# Validation of Noncompartmental Analysis Performed by NonCompart R package

*Sungpil Han shan@acp.kr*

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## Contents

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## 1 Introduction

NonCompart R package (Bae 2018) can conduct a noncompartmental analysis as closely as possible to the most widely used commercial software for pharmacokinetic analysis, i.e. Phoenix® WinNonlin®. This document provides validation of noncompartmental analysis performed by NonCompart R package as compared to the results from the commercial software.

## 2 Results

This script will be stopped if there is any difference between results from NonCompart and WinNonlin printing `Test Failed!`.

```
# install.packages("NonCompart", repos="http://pmx.amc.seoul.kr")
library(NonCompart)
RptCfg = read.csv("RptCfg.csv", as.is=TRUE)

Equal = function(Wres, Rres, Tol=0.001)
{
  Wres[,"ID"] = as.character(Wres[,"Subject"])
  ColName0 = colnames(Rres)
  rownames(RptCfg) = RptCfg[,"PPTESTCD"]
  colnames(Rres) = c(ColName0[1], RptCfg[ColName0[-1],"WNL"])
  Inter = intersect(colnames(Wres), colnames(Rres))

  IsSame = TRUE
```

```
    for (i in 1:nrow(Wres)) {
      for (j in Inter) {
        R = as.numeric(Rres[i,j])
        W = as.numeric(Wres[i,j])
        if (W != 0) {
          if(abs((R - W)/W) > Tol) {
            print(Wres[i,j])
            print(Rres[i,j])
            IsSame = FALSE
          }
        }
      }
    }
  }
  return(IsSame)
}
```

Eight comparison tests were performed using `Theoph` and `Indometh` default datasets. Detailed side-by-side comparison is in Appendix [#sidebyside].

| No. | Dataset | Down | Route |
|-----|---------|------|-------|
| 1 | Theoph (n=12) | Linear | Extravascular |
| 2 | Theoph (n=12) | Log | Extravascular |
| 3 | Indometh (n=6) | Linear | IV Bolus |
| 4 | Indometh (n=6) | Log | IV Bolus |
| 5 | Indometh (n=6) | Linear | IV Infusion (0.25hr) |
| 6 | Indometh (n=6) | Log | IV Infusion (0.25hr) |
| 7 | Indometh (n=6) | Linear | Extravascular |
| 8 | Indometh (n=6) | Log | Extravascular |

```
Theoph[,"Subject"] = as.numeric(as.character(Theoph[,"Subject"]))
Indometh[,"Subject"] = as.numeric(as.character(Indometh[,"Subject"]))

Wres1 = read.csv("Final_Parameters_Pivoted_Theoph_Linear.csv")
Rres1 = tblNCA(Theoph, "Subject", "Time", "conc", dose=320, concUnit="mg/L")
if (!Equal(Wres1, Rres1)) stop("Test Failed!")

Wres2 = read.csv("Final_Parameters_Pivoted_Theoph_Log.csv")
Rres2 = tblNCA(Theoph, "Subject", "Time", "conc", dose=320, down="Log",
               concUnit="mg/L")
if (!Equal(Wres2, Rres2)) stop("Test Failed!")

Wres3 = read.csv("Final_Parameters_Pivoted_Indometh_Linear.csv")
Rres3 = tblNCA(Indometh, "Subject", "time", "conc", dose=25, adm="Bolus",
               concUnit="mg/L", R2ADJ=0.8)
if (!Equal(Wres3, Rres3)) stop("Test Failed!")

Wres4 = read.csv("Final_Parameters_Pivoted_Indometh_Log.csv")
Rres4 = tblNCA(Indometh, "Subject", "time", "conc", dose=25, adm="Bolus",
               down="Log", concUnit="mg/L", R2ADJ=0.8)
if (!Equal(Wres4, Rres4)) stop("Test Failed!")

Wres5 = read.csv("Final_Parameters_Pivoted_Indometh_Linear_Infusion.csv")
```

```
Rres5 = tblNCA(Indometh, "Subject", "time", "conc", dose=25, adm="Infusion",
               dur=0.25, concUnit="mg/L", R2ADJ=0.8)
if (!Equal(Wres5, Rres5)) stop("Test Failed!")

Wres6 = read.csv("Final_Parameters_Pivoted_Indometh_Log_Infusion.csv")
Rres6 = tblNCA(Indometh, "Subject", "time", "conc", dose=25, adm="Infusion",
               dur=0.25, down="Log", concUnit="mg/L", R2ADJ=0.8)
if (!Equal(Wres6, Rres6)) stop("Test Failed!")

Wres7 = read.csv("Final_Parameters_Pivoted_Indometh_Linear_Wrong_Extravascular.csv")
Rres7 = tblNCA(Indometh, "Subject", "time", "conc", dose=25, concUnit="mg/L",
               R2ADJ=0.8)
if (!Equal(Wres7, Rres7)) stop("Test Failed!")

Wres8 = read.csv("Final_Parameters_Pivoted_Indometh_Log_Wrong_Extravascular.csv")
Rres8 = tblNCA(Indometh, "Subject", "time", "conc", dose=25, down="Log",
               concUnit="mg/L", R2ADJ=0.8)
if (!Equal(Wres8, Rres8)) stop("Test Failed!")
```

# 3   Conclusion

Nothing happened and it indicates that **there is no discrepancy**. Noncompartmental analyses generated by NonCompart R package are qualified and validated.

# A  Side-by-side comparison of results

```
library(dplyr)
library(tidyr)

table_wres_rres <- function(wres, rres){
  wres %>%
    gather(WNL, WinNonlin, -Subject) %>%
    left_join(RptCfg %>% select(PPTESTCD, WNL), by = "WNL") %>%
    left_join(rres %>% as.data.frame() %>% gather(PPTESTCD, NonCompart, -Subject),
              by = c("Subject", "PPTESTCD")) %>%
    select(Subject, PPTESTCD, WNL, NonCompart, WinNonlin) %>%
    filter(!is.na(WinNonlin) & !is.na(NonCompart)) %>%
    knitr::kable(longtable = TRUE, booktabs = TRUE, format = "latex",
                 caption = "Longtable") %>%
    add_header_above(c(" ", "Parameters" = 2, "Values" = 2)) %>%
    kable_styling(latex_options = c("repeat_header"))

}
```

## A.1  Test 1: Theoph (n=12), Linear, Extravascular

```
table_wres_rres(Wres1, Rres1)
```

Table 2: Longtable

|         | Parameters | | Values | |
|---|---|---|---|---|
| Subject | PPTESTCD | WNL | NonCompart | WinNonlin |
| 1 | R2 | Rsq | 0.9999997 | 0.9999997 |
| 2 | R2 | Rsq | 0.9971954 | 0.9971954 |
| 3 | R2 | Rsq | 0.9993250 | 0.9993250 |
| 4 | R2 | Rsq | 0.9989241 | 0.9989241 |
| 5 | R2 | Rsq | 0.9986472 | 0.9986472 |
| 6 | R2 | Rsq | 0.9982413 | 0.9982413 |
| 7 | R2 | Rsq | 0.9986702 | 0.9986702 |
| 8 | R2 | Rsq | 0.9910124 | 0.9910124 |
| 9 | R2 | Rsq | 0.9994437 | 0.9994437 |
| 10 | R2 | Rsq | 0.9995087 | 0.9995087 |
| 11 | R2 | Rsq | 0.9999983 | 0.9999983 |
| 12 | R2 | Rsq | 0.9993968 | 0.9993968 |
| 1 | R2ADJ | Rsq_adjusted | 0.9999995 | 0.9999995 |
| 2 | R2ADJ | Rsq_adjusted | 0.9957931 | 0.9957931 |
| 3 | R2ADJ | Rsq_adjusted | 0.9986499 | 0.9986499 |
| 4 | R2ADJ | Rsq_adjusted | 0.9978483 | 0.9978483 |
| 5 | R2ADJ | Rsq_adjusted | 0.9979708 | 0.9979708 |
| 6 | R2ADJ | Rsq_adjusted | 0.9978896 | 0.9978896 |
| 7 | R2ADJ | Rsq_adjusted | 0.9980053 | 0.9980053 |
| 8 | R2ADJ | Rsq_adjusted | 0.9887655 | 0.9887655 |
| 9 | R2ADJ | Rsq_adjusted | 0.9988873 | 0.9988873 |

Table 2: Longtable *(continued)*

| Subject | Parameters | | Values | |
| | PPTESTCD | WNL | NonCompart | WinNonlin |
| --- | --- | --- | --- | --- |
| 10 | R2ADJ | Rsq_adjusted | 0.9990174 | 0.9990174 |
| 11 | R2ADJ | Rsq_adjusted | 0.9999965 | 0.9999965 |
| 12 | R2ADJ | Rsq_adjusted | 0.9987936 | 0.9987936 |
| 1 | CORRXY | Corr_XY | -0.9999999 | -0.9999999 |
| 2 | CORRXY | Corr_XY | -0.9985967 | -0.9985967 |
| 3 | CORRXY | Corr_XY | -0.9996624 | -0.9996624 |
| 4 | CORRXY | Corr_XY | -0.9994619 | -0.9994619 |
| 5 | CORRXY | Corr_XY | -0.9993234 | -0.9993234 |
| 6 | CORRXY | Corr_XY | -0.9991203 | -0.9991203 |
| 7 | CORRXY | Corr_XY | -0.9993349 | -0.9993349 |
| 8 | CORRXY | Corr_XY | -0.9954961 | -0.9954961 |
| 9 | CORRXY | Corr_XY | -0.9997218 | -0.9997218 |
| 10 | CORRXY | Corr_XY | -0.9997543 | -0.9997543 |
| 11 | CORRXY | Corr_XY | -0.9999991 | -0.9999991 |
| 12 | CORRXY | Corr_XY | -0.9996984 | -0.9996984 |
| 1 | LAMZNPT | No_points_lambda_z | 3.0000000 | 3.0000000 |
| 2 | LAMZNPT | No_points_lambda_z | 4.0000000 | 4.0000000 |
| 3 | LAMZNPT | No_points_lambda_z | 3.0000000 | 3.0000000 |
| 4 | LAMZNPT | No_points_lambda_z | 3.0000000 | 3.0000000 |
| 5 | LAMZNPT | No_points_lambda_z | 4.0000000 | 4.0000000 |
| 6 | LAMZNPT | No_points_lambda_z | 7.0000000 | 7.0000000 |
| 7 | LAMZNPT | No_points_lambda_z | 4.0000000 | 4.0000000 |
| 8 | LAMZNPT | No_points_lambda_z | 6.0000000 | 6.0000000 |
| 9 | LAMZNPT | No_points_lambda_z | 3.0000000 | 3.0000000 |
| 10 | LAMZNPT | No_points_lambda_z | 3.0000000 | 3.0000000 |
| 11 | LAMZNPT | No_points_lambda_z | 3.0000000 | 3.0000000 |
| 12 | LAMZNPT | No_points_lambda_z | 3.0000000 | 3.0000000 |
| 1 | LAMZ | Lambda_z | 0.0484570 | 0.0484570 |
| 2 | LAMZ | Lambda_z | 0.1040864 | 0.1040864 |
| 3 | LAMZ | Lambda_z | 0.1024443 | 0.1024443 |
| 4 | LAMZ | Lambda_z | 0.0992870 | 0.0992870 |
| 5 | LAMZ | Lambda_z | 0.0866189 | 0.0866189 |
| 6 | LAMZ | Lambda_z | 0.0877957 | 0.0877957 |
| 7 | LAMZ | Lambda_z | 0.0883365 | 0.0883365 |
| 8 | LAMZ | Lambda_z | 0.0814505 | 0.0814505 |
| 9 | LAMZ | Lambda_z | 0.0824586 | 0.0824586 |
| 10 | LAMZ | Lambda_z | 0.0749598 | 0.0749598 |
| 11 | LAMZ | Lambda_z | 0.0954586 | 0.0954586 |
| 12 | LAMZ | Lambda_z | 0.1102595 | 0.1102595 |
| 1 | LAMZLL | Lambda_z_lower | 9.0500000 | 9.0500000 |
| 2 | LAMZLL | Lambda_z_lower | 7.0300000 | 7.0300000 |
| 3 | LAMZLL | Lambda_z_lower | 9.0000000 | 9.0000000 |
| 4 | LAMZLL | Lambda_z_lower | 9.0200000 | 9.0200000 |
| 5 | LAMZLL | Lambda_z_lower | 7.0200000 | 7.0200000 |
| 6 | LAMZLL | Lambda_z_lower | 2.0300000 | 2.0300000 |

| Subject | Parameters | | Values | |
| --- | --- | --- | --- | --- |
| | PPTESTCD | WNL | NonCompart | WinNonlin |
| 7 | LAMZLL | Lambda_z_lower | 6.9800000 | 6.9800000 |
| 8 | LAMZLL | Lambda_z_lower | 3.5300000 | 3.5300000 |
| 9 | LAMZLL | Lambda_z_lower | 8.8000000 | 8.8000000 |
| 10 | LAMZLL | Lambda_z_lower | 9.3800000 | 9.3800000 |
| 11 | LAMZLL | Lambda_z_lower | 9.0300000 | 9.0300000 |
| 12 | LAMZLL | Lambda_z_lower | 9.0300000 | 9.0300000 |
| 1 | LAMZUL | Lambda_z_upper | 24.3700000 | 24.3700000 |
| 2 | LAMZUL | Lambda_z_upper | 24.3000000 | 24.3000000 |
| 3 | LAMZUL | Lambda_z_upper | 24.1700000 | 24.1700000 |
| 4 | LAMZUL | Lambda_z_upper | 24.6500000 | 24.6500000 |
| 5 | LAMZUL | Lambda_z_upper | 24.3500000 | 24.3500000 |
| 6 | LAMZUL | Lambda_z_upper | 23.8500000 | 23.8500000 |
| 7 | LAMZUL | Lambda_z_upper | 24.2200000 | 24.2200000 |
| 8 | LAMZUL | Lambda_z_upper | 24.1200000 | 24.1200000 |
| 9 | LAMZUL | Lambda_z_upper | 24.4300000 | 24.4300000 |
| 10 | LAMZUL | Lambda_z_upper | 23.7000000 | 23.7000000 |
| 11 | LAMZUL | Lambda_z_upper | 24.0800000 | 24.0800000 |
| 12 | LAMZUL | Lambda_z_upper | 24.1500000 | 24.1500000 |
| 1 | LAMZHL | HL_Lambda_z | 14.3043776 | 14.3043776 |
| 2 | LAMZHL | HL_Lambda_z | 6.6593416 | 6.6593416 |
| 3 | LAMZHL | HL_Lambda_z | 6.7660874 | 6.7660874 |
| 4 | LAMZHL | HL_Lambda_z | 6.9812467 | 6.9812467 |
| 5 | LAMZHL | HL_Lambda_z | 8.0022640 | 8.0022640 |
| 6 | LAMZHL | HL_Lambda_z | 7.8949979 | 7.8949979 |
| 7 | LAMZHL | HL_Lambda_z | 7.8466683 | 7.8466683 |
| 8 | LAMZHL | HL_Lambda_z | 8.5100379 | 8.5100379 |
| 9 | LAMZHL | HL_Lambda_z | 8.4059988 | 8.4059988 |
| 10 | LAMZHL | HL_Lambda_z | 9.2469158 | 9.2469158 |
| 11 | LAMZHL | HL_Lambda_z | 7.2612365 | 7.2612365 |
| 12 | LAMZHL | HL_Lambda_z | 6.2865082 | 6.2865082 |
| 1 | TLAG | Tlag | 0.0000000 | 0.0000000 |
| 2 | TLAG | Tlag | 0.0000000 | 0.0000000 |
| 3 | TLAG | Tlag | 0.0000000 | 0.0000000 |
| 4 | TLAG | Tlag | 0.0000000 | 0.0000000 |
| 5 | TLAG | Tlag | 0.0000000 | 0.0000000 |
| 6 | TLAG | Tlag | 0.0000000 | 0.0000000 |
| 7 | TLAG | Tlag | 0.0000000 | 0.0000000 |
| 8 | TLAG | Tlag | 0.0000000 | 0.0000000 |
| 9 | TLAG | Tlag | 0.0000000 | 0.0000000 |
| 10 | TLAG | Tlag | 0.0000000 | 0.0000000 |
| 11 | TLAG | Tlag | 0.0000000 | 0.0000000 |
| 12 | TLAG | Tlag | 0.0000000 | 0.0000000 |
| 1 | TMAX | Tmax | 1.1200000 | 1.1200000 |
| 2 | TMAX | Tmax | 1.9200000 | 1.9200000 |
| 3 | TMAX | Tmax | 1.0200000 | 1.0200000 |

Table 2: Longtable *(continued)*

| Subject | Parameters | | Values | |
| | PPTESTCD | WNL | NonCompart | WinNonlin |
|---|---|---|---|---|
| 4 | TMAX | Tmax | 1.0700000 | 1.0700000 |
| 5 | TMAX | Tmax | 1.0000000 | 1.0000000 |
| 6 | TMAX | Tmax | 1.1500000 | 1.1500000 |
| 7 | TMAX | Tmax | 3.4800000 | 3.4800000 |
| 8 | TMAX | Tmax | 2.0200000 | 2.0200000 |
| 9 | TMAX | Tmax | 0.6300000 | 0.6300000 |
| 10 | TMAX | Tmax | 3.5500000 | 3.5500000 |
| 11 | TMAX | Tmax | 0.9800000 | 0.9800000 |
| 12 | TMAX | Tmax | 3.5200000 | 3.5200000 |
| 1 | CMAX | Cmax | 10.5000000 | 10.5000000 |
| 2 | CMAX | Cmax | 8.3300000 | 8.3300000 |
| 3 | CMAX | Cmax | 8.2000000 | 8.2000000 |
| 4 | CMAX | Cmax | 8.6000000 | 8.6000000 |
| 5 | CMAX | Cmax | 11.4000000 | 11.4000000 |
| 6 | CMAX | Cmax | 6.4400000 | 6.4400000 |
| 7 | CMAX | Cmax | 7.0900000 | 7.0900000 |
| 8 | CMAX | Cmax | 7.5600000 | 7.5600000 |
| 9 | CMAX | Cmax | 9.0300000 | 9.0300000 |
| 10 | CMAX | Cmax | 10.2100000 | 10.2100000 |
| 11 | CMAX | Cmax | 8.0000000 | 8.0000000 |
| 12 | CMAX | Cmax | 9.7500000 | 9.7500000 |
| 1 | CMAXD | Cmax_D | 0.0328125 | 0.0328125 |
| 2 | CMAXD | Cmax_D | 0.0260312 | 0.0260312 |
| 3 | CMAXD | Cmax_D | 0.0256250 | 0.0256250 |
| 4 | CMAXD | Cmax_D | 0.0268750 | 0.0268750 |
| 5 | CMAXD | Cmax_D | 0.0356250 | 0.0356250 |
| 6 | CMAXD | Cmax_D | 0.0201250 | 0.0201250 |
| 7 | CMAXD | Cmax_D | 0.0221562 | 0.0221562 |
| 8 | CMAXD | Cmax_D | 0.0236250 | 0.0236250 |
| 9 | CMAXD | Cmax_D | 0.0282188 | 0.0282188 |
| 10 | CMAXD | Cmax_D | 0.0319063 | 0.0319062 |
| 11 | CMAXD | Cmax_D | 0.0250000 | 0.0250000 |
| 12 | CMAXD | Cmax_D | 0.0304688 | 0.0304688 |
| 1 | TLST | Tlast | 24.3700000 | 24.3700000 |
| 2 | TLST | Tlast | 24.3000000 | 24.3000000 |
| 3 | TLST | Tlast | 24.1700000 | 24.1700000 |
| 4 | TLST | Tlast | 24.6500000 | 24.6500000 |
| 5 | TLST | Tlast | 24.3500000 | 24.3500000 |
| 6 | TLST | Tlast | 23.8500000 | 23.8500000 |
| 7 | TLST | Tlast | 24.2200000 | 24.2200000 |
| 8 | TLST | Tlast | 24.1200000 | 24.1200000 |
| 9 | TLST | Tlast | 24.4300000 | 24.4300000 |
| 10 | TLST | Tlast | 23.7000000 | 23.7000000 |
| 11 | TLST | Tlast | 24.0800000 | 24.0800000 |
| 12 | TLST | Tlast | 24.1500000 | 24.1500000 |

Table 2: Longtable *(continued)*

| Subject | Parameters | | Values | |
| --- | --- | --- | --- | --- |
| | PPTESTCD | WNL | NonCompart | WinNonlin |
| 1 | CLST | Clast | 3.2800000 | 3.2800000 |
| 2 | CLST | Clast | 0.9000000 | 0.9000000 |
| 3 | CLST | Clast | 1.0500000 | 1.0500000 |
| 4 | CLST | Clast | 1.1500000 | 1.1500000 |
| 5 | CLST | Clast | 1.5700000 | 1.5700000 |
| 6 | CLST | Clast | 0.9200000 | 0.9200000 |
| 7 | CLST | Clast | 1.1500000 | 1.1500000 |
| 8 | CLST | Clast | 1.2500000 | 1.2500000 |
| 9 | CLST | Clast | 1.1200000 | 1.1200000 |
| 10 | CLST | Clast | 2.4200000 | 2.4200000 |
| 11 | CLST | Clast | 0.8600000 | 0.8600000 |
| 12 | CLST | Clast | 1.1700000 | 1.1700000 |
| 1 | AUCLST | AUClast | 148.9230500 | 148.9230500 |
| 2 | AUCLST | AUClast | 91.5268000 | 91.5268000 |
| 3 | AUCLST | AUClast | 99.2865000 | 99.2865000 |
| 4 | AUCLST | AUClast | 106.7963000 | 106.7963000 |
| 5 | AUCLST | AUClast | 121.2944000 | 121.2944000 |
| 6 | AUCLST | AUClast | 73.7755500 | 73.7755500 |
| 7 | AUCLST | AUClast | 90.7534000 | 90.7534000 |
| 8 | AUCLST | AUClast | 88.5599500 | 88.5599500 |
| 9 | AUCLST | AUClast | 86.3261500 | 86.3261500 |
| 10 | AUCLST | AUClast | 138.3681000 | 138.3681000 |
| 11 | AUCLST | AUClast | 80.0936000 | 80.0936000 |
| 12 | AUCLST | AUClast | 119.9775000 | 119.9775000 |
| 1 | AUCALL | AUCall | 148.9230500 | 148.9230500 |
| 2 | AUCALL | AUCall | 91.5268000 | 91.5268000 |
| 3 | AUCALL | AUCall | 99.2865000 | 99.2865000 |
| 4 | AUCALL | AUCall | 106.7963000 | 106.7963000 |
| 5 | AUCALL | AUCall | 121.2944000 | 121.2944000 |
| 6 | AUCALL | AUCall | 73.7755500 | 73.7755500 |
| 7 | AUCALL | AUCall | 90.7534000 | 90.7534000 |
| 8 | AUCALL | AUCall | 88.5599500 | 88.5599500 |
| 9 | AUCALL | AUCall | 86.3261500 | 86.3261500 |
| 10 | AUCALL | AUCall | 138.3681000 | 138.3681000 |
| 11 | AUCALL | AUCall | 80.0936000 | 80.0936000 |
| 12 | AUCALL | AUCall | 119.9775000 | 119.9775000 |
| 1 | AUCIFO | AUCINF_obs | 216.6119330 | 216.6119330 |
| 2 | AUCIFO | AUCINF_obs | 100.1734591 | 100.1734591 |
| 3 | AUCIFO | AUCINF_obs | 109.5359707 | 109.5359707 |
| 4 | AUCIFO | AUCINF_obs | 118.3788814 | 118.3788814 |
| 5 | AUCIFO | AUCINF_obs | 139.4197778 | 139.4197778 |
| 6 | AUCIFO | AUCINF_obs | 84.2544183 | 84.2544183 |
| 7 | AUCIFO | AUCINF_obs | 103.7718018 | 103.7718018 |
| 8 | AUCIFO | AUCINF_obs | 103.9066868 | 103.9066868 |
| 9 | AUCIFO | AUCINF_obs | 99.9087179 | 99.9087179 |

| Subject | Parameters | | Values | |
| --- | --- | --- | --- | --- |
| | PPTESTCD | WNL | NonCompart | WinNonlin |
| 10 | AUCIFO | AUCINF__obs | 170.6520606 | 170.6520606 |
| 11 | AUCIFO | AUCINF__obs | 89.1027449 | 89.1027449 |
| 12 | AUCIFO | AUCINF__obs | 130.5888316 | 130.5888316 |
| 1 | AUCIFOD | AUCINF__D_obs | 0.6769123 | 0.6769123 |
| 2 | AUCIFOD | AUCINF__D_obs | 0.3130421 | 0.3130421 |
| 3 | AUCIFOD | AUCINF__D_obs | 0.3422999 | 0.3422999 |
| 4 | AUCIFOD | AUCINF__D_obs | 0.3699340 | 0.3699340 |
| 5 | AUCIFOD | AUCINF__D_obs | 0.4356868 | 0.4356868 |
| 6 | AUCIFOD | AUCINF__D_obs | 0.2632951 | 0.2632951 |
| 7 | AUCIFOD | AUCINF__D_obs | 0.3242869 | 0.3242869 |
| 8 | AUCIFOD | AUCINF__D_obs | 0.3247084 | 0.3247084 |
| 9 | AUCIFOD | AUCINF__D_obs | 0.3122147 | 0.3122147 |
| 10 | AUCIFOD | AUCINF__D_obs | 0.5332877 | 0.5332877 |
| 11 | AUCIFOD | AUCINF__D_obs | 0.2784461 | 0.2784461 |
| 12 | AUCIFOD | AUCINF__D_obs | 0.4080901 | 0.4080901 |
| 1 | AUCPEO | AUC__.Extrap_obs | 31.2489169 | 31.2489169 |
| 2 | AUCPEO | AUC__.Extrap_obs | 8.6316867 | 8.6316867 |
| 3 | AUCPEO | AUC__.Extrap_obs | 9.3571734 | 9.3571734 |
| 4 | AUCPEO | AUC__.Extrap_obs | 9.7843309 | 9.7843309 |
| 5 | AUCPEO | AUC__.Extrap_obs | 13.0005786 | 13.0005786 |
| 6 | AUCPEO | AUC__.Extrap_obs | 12.4371737 | 12.4371737 |
| 7 | AUCPEO | AUC__.Extrap_obs | 12.5452209 | 12.5452209 |
| 8 | AUCPEO | AUC__.Extrap_obs | 14.7697297 | 14.7697297 |
| 9 | AUCPEO | AUC__.Extrap_obs | 13.5949777 | 13.5949777 |
| 10 | AUCPEO | AUC__.Extrap_obs | 18.9180022 | 18.9180022 |
| 11 | AUCPEO | AUC__.Extrap_obs | 10.1109623 | 10.1109623 |
| 12 | AUCPEO | AUC__.Extrap_obs | 8.1257573 | 8.1257573 |
| 1 | VZFO | Vz_F_obs | 30.4867482 | 30.4867482 |
| 2 | VZFO | Vz_F_obs | 30.6904416 | 30.6904416 |
| 3 | VZFO | Vz_F_obs | 28.5170999 | 28.5170999 |
| 4 | VZFO | Vz_F_obs | 27.2259641 | 27.2259641 |
| 5 | VZFO | Vz_F_obs | 26.4979947 | 26.4979946 |
| 6 | VZFO | Vz_F_obs | 43.2597345 | 43.2597345 |
| 7 | VZFO | Vz_F_obs | 34.9084408 | 34.9084408 |
| 8 | VZFO | Vz_F_obs | 37.8105081 | 37.8105081 |
| 9 | VZFO | Vz_F_obs | 38.8427934 | 38.8427934 |
| 10 | VZFO | Vz_F_obs | 25.0155401 | 25.0155401 |
| 11 | VZFO | Vz_F_obs | 37.6221852 | 37.6221852 |
| 12 | VZFO | Vz_F_obs | 22.2242936 | 22.2242936 |
| 1 | CLFO | Cl_F_obs | 1.4772963 | 1.4772963 |
| 2 | CLFO | Cl_F_obs | 3.1944589 | 3.1944589 |
| 3 | CLFO | Cl_F_obs | 2.9214147 | 2.9214147 |
| 4 | CLFO | Cl_F_obs | 2.7031849 | 2.7031849 |
| 5 | CLFO | Cl_F_obs | 2.2952267 | 2.2952267 |
| 6 | CLFO | Cl_F_obs | 3.7980204 | 3.7980204 |

Table 2: Longtable *(continued)*

| Subject | Parameters | | Values | |
| | PPTESTCD | WNL | NonCompart | WinNonlin |
|---|---|---|---|---|
| 7 | CLFO | Cl_F_obs | 3.0836893 | 3.0836894 |
| 8 | CLFO | Cl_F_obs | 3.0796863 | 3.0796863 |
| 9 | CLFO | Cl_F_obs | 3.2029237 | 3.2029237 |
| 10 | CLFO | Cl_F_obs | 1.8751605 | 1.8751605 |
| 11 | CLFO | Cl_F_obs | 3.5913596 | 3.5913596 |
| 12 | CLFO | Cl_F_obs | 2.4504393 | 2.4504393 |
| 1 | AUCIFP | AUCINF_pred | 216.6149558 | 216.6149558 |
| 2 | AUCIFP | AUCINF_pred | 100.0643176 | 100.0643176 |
| 3 | AUCIFP | AUCINF_pred | 109.5857218 | 109.5857218 |
| 4 | AUCIFP | AUCINF_pred | 118.4435586 | 118.4435586 |
| 5 | AUCIFP | AUCINF_pred | 139.2546304 | 139.2546304 |
| 6 | AUCIFP | AUCINF_pred | 84.4966986 | 84.4966986 |
| 7 | AUCIFP | AUCINF_pred | 103.8931470 | 103.8931470 |
| 8 | AUCIFP | AUCINF_pred | 103.6430515 | 103.6430515 |
| 9 | AUCIFP | AUCINF_pred | 99.8660677 | 99.8660677 |
| 10 | AUCIFP | AUCINF_pred | 170.5679125 | 170.5679125 |
| 11 | AUCIFP | AUCINF_pred | 89.1007190 | 89.1007190 |
| 12 | AUCIFP | AUCINF_pred | 130.6390680 | 130.6390680 |
| 1 | AUCIFPD | AUCINF_D_pred | 0.6769217 | 0.6769217 |
| 2 | AUCIFPD | AUCINF_D_pred | 0.3127010 | 0.3127010 |
| 3 | AUCIFPD | AUCINF_D_pred | 0.3424554 | 0.3424554 |
| 4 | AUCIFPD | AUCINF_D_pred | 0.3701361 | 0.3701361 |
| 5 | AUCIFPD | AUCINF_D_pred | 0.4351707 | 0.4351707 |
| 6 | AUCIFPD | AUCINF_D_pred | 0.2640522 | 0.2640522 |
| 7 | AUCIFPD | AUCINF_D_pred | 0.3246661 | 0.3246661 |
| 8 | AUCIFPD | AUCINF_D_pred | 0.3238845 | 0.3238845 |
| 9 | AUCIFPD | AUCINF_D_pred | 0.3120815 | 0.3120815 |
| 10 | AUCIFPD | AUCINF_D_pred | 0.5330247 | 0.5330247 |
| 11 | AUCIFPD | AUCINF_D_pred | 0.2784397 | 0.2784397 |
| 12 | AUCIFPD | AUCINF_D_pred | 0.4082471 | 0.4082471 |
| 1 | AUCPEP | AUC_.Extrap_pred | 31.2498763 | 31.2498763 |
| 2 | AUCPEP | AUC_.Extrap_pred | 8.5320300 | 8.5320300 |
| 3 | AUCPEP | AUC_.Extrap_pred | 9.3983245 | 9.3983245 |
| 4 | AUCPEP | AUC_.Extrap_pred | 9.8335939 | 9.8335939 |
| 5 | AUCPEP | AUC_.Extrap_pred | 12.8974027 | 12.8974027 |
| 6 | AUCPEP | AUC_.Extrap_pred | 12.6882455 | 12.6882455 |
| 7 | AUCPEP | AUC_.Extrap_pred | 12.6473665 | 12.6473664 |
| 8 | AUCPEP | AUC_.Extrap_pred | 14.5529307 | 14.5529307 |
| 9 | AUCPEP | AUC_.Extrap_pred | 13.5580763 | 13.5580763 |
| 10 | AUCPEP | AUC_.Extrap_pred | 18.8780012 | 18.8780012 |
| 11 | AUCPEP | AUC_.Extrap_pred | 10.1089184 | 10.1089184 |
| 12 | AUCPEP | AUC_.Extrap_pred | 8.1610870 | 8.1610870 |
| 1 | VZFP | Vz_F_pred | 30.4863228 | 30.4863228 |
| 2 | VZFP | Vz_F_pred | 30.7239161 | 30.7239161 |
| 3 | VZFP | Vz_F_pred | 28.5041534 | 28.5041534 |

Table 2: Longtable *(continued)*

| Subject | Parameters | | Values | |
| --- | --- | --- | --- | --- |
| | PPTESTCD | WNL | NonCompart | WinNonlin |
| 4 | VZFP | Vz_F_pred | 27.2110972 | 27.2110972 |
| 5 | VZFP | Vz_F_pred | 26.5294196 | 26.5294196 |
| 6 | VZFP | Vz_F_pred | 43.1356944 | 43.1356944 |
| 7 | VZFP | Vz_F_pred | 34.8676684 | 34.8676684 |
| 8 | VZFP | Vz_F_pred | 37.9066862 | 37.9066862 |
| 9 | VZFP | Vz_F_pred | 38.8593822 | 38.8593822 |
| 10 | VZFP | Vz_F_pred | 25.0278813 | 25.0278813 |
| 11 | VZFP | Vz_F_pred | 37.6230406 | 37.6230406 |
| 12 | VZFP | Vz_F_pred | 22.2157473 | 22.2157473 |
| 1 | CLFP | Cl_F_pred | 1.4772757 | 1.4772757 |
| 2 | CLFP | Cl_F_pred | 3.1979432 | 3.1979432 |
| 3 | CLFP | Cl_F_pred | 2.9200884 | 2.9200884 |
| 4 | CLFP | Cl_F_pred | 2.7017088 | 2.7017088 |
| 5 | CLFP | Cl_F_pred | 2.2979487 | 2.2979487 |
| 6 | CLFP | Cl_F_pred | 3.7871302 | 3.7871302 |
| 7 | CLFP | Cl_F_pred | 3.0800877 | 3.0800877 |
| 8 | CLFP | Cl_F_pred | 3.0875201 | 3.0875201 |
| 9 | CLFP | Cl_F_pred | 3.2042916 | 3.2042916 |
| 10 | CLFP | Cl_F_pred | 1.8760856 | 1.8760856 |
| 11 | CLFP | Cl_F_pred | 3.5914413 | 3.5914413 |
| 12 | CLFP | Cl_F_pred | 2.4494970 | 2.4494970 |
| 1 | AUMCLST | AUMClast | 1459.0711035 | 1459.0711040 |
| 2 | AUMCLST | AUMClast | 706.5865660 | 706.5865660 |
| 3 | AUMCLST | AUMClast | 803.1858700 | 803.1858700 |
| 4 | AUMCLST | AUMClast | 901.0842105 | 901.0842105 |
| 5 | AUMCLST | AUMClast | 1017.1143165 | 1017.1143170 |
| 6 | AUMCLST | AUMClast | 609.1523875 | 609.1523875 |
| 7 | AUMCLST | AUMClast | 782.4198600 | 782.4198600 |
| 8 | AUMCLST | AUMClast | 739.5345980 | 739.5345980 |
| 9 | AUMCLST | AUMClast | 705.2296255 | 705.2296255 |
| 10 | AUMCLST | AUMClast | 1278.1800420 | 1278.1800420 |
| 11 | AUMCLST | AUMClast | 617.2422125 | 617.2422125 |
| 12 | AUMCLST | AUMClast | 977.8807235 | 977.8807235 |
| 1 | AUMCIFO | AUMCINF_obs | 4505.5348194 | 4505.5348190 |
| 2 | AUMCIFO | AUMCINF_obs | 999.7722880 | 999.7722880 |
| 3 | AUMCIFO | AUMCINF_obs | 1150.9647687 | 1150.9647690 |
| 4 | AUMCIFO | AUMCINF_obs | 1303.2524014 | 1303.2524010 |
| 5 | AUMCIFO | AUMCINF_obs | 1667.7216119 | 1667.7216120 |
| 6 | AUMCIFO | AUMCINF_obs | 978.4284857 | 978.4284857 |
| 7 | AUMCIFO | AUMCINF_obs | 1245.0984083 | 1245.0984080 |
| 8 | AUMCIFO | AUMCINF_obs | 1298.1157547 | 1298.1157550 |
| 9 | AUMCIFO | AUMCINF_obs | 1201.7715381 | 1201.7715380 |
| 10 | AUMCIFO | AUMCINF_obs | 2473.9934274 | 2473.9934270 |
| 11 | AUMCIFO | AUMCINF_obs | 928.5599714 | 928.5599714 |
| 12 | AUMCIFO | AUMCINF_obs | 1330.3840024 | 1330.3840020 |

Table 2: Longtable *(continued)*

| Subject | Parameters | | Values | |
| | PPTESTCD | WNL | NonCompart | WinNonlin |
| --- | --- | --- | --- | --- |
| 1 | AUMCPEO | AUMC__.Extrap__obs | 67.6160287 | 67.6160287 |
| 2 | AUMCPEO | AUMC__.Extrap__obs | 29.3252499 | 29.3252499 |
| 3 | AUMCPEO | AUMC__.Extrap__obs | 30.2162940 | 30.2162940 |
| 4 | AUMCPEO | AUMC__.Extrap__obs | 30.8588107 | 30.8588107 |
| 5 | AUMCPEO | AUMC__.Extrap__obs | 39.0117446 | 39.0117446 |
| 6 | AUMCPEO | AUMC__.Extrap__obs | 37.7417567 | 37.7417567 |
| 7 | AUMCPEO | AUMC__.Extrap__obs | 37.1599984 | 37.1599984 |
| 8 | AUMCPEO | AUMC__.Extrap__obs | 43.0301500 | 43.0301500 |
| 9 | AUMCPEO | AUMC__.Extrap__obs | 41.3174965 | 41.3174965 |
| 10 | AUMCPEO | AUMC__.Extrap__obs | 48.3353501 | 48.3353501 |
| 11 | AUMCPEO | AUMC__.Extrap__obs | 33.5269416 | 33.5269415 |
| 12 | AUMCPEO | AUMC__.Extrap__obs | 26.4963558 | 26.4963558 |
| 1 | AUMCIFP | AUMCINF__pred | 4505.6708646 | 4505.6708650 |
| 2 | AUMCIFP | AUMCINF__pred | 996.0715835 | 996.0715835 |
| 3 | AUMCIFP | AUMCINF__pred | 1152.6528903 | 1152.6528900 |
| 4 | AUMCIFP | AUMCINF__pred | 1305.4981092 | 1305.4981090 |
| 5 | AUMCIFP | AUMCINF__pred | 1661.7936744 | 1661.7936740 |
| 6 | AUMCIFP | AUMCINF__pred | 986.9664597 | 986.9664597 |
| 7 | AUMCIFP | AUMCINF__pred | 1249.4110601 | 1249.4110600 |
| 8 | AUMCIFP | AUMCINF__pred | 1288.5201162 | 1288.5201160 |
| 9 | AUMCIFP | AUMCINF__pred | 1200.2123597 | 1200.2123600 |
| 10 | AUMCIFP | AUMCINF__pred | 2470.8765418 | 2470.8765420 |
| 11 | AUMCIFP | AUMCINF__pred | 928.4899636 | 928.4899636 |
| 12 | AUMCIFP | AUMCINF__pred | 1332.0528341 | 1332.0528340 |
| 1 | AUMCPEP | AUMC__.Extrap__pred | 67.6170065 | 67.6170065 |
| 2 | AUMCPEP | AUMC__.Extrap__pred | 29.0626720 | 29.0626720 |
| 3 | AUMCPEP | AUMC__.Extrap__pred | 30.3184960 | 30.3184960 |
| 4 | AUMCPEP | AUMC__.Extrap__pred | 30.9777468 | 30.9777468 |
| 5 | AUMCPEP | AUMC__.Extrap__pred | 38.7941877 | 38.7941877 |
| 6 | AUMCPEP | AUMC__.Extrap__pred | 38.2803355 | 38.2803355 |
| 7 | AUMCPEP | AUMC__.Extrap__pred | 37.3769062 | 37.3769062 |
| 8 | AUMCPEP | AUMC__.Extrap__pred | 42.6058943 | 42.6058943 |
| 9 | AUMCPEP | AUMC__.Extrap__pred | 41.2412629 | 41.2412629 |
| 10 | AUMCPEP | AUMC__.Extrap__pred | 48.2701778 | 48.2701778 |
| 11 | AUMCPEP | AUMC__.Extrap__pred | 33.5219295 | 33.5219295 |
| 12 | AUMCPEP | AUMC__.Extrap__pred | 26.5884432 | 26.5884432 |
| 1 | MRTEVLST | MRTlast | 9.7974834 | 9.7974834 |
| 2 | MRTEVLST | MRTlast | 7.7199964 | 7.7199964 |
| 3 | MRTEVLST | MRTlast | 8.0895778 | 8.0895778 |
| 4 | MRTEVLST | MRTlast | 8.4374104 | 8.4374104 |
| 5 | MRTEVLST | MRTlast | 8.3855010 | 8.3855010 |
| 6 | MRTEVLST | MRTlast | 8.2568329 | 8.2568329 |
| 7 | MRTEVLST | MRTlast | 8.6213834 | 8.6213834 |
| 8 | MRTEVLST | MRTlast | 8.3506664 | 8.3506664 |
| 9 | MRTEVLST | MRTlast | 8.1693626 | 8.1693627 |

Table 2: Longtable *(continued)*

| Subject | Parameters | | Values | |
| | PPTESTCD | WNL | NonCompart | WinNonlin |
|---|---|---|---|---|
| 10 | MRTEVLST | MRTlast | 9.2375341 | 9.2375341 |
| 11 | MRTEVLST | MRTlast | 7.7065110 | 7.7065110 |
| 12 | MRTEVLST | MRTlast | 8.1505343 | 8.1505343 |
| 1 | MRTEVIFO | MRTINF_obs | 20.8000305 | 20.8000305 |
| 2 | MRTEVIFO | MRTINF_obs | 9.9804109 | 9.9804109 |
| 3 | MRTEVIFO | MRTINF_obs | 10.5076420 | 10.5076420 |
| 4 | MRTEVIFO | MRTINF_obs | 11.0091630 | 11.0091630 |
| 5 | MRTEVIFO | MRTINF_obs | 11.9618725 | 11.9618725 |
| 6 | MRTEVIFO | MRTINF_obs | 11.6127855 | 11.6127855 |
| 7 | MRTEVIFO | MRTINF_obs | 11.9984272 | 11.9984272 |
| 8 | MRTEVIFO | MRTINF_obs | 12.4930916 | 12.4930916 |
| 9 | MRTEVIFO | MRTINF_obs | 12.0286954 | 12.0286954 |
| 10 | MRTEVIFO | MRTINF_obs | 14.4972959 | 14.4972959 |
| 11 | MRTEVIFO | MRTINF_obs | 10.4212275 | 10.4212274 |
| 12 | MRTEVIFO | MRTINF_obs | 10.1875787 | 10.1875787 |
| 1 | MRTEVIFP | MRTINF_pred | 20.8003683 | 20.8003683 |
| 2 | MRTEVIFP | MRTINF_pred | 9.9543135 | 9.9543135 |
| 3 | MRTEVIFP | MRTINF_pred | 10.5182762 | 10.5182762 |
| 4 | MRTEVIFP | MRTINF_pred | 11.0221115 | 11.0221115 |
| 5 | MRTEVIFP | MRTINF_pred | 11.9334895 | 11.9334895 |
| 6 | MRTEVIFP | MRTINF_pred | 11.6805328 | 11.6805328 |
| 7 | MRTEVIFP | MRTINF_pred | 12.0259237 | 12.0259237 |
| 8 | MRTEVIFP | MRTINF_pred | 12.4322866 | 12.4322866 |
| 9 | MRTEVIFP | MRTINF_pred | 12.0182199 | 12.0182199 |
| 10 | MRTEVIFP | MRTINF_pred | 14.4861745 | 14.4861745 |
| 11 | MRTEVIFP | MRTINF_pred | 10.4206787 | 10.4206787 |
| 12 | MRTEVIFP | MRTINF_pred | 10.1964355 | 10.1964355 |

## A.2  Test 2: Theoph (n=12), Log, Extravascular

```
table_wres_rres(Wres2, Rres2)
```

Table 3: Longtable

| Subject | Parameters | | Values | |
| | PPTESTCD | WNL | NonCompart | WinNonlin |
|---|---|---|---|---|
| 1 | R2 | Rsq | 0.9999997 | 0.9999997 |
| 2 | R2 | Rsq | 0.9971954 | 0.9971954 |
| 3 | R2 | Rsq | 0.9993250 | 0.9993250 |
| 4 | R2 | Rsq | 0.9989241 | 0.9989241 |
| 5 | R2 | Rsq | 0.9986472 | 0.9986472 |
| 6 | R2 | Rsq | 0.9982413 | 0.9982413 |
| 7 | R2 | Rsq | 0.9986702 | 0.9986702 |

Table 3: Longtable *(continued)*

| Subject | Parameters | | Values | |
| | PPTESTCD | WNL | NonCompart | WinNonlin |
|---|---|---|---|---|
| 8 | R2 | Rsq | 0.9910124 | 0.9910124 |
| 9 | R2 | Rsq | 0.9994437 | 0.9994437 |
| 10 | R2 | Rsq | 0.9995087 | 0.9995087 |
| 11 | R2 | Rsq | 0.9999983 | 0.9999983 |
| 12 | R2 | Rsq | 0.9993968 | 0.9993968 |
| 1 | R2ADJ | Rsq_adjusted | 0.9999995 | 0.9999995 |
| 2 | R2ADJ | Rsq_adjusted | 0.9957931 | 0.9957931 |
| 3 | R2ADJ | Rsq_adjusted | 0.9986499 | 0.9986499 |
| 4 | R2ADJ | Rsq_adjusted | 0.9978483 | 0.9978483 |
| 5 | R2ADJ | Rsq_adjusted | 0.9979708 | 0.9979708 |
| 6 | R2ADJ | Rsq_adjusted | 0.9978896 | 0.9978896 |
| 7 | R2ADJ | Rsq_adjusted | 0.9980053 | 0.9980053 |
| 8 | R2ADJ | Rsq_adjusted | 0.9887655 | 0.9887655 |
| 9 | R2ADJ | Rsq_adjusted | 0.9988873 | 0.9988873 |
| 10 | R2ADJ | Rsq_adjusted | 0.9990174 | 0.9990174 |
| 11 | R2ADJ | Rsq_adjusted | 0.9999965 | 0.9999965 |
| 12 | R2ADJ | Rsq_adjusted | 0.9987936 | 0.9987936 |
| 1 | CORRXY | Corr_XY | -0.9999999 | -0.9999999 |
| 2 | CORRXY | Corr_XY | -0.9985967 | -0.9985967 |
| 3 | CORRXY | Corr_XY | -0.9996624 | -0.9996624 |
| 4 | CORRXY | Corr_XY | -0.9994619 | -0.9994619 |
| 5 | CORRXY | Corr_XY | -0.9993234 | -0.9993234 |
| 6 | CORRXY | Corr_XY | -0.9991203 | -0.9991203 |
| 7 | CORRXY | Corr_XY | -0.9993349 | -0.9993349 |
| 8 | CORRXY | Corr_XY | -0.9954961 | -0.9954961 |
| 9 | CORRXY | Corr_XY | -0.9997218 | -0.9997218 |
| 10 | CORRXY | Corr_XY | -0.9997543 | -0.9997543 |
| 11 | CORRXY | Corr_XY | -0.9999991 | -0.9999991 |
| 12 | CORRXY | Corr_XY | -0.9996984 | -0.9996984 |
| 1 | LAMZNPT | No_points_lambda_z | 3.0000000 | 3.0000000 |
| 2 | LAMZNPT | No_points_lambda_z | 4.0000000 | 4.0000000 |
| 3 | LAMZNPT | No_points_lambda_z | 3.0000000 | 3.0000000 |
| 4 | LAMZNPT | No_points_lambda_z | 3.0000000 | 3.0000000 |
| 5 | LAMZNPT | No_points_lambda_z | 4.0000000 | 4.0000000 |
| 6 | LAMZNPT | No_points_lambda_z | 7.0000000 | 7.0000000 |
| 7 | LAMZNPT | No_points_lambda_z | 4.0000000 | 4.0000000 |
| 8 | LAMZNPT | No_points_lambda_z | 6.0000000 | 6.0000000 |
| 9 | LAMZNPT | No_points_lambda_z | 3.0000000 | 3.0000000 |
| 10 | LAMZNPT | No_points_lambda_z | 3.0000000 | 3.0000000 |
| 11 | LAMZNPT | No_points_lambda_z | 3.0000000 | 3.0000000 |
| 12 | LAMZNPT | No_points_lambda_z | 3.0000000 | 3.0000000 |
| 1 | LAMZ | Lambda_z | 0.0484570 | 0.0484570 |
| 2 | LAMZ | Lambda_z | 0.1040864 | 0.1040864 |
| 3 | LAMZ | Lambda_z | 0.1024443 | 0.1024443 |
| 4 | LAMZ | Lambda_z | 0.0992870 | 0.0992870 |

| Subject | Parameters | | Values | |
| --- | --- | --- | --- | --- |
| | PPTESTCD | WNL | NonCompart | WinNonlin |
| 5 | LAMZ | Lambda_z | 0.0866189 | 0.0866189 |
| 6 | LAMZ | Lambda_z | 0.0877957 | 0.0877957 |
| 7 | LAMZ | Lambda_z | 0.0883365 | 0.0883365 |
| 8 | LAMZ | Lambda_z | 0.0814505 | 0.0814505 |
| 9 | LAMZ | Lambda_z | 0.0824586 | 0.0824586 |
| 10 | LAMZ | Lambda_z | 0.0749598 | 0.0749598 |
| 11 | LAMZ | Lambda_z | 0.0954586 | 0.0954586 |
| 12 | LAMZ | Lambda_z | 0.1102595 | 0.1102595 |
| 1 | LAMZLL | Lambda_z_lower | 9.0500000 | 9.0500000 |
| 2 | LAMZLL | Lambda_z_lower | 7.0300000 | 7.0300000 |
| 3 | LAMZLL | Lambda_z_lower | 9.0000000 | 9.0000000 |
| 4 | LAMZLL | Lambda_z_lower | 9.0200000 | 9.0200000 |
| 5 | LAMZLL | Lambda_z_lower | 7.0200000 | 7.0200000 |
| 6 | LAMZLL | Lambda_z_lower | 2.0300000 | 2.0300000 |
| 7 | LAMZLL | Lambda_z_lower | 6.9800000 | 6.9800000 |
| 8 | LAMZLL | Lambda_z_lower | 3.5300000 | 3.5300000 |
| 9 | LAMZLL | Lambda_z_lower | 8.8000000 | 8.8000000 |
| 10 | LAMZLL | Lambda_z_lower | 9.3800000 | 9.3800000 |
| 11 | LAMZLL | Lambda_z_lower | 9.0300000 | 9.0300000 |
| 12 | LAMZLL | Lambda_z_lower | 9.0300000 | 9.0300000 |
| 1 | LAMZUL | Lambda_z_upper | 24.3700000 | 24.3700000 |
| 2 | LAMZUL | Lambda_z_upper | 24.3000000 | 24.3000000 |
| 3 | LAMZUL | Lambda_z_upper | 24.1700000 | 24.1700000 |
| 4 | LAMZUL | Lambda_z_upper | 24.6500000 | 24.6500000 |
| 5 | LAMZUL | Lambda_z_upper | 24.3500000 | 24.3500000 |
| 6 | LAMZUL | Lambda_z_upper | 23.8500000 | 23.8500000 |
| 7 | LAMZUL | Lambda_z_upper | 24.2200000 | 24.2200000 |
| 8 | LAMZUL | Lambda_z_upper | 24.1200000 | 24.1200000 |
| 9 | LAMZUL | Lambda_z_upper | 24.4300000 | 24.4300000 |
| 10 | LAMZUL | Lambda_z_upper | 23.7000000 | 23.7000000 |
| 11 | LAMZUL | Lambda_z_upper | 24.0800000 | 24.0800000 |
| 12 | LAMZUL | Lambda_z_upper | 24.1500000 | 24.1500000 |
| 1 | LAMZHL | HL_Lambda_z | 14.3043776 | 14.3043776 |
| 2 | LAMZHL | HL_Lambda_z | 6.6593416 | 6.6593416 |
| 3 | LAMZHL | HL_Lambda_z | 6.7660874 | 6.7660874 |
| 4 | LAMZHL | HL_Lambda_z | 6.9812467 | 6.9812467 |
| 5 | LAMZHL | HL_Lambda_z | 8.0022640 | 8.0022640 |
| 6 | LAMZHL | HL_Lambda_z | 7.8949979 | 7.8949979 |
| 7 | LAMZHL | HL_Lambda_z | 7.8466683 | 7.8466683 |
| 8 | LAMZHL | HL_Lambda_z | 8.5100379 | 8.5100379 |
| 9 | LAMZHL | HL_Lambda_z | 8.4059988 | 8.4059988 |
| 10 | LAMZHL | HL_Lambda_z | 9.2469158 | 9.2469158 |
| 11 | LAMZHL | HL_Lambda_z | 7.2612365 | 7.2612365 |
| 12 | LAMZHL | HL_Lambda_z | 6.2865082 | 6.2865082 |
| 1 | TLAG | Tlag | 0.0000000 | 0.0000000 |

Table 3: Longtable *(continued)*

| Subject | Parameters | | Values | |
| | PPTESTCD | WNL | NonCompart | WinNonlin |
|---|---|---|---|---|
| 2 | TLAG | Tlag | 0.0000000 | 0.0000000 |
| 3 | TLAG | Tlag | 0.0000000 | 0.0000000 |
| 4 | TLAG | Tlag | 0.0000000 | 0.0000000 |
| 5 | TLAG | Tlag | 0.0000000 | 0.0000000 |
| 6 | TLAG | Tlag | 0.0000000 | 0.0000000 |
| 7 | TLAG | Tlag | 0.0000000 | 0.0000000 |
| 8 | TLAG | Tlag | 0.0000000 | 0.0000000 |
| 9 | TLAG | Tlag | 0.0000000 | 0.0000000 |
| 10 | TLAG | Tlag | 0.0000000 | 0.0000000 |
| 11 | TLAG | Tlag | 0.0000000 | 0.0000000 |
| 12 | TLAG | Tlag | 0.0000000 | 0.0000000 |
| 1 | TMAX | Tmax | 1.1200000 | 1.1200000 |
| 2 | TMAX | Tmax | 1.9200000 | 1.9200000 |
| 3 | TMAX | Tmax | 1.0200000 | 1.0200000 |
| 4 | TMAX | Tmax | 1.0700000 | 1.0700000 |
| 5 | TMAX | Tmax | 1.0000000 | 1.0000000 |
| 6 | TMAX | Tmax | 1.1500000 | 1.1500000 |
| 7 | TMAX | Tmax | 3.4800000 | 3.4800000 |
| 8 | TMAX | Tmax | 2.0200000 | 2.0200000 |
| 9 | TMAX | Tmax | 0.6300000 | 0.6300000 |
| 10 | TMAX | Tmax | 3.5500000 | 3.5500000 |
| 11 | TMAX | Tmax | 0.9800000 | 0.9800000 |
| 12 | TMAX | Tmax | 3.5200000 | 3.5200000 |
| 1 | CMAX | Cmax | 10.5000000 | 10.5000000 |
| 2 | CMAX | Cmax | 8.3300000 | 8.3300000 |
| 3 | CMAX | Cmax | 8.2000000 | 8.2000000 |
| 4 | CMAX | Cmax | 8.6000000 | 8.6000000 |
| 5 | CMAX | Cmax | 11.4000000 | 11.4000000 |
| 6 | CMAX | Cmax | 6.4400000 | 6.4400000 |
| 7 | CMAX | Cmax | 7.0900000 | 7.0900000 |
| 8 | CMAX | Cmax | 7.5600000 | 7.5600000 |
| 9 | CMAX | Cmax | 9.0300000 | 9.0300000 |
| 10 | CMAX | Cmax | 10.2100000 | 10.2100000 |
| 11 | CMAX | Cmax | 8.0000000 | 8.0000000 |
| 12 | CMAX | Cmax | 9.7500000 | 9.7500000 |
| 1 | CMAXD | Cmax_D | 0.0328125 | 0.0328125 |
| 2 | CMAXD | Cmax_D | 0.0260312 | 0.0260312 |
| 3 | CMAXD | Cmax_D | 0.0256250 | 0.0256250 |
| 4 | CMAXD | Cmax_D | 0.0268750 | 0.0268750 |
| 5 | CMAXD | Cmax_D | 0.0356250 | 0.0356250 |
| 6 | CMAXD | Cmax_D | 0.0201250 | 0.0201250 |
| 7 | CMAXD | Cmax_D | 0.0221562 | 0.0221562 |
| 8 | CMAXD | Cmax_D | 0.0236250 | 0.0236250 |
| 9 | CMAXD | Cmax_D | 0.0282188 | 0.0282188 |
| 10 | CMAXD | Cmax_D | 0.0319063 | 0.0319062 |

Table 3: Longtable *(continued)*

| Subject | Parameters | | Values | |
| | PPTESTCD | WNL | NonCompart | WinNonlin |
| --- | --- | --- | --- | --- |
| 11 | CMAXD | Cmax_D | 0.0250000 | 0.0250000 |
| 12 | CMAXD | Cmax_D | 0.0304688 | 0.0304688 |
| 1 | TLST | Tlast | 24.3700000 | 24.3700000 |
| 2 | TLST | Tlast | 24.3000000 | 24.3000000 |
| 3 | TLST | Tlast | 24.1700000 | 24.1700000 |
| 4 | TLST | Tlast | 24.6500000 | 24.6500000 |
| 5 | TLST | Tlast | 24.3500000 | 24.3500000 |
| 6 | TLST | Tlast | 23.8500000 | 23.8500000 |
| 7 | TLST | Tlast | 24.2200000 | 24.2200000 |
| 8 | TLST | Tlast | 24.1200000 | 24.1200000 |
| 9 | TLST | Tlast | 24.4300000 | 24.4300000 |
| 10 | TLST | Tlast | 23.7000000 | 23.7000000 |
| 11 | TLST | Tlast | 24.0800000 | 24.0800000 |
| 12 | TLST | Tlast | 24.1500000 | 24.1500000 |
| 1 | CLST | Clast | 3.2800000 | 3.2800000 |
| 2 | CLST | Clast | 0.9000000 | 0.9000000 |
| 3 | CLST | Clast | 1.0500000 | 1.0500000 |
| 4 | CLST | Clast | 1.1500000 | 1.1500000 |
| 5 | CLST | Clast | 1.5700000 | 1.5700000 |
| 6 | CLST | Clast | 0.9200000 | 0.9200000 |
| 7 | CLST | Clast | 1.1500000 | 1.1500000 |
| 8 | CLST | Clast | 1.2500000 | 1.2500000 |
| 9 | CLST | Clast | 1.1200000 | 1.1200000 |
| 10 | CLST | Clast | 2.4200000 | 2.4200000 |
| 11 | CLST | Clast | 0.8600000 | 0.8600000 |
| 12 | CLST | Clast | 1.1700000 | 1.1700000 |
| 1 | AUCLST | AUClast | 147.2347485 | 147.2347485 |
| 2 | AUCLST | AUClast | 88.7312755 | 88.7312755 |
| 3 | AUCLST | AUClast | 95.8781978 | 95.8781978 |
| 4 | AUCLST | AUClast | 102.6336232 | 102.6336232 |
| 5 | AUCLST | AUClast | 118.1793538 | 118.1793538 |
| 6 | AUCLST | AUClast | 71.6970150 | 71.6970150 |
| 7 | AUCLST | AUClast | 87.9692274 | 87.9692274 |
| 8 | AUCLST | AUClast | 86.8065635 | 86.8065635 |
| 9 | AUCLST | AUClast | 83.9374360 | 83.9374360 |
| 10 | AUCLST | AUClast | 135.5760701 | 135.5760701 |
| 11 | AUCLST | AUClast | 77.8934723 | 77.8934723 |
| 12 | AUCLST | AUClast | 115.2202082 | 115.2202082 |
| 1 | AUCALL | AUCall | 147.2347485 | 147.2347485 |
| 2 | AUCALL | AUCall | 88.7312755 | 88.7312755 |
| 3 | AUCALL | AUCall | 95.8781978 | 95.8781978 |
| 4 | AUCALL | AUCall | 102.6336232 | 102.6336232 |
| 5 | AUCALL | AUCall | 118.1793538 | 118.1793538 |
| 6 | AUCALL | AUCall | 71.6970150 | 71.6970150 |
| 7 | AUCALL | AUCall | 87.9692274 | 87.9692274 |

Table 3: Longtable *(continued)*

| Subject | PPTESTCD | WNL | NonCompart | WinNonlin |
|---------|----------|-----|------------|-----------|
| | | Parameters | Values | |
| 8 | AUCALL | AUCall | 86.8065635 | 86.8065635 |
| 9 | AUCALL | AUCall | 83.9374360 | 83.9374360 |
| 10 | AUCALL | AUCall | 135.5760701 | 135.5760701 |
| 11 | AUCALL | AUCall | 77.8934723 | 77.8934723 |
| 12 | AUCALL | AUCall | 115.2202082 | 115.2202082 |
| 1 | AUCIFO | AUCINF_obs | 214.9236316 | 214.9236316 |
| 2 | AUCIFO | AUCINF_obs | 97.3779346 | 97.3779346 |
| 3 | AUCIFO | AUCINF_obs | 106.1276685 | 106.1276685 |
| 4 | AUCIFO | AUCINF_obs | 114.2162046 | 114.2162046 |
| 5 | AUCIFO | AUCINF_obs | 136.3047316 | 136.3047316 |
| 6 | AUCIFO | AUCINF_obs | 82.1758833 | 82.1758833 |
| 7 | AUCIFO | AUCINF_obs | 100.9876292 | 100.9876292 |
| 8 | AUCIFO | AUCINF_obs | 102.1533003 | 102.1533003 |
| 9 | AUCIFO | AUCINF_obs | 97.5200039 | 97.5200039 |
| 10 | AUCIFO | AUCINF_obs | 167.8600307 | 167.8600307 |
| 11 | AUCIFO | AUCINF_obs | 86.9026173 | 86.9026173 |
| 12 | AUCIFO | AUCINF_obs | 125.8315397 | 125.8315397 |
| 1 | AUCIFOD | AUCINF_D_obs | 0.6716363 | 0.6716363 |
| 2 | AUCIFOD | AUCINF_D_obs | 0.3043060 | 0.3043060 |
| 3 | AUCIFOD | AUCINF_D_obs | 0.3316490 | 0.3316490 |
| 4 | AUCIFOD | AUCINF_D_obs | 0.3569256 | 0.3569256 |
| 5 | AUCIFOD | AUCINF_D_obs | 0.4259523 | 0.4259523 |
| 6 | AUCIFOD | AUCINF_D_obs | 0.2567996 | 0.2567996 |
| 7 | AUCIFOD | AUCINF_D_obs | 0.3155863 | 0.3155863 |
| 8 | AUCIFOD | AUCINF_D_obs | 0.3192291 | 0.3192291 |
| 9 | AUCIFOD | AUCINF_D_obs | 0.3047500 | 0.3047500 |
| 10 | AUCIFOD | AUCINF_D_obs | 0.5245626 | 0.5245626 |
| 11 | AUCIFOD | AUCINF_D_obs | 0.2715707 | 0.2715707 |
| 12 | AUCIFOD | AUCINF_D_obs | 0.3932236 | 0.3932236 |
| 1 | AUCPEO | AUC_.Extrap_obs | 31.4943883 | 31.4943883 |
| 2 | AUCPEO | AUC_.Extrap_obs | 8.8794850 | 8.8794850 |
| 3 | AUCPEO | AUC_.Extrap_obs | 9.6576801 | 9.6576801 |
| 4 | AUCPEO | AUC_.Extrap_obs | 10.1409266 | 10.1409266 |
| 5 | AUCPEO | AUC_.Extrap_obs | 13.2976879 | 13.2976879 |
| 6 | AUCPEO | AUC_.Extrap_obs | 12.7517562 | 12.7517562 |
| 7 | AUCPEO | AUC_.Extrap_obs | 12.8910857 | 12.8910857 |
| 8 | AUCPEO | AUC_.Extrap_obs | 15.0232413 | 15.0232413 |
| 9 | AUCPEO | AUC_.Extrap_obs | 13.9279813 | 13.9279813 |
| 10 | AUCPEO | AUC_.Extrap_obs | 19.2326669 | 19.2326669 |
| 11 | AUCPEO | AUC_.Extrap_obs | 10.3669431 | 10.3669432 |
| 12 | AUCPEO | AUC_.Extrap_obs | 8.4329665 | 8.4329665 |
| 1 | VZFO | Vz_F_obs | 30.7262325 | 30.7262325 |
| 2 | VZFO | Vz_F_obs | 31.5715024 | 31.5715024 |
| 3 | VZFO | Vz_F_obs | 29.4329299 | 29.4329299 |
| 4 | VZFO | Vz_F_obs | 28.2182304 | 28.2182304 |

Table 3: Longtable *(continued)*

| Subject | Parameters | | Values | |
| | PPTESTCD | WNL | NonCompart | WinNonlin |
|---|---|---|---|---|
| 5 | VZFO | Vz__F__obs | 27.1035678 | 27.1035677 |
| 6 | VZFO | Vz__F__obs | 44.3539348 | 44.3539348 |
| 7 | VZFO | Vz__F__obs | 35.8708471 | 35.8708471 |
| 8 | VZFO | Vz__F__obs | 38.4594978 | 38.4594978 |
| 9 | VZFO | Vz__F__obs | 39.7942323 | 39.7942323 |
| 10 | VZFO | Vz__F__obs | 25.4316257 | 25.4316257 |
| 11 | VZFO | Vz__F__obs | 38.5746722 | 38.5746722 |
| 12 | VZFO | Vz__F__obs | 23.0645237 | 23.0645237 |
| 1 | CLFO | Cl__F__obs | 1.4889010 | 1.4889010 |
| 2 | CLFO | Cl__F__obs | 3.2861654 | 3.2861654 |
| 3 | CLFO | Cl__F__obs | 3.0152363 | 3.0152363 |
| 4 | CLFO | Cl__F__obs | 2.8017040 | 2.8017040 |
| 5 | CLFO | Cl__F__obs | 2.3476808 | 2.3476808 |
| 6 | CLFO | Cl__F__obs | 3.8940865 | 3.8940865 |
| 7 | CLFO | Cl__F__obs | 3.1687049 | 3.1687049 |
| 8 | CLFO | Cl__F__obs | 3.1325469 | 3.1325469 |
| 9 | CLFO | Cl__F__obs | 3.2813780 | 3.2813780 |
| 10 | CLFO | Cl__F__obs | 1.9063502 | 1.9063502 |
| 11 | CLFO | Cl__F__obs | 3.6822827 | 3.6822827 |
| 12 | CLFO | Cl__F__obs | 2.5430826 | 2.5430826 |
| 1 | AUCIFP | AUCINF__pred | 214.9266543 | 214.9266543 |
| 2 | AUCIFP | AUCINF__pred | 97.2687931 | 97.2687931 |
| 3 | AUCIFP | AUCINF__pred | 106.1774195 | 106.1774195 |
| 4 | AUCIFP | AUCINF__pred | 114.2808818 | 114.2808818 |
| 5 | AUCIFP | AUCINF__pred | 136.1395842 | 136.1395842 |
| 6 | AUCIFP | AUCINF__pred | 82.4181636 | 82.4181636 |
| 7 | AUCIFP | AUCINF__pred | 101.1089745 | 101.1089745 |
| 8 | AUCIFP | AUCINF__pred | 101.8896649 | 101.8896649 |
| 9 | AUCIFP | AUCINF__pred | 97.4773537 | 97.4773537 |
| 10 | AUCIFP | AUCINF__pred | 167.7758826 | 167.7758826 |
| 11 | AUCIFP | AUCINF__pred | 86.9005913 | 86.9005913 |
| 12 | AUCIFP | AUCINF__pred | 125.8817762 | 125.8817762 |
| 1 | AUCIFPD | AUCINF__D__pred | 0.6716458 | 0.6716458 |
| 2 | AUCIFPD | AUCINF__D__pred | 0.3039650 | 0.3039650 |
| 3 | AUCIFPD | AUCINF__D__pred | 0.3318044 | 0.3318044 |
| 4 | AUCIFPD | AUCINF__D__pred | 0.3571278 | 0.3571278 |
| 5 | AUCIFPD | AUCINF__D__pred | 0.4254362 | 0.4254362 |
| 6 | AUCIFPD | AUCINF__D__pred | 0.2575568 | 0.2575568 |
| 7 | AUCIFPD | AUCINF__D__pred | 0.3159655 | 0.3159655 |
| 8 | AUCIFPD | AUCINF__D__pred | 0.3184052 | 0.3184052 |
| 9 | AUCIFPD | AUCINF__D__pred | 0.3046167 | 0.3046167 |
| 10 | AUCIFPD | AUCINF__D__pred | 0.5242996 | 0.5242996 |
| 11 | AUCIFPD | AUCINF__D__pred | 0.2715643 | 0.2715643 |
| 12 | AUCIFPD | AUCINF__D__pred | 0.3933806 | 0.3933806 |
| 1 | AUCPEP | AUC__.Extrap__pred | 31.4953518 | 31.4953518 |

Table 3: Longtable *(continued)*

| Subject | Parameters | | Values | |
| | PPTESTCD | WNL | NonCompart | WinNonlin |
| --- | --- | --- | --- | --- |
| 2 | AUCPEP | AUC__.Extrap__pred | 8.7772423 | 8.7772423 |
| 3 | AUCPEP | AUC__.Extrap__pred | 9.7000114 | 9.7000114 |
| 4 | AUCPEP | AUC__.Extrap__pred | 10.1917822 | 10.1917822 |
| 5 | AUCPEP | AUC__.Extrap__pred | 13.1925116 | 13.1925116 |
| 6 | AUCPEP | AUC__.Extrap__pred | 13.0082352 | 13.0082352 |
| 7 | AUCPEP | AUC__.Extrap__pred | 12.9956288 | 12.9956288 |
| 8 | AUCPEP | AUC__.Extrap__pred | 14.8033674 | 14.8033674 |
| 9 | AUCPEP | AUC__.Extrap__pred | 13.8903213 | 13.8903213 |
| 10 | AUCPEP | AUC__.Extrap__pred | 19.1921580 | 19.1921580 |
| 11 | AUCPEP | AUC__.Extrap__pred | 10.3648535 | 10.3648535 |
| 12 | AUCPEP | AUC__.Extrap__pred | 8.4695087 | 8.4695087 |
| 1 | VZFP | Vz__F__pred | 30.7258003 | 30.7258003 |
| 2 | VZFP | Vz__F__pred | 31.6069275 | 31.6069275 |
| 3 | VZFP | Vz__F__pred | 29.4191386 | 29.4191386 |
| 4 | VZFP | Vz__F__pred | 28.2022603 | 28.2022603 |
| 5 | VZFP | Vz__F__pred | 27.1364464 | 27.1364464 |
| 6 | VZFP | Vz__F__pred | 44.2235499 | 44.2235499 |
| 7 | VZFP | Vz__F__pred | 35.8277969 | 35.8277969 |
| 8 | VZFP | Vz__F__pred | 38.5590101 | 38.5590101 |
| 9 | VZFP | Vz__F__pred | 39.8116439 | 39.8116439 |
| 10 | VZFP | Vz__F__pred | 25.4443810 | 25.4443809 |
| 11 | VZFP | Vz__F__pred | 38.5755715 | 38.5755715 |
| 12 | VZFP | Vz__F__pred | 23.0553192 | 23.0553192 |
| 1 | CLFP | Cl_F__pred | 1.4888800 | 1.4888800 |
| 2 | CLFP | Cl_F__pred | 3.2898527 | 3.2898527 |
| 3 | CLFP | Cl_F__pred | 3.0138235 | 3.0138235 |
| 4 | CLFP | Cl_F__pred | 2.8001184 | 2.8001184 |
| 5 | CLFP | Cl_F__pred | 2.3505287 | 2.3505287 |
| 6 | CLFP | Cl_F__pred | 3.8826393 | 3.8826393 |
| 7 | CLFP | Cl_F__pred | 3.1649020 | 3.1649020 |
| 8 | CLFP | Cl_F__pred | 3.1406522 | 3.1406522 |
| 9 | CLFP | Cl_F__pred | 3.2828138 | 3.2828138 |
| 10 | CLFP | Cl_F__pred | 1.9073063 | 1.9073063 |
| 11 | CLFP | Cl_F__pred | 3.6823685 | 3.6823685 |
| 12 | CLFP | Cl_F__pred | 2.5420677 | 2.5420677 |
| 1 | AUMCLST | AUMClast | 1499.1290852 | 1499.1290850 |
| 2 | AUMCLST | AUMClast | 716.2787279 | 716.2787279 |
| 3 | AUMCLST | AUMClast | 810.8726830 | 810.8726830 |
| 4 | AUMCLST | AUMClast | 911.7828093 | 911.7828093 |
| 5 | AUMCLST | AUMClast | 1038.8799844 | 1038.8799840 |
| 6 | AUMCLST | AUMClast | 618.6659191 | 618.6659191 |
| 7 | AUMCLST | AUMClast | 795.6267785 | 795.6267785 |
| 8 | AUMCLST | AUMClast | 756.3619816 | 756.3619816 |
| 9 | AUMCLST | AUMClast | 723.3794155 | 723.3794155 |
| 10 | AUMCLST | AUMClast | 1306.7406149 | 1306.7406150 |

Table 3: Longtable *(continued)*

| Subject | Parameters | | Values | |
| | PPTESTCD | WNL | NonCompart | WinNonlin |
| --- | --- | --- | --- | --- |
| 11 | AUMCLST | AUMClast | 626.6357849 | 626.6357849 |
| 12 | AUMCLST | AUMClast | 982.6343023 | 982.6343023 |
| 1 | AUMCIFO | AUMCINF__obs | 4545.5928011 | 4545.5928010 |
| 2 | AUMCIFO | AUMCINF__obs | 1009.4644499 | 1009.4644500 |
| 3 | AUMCIFO | AUMCINF__obs | 1158.6515817 | 1158.6515820 |
| 4 | AUMCIFO | AUMCINF__obs | 1313.9510002 | 1313.9510000 |
| 5 | AUMCIFO | AUMCINF__obs | 1689.4872798 | 1689.4872800 |
| 6 | AUMCIFO | AUMCINF__obs | 987.9420173 | 987.9420173 |
| 7 | AUMCIFO | AUMCINF__obs | 1258.3053268 | 1258.3053270 |
| 8 | AUMCIFO | AUMCINF__obs | 1314.9431383 | 1314.9431380 |
| 9 | AUMCIFO | AUMCINF__obs | 1219.9213281 | 1219.9213280 |
| 10 | AUMCIFO | AUMCINF__obs | 2502.5540002 | 2502.5540000 |
| 11 | AUMCIFO | AUMCINF__obs | 937.9535438 | 937.9535438 |
| 12 | AUMCIFO | AUMCINF__obs | 1335.1375811 | 1335.1375810 |
| 1 | AUMCPEO | AUMC__.Extrap__obs | 67.0201632 | 67.0201632 |
| 2 | AUMCPEO | AUMC__.Extrap__obs | 29.0436897 | 29.0436897 |
| 3 | AUMCPEO | AUMC__.Extrap__obs | 30.0158308 | 30.0158308 |
| 4 | AUMCPEO | AUMC__.Extrap__obs | 30.6075486 | 30.6075486 |
| 5 | AUMCPEO | AUMC__.Extrap__obs | 38.5091562 | 38.5091562 |
| 6 | AUMCPEO | AUMC__.Extrap__obs | 37.3783169 | 37.3783169 |
| 7 | AUMCPEO | AUMC__.Extrap__obs | 36.7699745 | 36.7699745 |
| 8 | AUMCPEO | AUMC__.Extrap__obs | 42.4794913 | 42.4794914 |
| 9 | AUMCPEO | AUMC__.Extrap__obs | 40.7027815 | 40.7027815 |
| 10 | AUMCPEO | AUMC__.Extrap__obs | 47.7837196 | 47.7837196 |
| 11 | AUMCPEO | AUMC__.Extrap__obs | 33.1911704 | 33.1911704 |
| 12 | AUMCPEO | AUMC__.Extrap__obs | 26.4020191 | 26.4020191 |
| 1 | AUMCIFP | AUMCINF__pred | 4545.7288462 | 4545.7288460 |
| 2 | AUMCIFP | AUMCINF__pred | 1005.7637454 | 1005.7637450 |
| 3 | AUMCIFP | AUMCINF__pred | 1160.3397033 | 1160.3397030 |
| 4 | AUMCIFP | AUMCINF__pred | 1316.1967080 | 1316.1967080 |
| 5 | AUMCIFP | AUMCINF__pred | 1683.5593423 | 1683.5593420 |
| 6 | AUMCIFP | AUMCINF__pred | 996.4799913 | 996.4799913 |
| 7 | AUMCIFP | AUMCINF__pred | 1262.6179786 | 1262.6179790 |
| 8 | AUMCIFP | AUMCINF__pred | 1305.3474998 | 1305.3475000 |
| 9 | AUMCIFP | AUMCINF__pred | 1218.3621498 | 1218.3621500 |
| 10 | AUMCIFP | AUMCINF__pred | 2499.4371146 | 2499.4371150 |
| 11 | AUMCIFP | AUMCINF__pred | 937.8835360 | 937.8835360 |
| 12 | AUMCIFP | AUMCINF__pred | 1336.8064129 | 1336.8064130 |
| 1 | AUMCPEP | AUMC__.Extrap__pred | 67.0211503 | 67.0211503 |
| 2 | AUMCPEP | AUMC__.Extrap__pred | 28.7826061 | 28.7826061 |
| 3 | AUMCPEP | AUMC__.Extrap__pred | 30.1176474 | 30.1176474 |
| 4 | AUMCPEP | AUMC__.Extrap__pred | 30.7259467 | 30.7259467 |
| 5 | AUMCPEP | AUMC__.Extrap__pred | 38.2926424 | 38.2926424 |
| 6 | AUMCPEP | AUMC__.Extrap__pred | 37.9148679 | 37.9148679 |
| 7 | AUMCPEP | AUMC__.Extrap__pred | 36.9859457 | 36.9859457 |

| Subject | Parameters | | Values | |
| | PPTESTCD | WNL | NonCompart | WinNonlin |
|---|---|---|---|---|
| 8 | AUMCPEP | AUMC_.Extrap_pred | 42.0566568 | 42.0566568 |
| 9 | AUMCPEP | AUMC_.Extrap_pred | 40.6268969 | 40.6268969 |
| 10 | AUMCPEP | AUMC_.Extrap_pred | 47.7186040 | 47.7186040 |
| 11 | AUMCPEP | AUMC_.Extrap_pred | 33.1861835 | 33.1861835 |
| 12 | AUMCPEP | AUMC_.Extrap_pred | 26.4938967 | 26.4938967 |
| 1 | MRTEVLST | MRTlast | 10.1818973 | 10.1818973 |
| 2 | MRTEVLST | MRTlast | 8.0724494 | 8.0724494 |
| 3 | MRTEVLST | MRTlast | 8.4573209 | 8.4573209 |
| 4 | MRTEVLST | MRTlast | 8.8838607 | 8.8838607 |
| 5 | MRTEVLST | MRTlast | 8.7907063 | 8.7907063 |
| 6 | MRTEVLST | MRTlast | 8.6288937 | 8.6288937 |
| 7 | MRTEVLST | MRTlast | 9.0443761 | 9.0443761 |
| 8 | MRTEVLST | MRTlast | 8.7131889 | 8.7131889 |
| 9 | MRTEVLST | MRTlast | 8.6180785 | 8.6180785 |
| 10 | MRTEVLST | MRTlast | 9.6384311 | 9.6384311 |
| 11 | MRTEVLST | MRTlast | 8.0447792 | 8.0447792 |
| 12 | MRTEVLST | MRTlast | 8.5283156 | 8.5283156 |
| 1 | MRTEVIFO | MRTINF_obs | 21.1498046 | 21.1498045 |
| 2 | MRTEVIFO | MRTINF_obs | 10.3664599 | 10.3664599 |
| 3 | MRTEVIFO | MRTINF_obs | 10.9175260 | 10.9175260 |
| 4 | MRTEVIFO | MRTINF_obs | 11.5040681 | 11.5040681 |
| 5 | MRTEVIFO | MRTINF_obs | 12.3949276 | 12.3949276 |
| 6 | MRTEVIFO | MRTINF_obs | 12.0222866 | 12.0222866 |
| 7 | MRTEVIFO | MRTINF_obs | 12.4599947 | 12.4599947 |
| 8 | MRTEVIFO | MRTINF_obs | 12.8722531 | 12.8722531 |
| 9 | MRTEVIFO | MRTINF_obs | 12.5094471 | 12.5094471 |
| 10 | MRTEVIFO | MRTINF_obs | 14.9085758 | 14.9085758 |
| 11 | MRTEVIFO | MRTINF_obs | 10.7931564 | 10.7931564 |
| 12 | MRTEVIFO | MRTINF_obs | 10.6105161 | 10.6105161 |
| 1 | MRTEVIFP | MRTINF_pred | 21.1501401 | 21.1501401 |
| 2 | MRTEVIFP | MRTINF_pred | 10.3400455 | 10.3400455 |
| 3 | MRTEVIFP | MRTINF_pred | 10.9283095 | 10.9283095 |
| 4 | MRTEVIFP | MRTINF_pred | 11.5172082 | 11.5172082 |
| 5 | MRTEVIFP | MRTINF_pred | 12.3664205 | 12.3664205 |
| 6 | MRTEVIFP | MRTINF_pred | 12.0905386 | 12.0905386 |
| 7 | MRTEVIFP | MRTINF_pred | 12.4876944 | 12.4876944 |
| 8 | MRTEVIFP | MRTINF_pred | 12.8113828 | 12.8113828 |
| 9 | MRTEVIFP | MRTINF_pred | 12.4989252 | 12.4989252 |
| 10 | MRTEVIFP | MRTINF_pred | 14.8974756 | 14.8974756 |
| 11 | MRTEVIFP | MRTINF_pred | 10.7926025 | 10.7926025 |
| 12 | MRTEVIFP | MRTINF_pred | 10.6195388 | 10.6195388 |

# B  Session Information

```
devtools::session_info()
```

```
##   setting  value
##   version  R version 3.4.4 (2018-03-15)
##   system   x86_64, darwin17.3.0
##   ui       unknown
##   language (EN)
##   collate  en_US.UTF-8
##   tz       Asia/Seoul
##   date     2018-03-20
##
##   package     * version    date       source
##   assertthat    0.2.0      2017-04-11 cran (@0.2.0)
##   backports     1.1.2      2017-12-13 CRAN (R 3.4.3)
##   base        * 3.4.4      2018-03-15 local
##   bindr         0.1.1      2018-03-13 CRAN (R 3.4.3)
##   bindrcpp    * 0.2        2017-06-17 cran (@0.2)
##   bookdown      0.7        2018-02-18 CRAN (R 3.4.3)
##   colorspace    1.3-2      2016-12-14 cran (@1.3-2)
##   compiler      3.4.4      2018-03-15 local
##   datasets    * 3.4.4      2018-03-15 local
##   devtools      1.13.5     2018-02-18 CRAN (R 3.4.3)
##   digest        0.6.15     2018-01-28 CRAN (R 3.4.3)
##   dplyr       * 0.7.4      2017-09-28 cran (@0.7.4)
##   evaluate      0.10.1     2017-06-24 cran (@0.10.1)
##   glue          1.2.0      2017-10-29 CRAN (R 3.4.2)
##   graphics    * 3.4.4      2018-03-15 local
##   grDevices   * 3.4.4      2018-03-15 local
##   hms           0.4.2      2018-03-10 CRAN (R 3.4.3)
##   htmltools     0.3.6      2017-04-28 cran (@0.3.6)
##   httr          1.3.1      2017-08-20 CRAN (R 3.4.2)
##   kableExtra  * 0.7.0.9000 2018-03-20 Github (haozhu233/kableExtra@164c48d)
##   knitr       * 1.20       2018-02-20 CRAN (R 3.4.3)
##   magrittr      1.5        2014-11-22 cran (@1.5)
##   memoise       1.1.0      2017-04-21 CRAN (R 3.4.2)
##   methods     * 3.4.4      2018-03-15 local
##   munsell       0.4.3      2016-02-13 cran (@0.4.3)
##   NonCompart  * 0.4.1      2018-03-20 CRAN (R 3.4.4)
##   pillar        1.2.1      2018-02-27 CRAN (R 3.4.3)
##   pkgconfig     2.0.1      2017-03-21 cran (@2.0.1)
##   plyr          1.8.4      2016-06-08 cran (@1.8.4)
##   purrr         0.2.4      2017-10-18 CRAN (R 3.4.2)
##   R6            2.2.2      2017-06-17 CRAN (R 3.4.2)
##   Rcpp          0.12.16    2018-03-13 CRAN (R 3.4.3)
##   readr         1.1.1      2017-05-16 cran (@1.1.1)
##   rlang         0.2.0      2018-02-20 CRAN (R 3.4.3)
##   rmarkdown     1.9        2018-03-01 CRAN (R 3.4.3)
##   rprojroot     1.3-2      2018-01-03 CRAN (R 3.4.3)
##   rvest         0.3.2      2016-06-17 cran (@0.3.2)
##   scales        0.5.0      2017-08-24 cran (@0.5.0)
##   stats       * 3.4.4      2018-03-15 local
```

```
##  stringi       1.1.7      2018-03-12 CRAN (R 3.4.3)
##  stringr       1.3.0      2018-02-19 CRAN (R 3.4.3)
##  tibble        1.4.2      2018-01-22 CRAN (R 3.4.3)
##  tidyr       * 0.8.0      2018-01-29 CRAN (R 3.4.3)
##  tidyselect    0.2.4      2018-02-26 CRAN (R 3.4.3)
##  tools         3.4.4      2018-03-15 local
##  utils       * 3.4.4      2018-03-15 local
##  viridisLite   0.3.0      2018-02-01 CRAN (R 3.4.3)
##  withr         2.1.2      2018-03-15 CRAN (R 3.4.3)
##  xfun          0.1        2018-01-22 CRAN (R 3.4.3)
##  xml2          1.2.0      2018-01-24 CRAN (R 3.4.3)
##  yaml          2.1.18     2018-03-08 CRAN (R 3.4.3)
```

# References

Bae, Kyun-Seop. 2018. *NonCompart: Noncompartmental Analysis for Pharmacokinetic Data.* https://CRAN.R-project.org/package=NonCompart.