Pcrit Run Evaluation

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2022-08-08

```
library(OTools)
library(respirometry)
```

```
## Loading required package: PKNCA
```

```
library(knitr)
```

```
files=list.files(recursive=T)
resp.files=grep(".txt",files,value=T)
pcrit.files=grep("pcrit|pcrti",resp.files,value=T,ignore.case=T)
pcrit.files=pcrit.files[!duplicated(basename(pcrit.files))]

pcrit.files.read=pcrit.files[!grepl("ch2.txt|ch3.txt|ch4.txt|\\(1\\).txt",pcrit.files)]
write.csv(basename(pcrit.files.read),file = "pcrit_read_log.csv")
pcrit.files.read
```

```
##  [1] "All Pcrits/Gr1 Muus 1000-2 pcrit 7-27-21 B.txt"
##  [2] "All Pcrits/Gr1 Muus 1000-2 pcrit 7-27-21.txt"
##  [3] "All Pcrits/Gr1 Muus 1800-2 pcrit 25 ml jar 7-29-21 ch2 blank.txt"
##  [4] "All Pcrits/Gr1 Muus 1800-2 pcrit 7-28-21.txt"
##  [5] "All Pcrits/GR1 Muus 1800-2 pcrit day7 8-3-21.txt"
##  [6] "All Pcrits/GR1 Muus1000 7day-7-26-21.txt"
##  [7] "All Pcrits/GR1 Muus1000 pcrit 7-21-21.txt"
##  [8] "All Pcrits/GR1 Muus1800 7day-pcrit 7-20-21.txt"
##  [9] "All Pcrits/GR1 Muus1800 pcrit 7-13-21.txt"
## [10] "All Pcrits/Gr2 Muus1000-2 pcrit 7-26-21.txt"
## [11] "All Pcrits/gr2muus 1000 pcrit 7-21-21.txt"
## [12] "All Pcrits/gr2muus1800 7day pcrit 7-20-21.txt"
## [13] "All Pcrits/gr2muus1800-2 pcrit 7-28-21.txt"
## [14] "All Pcrits/gr2muus1800-2 pcrit day7 8-3-21.txt"
## [15] "All Pcrits/gr2muus1800-2 pcrit in 25 ml jar 7-29-21 ch2 is blank.txt"
## [16] "All Pcrits/Gr3 Muus 1000 pcrit 7-21-21.txt"
## [17] "All Pcrits/gr3 muus 1800 7day Pcrit 7-20-21.txt"
## [18] "All Pcrits/gr3 muus 1800 pcrit 7-13-21.txt"
## [19] "All Pcrits/Gr3 Muus 1800-2 pcrit 07-28-21.txt"
## [20] "All Pcrits/Gr3 Muus 1800-2 pcrit 08-03-21.txt"
## [21] "All Pcrits/Gr3 Muus1000-2 7 day pcrit 7-27-21.txt"
## [22] "All Pcrits/GR4MUUS1000-2Pcrit-7-26-21-ch1.txt"
## [23] "All Pcrits/GR4MUUS1000Pcrit-7-21-21-ch1.txt"
## [24] "All Pcrits/GR4MUUS1800-2-7dayPcrit-8-3-21-ch1.txt"
```

```
## [25] "All Pcrits/GR4MUUS1800-2Pcrit-7-28-21-ch1.txt"
## [26] "All Pcrits/GR4MUUS1800-7dayPcrit-7-20-21-ch1.txt"
## [27] "All Pcrits/GR4MUUS1800Pcrit-7-13-21-ch1.txt"
## [28] "All Pcrits/tbocto 1000 pcrit tank 1 and 2 day 7 8-19-21.txt"
## [29] "All Pcrits/tbocto 1000 pcrit tank 3 and 4 8-11-21-ch1.txt"
## [30] "All Pcrits/tbocto 1000 pcrit tank 3 and 4 day 7 8-19-21-ch1.txt"
## [31] "All Pcrits/Tbocto 1000 pcrti tank 1 and 2 8-11-21.txt"
## [32] "Group 2/Pcrit/gr2muus1000 pcrit 7-21-21.txt"
## [33] "Group 2/Pcrit/gr2muus1000-2 pcrit 7-26-21.txt"
## [34] "Group 2/Pcrit/GR2MUUS18007dayPcrit-7-20-21.txt"
## [35] "Trueblood after session/gr2MUUS1800-2pcritday7.8-3-21.txt"
## [36] "Trueblood after session/Muus TB collected data/desktop from presense onthank/tbocto 1800 pcrit
```

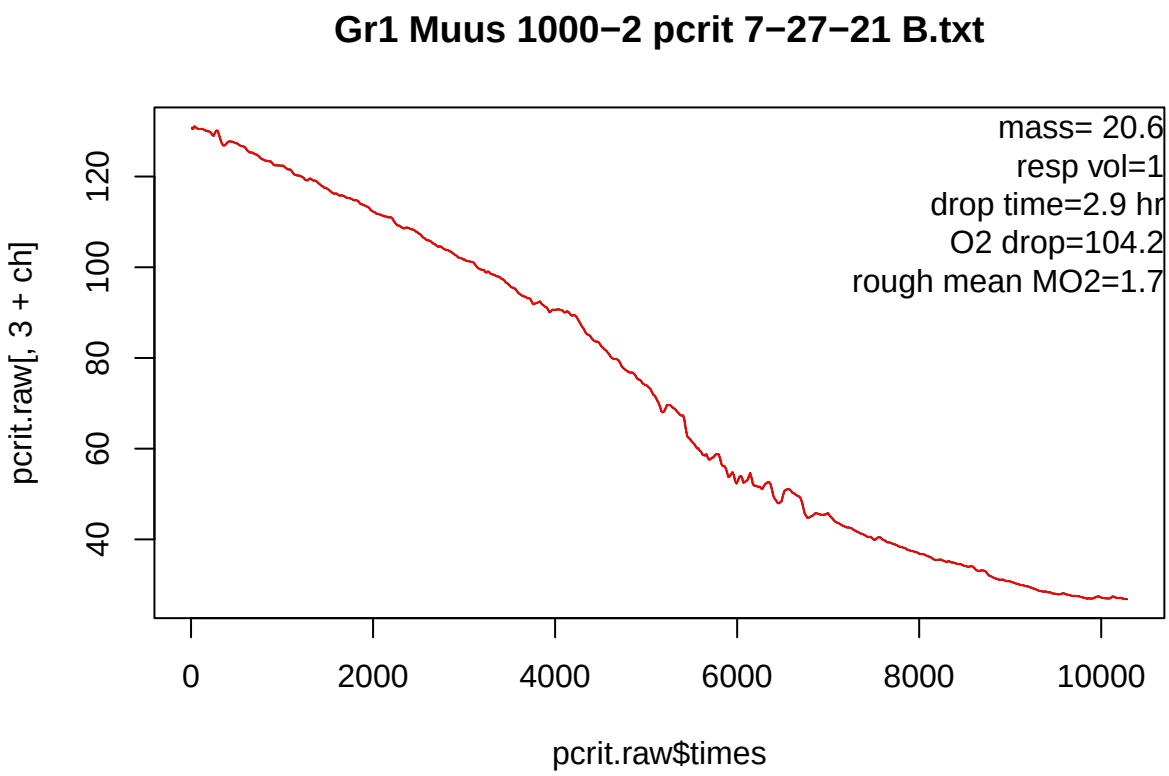
```
pcrit.log=read.csv("pcrit_log.csv")
routine=read.csv("RMR_Results.csv")
```

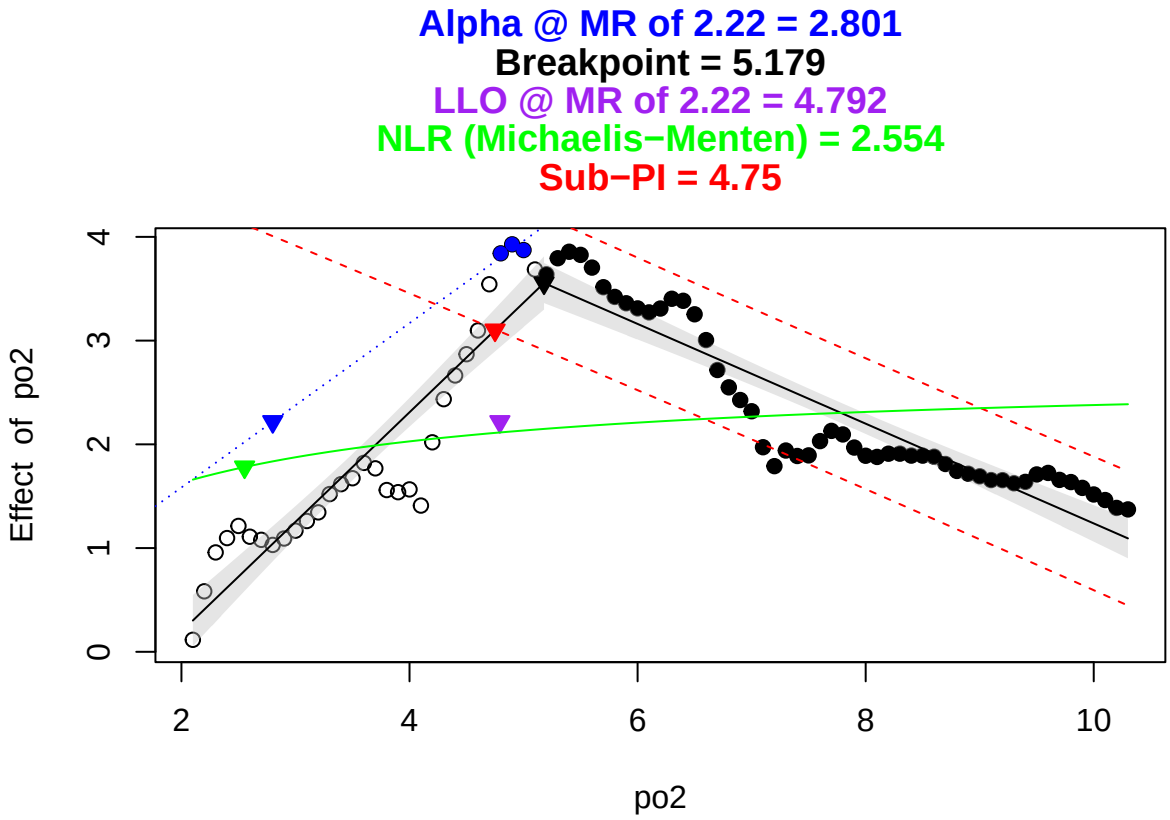
```
pcrits=data.frame(filename=as.character(),spreadsheet_guess=as.character(),octo=as.character(),mass=as.n
```

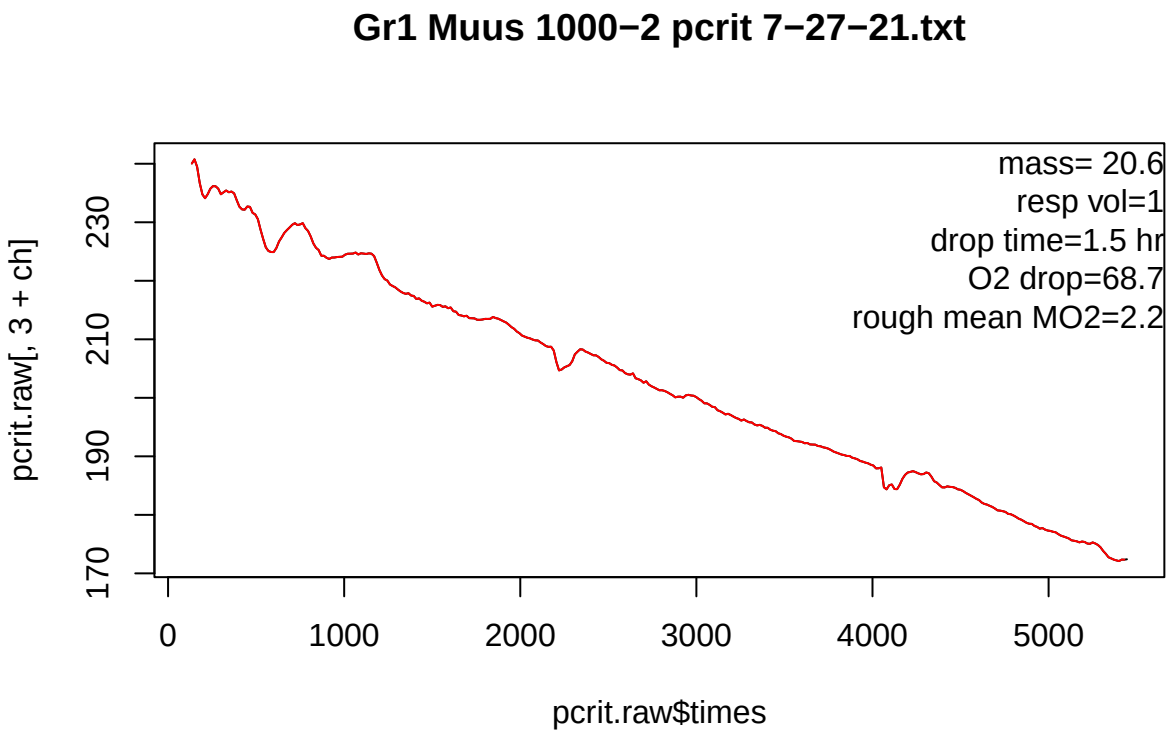
```
co=1

for (i in 1:length(pcrit.files.read)){
  filename=pcrit.files.read[i]

  if(length(grep("Group 4|presens|ch\\d\\.txt",basename(filename)))>0){
    pcrit.raw=read.presens(filename)
  }else{
    pcrit.raw=read.pyro(filename)
  }

guess=which.min(adist(basename(filename),pcrit.log$filename))
ch=pcrit.log$ch1[guess]
octo=pcrit.log$octo1[guess]
start=pcrit.log[guess,6+ch]
stop=max(pcrit.raw$times)-pcrit.log[guess,10+ch]
mass=mean(routine$mass[routine$octo==octo])
rmr=mean(routine$rmr[routine$octo==octo])

pcrit.working=
  pcrit.raw[
    pcrit.raw$times>start&
    pcrit.raw$times<stop,
  ]
vol=pcrit.log$vol[guess]
drop.time=round((stop-start)/3600,1)
O2.drop=round(diff(range(pcrit.working[,3+ch])),1)
rough.mo2=round((O2.drop*vol)/mass/drop.time,1)

plot(pcrit.raw[,3+ch]~pcrit.raw$times,type="l",main=basename(filename))
points(pcrit.working[,3+ch]~pcrit.working$times,type="l",col="red")
mtext(paste("mass=",mass),side=3,adj=1,line=-1)
mtext(paste0("resp vol=",vol),side=3,adj=1,line=-2)
mtext(paste0("drop time=",drop.time," hr"),side=3,adj=1,line=-3)
mtext(paste0("O2 drop=",O2.drop),side=3,adj=1,line=-4)
```

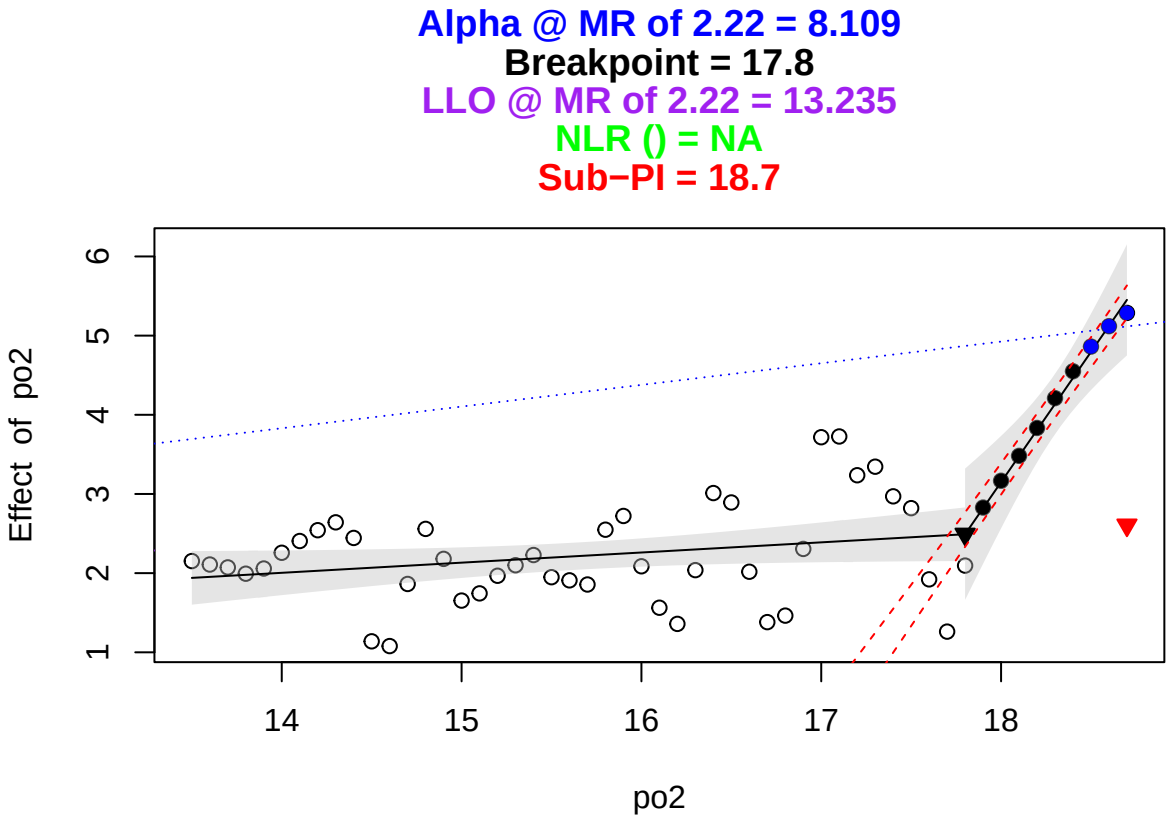
```
mtext(paste0("rough mean MO2=",rough.mo2),side=3,adj=1,line=-5)

pcrit.resp=resp.closed(pcrit.working,volume=pcrit.log$vol[guess],
            weight=mass,smooth="loess",channel=ch,smooth.span = 0.2)

pcrit.bin=aggregate(pcrit.resp$resp~round(pcrit.resp$po2,1),FUN="mean")
colnames(pcrit.bin)=c("po2","resp")

if(max(pcrit.bin$resp)>rmr){
  plot_pcrit(pcrit.bin$po2,pcrit.bin$resp,
           avg_top_n = 3,MR=rmr)
}else{
  plot_pcrit(pcrit.bin$po2,pcrit.bin$resp,
           avg_top_n = 3)
}


pcrits[co,1]=basename(filename)
pcrits[co,2]=pcrit.log$filename[guess]
pcrits[co,3]=octo
pcrits[co,4]=mass
pcrits[co,5]=pcrit.log$pco2[guess]
pcrits[co,6]=pcrit.log$day[guess]
pcrits[co,7]=rmr
if (min(pcrit.working[,3+ch])<50){
  if(max(pcrit.bin$resp)>rmr){
  pcrits[co,8]=as.numeric(calc_pcrit(pcrit.bin$po2,pcrit.bin$resp,
           avg_top_n = 3,MR=rmr)[1])
  }else{
    pcrits[co,8]=as.numeric(calc_pcrit(pcrit.bin$po2,pcrit.bin$resp,
           avg_top_n = 3)[1])
  }
}else{
  pcrits[co,8]=NA
}
co=co+1

if(!is.na(pcrit.log$ch2[guess])){
  ch=pcrit.log$ch2[guess]
  octo=pcrit.log$octo2[guess]
  start=pcrit.log[guess,6+ch]
  stop=max(pcrit.raw$times)-pcrit.log[guess,10+ch]
  mass=mean(routine$mass[routine$octo==octo])
  rmr=mean(routine$rmr[routine$octo==octo])

  pcrit.working=
    pcrit.raw[
      pcrit.raw$times>start&
      pcrit.raw$times<stop,
    ]

  plot(pcrit.raw[,3+ch]~pcrit.raw$times,type="l",main=basename(filename))
  points(pcrit.working[,3+ch]~pcrit.working$times,type="l",col="red")
```

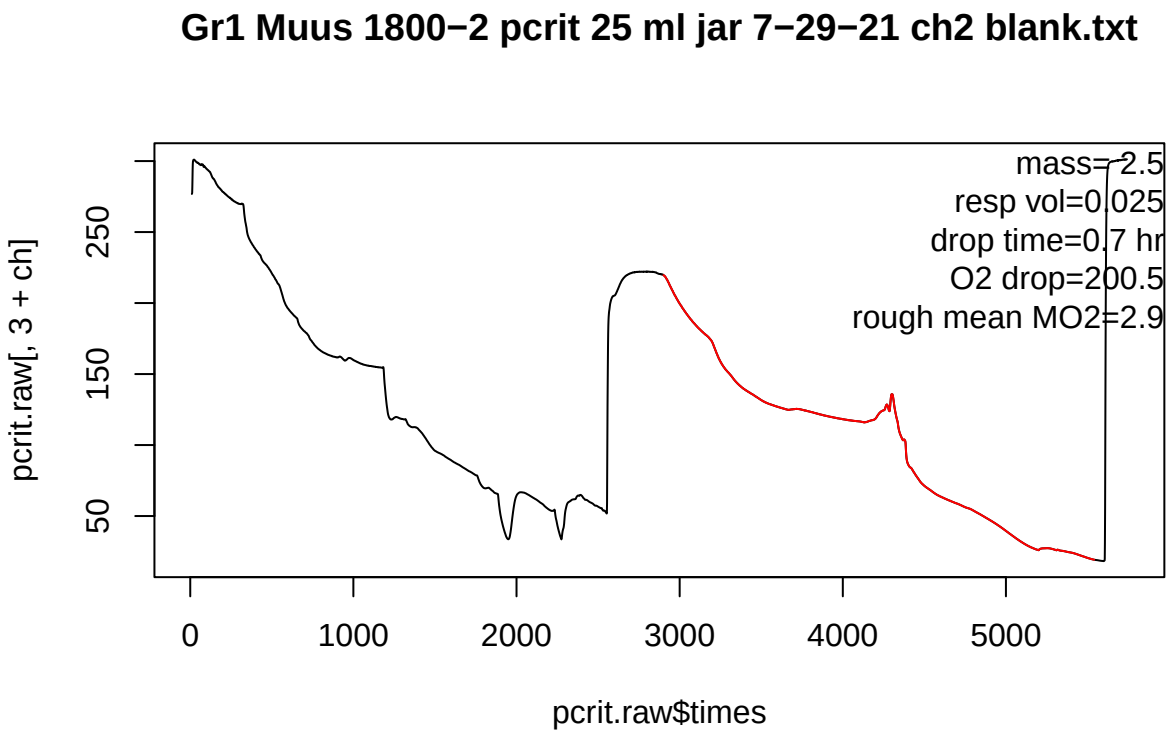
```
  pcrit.resp=resp.closed(pcrit.working,volume=pcrit.log$vol[guess],
           weight=mass,smooth="loess",channel=ch,smooth.span = 0.2)
  pcrit.bin=aggregate(pcrit.resp$resp~round(pcrit.resp$po2,1),FUN="mean")
  colnames(pcrit.bin)=c("po2","resp")

  plot_pcrit(pcrit.bin$po2,pcrit.bin$resp,
           avg_top_n = 3,MR=rmr)

  pcrits[co,1]=filename
  pcrits[co,2]=pcrit.log$filename[guess]
  pcrits[co,3]=octo
  pcrits[co,4]=mass
  pcrits[co,5]=pcrits$pco2[guess]
  pcrits[co,6]=pcrits$day[guess]
  pcrits[co,7]=rmr
  if (min(pcrit.working[,3+ch])<50){
    if(max(pcrit.bin$resp)>rmr){
    pcrits[co,8]=as.numeric(calc_pcrit(pcrit.bin$po2,pcrit.bin$resp,
           avg_top_n = 3,MR=rmr)[1])
    }else{
      pcrits[co,8]=as.numeric(calc_pcrit(pcrit.bin$po2,pcrit.bin$resp,
           avg_top_n = 3)[1])
    }
  }else{
    pcrits[co,8]=NA
  }
  co=co+1

}


}
```

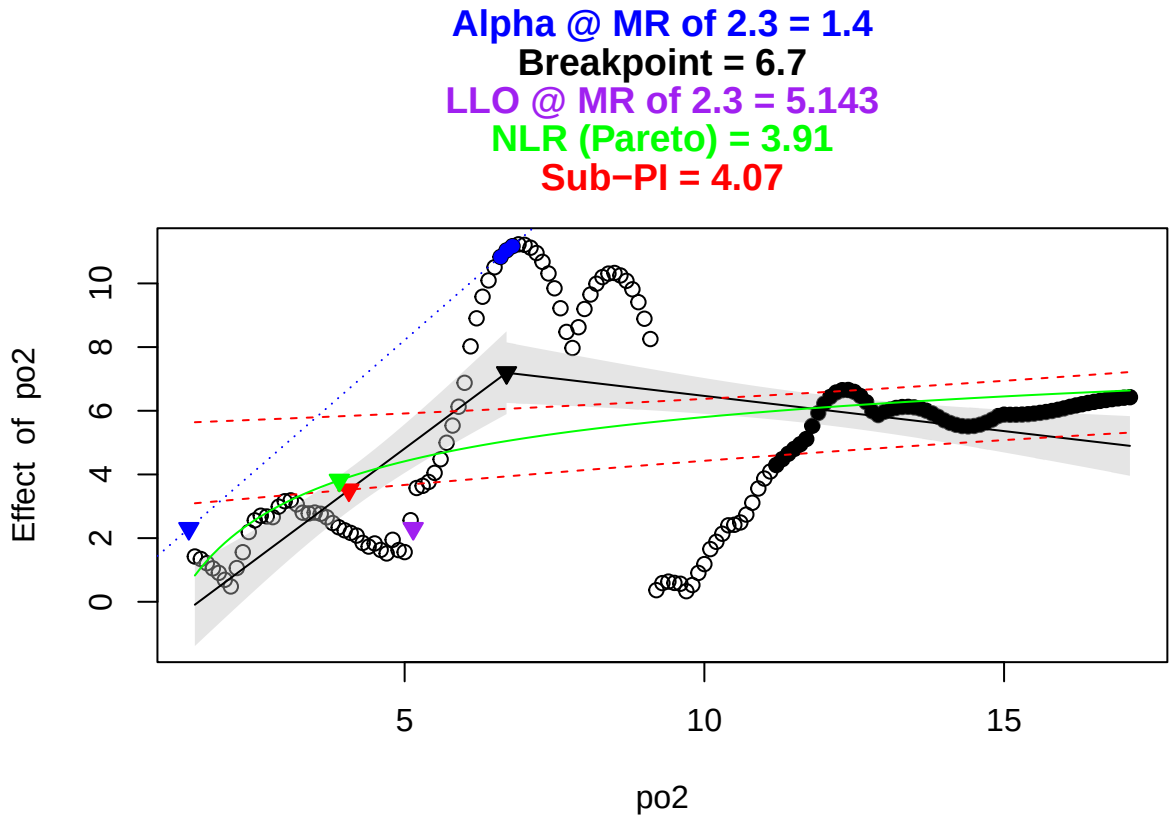

Gr1 Muus 1000−2 pcrit 7−27−21 B.txt
mass= 20.6
resp vol=1
drop time=2.9 hr
O2 drop=104.2
rough mean MO2=1.7
pcrit.raw[, 3 + ch]
40
60
80
100
120
0
2000
4000
6000
8000
10000
pcrit.raw$times


Alpha @ MR of 2.22 = 2.801
Breakpoint = 5.179
LLO @ MR of 2.22 = 4.792
NLR (Michaelis−Menten) = 2.554
Sub−PI = 4.75
Effect of po2
0
1
2
3
4
2
4
6
8
10
po2

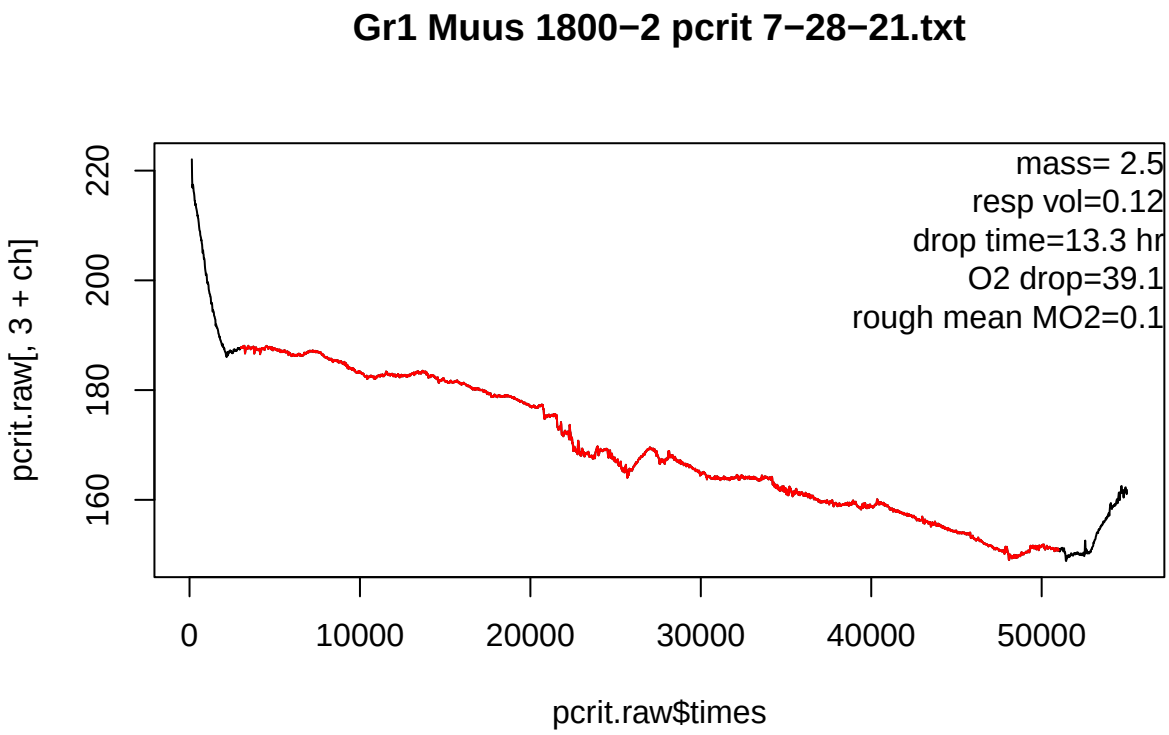

Gr1 Muus 1000−2 pcrit 7−27−21.txt
mass= 20.6
resp vol=1
drop time=1.5 hr
O2 drop=68.7
rough mean MO2=2.2
pcrit.raw[, 3 + ch]
170
190
210
230
0
1000
2000
3000
4000
5000
pcrit.raw$times

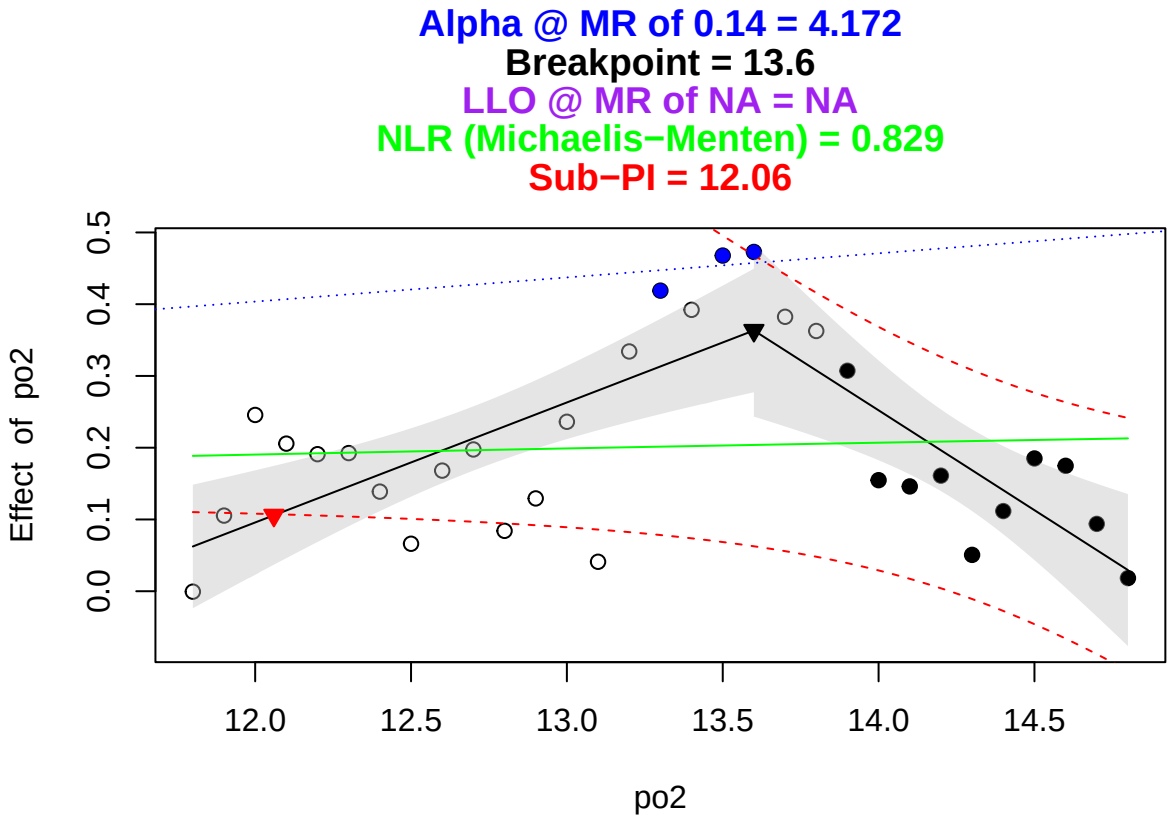

Alpha @ MR of 2.22 = 8.109
Breakpoint = 17.8
LLO @ MR of 2.22 = 13.235
NLR () = NA
Sub−PI = 18.7
Effect of po2
1
2
3
4
5
6
14
15
16
17
18
po2

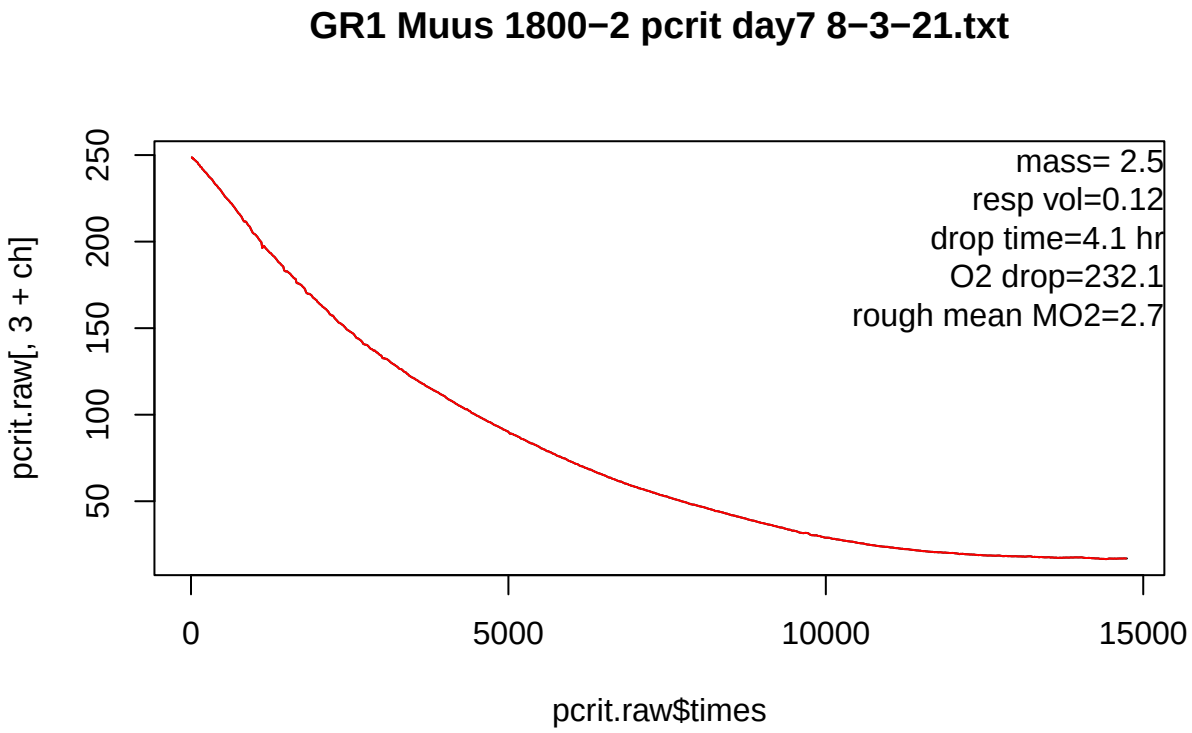

Gr1 Muus 1800−2 pcrit 25 ml jar 7−29−21 ch2 blank.txt
mass=2.5
resp vol=0.025
drop time=0.7 hr
O2 drop=200.5
rough mean MO2=2.9
pcrit.raw[, 3 + ch]
50
150
250
0
1000
2000
3000
4000
5000
pcrit.raw$times

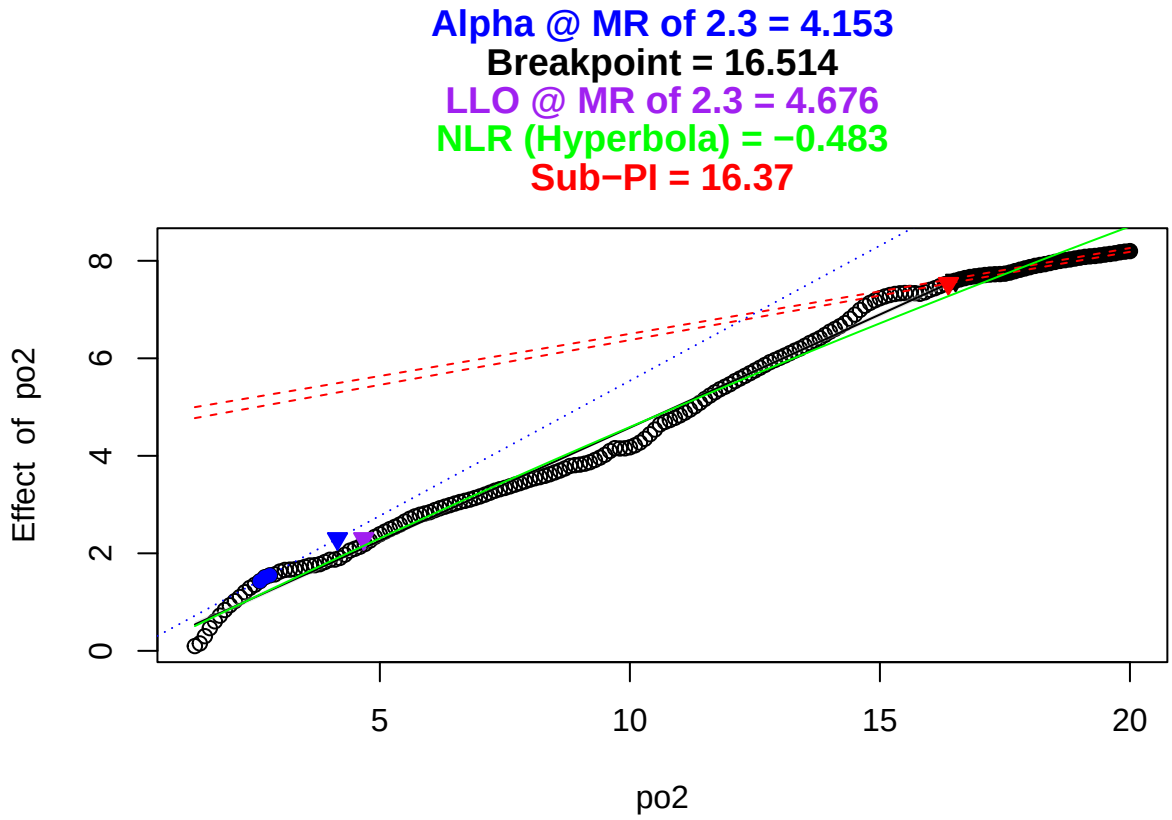



```
## "MR" must be defined for LLO calculation.
```

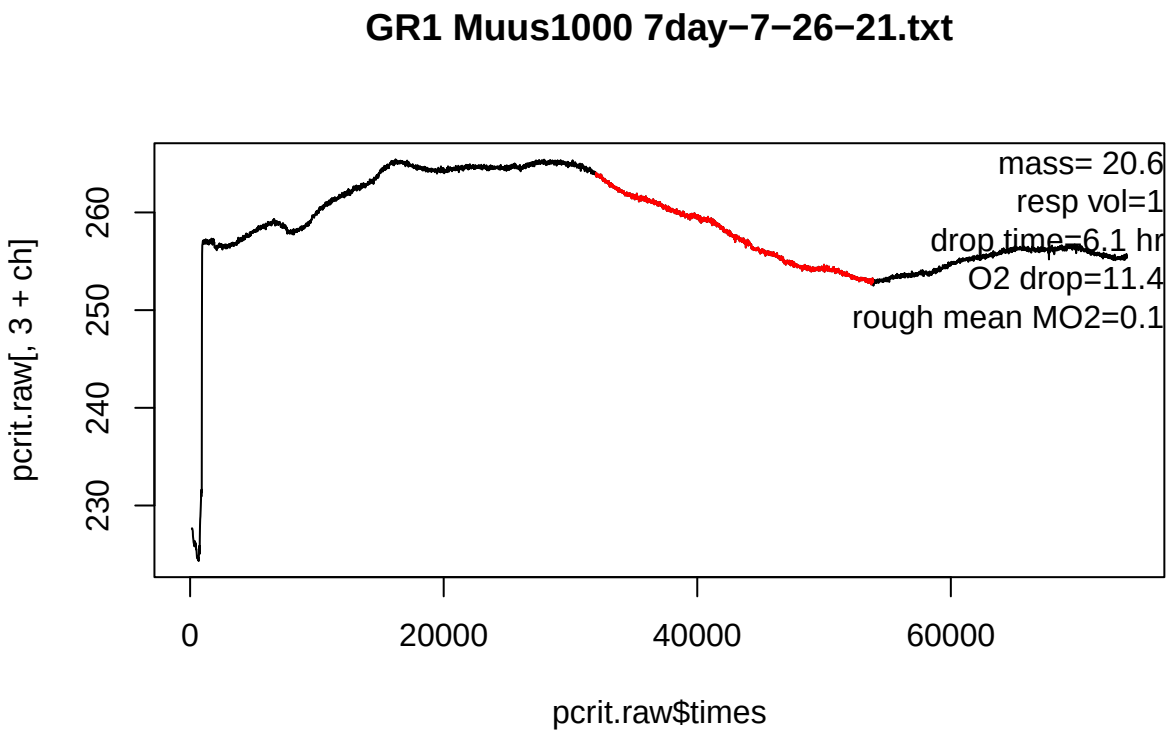

Gr1 Muus 1800−2 pcrit 7−28−21.txt
mass= 2.5
resp vol=0.12
drop time=13.3 hr
O2 drop=39.1
rough mean MO2=0.1
pcrit.raw[, 3 + ch]
160
180
200
220
0
10000
20000
30000
40000
50000
pcrit.raw$times

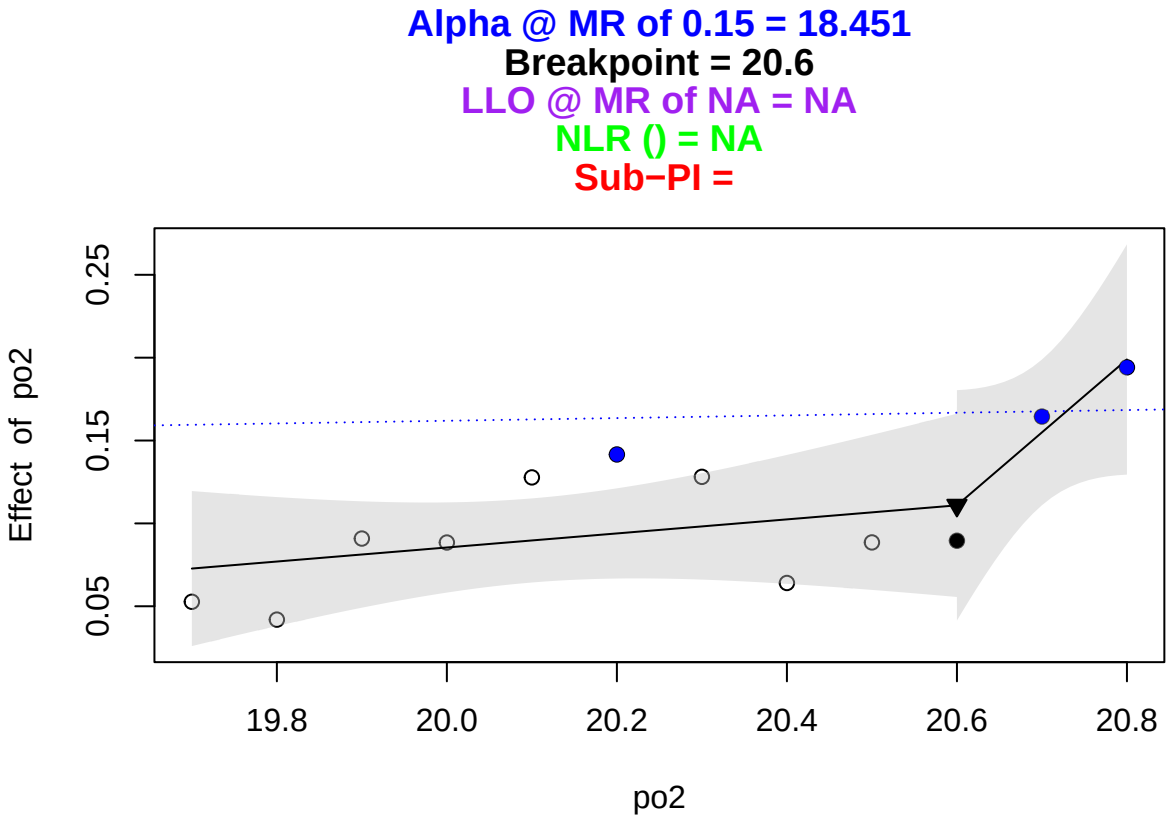

Alpha @ MR of 0.14 = 4.172
Breakpoint = 13.6
LLO @ MR of NA = NA
NLR (Michaelis−Menten) = 0.829
Sub−PI = 12.06
Effect of po2
0.0
0.1
0.2
0.3
0.4
0.5
12.0
12.5
13.0
13.5
14.0
14.5
po2

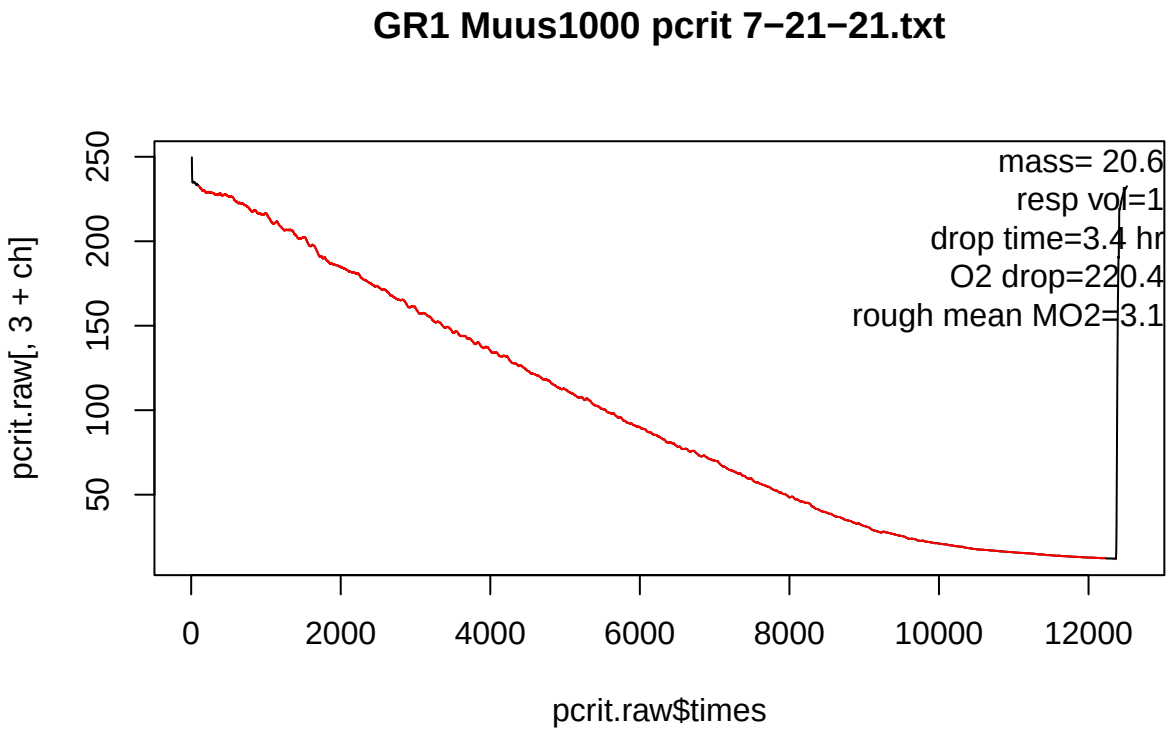

GR1 Muus 1800−2 pcrit day7 8−3−21.txt
mass= 2.5
resp vol=0.12
drop time=4.1 hr
O2 drop=232.1
rough mean MO2=2.7
pcrit.raw[, 3 + ch]
50
100
150
200
250
0
5000
10000
15000
pcrit.raw$times

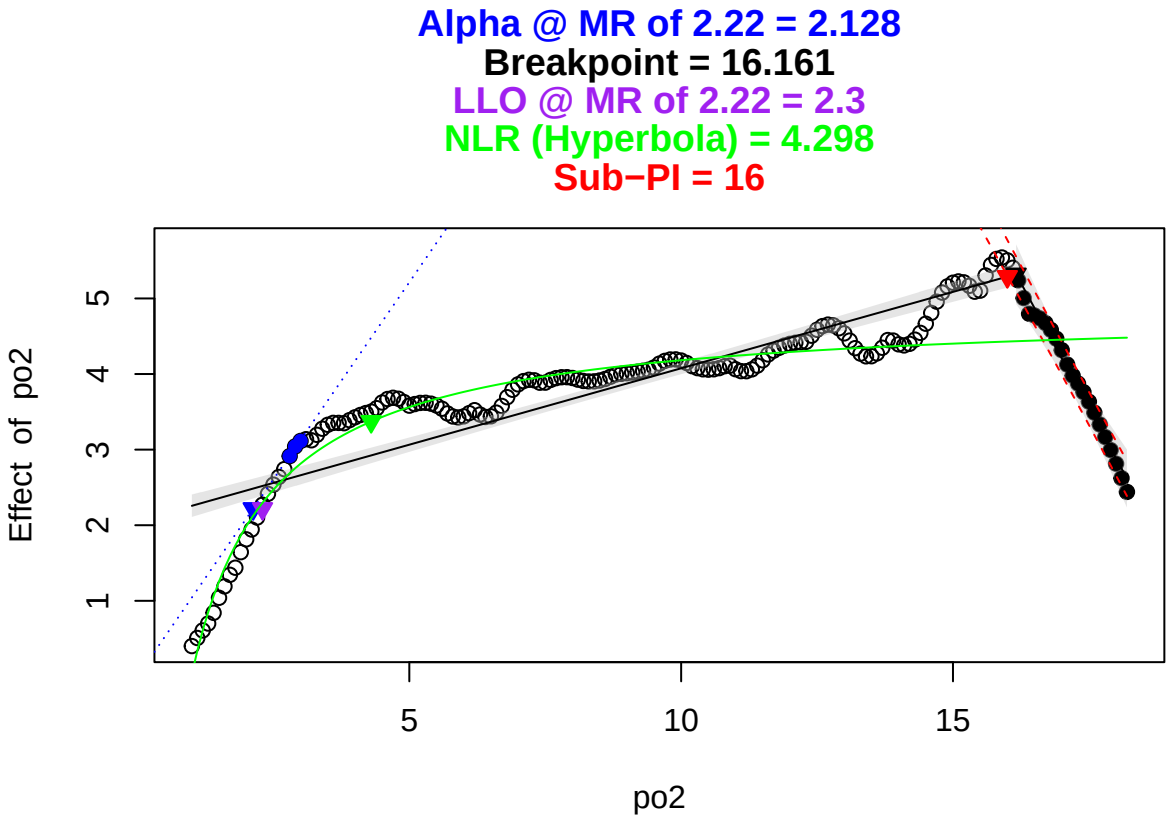


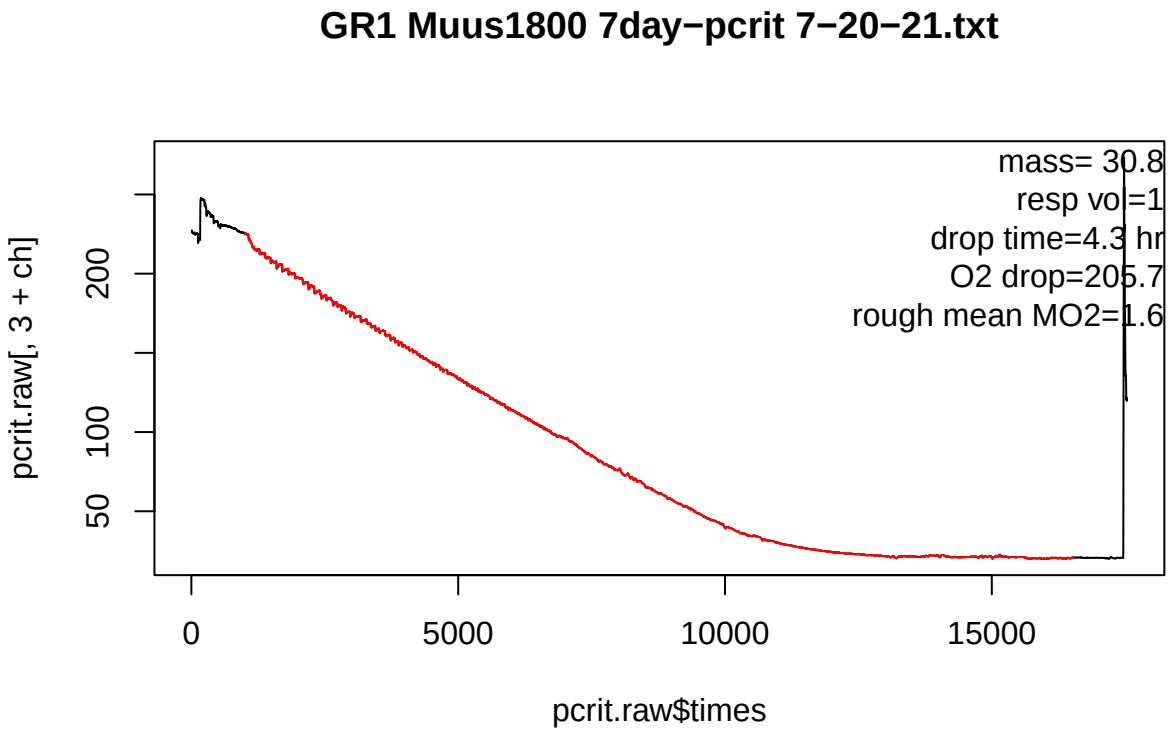

```
## "MR" must be defined for LLO calculation.
```

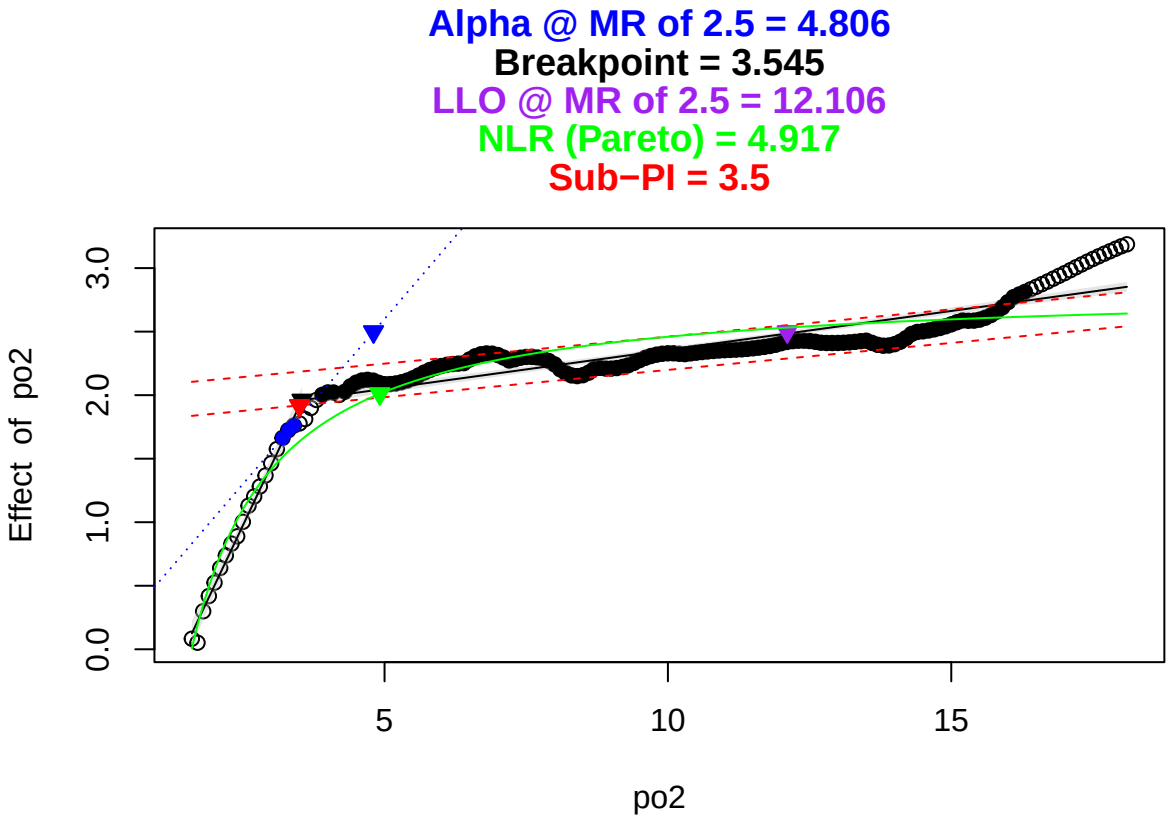

GR1 Muus1000 7day−7−26−21.txt
mass= 20.6
resp vol=1
drop time=6.1 hr
O2 drop=11.4
rough mean MO2=0.1
pcrit.raw[, 3 + ch]
230
240
250
260
0
20000
40000
60000
pcrit.raw$times

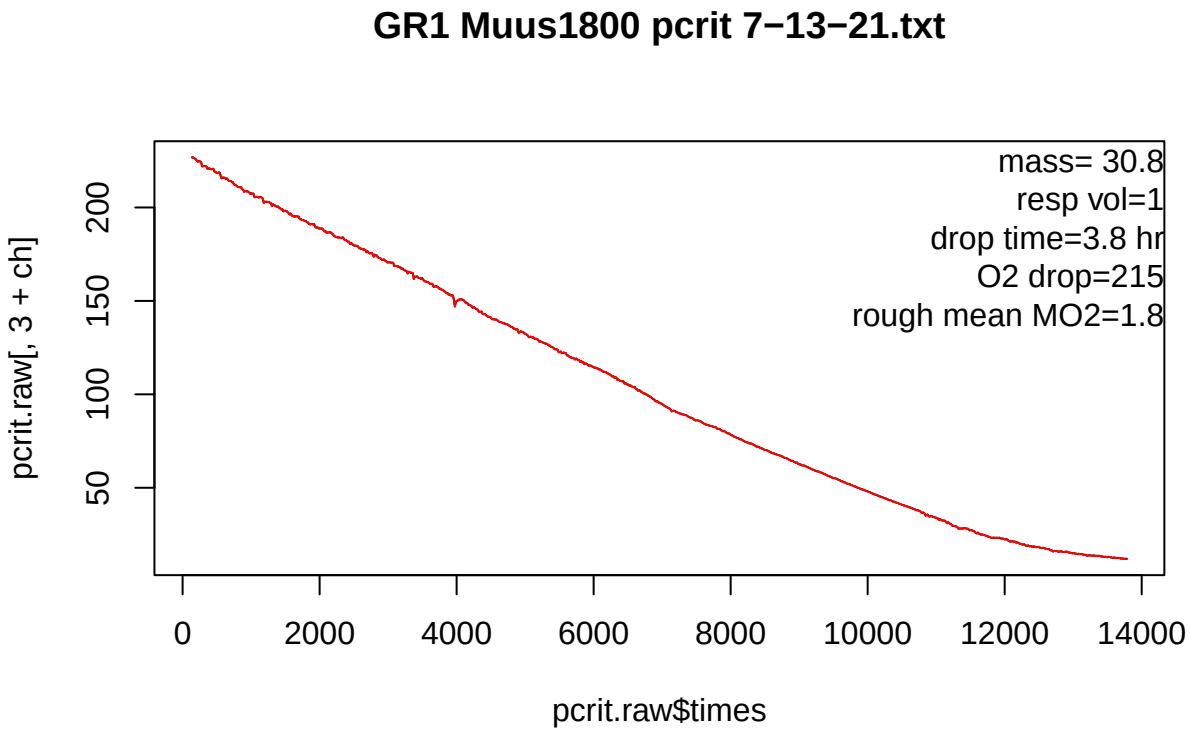

Alpha @ MR of 0.15 = 18.451
Breakpoint = 20.6
LLO @ MR of NA = NA
NLR () = NA
Sub−PI =
Effect of po2
0.05
0.15
0.25
19.8
20.0
20.2
20.4
20.6
20.8
po2

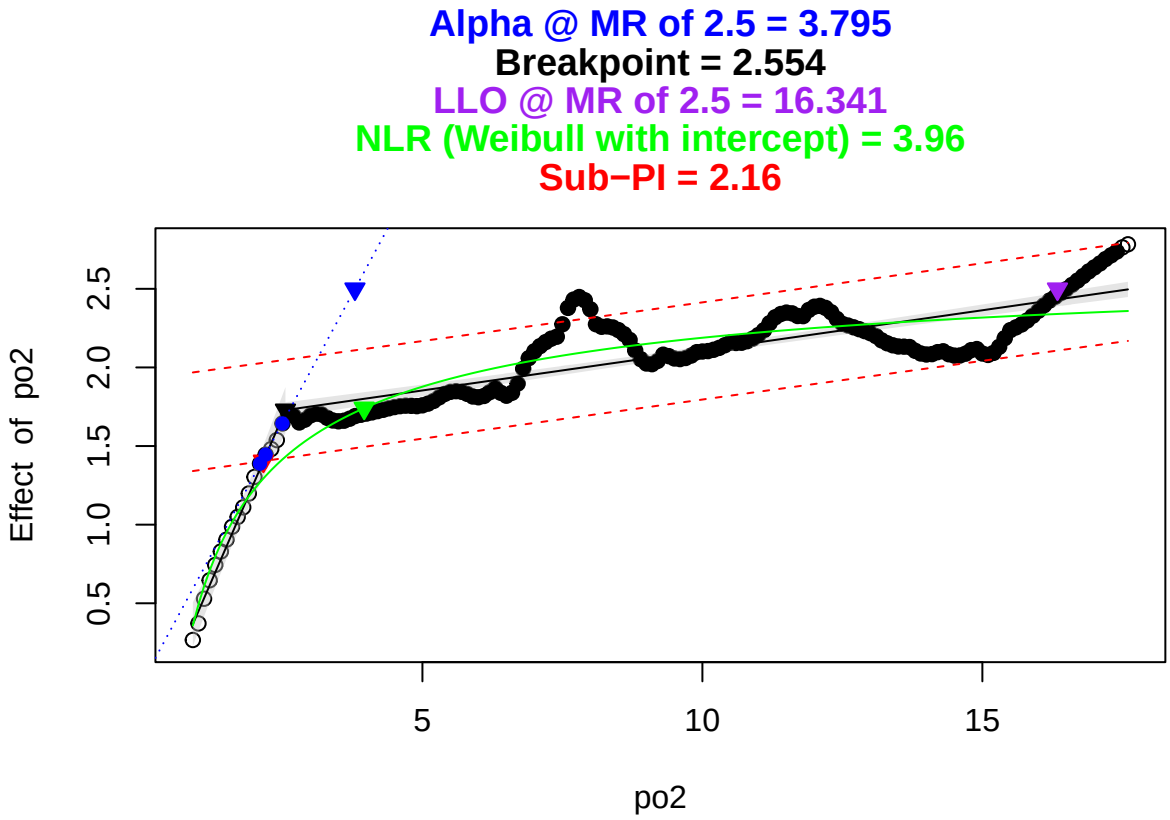

GR1 Muus1000 pcrit 7−21−21.txt
mass= 20.6
resp vol=1
drop time=3.4 hr
O2 drop=220.4
rough mean MO2=3.1
pcrit.raw[, 3 + ch]
50
100
150
200
250
0
2000
4000
6000
8000
10000
12000
pcrit.raw$times

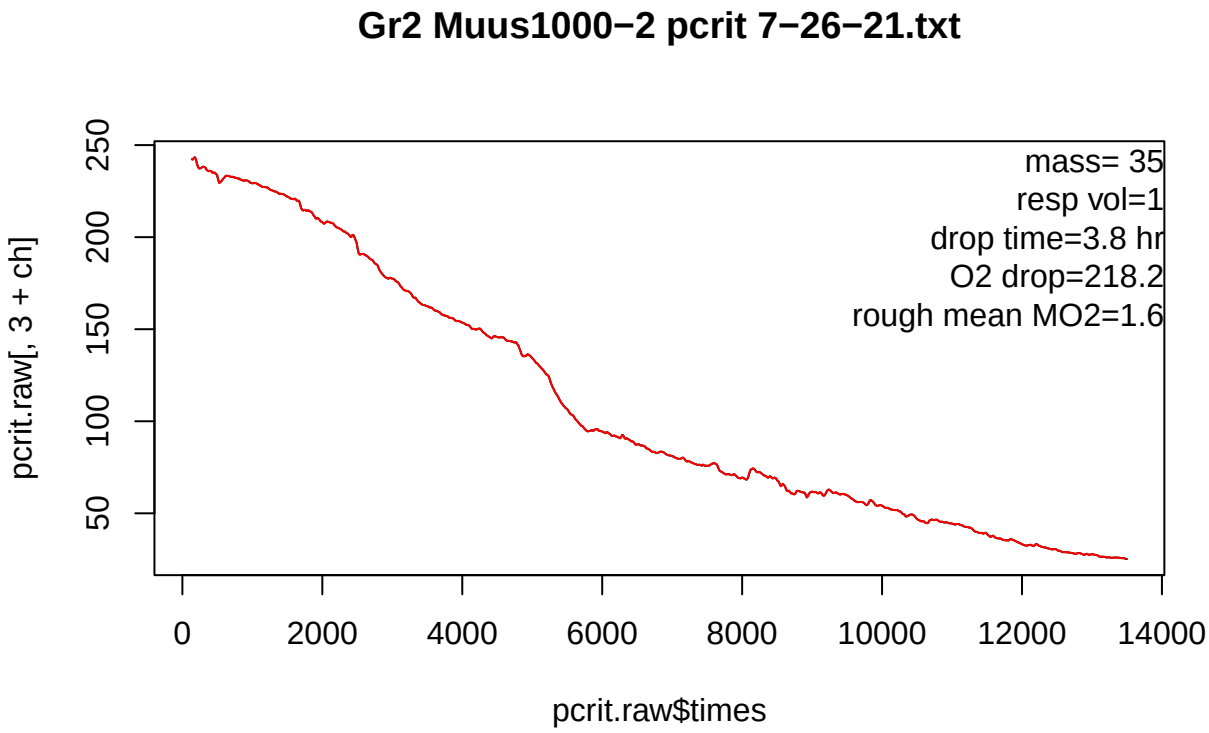

Alpha @ MR of 2.22 = 2.128
Breakpoint = 16.161
LLO @ MR of 2.22 = 2.3
NLR (Hyperbola) = 4.298
Sub−PI = 16
Effect of po2
1
2
3
4
5
5
10
15
po2

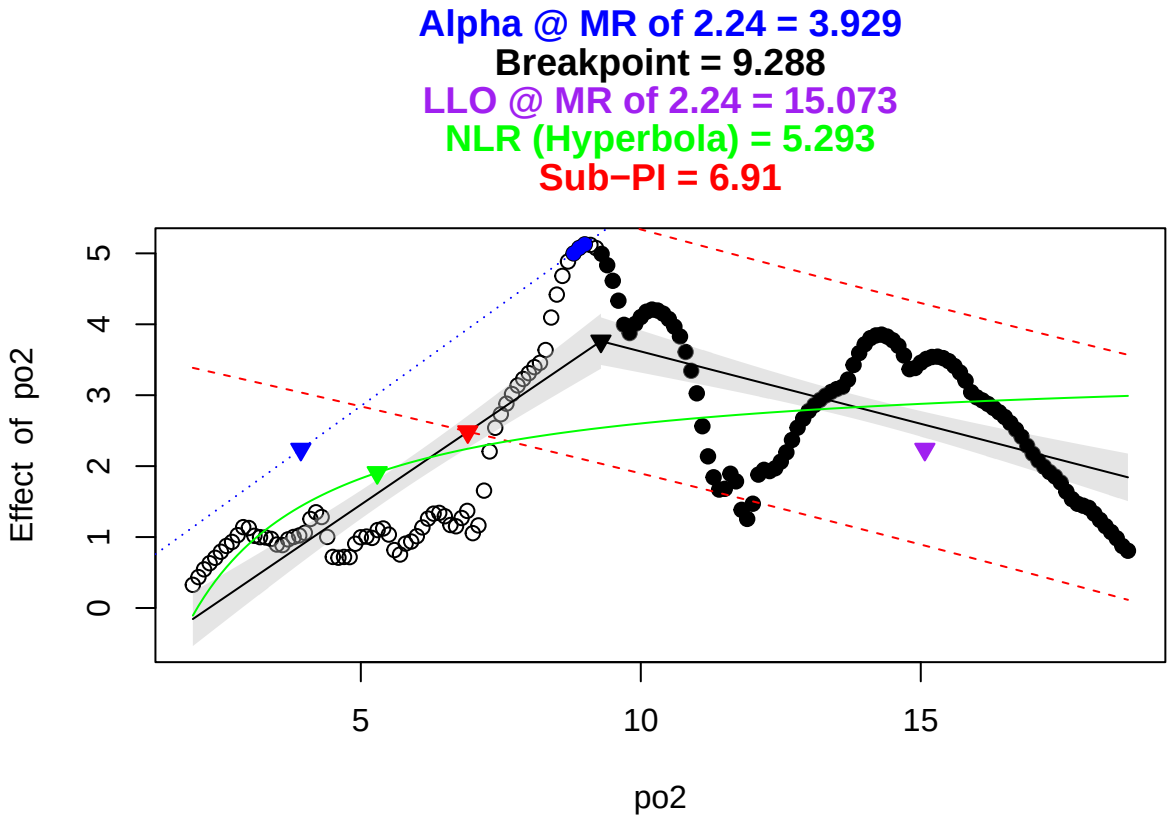

GR1 Muus1800 7day−pcrit 7−20−21.txt
mass= 30.8
resp vol=1
drop time=4.3 hr
O2 drop=205.7
rough mean MO2=1.6
pcrit.raw[, 3 + ch]
50
100
200
0
5000
10000
15000
pcrit.raw$times

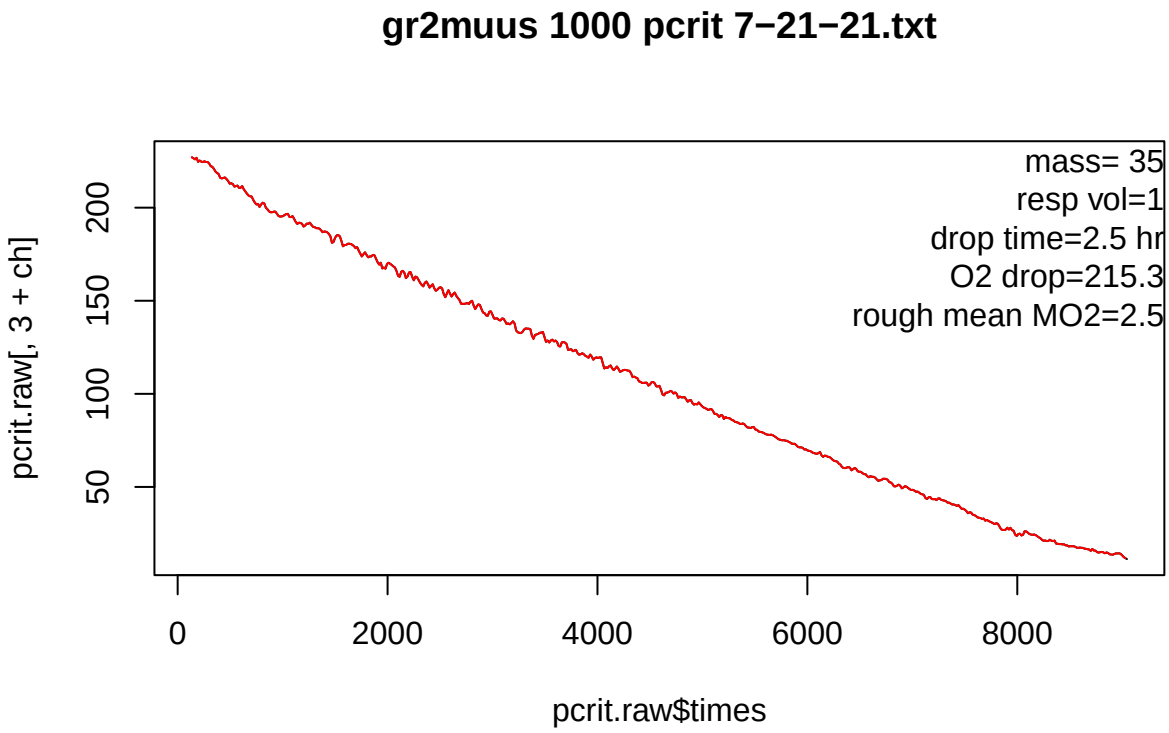

Alpha @ MR of 2.5 = 4.806
Breakpoint = 3.545
LLO @ MR of 2.5 = 12.106
NLR (Pareto) = 4.917
Sub−PI = 3.5
Effect of po2
0.0
1.0
2.0
3.0
5
10
15
po2

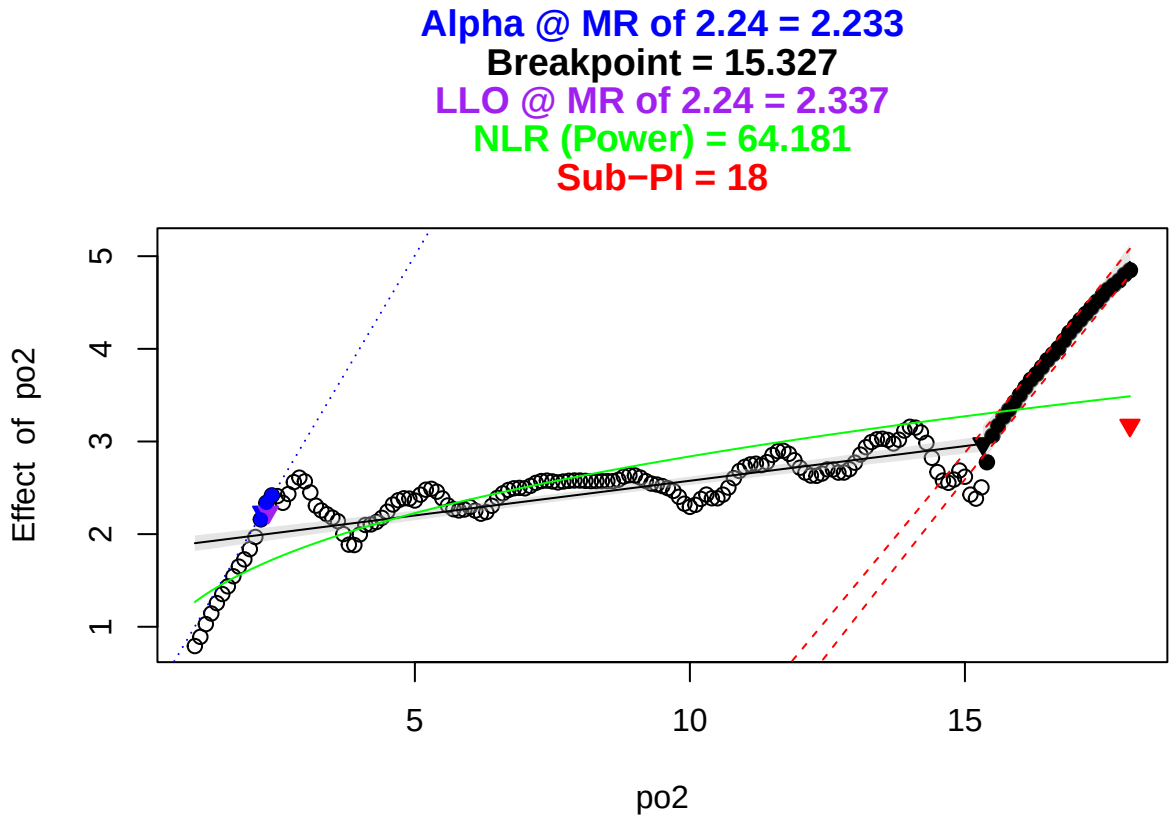

GR1 Muus1800 pcrit 7−13−21.txt
mass= 30.8
resp vol=1
drop time=3.8 hr
O2 drop=215
rough mean MO2=1.8
pcrit.raw[, 3 + ch]
50
100
150
200
0
2000
4000
6000
8000
10000
12000
14000
pcrit.raw$times


Alpha @ MR of 2.5 = 3.795
Breakpoint = 2.554
LLO @ MR of 2.5 = 16.341
NLR (Weibull with intercept) = 3.96
Sub−PI = 2.16
Effect of po2
0.5
1.0
1.5
2.0
2.5
5
10
15
po2

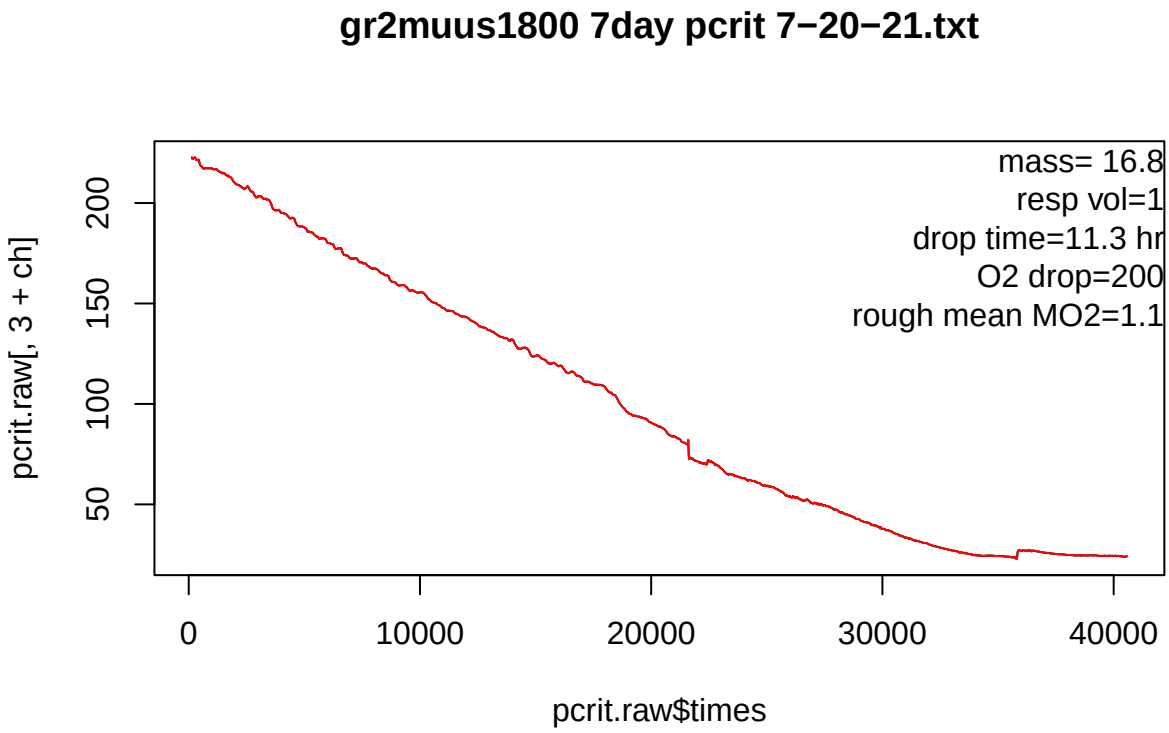

Gr2 Muus1000−2 pcrit 7−26−21.txt
mass= 35
resp vol=1
drop time=3.8 hr
O2 drop=218.2
rough mean MO2=1.6
pcrit.raw[, 3 + ch]
50
100
150
200
250
0
2000
4000
6000
8000
10000
12000
14000
pcrit.raw$times


Alpha @ MR of 2.24 = 3.929
Breakpoint = 9.288
LLO @ MR of 2.24 = 15.073
NLR (Hyperbola) = 5.293
Sub−PI = 6.91
Effect of po2
0
1
2
3
4
5
5
10
15
po2

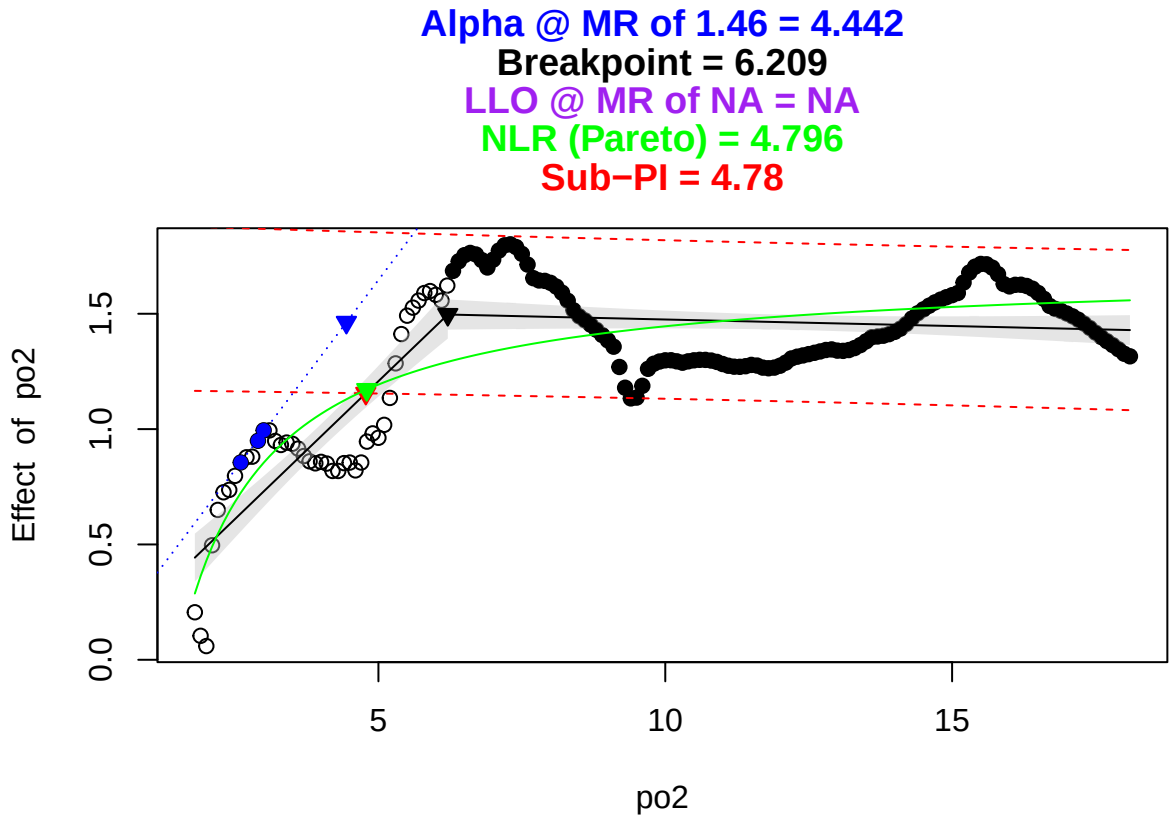

gr2muus 1000 pcrit 7−21−21.txt
mass= 35
resp vol=1
drop time=2.5 hr
O2 drop=215.3
rough mean MO2=2.5
pcrit.raw[, 3 + ch]
50
100
150
200
0
2000
4000
6000
8000
pcrit.raw$times



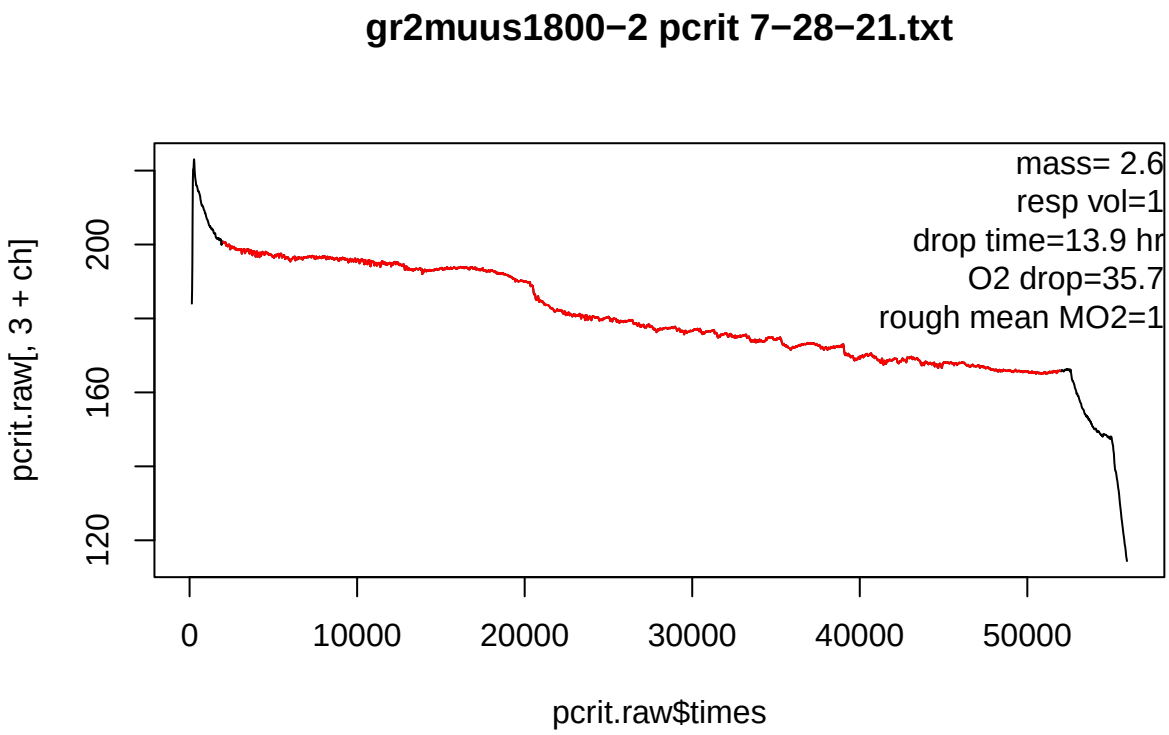

```
## "MR" must be defined for LLO calculation.
```

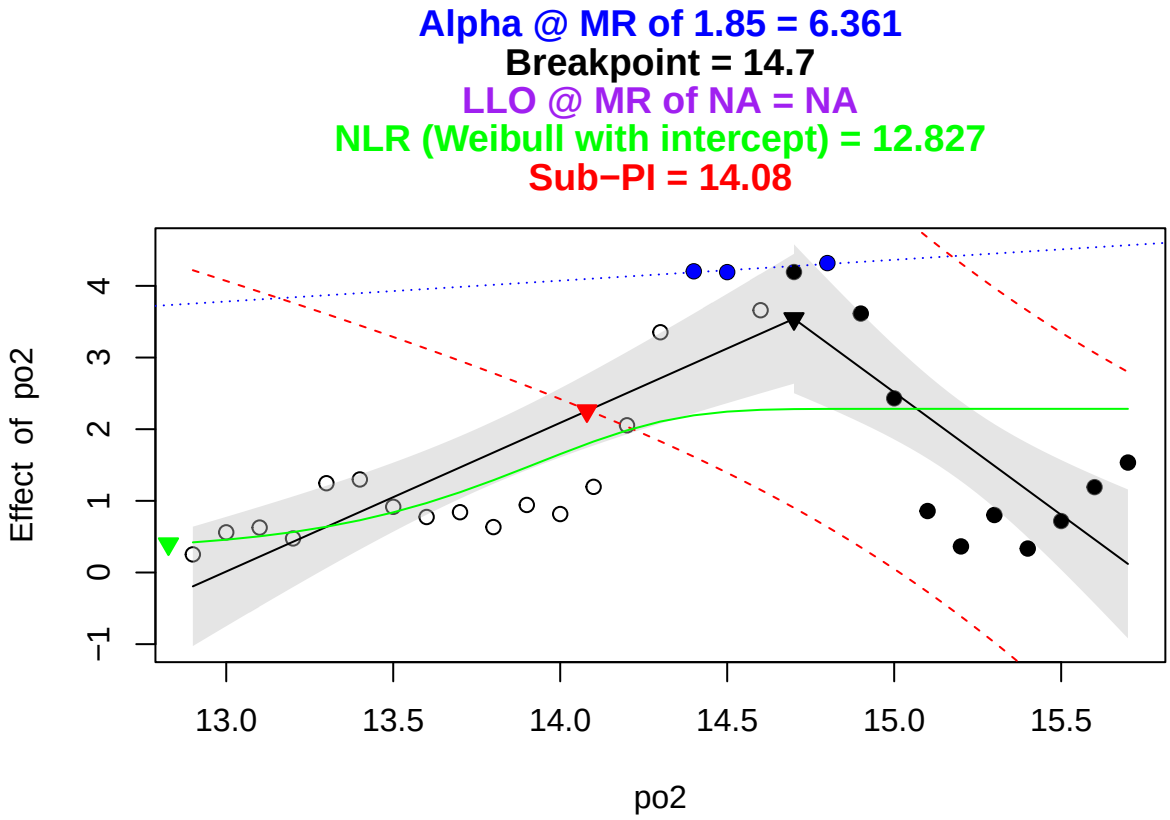


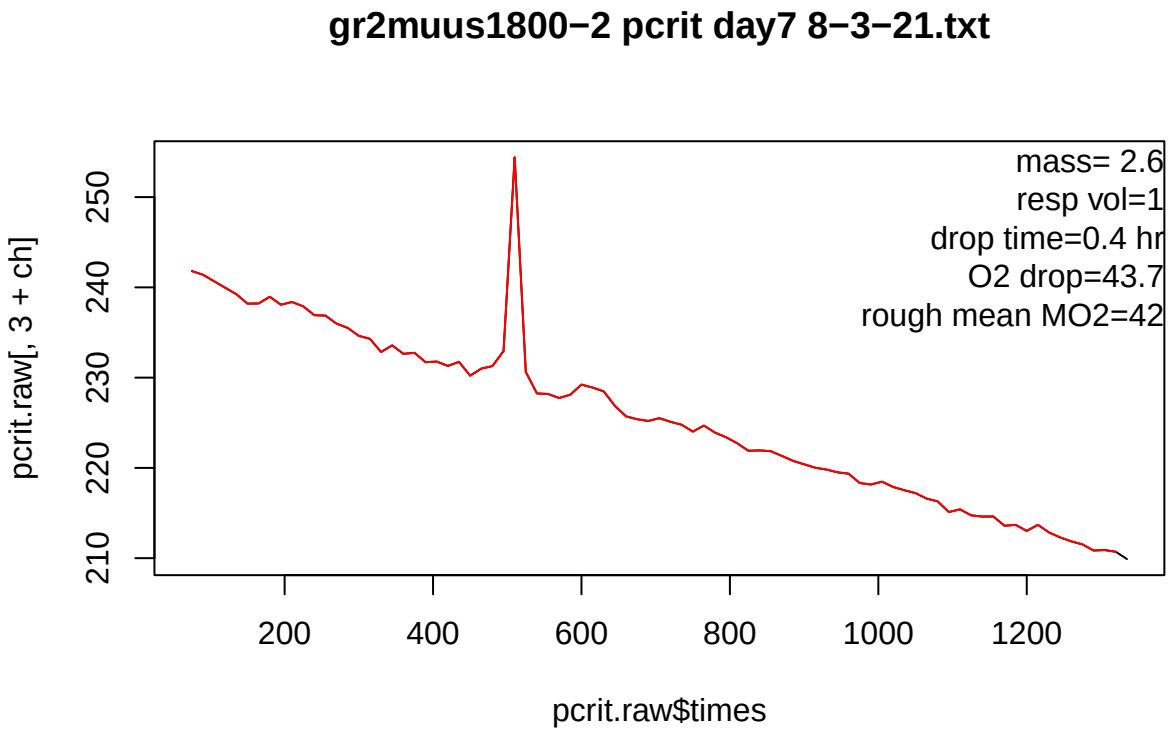

```
## "MR" must be defined for LLO calculation.
```

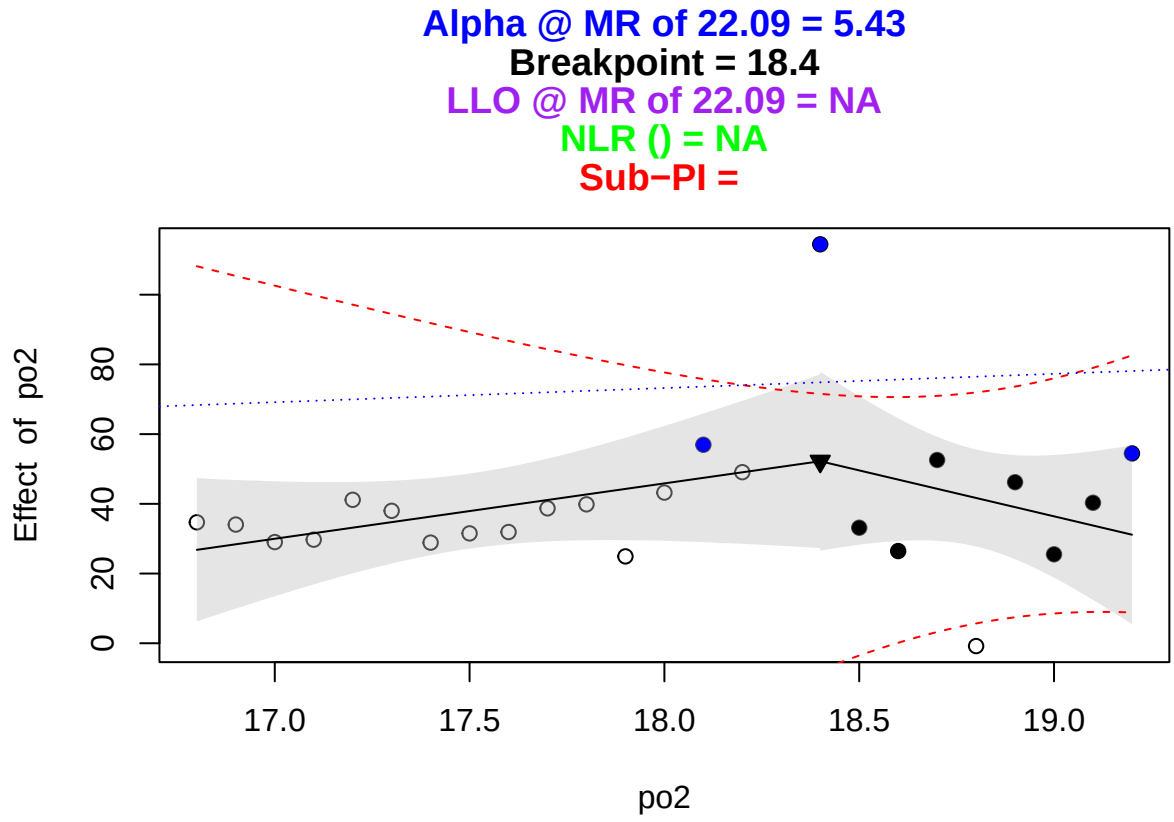



```
## "MR" must be defined for LLO calculation.
```

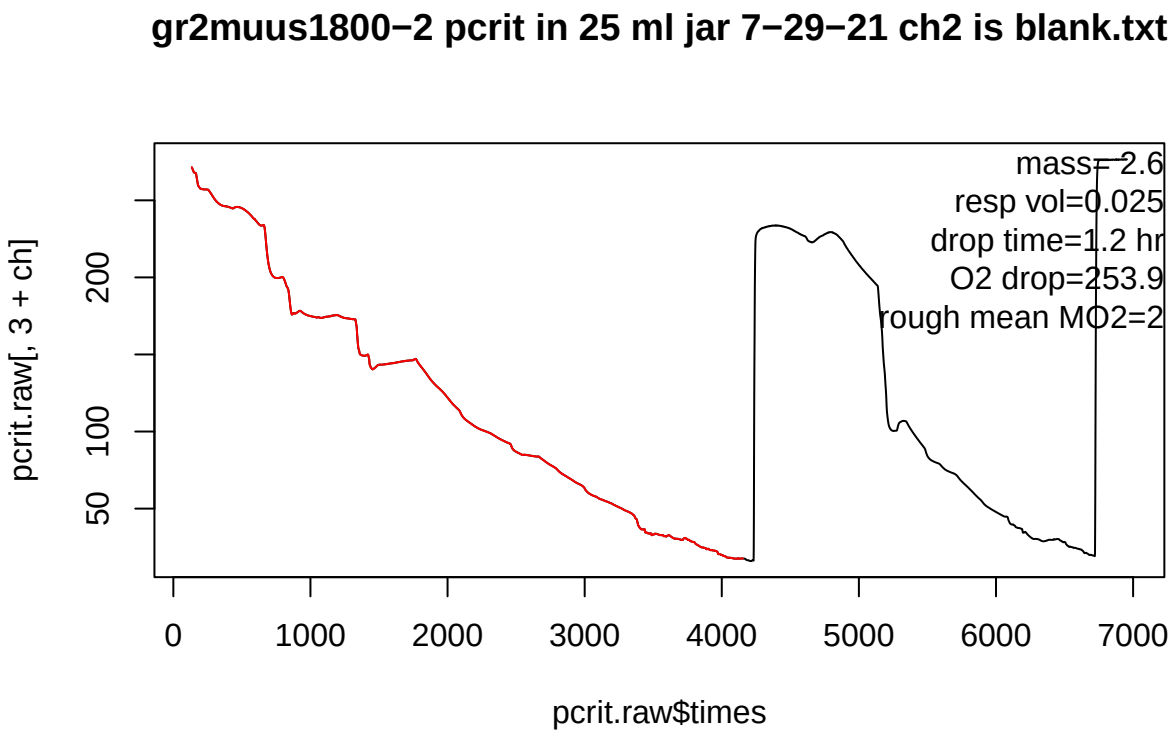

gr2muus1800−2 pcrit 7−28−21.txt
mass= 2.6
resp vol=1
drop time=13.9 hr
O2 drop=35.7
rough mean MO2=1
pcrit.raw[, 3 + ch]
120
160
200
0
10000
20000
30000
40000
50000
pcrit.raw$times


Alpha @ MR of 1.85 = 6.361
Breakpoint = 14.7
LLO @ MR of NA = NA
NLR (Weibull with intercept) = 12.827
Sub−PI = 14.08
Effect of po2
−1
0
1
2
3
4
13.0
13.5
14.0
14.5
15.0
15.5
po2

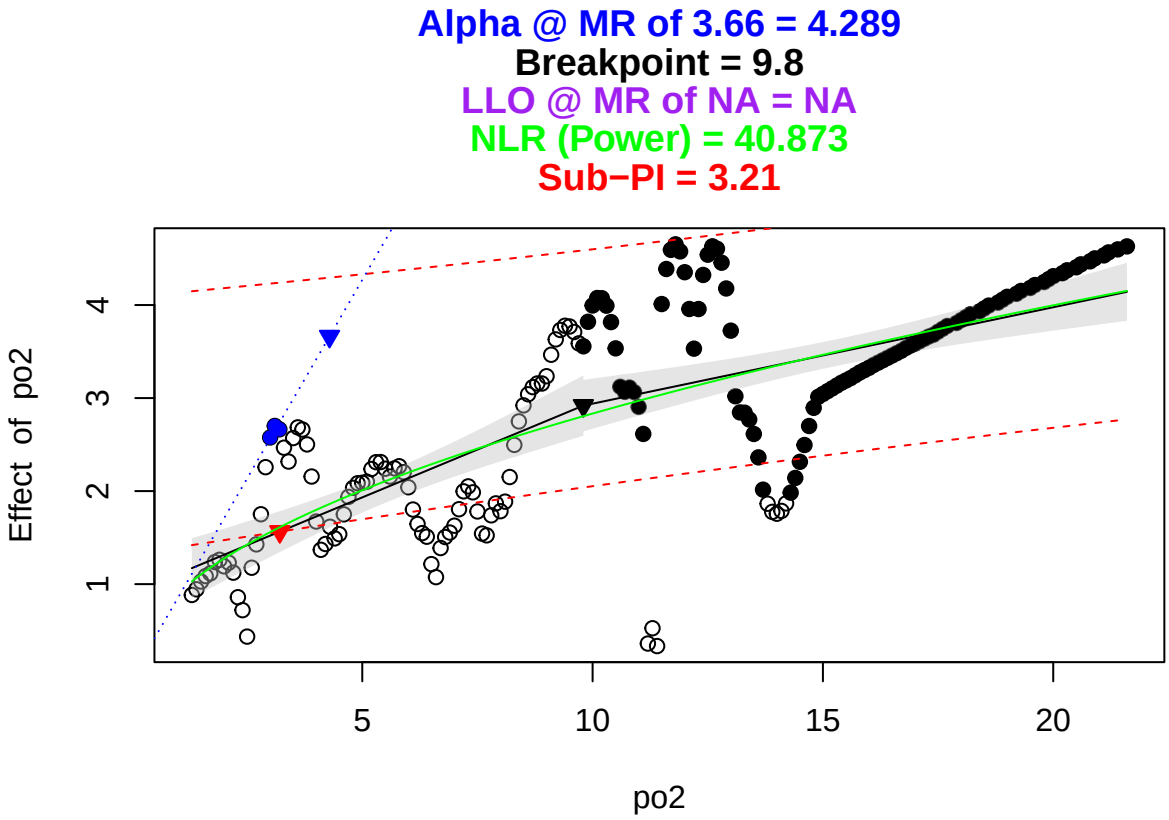

gr2muus1800−2 pcrit day7 8−3−21.txt
mass= 2.6
resp vol=1
drop time=0.4 hr
O2 drop=43.7
rough mean MO2=42
pcrit.raw[, 3 + ch]
210
220
230
240
250
200
400
600
800
1000
1200
pcrit.raw$times

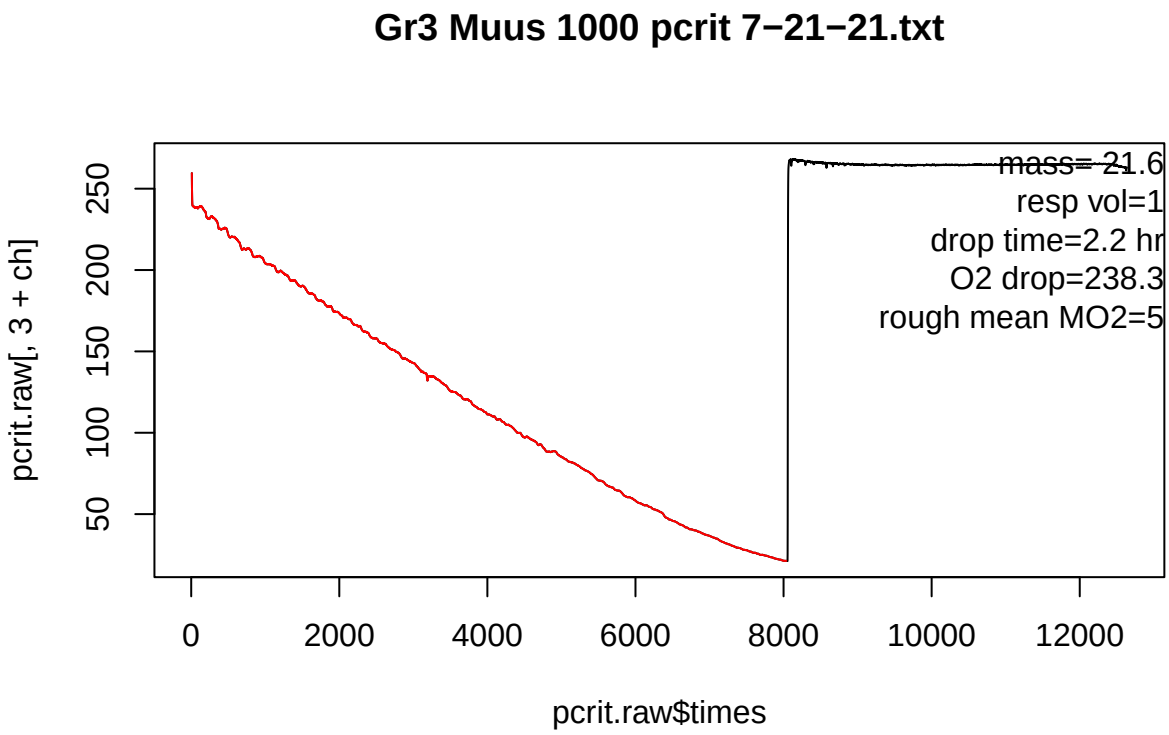


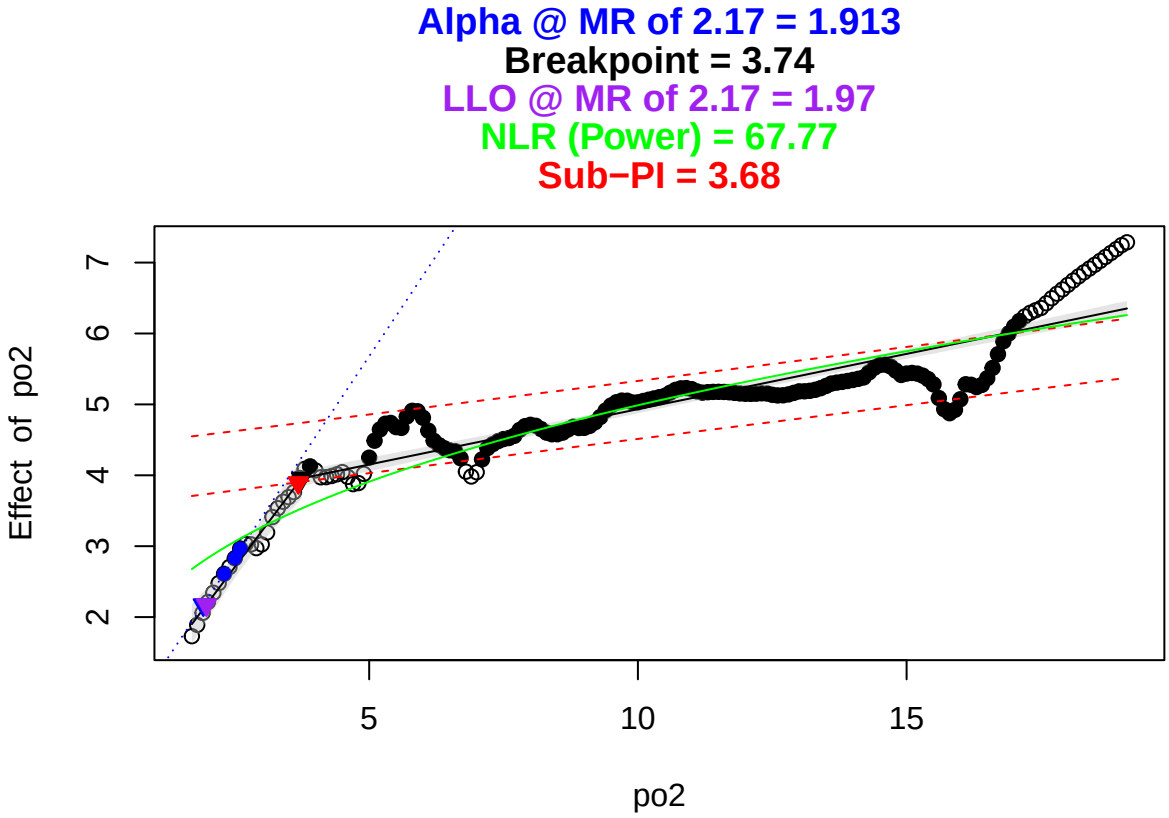

```
## "MR" must be defined for LLO calculation.
```

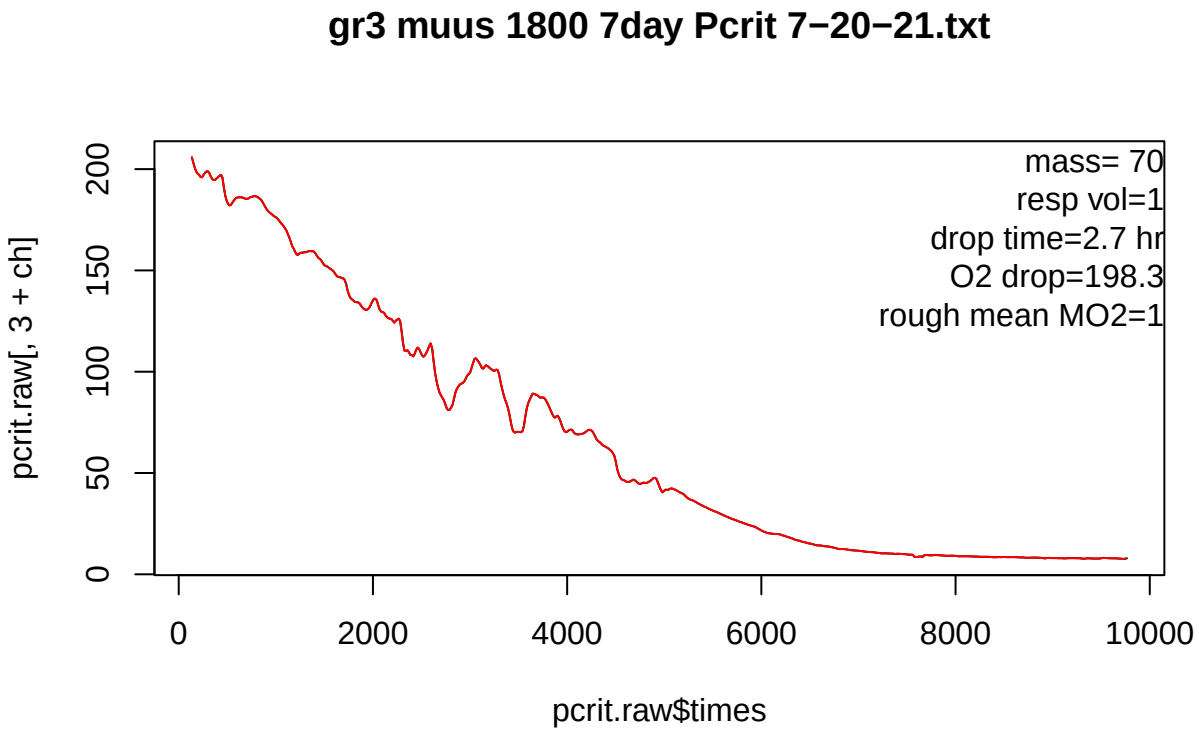


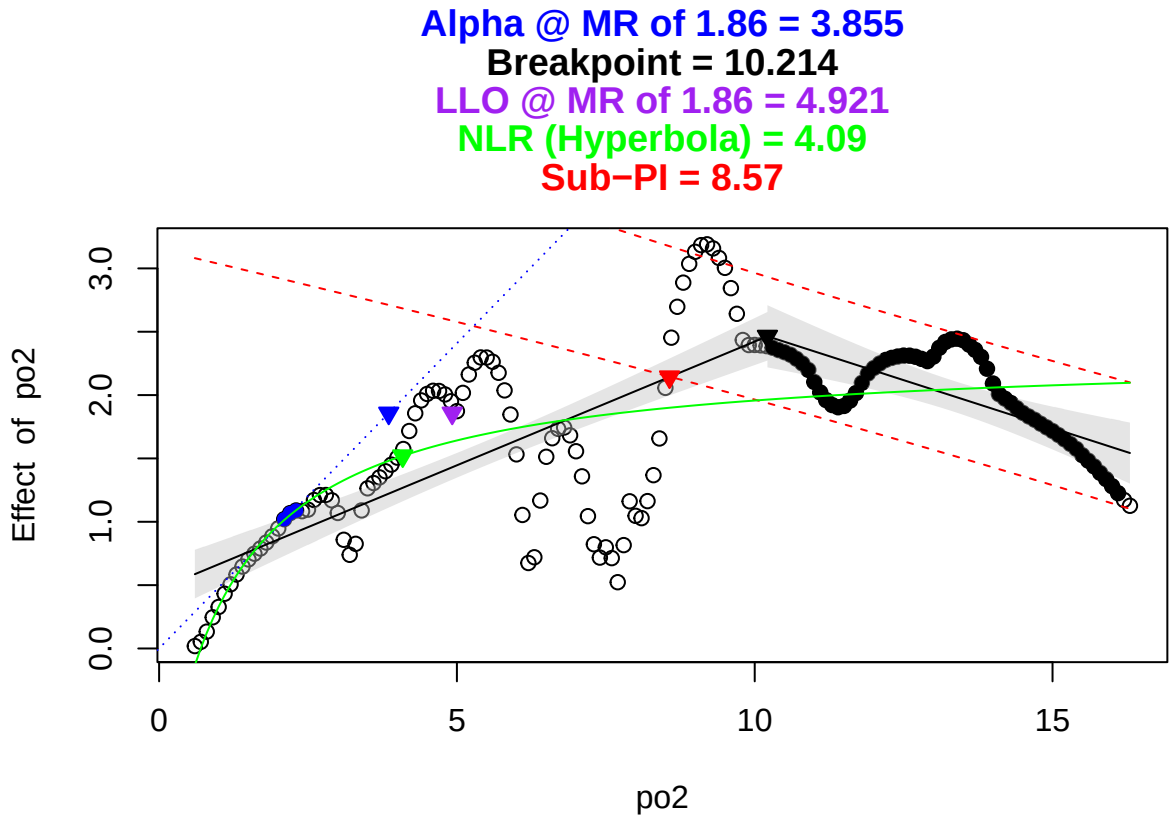

```
## "MR" must be defined for LLO calculation.
```


Alpha @ MR of 3.66 = 4.289
Breakpoint = 9.8
LLO @ MR of NA = NA
NLR (Power) = 40.873
Sub−PI = 3.21
Effect of po2
1
2
3
4
5
10
15
20
po2

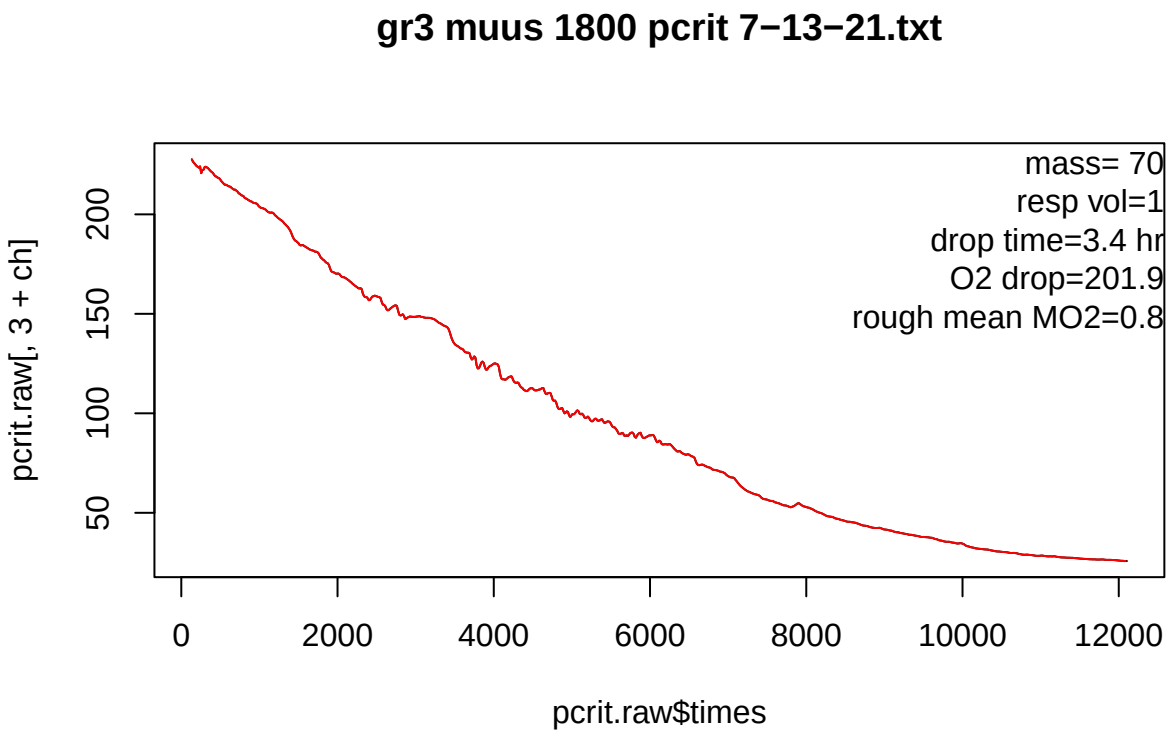

Gr3 Muus 1000 pcrit 7−21−21.txt
mass= 21.6
resp vol=1
drop time=2.2 hr
O2 drop=238.3
rough mean MO2=5
pcrit.raw[, 3 + ch]
50
100
150
200
250
0
2000
4000
6000
8000
10000
12000
pcrit.raw$times


Alpha @ MR of 2.17 = 1.913
Breakpoint = 3.74
LLO @ MR of 2.17 = 1.97
NLR (Power) = 67.77
Sub−PI = 3.68
Effect of po2
2
3
4
5
6
7
5
10
15
po2

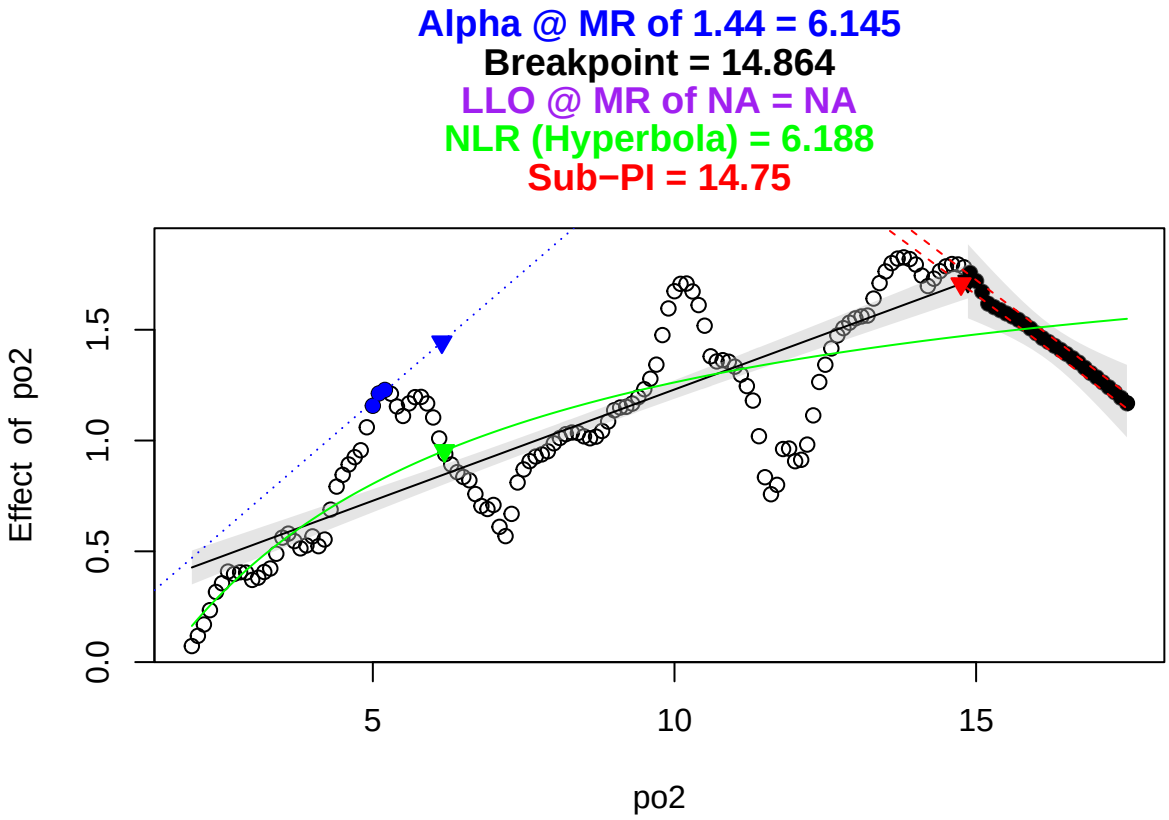

gr3 muus 1800 7day Pcrit 7−20−21.txt
mass= 70
resp vol=1
drop time=2.7 hr
O2 drop=198.3
rough mean MO2=1
pcrit.raw[, 3 + ch]
0
50
100
150
200
0
2000
4000
6000
8000
10000
pcrit.raw$times

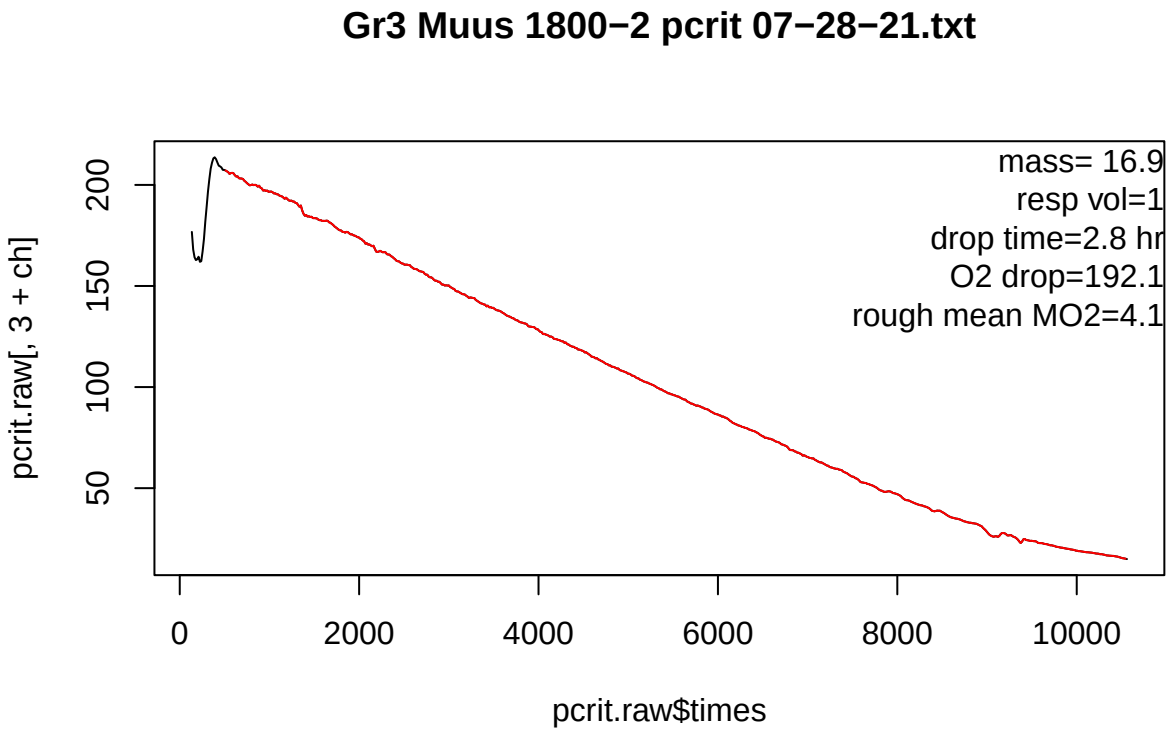


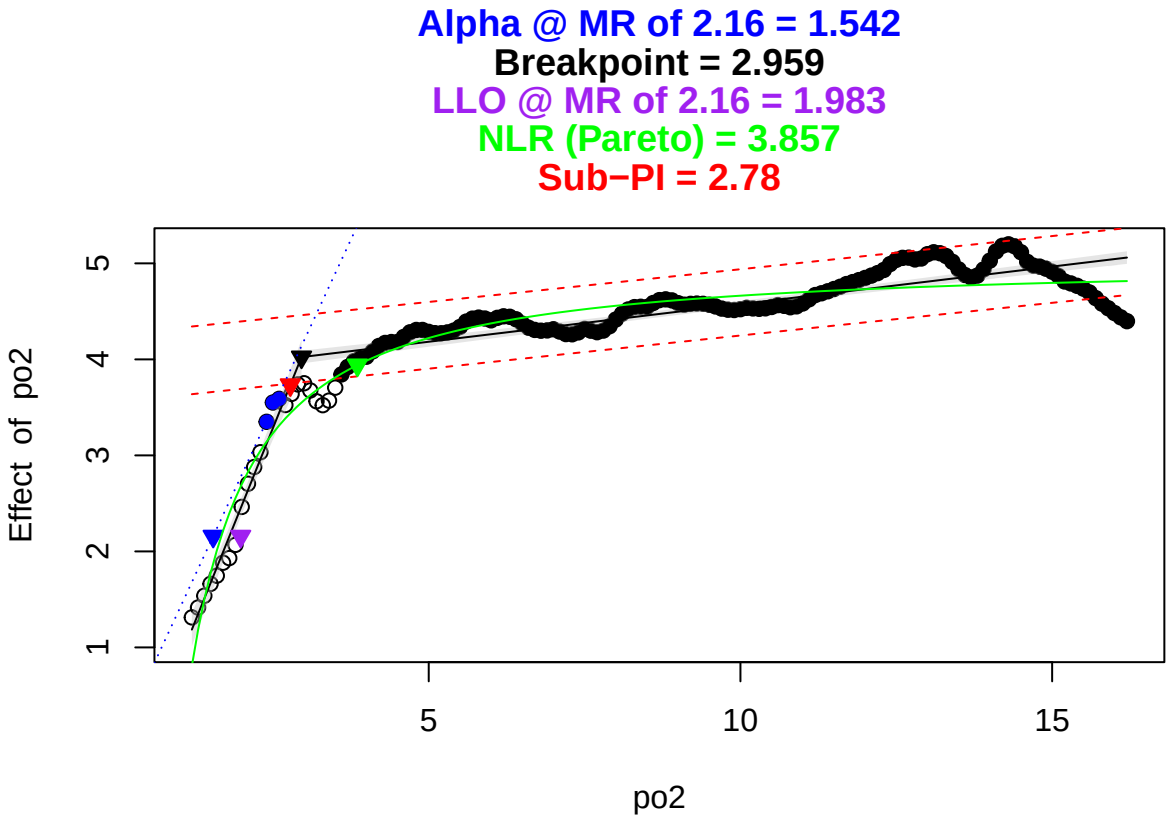

```
## "MR" must be defined for LLO calculation.
```

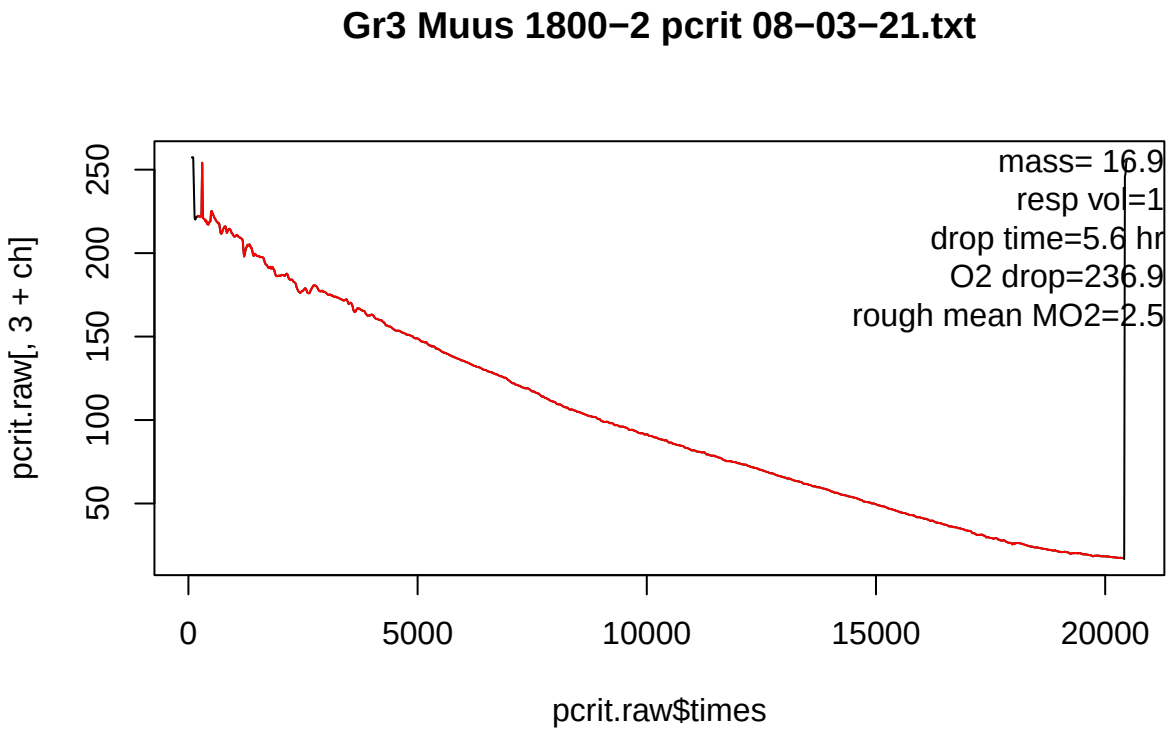


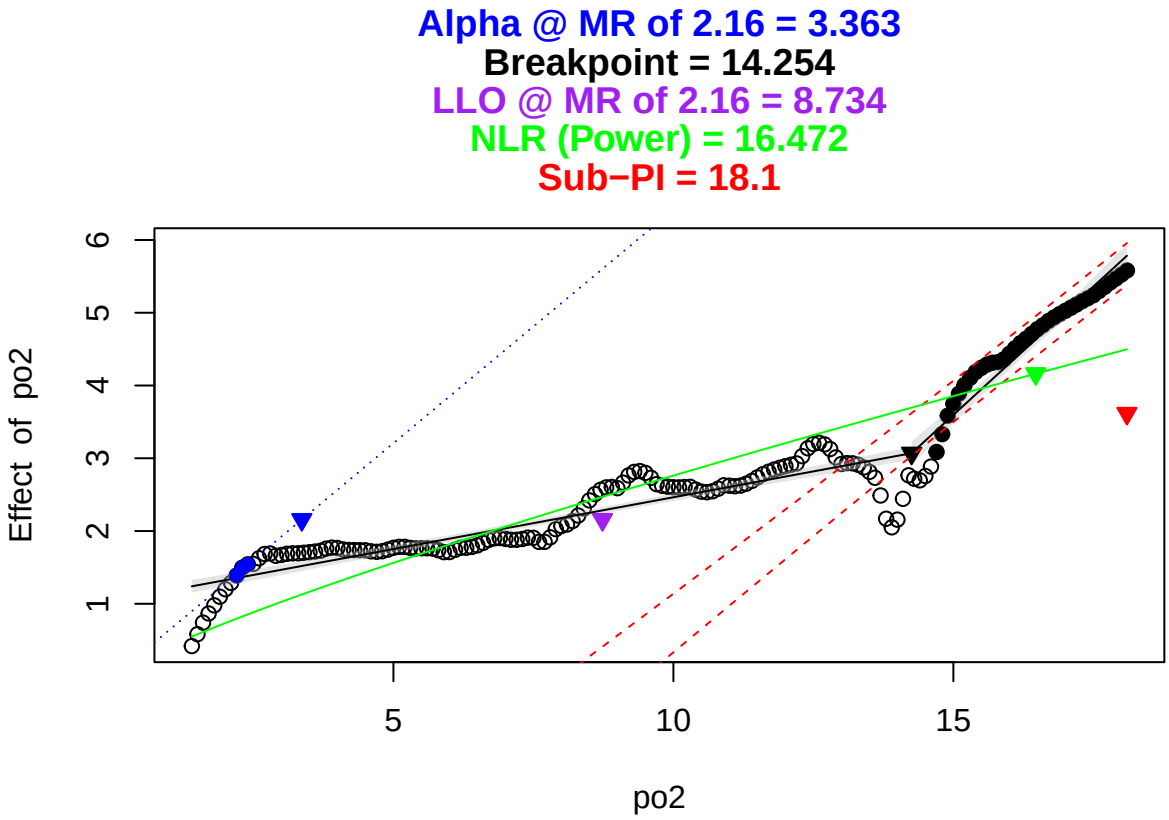

```
## "MR" must be defined for LLO calculation.
```

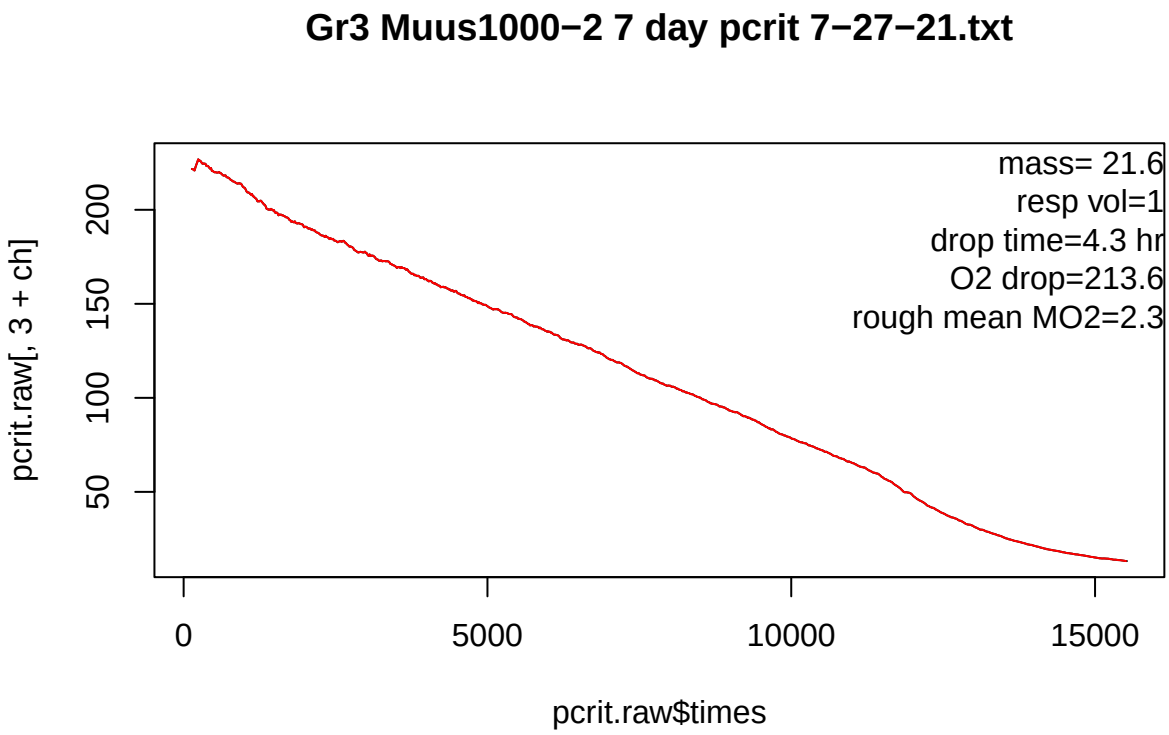

Alpha @ MR of 1.44 = 6.145
Breakpoint = 14.864
LLO @ MR of NA = NA
NLR (Hyperbola) = 6.188
Sub−PI = 14.75
Effect of po2
0.0
0.5
1.0
1.5
5
10
15
po2

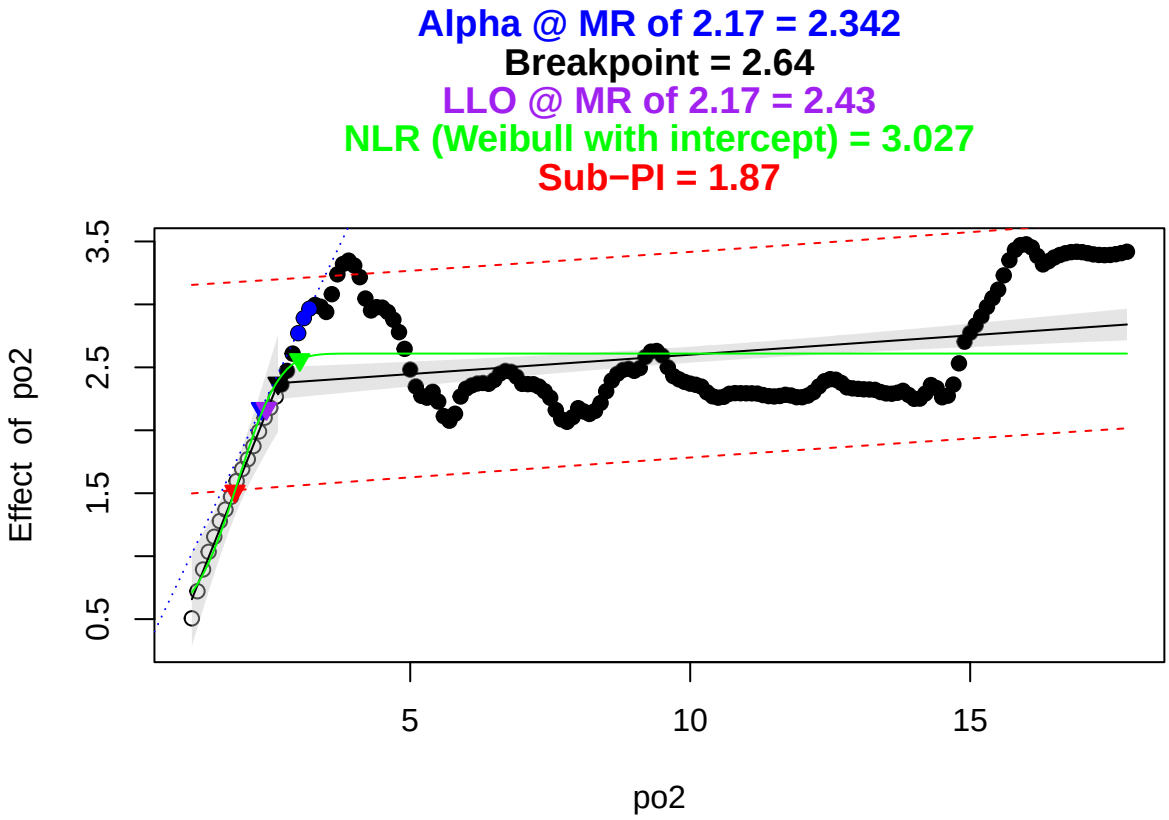

Gr3 Muus 1800−2 pcrit 07−28−21.txt
mass= 16.9
resp vol=1
drop time=2.8 hr
O2 drop=192.1
rough mean MO2=4.1
pcrit.raw[, 3 + ch]
50
100
150
200
0
2000
4000
6000
8000
10000
pcrit.raw$times

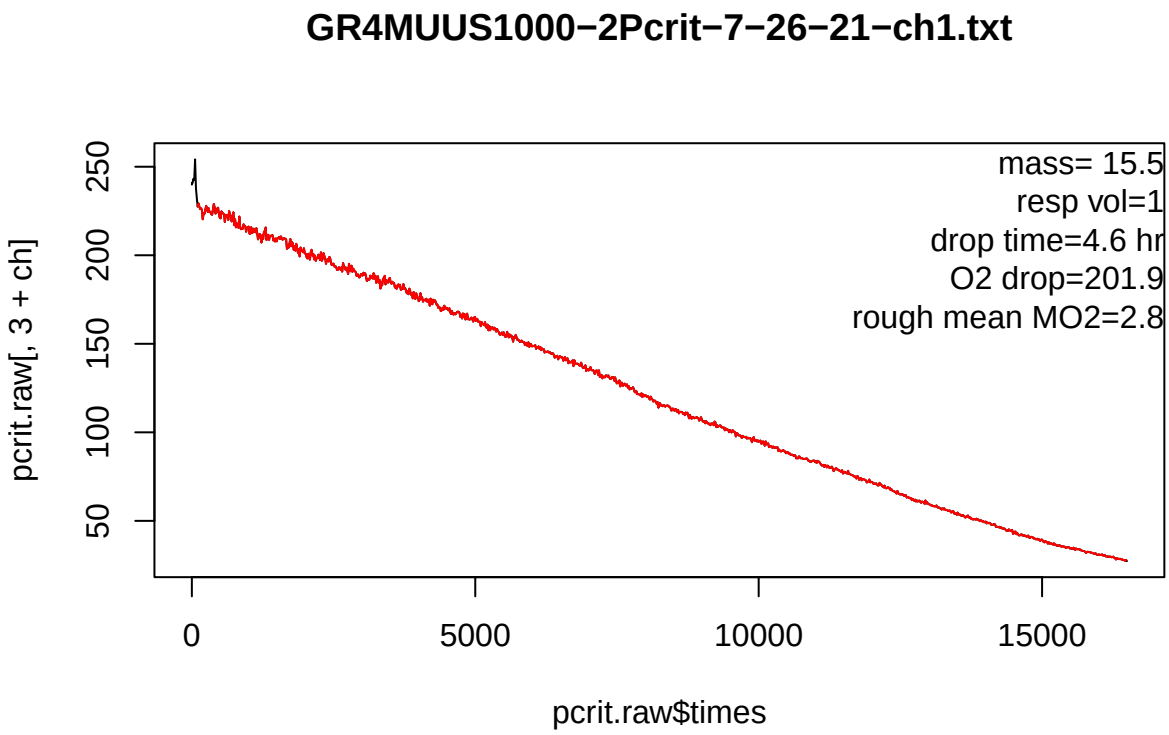

Alpha @ MR of 2.16 = 1.542
Breakpoint = 2.959
LLO @ MR of 2.16 = 1.983
NLR (Pareto) = 3.857
Sub−PI = 2.78
Effect of po2
po2
1
2
3
4
5
5
10
15

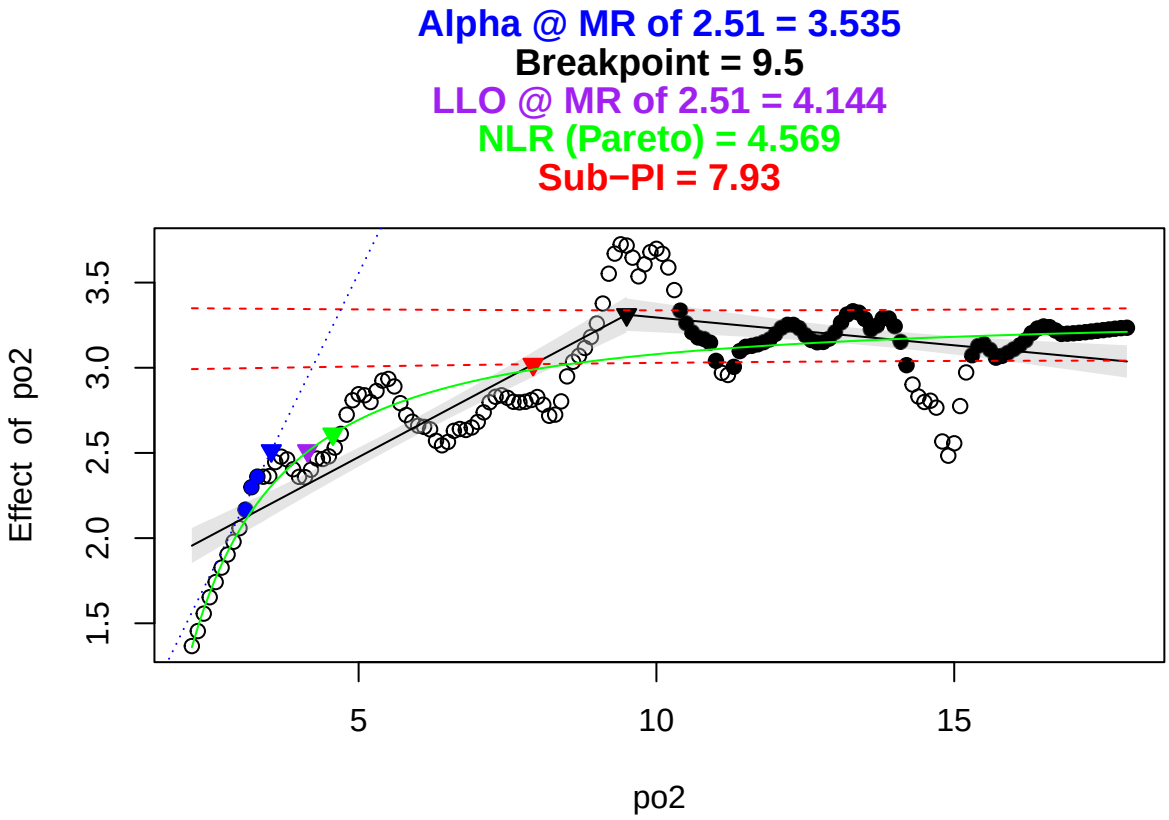

Gr3 Muus 1800−2 pcrit 08−03−21.txt
mass= 16.9
resp vol=1
drop time=5.6 hr
O2 drop=236.9
rough mean MO2=2.5
pcrit.raw[, 3 + ch]
50
100
150
200
250
0
5000
10000
15000
20000
pcrit.raw$times

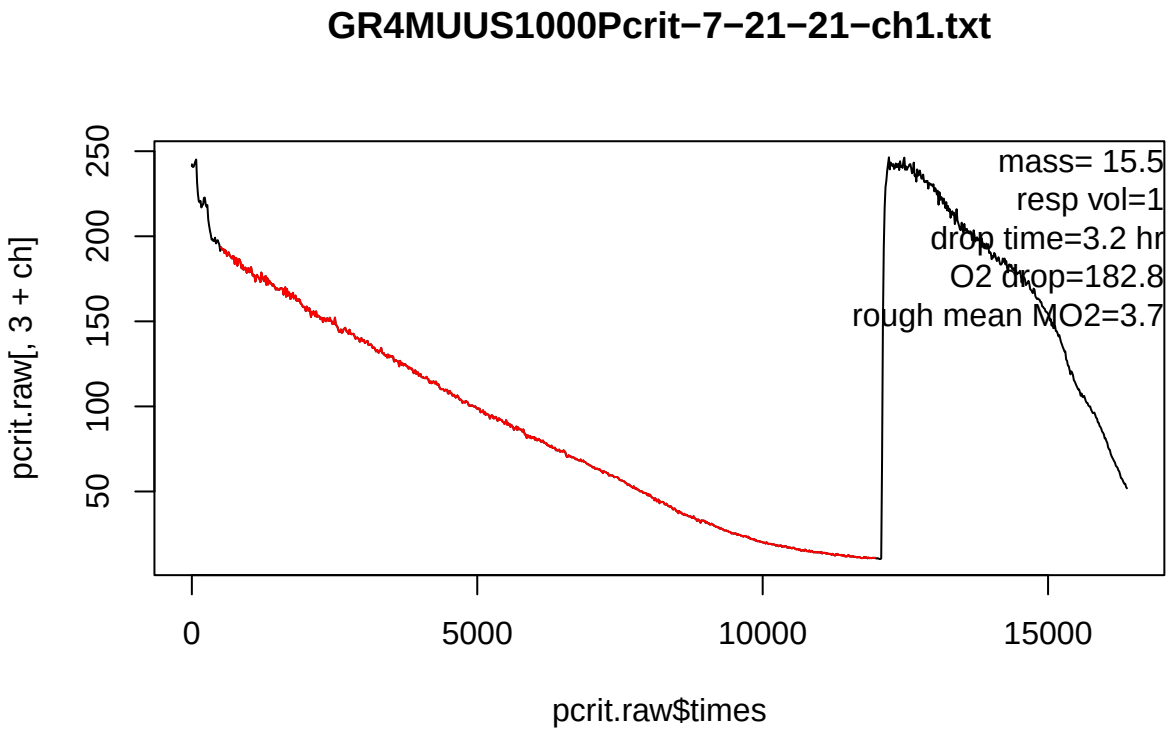

Alpha @ MR of 2.16 = 3.363
Breakpoint = 14.254
LLO @ MR of 2.16 = 8.734
NLR (Power) = 16.472
Sub−PI = 18.1
Effect of po2
1
2
3
4
5
6
5
10
15
po2

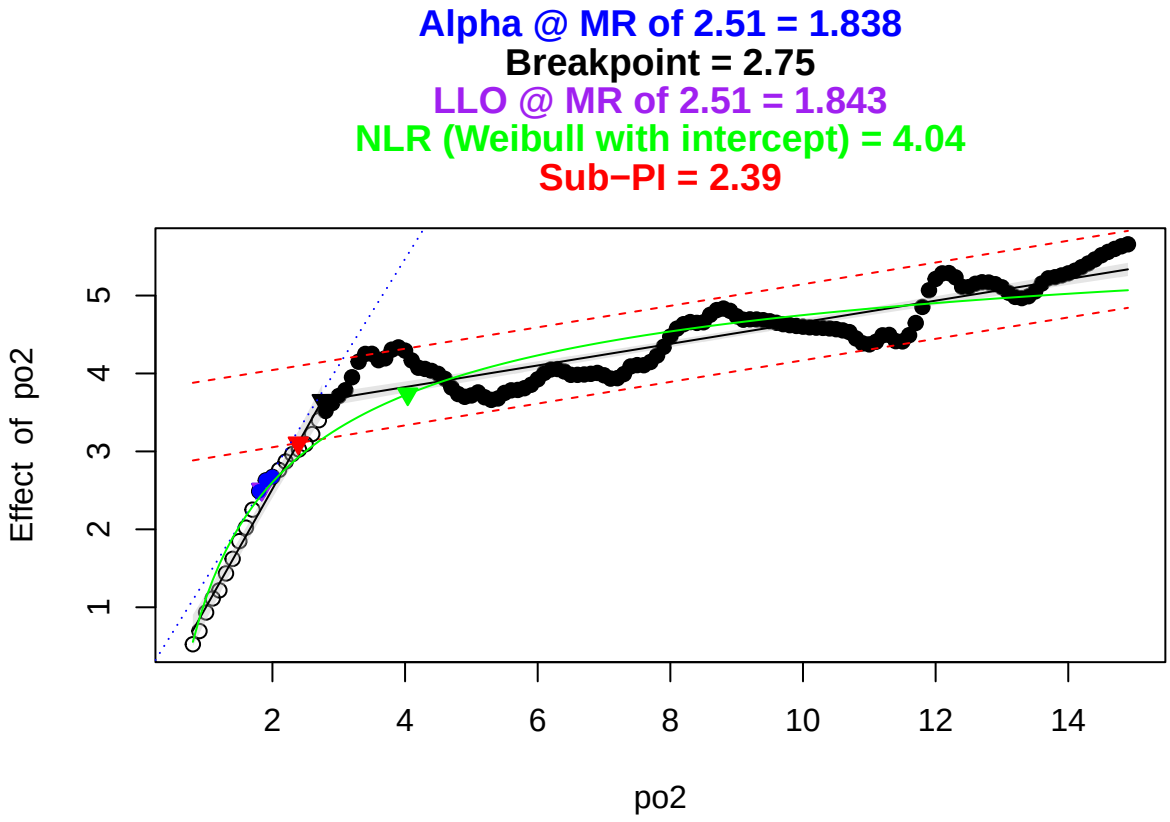

Gr3 Muus1000−2 7 day pcrit 7−27−21.txt
mass= 21.6
resp vol=1
drop time=4.3 hr
O2 drop=213.6
rough mean MO2=2.3
pcrit.raw[, 3 + ch]
50
100
150
200
0
5000
10000
15000
pcrit.raw$times

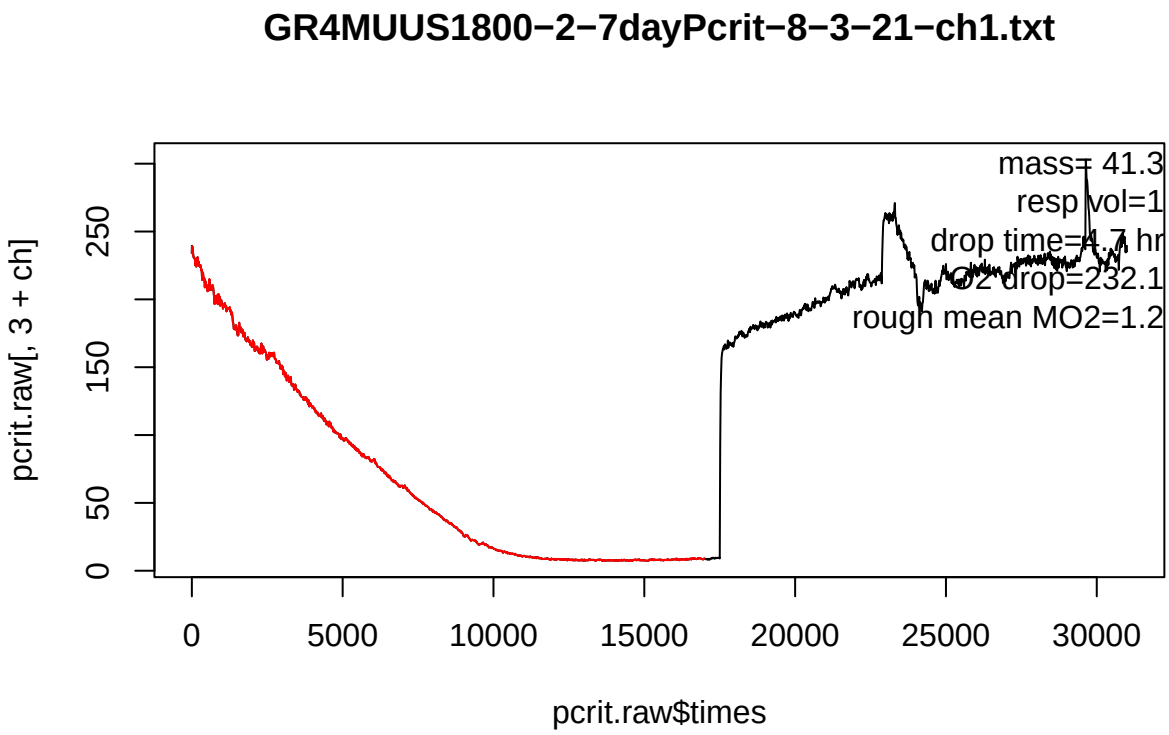

Alpha @ MR of 2.17 = 2.342
Breakpoint = 2.64
LLO @ MR of 2.17 = 2.43
NLR (Weibull with intercept) = 3.027
Sub−PI = 1.87
Effect of po2
0.5
1.5
2.5
3.5
5
10
15
po2

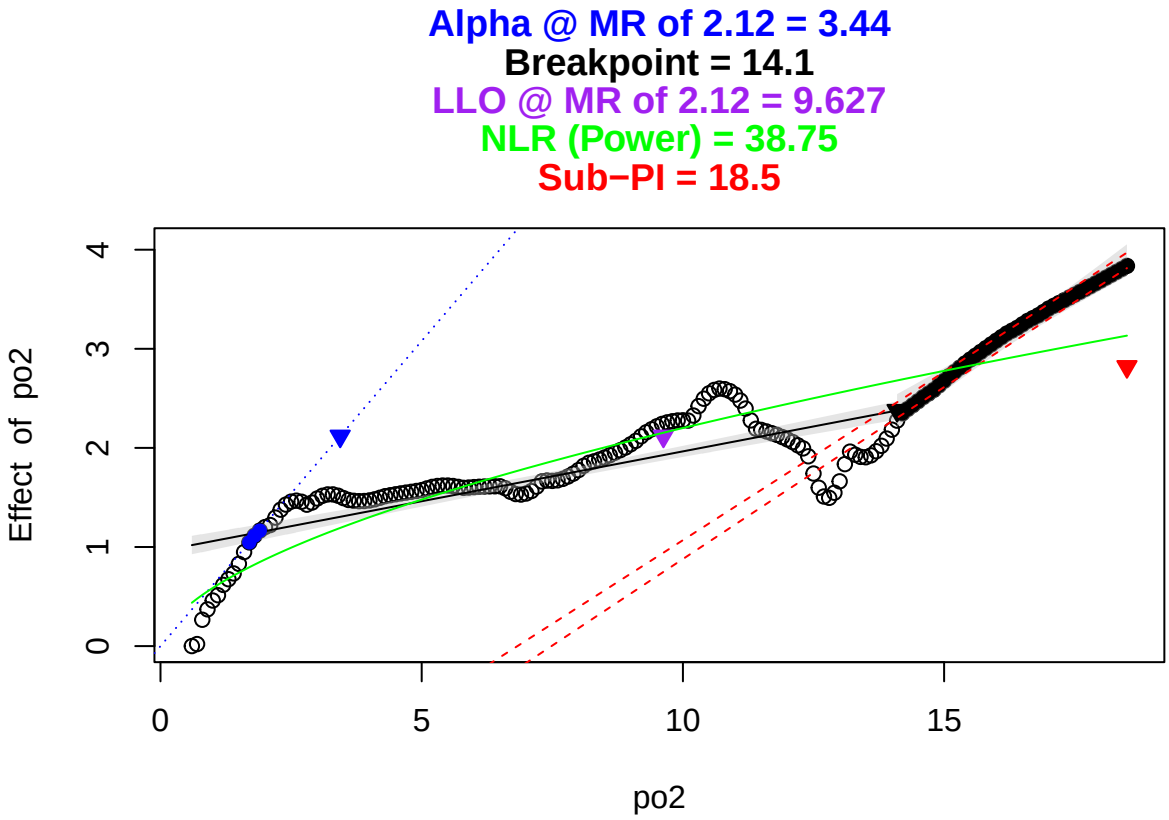

GR4MUUS1000−2Pcrit−7−26−21−ch1.txt
mass= 15.5
resp vol=1
drop time=4.6 hr
O2 drop=201.9
rough mean MO2=2.8
pcrit.raw[, 3 + ch]
50
100
150
200
250
0
5000
10000
15000
pcrit.raw$times

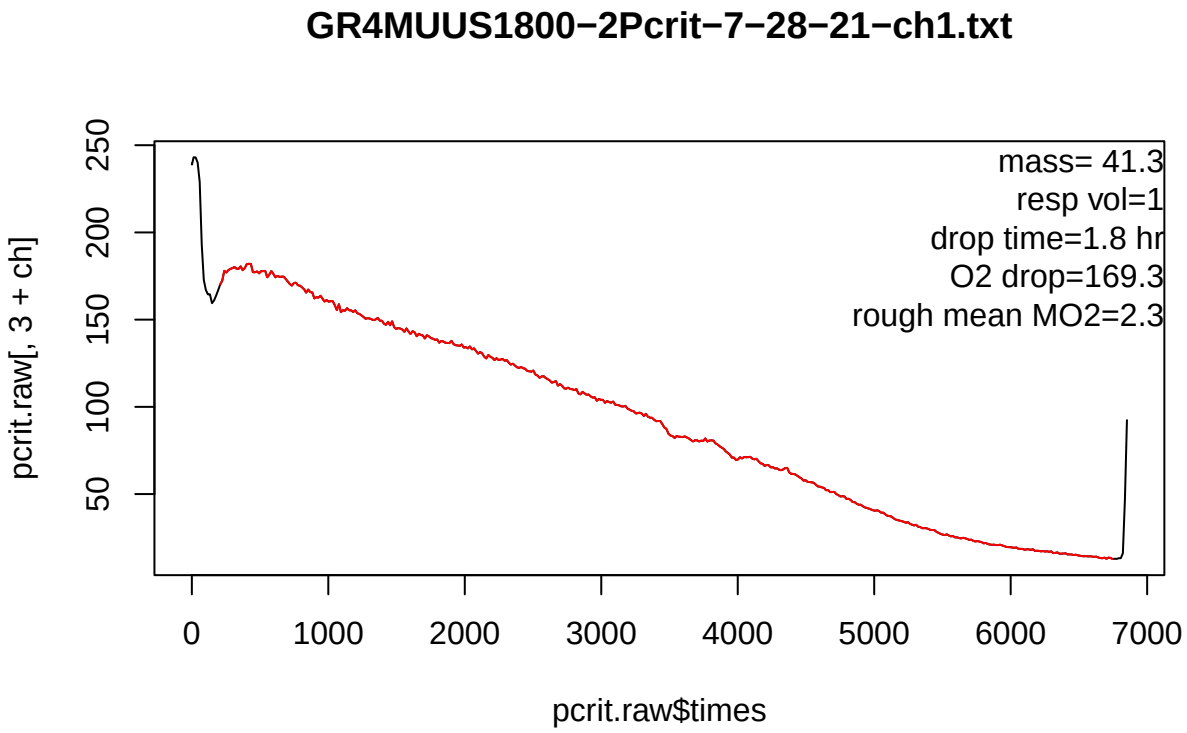

Alpha @ MR of 2.51 = 3.535
Breakpoint = 9.5
LLO @ MR of 2.51 = 4.144
NLR (Pareto) = 4.569
Sub−PI = 7.93
Effect of po2
1.5
2.0
2.5
3.0
3.5
5
10
15
po2

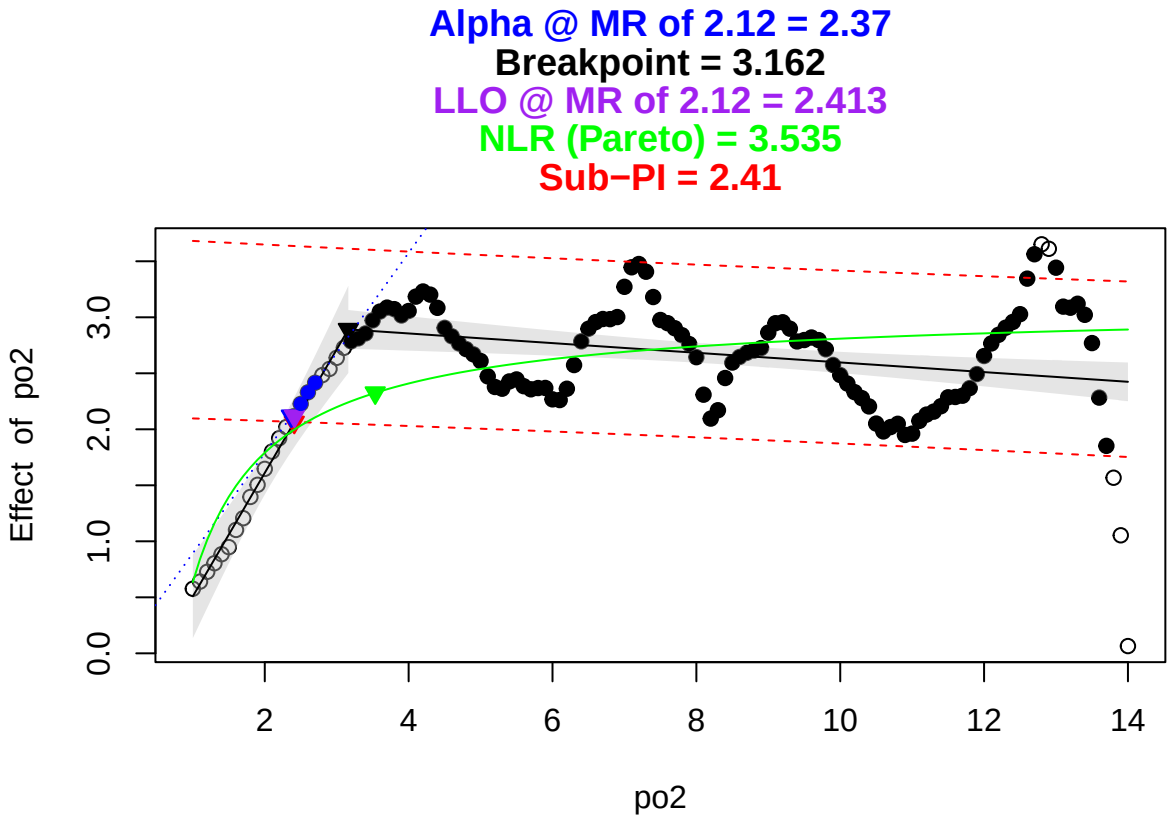

GR4MUUS1000Pcrit−7−21−21−ch1.txt
pcrit.raw[, 3 + ch]
50
100
150
200
250
0
5000
10000
15000
pcrit.raw$times
mass= 15.5
resp vol=1
drop time=3.2 hr
O2 drop=182.8
rough mean MO2=3.7

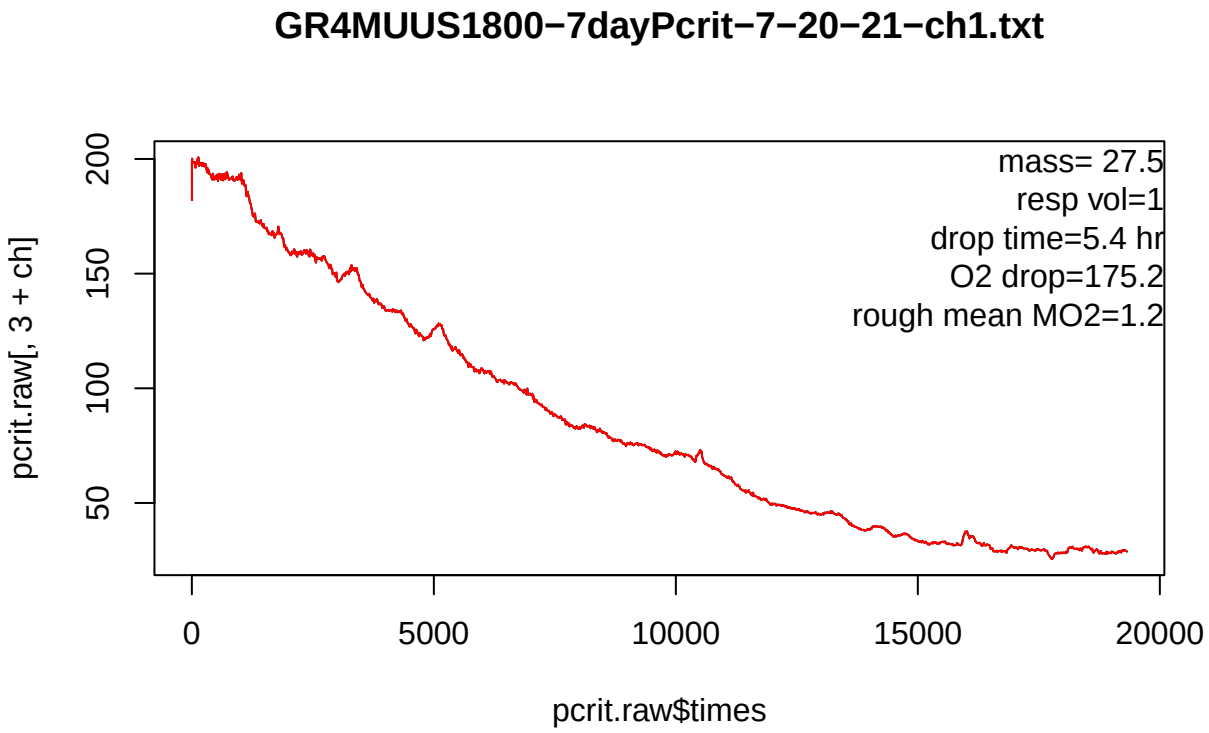

Alpha @ MR of 2.51 = 1.838
Breakpoint = 2.75
LLO @ MR of 2.51 = 1.843
NLR (Weibull with intercept) = 4.04
Sub−PI = 2.39
Effect of po2
1
2
3
4
5
2
4
6
8
10
12
14
po2

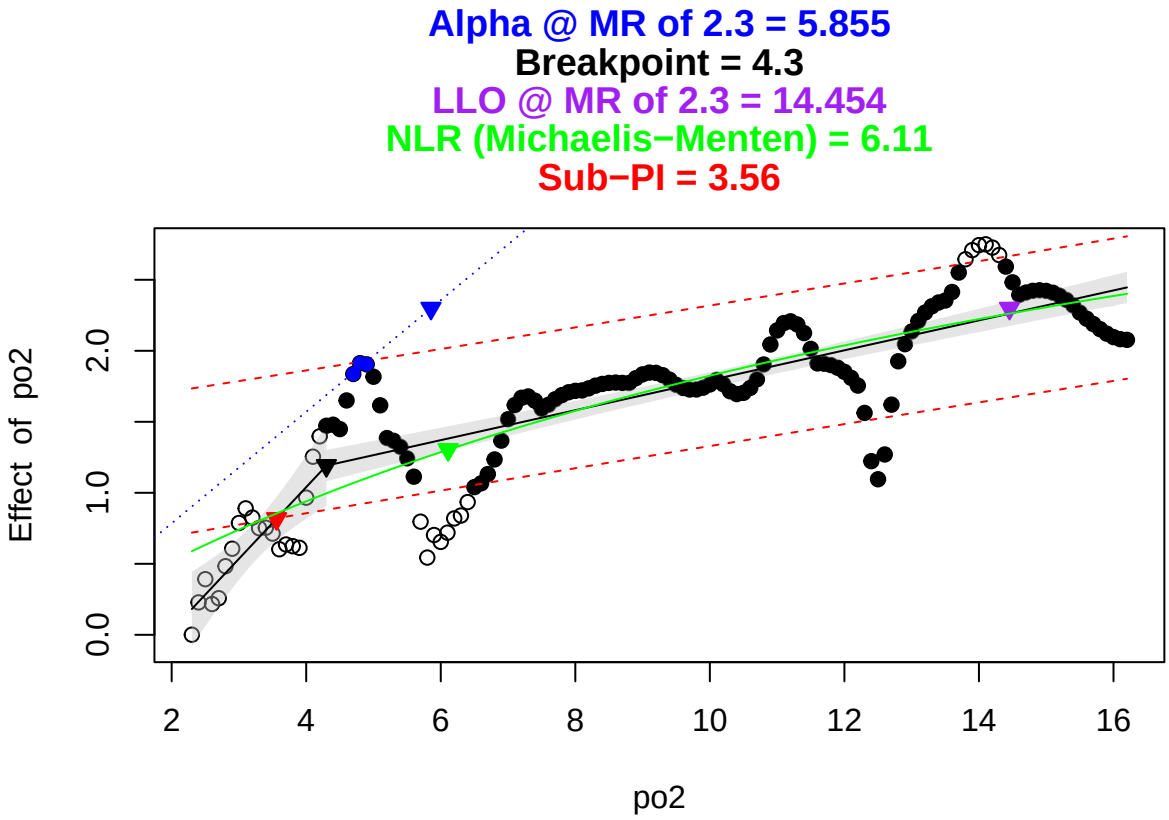

GR4MUUS1800−2−7dayPcrit−8−3−21−ch1.txt
mass= 41.3
resp vol=1
drop time=4.7 hr
O2 drop=232.1
rough mean MO2=1.2
pcrit.raw[, 3 + ch]
0
50
150
250
0
5000
10000
15000
20000
25000
30000
pcrit.raw$times

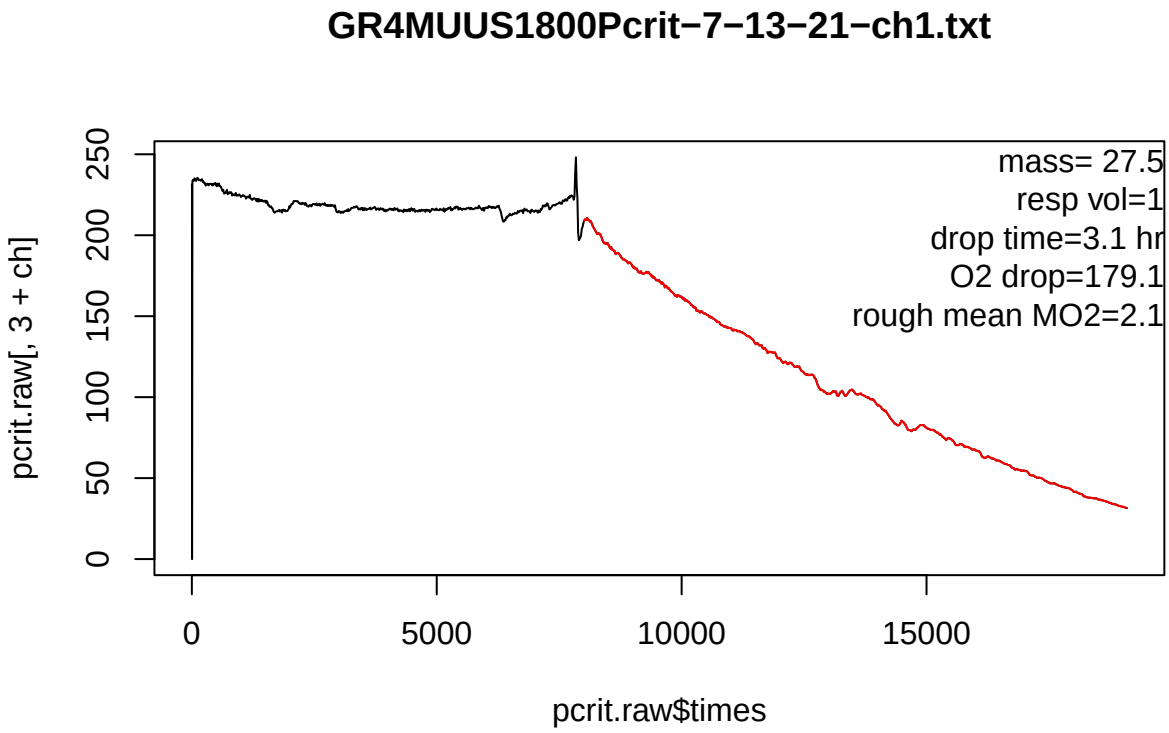

Alpha @ MR of 2.12 = 3.44
Breakpoint = 14.1
LLO @ MR of 2.12 = 9.627
NLR (Power) = 38.75
Sub−PI = 18.5
Effect of po2
0
1
2
3
4
0
5
10
15
po2

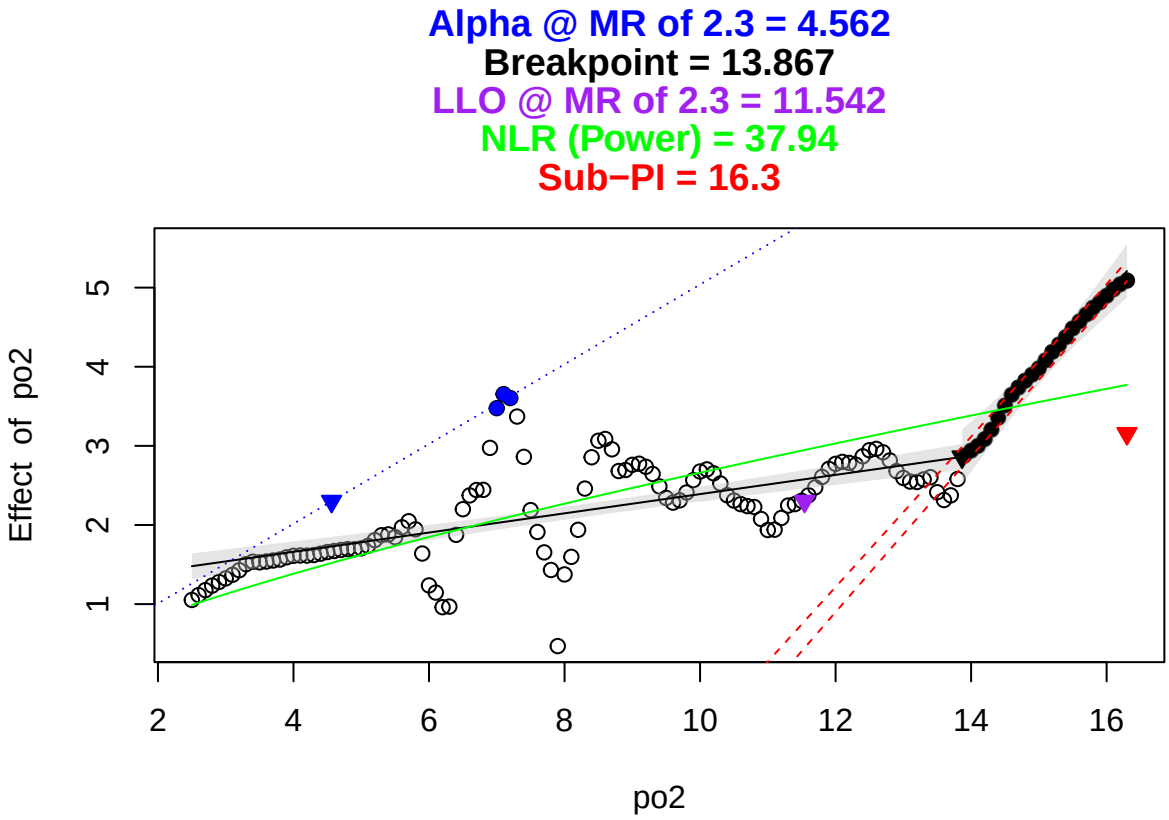

GR4MUUS1800−2Pcrit−7−28−21−ch1.txt
mass= 41.3
resp vol=1
drop time=1.8 hr
O2 drop=169.3
rough mean MO2=2.3
pcrit.raw[, 3 + ch]
50
100
150
200
250
0
1000
2000
3000
4000
5000
6000
7000
pcrit.raw$times

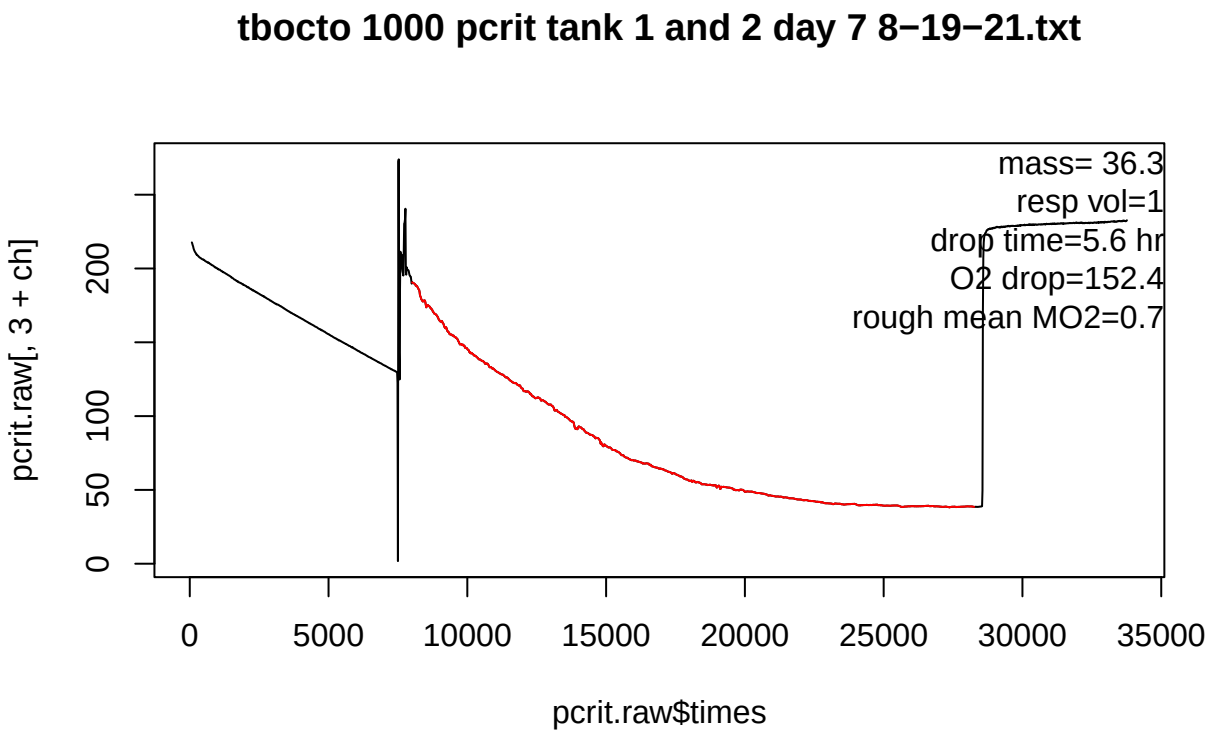

Alpha @ MR of 2.12 = 2.37
Breakpoint = 3.162
LLO @ MR of 2.12 = 2.413
NLR (Pareto) = 3.535
Sub−PI = 2.41
Effect of po2
0.0
1.0
2.0
3.0
2
4
6
8
10
12
14
po2

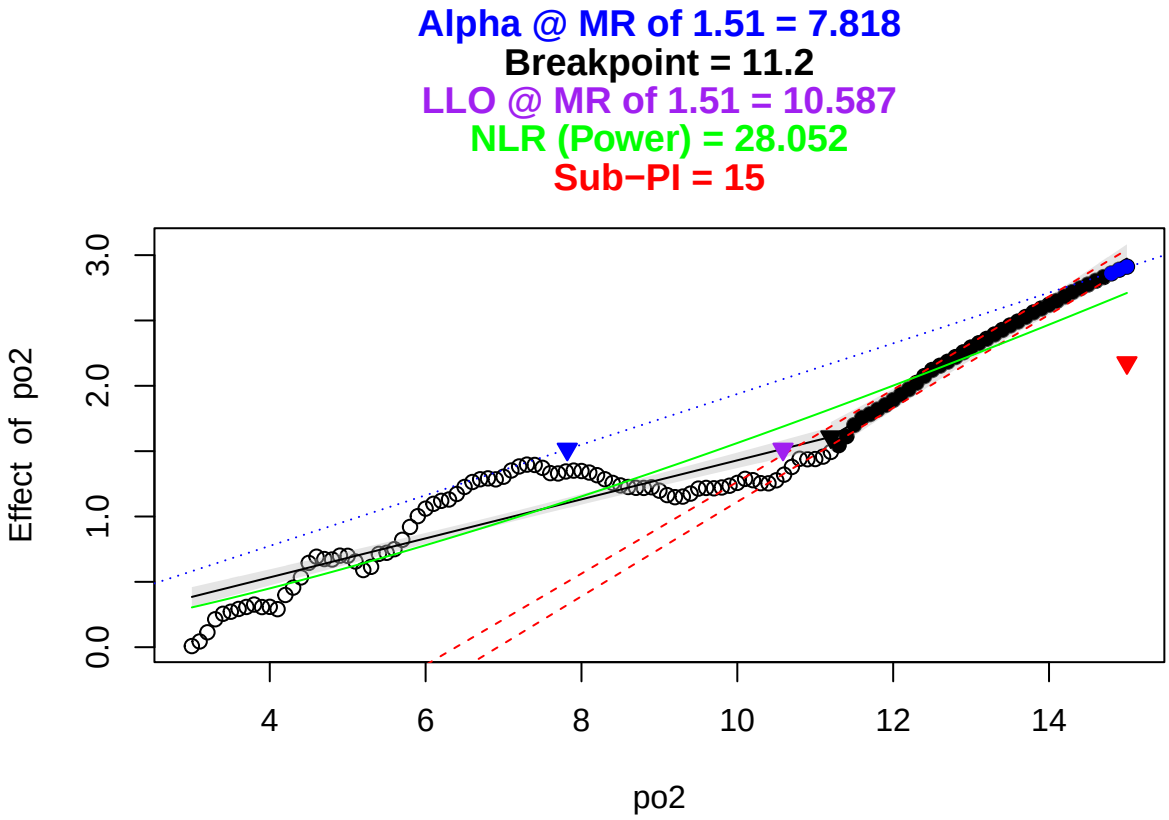

GR4MUUS1800−7dayPcrit−7−20−21−ch1.txt
mass= 27.5
resp vol=1
drop time=5.4 hr
O2 drop=175.2
rough mean MO2=1.2
pcrit.raw[, 3 + ch]
50
100
150
200
0
5000
10000
15000
20000
pcrit.raw$times

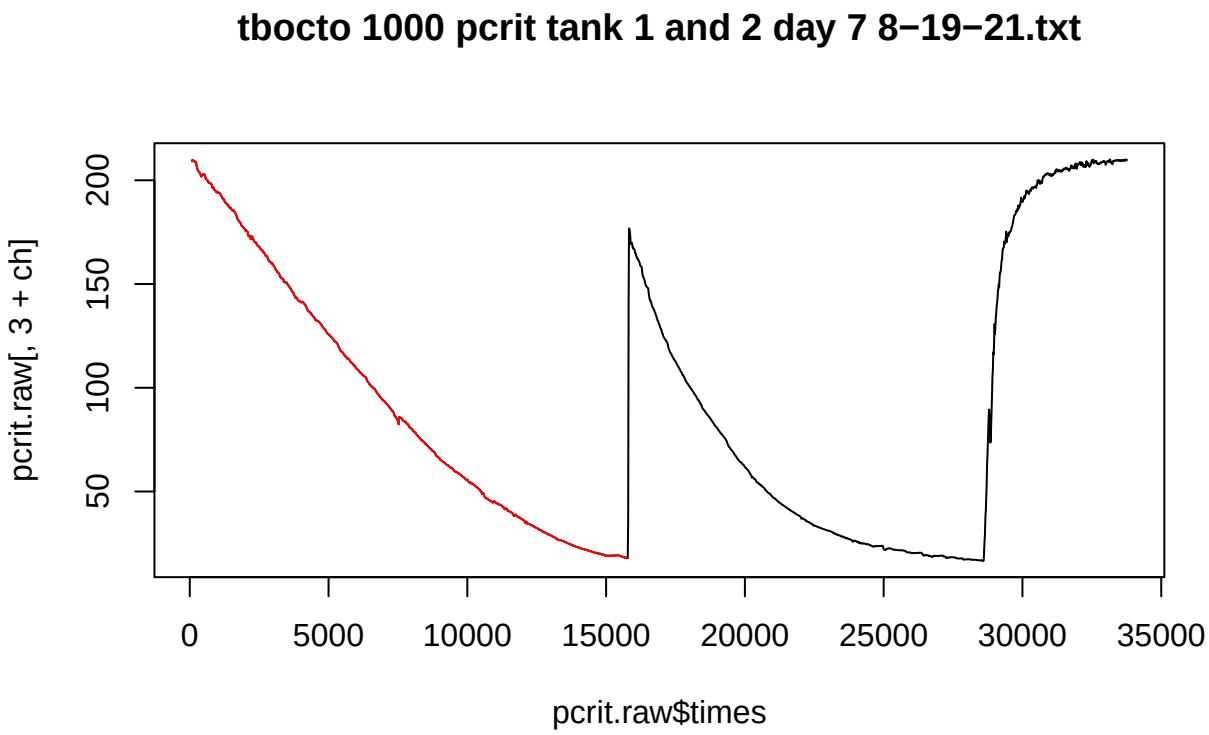

Alpha @ MR of 2.3 = 5.855
Breakpoint = 4.3
LLO @ MR of 2.3 = 14.454
NLR (Michaelis−Menten) = 6.11
Sub−PI = 3.56
Effect of po2
0.0
1.0
2.0
2
4
6
8
10
12
14
16
po2


GR4MUUS1800Pcrit−7−13−21−ch1.txt
mass= 27.5
resp vol=1
drop time=3.1 hr
O2 drop=179.1
rough mean MO2=2.1
pcrit.raw[, 3 + ch]
0
50
100
150
200
250
0
5000
10000
15000
pcrit.raw$times

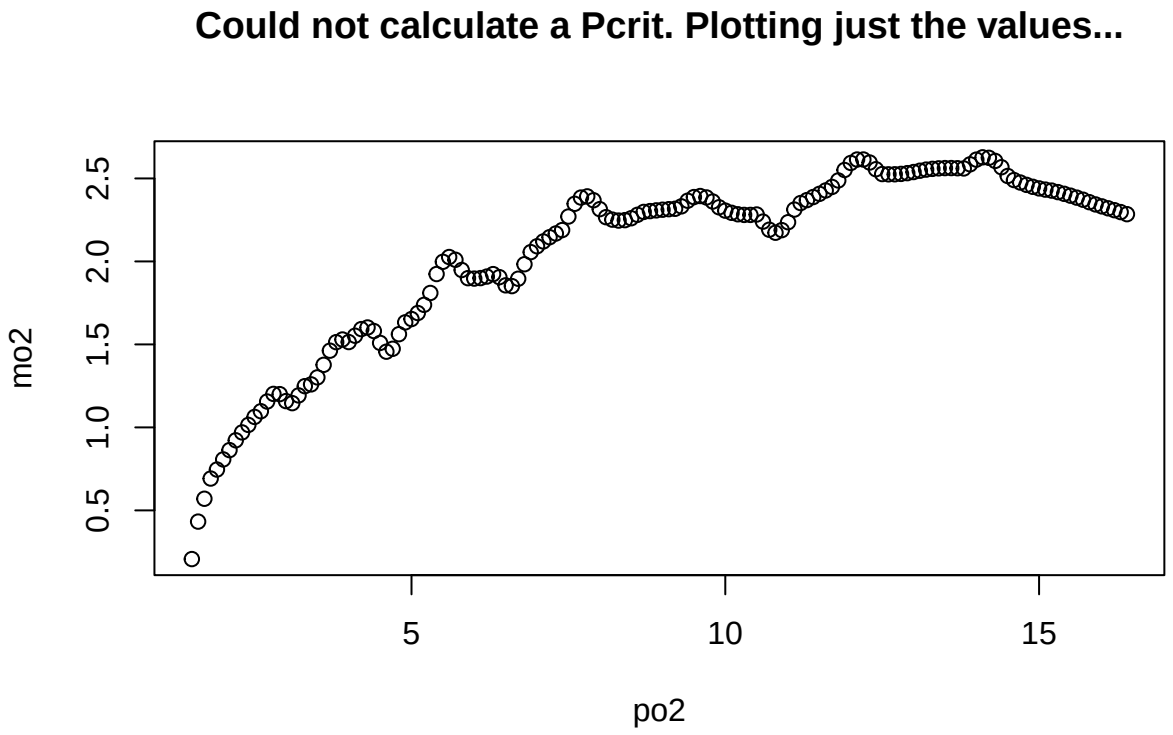

Alpha @ MR of 2.3 = 4.562
Breakpoint = 13.867
LLO @ MR of 2.3 = 11.542
NLR (Power) = 37.94
Sub−PI = 16.3
Effect of po2
po2
1
2
3
4
5
2
4
6
8
10
12
14
16

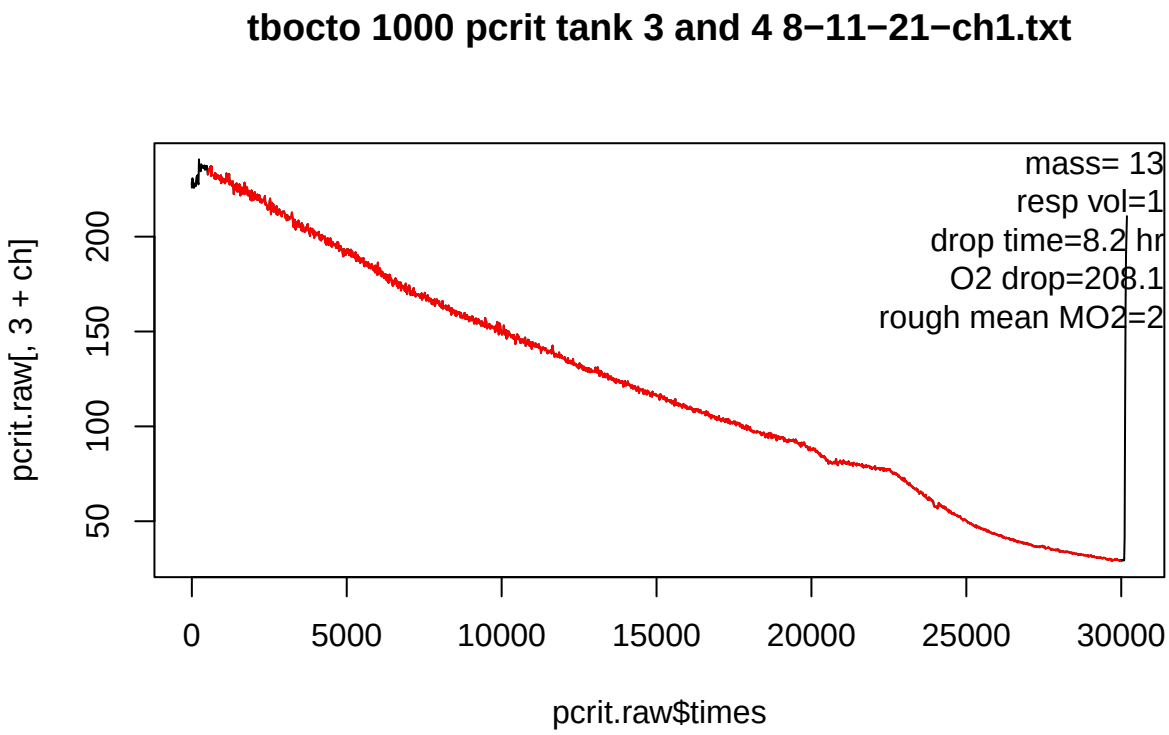

tbocto 1000 pcrit tank 1 and 2 day 7 8−19−21.txt
mass= 36.3
resp vol=1
drop time=5.6 hr
O2 drop=152.4
rough mean MO2=0.7
pcrit.raw[, 3 + ch]
0
50
100
200
0
5000
10000
15000
20000
25000
30000
35000
pcrit.raw$times

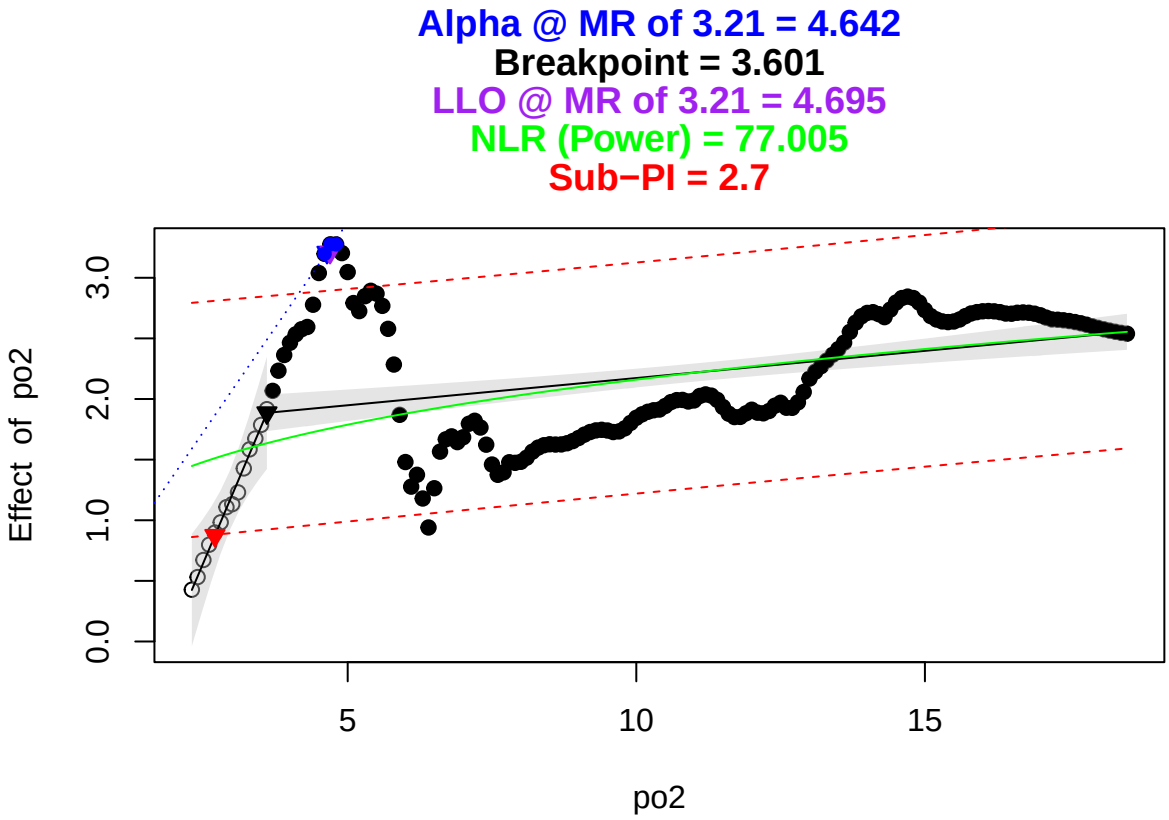

Alpha @ MR of 1.51 = 7.818
Breakpoint = 11.2
LLO @ MR of 1.51 = 10.587
NLR (Power) = 28.052
Sub−PI = 15
Effect of po2
0.0
1.0
2.0
3.0
4
6
8
10
12
14
po2

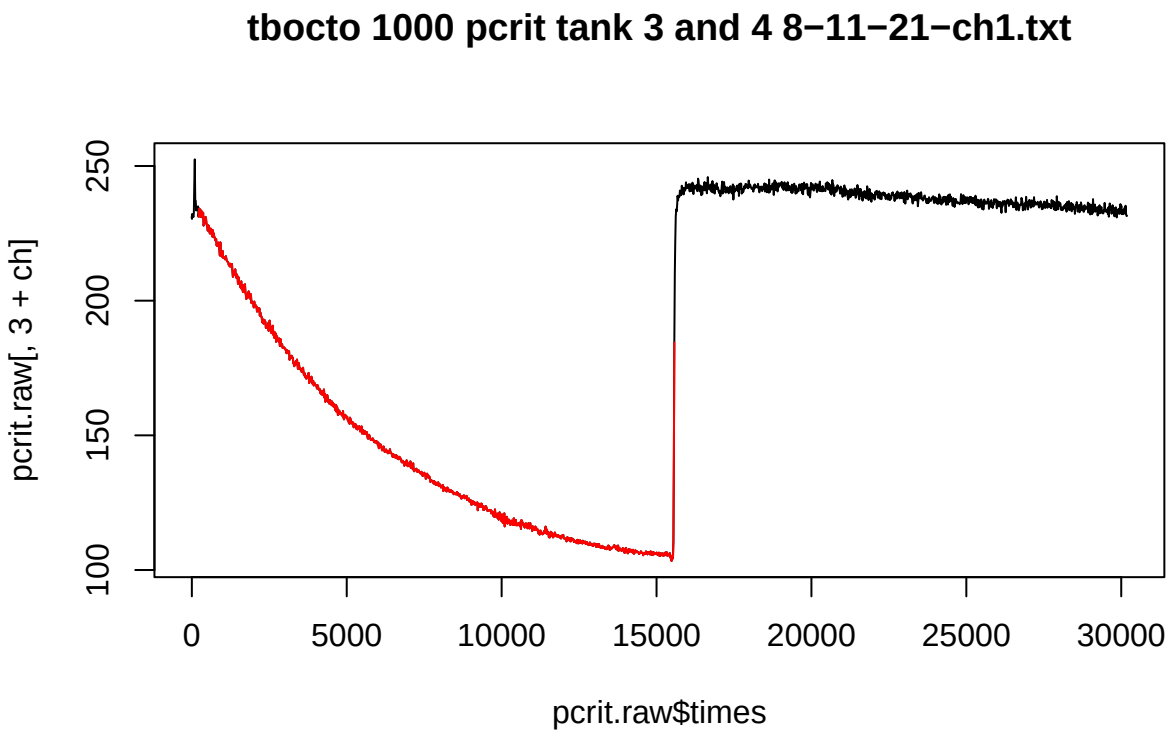


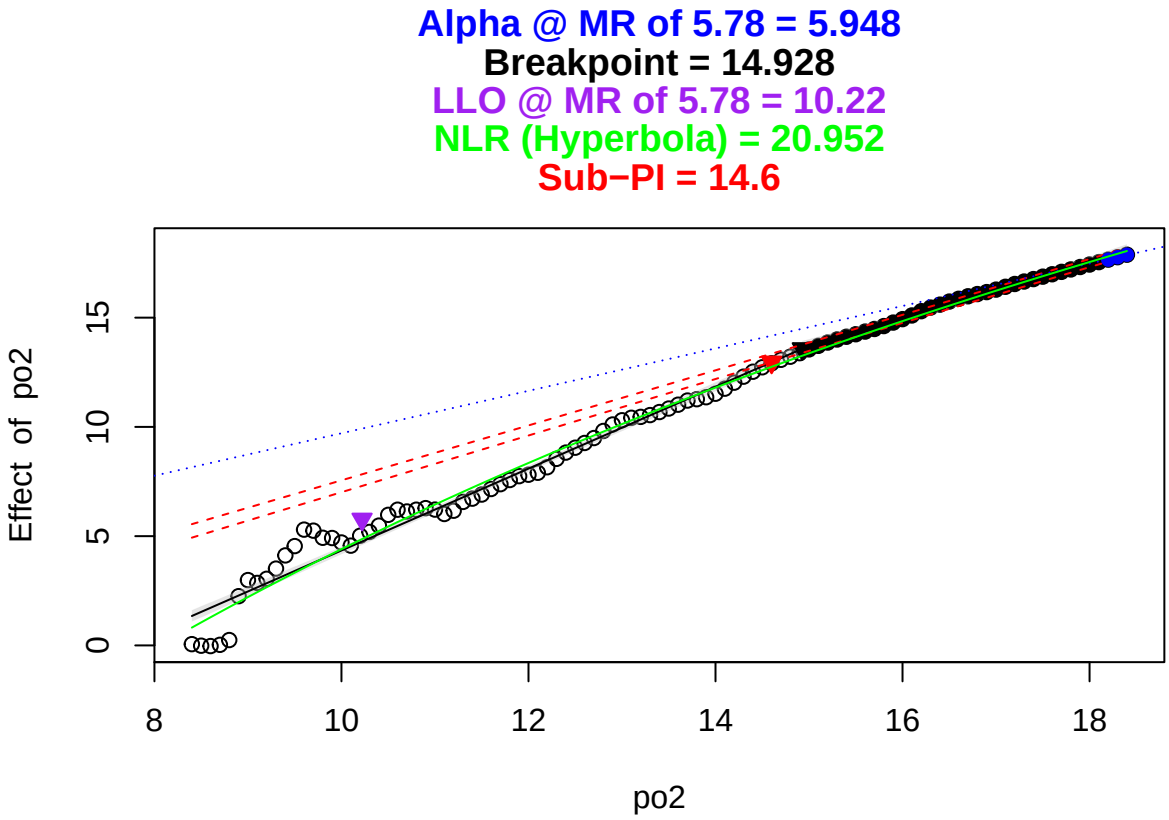

```
## "MR" must be defined for LLO calculation.
```

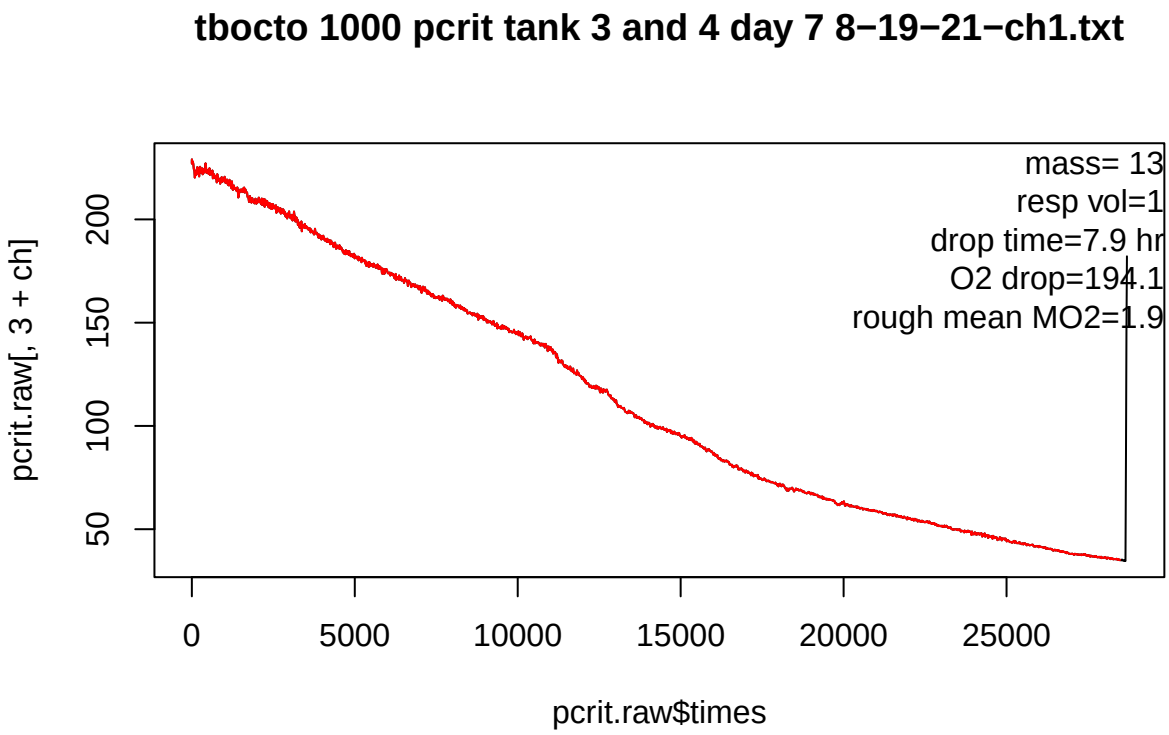

Could not calculate a Pcrit. Plotting just the values...
mo2
0.5
1.0
1.5
2.0
2.5
5
10
15
po2

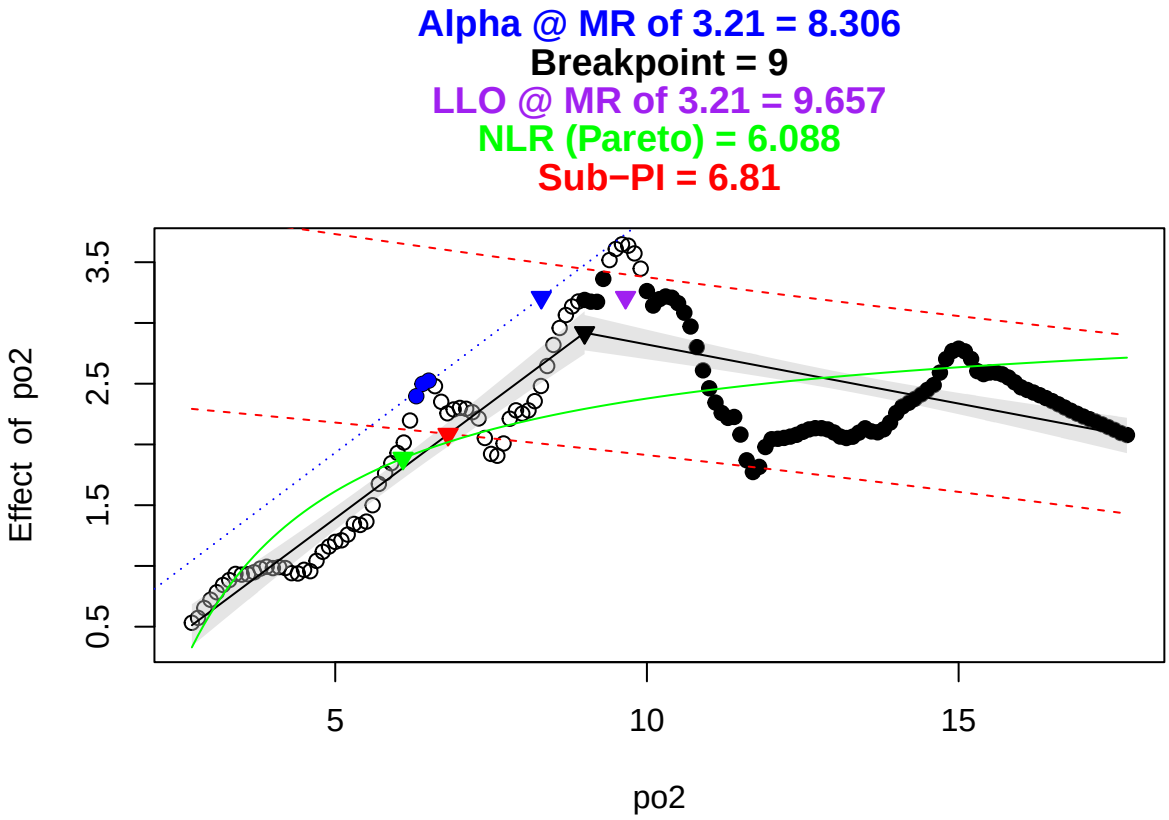

tbocto 1000 pcrit tank 3 and 4 8−11−21−ch1.txt
mass= 13
resp vol=1
drop time=8.2 hr
O2 drop=208.1
rough mean MO2=2
pcrit.raw[, 3 + ch]
50
100
150
200
0
5000
10000
15000
20000
25000
30000
pcrit.raw$times

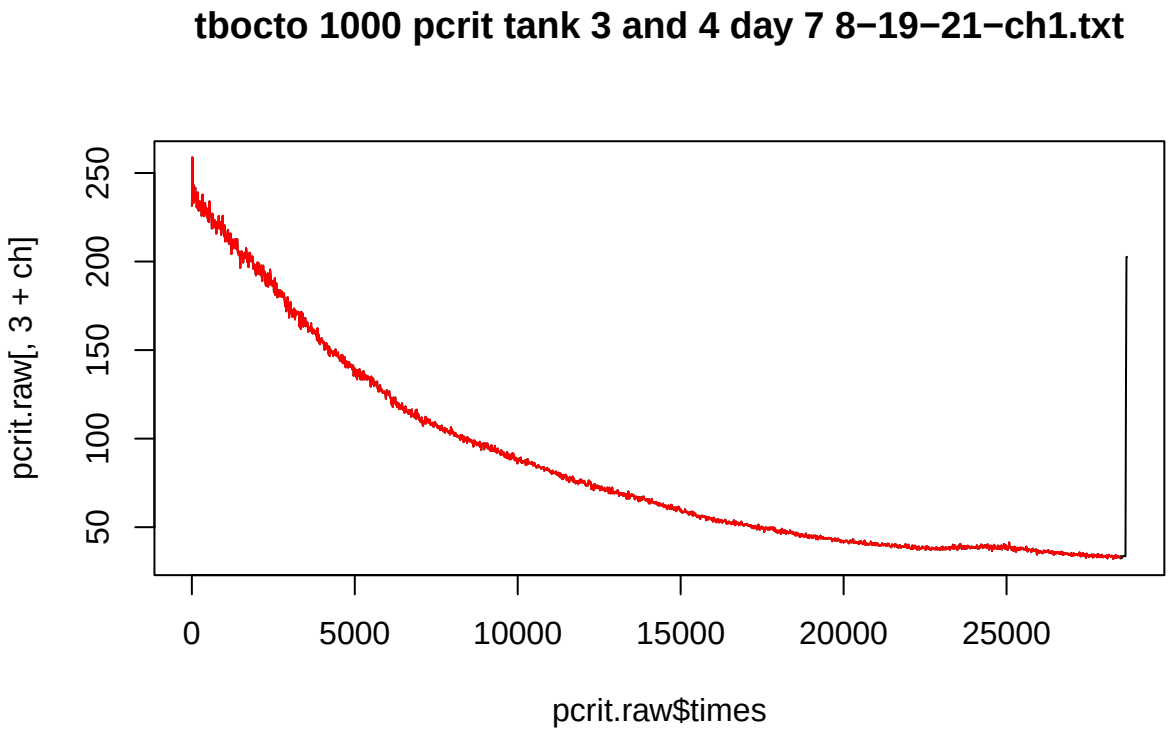

Alpha @ MR of 3.21 = 4.642
Breakpoint = 3.601
LLO @ MR of 3.21 = 4.695
NLR (Power) = 77.005
Sub−PI = 2.7
Effect of po2
0.0
1.0
2.0
3.0
5
10
15
po2

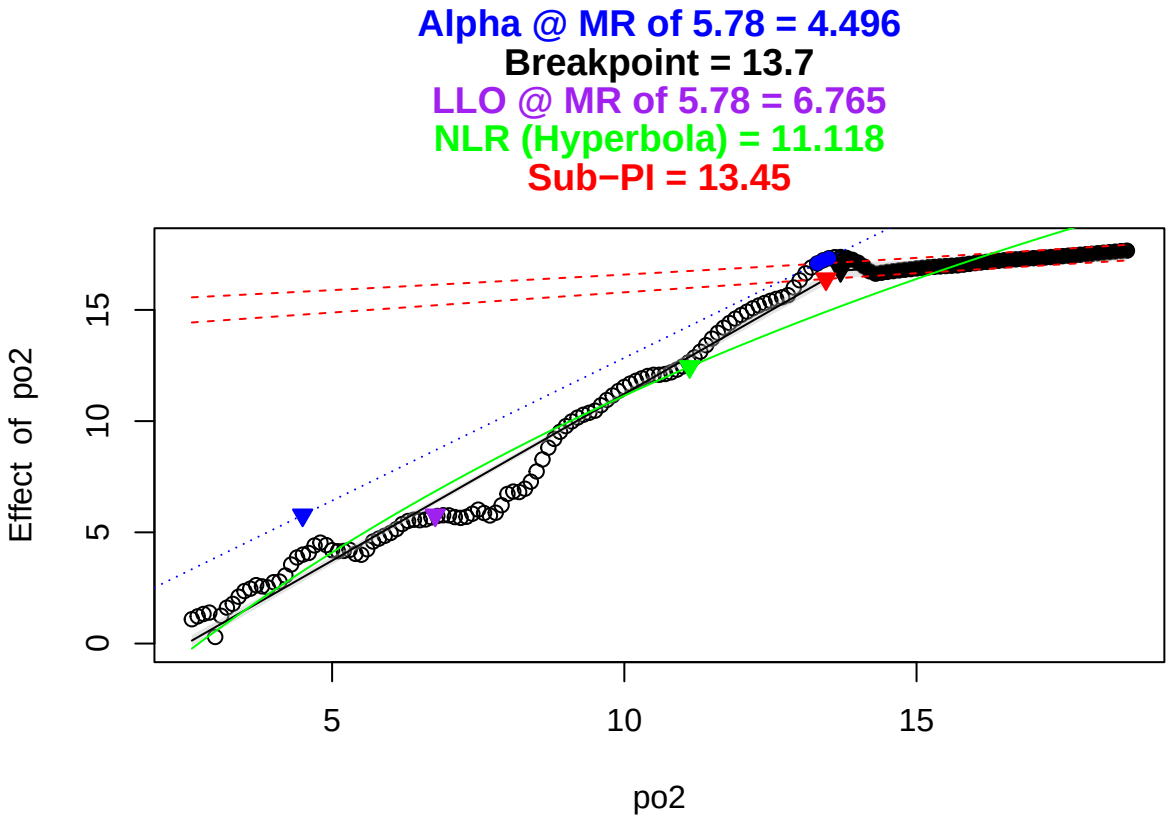

tbocto 1000 pcrit tank 3 and 4 8−11−21−ch1.txt
pcrit.raw[, 3 + ch]
100
150
200
250
0
5000
10000
15000
20000
25000
30000
pcrit.raw$times

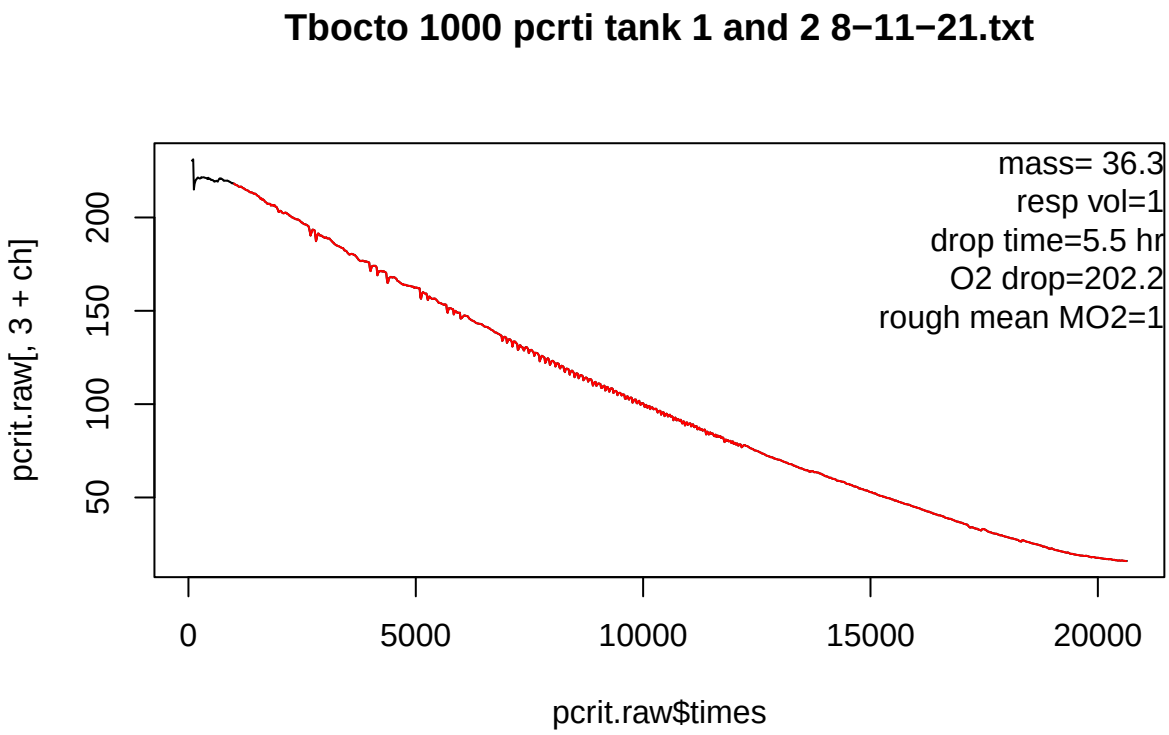

Alpha @ MR of 5.78 = 5.948
Breakpoint = 14.928
LLO @ MR of 5.78 = 10.22
NLR (Hyperbola) = 20.952
Sub−PI = 14.6
Effect of po2
0
5
10
15
8
10
12
14
16
18
po2

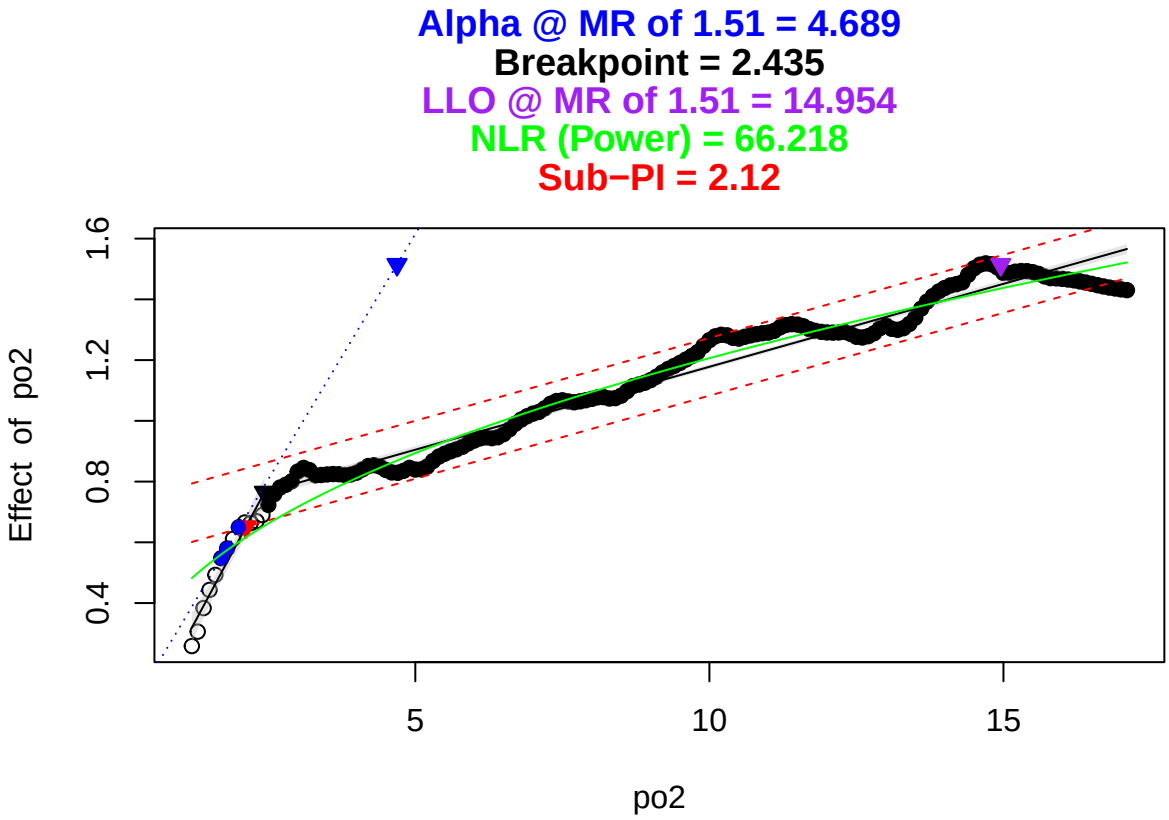

tbocto 1000 pcrit tank 3 and 4 day 7 8−19−21−ch1.txt
mass= 13
resp vol=1
drop time=7.9 hr
O2 drop=194.1
rough mean MO2=1.9
pcrit.raw[, 3 + ch]
50
100
150
200
0
5000
10000
15000
20000
25000
pcrit.raw$times

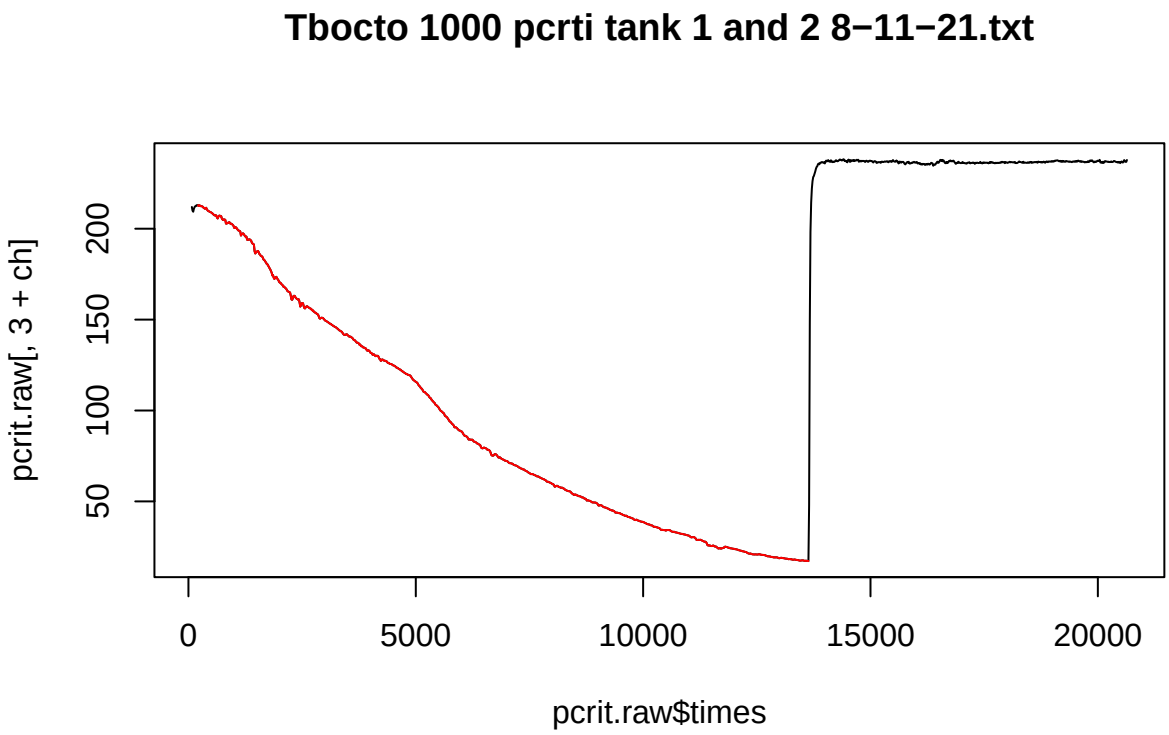

Alpha @ MR of 3.21 = 8.306
Breakpoint = 9
LLO @ MR of 3.21 = 9.657
NLR (Pareto) = 6.088
Sub−PI = 6.81
Effect of po2
0.5
1.5
2.5
3.5
5
10
15
po2

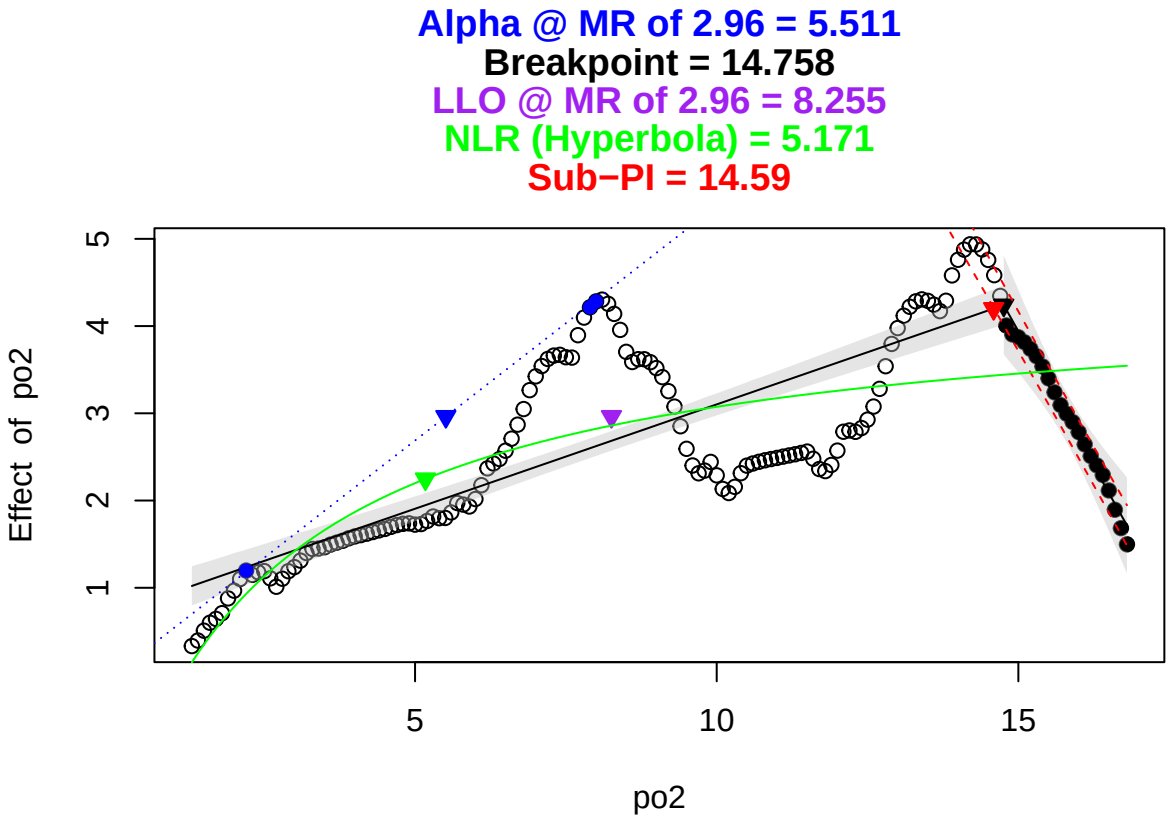

tbocto 1000 pcrit tank 3 and 4 day 7 8−19−21−ch1.txt
pcrit.raw[, 3 + ch]
50
100
150
200
250
0
5000
10000
15000
20000
25000
pcrit.raw$times

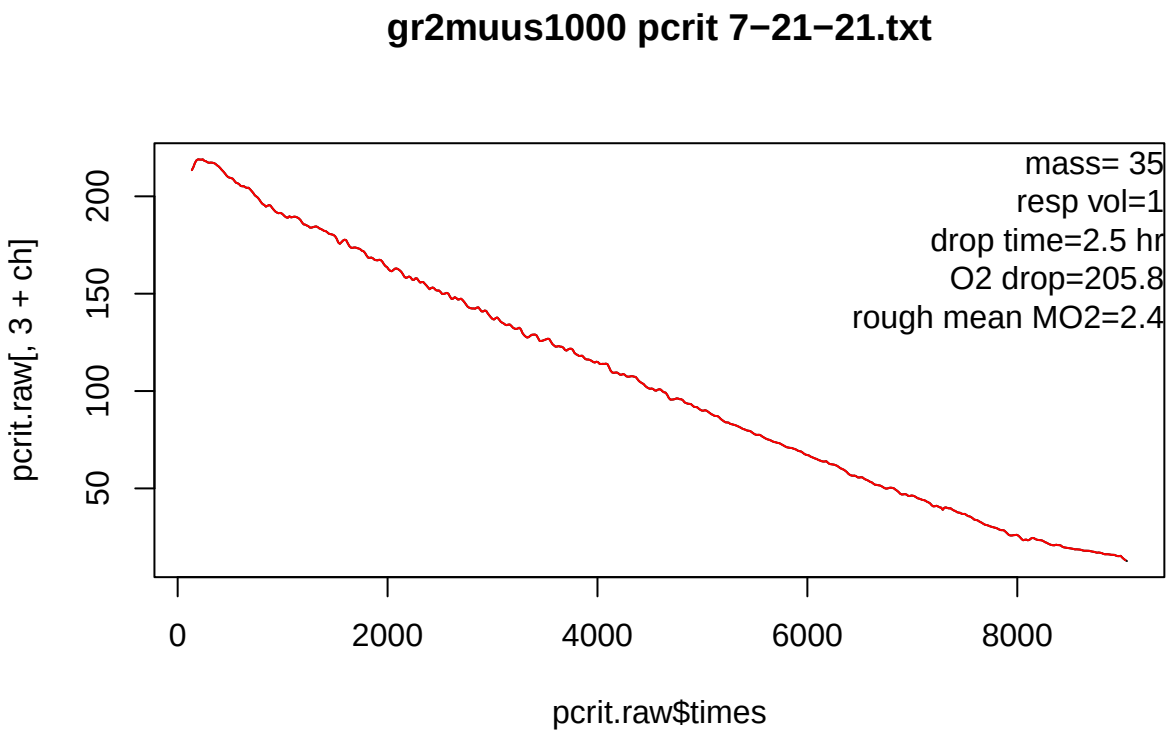

Alpha @ MR of 5.78 = 4.496
Breakpoint = 13.7
LLO @ MR of 5.78 = 6.765
NLR (Hyperbola) = 11.118
Sub−PI = 13.45
Effect of po2
0
5
10
15
5
10
15
po2

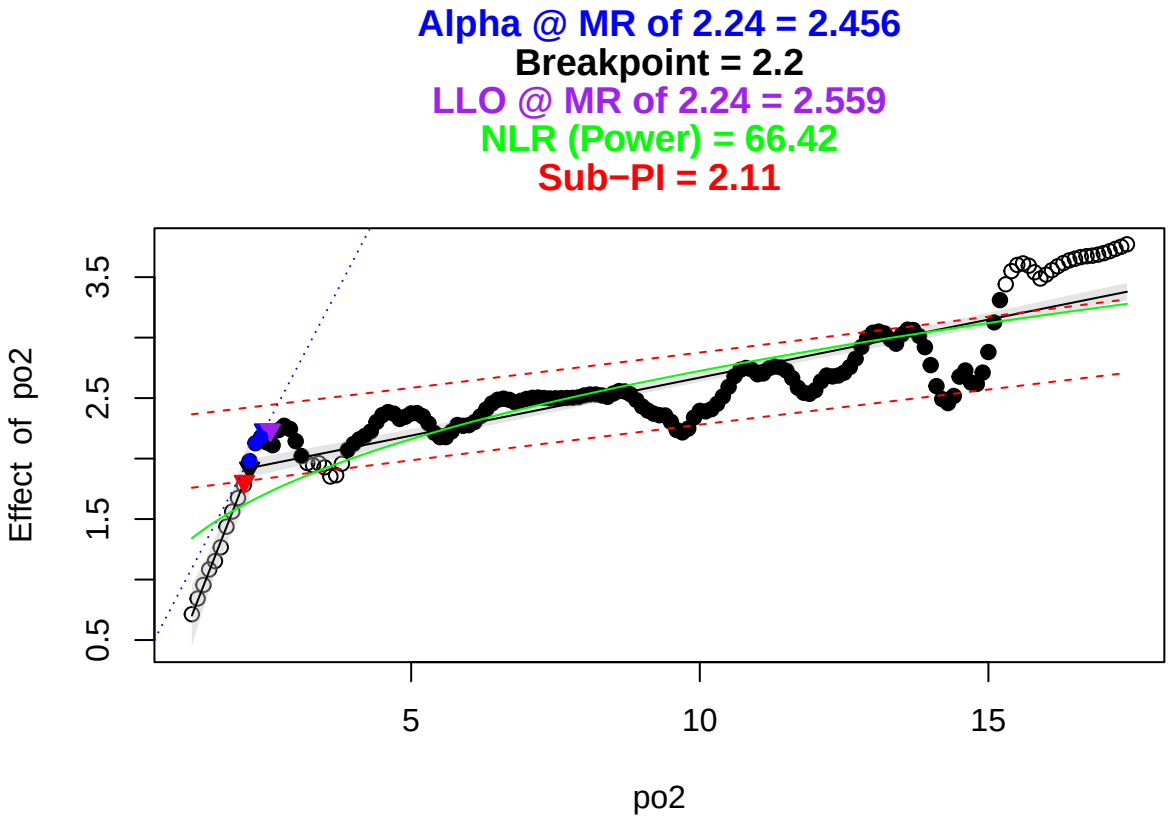

Tbocto 1000 pcrti tank 1 and 2 8−11−21.txt
mass= 36.3
resp vol=1
drop time=5.5 hr
O2 drop=202.2
rough mean MO2=1
pcrit.raw[, 3 + ch]
50
100
150
200
0
5000
10000
15000
20000
pcrit.raw$times

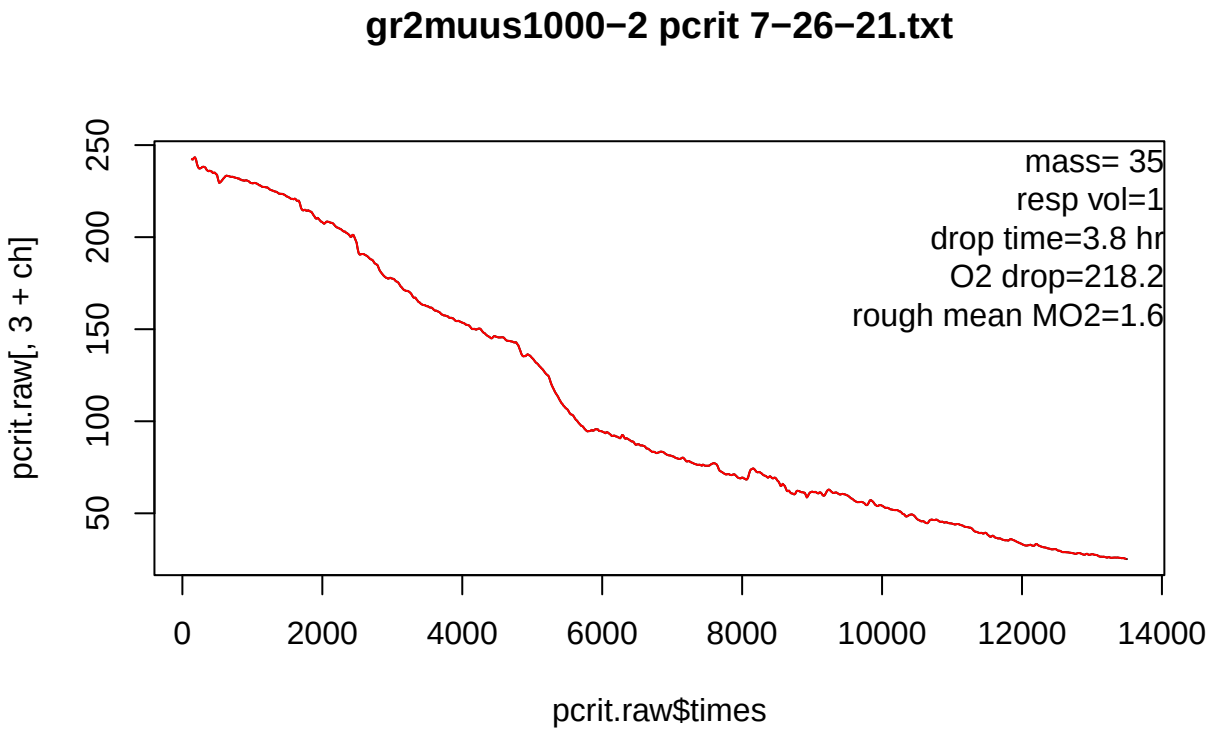

Alpha @ MR of 1.51 = 4.689
Breakpoint = 2.435
LLO @ MR of 1.51 = 14.954
NLR (Power) = 66.218
Sub−PI = 2.12
Effect of po2
0.4
0.8
1.2
1.6
5
10
15
po2

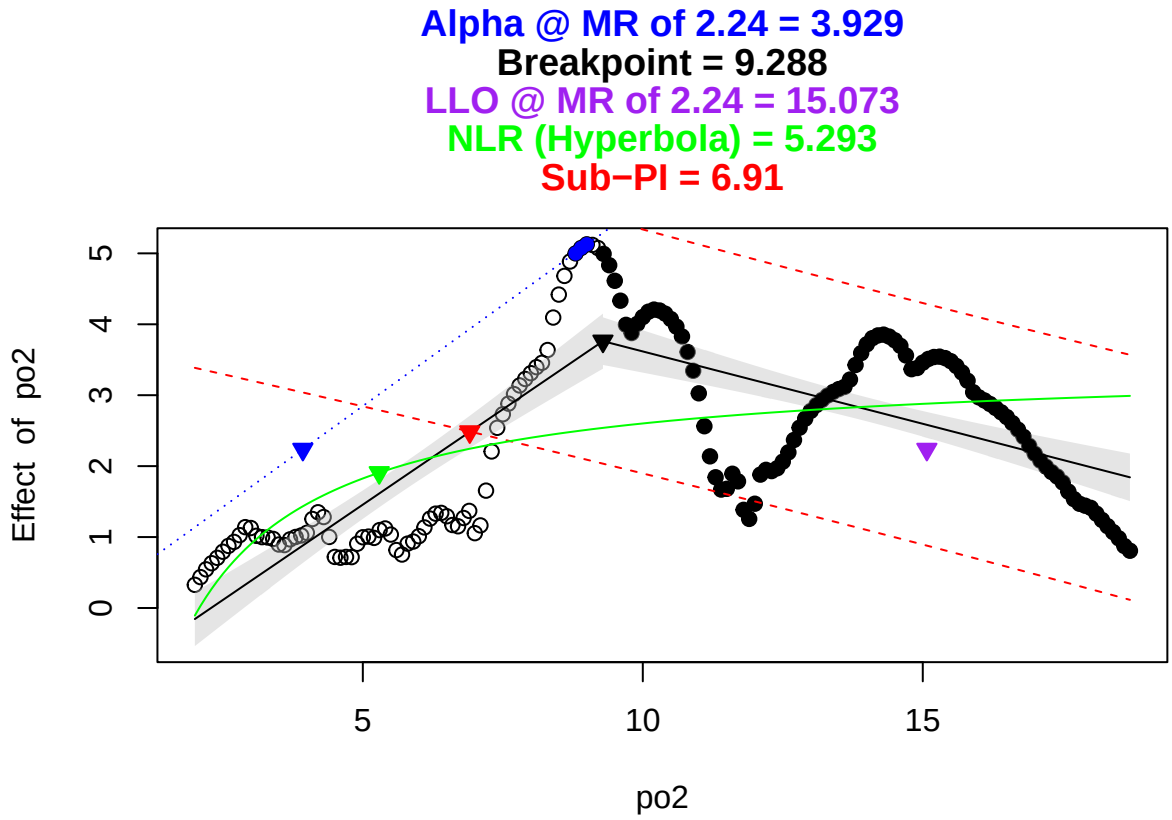

Tbocto 1000 pcrti tank 1 and 2 8−11−21.txt
pcrit.raw[, 3 + ch]
50
100
150
200
0
5000
10000
15000
20000
pcrit.raw$times


Alpha @ MR of 2.96 = 5.511
Breakpoint = 14.758
LLO @ MR of 2.96 = 8.255
NLR (Hyperbola) = 5.171
Sub−PI = 14.59
Effect of po2
1
2
3
4
5
5
10
15
po2

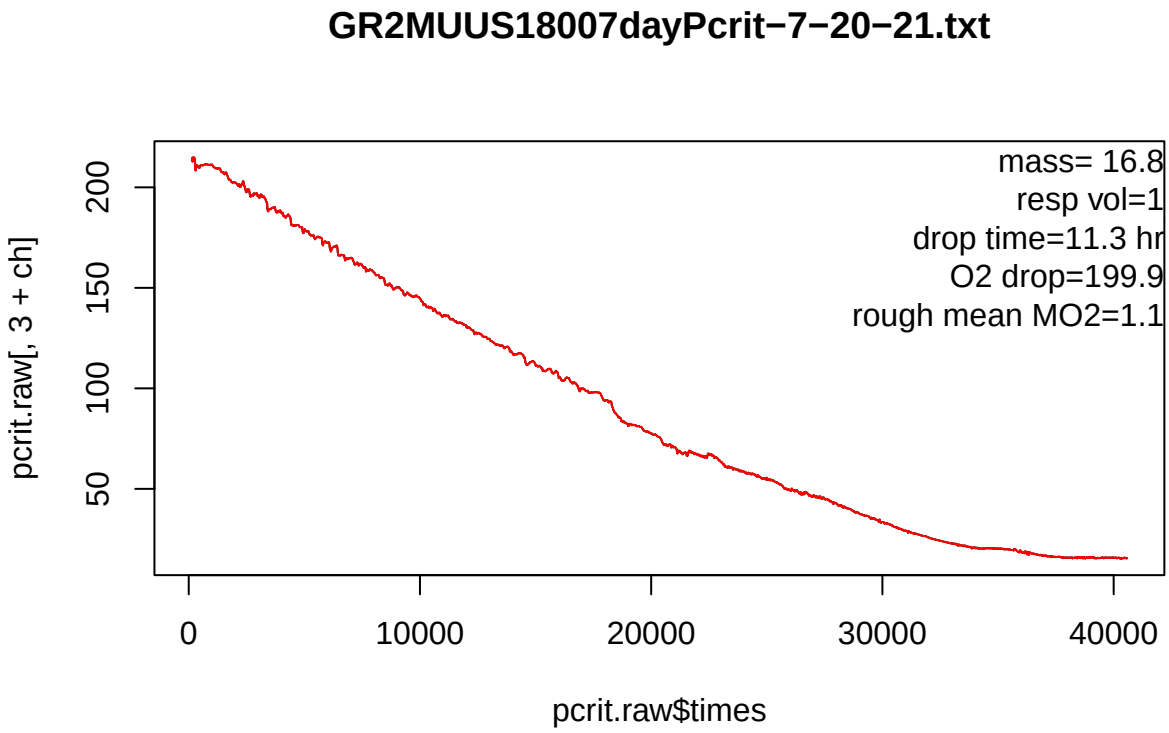

gr2muus1000 pcrit 7−21−21.txt
mass= 35
resp vol=1
drop time=2.5 hr
O2 drop=205.8
rough mean MO2=2.4
pcrit.raw[, 3 + ch]
50
100
150
200
0
2000
4000
6000
8000
pcrit.raw$times


Alpha @ MR of 2.24 = 2.456
Breakpoint = 2.2
LLO @ MR of 2.24 = 2.559
NLR (Power) = 66.42
Sub−PI = 2.11
Effect of po2
0.5
1.5
2.5
3.5
5
10
15
po2

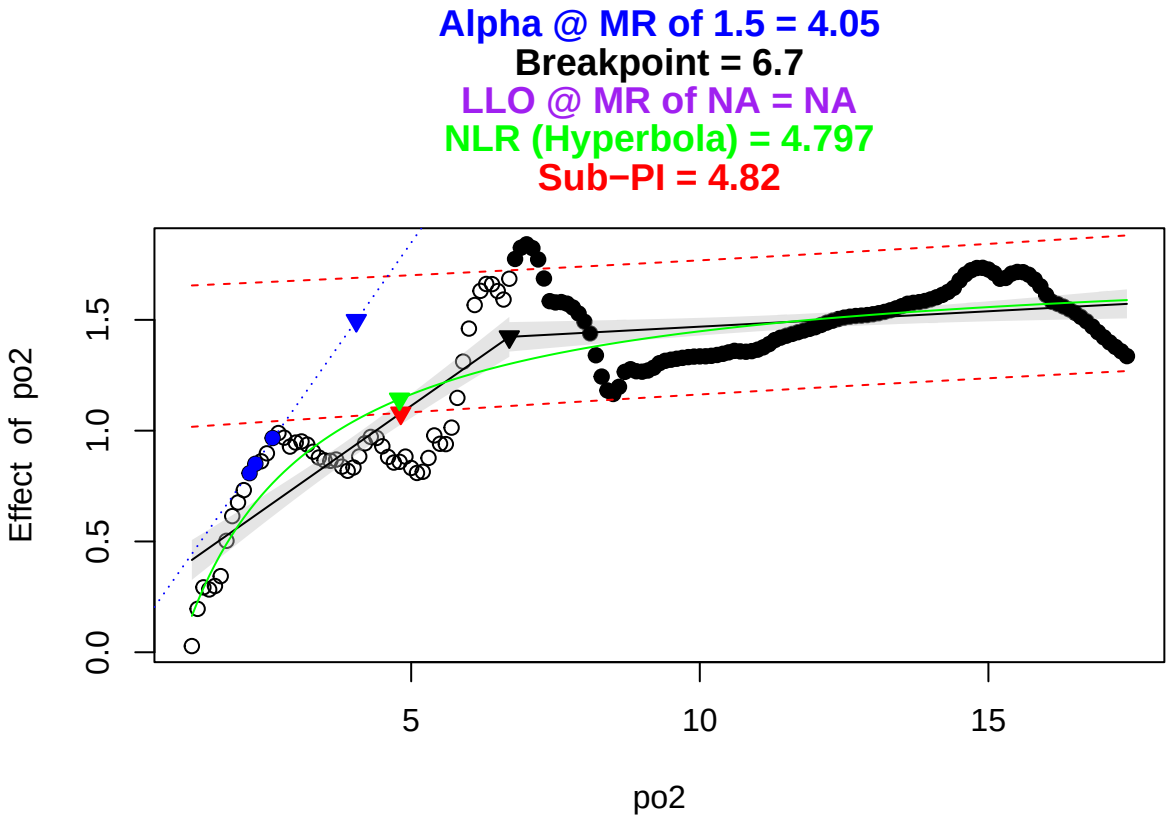

gr2muus1000−2 pcrit 7−26−21.txt
mass= 35
resp vol=1
drop time=3.8 hr
O2 drop=218.2
rough mean MO2=1.6
pcrit.raw[, 3 + ch]
50
100
150
200
250
0
2000
4000
6000
8000
10000
12000
14000
pcrit.raw$times

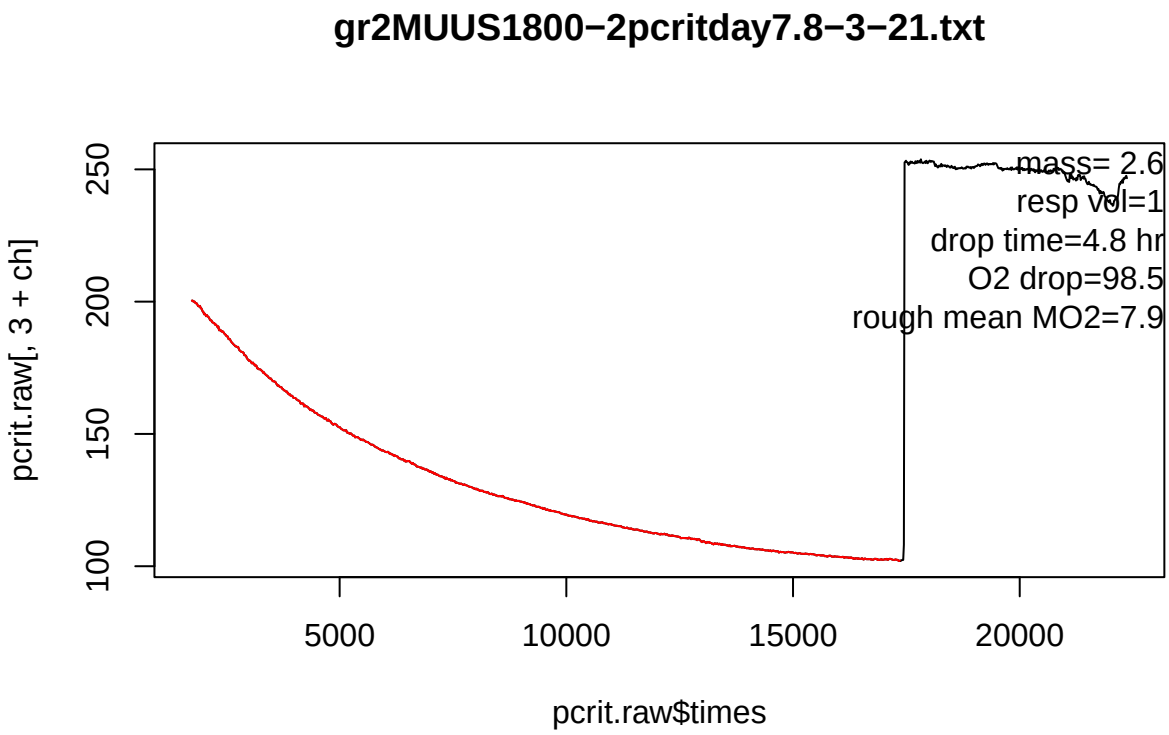


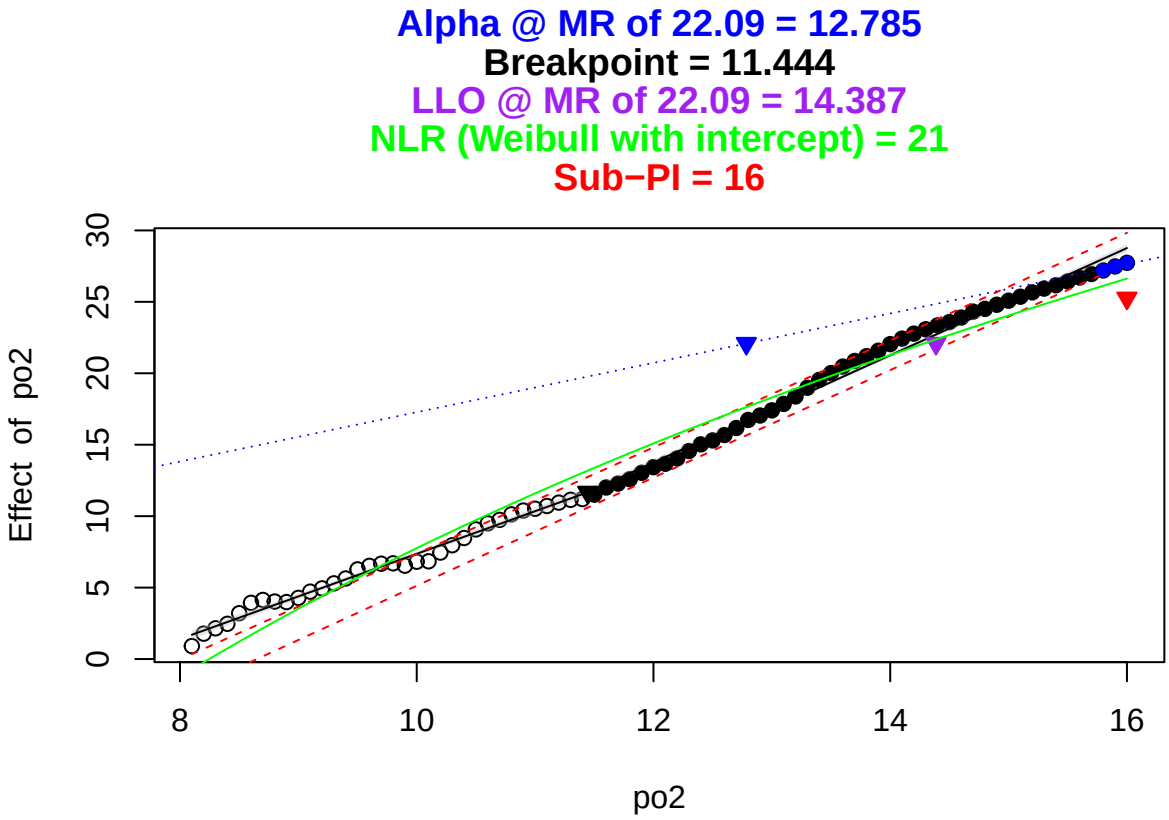

```
## "MR" must be defined for LLO calculation.
```

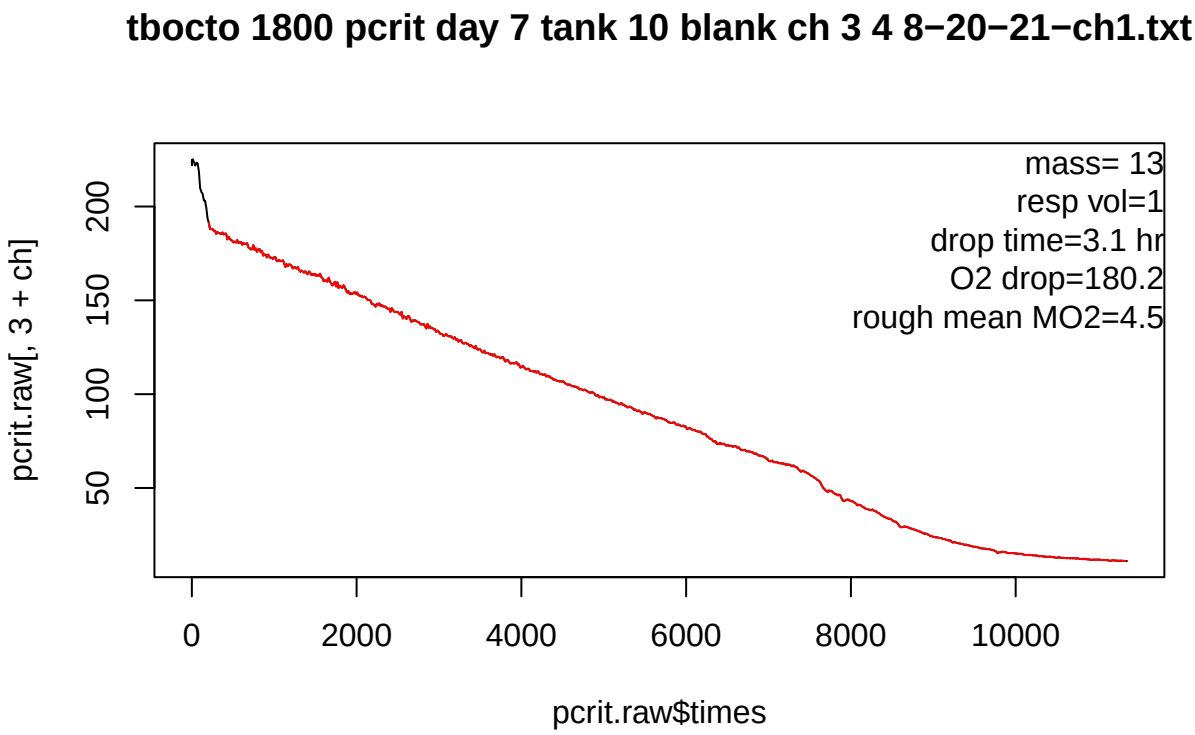


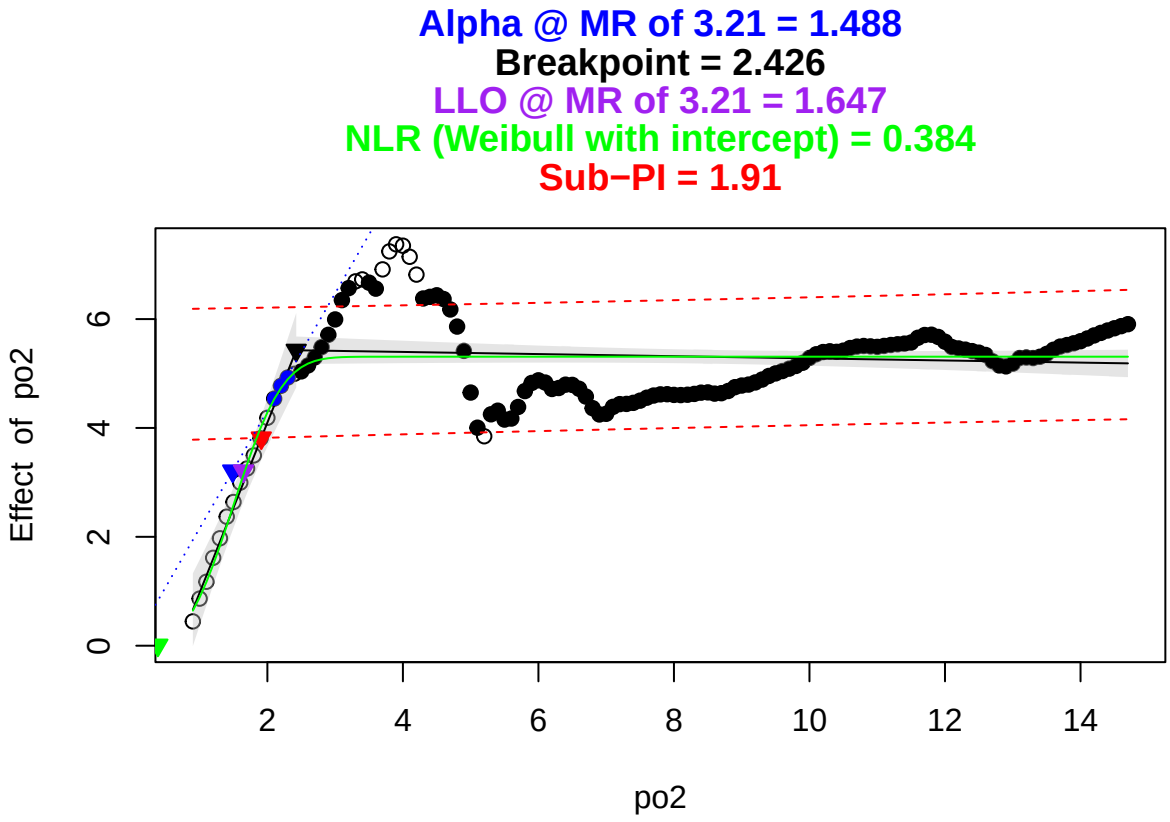

```
## "MR" must be defined for LLO calculation.
```

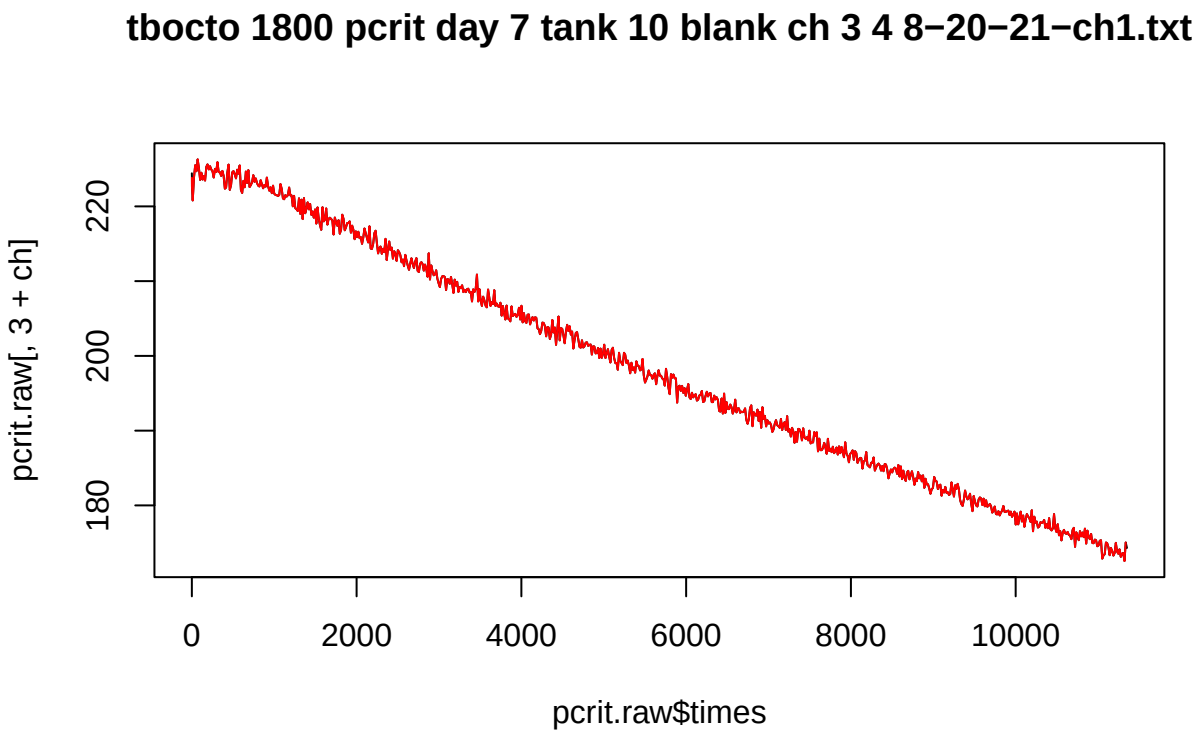

Alpha @ MR of 1.5 = 4.05
Breakpoint = 6.7
LLO @ MR of NA = NA
NLR (Hyperbola) = 4.797
Sub−PI = 4.82
Effect of po2
0.0
0.5
1.0
1.5
5
10
15
po2

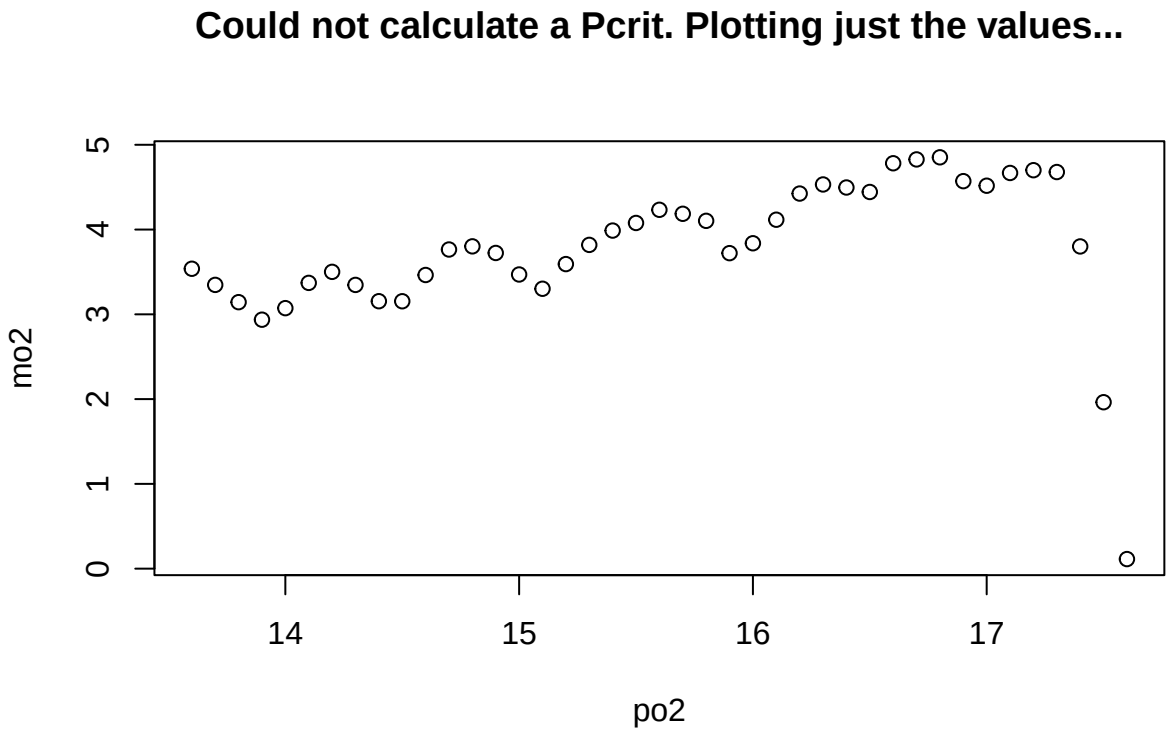

gr2MUUS1800−2pcritday7.8−3−21.txt
mass= 2.6
resp vol=1
drop time=4.8 hr
O2 drop=98.5
rough mean MO2=7.9
pcrit.raw[, 3 + ch]
100
150
200
250
5000
10000
15000
20000
pcrit.raw$times


Alpha @ MR of 22.09 = 12.785
Breakpoint = 11.444
LLO @ MR of 22.09 = 14.387
NLR (Weibull with intercept) = 21
Sub−PI = 16
Effect of po2
0
5
10
15
20
25
30
8
10
12
14
16
po2


tbocto 1800 pcrit day 7 tank 10 blank ch 3 4 8−20−21−ch1.txt
mass= 13
resp vol=1
drop time=3.1 hr
O2 drop=180.2
rough mean MO2=4.5
pcrit.raw[, 3 + ch]
50
100
150
200
0
2000
4000
6000
8000
10000
pcrit.raw$times


Alpha @ MR of 3.21 = 1.488
Breakpoint = 2.426
LLO @ MR of 3.21 = 1.647
NLR (Weibull with intercept) = 0.384
Sub−PI = 1.91
Effect of po2
0
2
4
6
2
4
6
8
10
12
14
po2


tbocto 1800 pcrit day 7 tank 10 blank ch 3 4 8−20−21−ch1.txt
pcrit.raw[, 3 + ch]
180
200
220
0
2000
4000
6000
8000
10000
pcrit.raw$times


Could not calculate a Pcrit. Plotting just the values...
mo2
0
1
2
3
4
5
14
15
16
17
po2