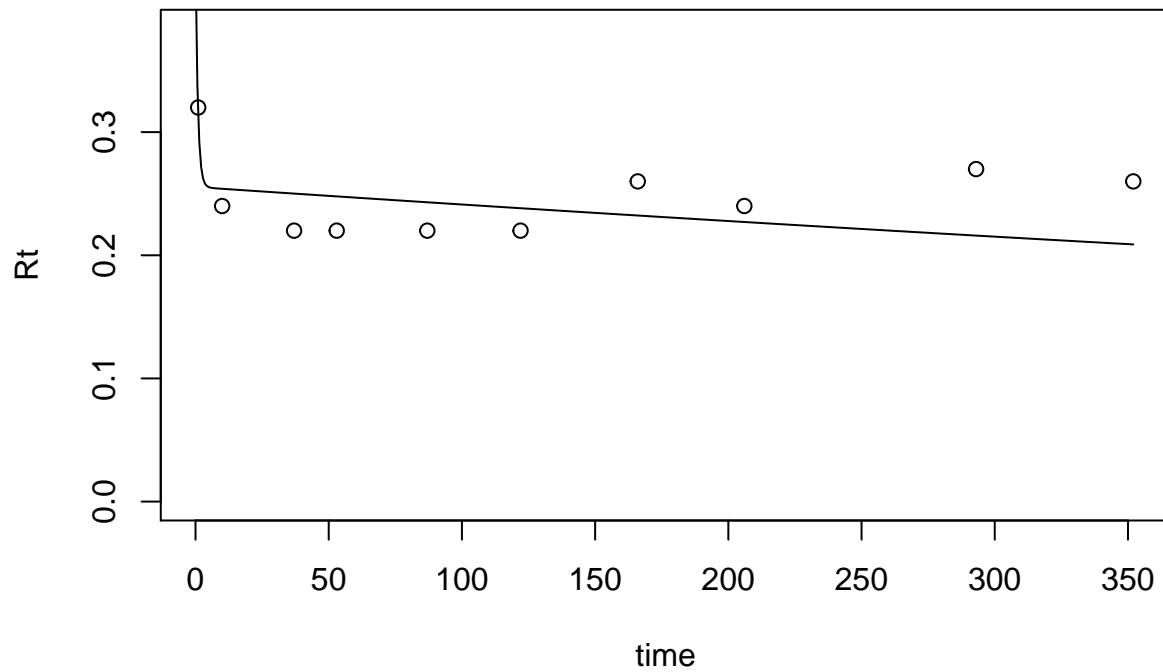
model	AIC	k1	k2	C0Inp1	a21	a12	AICc	wi	MeanTrT	q05
One-pool	10.3	0.00259	NA	NA	NA	NA	10.8	0.984	NA	NA

model	AIC	k1	k2	C0Inp1	a21	a12	AICc	wi	MeanTrT	q05
Two-pool parallel	15	0.00347	9.04e-11	0.781	NA	NA	19	0.0163	2.43e+09	295
Two-pool feedback	19	0.00347	1.62e-08	0.783	0.00353	8.79e-07	34	9.04e-06	218000	201
Two-pool series	17	0.00347	9.05e-10	0.781	0.000794	NA	25	0.000814	877000	200

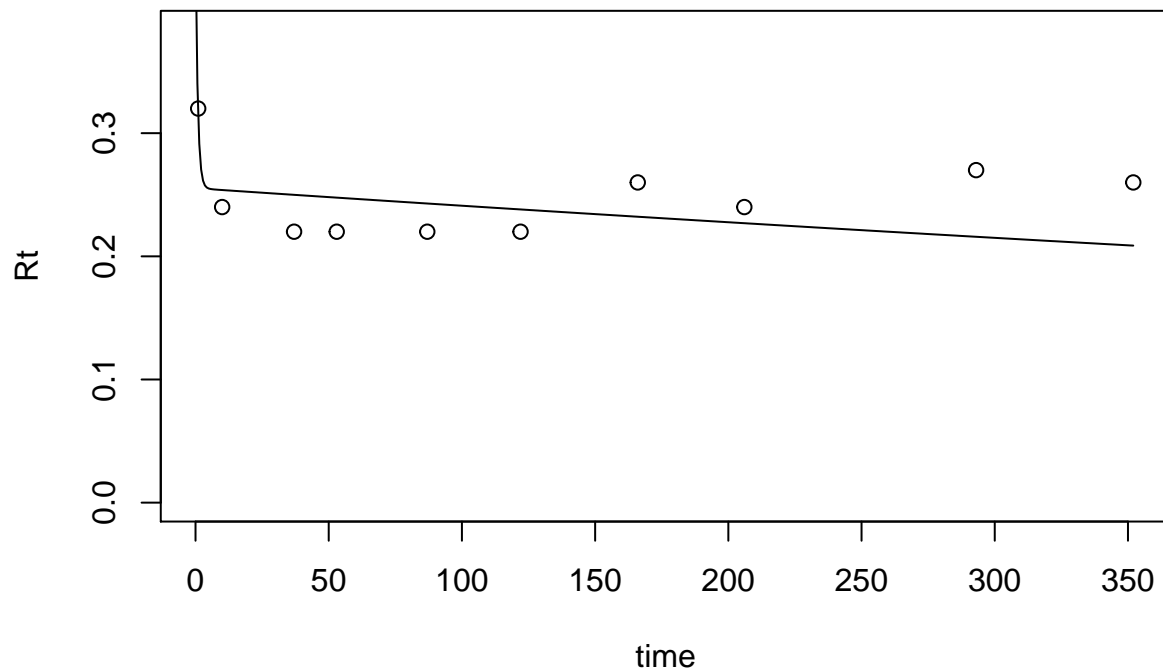
```
## [1] "Best fit parameter: 0.000591168548127135"
```



```
## [1] "AIC = 15.3115219632723"
## [1] "k1= 1.14083597253487"
## [2] "k2= 0.000572717257602006"
## [3] "proportion of C0 in pool 1= 0.000363271940456433"
```

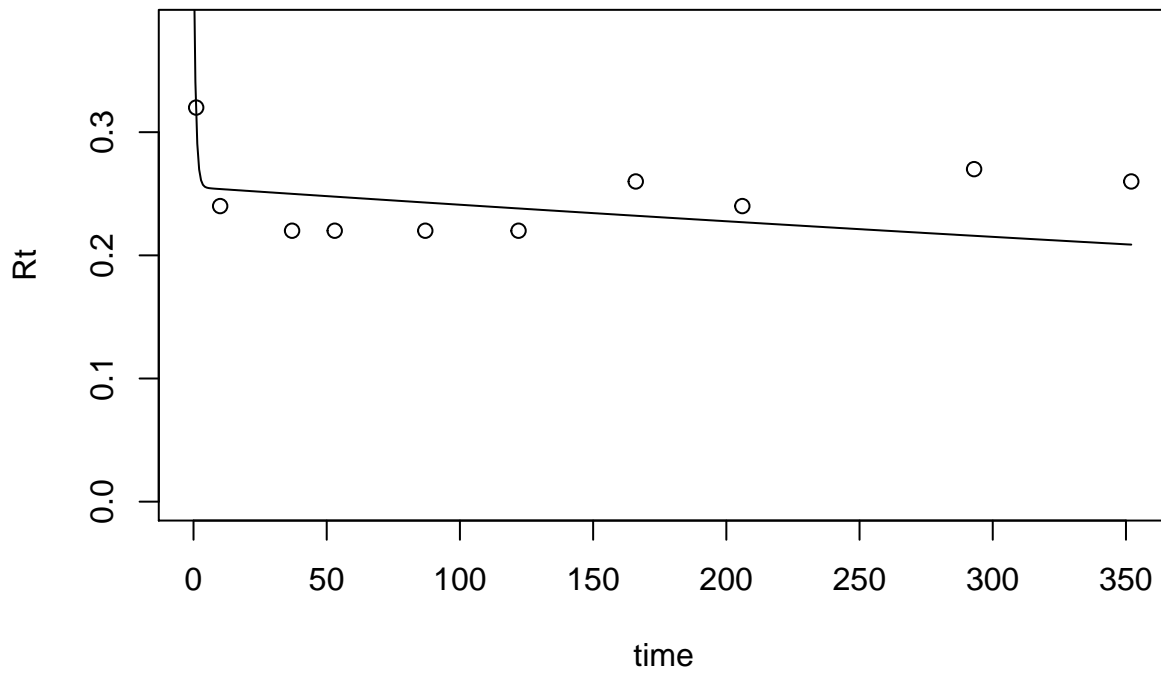


```
## [1] "AIC = 19.9795444575054"
## [1] "k1= 1.2105897201563"
## [2] "k2= 0.000572367356538982"
## [3] "a21= 0.877439258186424"
## [4] "a12= 7.45008696290128e-07"
## [5] "Proportion of C0 in pool 1= 0.00303587046867854"
```

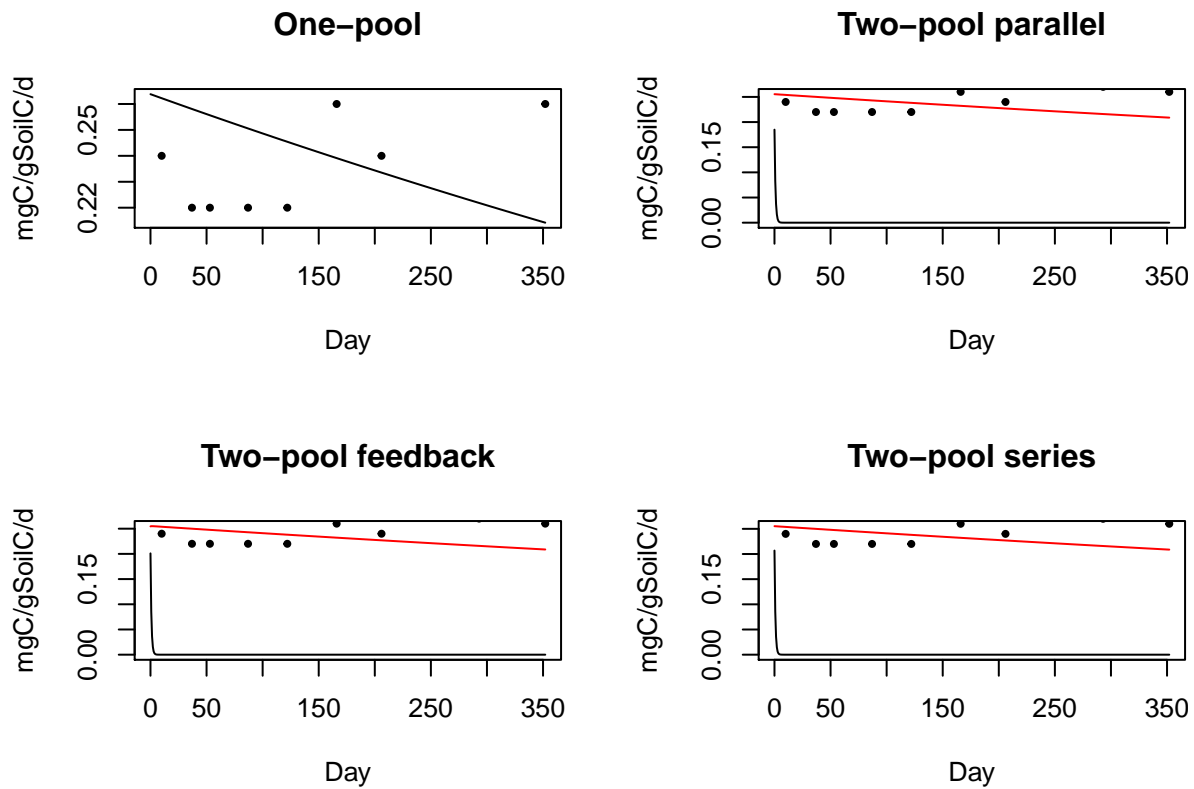


```
## [1] "AIC = 23.9798313224768"
## [1] "k1= 1.24734024423992"
## [2] "k2= 0.000572366911968759"
## [3] "a21= 0.00124841300491574"
```

```
## [4] "Proportion of C0 in pool 1= 0.000372037531211511"
```



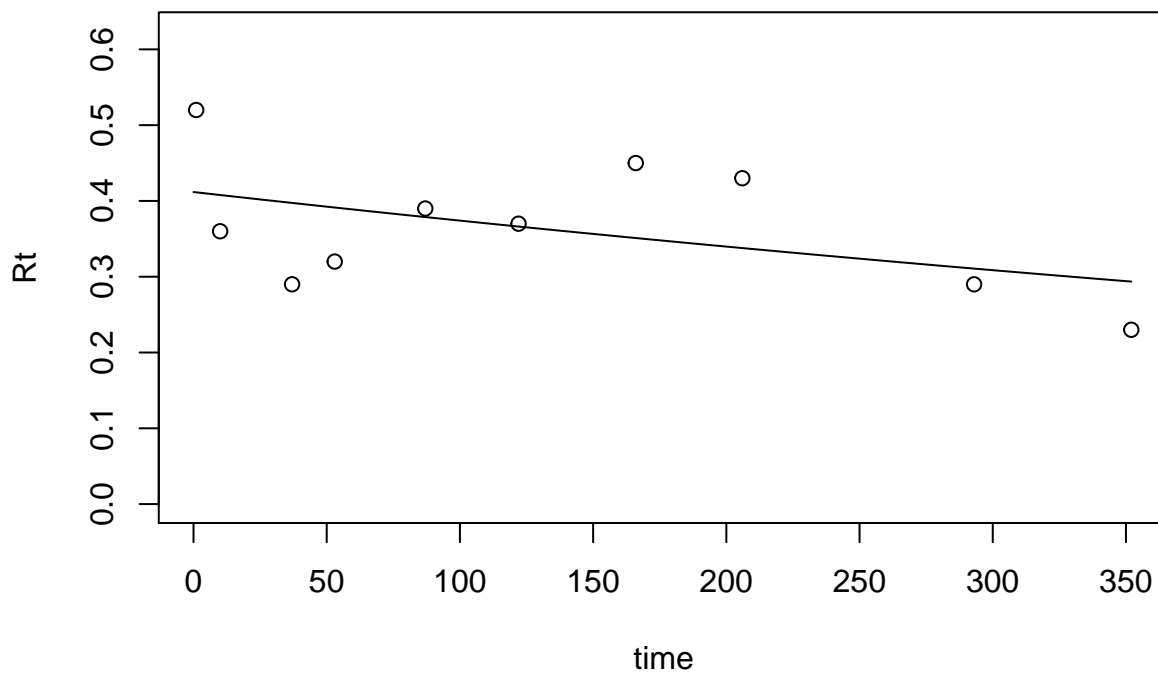
```
## [1] "AIC = 21.9798319821579"
```



model	AIC	k1	k2	C0Inp1	a21	a12	AICc	wi	MeanTrT	q05
One-pool	15.3	0.000591	NA	NA	NA	NA	15.8	0.983	NA	NA
Two-pool parallel	20	1.14	0.000573	0.000363	NA	NA	24	0.0166	1750	1210

model	AIC	k1	k2	C0Inp1	a21	a12	AICc	wi	MeanTrT	q05
Two-pool feedback	24	1.21	0.000572	0.00304	0.877	7.45e-07	39	9.16e-06	1530	983
Two-pool series	22	1.25	0.000572	0.000372	0.00125	NA	30	0.000824	2.98	0.557

[1] "Best fit parameter: 0.000960951756598485"

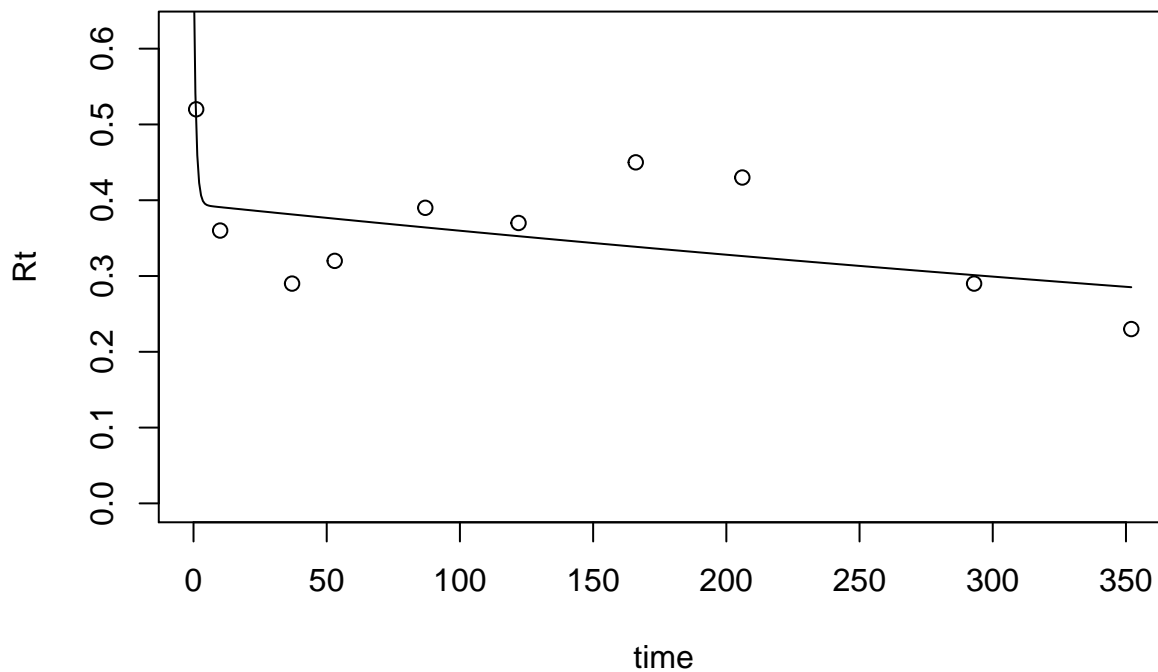


[1] "AIC = 12.4572569753562"

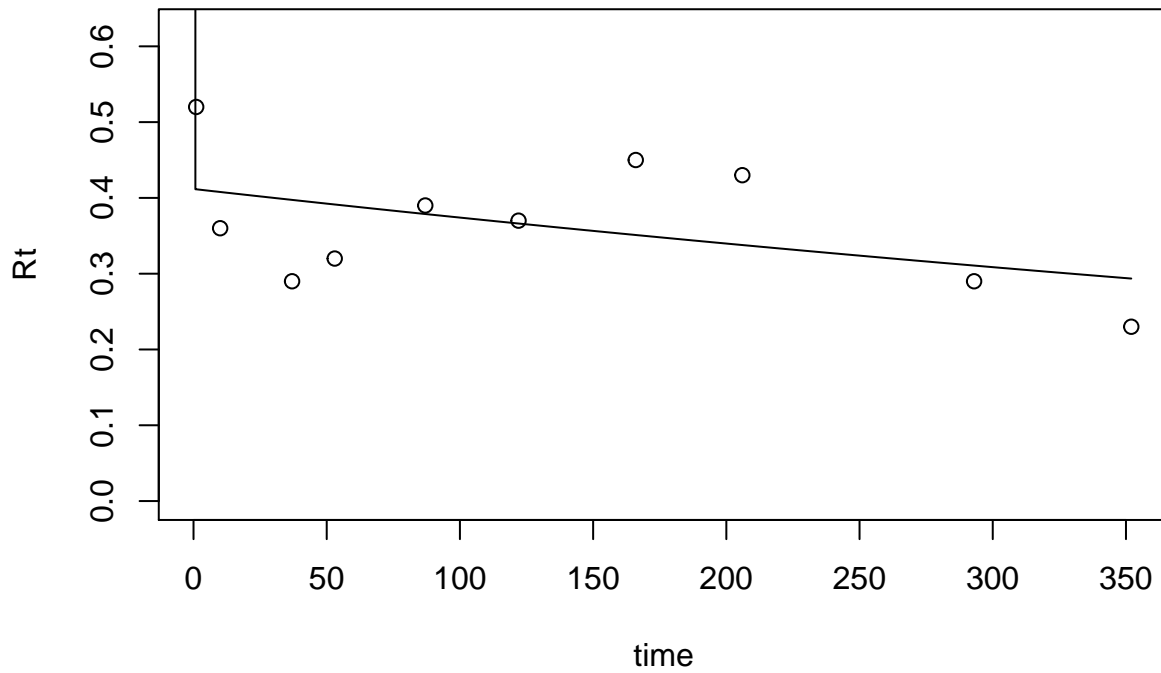
[1] "k1= 1.14802813127432"

[2] "k2= 0.000921256983458107"

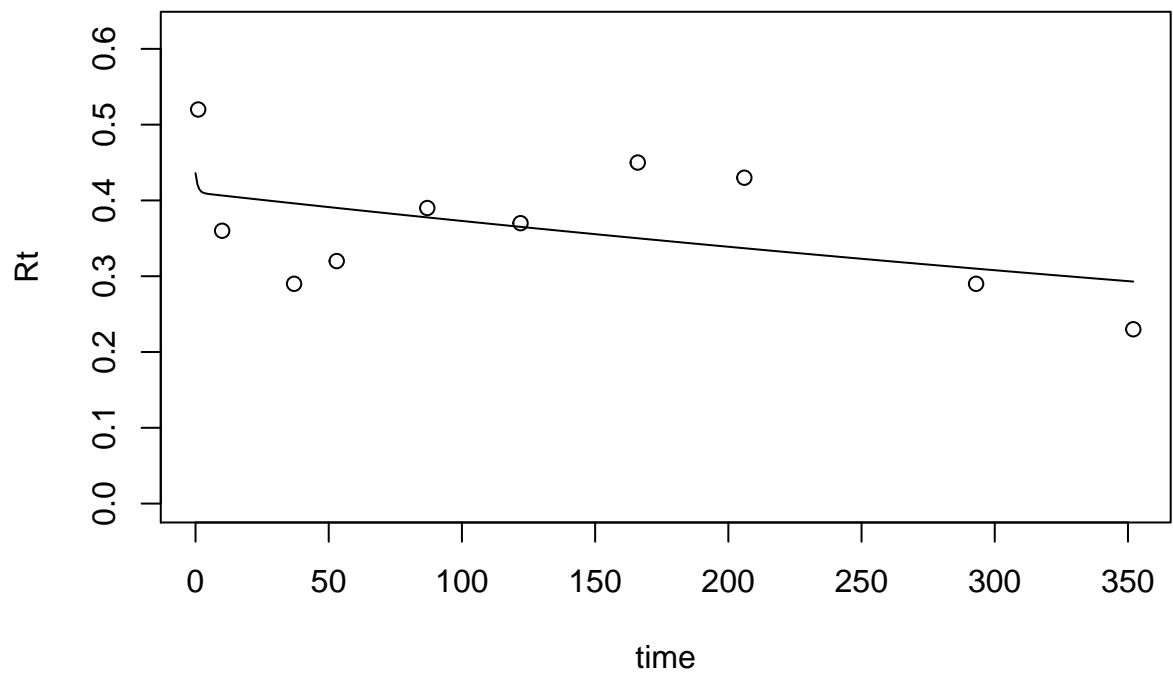
[3] "proportion of C0 in pool 1= 0.00067197807944791"



```
## [1] "AIC = 17.0490877199661"
## [1] "k1= 0.000961038237895776"
## [2] "k2= 26626191.0420078"
## [3] "a21= 0.000996591160047966"
## [4] "a12= 3.06184201459558e-06"
## [5] "Proportion of C0 in pool 1= 0.999918299455842"
```

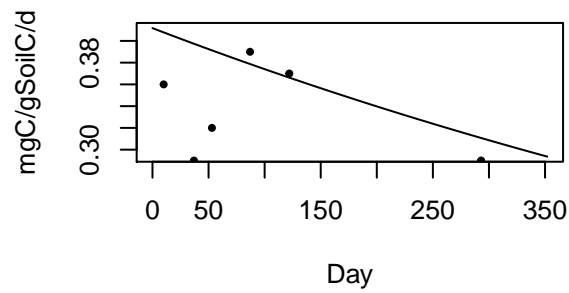


```
## [1] "AIC = 20.4572507928313"
## [1] "k1= 0.000957864143553069"
## [2] "k2= 1.16066749291434"
## [3] "a21= 0.000897612900093048"
## [4] "Proportion of C0 in pool 1= 0.999947697265749"
```

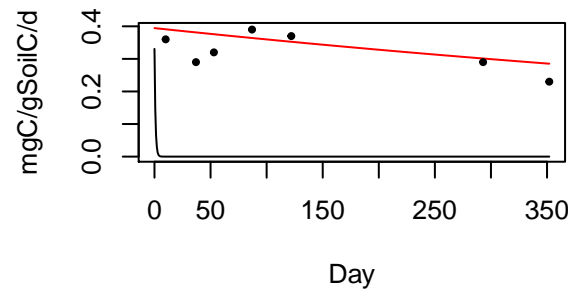


```
## [1] "AIC = 18.5263215591714"
```

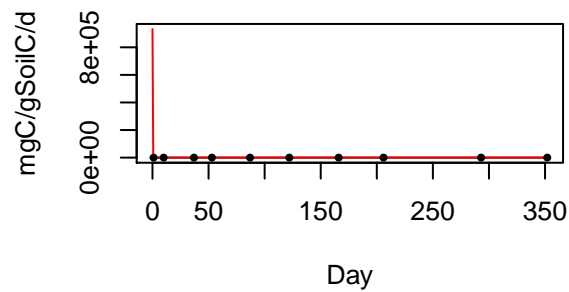
One-pool



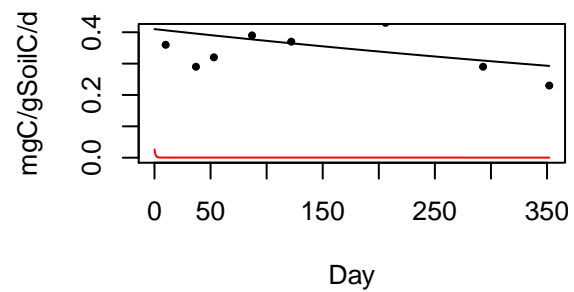
Two-pool parallel



Two-pool feedback



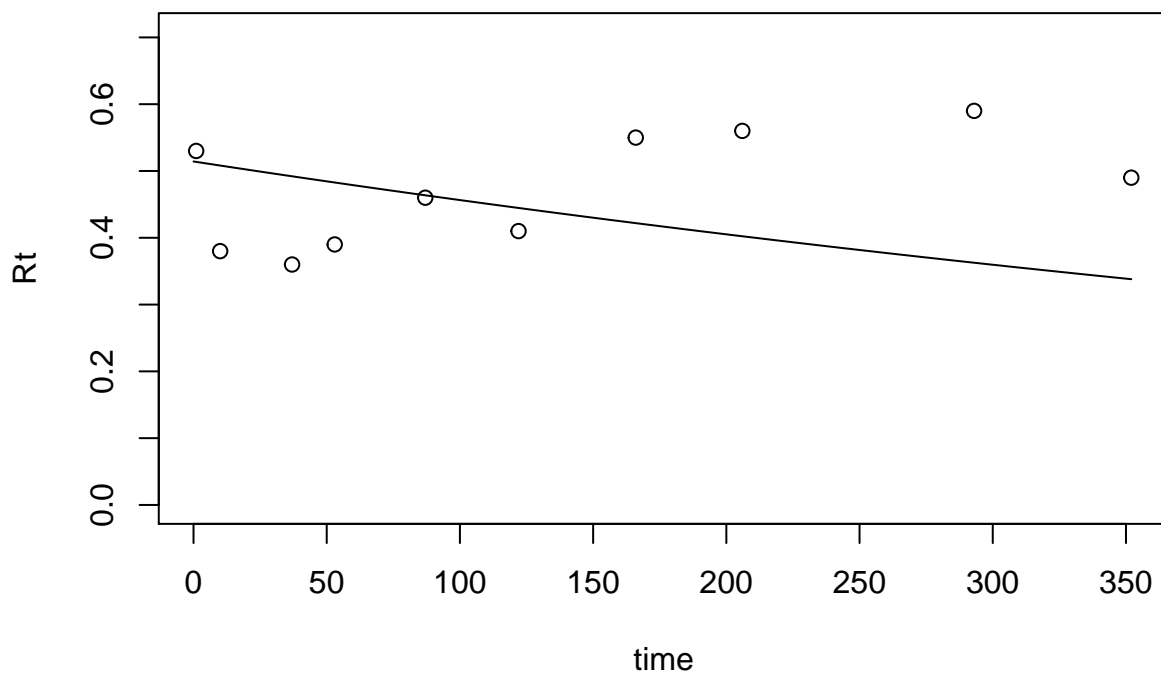
Two-pool series



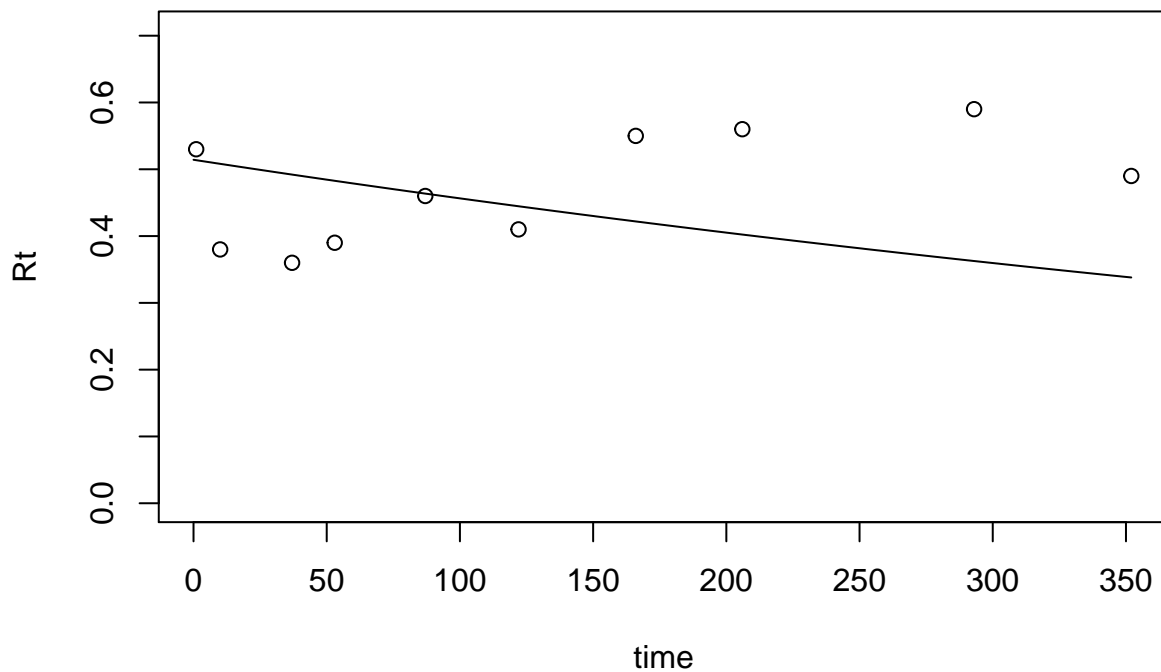
model	AIC	k1	k2	C0Inp1	a21	a12	AICc	wi	MeanTrT	q05
One-pool	12.5	0.000961	NA	NA	NA	NA	13	0.983	NA	NA
Two-pool parallel	17	1.15	0.000921	0.000672	NA	NA	21	0.0172	1080	752

model	AIC	k1	k2	C0Inp1	a21	a12	AICc	wi	MeanTrT	q05
Two-pool feedback	20.5	0.000961	26600000	1	0.000997	3.06e-06	35.5	1.28e-05	1040	721
Two-pool series	18.5	0.000958	1.16	1	0.000898	NA	26.5	0.00111	1040	724

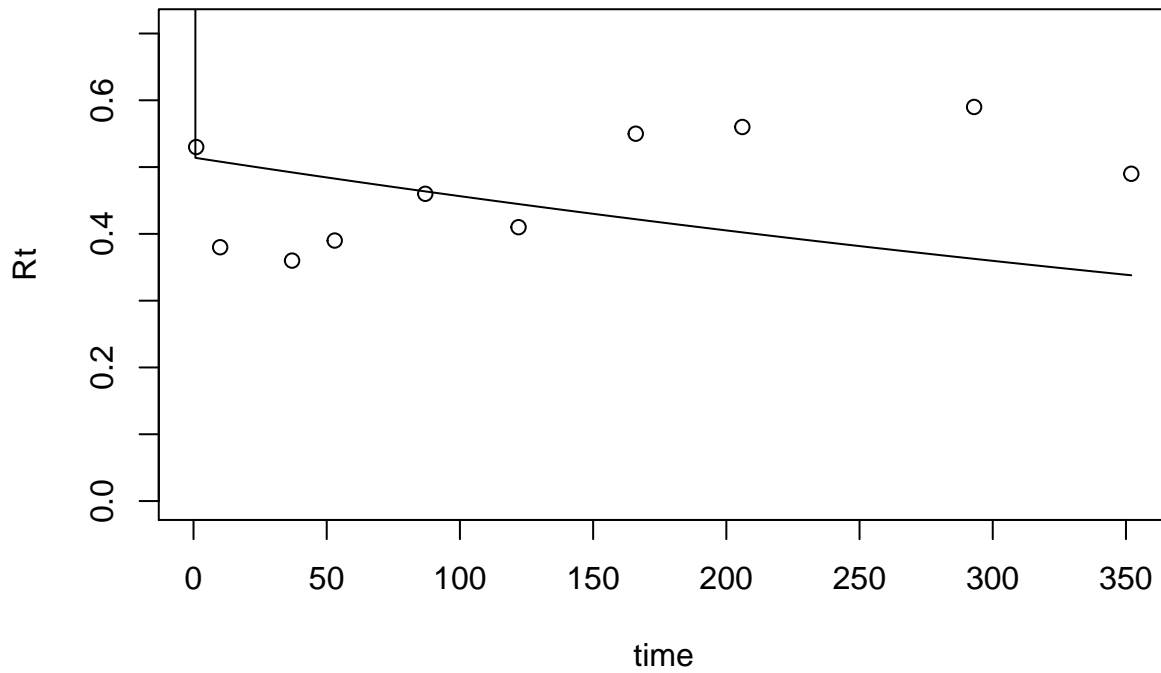
```
## [1] "Best fit parameter: 0.00119204985765386"
```



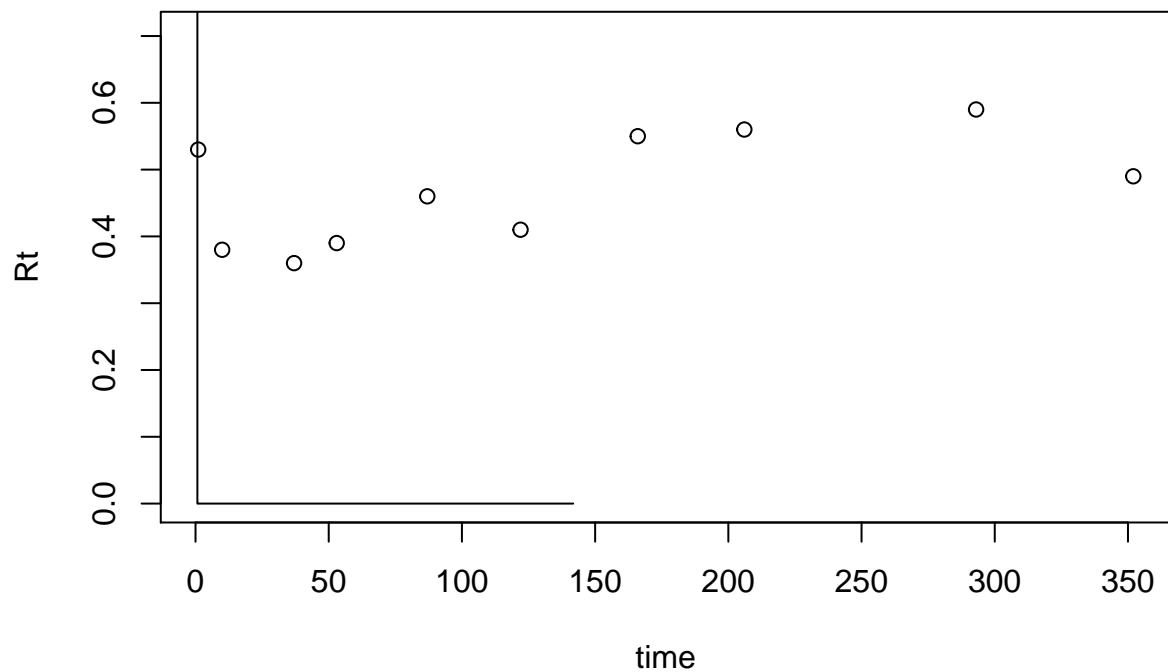
```
## [1] "AIC = 10.2701469172903"
## [1] "k1= 0.00119205150809311"
## [2] "k2= 0.00119203651769821"
## [3] "proportion of C0 in pool 1= 0.0485415695517715"
```



```
## [1] "AIC = 14.2701469153104"
## [1] "k1= 0.00119209580040382"
## [2] "k2= 9070046370631024"
## [3] "a21= 0.392882251521044"
## [4] "a12= 3.82262409298617e-06"
## [5] "Proportion of C0 in pool 1= 0.999963559674265"
```



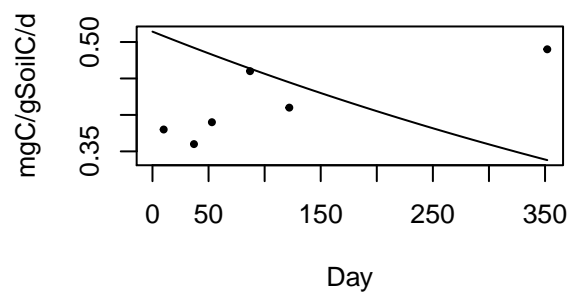
```
## [1] "AIC = 18.2700851981407"
## [1] "k1= 43.0952531097847"
## [2] "k2= 3.87755651503982e+57"
## [3] "a21= 3.43124295760777e-05"
## [4] "Proportion of C0 in pool 1= 3.04409649843351e-05"
```

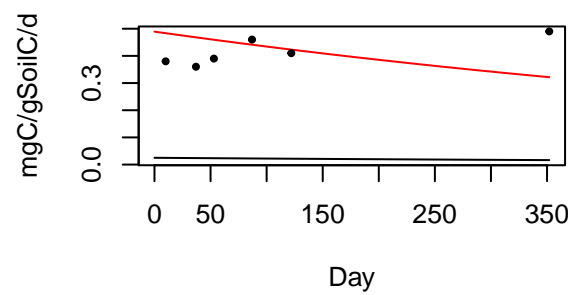
```
## [1] "AIC = 12.438840320226"
```

```
## Error in solve.default(A): system is computationally singular: reciprocal condition number = 1.31431
```

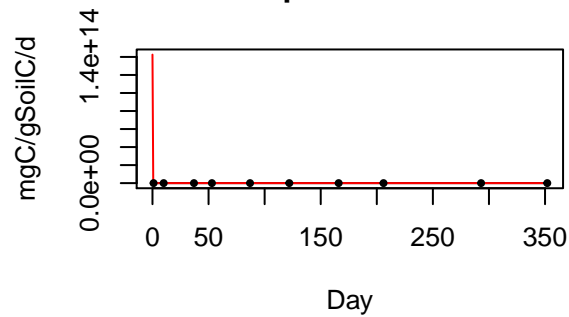
One-pool



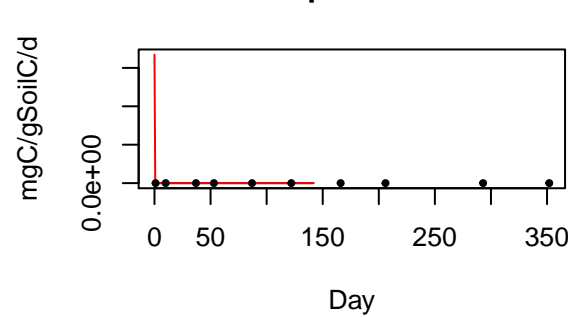
Two-pool parallel



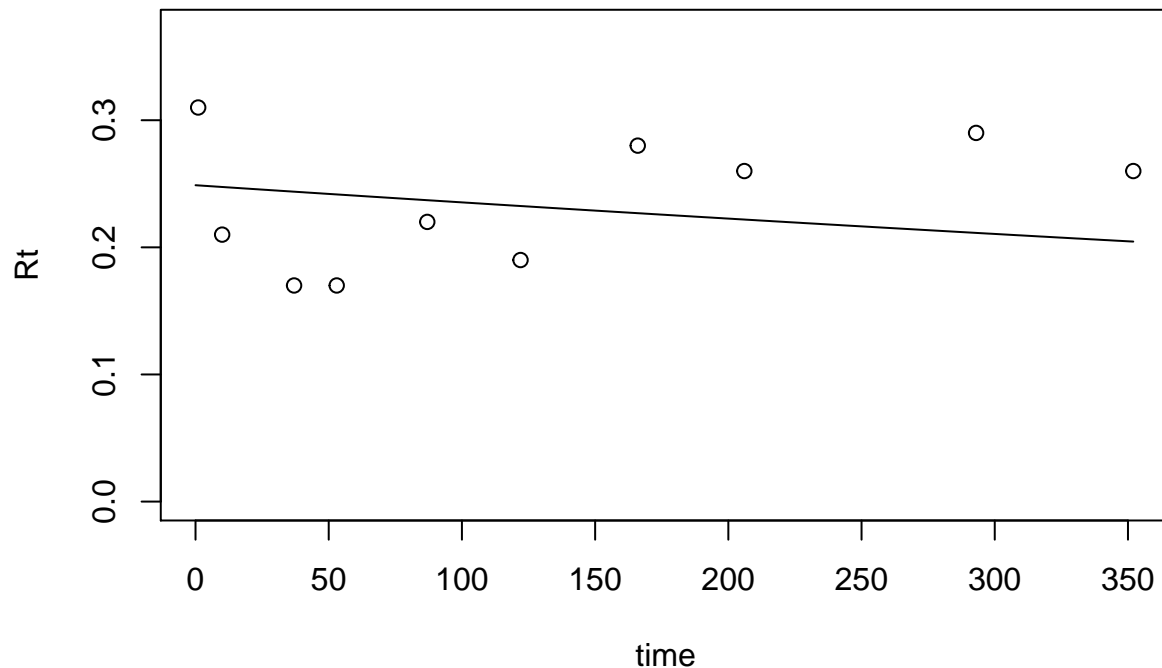
Two-pool feedback



Two-pool series



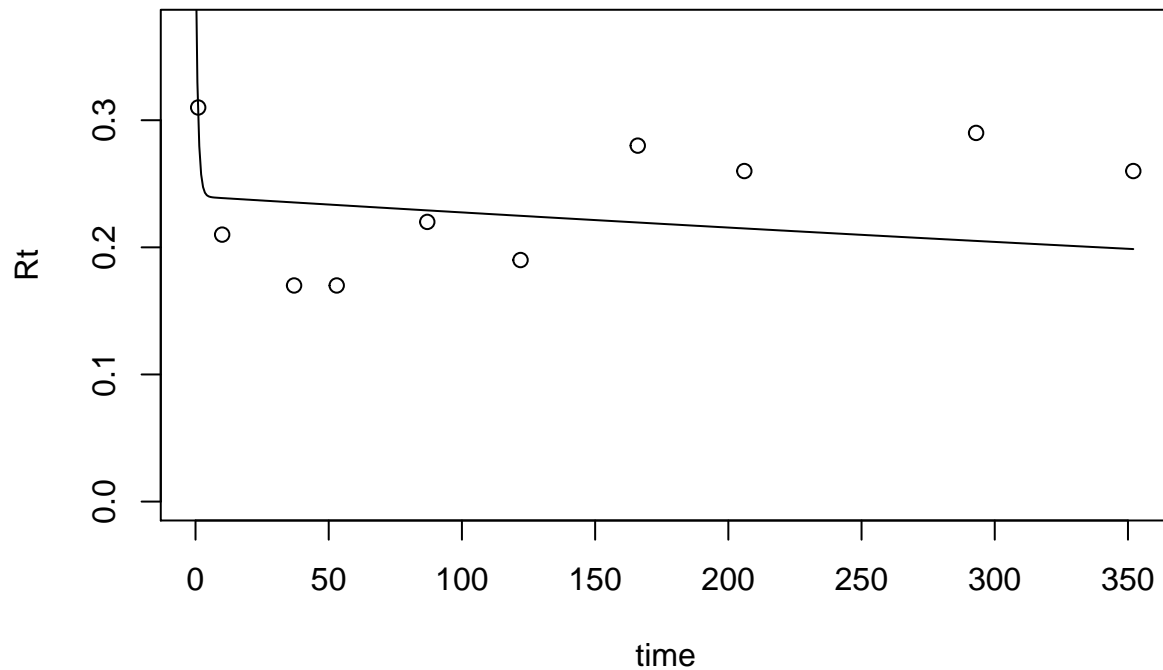
```
## [1] "Best fit parameter: 0.00055748026515739"
```



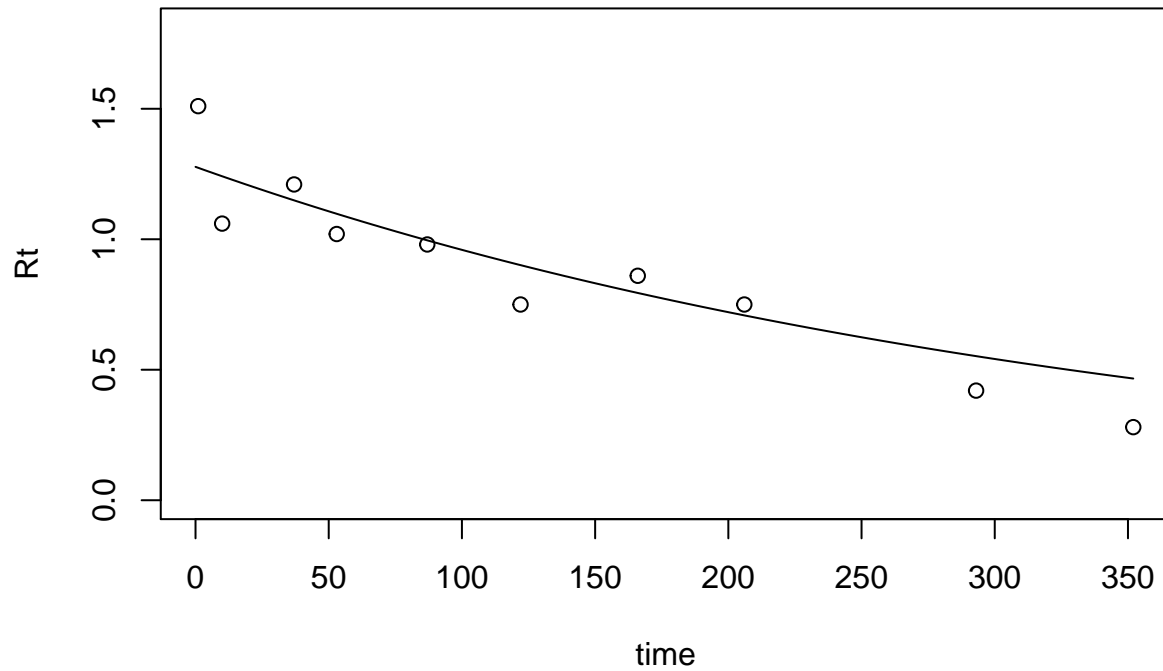
```
## [1] "AIC = 13.5289541895445"
## [1] "k1= 1.15794204142952"
## [2] "k2= 0.000537930714891926"
## [3] "proportion of C0 in pool 1= 0.000394234991664133"
```

```
## [1] "AIC = 17.8238033596698"
## DLSODA- Warning..Internal T (=R1) and H (=R2) are
##      such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 0, R2 = 0
##
## DINTDY- T (=R1) illegal
## In above message, R1 = 0.705411
##
##      T not in interval TCUR - HU (= R1) to TCUR (=R2)
## In above message, R1 = 0, R2 = 0
##
## DINTDY- T (=R1) illegal
## In above message, R1 = 1.41082
##
##      T not in interval TCUR - HU (= R1) to TCUR (=R2)
## In above message, R1 = 0, R2 = 0
##
## DLSODA- Trouble in DINTDY. ITASK = I1, TOUT = R1
## In above message, I1 = 1
##
## In above message, R1 = 1.41082
##
```

```
## Error in lsoda(startValues, t, lsexamp): illegal input detected before taking any integration steps
```



```
## [1] "Best fit parameter: 0.00286287741070259"
```



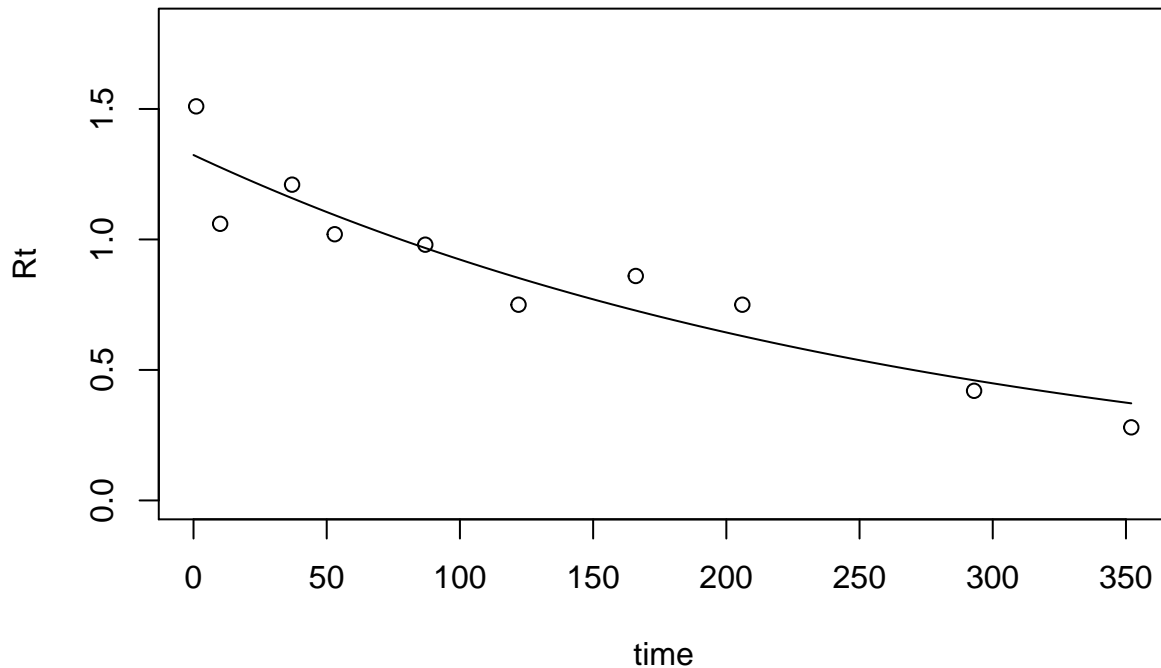
```
## [1] "AIC = 10.0383834511452"
## [1] "k1= 0.00360506851388163"
## [2] "k2= 1.31615084135274e-13"
## [3] "proportion of C0 in pool 1= 0.822753615750975"

## [1] "AIC = 14.4762075178986"
## DLSODA- Warning..Internal T (=R1) and H (=R2) are
##      such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 0, R2 = 0
```

```

##
## DINTDY- T (=R1) illegal
## In above message, R1 = 0.705411
##
##      T not in interval TCUR - HU (= R1) to TCUR (=R2)
## In above message, R1 = 0, R2 = 0
##
## DINTDY- T (=R1) illegal
## In above message, R1 = 1.41082
##
##      T not in interval TCUR - HU (= R1) to TCUR (=R2)
## In above message, R1 = 0, R2 = 0
##
## DLSODA- Trouble in DINTDY.  ITASK = I1, TOUT = R1
## In above message, I1 = 1
##
## In above message, R1 = 1.41082
##
## Error in lsoda(startValues, t, lsexamp): illegal input detected before taking any integration steps

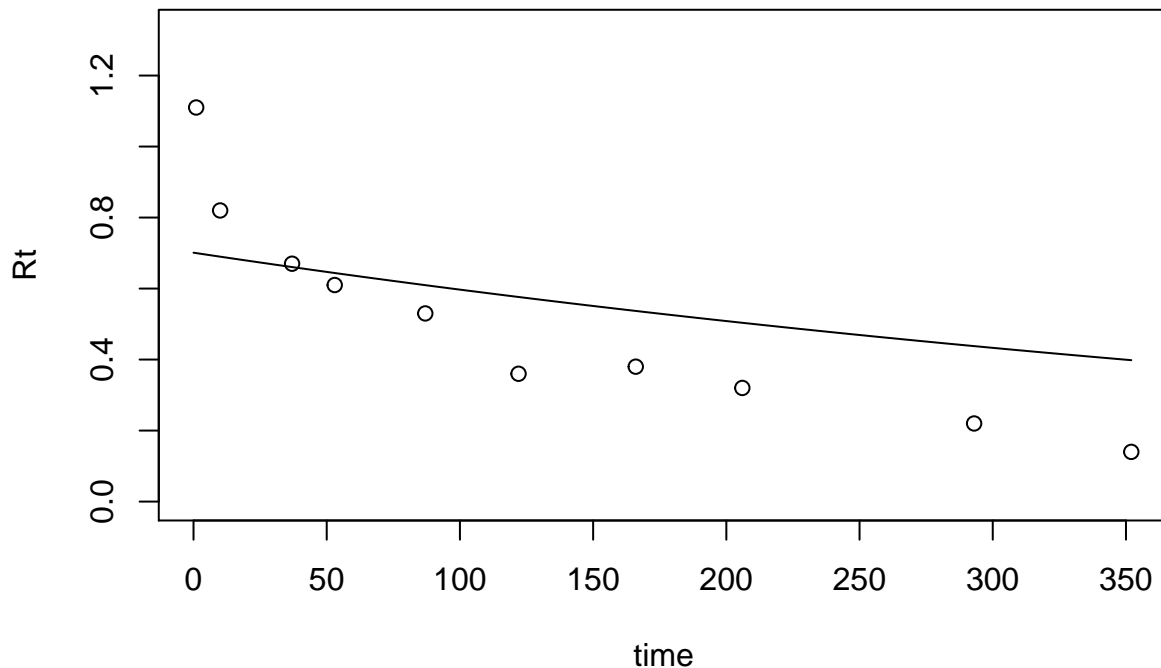
```



```

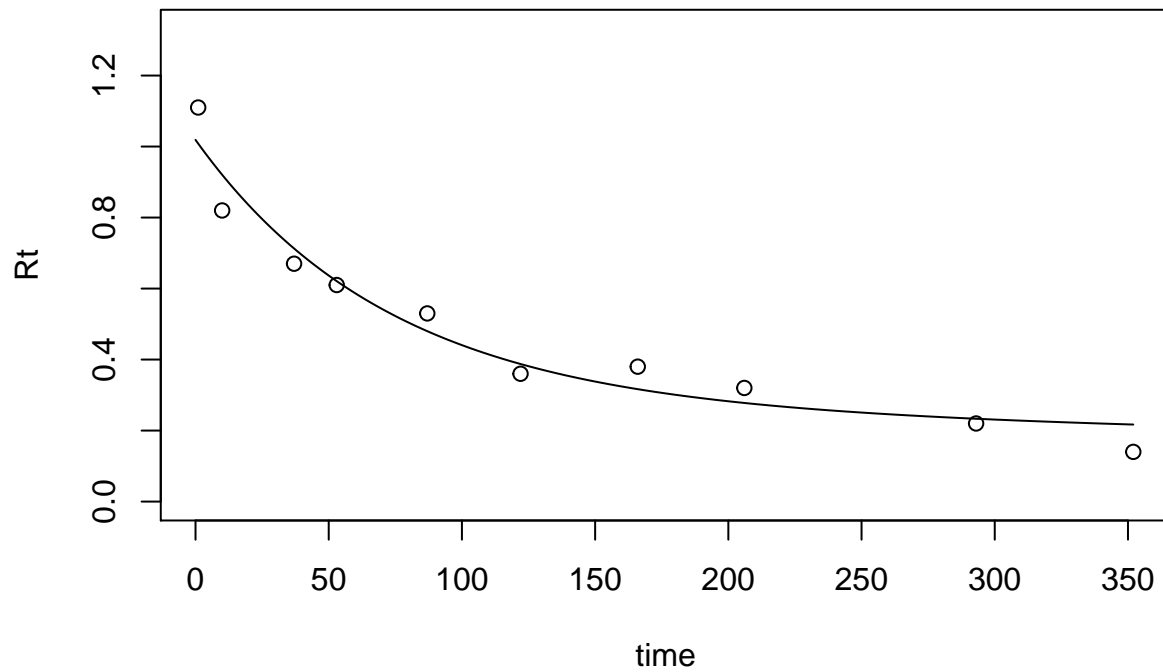
## [1] "Best fit parameter: 0.00160597962297692"

```

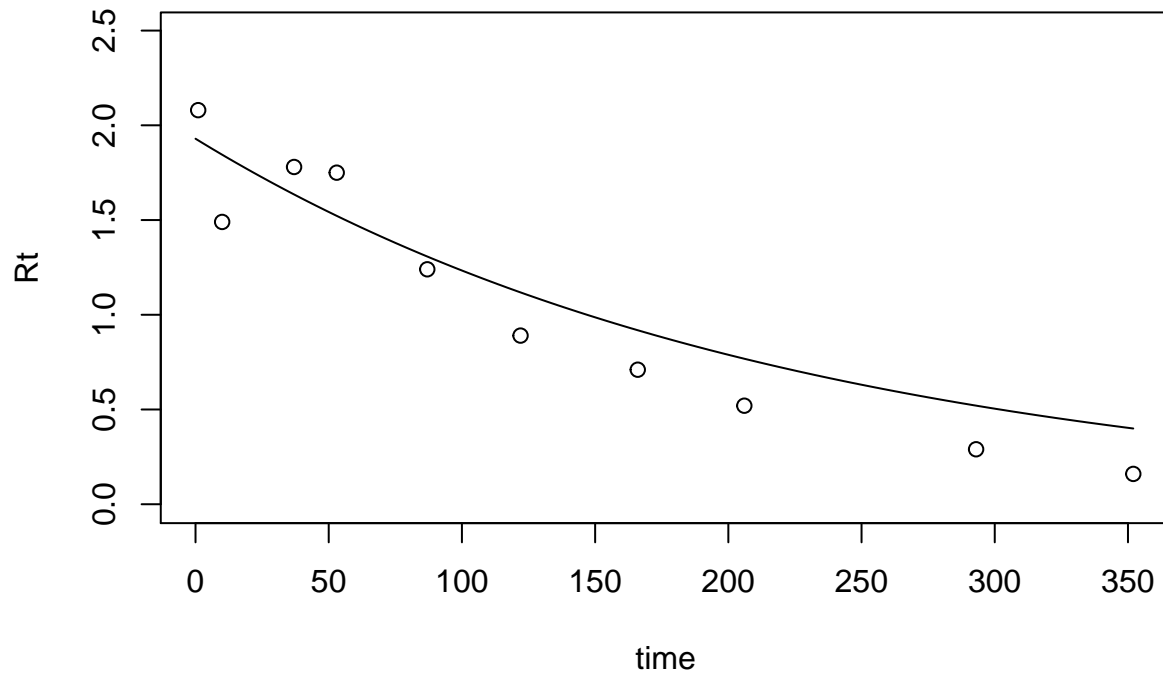


```
## [1] "AIC = 8.37859705955293"
## [1] "k1= 0.0137963574125607"
## [2] "k2= 0.000708831045204358"
## [3] "proportion of C0 in pool 1= 0.12418271684091"

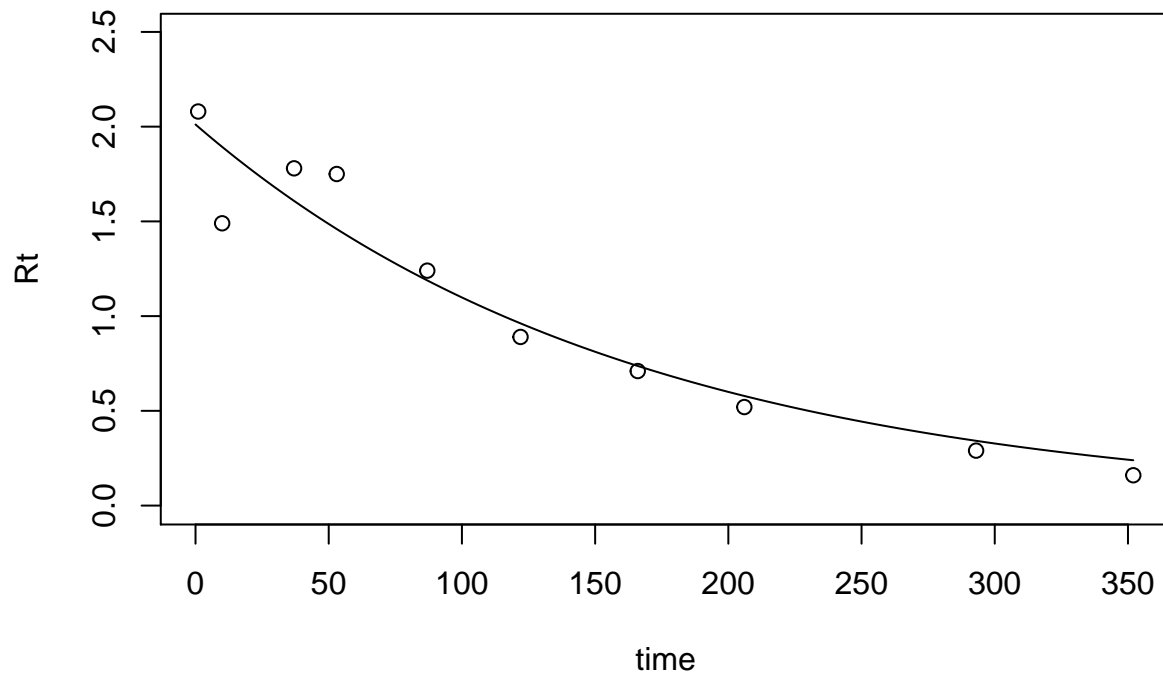
## [1] "AIC = 17.1695237362899"
## DLSODA- Warning..Internal T (=R1) and H (=R2) are
##      such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 0, R2 = 0
##
## DINTDY- T (=R1) illegal
## In above message, R1 = 0.705411
##
##      T not in interval TCUR - HU (= R1) to TCUR (=R2)
## In above message, R1 = 0, R2 = 0
##
## DINTDY- T (=R1) illegal
## In above message, R1 = 1.41082
##
##      T not in interval TCUR - HU (= R1) to TCUR (=R2)
## In above message, R1 = 0, R2 = 0
##
## DLSODA- Trouble in DINTDY. ITASK = I1, TOUT = R1
## In above message, I1 = 1
##
## In above message, R1 = 1.41082
##
## Error in lsoda(startValues, t, lsexamp): illegal input detected before taking any integration steps
```



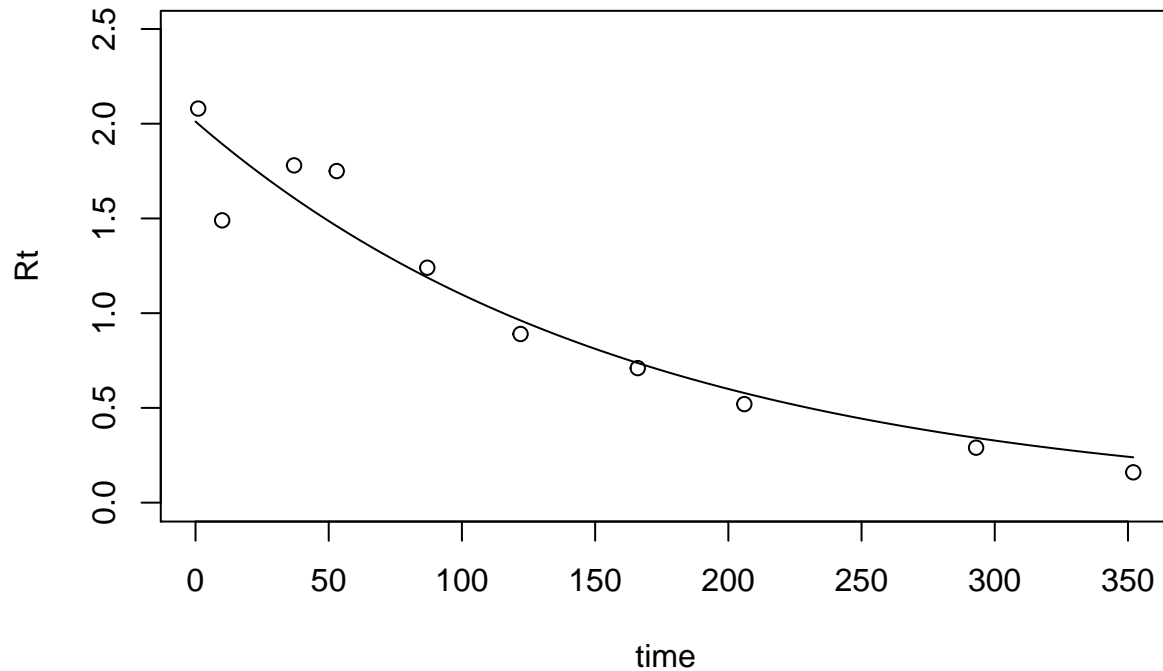
```
## [1] "Best fit parameter: 0.00447205637306778"
```



```
## [1] "AIC = 8.00684822150581"
## [1] "k1= 0.00604860844834223"
## [2] "k2= 2.88729989267623e-12"
## [3] "proportion of C0 in pool 1= 0.770831908882579"
```

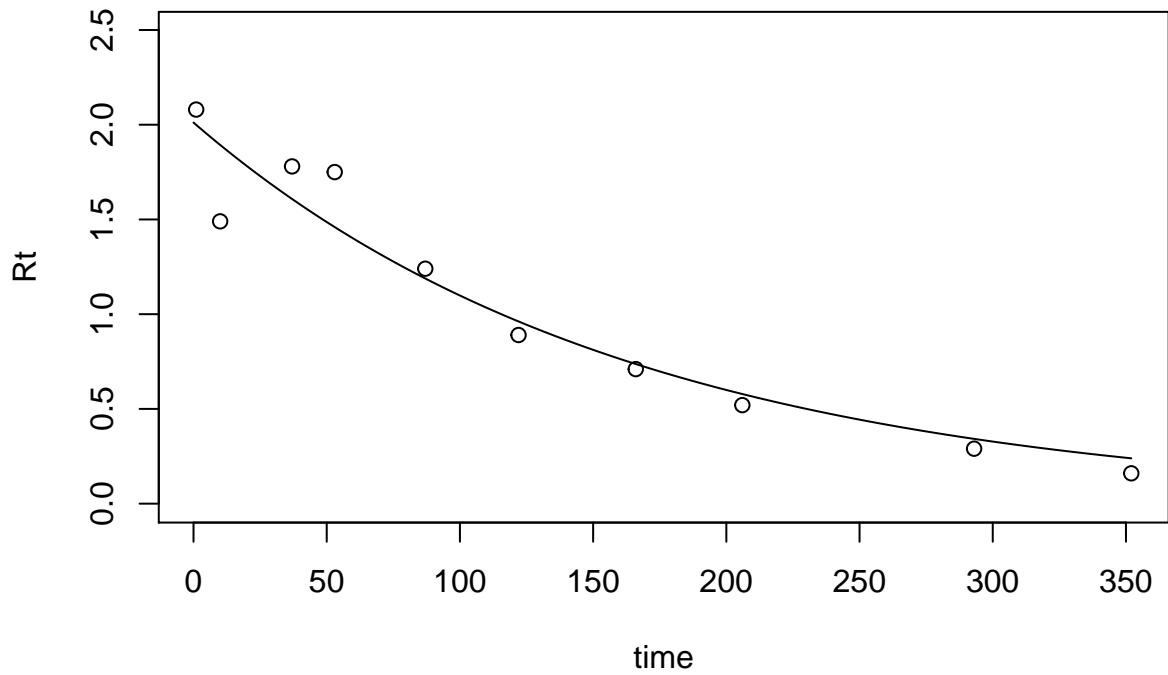


```
## [1] "AIC = 12.98701762217"
## [1] "k1= 0.0060486144922038"
## [2] "k2= 1.83391321570123e-08"
## [3] "a21= 0.0024877641963999"
## [4] "a12= 0.999995482292276"
## [5] "Proportion of C0 in pool 1= 0.772751049054712"
```



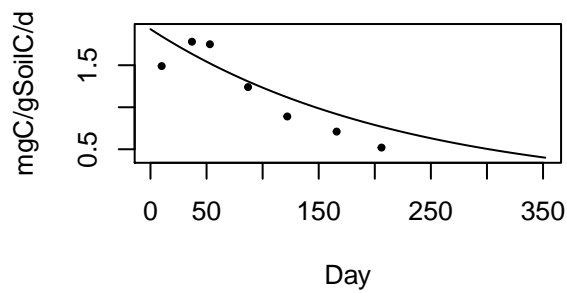
```
## [1] "AIC = 16.9870153124773"
## [1] "k1= 0.00604861184711777"
## [2] "k2= 1.30933501850502e-08"
## [3] "a21= 0.0021443024116124"
```

```
## [4] "Proportion of C0 in pool 1= 0.772486535179072"
```

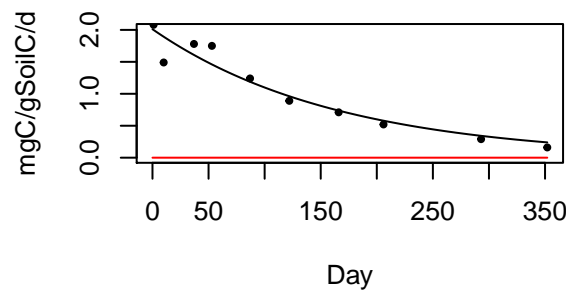


```
## [1] "AIC = 14.987015969778"
```

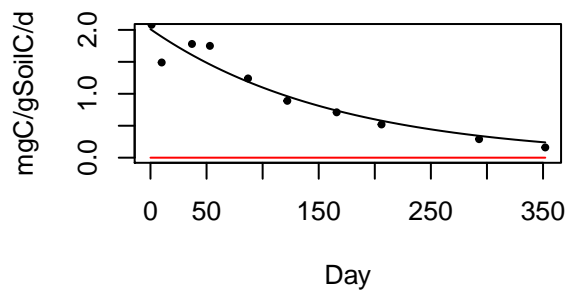
One-pool



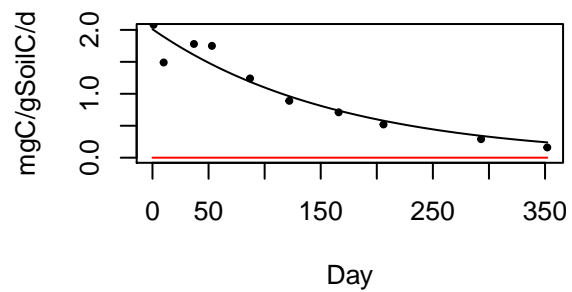
Two-pool parallel



Two-pool feedback



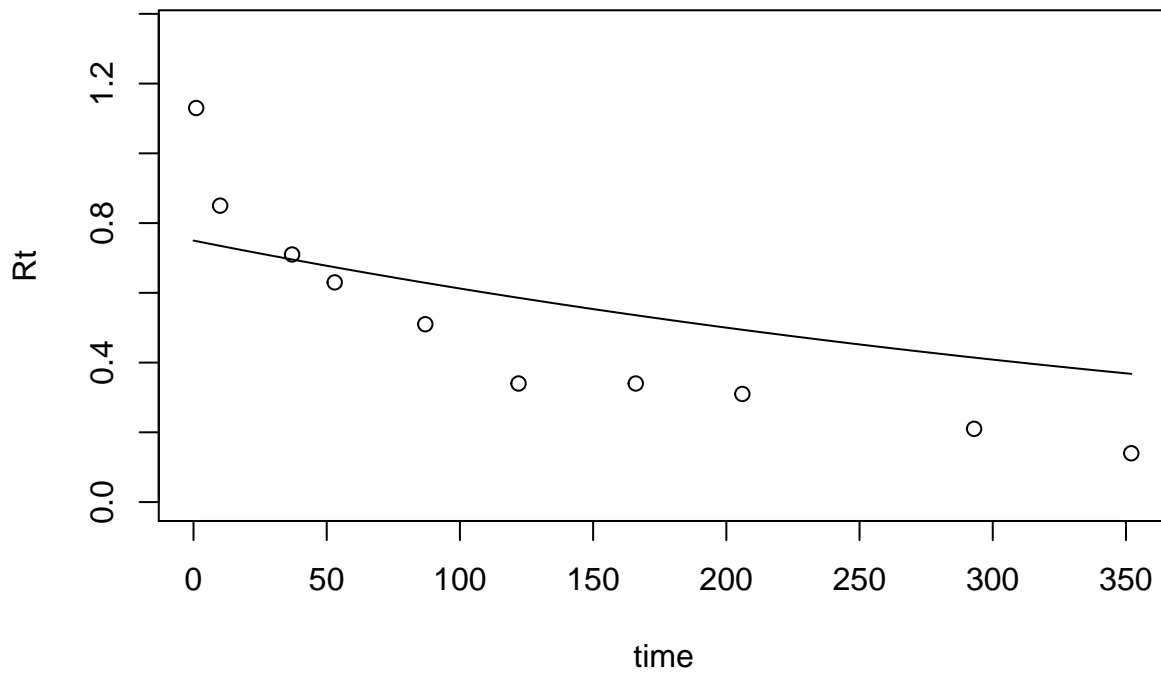
Two-pool series



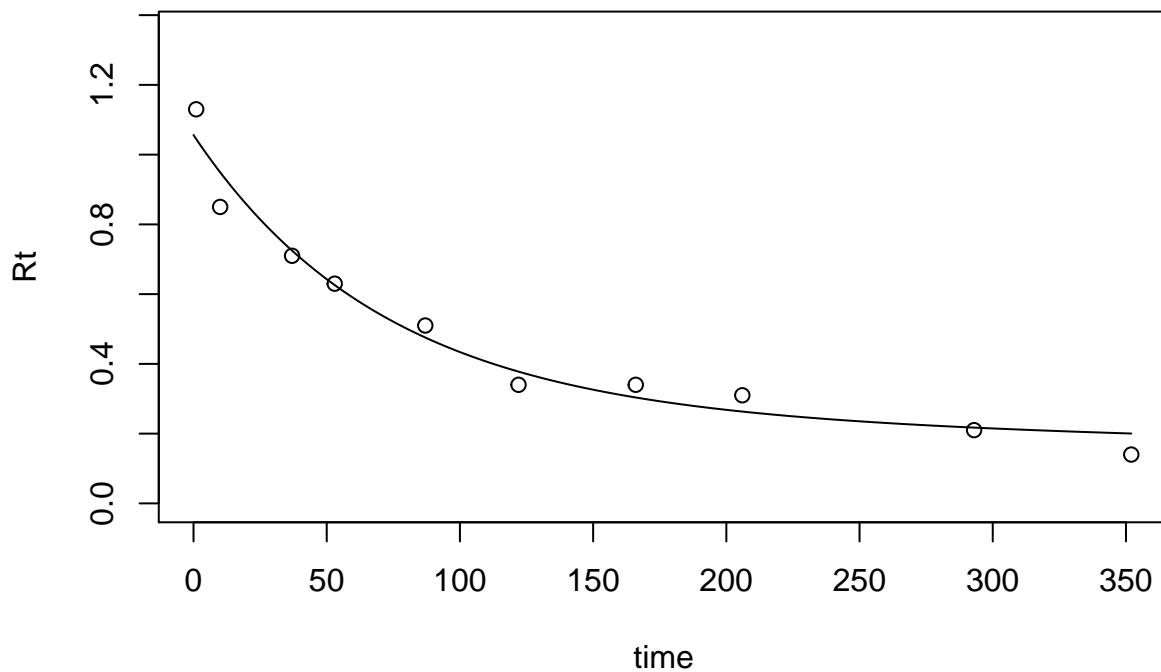
model	AIC	k1	k2	C0Inp1	a21	a12	AICc	wi	MeanTrT	q05
One-pool	8.01	0.00447	NA	NA	NA	NA	8.51	0.986	NA	NA
Two-pool parallel	13	0.00605	2.89e-12	0.771	NA	NA	17	0.0142	7.94e+10	173

model	AIC	k1	k2	C0Inp1	a21	a12	AICc	wi	MeanTrT	q05
Two-pool feedback	17	0.00605	1.83e-08	0.773	0.00249	1	32	7.85e-06	136000	115
Two-pool series	15	0.00605	1.31e-08	0.772	0.00214	NA	23	0.000707	164000	115

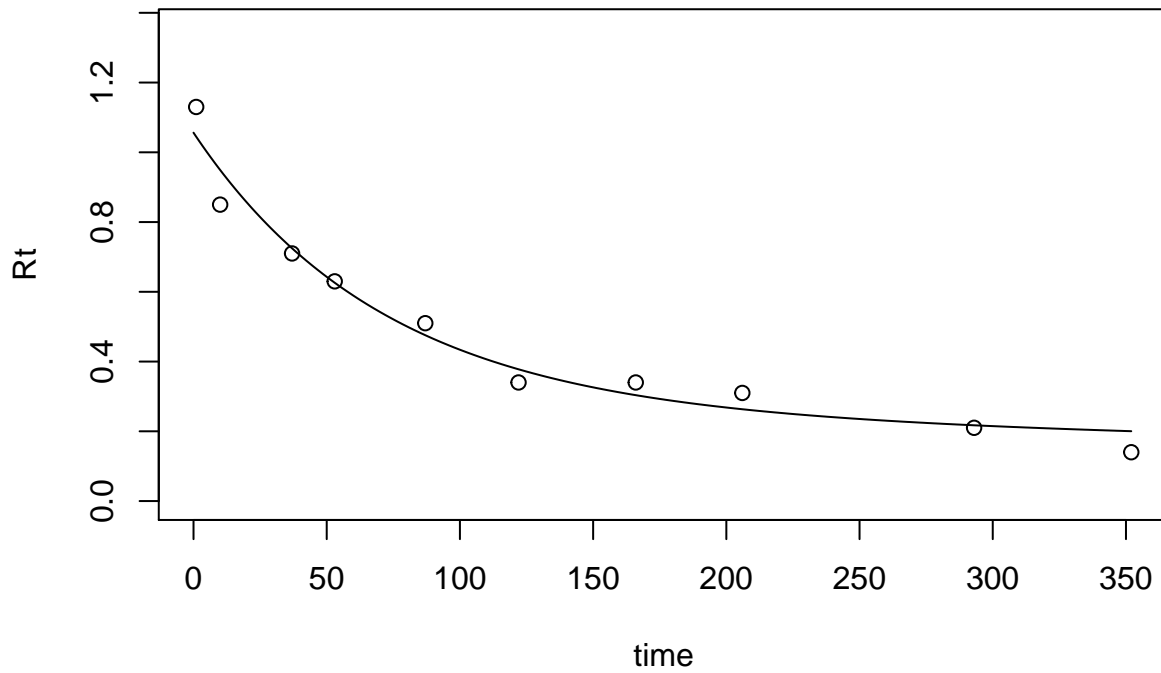
[1] "Best fit parameter: 0.00202425586195535"



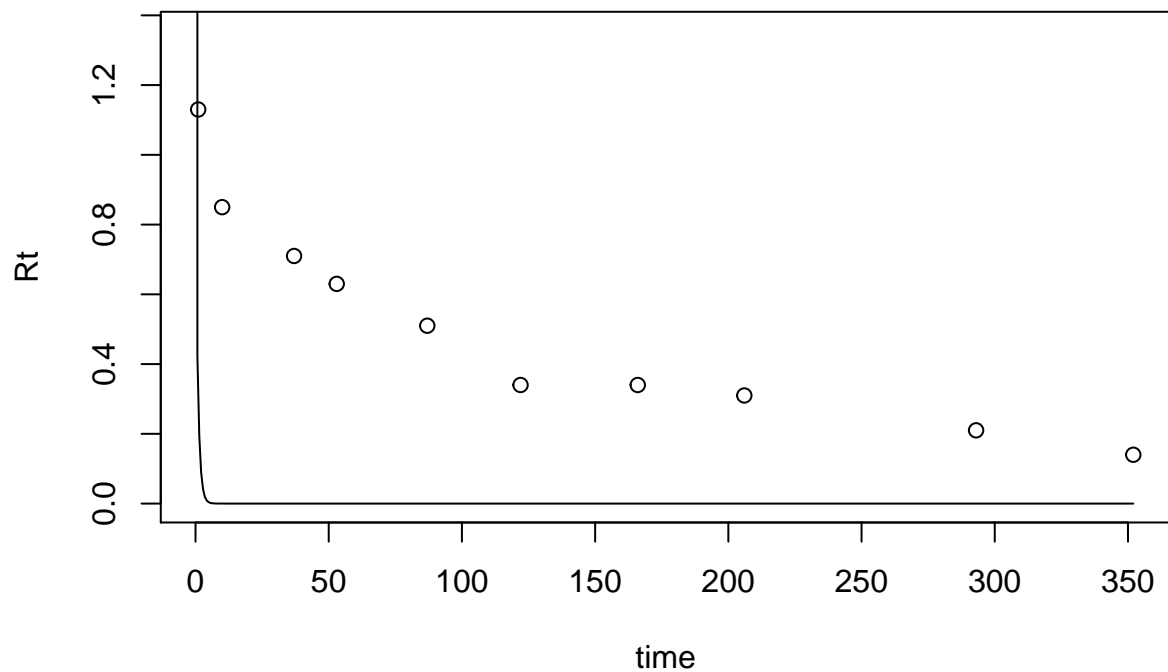
[1] "AIC = 8.43075814040627"
 ## [1] "k1= 0.0141199530311996"
 ## [2] "k2= 0.000830715251307785"
 ## [3] "proportion of C0 in pool 1= 0.152071417636296"



```
## [1] "AIC = 17.8172133868092"
## [1] "k1= 0.0141199966678803"
## [2] "k2= 0.000830718357366629"
## [3] "a21= 0.00458632764134009"
## [4] "a12= 0.000237286768641432"
## [5] "Proportion of C0 in pool 1= 0.152827970833758"
```



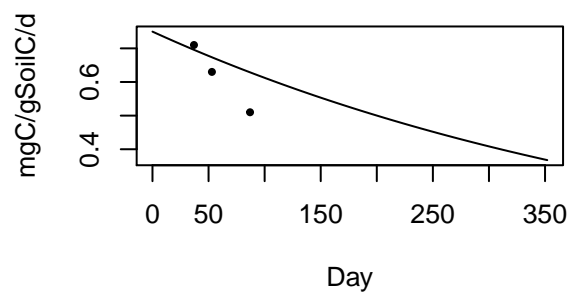
```
## [1] "AIC = 21.8172133867479"
## [1] "k1= 1.10334951222322"
## [2] "k2= 59566325639456904"
## [3] "a21= 0.000460824386196157"
## [4] "Proportion of C0 in pool 1= 0.00225902307587511"
```



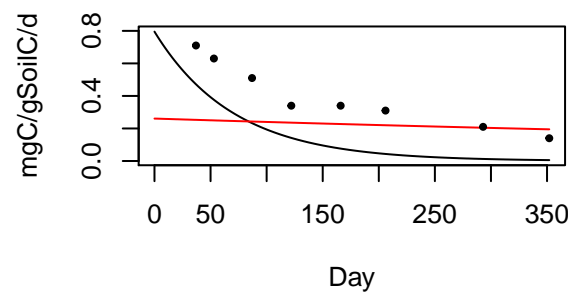
```
## [1] "AIC = 10.4637237390172"
```

```
## Error in solve.default(A): system is computationally singular: reciprocal condition number = 1.8523e-16
```

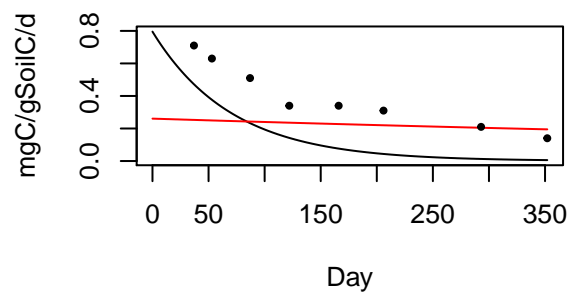
One-pool



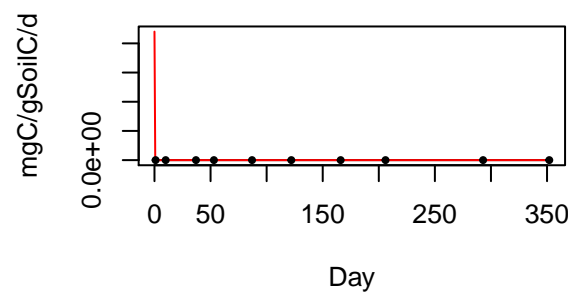
Two-pool parallel



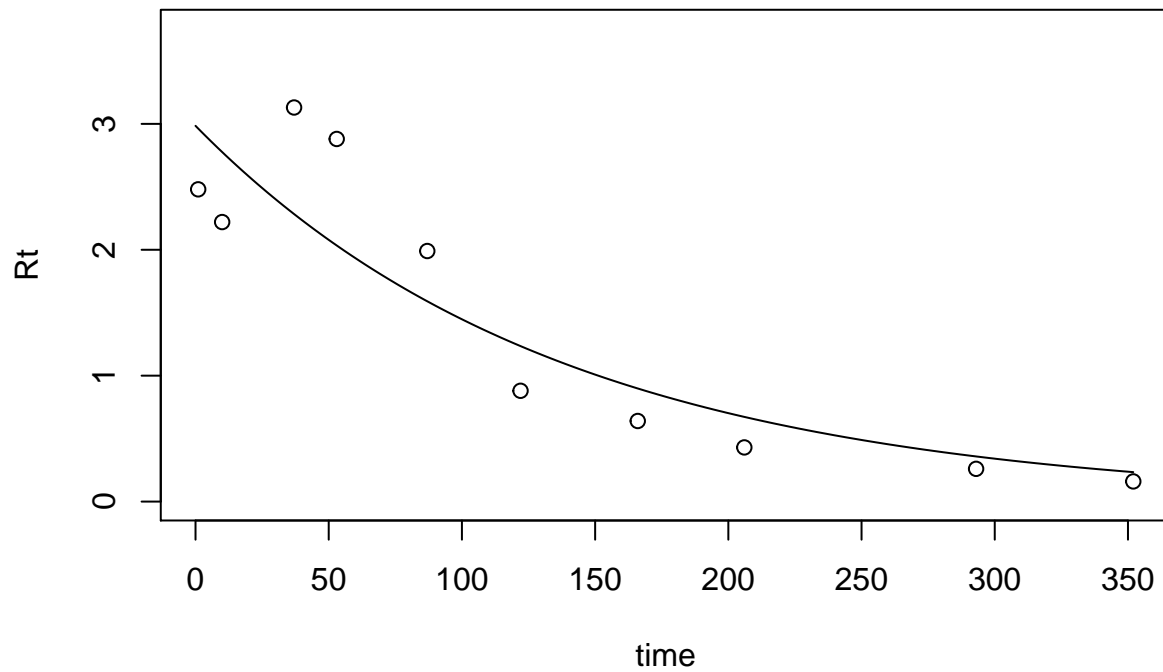
Two-pool feedback



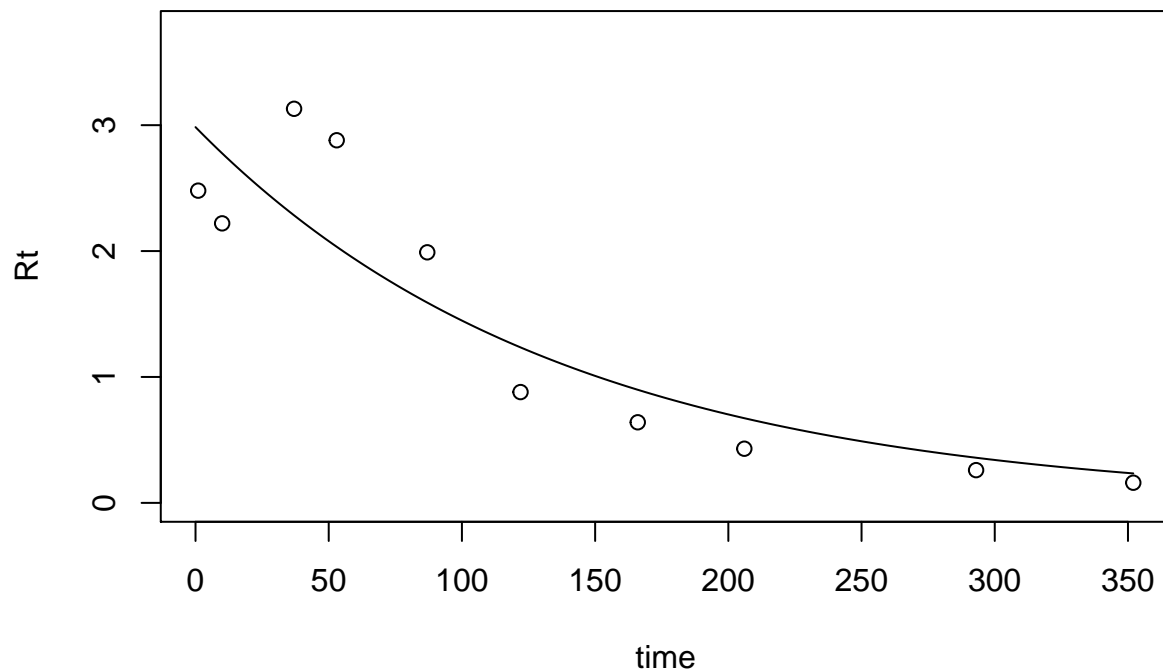
Two-pool series



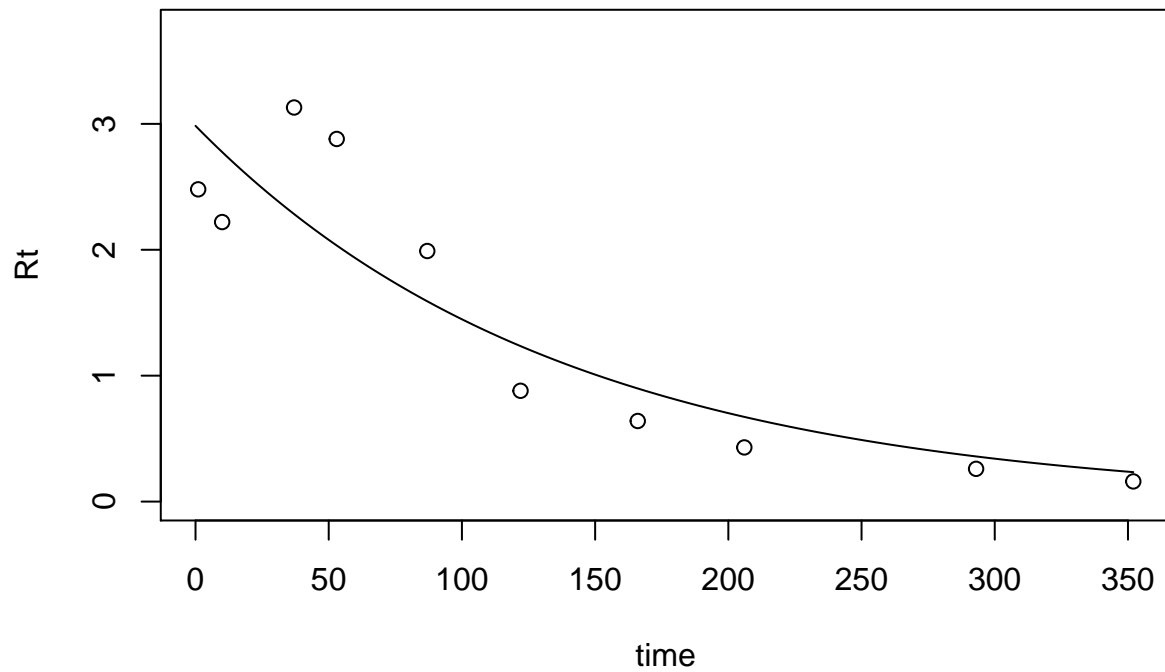
```
## [1] "Best fit parameter: 0.00723331909476062"
```



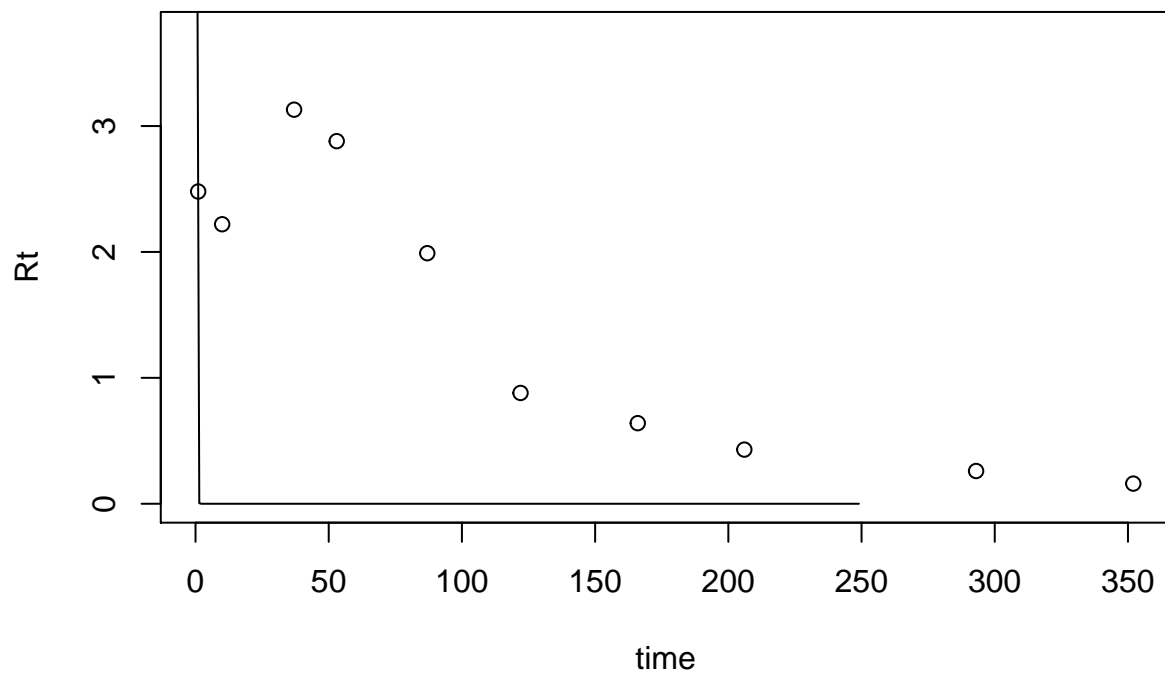
```
## [1] "AIC = 4.85378288805817"
## [1] "k1= 0.00723332219957851"
## [2] "k2= 0.00723301259961696"
## [3] "proportion of C0 in pool 1= 0.985143287699674"
```



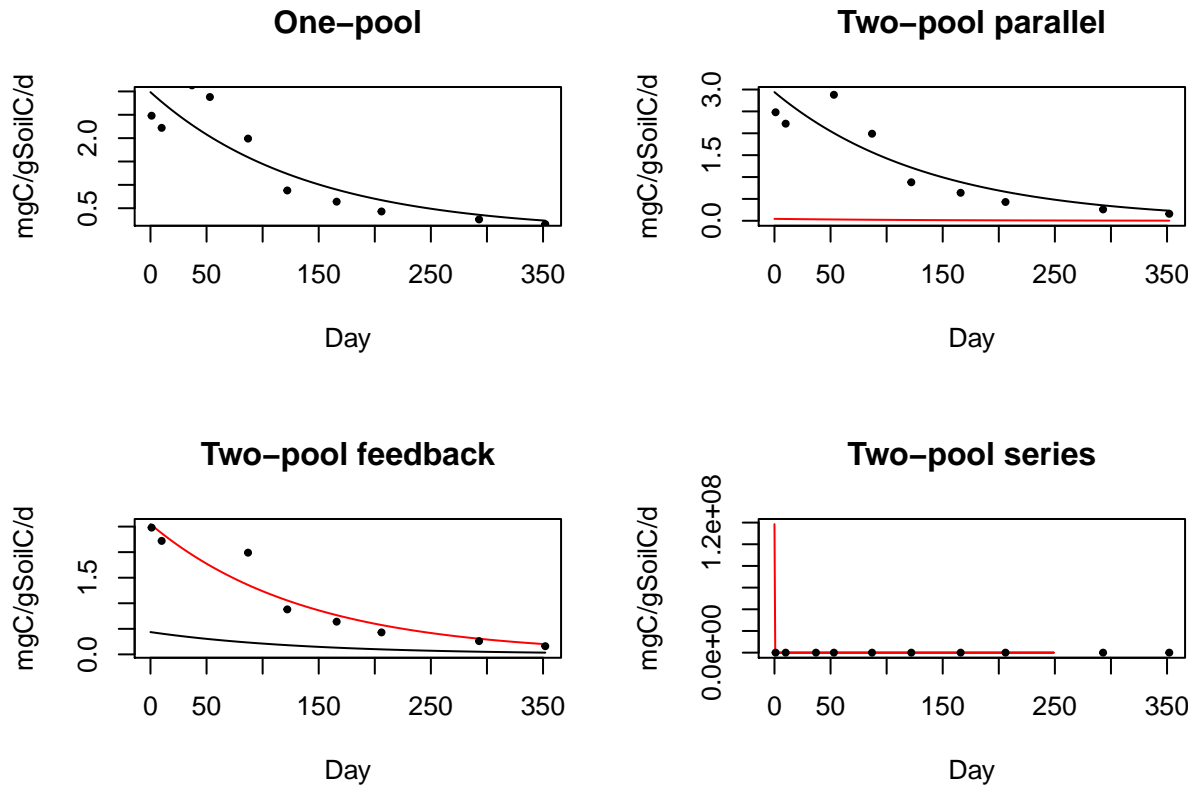
```
## [1] "AIC = 8.8537828880019"
## [1] "k1= 0.0072501453190683"
## [2] "k2= 0.00723633689843398"
## [3] "a21= 0.0046119721008131"
## [4] "a12= 1.93948397924082e-05"
## [5] "Proportion of C0 in pool 1= 0.146601307633098"
```



```
## [1] "AIC = 12.8537840005089"
## [1] "k1= 9.7039827163173"
## [2] "k2= 179549162.403669"
## [3] "a21= 0.00146045186946753"
## [4] "Proportion of C0 in pool 1= 0.998399581114861"
```



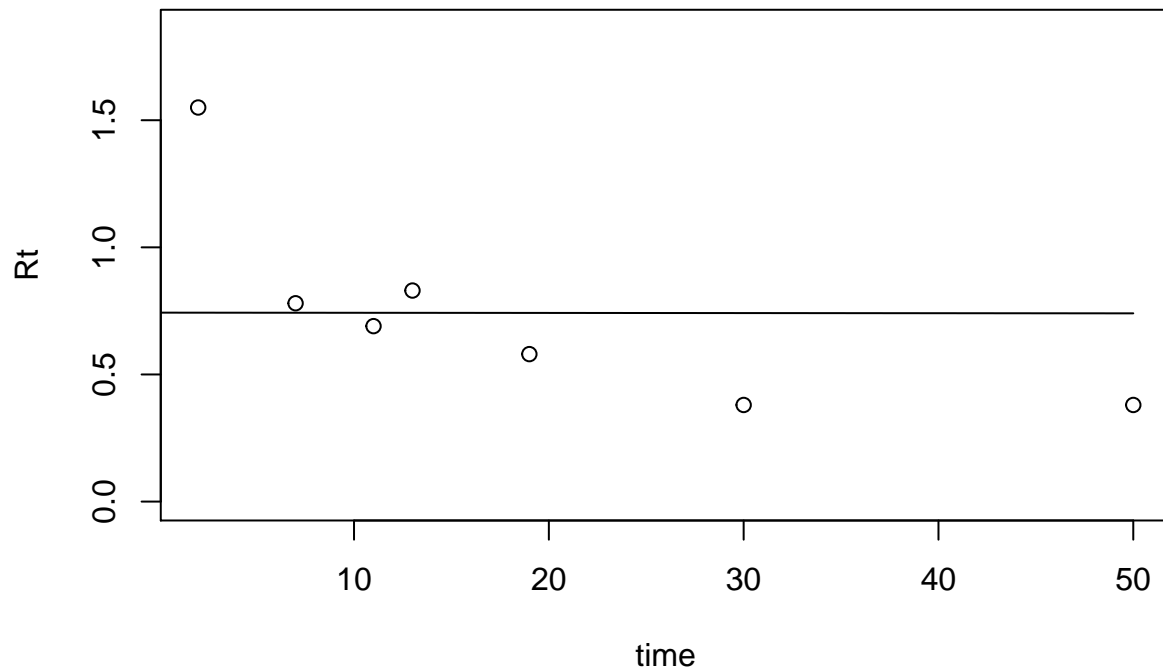
```
## [1] "AIC = 5.91600783717896"
```



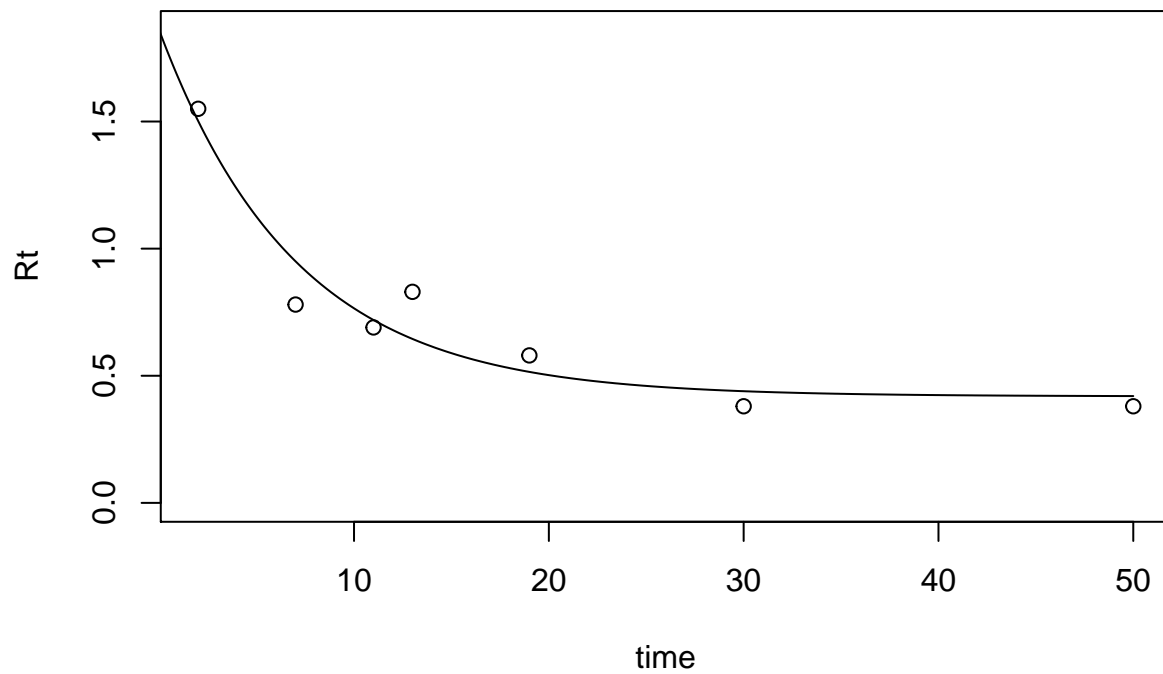
model	AIC	k1	k2	C0Inp1	a21	a12	AICc	wi	MeanTrT	q05
One-pool	4.85	0.00723	NA	NA	NA	NA	5.35	0.977	NA	NA
Two-pool parallel	8.85	0.00723	0.00723	0.985	NA	NA	12.9	0.023	138	95.8
Two-pool feedback	12.9	0.00725	0.00724	0.147	0.00461	1.94e-05	27.9	1.27e-05	139	96
Two-pool series	5.92	9.7	1.8e+08	0.998	0.00146	NA	13.9	0.0135	0.103	0.0715

[1] 14

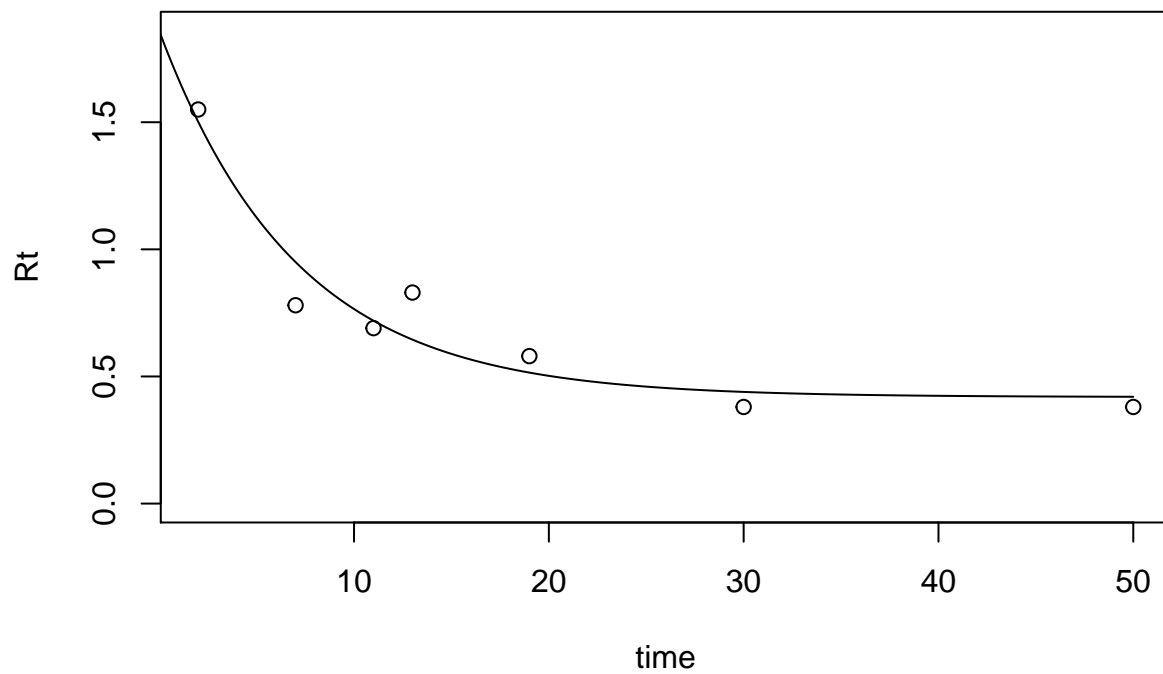
[1] "Best fit parameter: 7.43093489495547e-05"



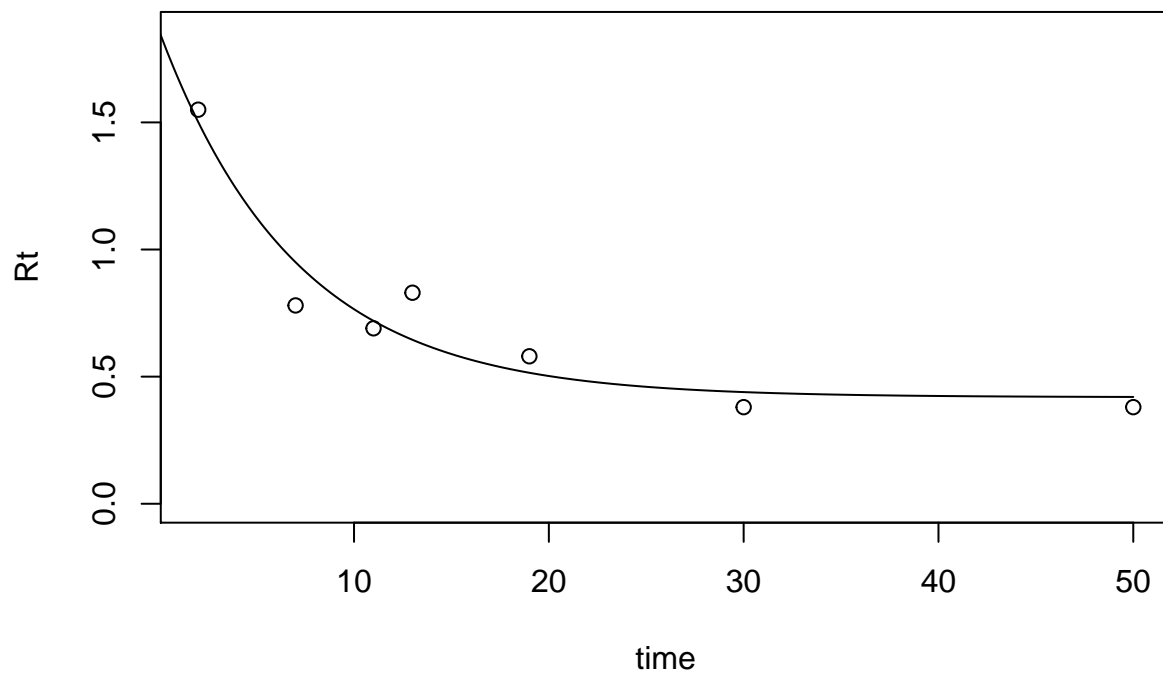
```
## [1] "AIC = 5.99474435661715"
## [1] "k1= 0.142678213228025"
## [2] "k2= 4.20219335467523e-05"
## [3] "proportion of C0 in pool 1= 0.00100884294868181"
```



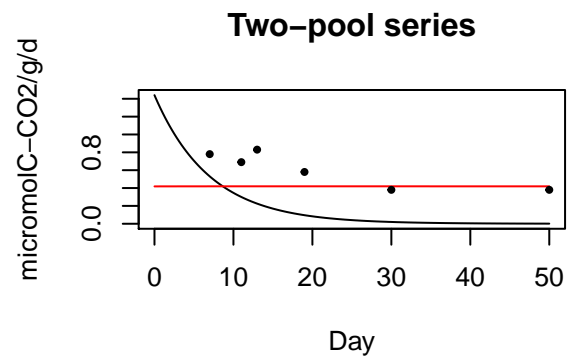
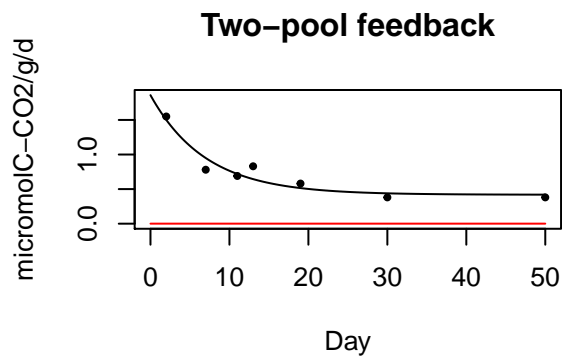
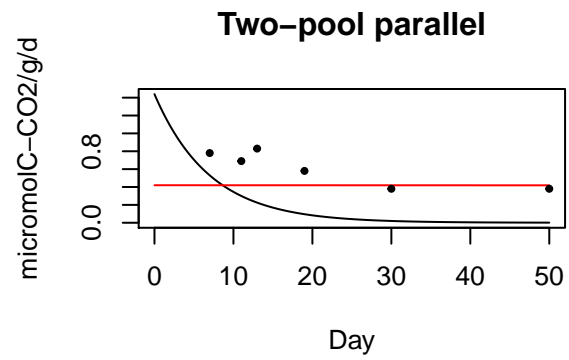
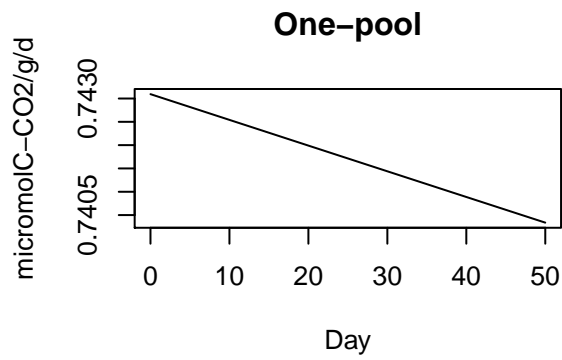
```
## [1] "AIC = 15.0554008657416"
## [1] "k1= 0.142554519250348"
## [2] "k2= 0.0001673504299082"
## [3] "a21= 0.748841014292885"
## [4] "a12= 0.999779848762119"
## [5] "Proportion of C0 in pool 1= 0.00519171760210002"
```



```
## [1] "AIC = 19.0554008663357"
## [1] "k1= 0.142672992755095"
## [2] "k2= 4.20211226053348e-05"
## [3] "a21= 0.755659036652771"
## [4] "Proportion of C0 in pool 1= 0.00413272794599795"
```



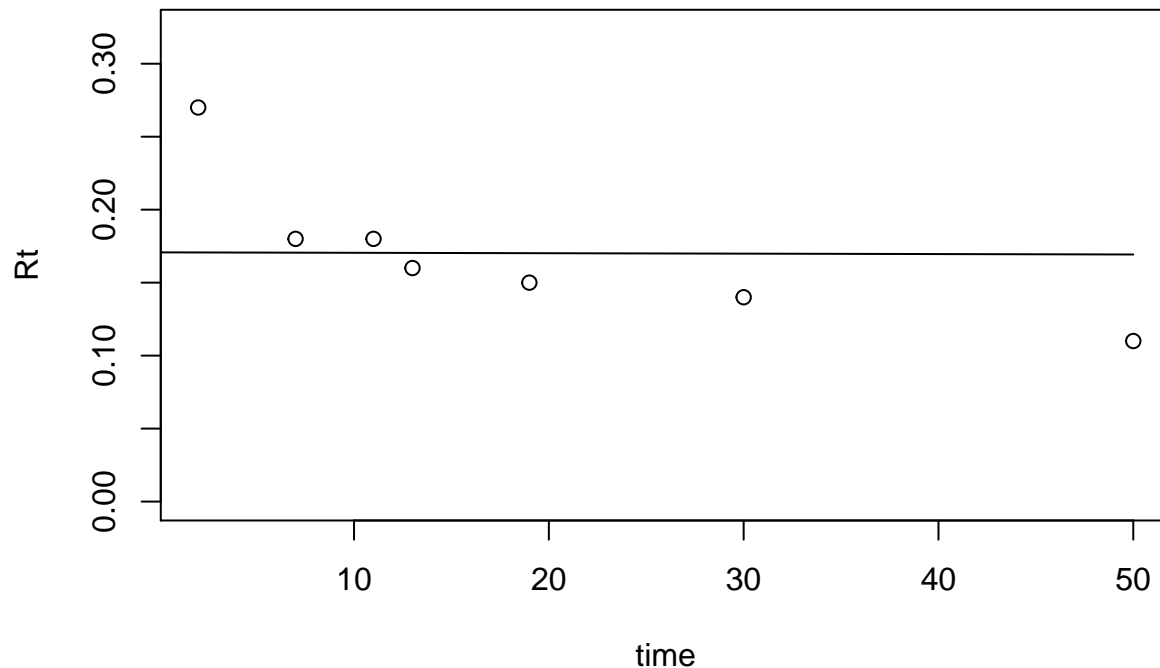
```
## [1] "AIC = 17.0554008576709"
```

model	AIC	k1	k2	C0Inp1	a21	a12	AICc	wi	MeanTrT	q05
One-pool	5.99	7.43e-05	NA	NA	NA	NA	6.3	0.996	NA	NA
Two-pool parallel	15.1	0.143	4.2e-05	0.00101	NA	NA	17.2	0.0042	23800	16500
Two-pool feedback	19.1	0.143	0.000167	0.00519	0.749	1	25.7	6.04e-05	17800	9630
Two-pool series	17.1	0.143	4.2e-05	0.00413	0.756	NA	21.1	0.000623	18000	9830

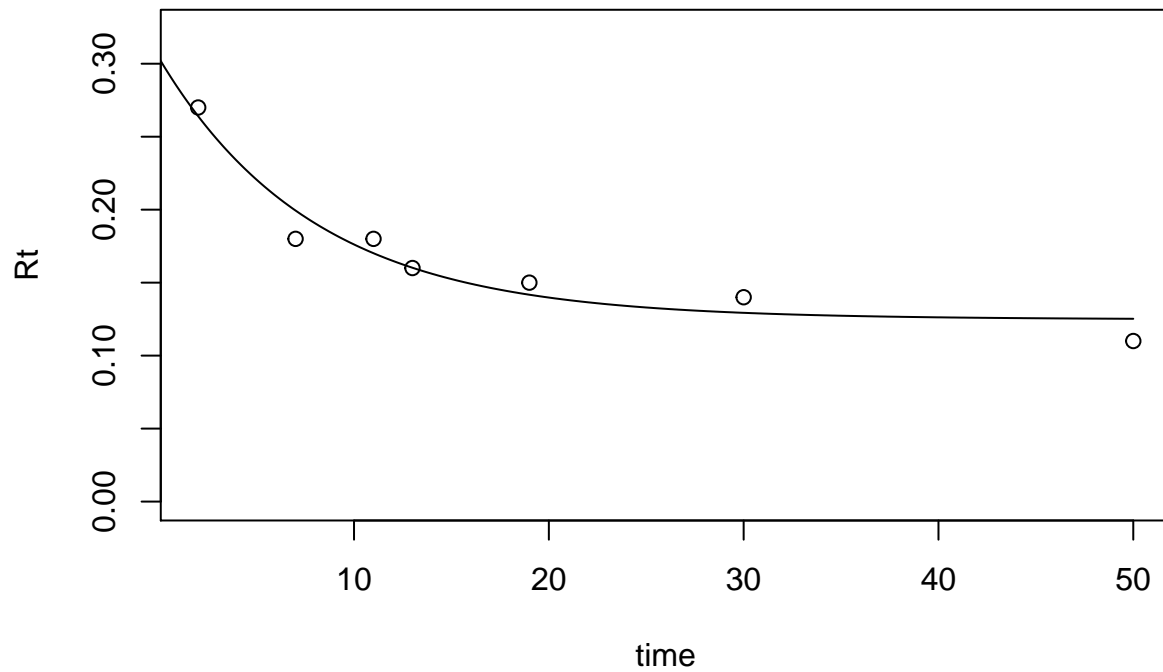
[1] 134

[1] "Best fit parameter: 0.000170742717335607"



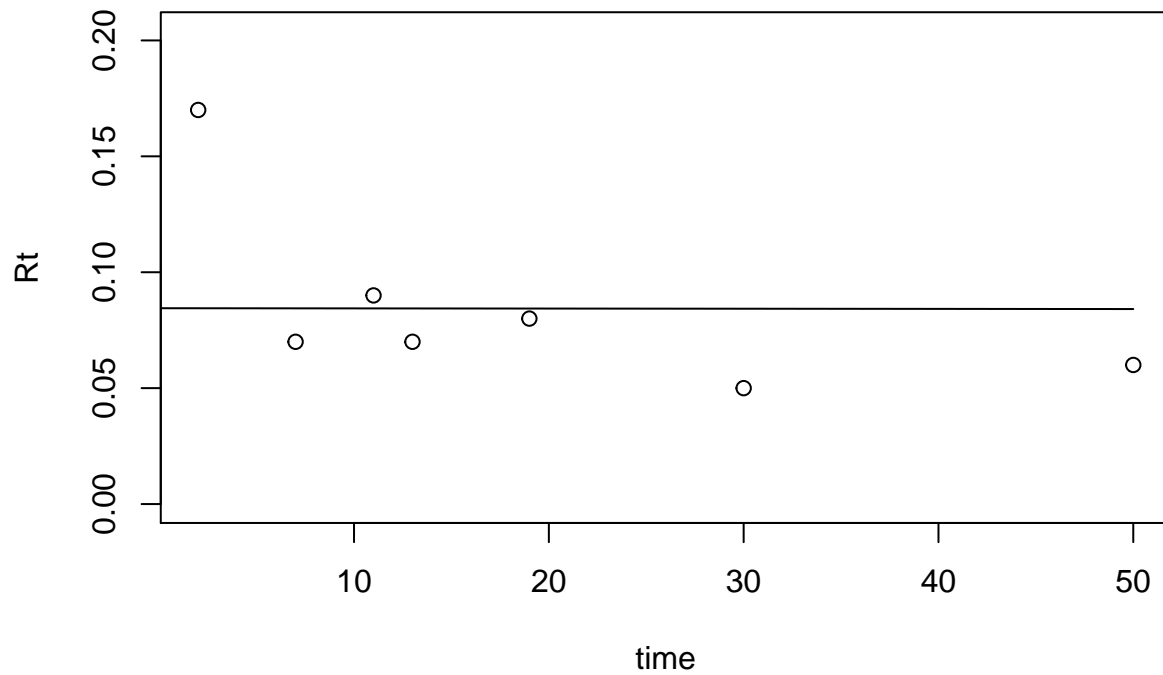
```
## [1] "AIC = 14.2955599984203"
## [1] "k1= 0.125713918455071"
## [2] "k2= 0.000125875833084455"
## [3] "proportion of C0 in pool 1= 0.00141532882529544"

## [1] "AIC = 23.8672076843904"
## DLSODA- Warning..Internal T (=R1) and H (=R2) are
##      such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 0, R2 = 0
##
## DINTDY- T (=R1) illegal
## In above message, R1 = 0.1002
##
##      T not in interval TCUR - HU (= R1) to TCUR (=R2)
## In above message, R1 = 0, R2 = 0
##
## DINTDY- T (=R1) illegal
## In above message, R1 = 0.200401
##
##      T not in interval TCUR - HU (= R1) to TCUR (=R2)
## In above message, R1 = 0, R2 = 0
##
## DLSODA- Trouble in DINTDY. ITASK = I1, TOUT = R1
## In above message, I1 = 1
##
## In above message, R1 = 0.200401
##
## Error in lsoda(startValues, t, lsexamp): illegal input detected before taking any integration steps
```



```
## [1] 44.5
```

```
## [1] "Best fit parameter: 8.44772105207252e-05"
```



```
## [1] "AIC = 15.1968297925262"
```

```
## [1] "k1= 0.935490398337634"
```

```
## [2] "k2= 7.00114390195787e-05"
```

```
## [3] "proportion of C0 in pool 1= 0.000694431624174097"
```

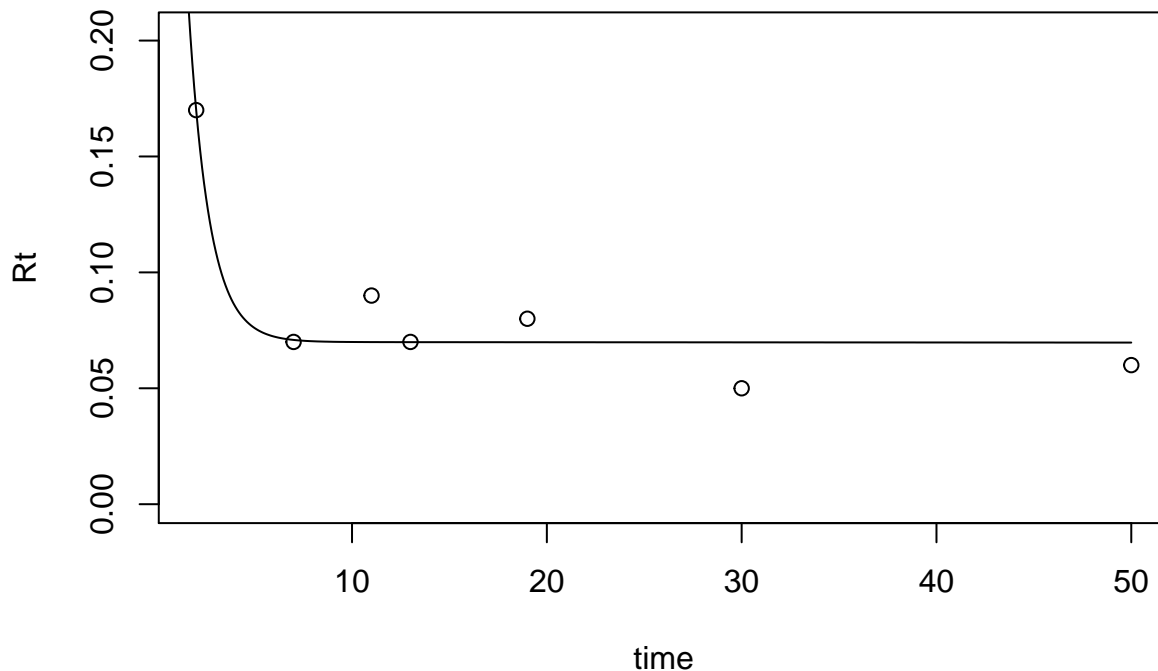
```
## [1] "AIC = 23.7208706052296"
```

```
## DLSODA- Warning..Internal T (=R1) and H (=R2) are
##      such that in the machine, T + H = T on the next step
```

```

##      (H = step size). Solver will continue anyway.
## In above message, R1 = 0, R2 = 0
##
## DINTDY- T (=R1) illegal
## In above message, R1 = 0.1002
##
##      T not in interval TCUR - HU (= R1) to TCUR (=R2)
## In above message, R1 = 0, R2 = 0
##
## DINTDY- T (=R1) illegal
## In above message, R1 = 0.200401
##
##      T not in interval TCUR - HU (= R1) to TCUR (=R2)
## In above message, R1 = 0, R2 = 0
##
## DLSODA- Trouble in DINTDY. ITASK = I1, TOUT = R1
## In above message, I1 = 1
##
## In above message, R1 = 0.200401
##
## Error in lsoda(startValues, t, lsexamp): illegal input detected before taking any integration steps

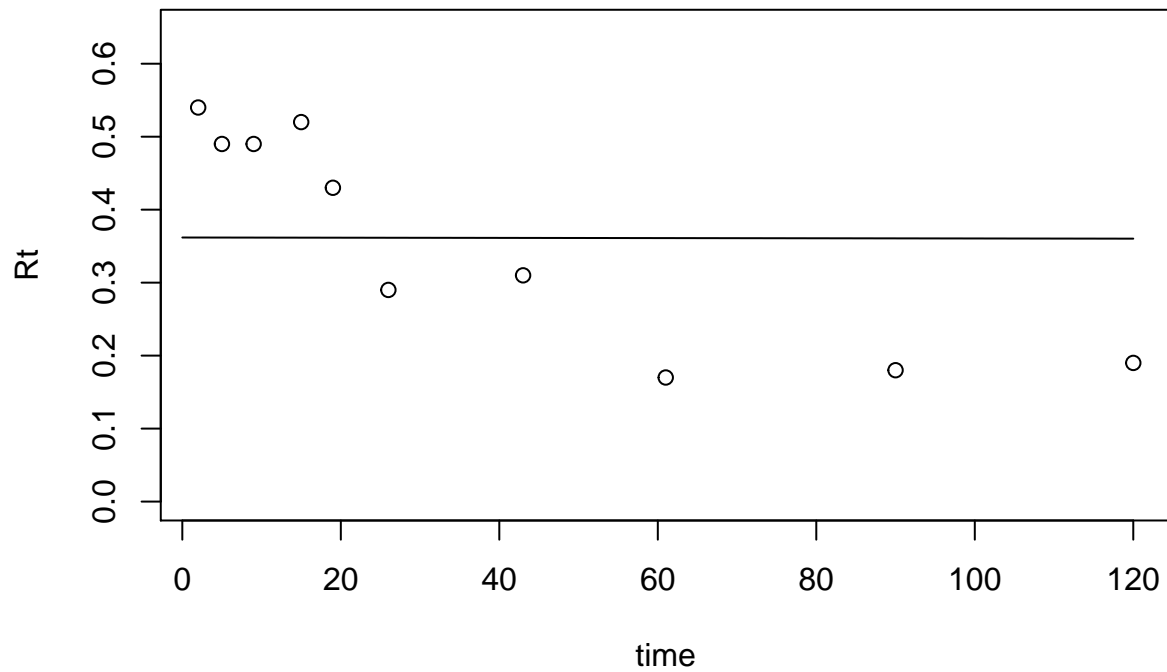
```



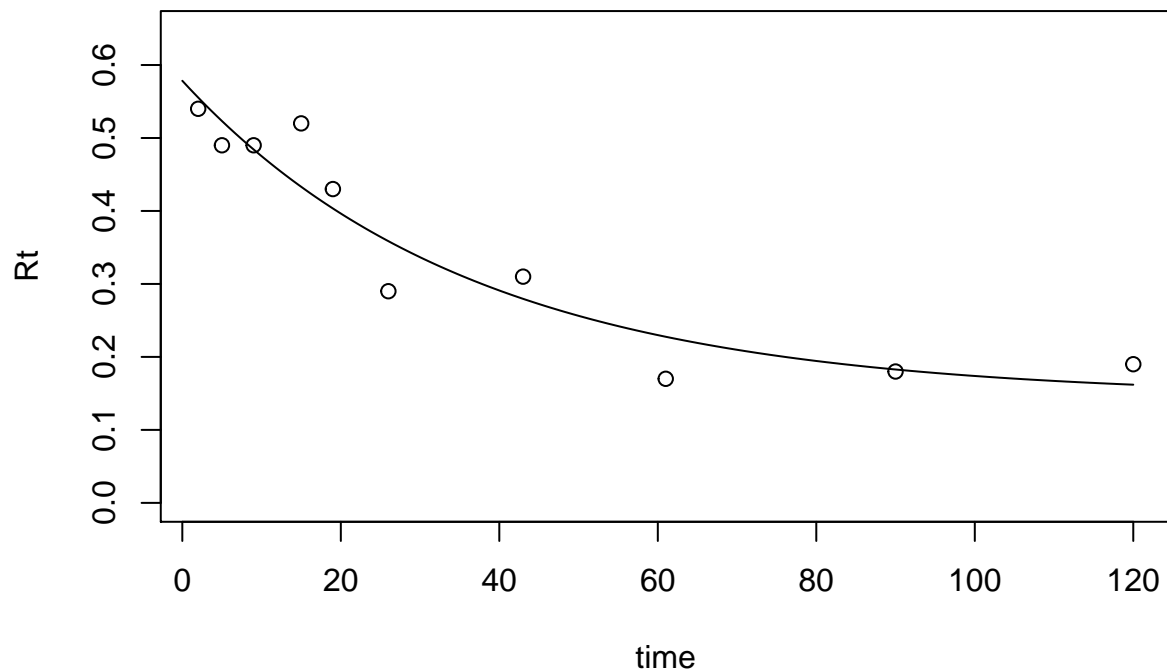
```

## [1] 14
## [1] "Best fit parameter: 3.61846155740415e-05"

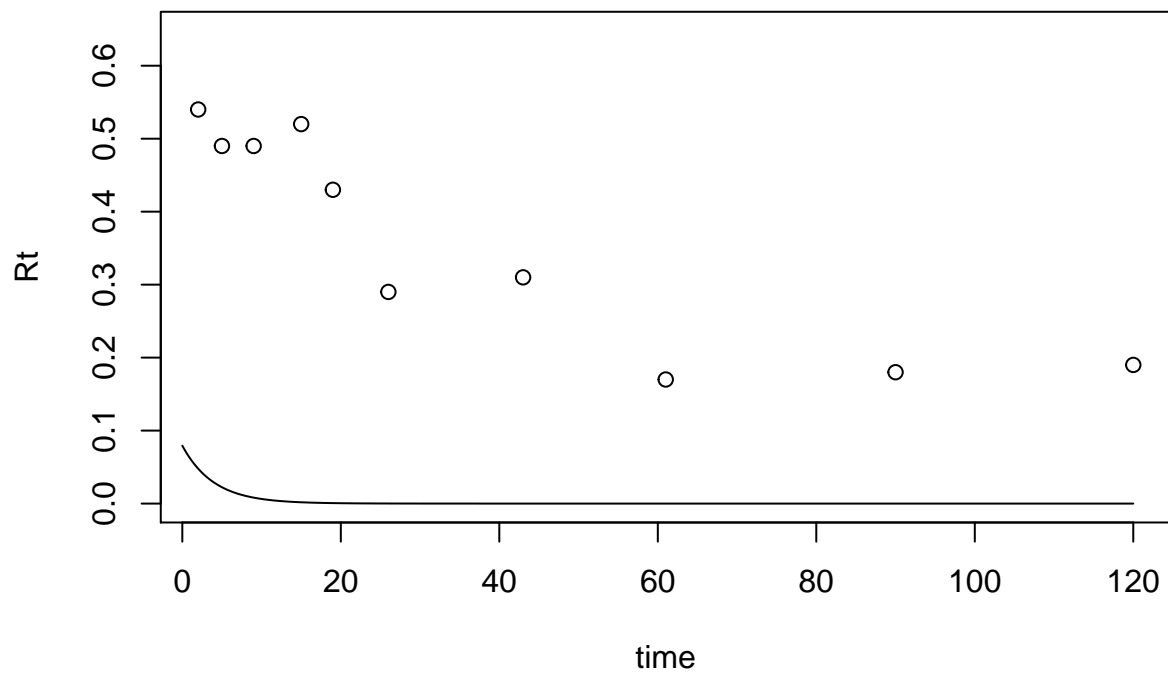
```



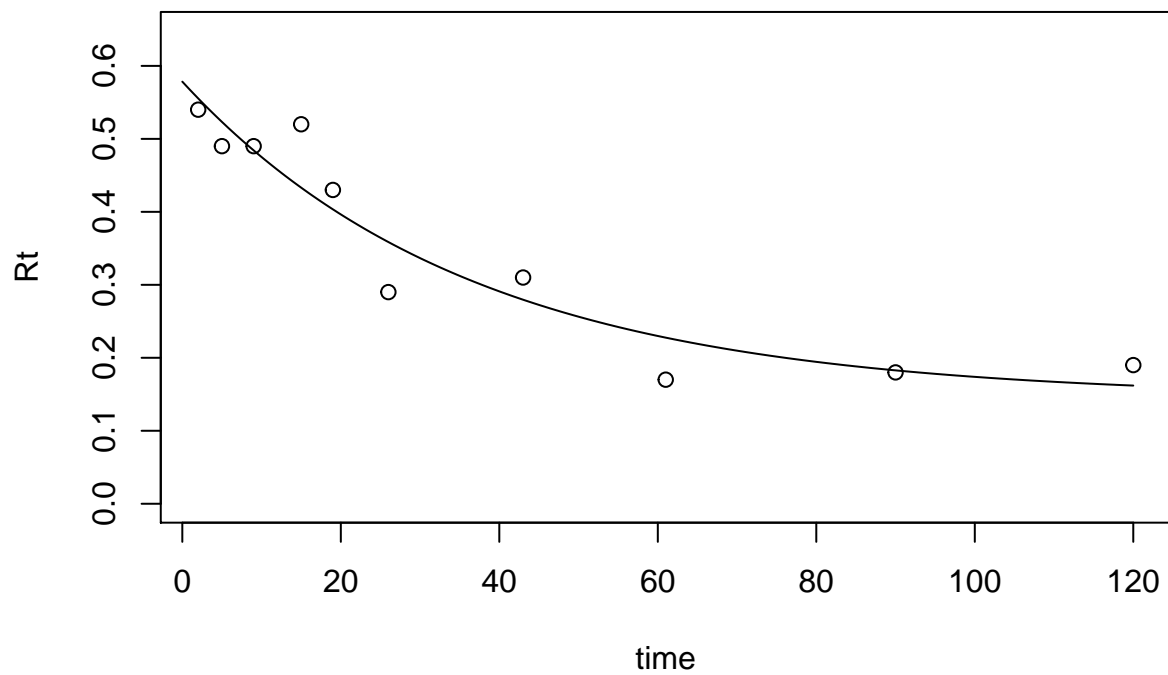
```
## [1] "AIC = 9.82130341735362"
## [1] "k1= 0.0272736265261431"
## [2] "k2= 1.46031084932836e-05"
## [3] "proportion of C0 in pool 1= 0.00158614613818431"
```



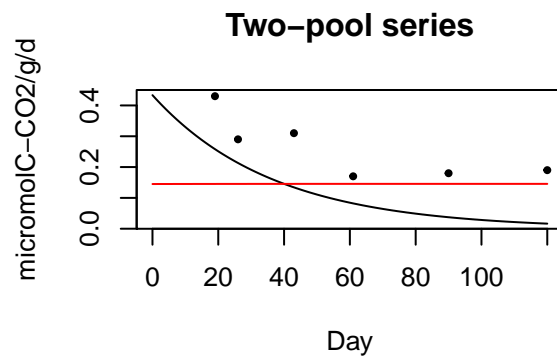
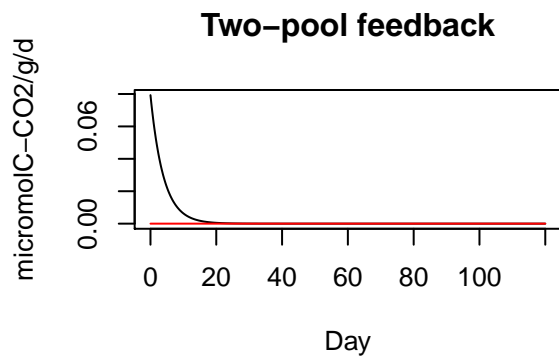
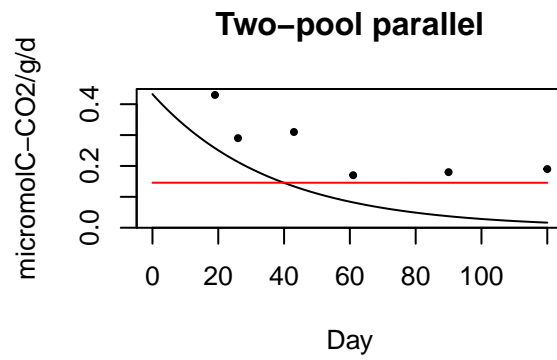
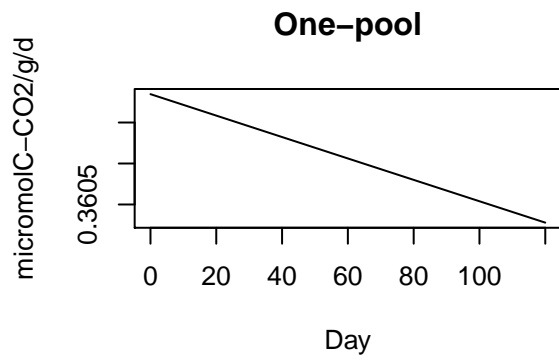
```
## [1] "AIC = 18.4922834683521"
## [1] "k1= 0.25288858049413"
## [2] "k2= 5.5192032739081e-84"
## [3] "a21= 0.99996864307202"
## [4] "a12= 5.32678290920963e-08"
## [5] "Proportion of C0 in pool 1= 0.999935252777385"
```



```
## [1] "AIC = 13.8989591223183"
## [1] "k1= 0.0272738671279995"
## [2] "k2= 1.46032189620254e-05"
## [3] "a21= 0.773414758072731"
## [4] "Proportion of C0 in pool 1= 0.00701300166343383"
```

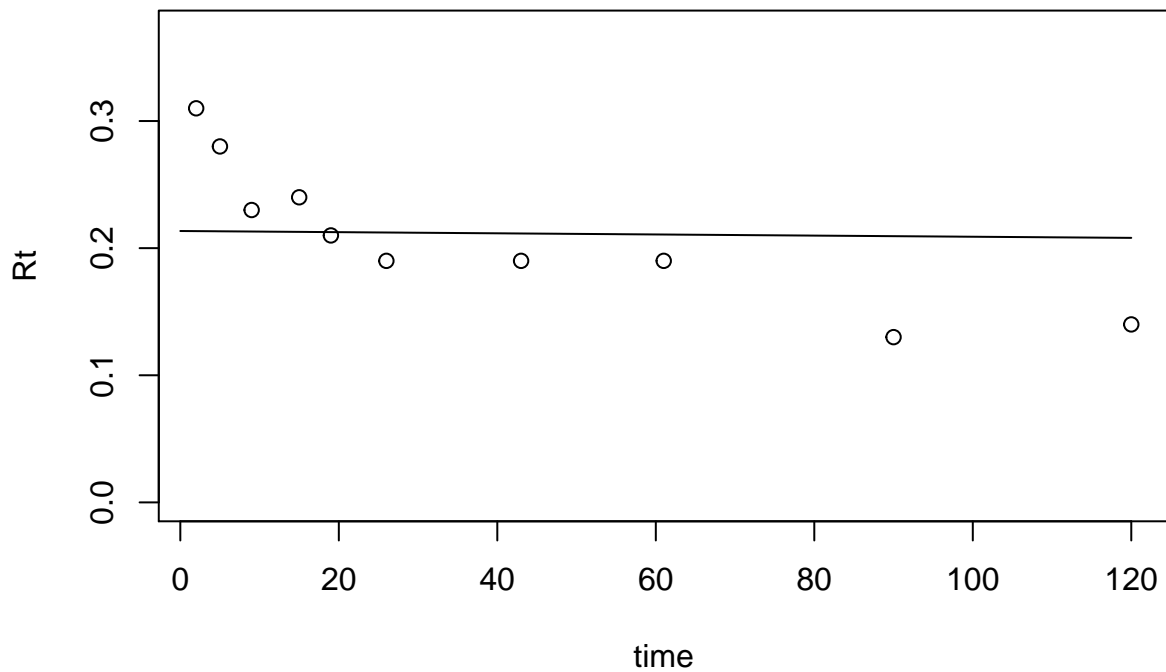


```
## [1] "AIC = 20.4922834677464"
## Error in solve.default(A): system is computationally singular: reciprocal condition number = 1.09125e+16
```



```
## [1] 134
```

```
## [1] "Best fit parameter: 0.00021347921592084"
```

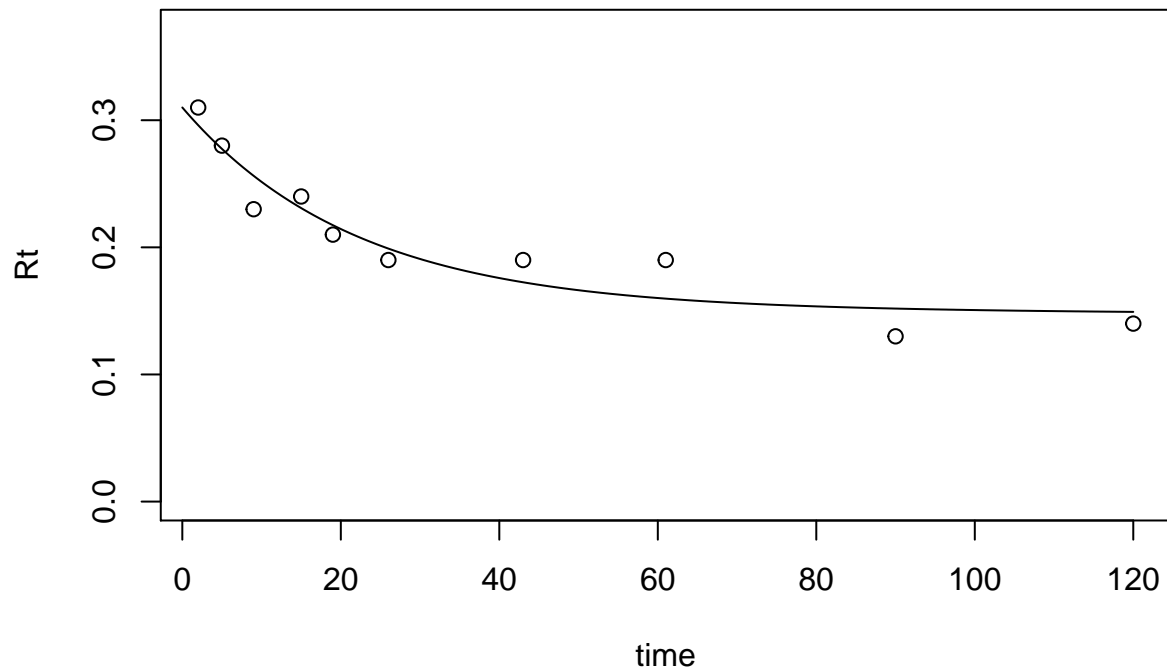


```
## [1] "AIC = 13.8175963547527"
```

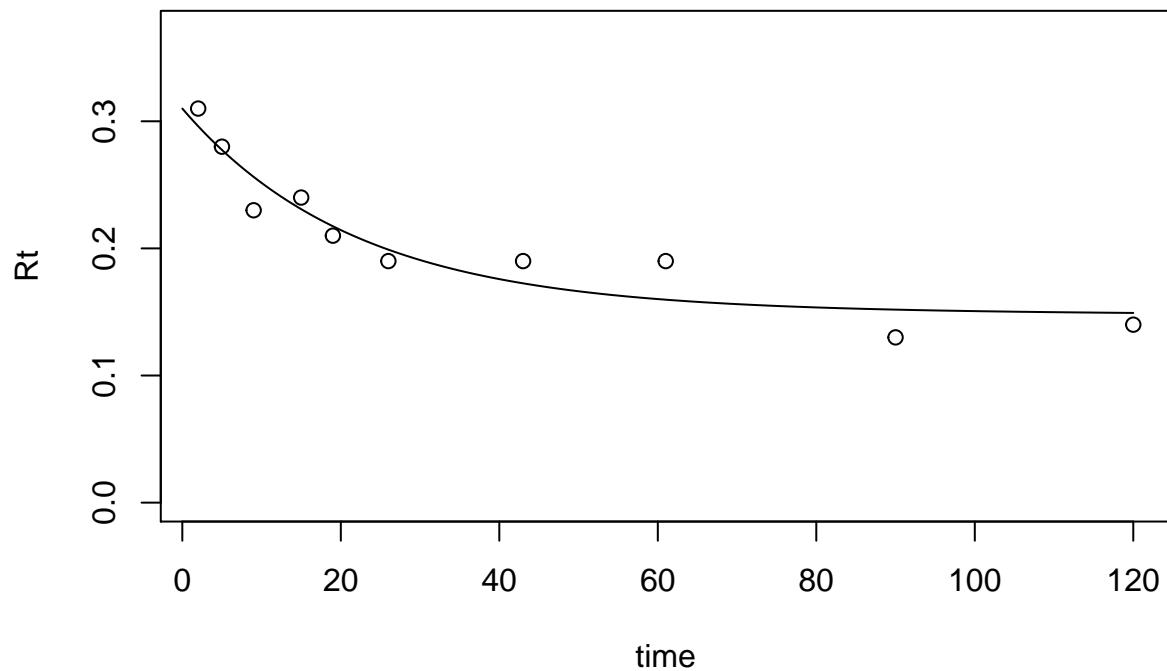
```
## [1] "k1= 0.0457439826328722"
```

```
## [2] "k2= 0.000151818857563742"
```

```
## [3] "proportion of C0 in pool 1= 0.00346975565222901"
```



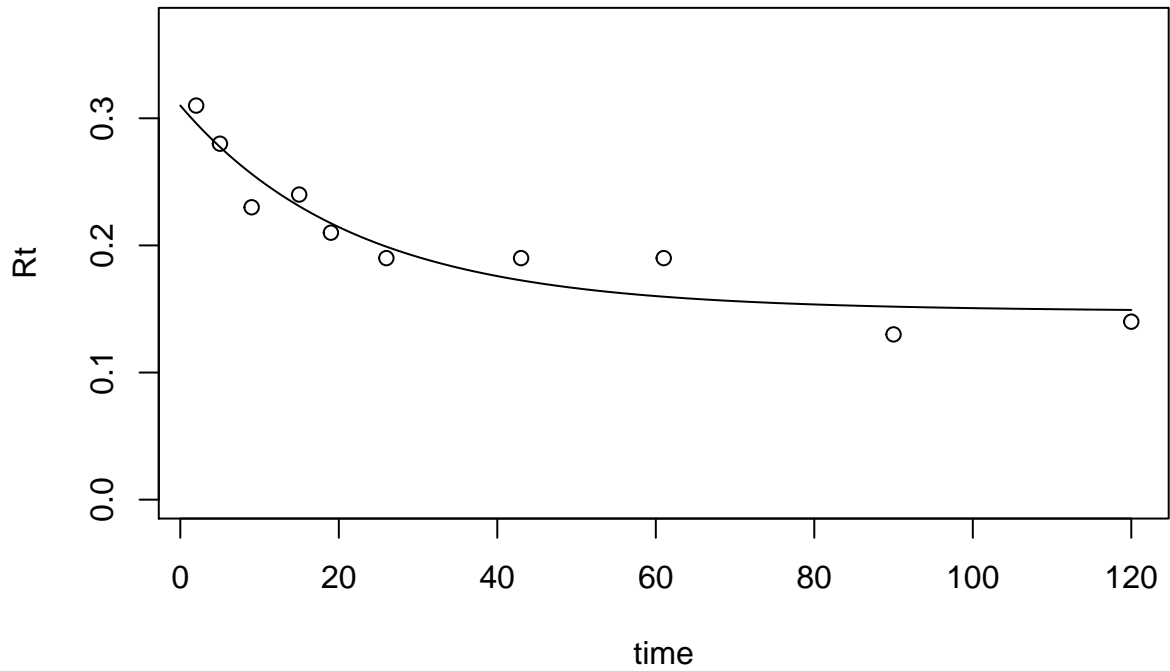
```
## [1] "AIC = 22.2933041212393"
## [1] "k1= 0.0457453938393622"
## [2] "k2= 0.00015182052616347"
## [3] "a21= 0.529802849438947"
## [4] "a12= 9.10579194812744e-06"
## [5] "Proportion of C0 in pool 1= 0.00740698163484832"
```



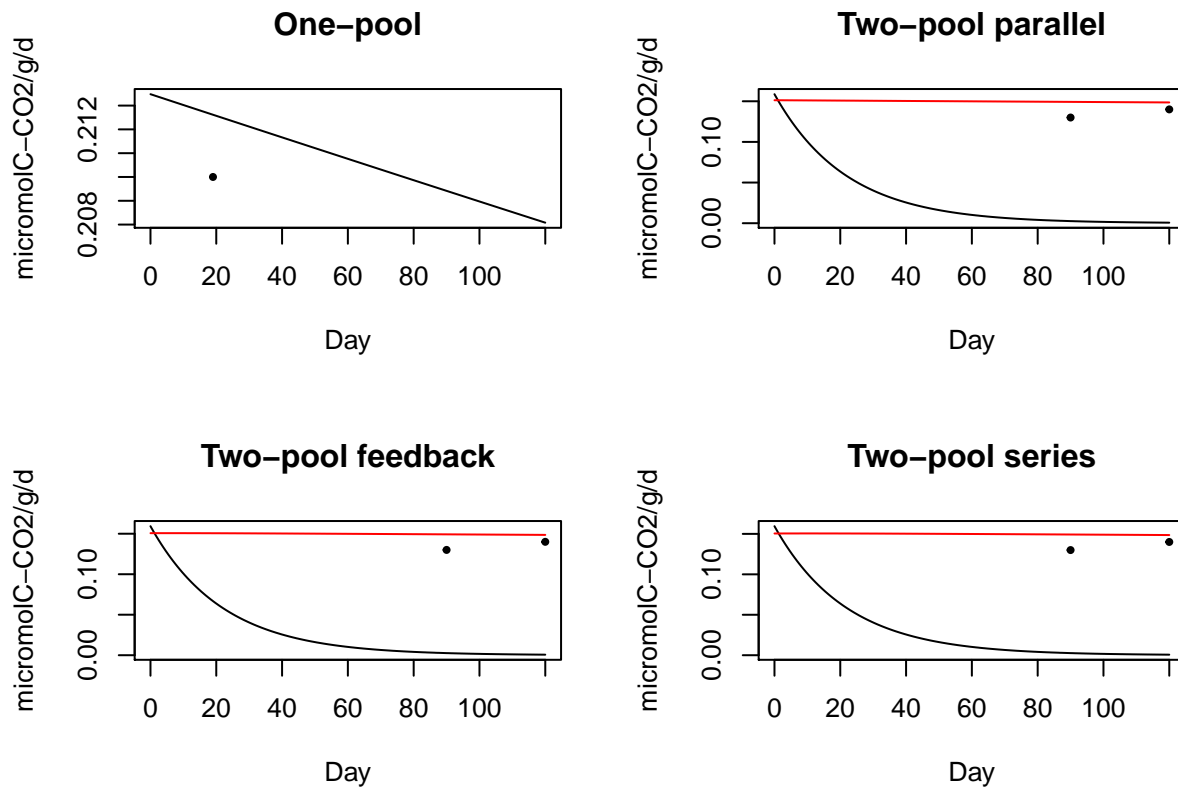
```
## [1] "AIC = 26.2933041232484"
## [1] "k1= 0.0457440604322926"
## [2] "k2= 0.000151818908403938"
## [3] "a21= 0.603218102923879"
```



```
## [4] "Proportion of C0 in pool 1= 0.00878928353157604"
```



```
## [1] "AIC = 24.2933041194608"
```

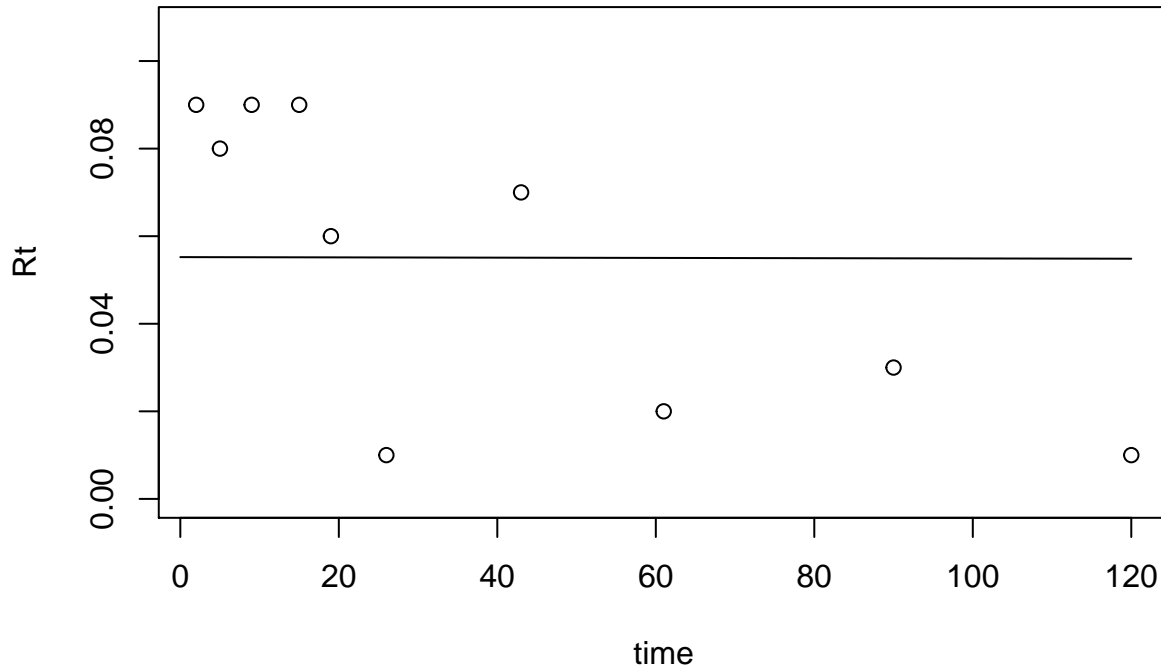


model	AIC	k1	k2	C0Inp1	a21	a12	AICc	wi	MeanTrT	q05
One-pool	13.8	0.000213	NA	NA	NA	NA	14.1	0.994	NA	NA
Two-pool parallel	22.3	0.0457	0.000152	0.00347	NA	NA	24.5	0.00562	6560	4540

model	AIC	k1	k2	C0Inp1	a21	a12	AICc	wi	MeanTrT	q05
Two-pool feedback	26.3	0.0457	0.000152	0.00741	0.53	9.11e-06	33	8.08e-05	3510	403
Two-pool series	24.3	0.0457	0.000152	0.00879	0.603	NA	28.3	0.000834	4000	1260

```
## [1] 44.5
```

```
## [1] "Best fit parameter: 5.5219569423732e-05"
```

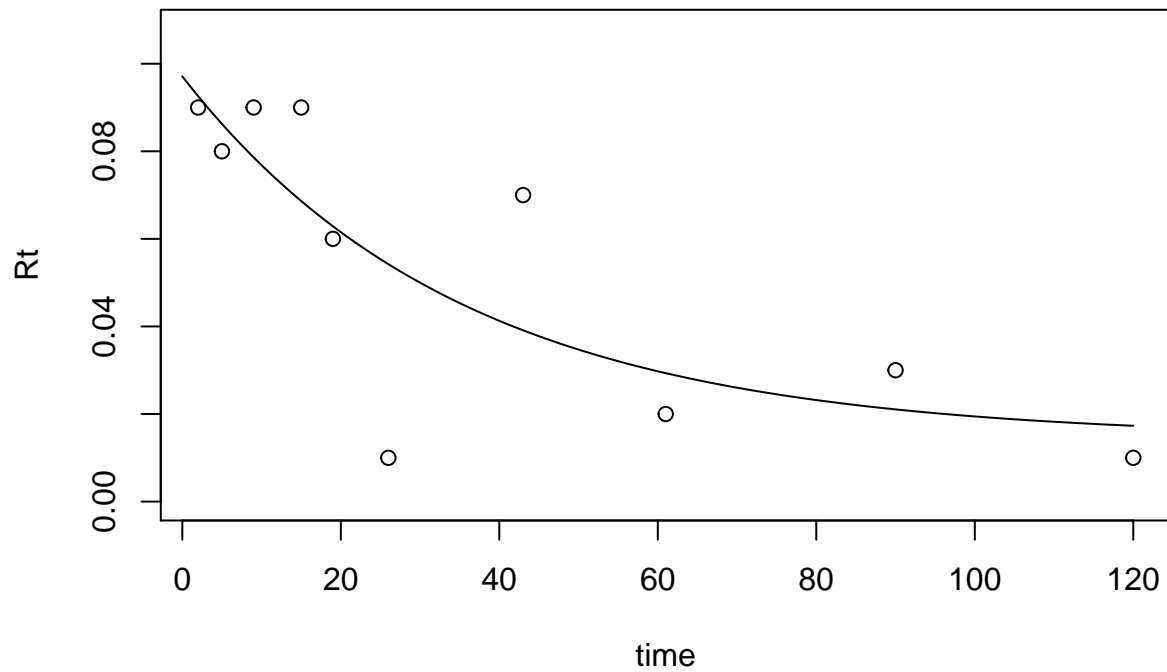


```
## [1] "AIC = 15.7381438458498"
```

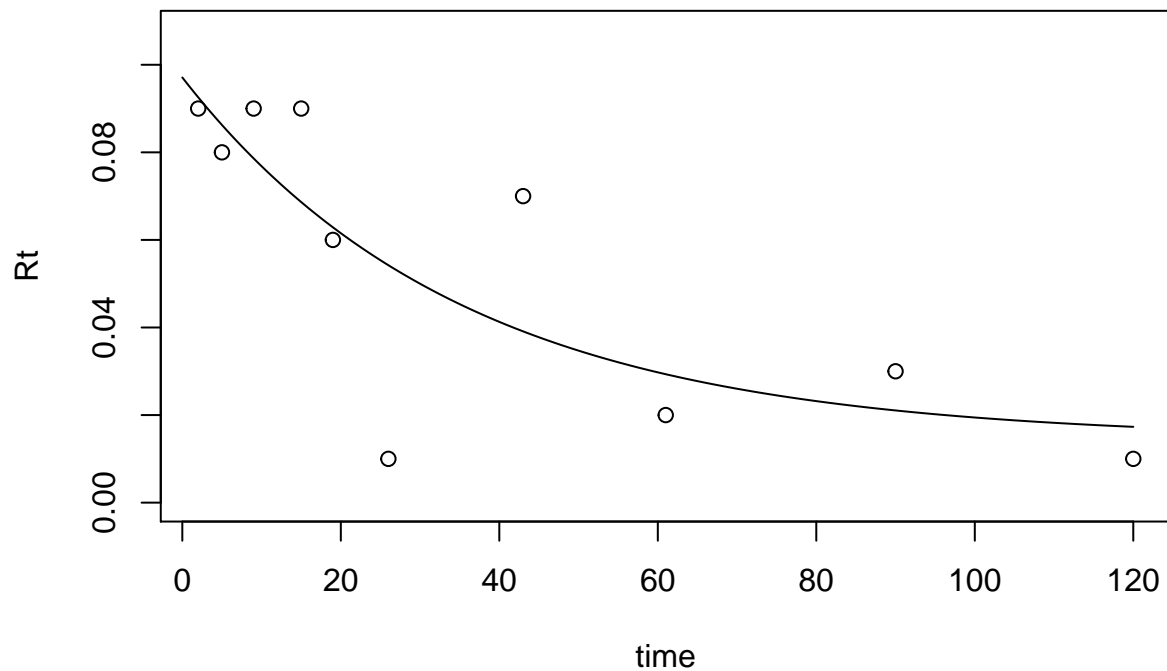
```
## [1] "k1= 0.0281620322370298"
```

```
## [2] "k2= 1.45662250757489e-05"
```

```
## [3] "proportion of C0 in pool 1= 0.00293224500474365"
```

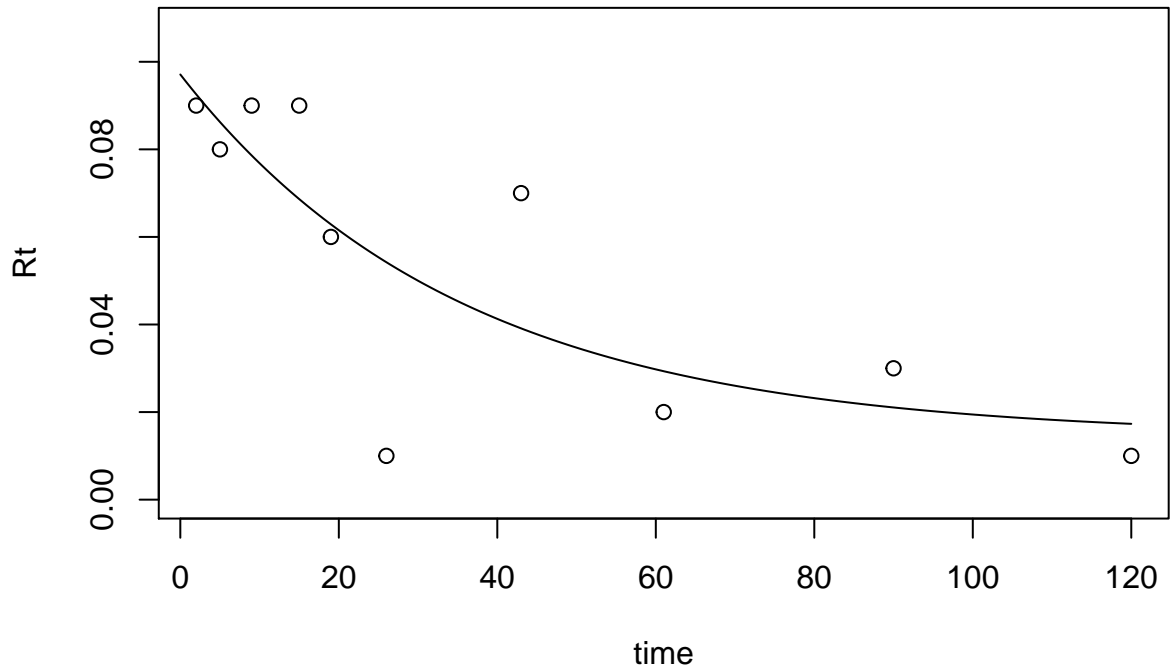


```
## [1] "AIC = 21.7665297973201"
## [1] "k1= 0.0281429216857622"
## [2] "k2= 3.40152910125754e-05"
## [3] "a21= 0.571503190546033"
## [4] "a12= 0.999942636443848"
## [5] "Proportion of C0 in pool 1= 0.0080519667293536"
```

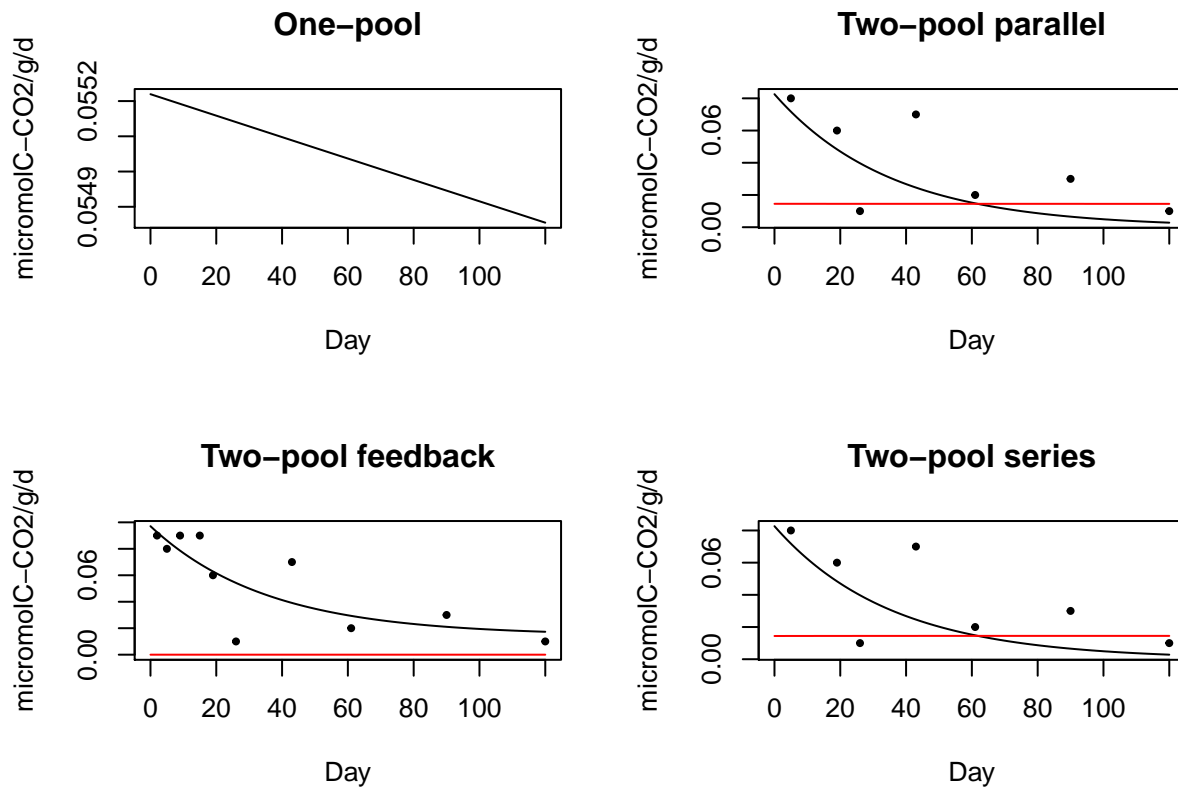


```
## [1] "AIC = 25.7665297973386"
## [1] "k1= 0.0281620707739843"
## [2] "k2= 1.45662569908704e-05"
## [3] "a21= 0.686691686735761"
```

[4] "Proportion of C0 in pool 1= 0.00936959508504975"



[1] "AIC = 23.7665297973262"

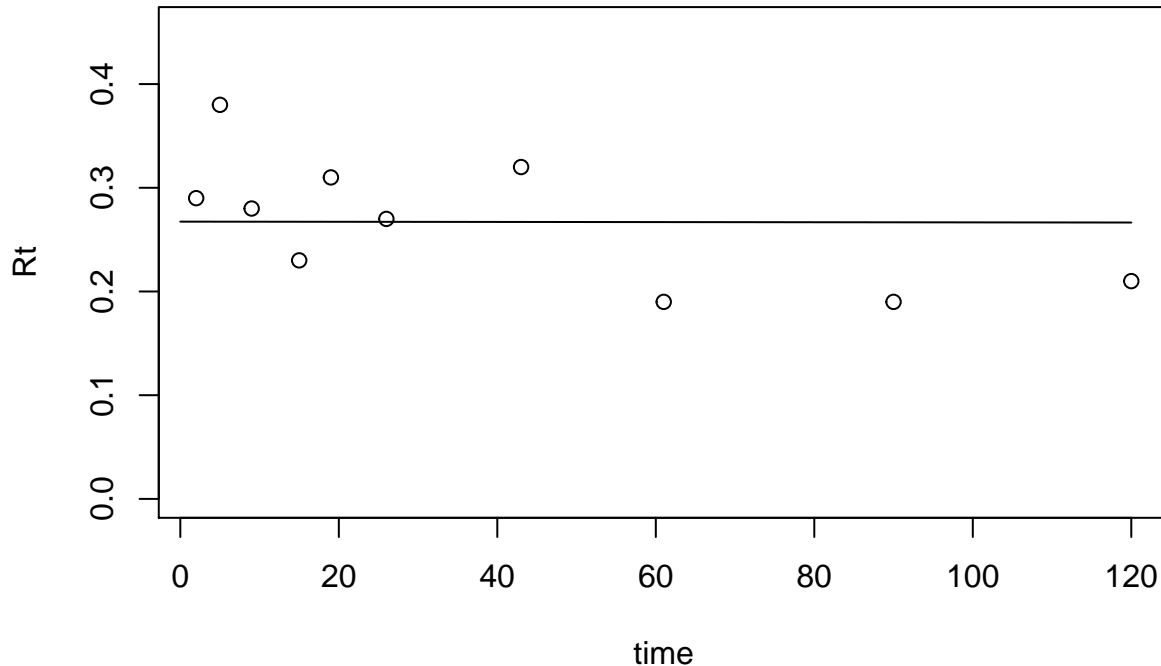


model	AIC	k1	k2	C0Inp1	a21	a12	AICc	wi	MeanTrT	q05
One-pool	15.7	5.52e-05	NA	NA	NA	NA	16	0.981	NA	NA
Two-pool parallel	21.8	0.0282	1.46e-05	0.00293	NA	NA	23.9	0.0189	68500	47400

model	AIC	k1	k2	C0Inp1	a21	a12	AICc	wi	MeanTrT	q05
Two-pool feedback	25.8	0.0281	3.4e-05	0.00805	0.572	1	32.4	0.000271	39300	9250
Two-pool series	23.8	0.0282	1.46e-05	0.00937	0.687	NA	27.8	0.0028	47200	21800

```
## [1] 14
```

```
## [1] "Best fit parameter: 2.67358796479199e-05"
```



```
## [1] "AIC = 13.3448617652771"
```

```
## [1] "k1= 0.0136286169936764"
```

```
## [2] "k2= 1.6349273997258e-05"
```

```
## [3] "proportion of C0 in pool 1= 0.0011609321778327"
```

```
## [1] "AIC = 18.6775255849321"
```

```
## DLSODA- Warning..Internal T (=R1) and H (=R2) are
##      such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
```

```
## In above message, R1 = 0, R2 = 0
```

```
##
```

```
## DINTDY- T (=R1) illegal
```

```
## In above message, R1 = 0.240481
```

```
##
```

```
##      T not in interval TCUR - HU (= R1) to TCUR (=R2)
```

```
## In above message, R1 = 0, R2 = 0
```

```
##
```

```
## DINTDY- T (=R1) illegal
```

```
## In above message, R1 = 0.480962
```

```
##
```

```
##      T not in interval TCUR - HU (= R1) to TCUR (=R2)
```

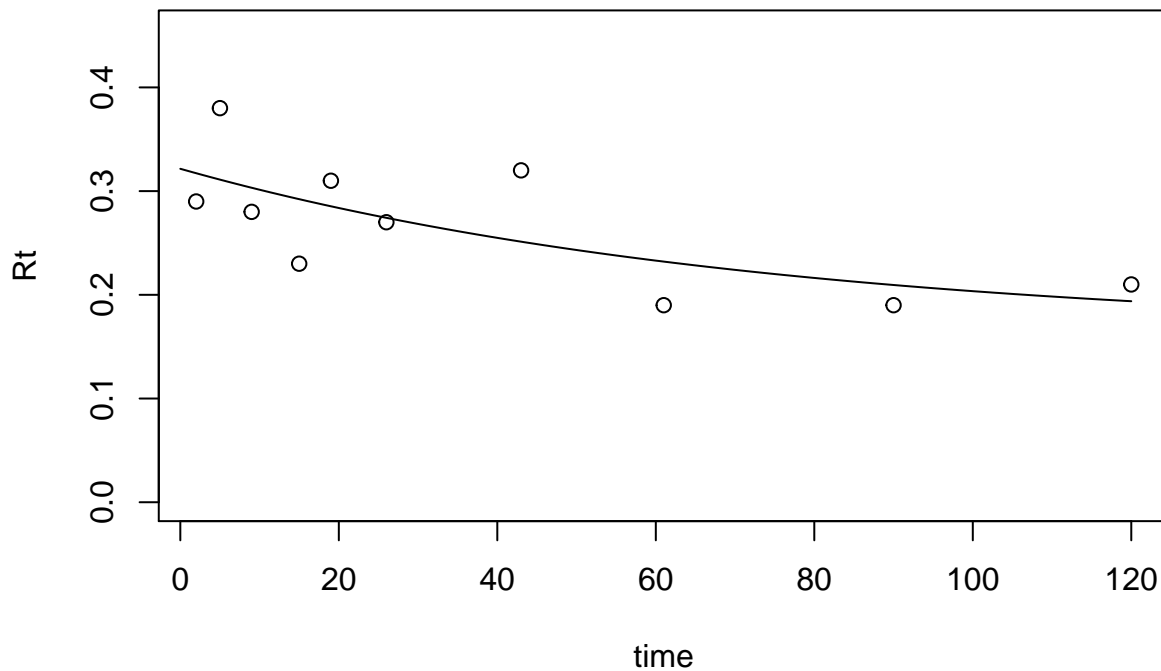
```
## In above message, R1 = 0, R2 = 0
```

```
##
```

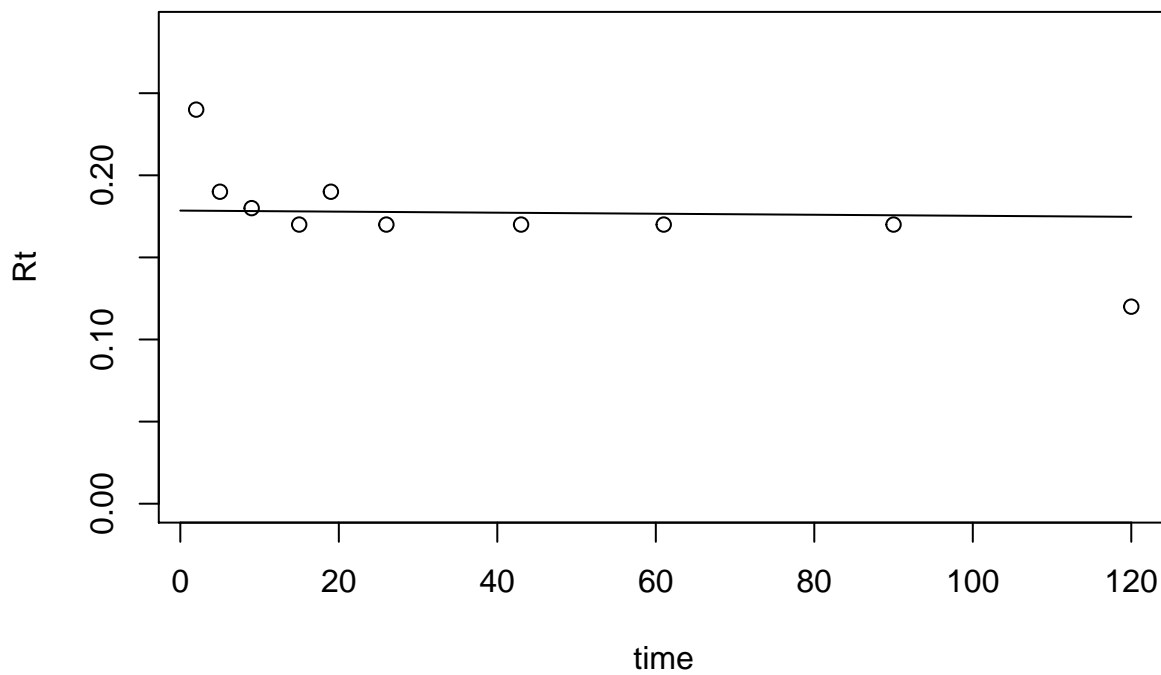
```
## DLSODA- Trouble in DINTDY. ITASK = I1, TOUT = R1
```

```
## In above message, I1 = 1
```

```
##
## In above message, R1 = 0.480962
##
## Error in lsoda(startValues, t, lsexamp): illegal input detected before taking any integration steps .
```

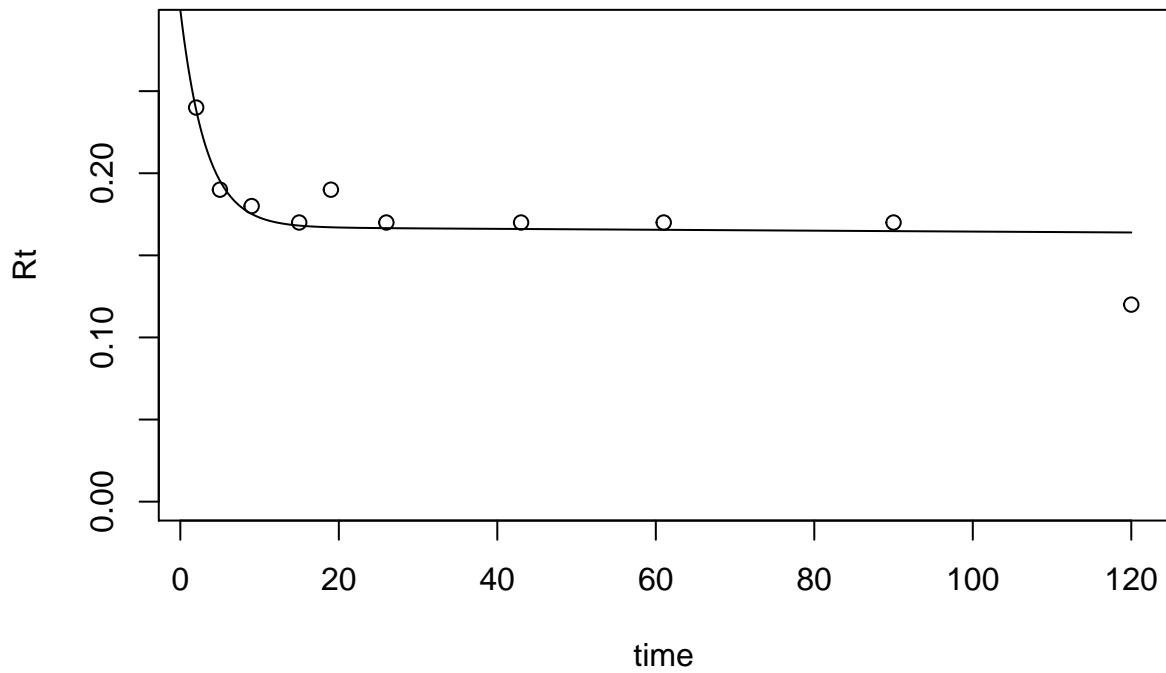


```
## [1] 134
## [1] "Best fit parameter: 0.000178504279533842"
```

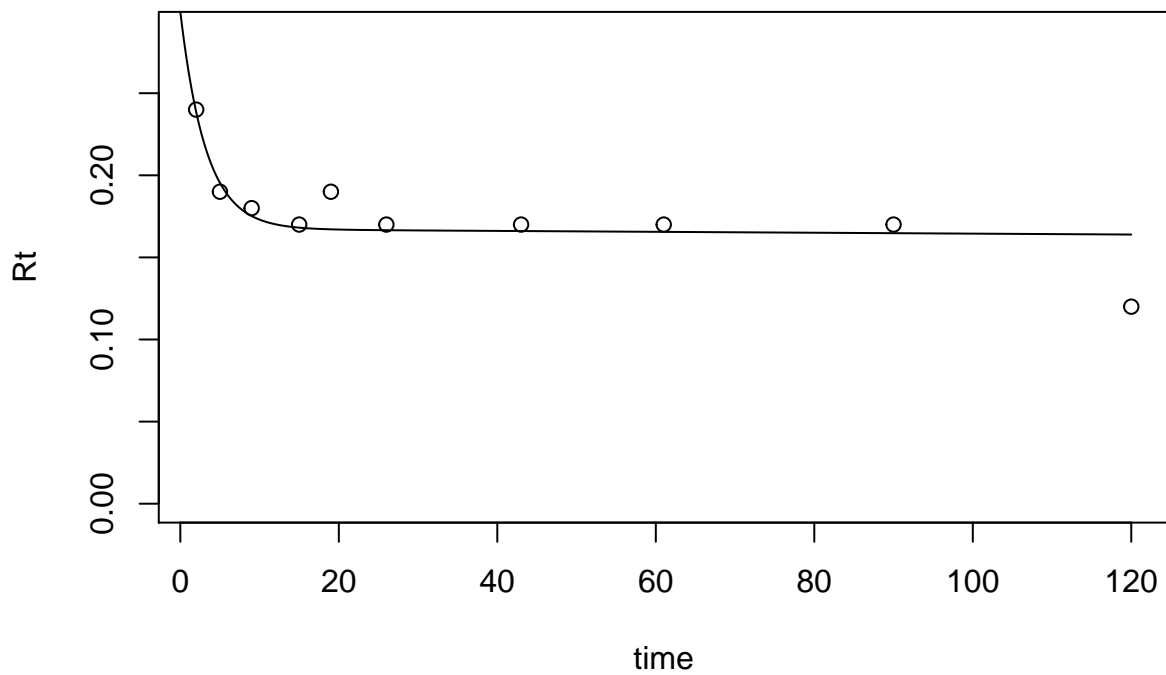


```
## [1] "AIC = 16.4397413410304"
## [1] "k1= 0.308705899927012"
## [2] "k2= 0.000167322005293377"
```

```
## [3] "proportion of C0 in pool 1= 0.000428474708790705"
```

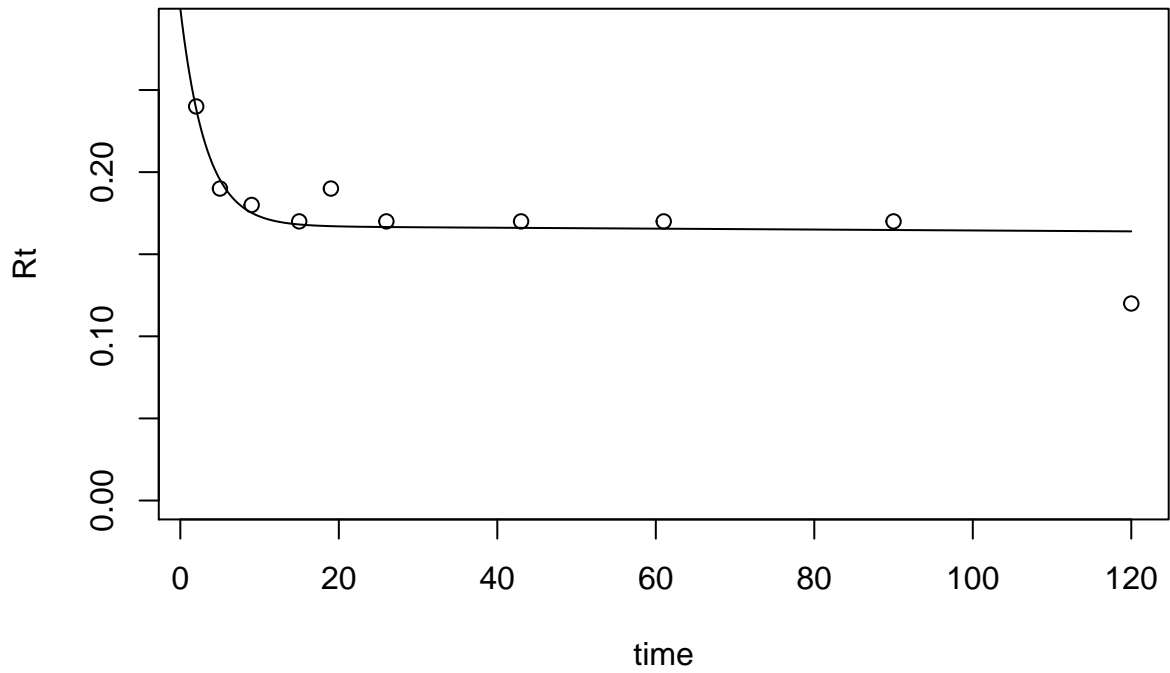


```
## [1] "AIC = 22.5203380673592"
## [1] "k1= 0.308714814631423"
## [2] "k2= 0.000167322331288798"
## [3] "a21= 0.712107281817727"
## [4] "a12= 1.63941731229356e-06"
## [5] "Proportion of C0 in pool 1= 0.00149033456132075"
```

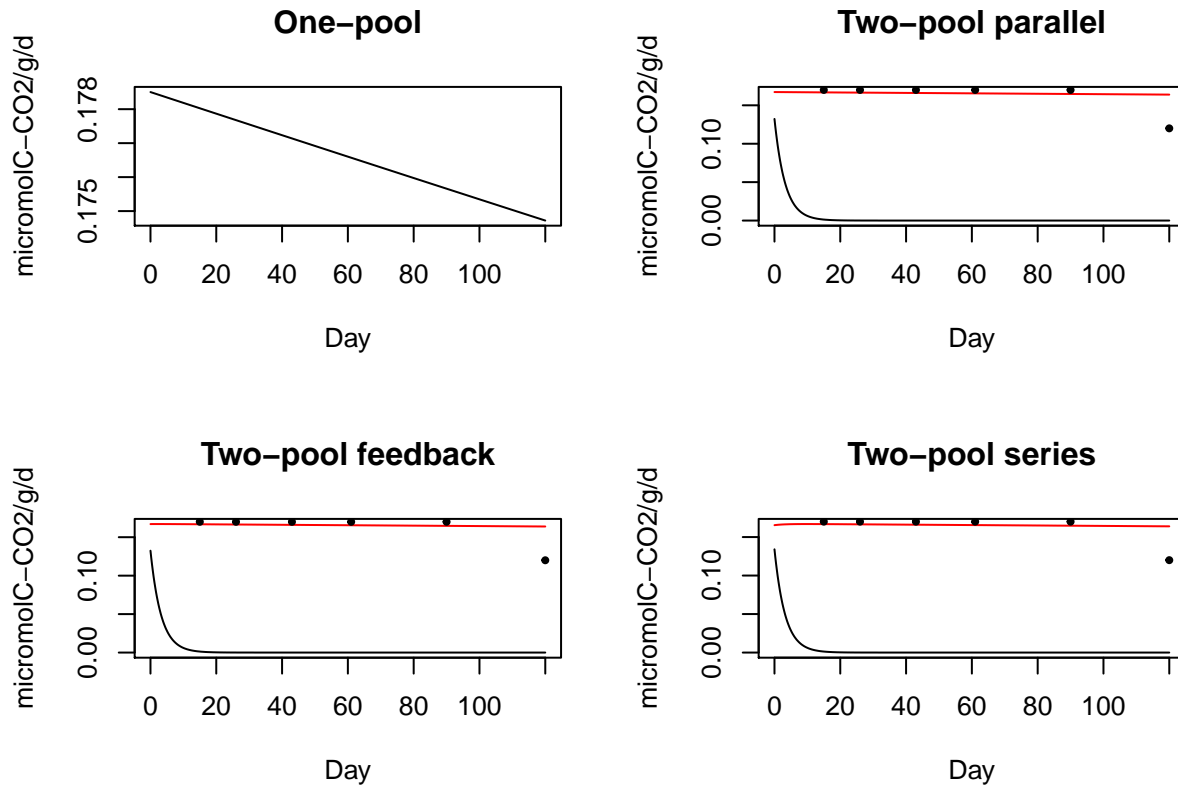


```
## [1] "AIC = 26.5203380599892"
## [1] "k1= 0.308740390670878"
## [2] "k2= 0.0001673225060896"
```

```
## [3] "a21= 0.961121845944376"
## [4] "Proportion of C0 in pool 1= 0.0111704191107835"
```



```
## [1] "AIC = 24.520338064238"
```

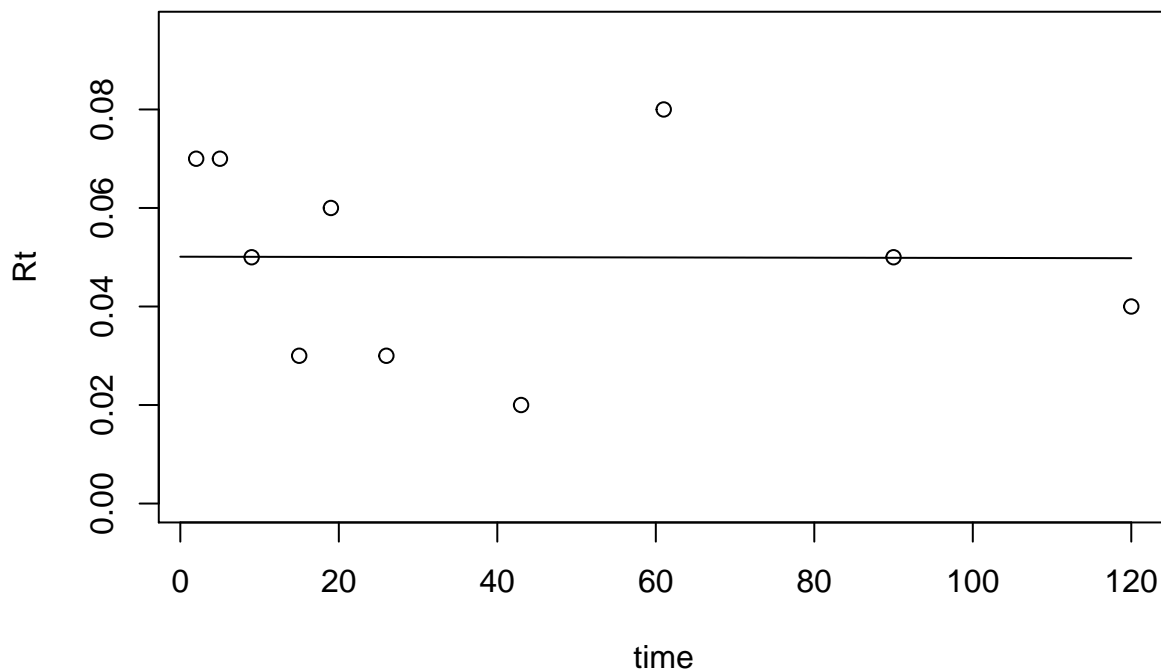


model	AIC	k1	k2	C0Inp1	a21	a12	AICc	wi	MeanTrT	q05
One-pool	16.4	0.000179	NA	NA	NA	NA	16.7	0.981	NA	NA

model	AIC	k1	k2	C0Inp1	a21	a12	AICc	wi	MeanTrT	q05
Two-pool parallel	22.5	0.309	0.000167	0.000428	NA	NA	24.7	0.0184	5970	4140
Two-pool feedback	26.5	0.309	0.000167	0.00149	0.712	1.64e-06	33.2	0.000264	4260	2120
Two-pool series	24.5	0.309	0.000167	0.0112	0.961	NA	28.5	0.00273	5750	3910

```
## [1] 44.5
```

```
## [1] "Best fit parameter: 5.01089152744342e-05"
```

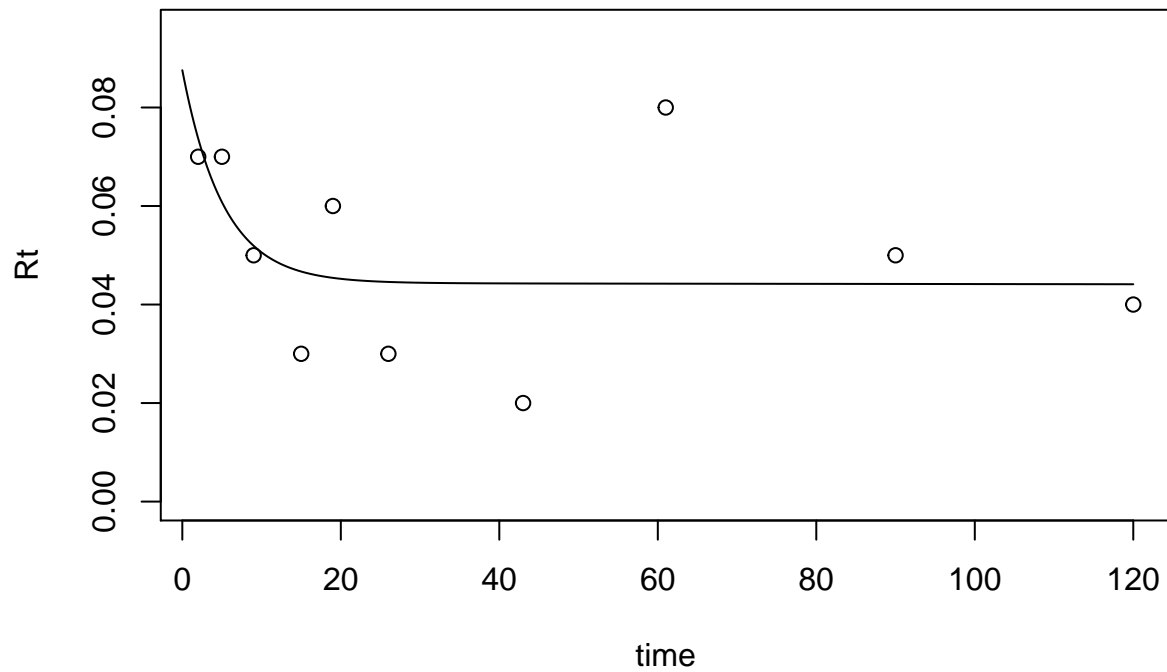


```
## [1] "AIC = 17.8619665682999"
```

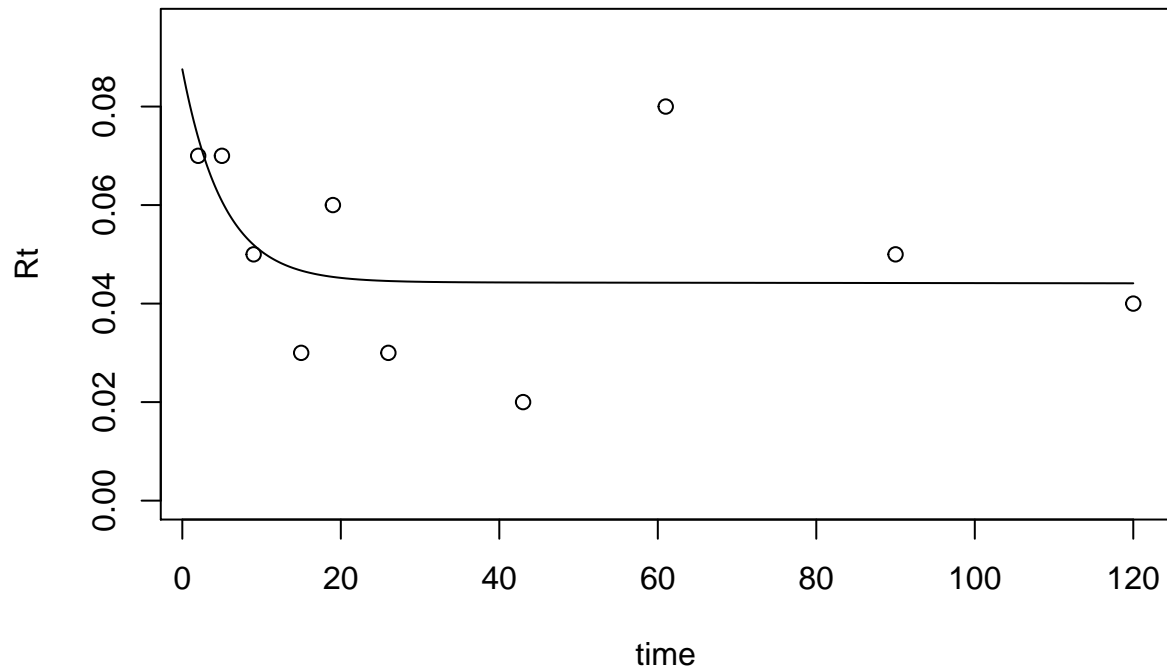
```
## [1] "k1= 0.193384117893724"
```

```
## [2] "k2= 4.43649460708143e-05"
```

```
## [3] "proportion of C0 in pool 1= 0.000223448792556424"
```

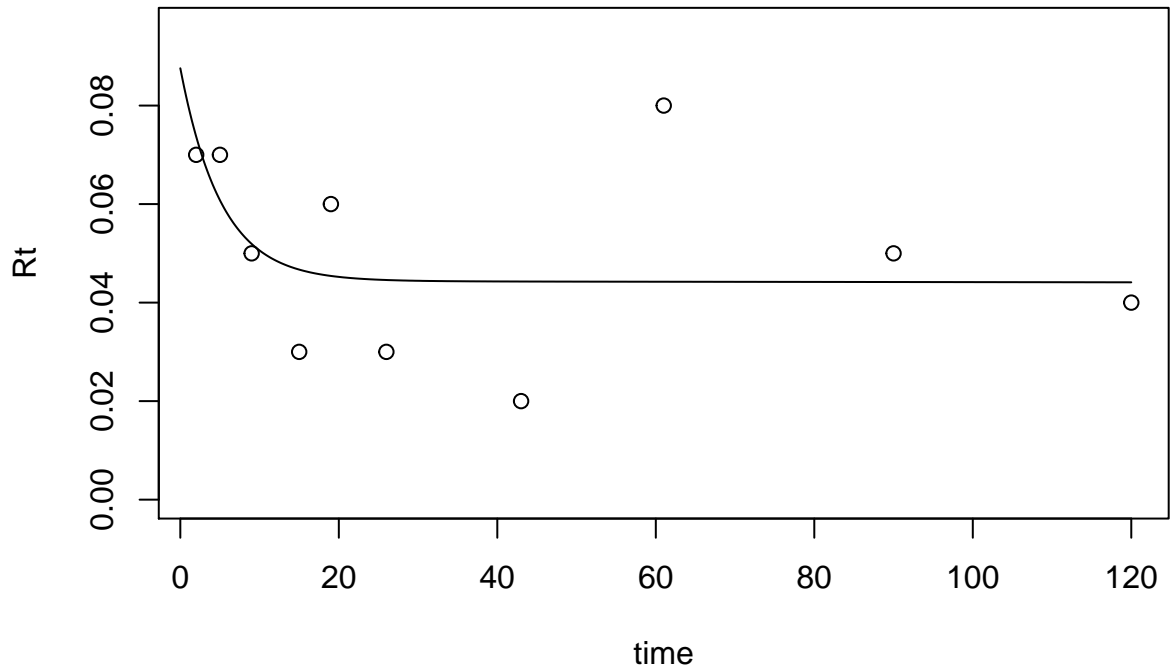


```
## [1] "AIC = 22.4146482028711"
## [1] "k1= 0.193009094068969"
## [2] "k2= 0.000425213586304133"
## [3] "a21= 0.895553485841211"
## [4] "a12= 0.999893656336333"
## [5] "Proportion of C0 in pool 1= 0.00434155988081281"
```

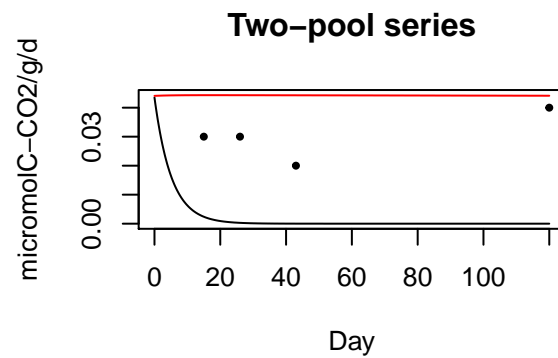
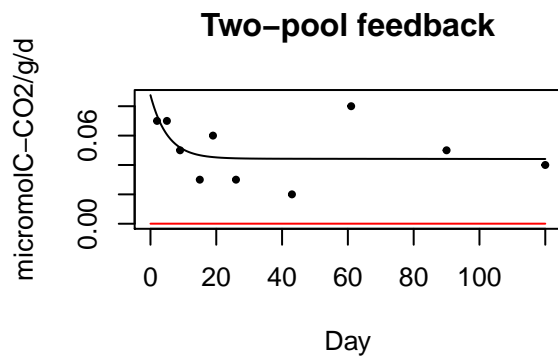
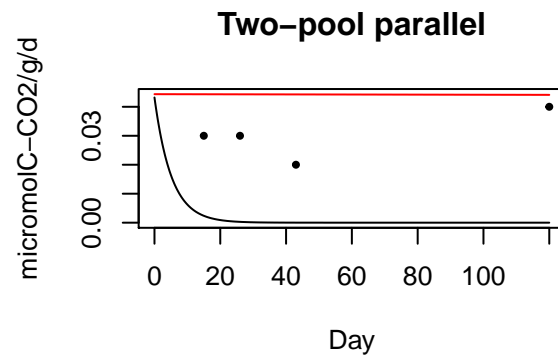
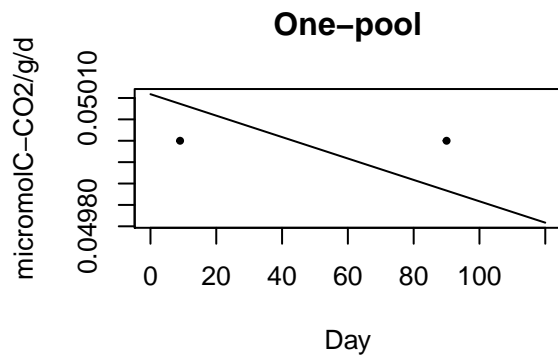


```
## [1] "AIC = 26.414648210604"
## [1] "k1= 0.193454527573532"
## [2] "k2= 4.43658874654584e-05"
## [3] "a21= 0.96581609650313"
```

```
## [4] "Proportion of C0 in pool 1= 0.00657802627200632"
```



```
## [1] "AIC = 24.414648219164"
```

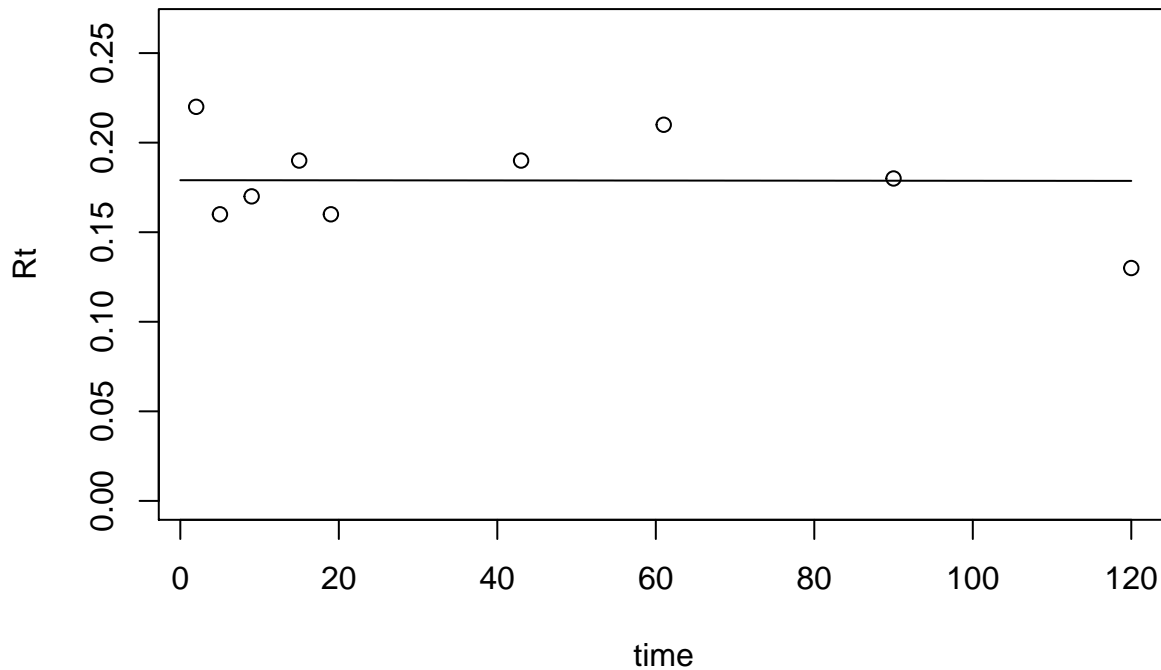


model	AIC	k1	k2	C0Inp1	a21	a12	AICc	wi	MeanTrT	q05
One-pool	17.9	5.01e-05	NA	NA	NA	NA	18.2	0.961	NA	NA
Two-pool parallel	22.4	0.193	4.44e-05	0.000223	NA	NA	24.6	0.0386	22500	15600

model	AIC	k1	k2	C0Inp1	a21	a12	AICc	wi	MeanTrT	q05
Two-pool feedback	26.4	0.193	0.000425	0.00434	0.896	1	33.1	0.000555	20200	13100
Two-pool series	24.4	0.193	4.44e-05	0.00658	0.966	NA	28.4	0.00573	21800	14800

[1] 14

[1] "Best fit parameter: 1.79032867469463e-05"

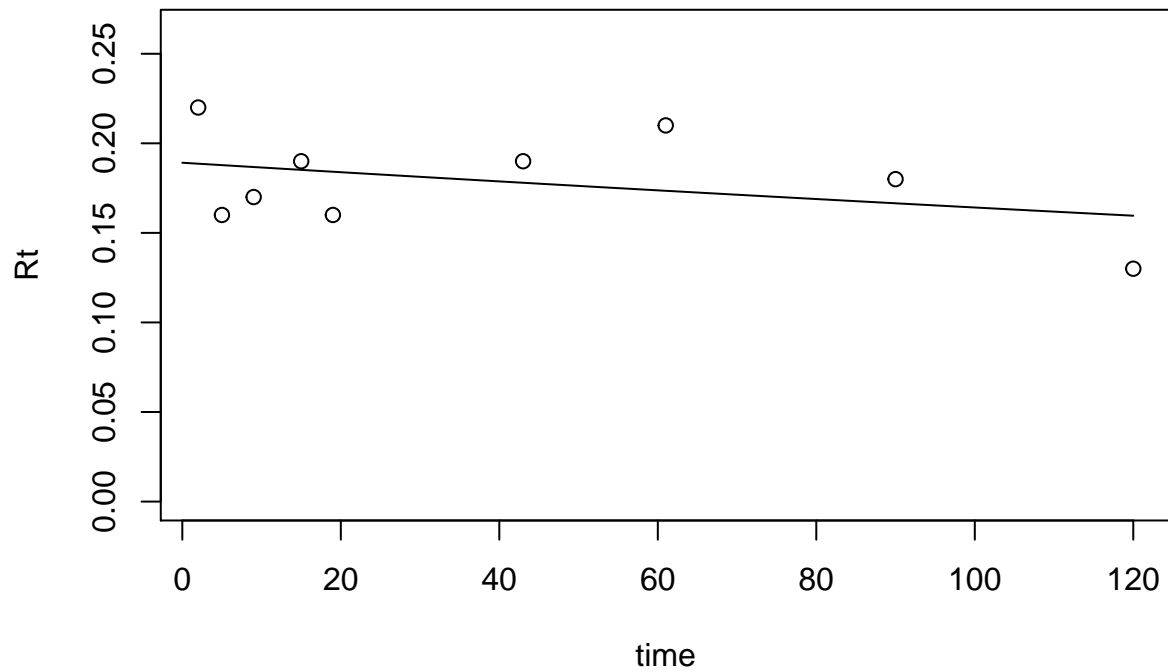


[1] "AIC = 16.6047241875139"

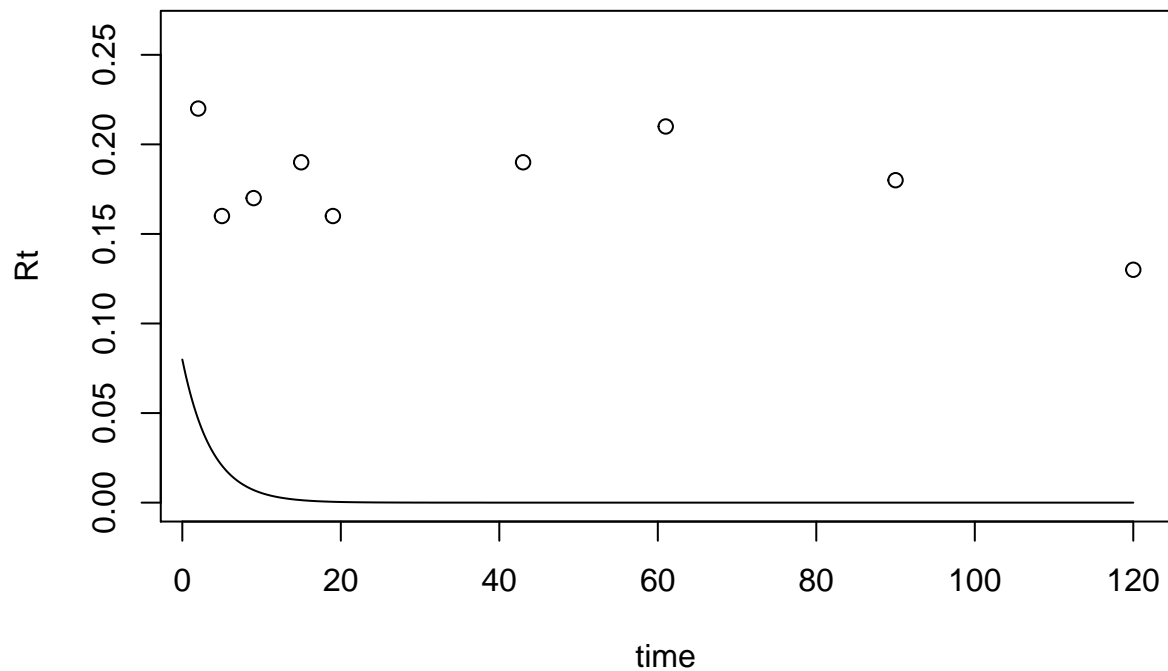
[1] "k1= 0.00141654692495798"

[2] "k2= 5.14131404838199e-12"

[3] "proportion of C0 in pool 1= 0.0133537357776062"

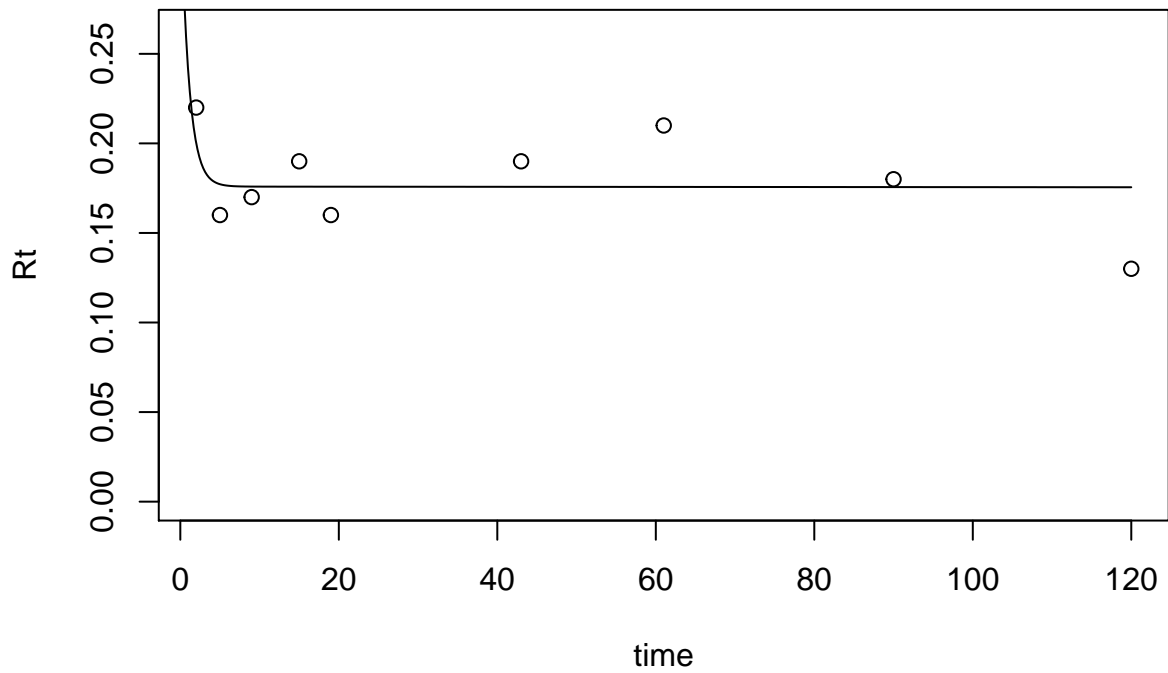


```
## [1] "AIC = 20.920593213358"
## [1] "k1= 0.27027449335596"
## [2] "k2= 3.99752272264471e-123"
## [3] "a21= 0.000148539514611135"
## [4] "a12= 3.73370414030738e-08"
## [5] "Proportion of C0 in pool 1= 2.95611477262314e-05"
```



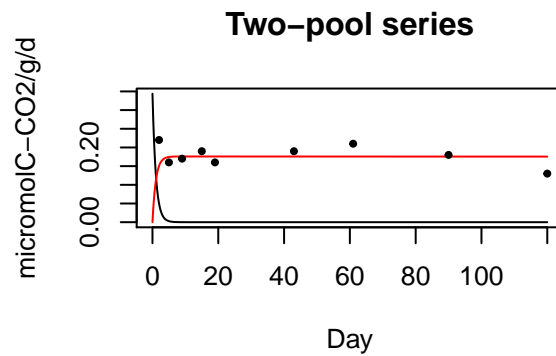
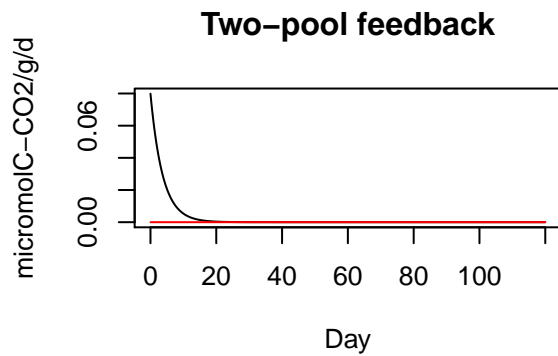
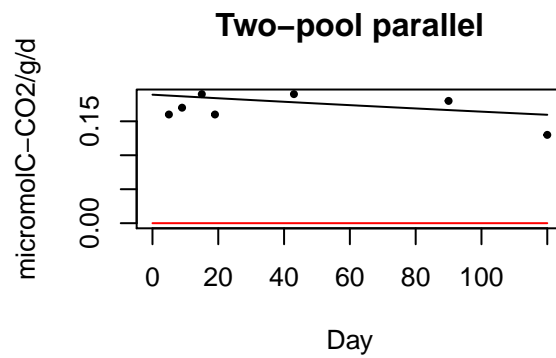
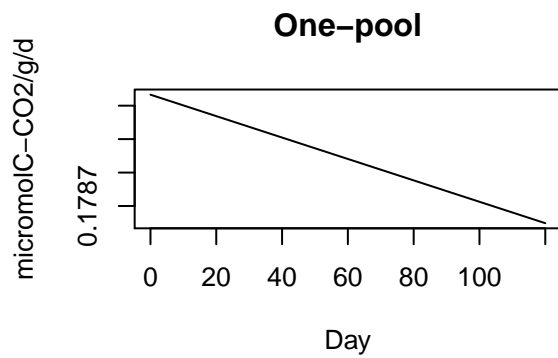
```
## [1] "AIC = 17.0386067132553"
## [1] "k1= 0.965898111409183"
## [2] "k2= 1.75889820548046e-05"
## [3] "a21= 0.999964392672465"
```

```
## [4] "Proportion of C0 in pool 1= 0.999967334461774"
```



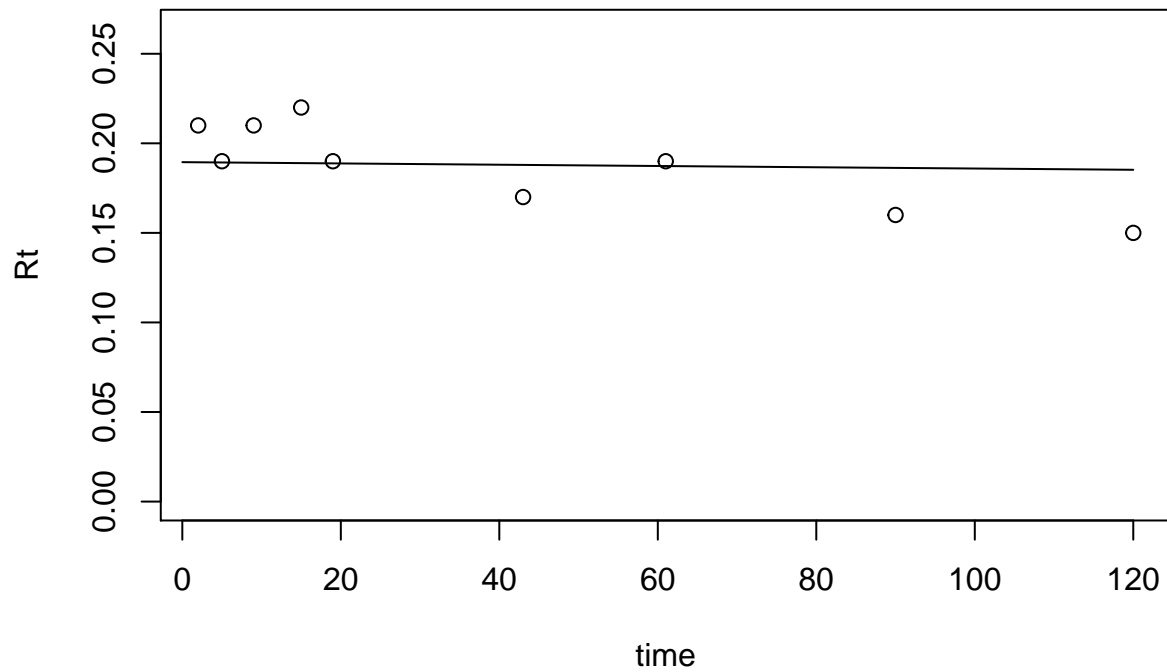
```
## [1] "AIC = 23.1412715635328"
```

```
## Error in solve.default(A): system is computationally singular: reciprocal condition number = 1.47884
```

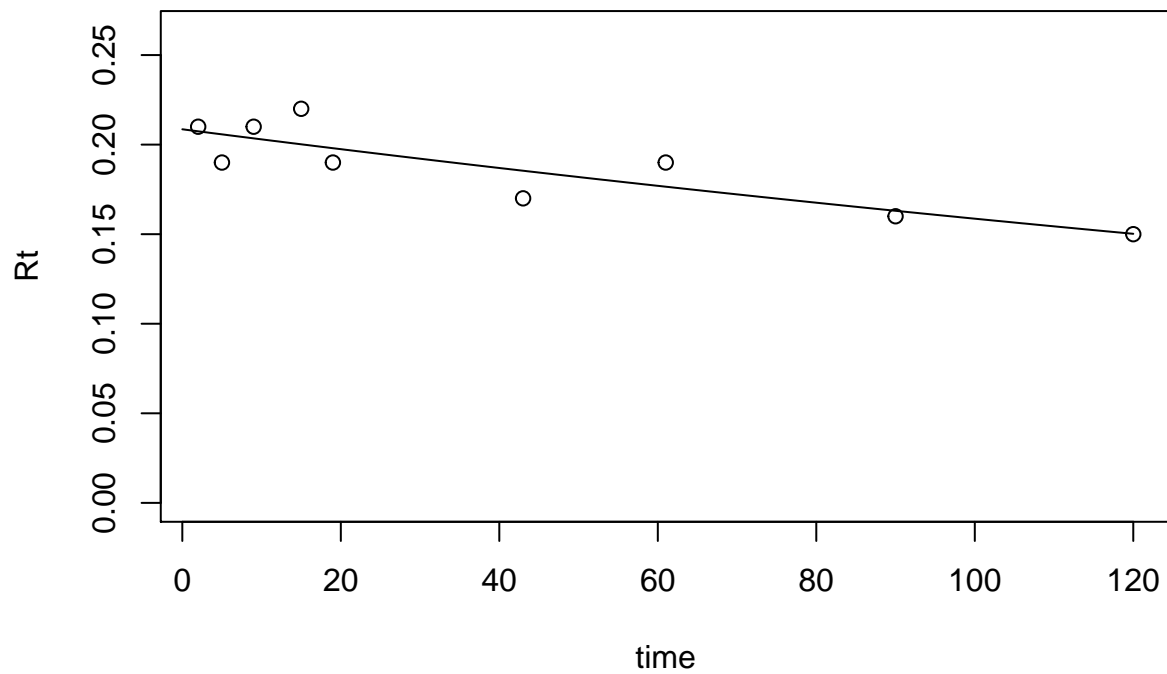


```
## [1] 134
```

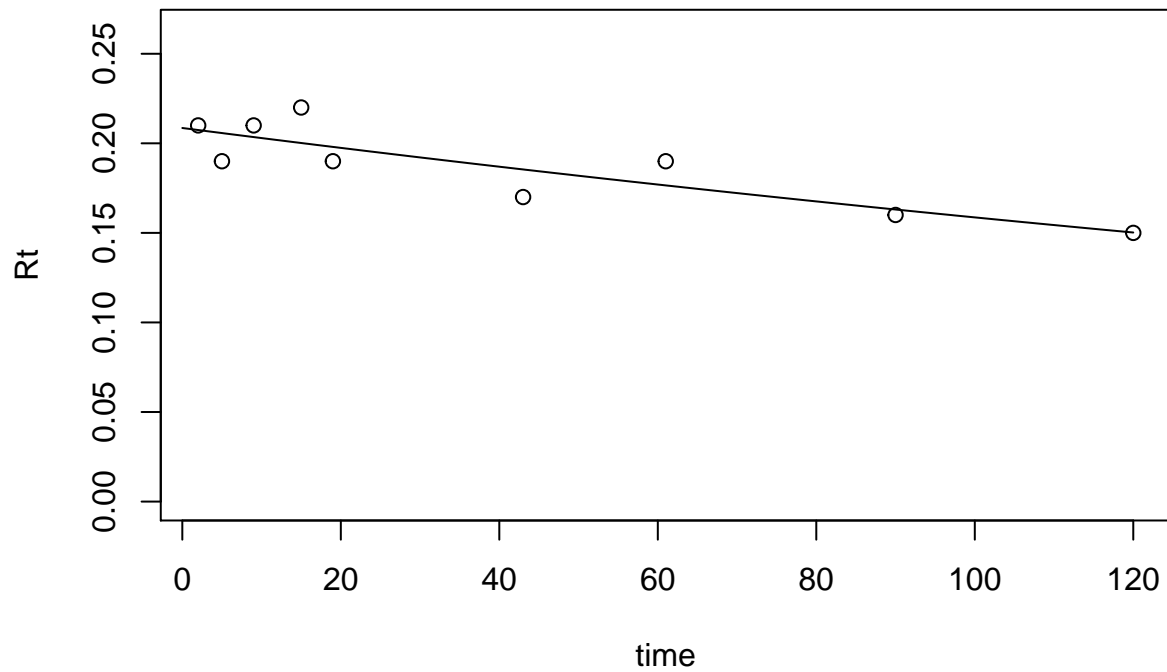
```
## [1] "Best fit parameter: 0.000189487661268631"
```



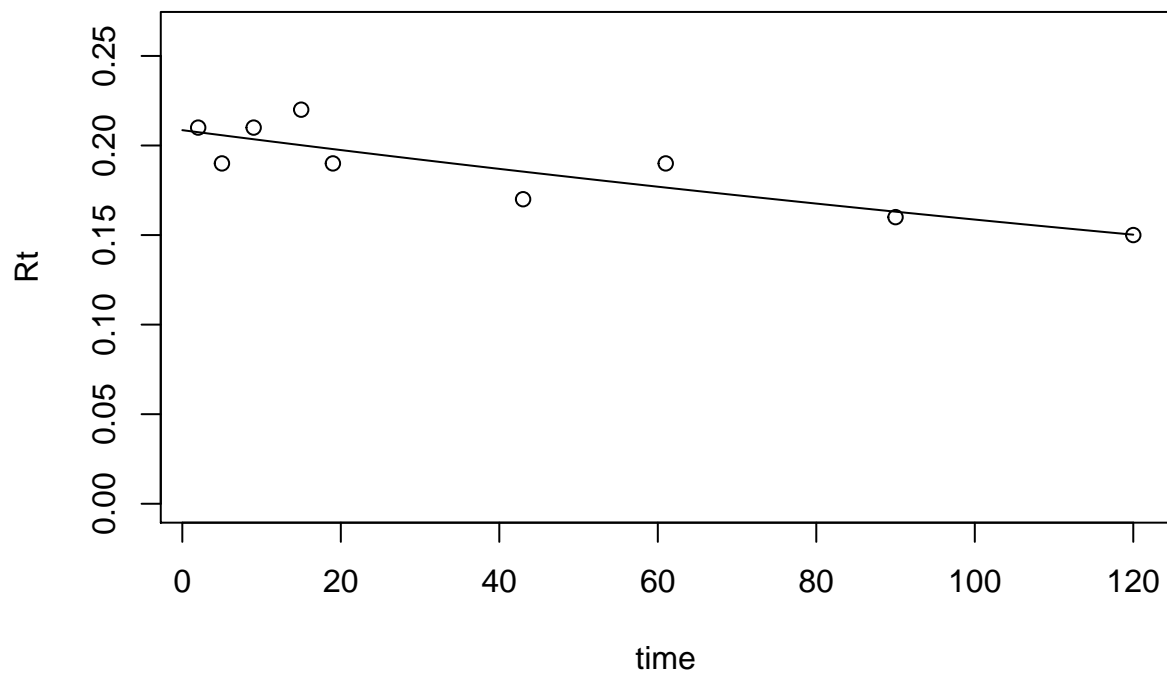
```
## [1] "AIC = 17.3952791417193"
## [1] "k1= 0.00273599237493587"
## [2] "k2= 6.00543132186697e-08"
## [3] "proportion of C0 in pool 1= 0.0762092603652466"
```



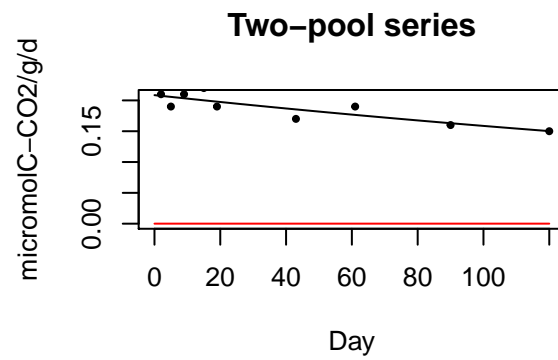
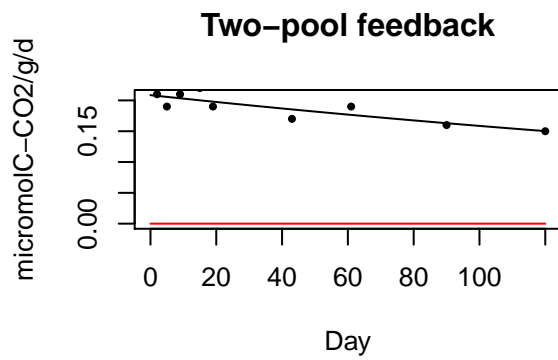
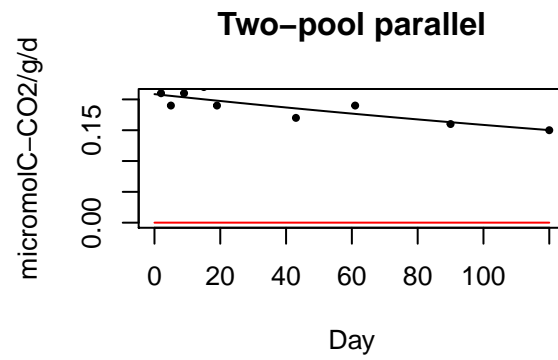
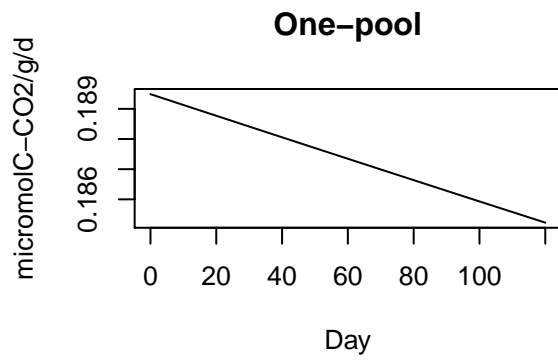
```
## [1] "AIC = 23.874918438952"
## [1] "k1= 0.00273563615739389"
## [2] "k2= 3.31064327631205e-08"
## [3] "a21= 0.0220015182659275"
## [4] "a12= 1.03905618198952e-05"
## [5] "Proportion of C0 in pool 1= 0.0779420881435318"
```



```
## [1] "AIC = 27.8749194499545"
## [1] "k1= 0.0027359057556998"
## [2] "k2= 5.2271042267928e-08"
## [3] "a21= 0.0192367379406182"
## [4] "Proportion of C0 in pool 1= 0.0777085419544267"
```



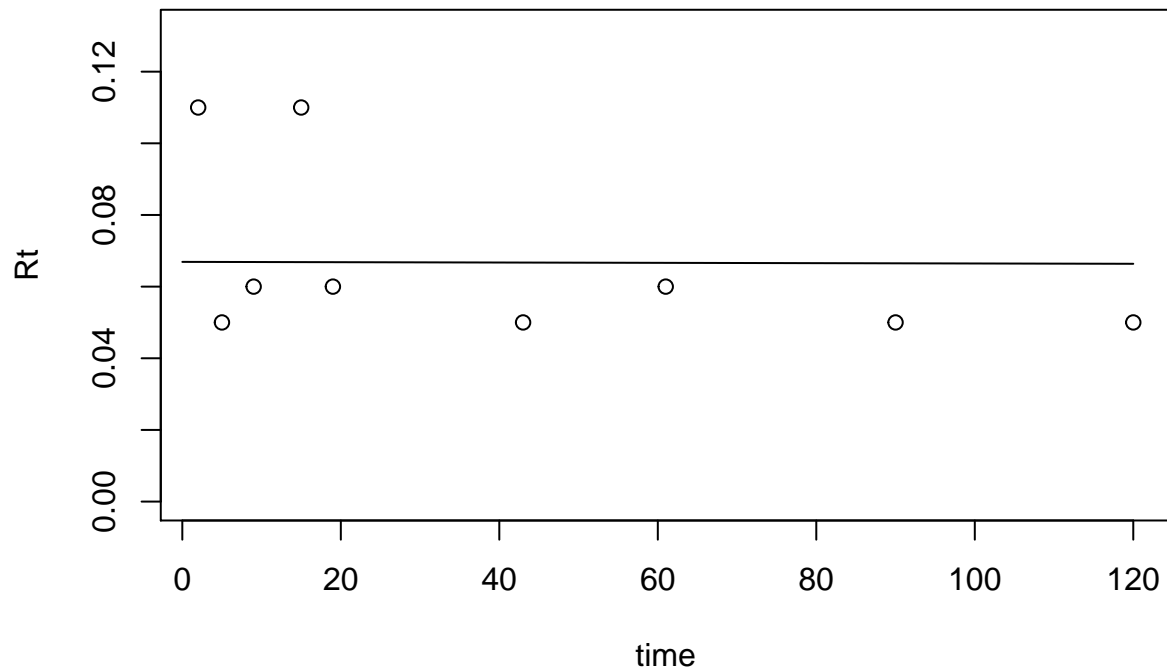
```
## [1] "AIC = 25.8749187610144"
```

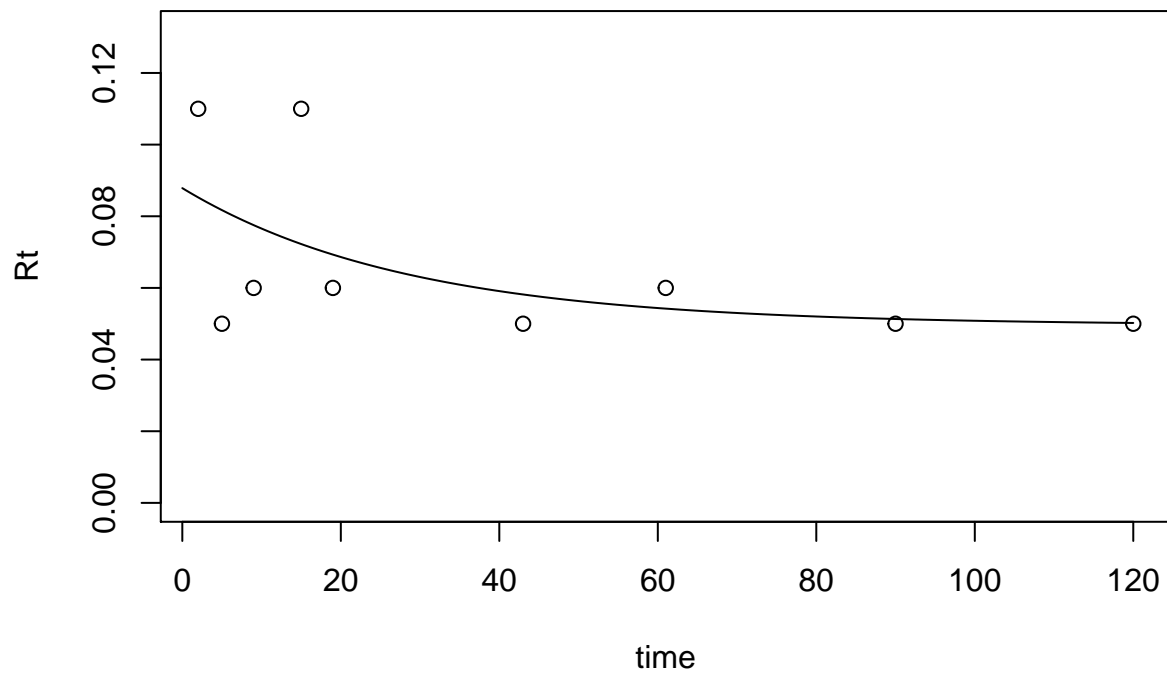
model	AIC	k1	k2	C0Inp1	a21	a12	AICc	wi	MeanTrT	q05
One-pool	17.4	0.000189	NA	NA	NA	NA	17.7	0.985	NA	NA
Two-pool parallel	23.9	0.00274	6.01e-08	0.0762	NA	NA	26.1	0.0151	15400000	10200000
Two-pool feedback	27.9	0.00274	3.31e-08	0.0779	0.022	1.04e-05	34.5	0.000217	665000	262
Two-pool series	25.9	0.00274	5.23e-08	0.0777	0.0192	NA	29.9	0.00224	368000	261

```
## [1] 44.5
```

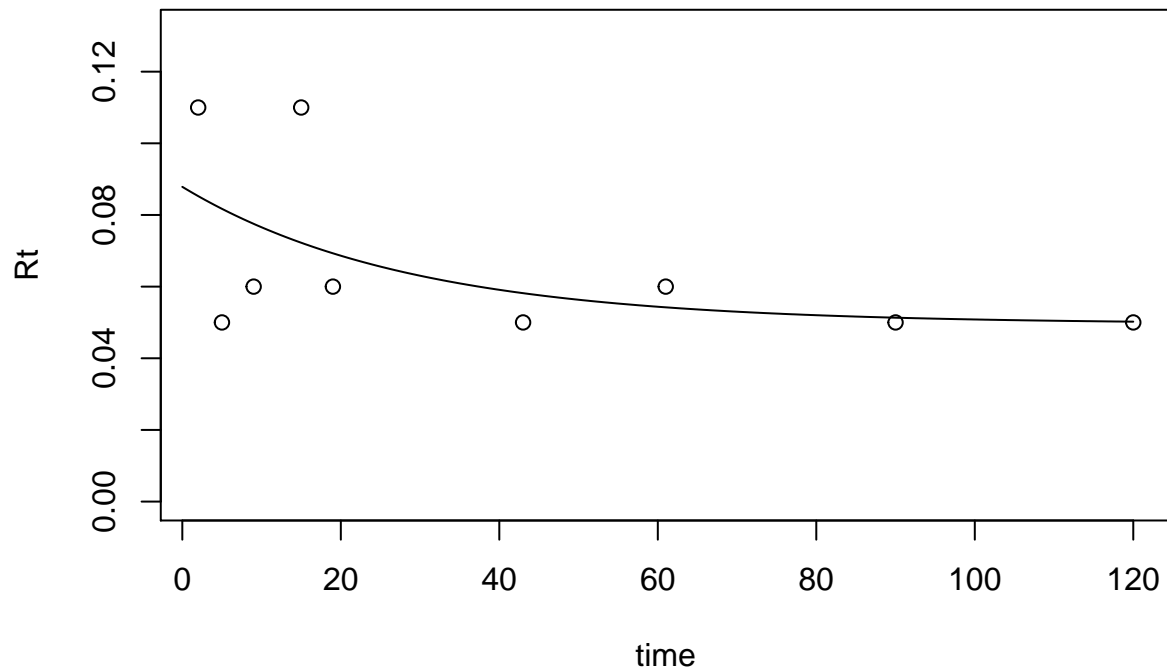
```
## [1] "Best fit parameter: 6.69081368009882e-05"
```



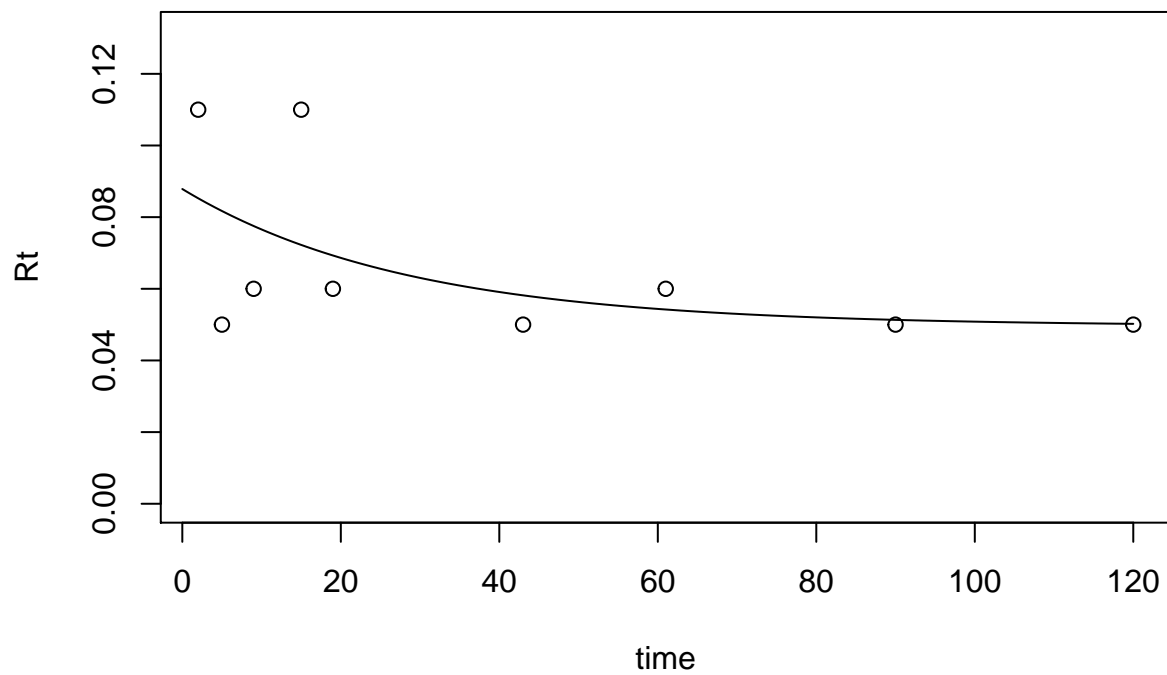
```
## [1] "AIC = 17.0058490105714"
## [1] "k1= 0.0352730900226428"
## [2] "k2= 5.00205277451859e-05"
## [3] "proportion of C0 in pool 1= 0.00107411627019122"
```



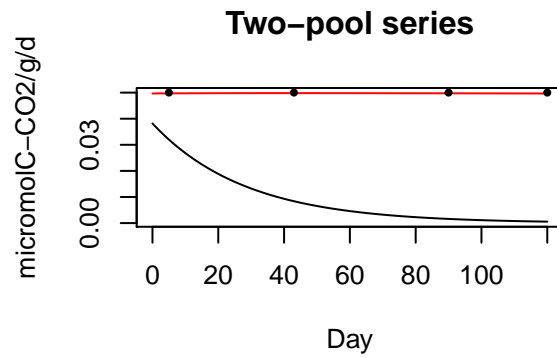
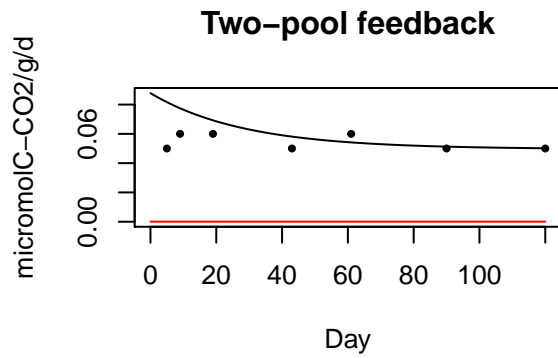
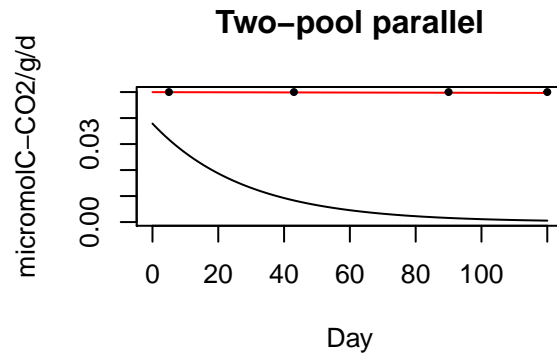
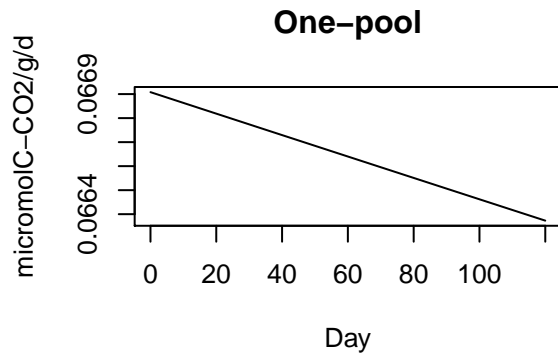
```
## [1] "AIC = 21.6826685021543"
## [1] "k1= 0.035202690319577"
## [2] "k2= 0.000121484986052926"
## [3] "a21= 0.587673004569302"
## [4] "a12= 0.999567708783708"
## [5] "Proportion of C0 in pool 1= 0.00604907045287606"
```



```
## [1] "AIC = 25.6826685022547"
## [1] "k1= 0.0352722810222674"
## [2] "k2= 5.00203415571336e-05"
## [3] "a21= 0.843481028693192"
## [4] "Proportion of C0 in pool 1= 0.00691565439132574"
```

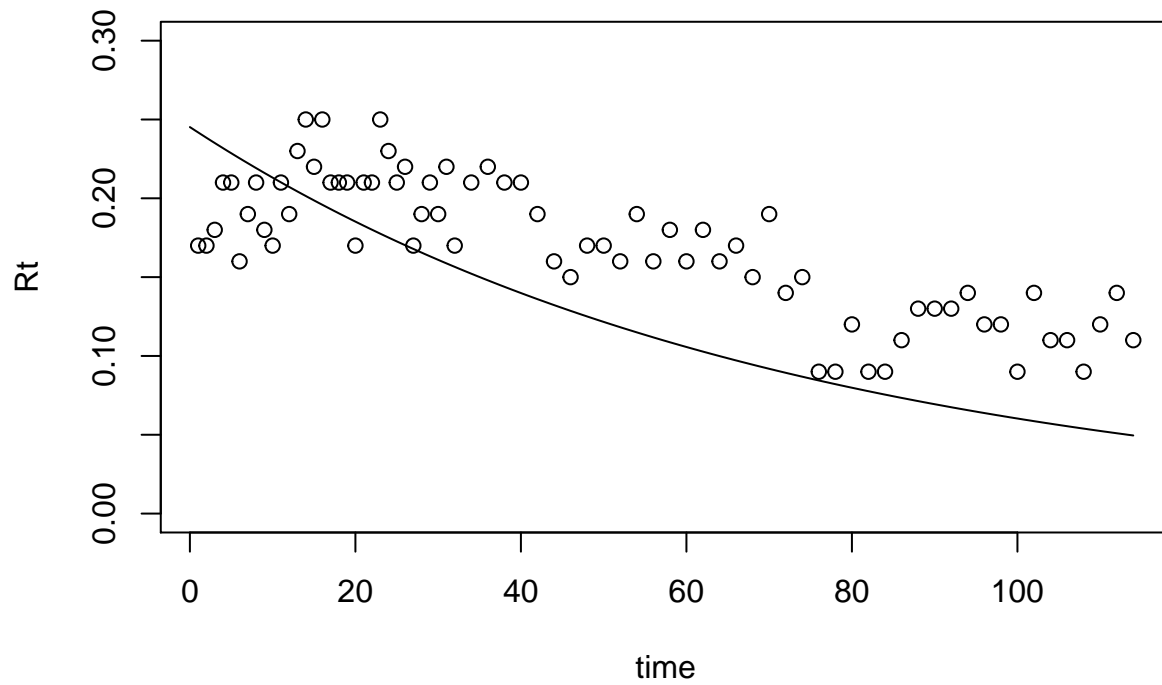


```
## [1] "AIC = 23.6826685018748"
```

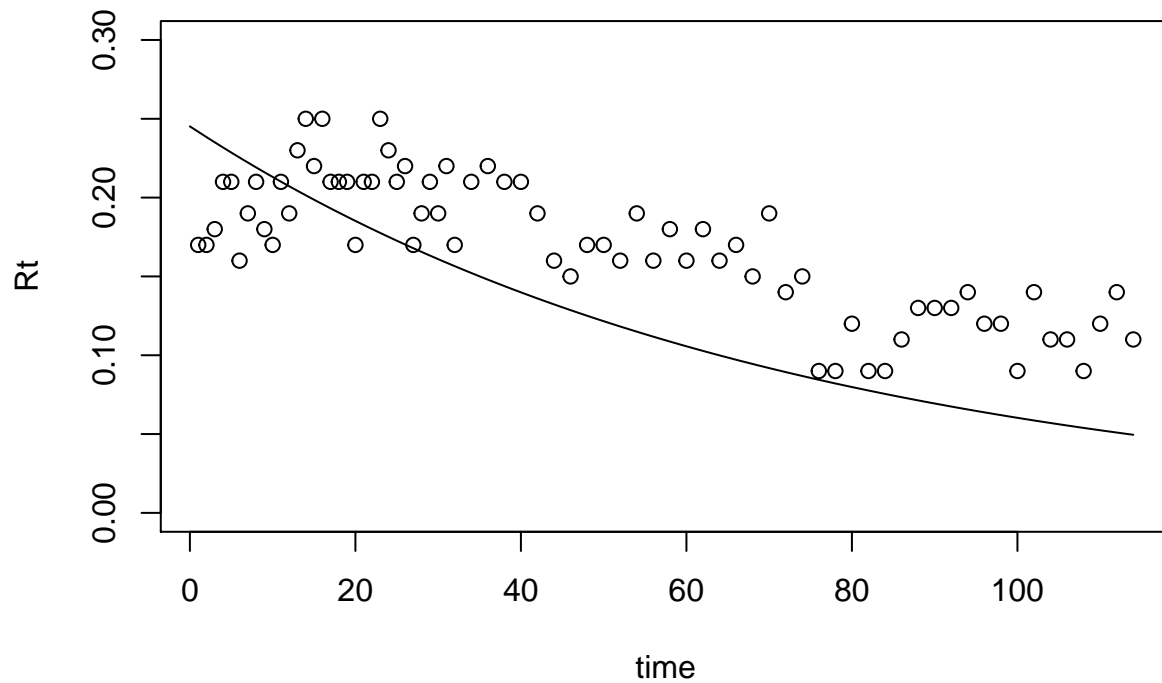


model	AIC	k1	k2	C0Inp1	a21	a12	AICc	wi	MeanTrT	q05
One-pool	17	6.69e-05	NA	NA	NA	NA	17.3	0.963	NA	NA
Two-pool parallel	21.7	0.0353	5e-05	0.00107	NA	NA	23.9	0.0364	20000	13800
Two-pool feedback	25.7	0.0352	0.000121	0.00605	0.588	1	32.3	0.000523	11800	3290
Two-pool series	23.7	0.0353	5e-05	0.00692	0.843	NA	27.7	0.0054	16900	10500

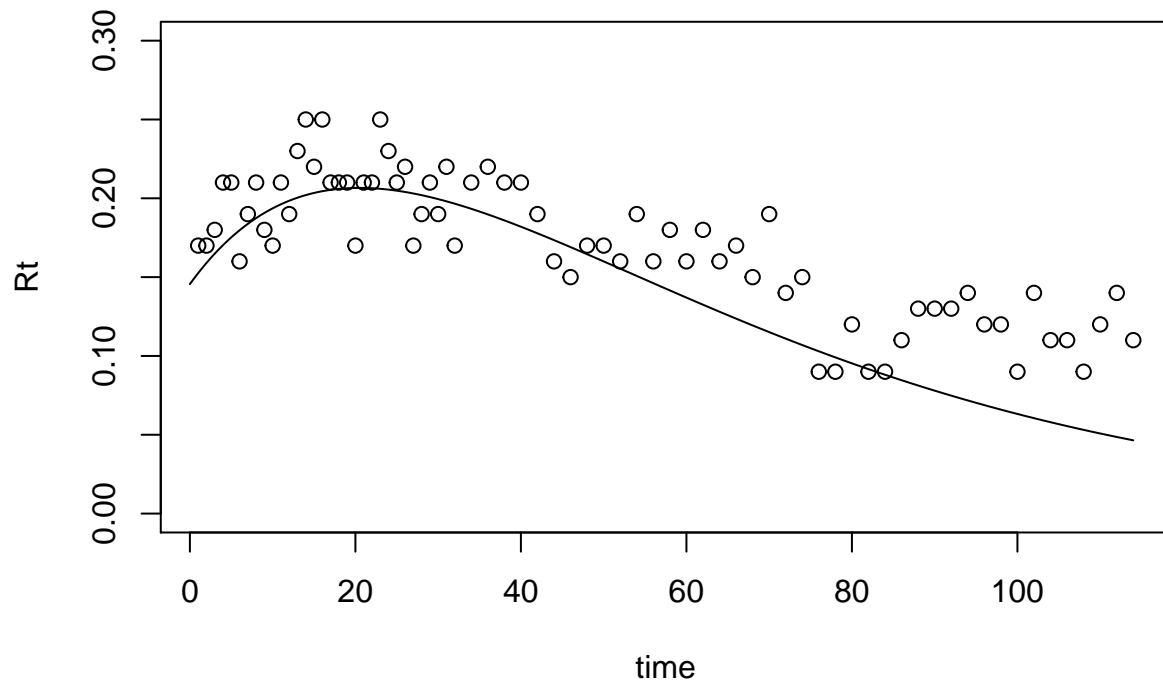
```
## [1] "Zhang2007"
## [1] "PP"
## [1] "Best fit parameter: 0.0140272496723365"
```



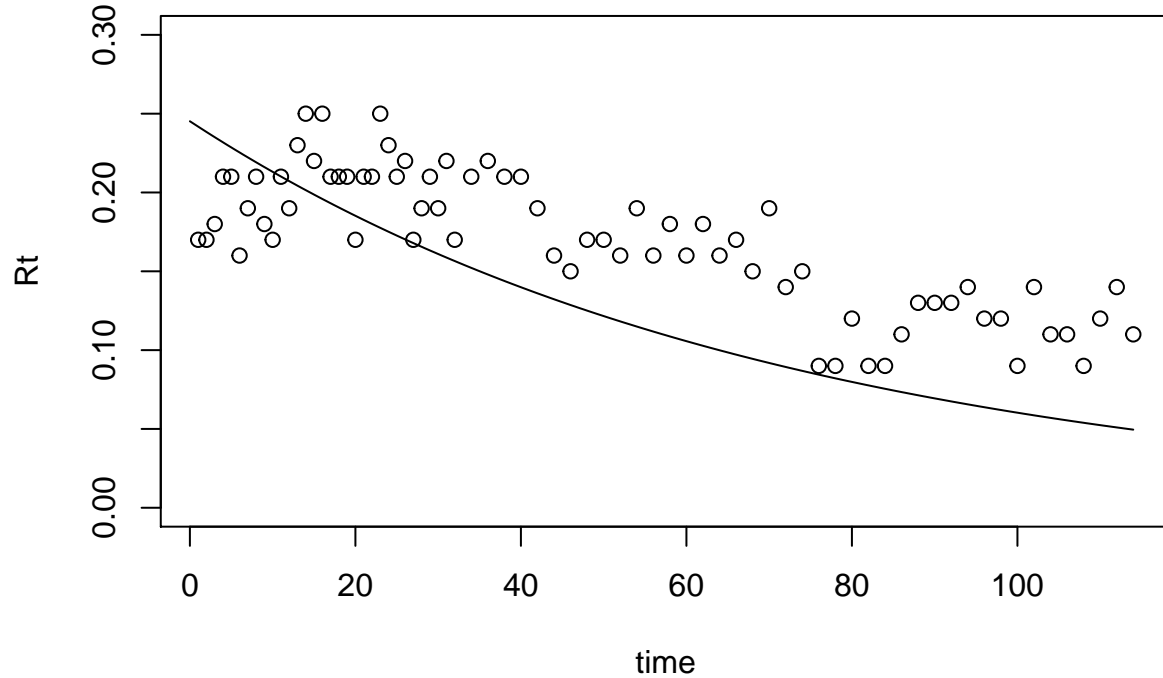
```
## [1] "AIC = 13.9329516375282"
## [1] "k1= 0.0140280993479384"
## [2] "k2= 0.0140272303615086"
## [3] "proportion of C0 in pool 1= 0.142787701441783"
```



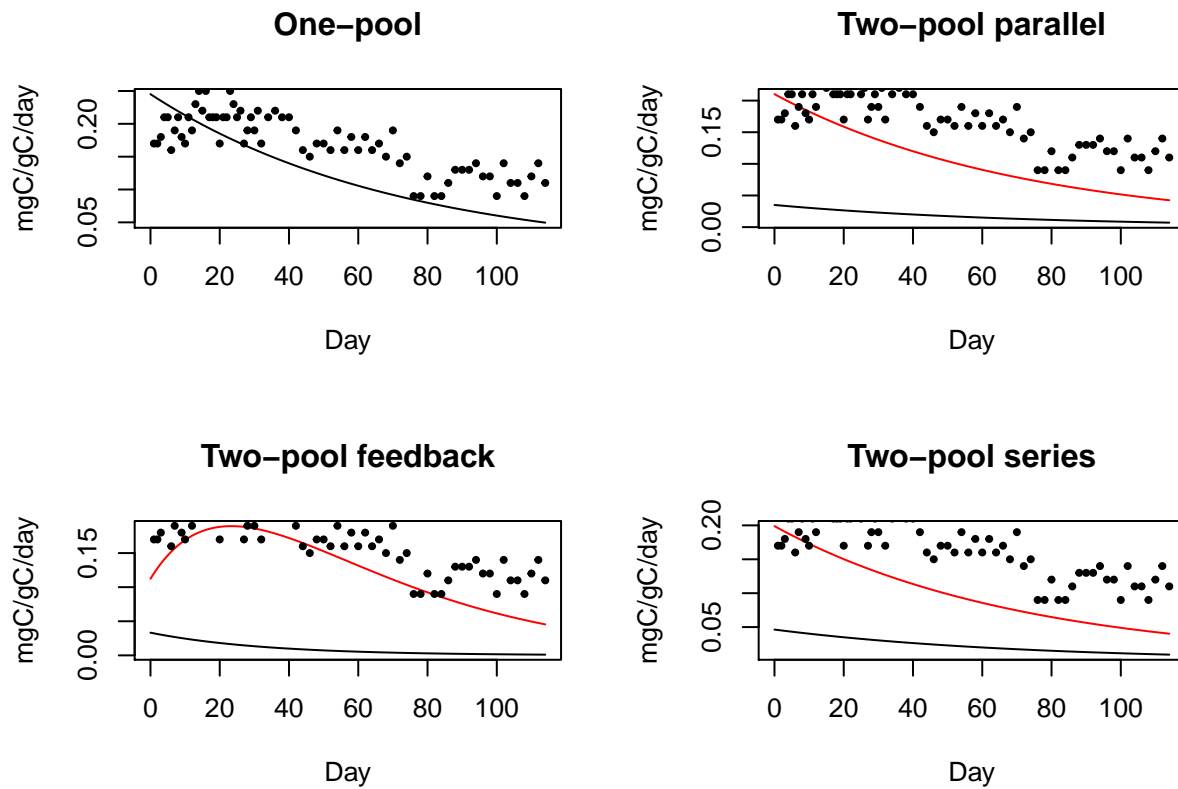
```
## [1] "AIC = 17.9329516364738"
## [1] "k1= 0.0303335141500166"
## [2] "k2= 0.0303337483746063"
## [3] "a21= 0.92043255255311"
## [4] "a12= 3.2472829700203e-06"
## [5] "Proportion of C0 in pool 1= 0.788164121496291"
```



```
## [1] "AIC = 23.3845783254128"
## [1] "k1= 0.0140516136327859"
## [2] "k2= 0.0140329522954482"
## [3] "a21= 0.0034333085856692"
## [4] "Proportion of C0 in pool 1= 0.189247738645924"
```

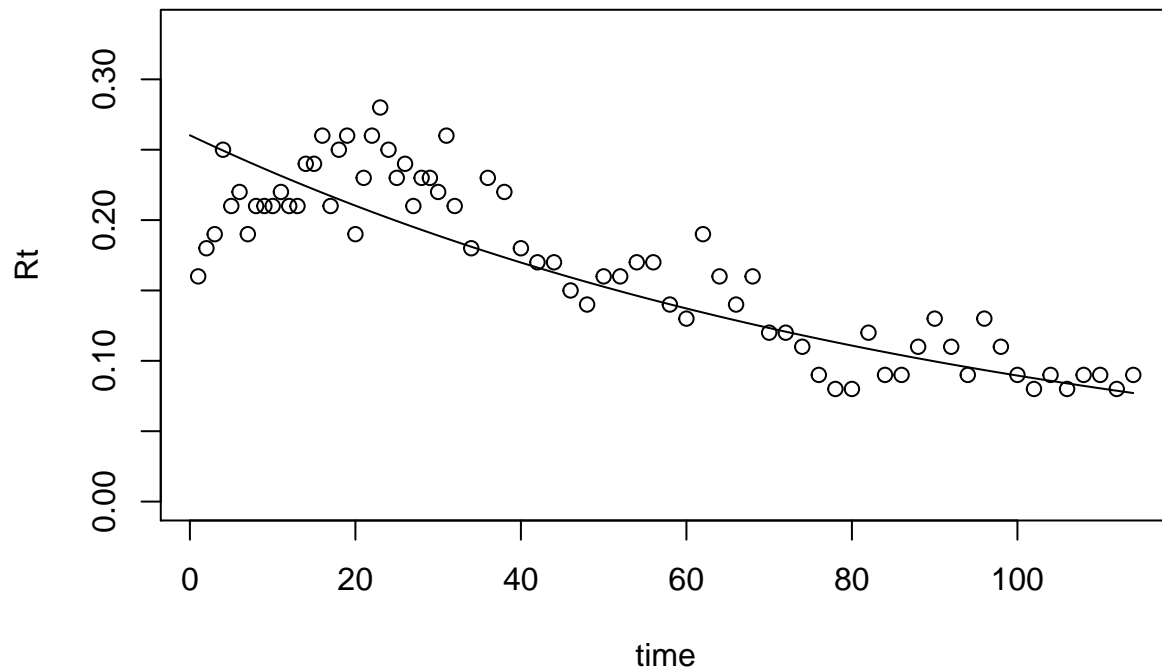


```
## [1] "AIC = 19.932953294195"
```

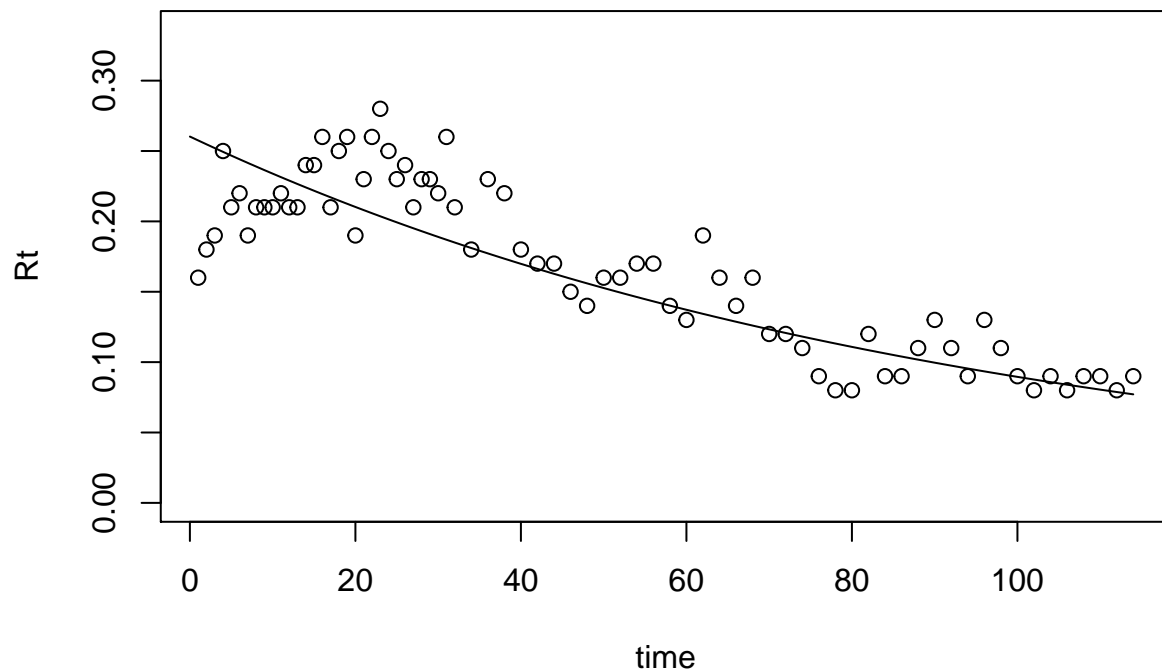


model	AIC	k1	k2	C0Inp1	a21	a12	AICc	wi	MeanTrT	q05
One-pool	13.9	0.014	NA	NA	NA	NA	14	0.891	NA	NA
Two-pool parallel	17.9	0.014	0.014	0.143	NA	NA	18.3	0.104	71.3	49.4
Two-pool feedback	23.4	0.0303	0.0303	0.788	0.92	3.25e-06	24.3	0.00519	63.3	52.7
Two-pool series	19.9	0.0141	0.014	0.189	0.00343	NA	20.5	0.034	71.4	49.5

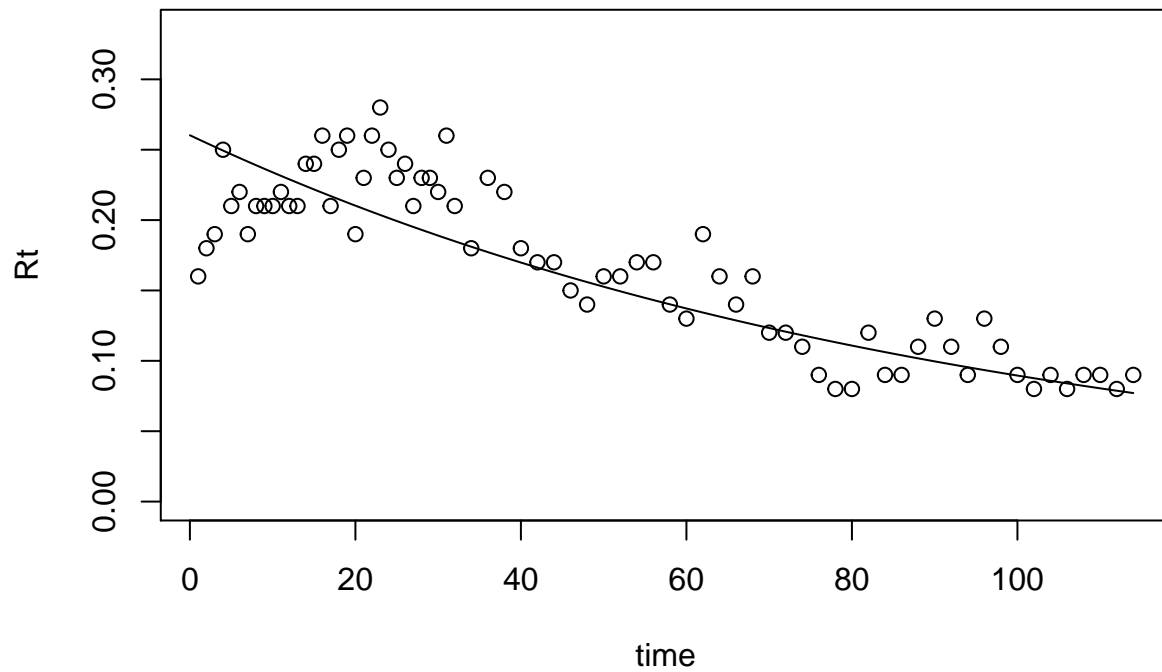
```
## [1] "RP"
## [1] "Best fit parameter: 0.0106716646165797"
```



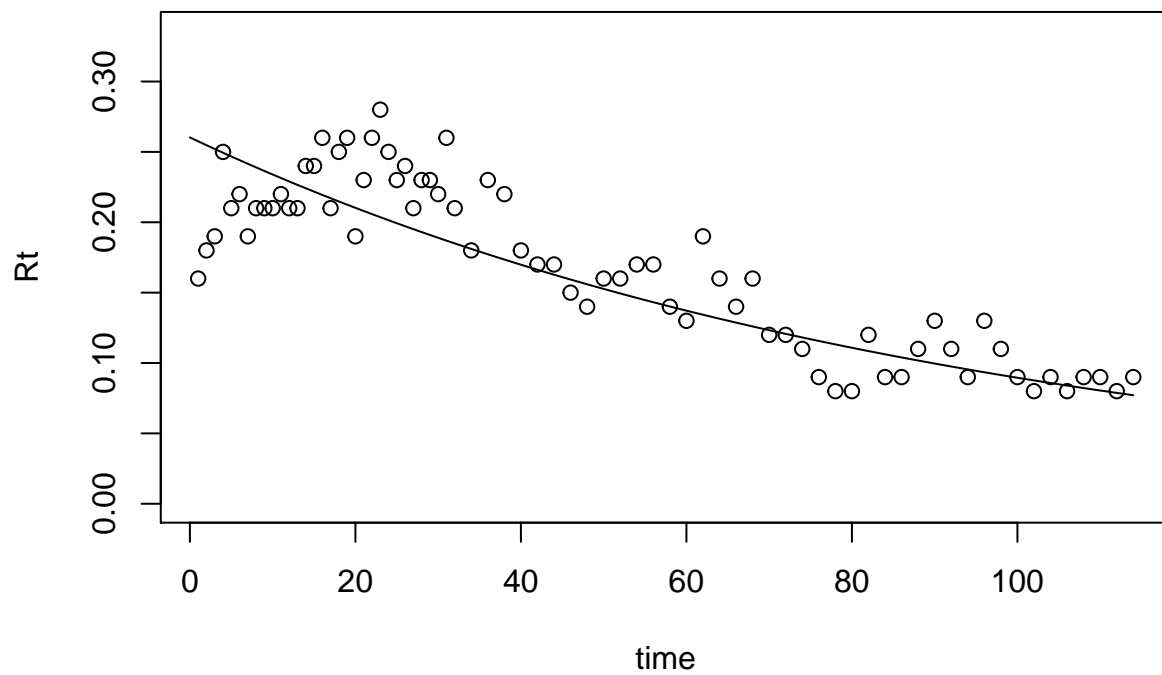
```
## [1] "AIC = 15.7396354538548"
## [1] "k1= 0.0106722137352189"
## [2] "k2= 0.0106715201898997"
## [3] "proportion of C0 in pool 1= 0.209852653155963"
```



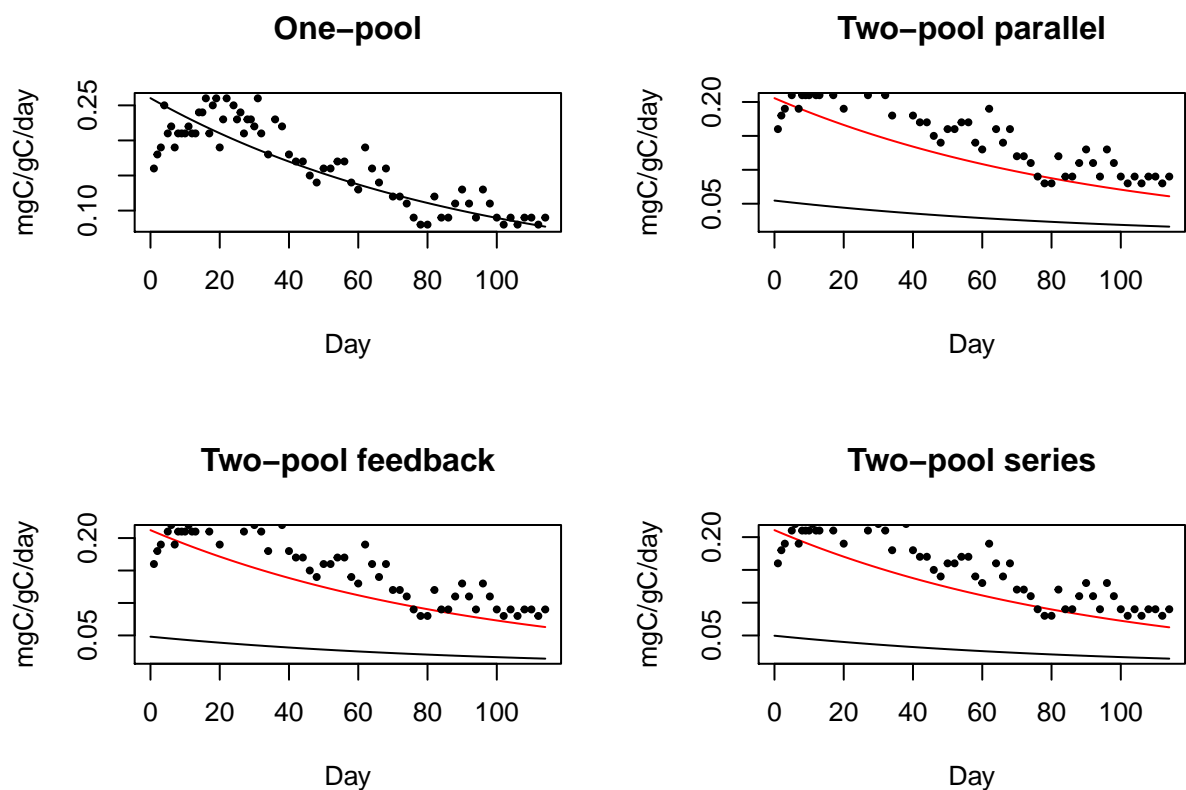
```
## [1] "AIC = 19.7396354524664"
## [1] "k1= 0.010691343567597"
## [2] "k2= 0.0106761631386316"
## [3] "a21= 0.00353148695249966"
## [4] "a12= 3.73946109707979e-05"
## [5] "Proportion of C0 in pool 1= 0.185011402353766"
```

```
## [1] "AIC = 23.7396367349097"
## [1] "k1= 0.0106908983878139"
## [2] "k2= 0.0106759922741784"
## [3] "a21= 0.00351148061514339"
## [4] "Proportion of C0 in pool 1= 0.191069162364016"
```



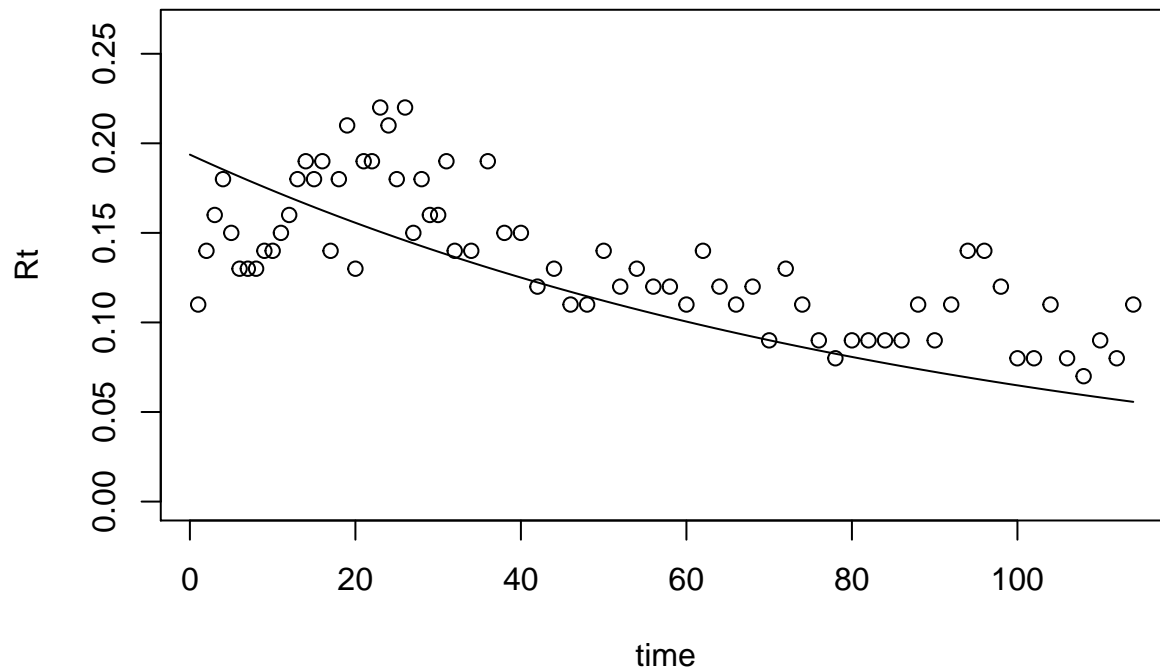
```
## [1] "AIC = 21.7396369026751"
```



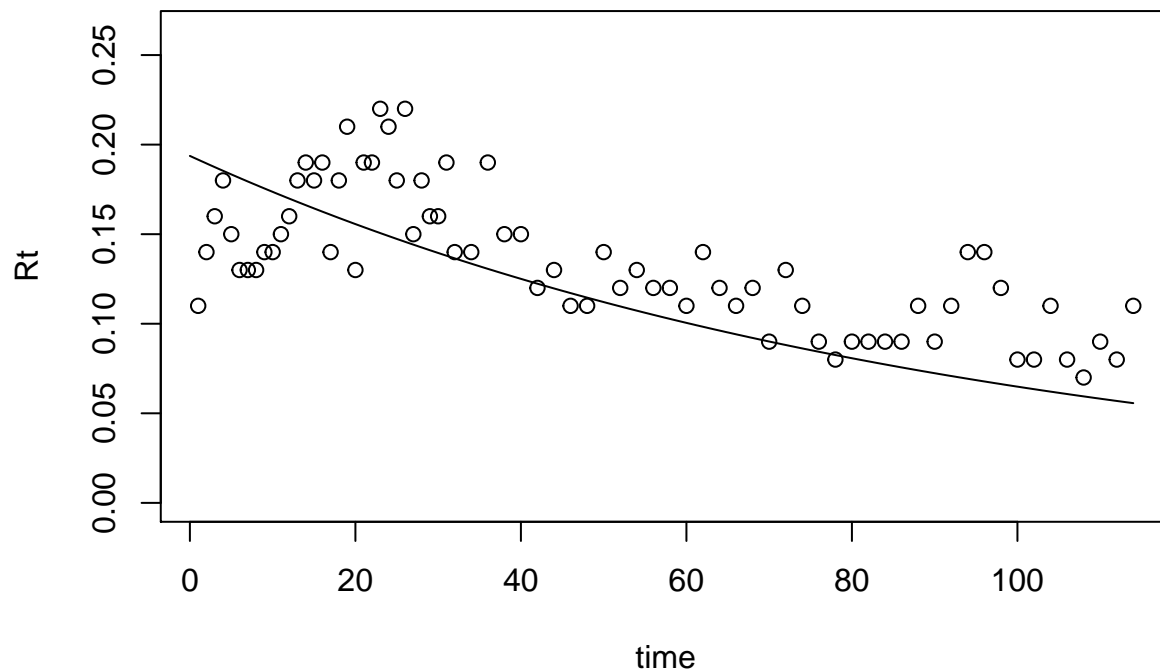
model	AIC	k1	k2	C0Inp1	a21	a12	AICc	wi	MeanTrT	q05
One-pool	15.7	0.0107	NA	NA	NA	NA	15.8	0.886	NA	NA
Two-pool parallel	19.7	0.0107	0.0107	0.21	NA	NA	20.1	0.104	93.7	65
Two-pool feedback	23.7	0.0107	0.0107	0.185	0.00353	3.74e-05	24.6	0.0107	93.9	65.1
Two-pool series	21.7	0.0107	0.0107	0.191	0.00351	NA	22.3	0.0338	93.9	65.1

```
## [1] "EP"
```

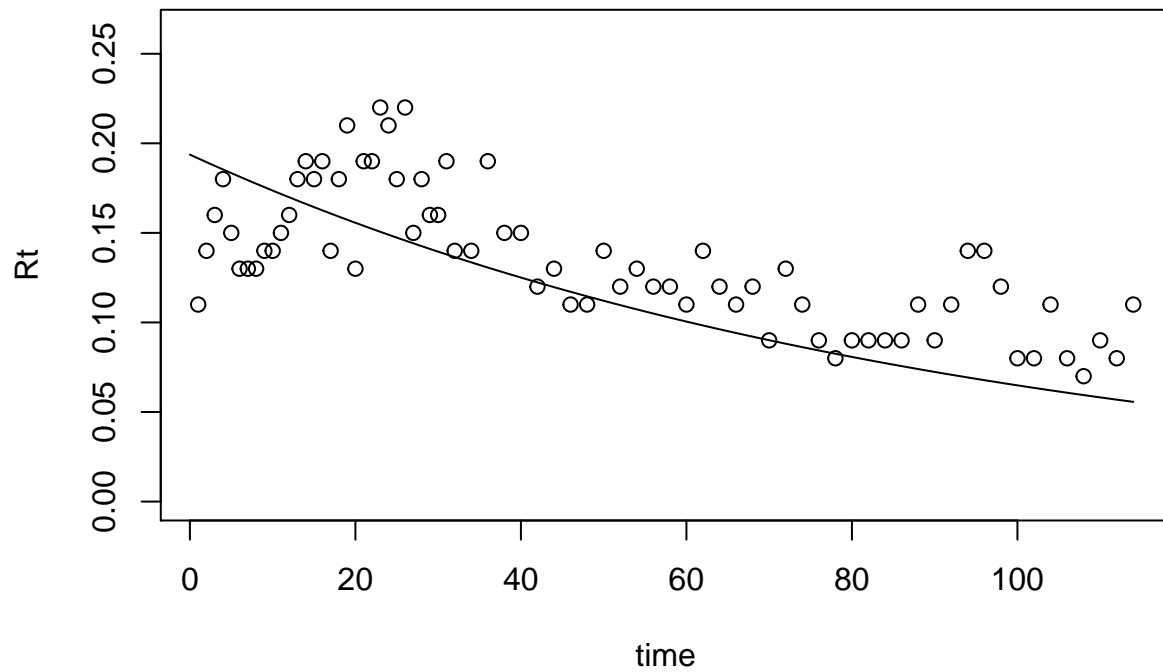
```
## [1] "Best fit parameter: 0.0109369198390027"
```



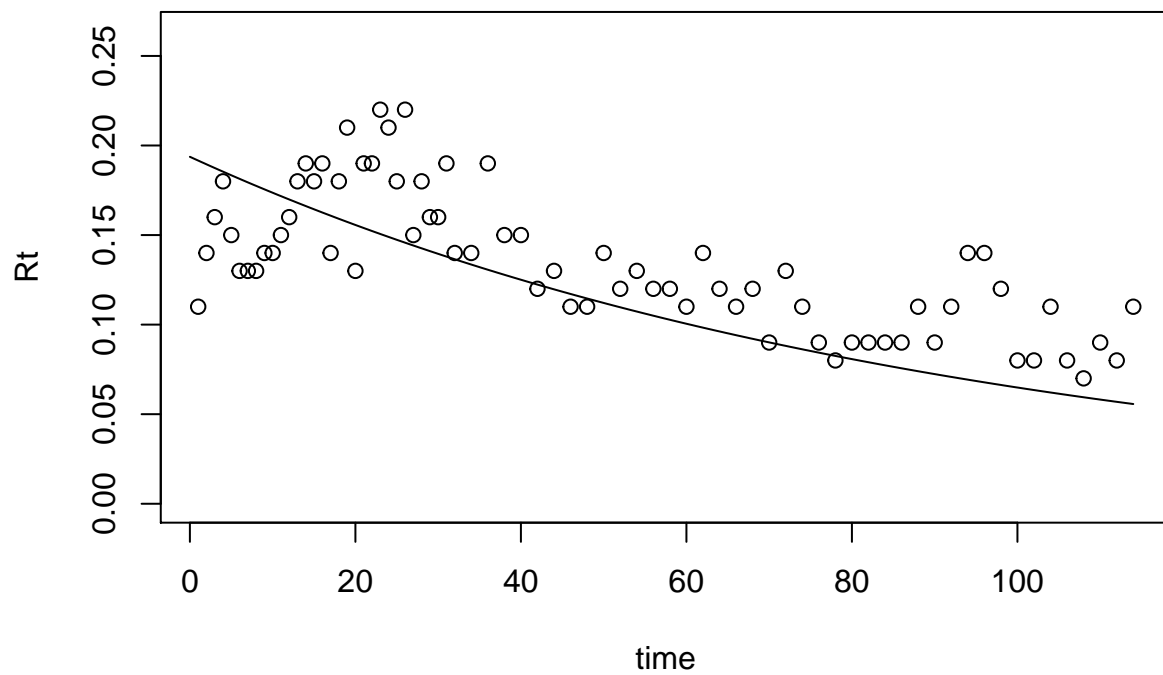
```
## [1] "AIC = 15.4591667074525"
## [1] "k1= 0.0109371477970026"
## [2] "k2= 0.0109369593520309"
## [3] "proportion of C0 in pool 1= 0.108416457578625"
```



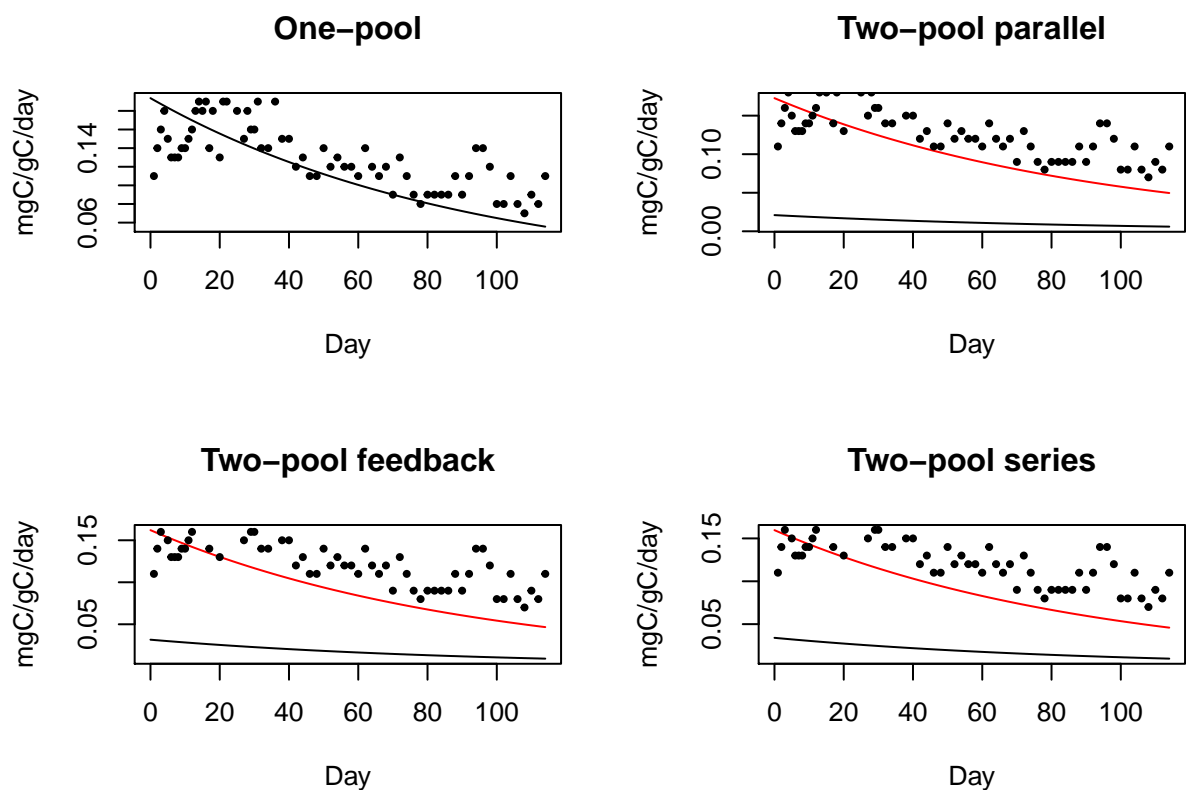
```
## [1] "AIC = 19.459166707866"
## [1] "k1= 0.0109634968941746"
## [2] "k2= 0.0109416482949863"
## [3] "a21= 0.00424607388247056"
## [4] "a12= 6.86157200964765e-05"
## [5] "Proportion of C0 in pool 1= 0.163581980680676"
```



```
## [1] "AIC = 23.4591683632313"
## [1] "k1= 0.0109602535833911"
## [2] "k2= 0.0109416839311007"
## [3] "a21= 0.00412700005760891"
## [4] "Proportion of C0 in pool 1= 0.176121997738398"
```

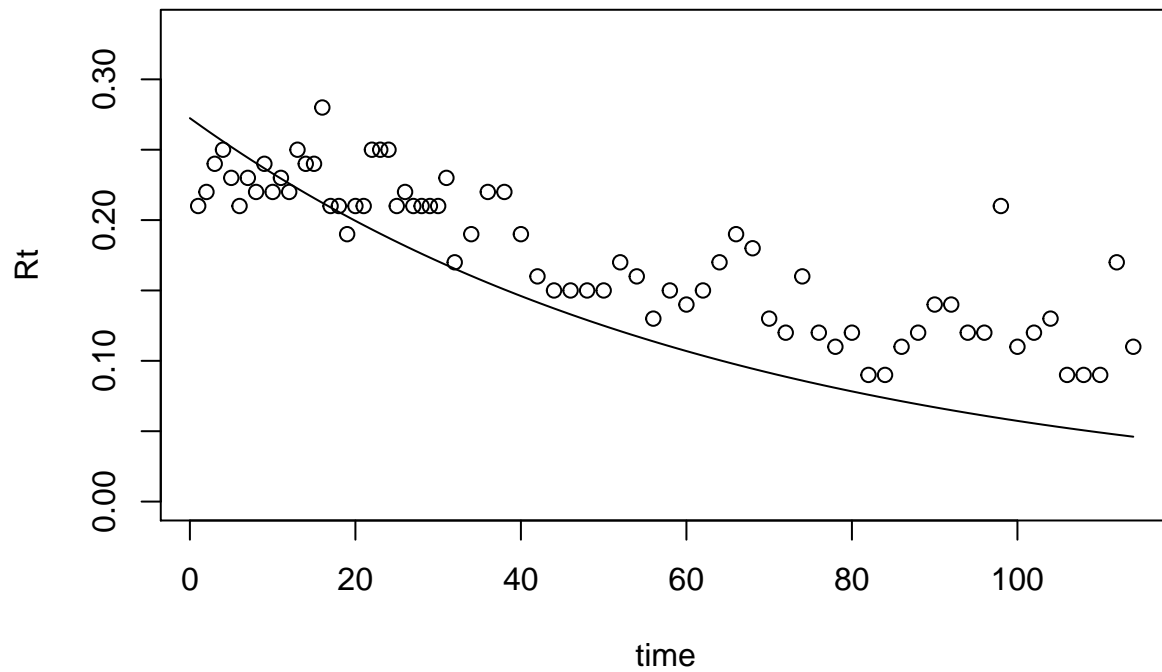


```
## [1] "AIC = 21.459168743413"
```

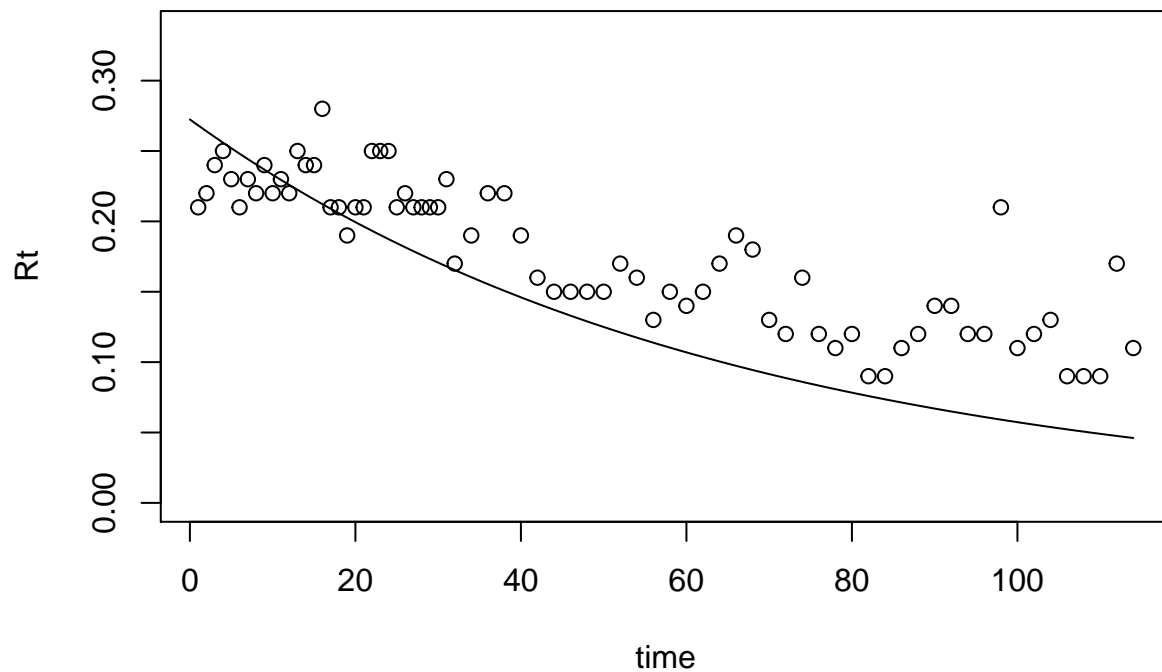


model	AIC	k1	k2	C0Inp1	a21	a12	AICc	wi	MeanTrT	q05
One-pool	15.5	0.0109	NA	NA	NA	NA	15.5	0.886	NA	NA
Two-pool parallel	19.5	0.0109	0.0109	0.108	NA	NA	19.8	0.104	91.4	63.4
Two-pool feedback	23.5	0.011	0.0109	0.164	0.00425	6.86e-05	24.4	0.0107	91.6	63.5
Two-pool series	21.5	0.011	0.0109	0.176	0.00413	NA	22	0.0338	91.6	63.5

```
## [1] "PP"
## [1] "Best fit parameter: 0.0155849066125296"
```

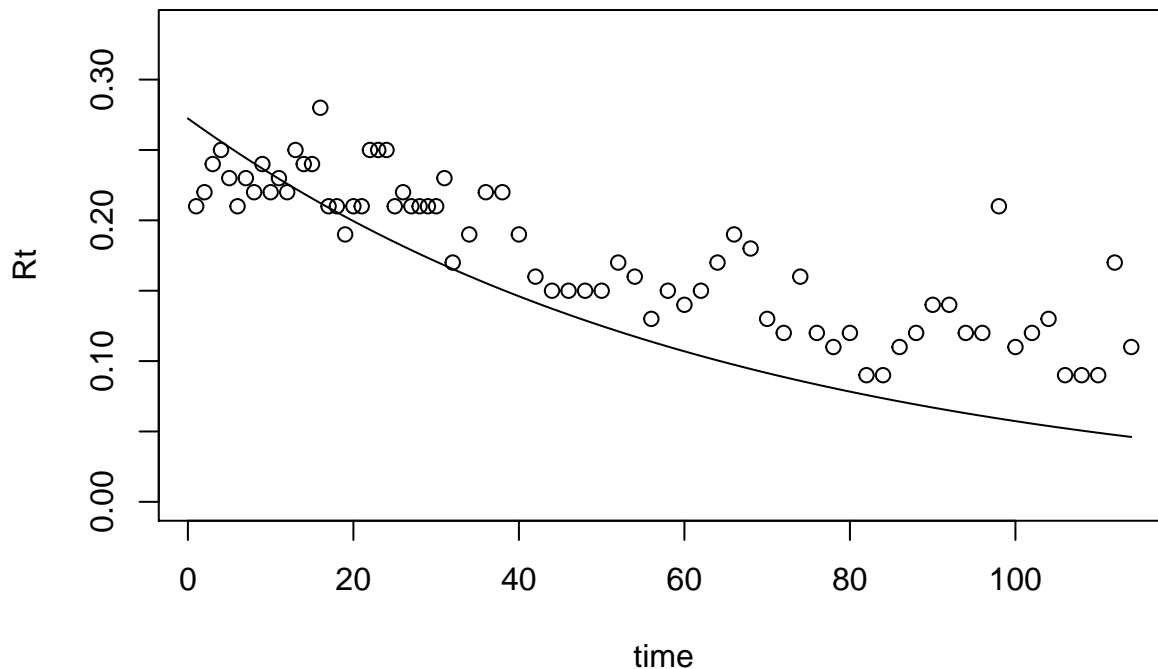


```
## [1] "AIC = 14.0776994106877"
## [1] "k1= 0.0155849031298277"
## [2] "k2= 0.0155848723374984"
## [3] "proportion of C0 in pool 1= 0.13084035031031"
```

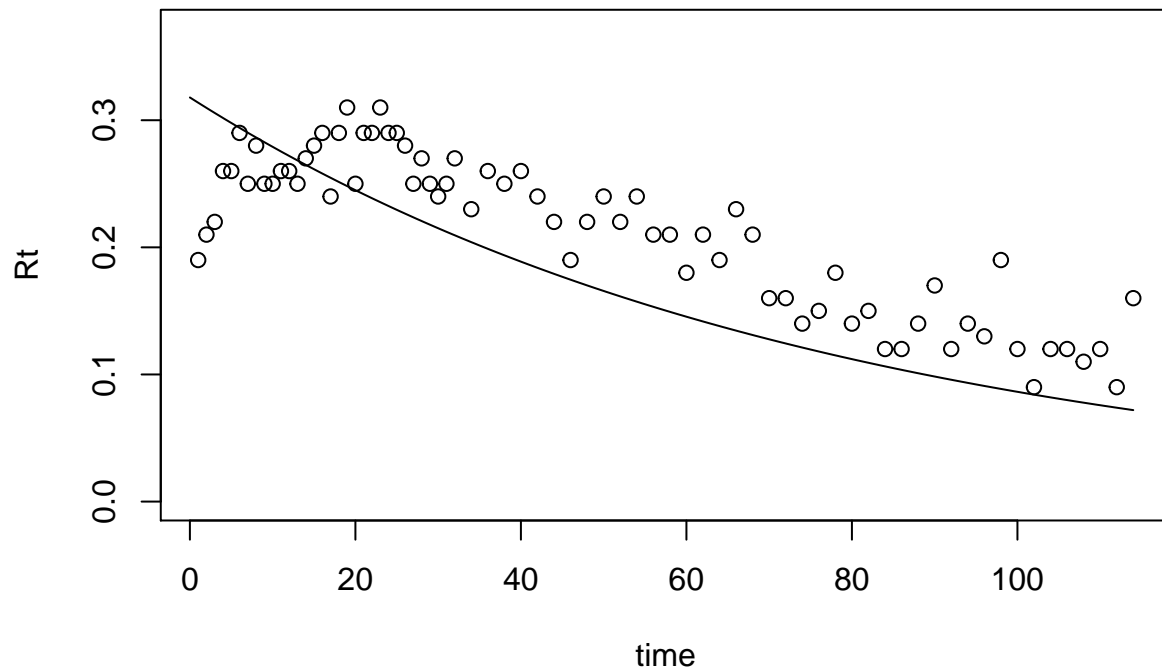


```
## [1] "AIC = 18.0776994109717"
## [1] "k1= 0.0156119571427325"
## [2] "k2= 0.0155917973624317"
## [3] "a21= 0.003644444688670479"
## [4] "a12= 1.85987022470746e-05"
## [5] "Proportion of C0 in pool 1= 0.182985096006046"
```

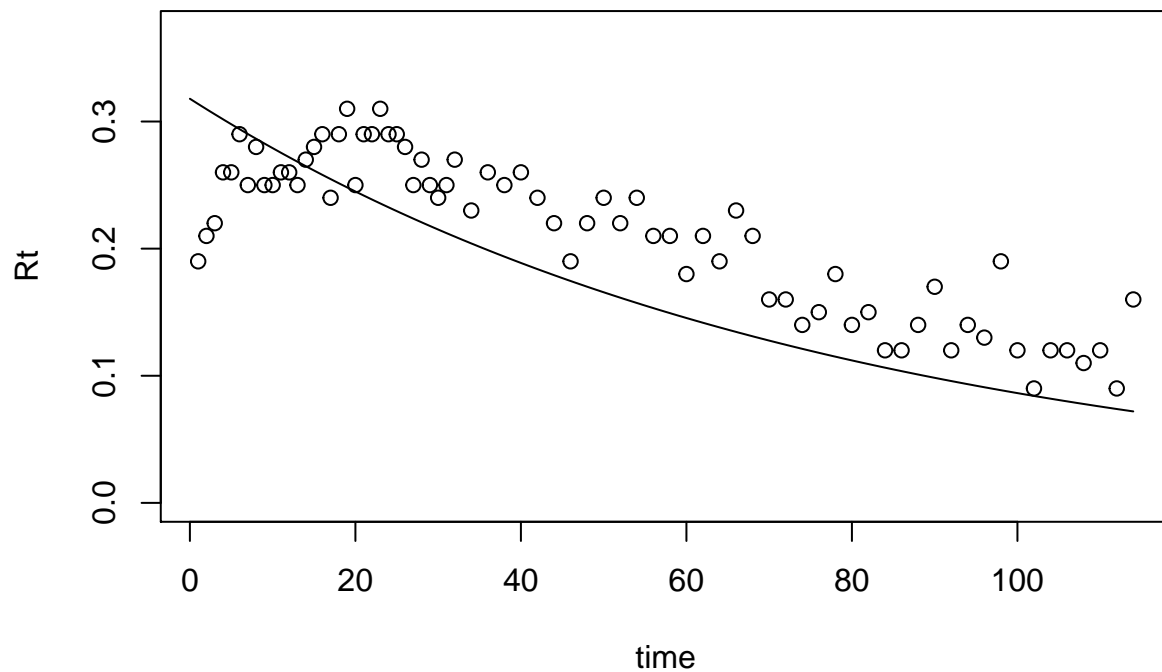
```
## [1] "AIC = 22.0777011062457"
## DLSODA- Warning..Internal T (=R1) and H (=R2) are
##      such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 0, R2 = 0
##
## DINTDY- T (=R1) illegal
## In above message, R1 = 0.228457
##
##      T not in interval TCUR - HU (= R1) to TCUR (=R2)
## In above message, R1 = 0, R2 = 0
##
## DINTDY- T (=R1) illegal
## In above message, R1 = 0.456914
##
##      T not in interval TCUR - HU (= R1) to TCUR (=R2)
## In above message, R1 = 0, R2 = 0
##
## DLSODA- Trouble in DINTDY. ITASK = I1, TOUT = R1
## In above message, I1 = 1
##
## In above message, R1 = 0.456914
##
## Error in lsoda(startValues, t, lsexamp): illegal input detected before taking any integration steps .
```



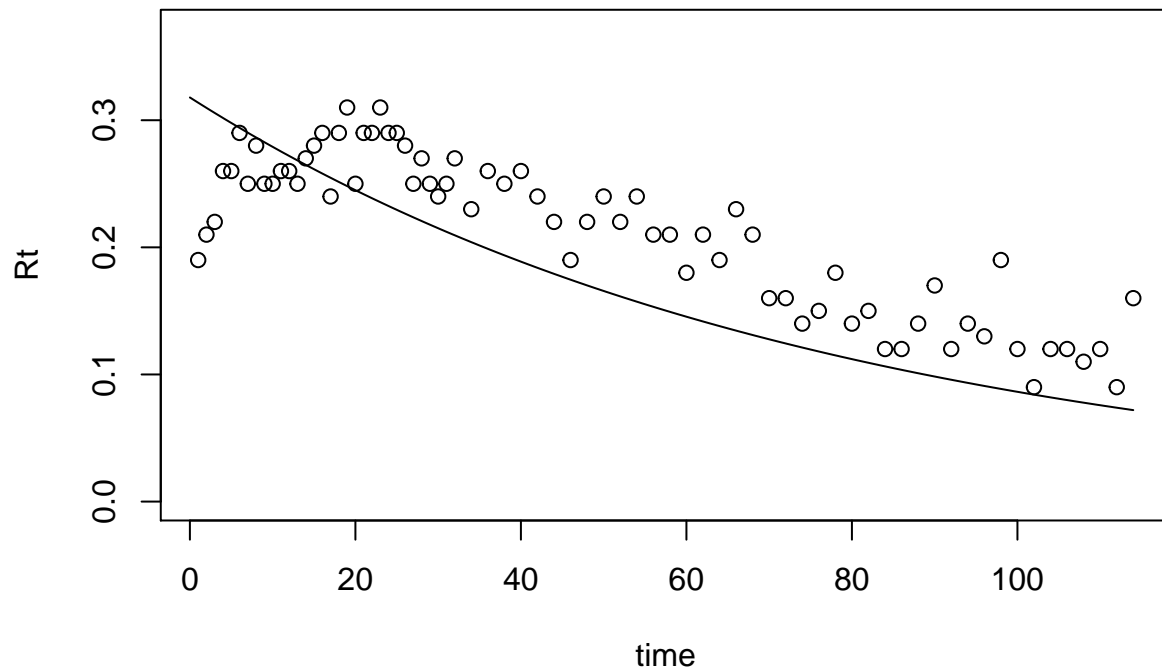
```
## [1] "RP"
## [1] "Best fit parameter: 0.0130340161063552"
```



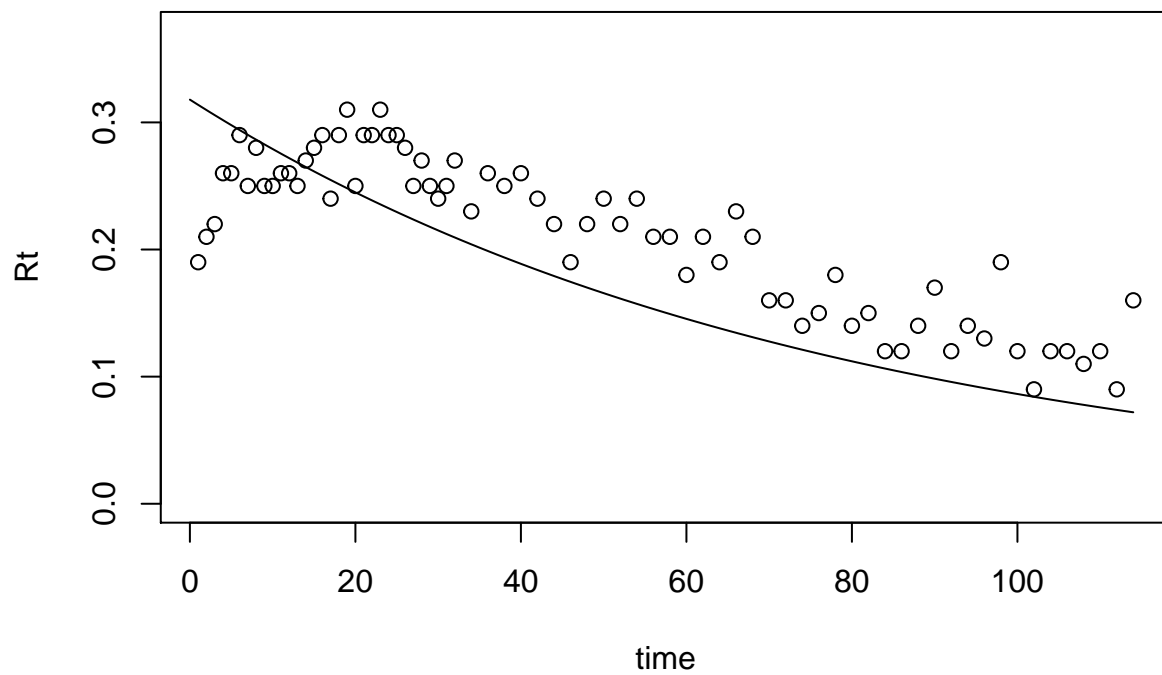
```
## [1] "AIC = 13.888276522635"
## [1] "k1= 0.0130338776149327"
## [2] "k2= 0.0130341261280463"
## [3] "proportion of C0 in pool 1= 0.154785984841199"
```



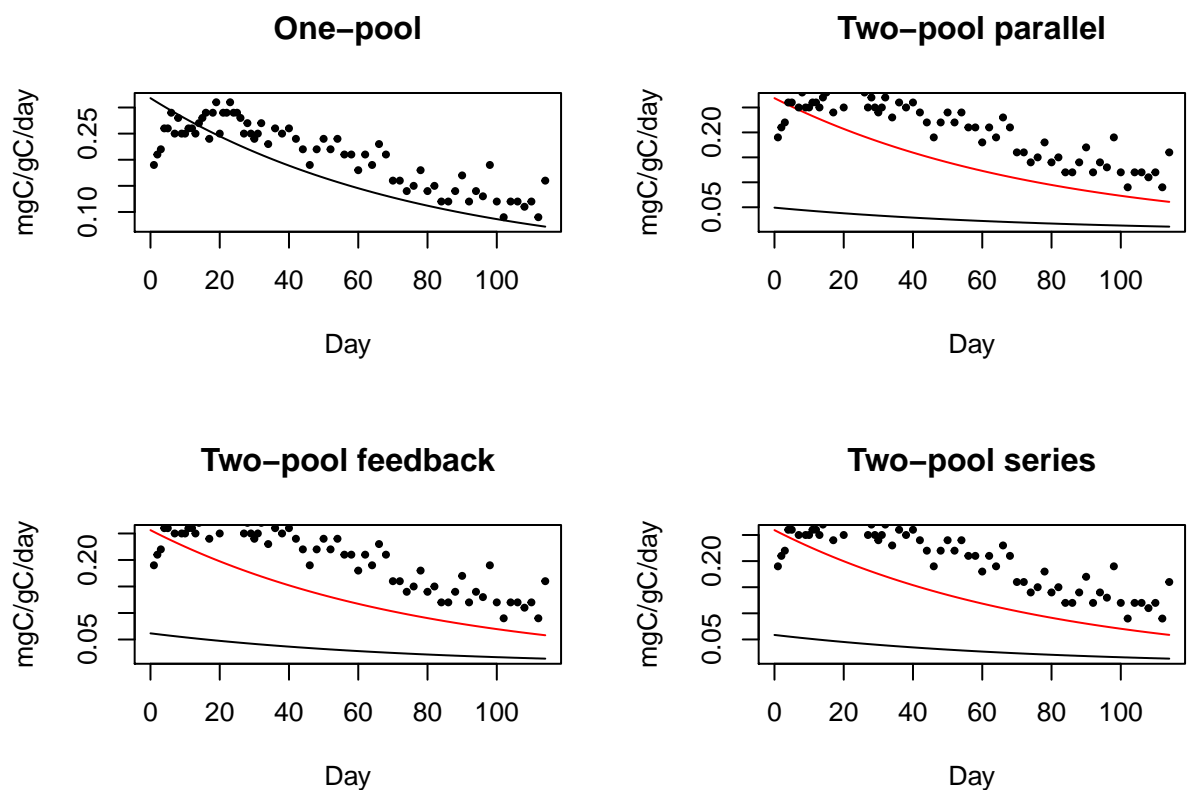
```
## [1] "AIC = 17.8882765231312"
## [1] "k1= 0.0130572737400989"
## [2] "k2= 0.0130398164864739"
## [3] "a21= 0.0034337295538866"
## [4] "a12= 3.76467269113667e-05"
## [5] "Proportion of C0 in pool 1= 0.194204677969189"
```

```
## [1] "AIC = 21.8882785398159"
## [1] "k1= 0.0130588385548128"
## [2] "k2= 0.0130393531942648"
## [3] "a21= 0.00367157321026051"
## [4] "Proportion of C0 in pool 1= 0.184671489566881"
```

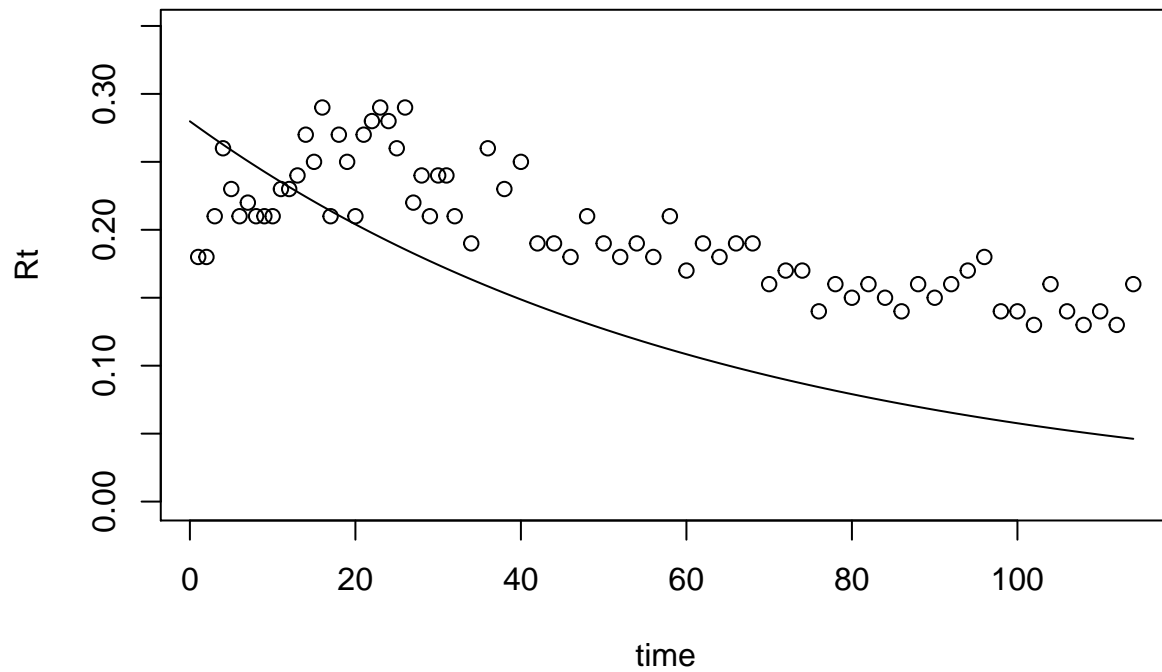


```
## [1] "AIC = 19.8882788996065"
```

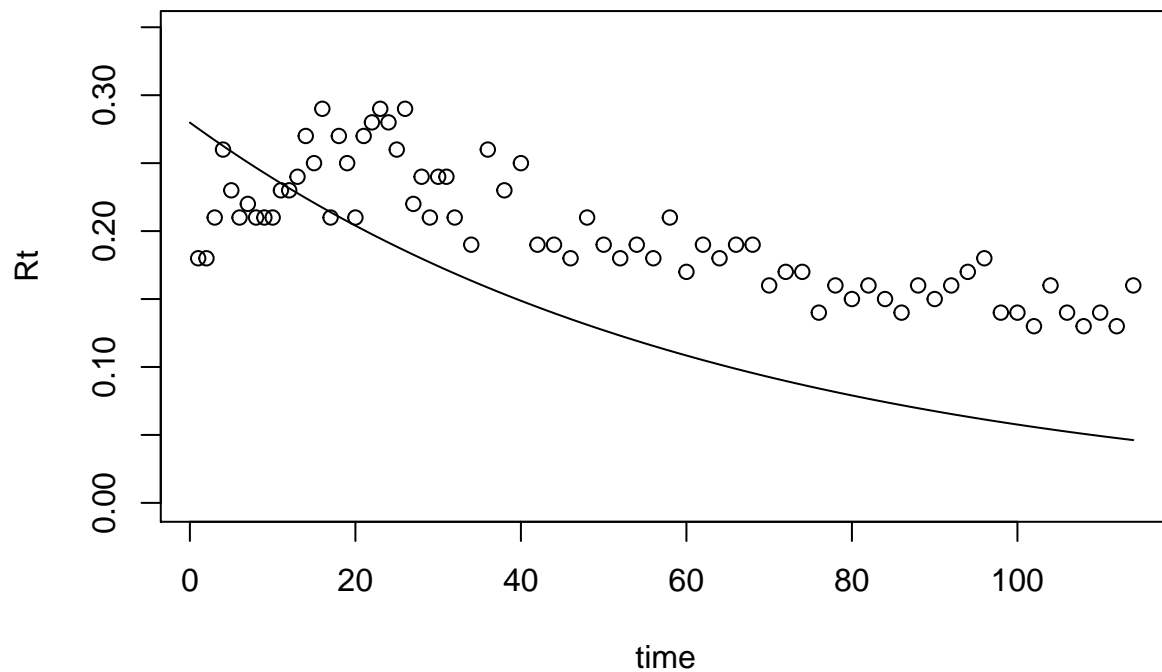


model	AIC	k1	k2	C0Inp1	a21	a12	AICc	wi	MeanTrT	q05
One-pool	13.9	0.013	NA	NA	NA	NA	13.9	0.886	NA	NA
Two-pool parallel	17.9	0.013	0.013	0.155	NA	NA	18.2	0.104	76.7	53.2
Two-pool feedback	21.9	0.0131	0.013	0.194	0.00343	3.76e-05	22.8	0.0107	76.8	53.3
Two-pool series	19.9	0.0131	0.013	0.185	0.00367	NA	20.5	0.0338	76.9	53.3

```
## [1] "EP"
## [1] "Best fit parameter: 0.0158016888364754"
```



```
## [1] "AIC = 12.5480720407489"
## [1] "k1= 0.0158019988082361"
## [2] "k2= 0.0158015963706398"
## [3] "proportion of C0 in pool 1= 0.16631572080068"
```



```
## [1] "AIC = 16.5480720403956"
## [1] "k1= 3970.61502553049"
## [2] "k2= 3141107184814.35"
## [3] "a21= 0.000947317761999578"
## [4] "a12= 1.0103183843424e-06"
## [5] "Proportion of C0 in pool 1= 0.999025739380666"
```

```

## [1] "AIC = 18.1963751070025"
## DLSODA- Warning..Internal T (=R1) and H (=R2) are
##      such that in the machine, T + H = T on the next step
##      (H = step size). Solver will continue anyway.
## In above message, R1 = 0, R2 = 0
##
## DINTDY- T (=R1) illegal
## In above message, R1 = 0.228457
##
##      T not in interval TCUR - HU (= R1) to TCUR (=R2)
## In above message, R1 = 0, R2 = 0
##
## DINTDY- T (=R1) illegal
## In above message, R1 = 0.456914
##
##      T not in interval TCUR - HU (= R1) to TCUR (=R2)
## In above message, R1 = 0, R2 = 0
##
## DLSODA- Trouble in DINTDY. ITASK = I1, TOUT = R1
## In above message, I1 = 1
##
## In above message, R1 = 0.456914
##
## Error in lsoda(startValues, t, lsexamp): illegal input detected before taking any integration steps

```

