

LEGENDS TO SUPPLEMENTARY FIGURES:

Figure S 1. Boxplots of the prediction for TFP and GEM as single agents and for the interaction TFP-GEM for joint inhibition and competitive inhibition with ψ applied to TFP and GEM IC50 values.

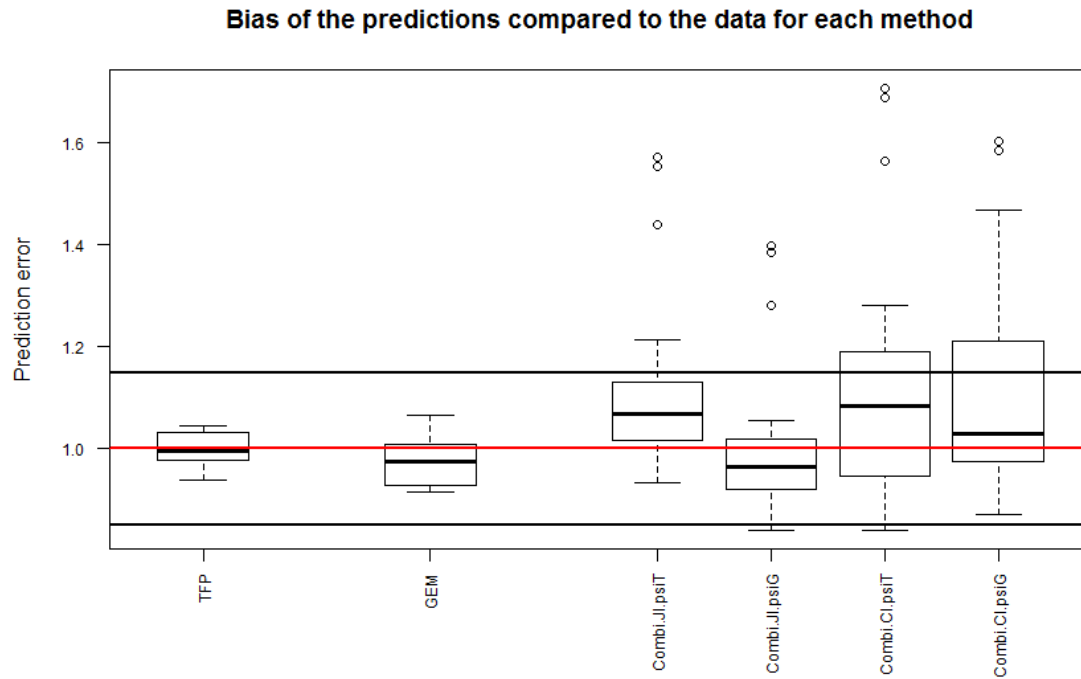


Figure S 2. Boxplots of the prediction for TFP and PTX as single agents and for the interaction TFP-PTX for joint inhibition and competitive inhibition with ψ applied to TFP and PTX IC50 values.

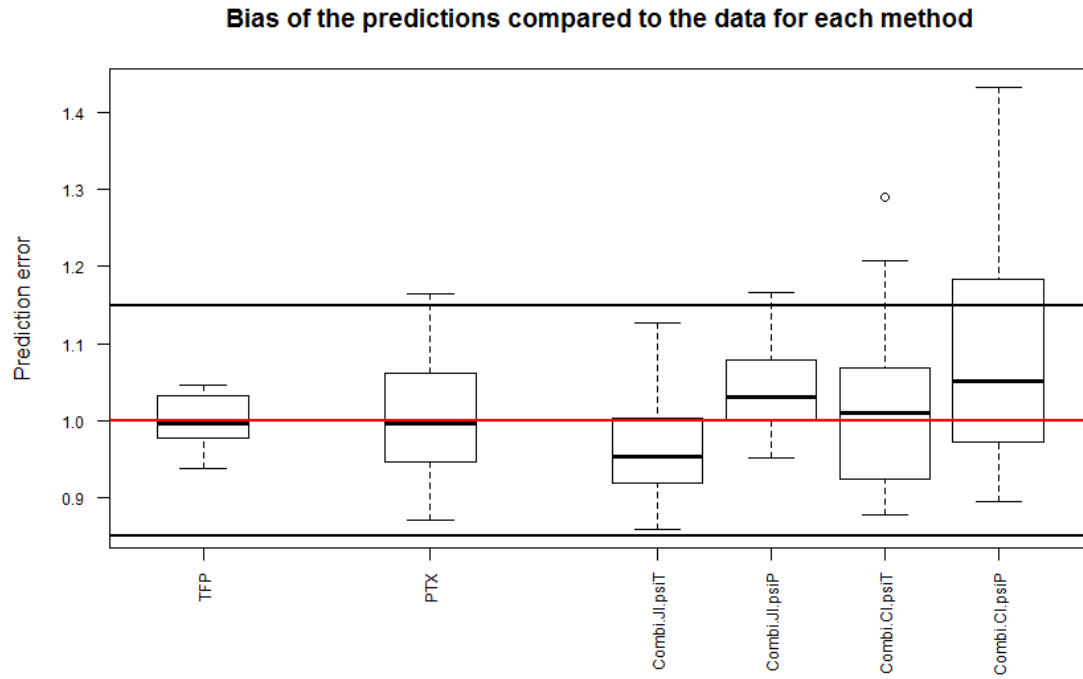


Figure S 3. Boxplots of the prediction for GEM and PTX as single agents and for the interaction TFP-GEM for joint inhibition and competitive inhibition with ψ applied to GEM and PTX IC50 values.

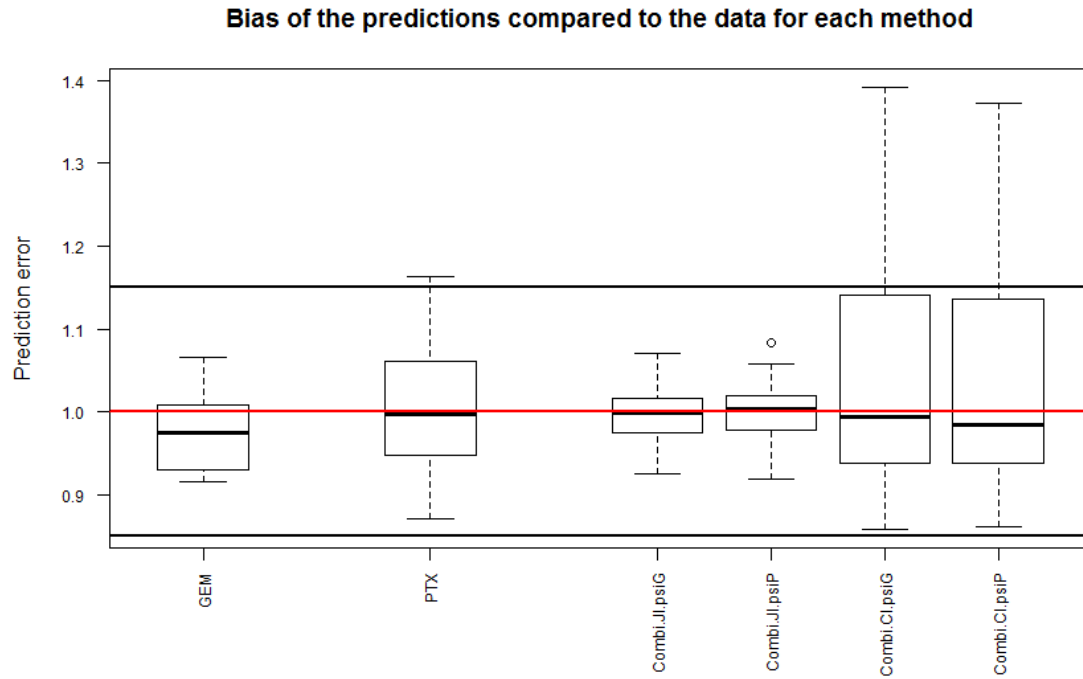


Figure S 4. Boxplots of the prediction for TFP, GEM and PTX as single agents and for the interaction TFP-GEM-PTX for joint inhibition and competitive inhibition with ψ applied to TFP, GEM and PTX IC50 values.

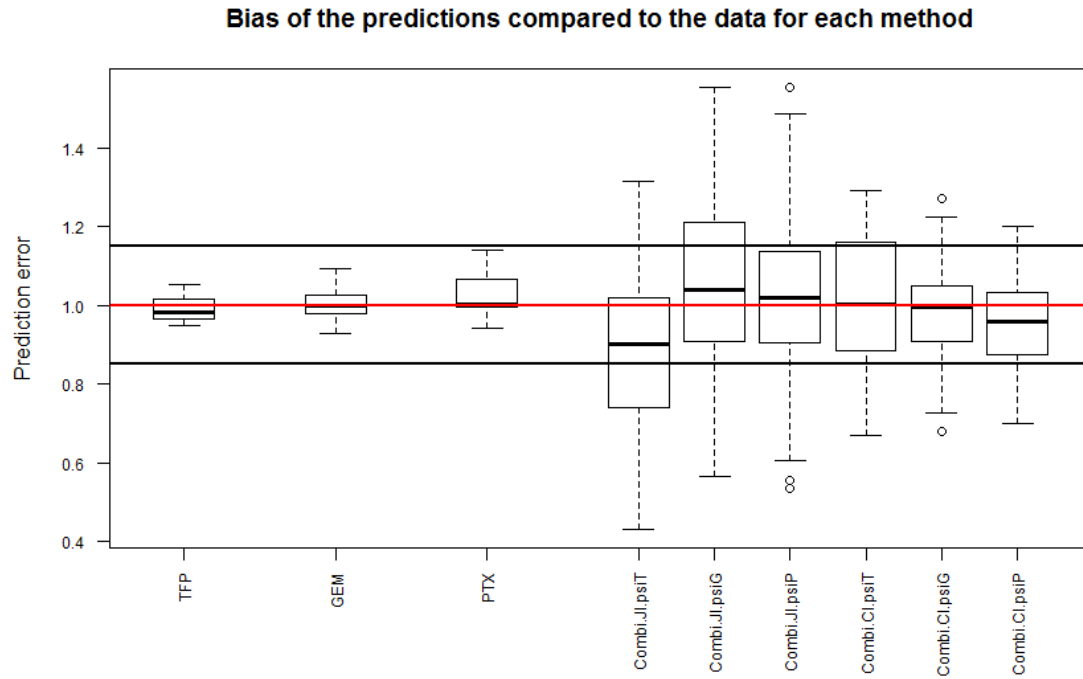
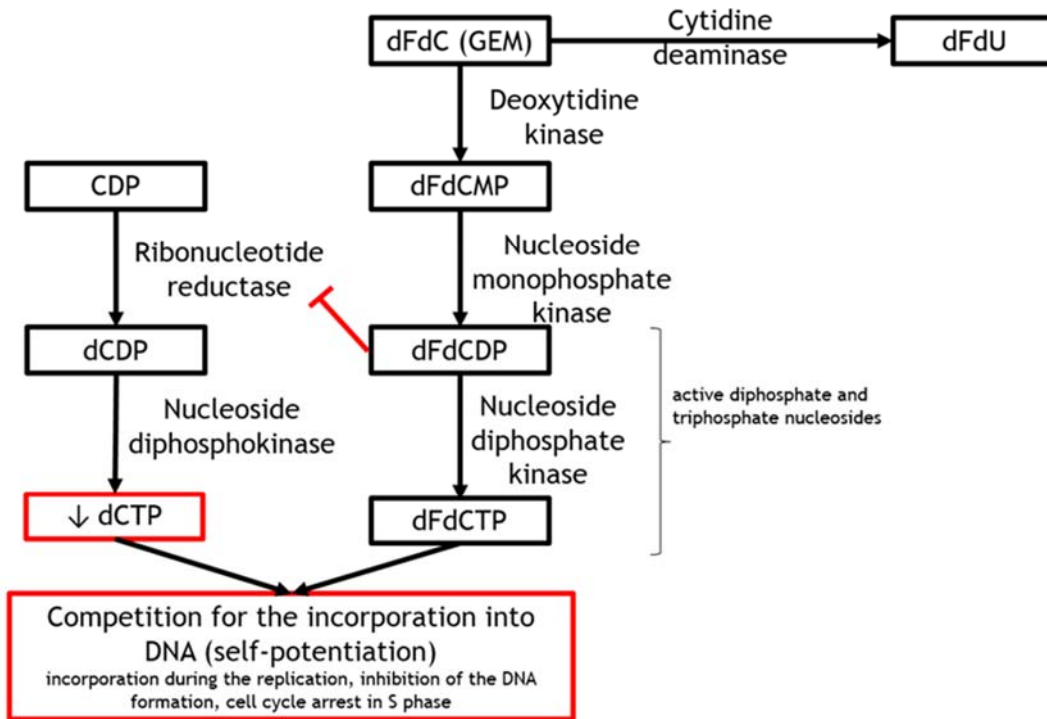


Figure S 5. Schematic representation of the mechanism of action of gemcitabine.



SUPPLEMENTARY MATERIALS

Table S I: Mean differences in percentages of cells between the data and the additive surface and mean differences between the data and the theoretical percentages of cells for the interaction trifluoperazine-gemcitabine

TFP (nM)	GEM (nM)	Joint inhibition		Competitive inhibition		Difference between the data and the theoretical percentages of cells
		Ψ applied to TFP	Ψ applied to GEM	Ψ applied to TFP	Ψ applied to GEM	
4768	10.16	2.18	4.85	-0.0183	2.73	9.58
8123	10.16	7.20	9.40	2.87	5.23	18.6
12620	10.16	1.31	2.92	-4.40	-2.58	13.2
4768	14.9	-4.40	-2.25	-7.85	-5.57	1.71
8123	14.9	-0.873	0.897	-7.94	-5.91	8.44
12620	14.9	-1.90	-0.610	-11.8	-10.1	7.73
4768	20.46	-4.37	-2.70	-8.31	-6.50	1.79
8123	20.46	-11.6	-10.2	-20.0	-18.3	-3.31
12620	20.46	0.699	1.71	-11.8	-10.3	8.90

Table S II: Mean differences in percentages of cells between the data and the additive surface and mean differences between the data and the theoretical percentages of cells for the interaction trifluoperazine-paclitaxel

TFP (nM)	PTX (nM)	Joint inhibition		Competitive inhibition		Difference between the data and the theoretical percentages of cells
		Ψ applied to TFP	Ψ applied to PTX	Ψ applied to TFP	Ψ applied to PTX	
4768	5.155	4.74	7.77	1.74	4.90	10.1
8123	5.155	4.02	6.52	-1.98	0.778	13.8
12620	5.155	-2.41	-0.575	-10.5	-8.33	8.21
4768	6.467	6.96	9.36	3.13	5.69	10.8
8123	6.467	7.60	9.57	-0.362	1.95	15.0
12620	6.467	2.30	3.75	-9.05	-7.11	10.5
4768	7.80	0.665	2.55	-3.31	-1.26	5.91
8123	7.80	3.82	5.37	-4.71	-2.79	11.3
12620	7.80	1.74	2.88	-11.1	-9.37	9.29

Table S III: Mean differences in percentages of cells between the data and the additive surface and mean differences between the data and the theoretical percentages of cells for the interaction gemcitabine-paclitaxel

GEM (nM)	PTX (nM)	Joint inhibition		Competitive inhibition		Difference between the data and the theoretical percentages of cells
		Ψ applied to GEM	Ψ applied to PTX	Ψ applied to GEM	Ψ applied to PTX	
10.16	5.155	1.55	0.868	-3.22	-3.96	-9.09
10.16	6.467	0.405	-0.137	-5.70	-6.31	-8.42
10.16	7.80	-0.557	-0.984	-6.81	-7.31	-5.14
14.9	5.155	0.929	0.377	-6.80	-7.45	-7.46
14.9	6.467	3.02	2.58	-7.41	-7.96	-3.95
14.9	7.80	0.960	0.617	-10.2	-10.7	-2.63
20.46	5.155	0.543	0.113	-8.46	-8.99	-4.54
20.46	6.467	0.904	0.564	-11.9	-12.4	-3.37
20.46	7.80	1.21	0.946	-13.4	-13.8	-0.718

Table S IV: Mean differences in percentages of cells between the data and the additive surface and mean differences between the data and the theoretical percentages of cells for the interaction trifluoperazine-gemcitabine-paclitaxel

TFP (nM)	GEM (nM)	PTX (nM)	Ψ applied to	Joint inhibition			Competitive inhibition			Difference between the data and the theoretical percentages of cells
				TFP	GEM	PTX	TFP	GEM	PTX	
4768	10.16	5.155		-9.31	-9.29	-9.31	-17.1	-17.1	-17.1	-14.9
4768	10.16	6.467		-1.81	-1.79	-1.81	-11.6	-11.5	-11.6	-9.42
4768	10.16	7.80		-1.00	-0.99	-1.00	-10.8	-10.7	-10.8	-7.19
8123	10.16	5.155		2.99	3.00	2.99	-7.91	-7.88	-7.91	-1.08
8123	10.16	6.467		4.63	4.64	4.63	-7.90	-7.88	-7.90	-0.614
8123	10.16	7.80		6.12	6.13	6.12	-5.64	-5.63	-5.64	1.93
12620	10.16	5.155		3.14	3.15	3.14	-8.05	-8.04	-8.05	0.728
12620	10.16	6.467		8.23	8.24	8.23	-5.15	-5.14	-5.15	4.96
12620	10.16	7.80		6.92	6.94	6.92	-2.35	-2.32	-2.35	4.69
4768	14.9	5.155		-2.77	-2.75	-2.77	-13.1	-13.0	-13.1	-9.22
4768	14.9	6.467		1.65	1.67	1.65	-11.5	-11.4	-11.5	-5.94
4768	14.9	7.80		4.47	4.47	4.47	-8.77	-8.75	-8.77	-2.59
8123	14.9	5.155		0.972	0.986	0.972	-11.9	-11.9	-11.9	-3.34
8123	14.9	6.467		5.94	5.95	5.94	-9.32	-9.30	-9.32	0.642
8123	14.9	7.80		5.61	5.62	5.61	-9.65	-9.63	-9.65	0.614
12620	14.9	5.155		3.84	3.85	3.84	-9.41	-9.39	-9.41	1.22
12620	14.9	6.467		6.84	6.84	6.84	-8.63	-8.62	-8.63	3.50
12620	14.9	7.80		9.41	9.41	9.41	-6.46	-6.45	-6.46	6.21
4768	20.46	5.155		2.61	2.62	2.61	-8.09	-8.08	-8.09	-3.58
4768	20.46	6.467		6.45	6.46	6.45	-7.75	-7.74	-7.75	-0.247
4768	20.46	7.80		7.93	7.94	7.93	-7.31	-7.30	-7.31	1.94
8123	20.46	5.155		4.88	4.89	4.88	-8.68	-8.66	-8.68	0.626
8123	20.46	6.467		7.31	7.32	7.31	-8.82	-8.81	-8.82	2.59
8123	20.46	7.80		10.03	10.03	10.03	-6.65	-6.64	-6.65	5.75
12620	20.46	5.155		9.82	9.83	9.82	-4.84	-4.83	-4.84	7.17
12620	20.46	6.467		9.76	9.77	9.76	-6.77	-6.76	-6.77	6.75
12620	20.46	7.80		10.7	10.7	10.7	-6.23	-6.22	-6.23	7.96

Supplementary materials: Adapt code for 3-drug combinations (psi on trifluoperazine)

```
*****
C                      ADAPT                      *
C                      Version 5                  *
C*****
C                      MODEL                      *
C                      *                          *
C This file contains Fortran subroutines into which the user *
C must enter the relevant model equations and constants.    *
C Consult the User's Guide for details concerning the format for *
C entered equations and definition of symbols.              *
C                                                         *
C 1. Symbol- Parameter symbols and model constants          *
C 2. DiffEq- System differential equations                  *
C 3. Output- System output equations                       *
C 4. Varmod- Error variance model equations                *
C 5. Covmod- Covariate model equations (ITS,MLEM)          *
C 6. Popinit- Population parameter initial values (ITS,MLEM) *
C 7. Prior - Parameter mean and covariance values (ID,NPD,STS) *
C 8. Sparam- Secondary parameters                          *
C 9. Amat - System state matrix                            *
C                                                         *
C*****
C#####C

Subroutine SYMBOL
Implicit None

Include 'globals.inc'
Include 'model.inc'

CC
C-----C
C Enter as Indicated C
C-----C

NDEqs = 0 ! Enter # of Diff. Eqs.
NSParam = 15 ! Enter # of System Parameters.
NVparam = 10 ! Enter # of Variance Parameters.
NSecPar = 0 ! Enter # of Secondary Parameters.
NSecOut = 0 ! Enter # of Secondary Outputs (not used).
Ieqsol = 3 ! Model type: 1 - DIFFEQ, 2 - AMAT, 3 - OUTPUT only.
Descr = ' three drug combinations psi on trifluoperazine '

CC
C-----C
C Enter Symbol for Each System Parameter (eg. Psym(1)='Kel') C
C-----C
Psym(1)='R0'
Psym(2)='psi'
Psym(3)='ImaxA'
Psym(4)='gA'
Psym(5)='IC50A'
Psym(6)='ImaxC'
```

```
Psym(7)='gC'  
Psym(8)='IC50C'  
Psym(9)='ImaxD'  
Psym(10)='gD'  
Psym(11)='IC50D'  
Psym(12)='R01'  
Psym(13)='R02'  
Psym(14)='R03'  
Psym(15)='psi2'
```

```
CC  
C-----C  
C   Enter Symbol for Each Variance Parameter {eg: PVsym(1)='Sigma'}   C  
C-----C  
    PVsym(1)='intercept'  
    PVsym(2)='sigma'  
    PVsym(3)='intercept2'  
    PVsym(4)='sigma2'  
    PVsym(5)='intercept3'  
    PVsym(6)='sigma3'  
    PVsym(7)='intercept4'  
    PVsym(8)='sigma4'  
    PVsym(9)='intercept5'  
    PVsym(10)='sigma5'
```

```
CC  
C-----C  
C   Enter Symbol for Each Secondary Parameter {eg: PSsym(1)='CLt'}   C  
C-----C  
C-----C  
C-----C  
C  
    Return  
    End
```

```
C#####C
```

```
Subroutine DIFFEQ(T,X,XP)  
Implicit None  
  
Include 'globals.inc'  
Include 'model.inc'  
  
Real*8 T,X(MaxNDE),XP(MaxNDE)
```

```
CC  
C-----C  
C   Enter Differential Equations Below {e.g. XP(1) = -P(1)*X(1)}   C  
C-----C  
  
C-----C  
C-----C
```

C

```
Return
End
```

C#####C

```
Subroutine OUTPUT(Y,T,X)
Implicit None
```

```
Include 'globals.inc'
Include 'model.inc'
```

```
Real*8 Y(MaxNOE),T,X(MaxNDE)
Real*8 R0, psi,A, C,ImaxA,ImaxC,gA,gC,IC50A,IC50C,R01,D,E
Real*8 G,H,ImaxD,gD,IC50D,R02,R03,psi2,psi3,AJ,DJ,CJ
```

```
C-----C
C Enter Output Equations Below {e.g. Y(1) = X(1)/P(2) } C
C-----C
```

```
R0=P(1)
psi=P(2)
ImaxA=P(3)
gA=P(4)
IC50A=P(5)
ImaxC=P(6)
gC=P(7)
IC50C=P(8)
ImaxD=P(9)
gD=P(10)
IC50D=P(11)
R01=P(12)
R02=P(13)
R03=P(14)
psi2=P(15)
```

C---Drug concentrations used to assess the interaction are in the columns 5, 6 and 7

C---Competitive inhibition

```
A=((obsdat(curON,5)**gA)/((psi*IC50A)**gA)
C=((obsdat(curON,6)**gC)/((IC50C)**gC)
D=((obsdat(curON,7)**gD)/((IC50D)**gD)
```

C---Joint inhibition

```
AJ=((obsdat(curON,5)**gA)/((psi2*IC50A)**gA+(obsdat(curON,5)**gA)
CJ=((obsdat(curON,6)**gC)/((IC50C)**gC+(obsdat(curON,6)**gC)
DJ=((obsdat(curON,7)**gD)/((IC50D)**gD+(obsdat(curON,7)**gD)
```

C---Concentrations used to assess concentration-response curves for each drug are in the columns 8, 9 and 10

```
E=(obsdat(curON,8))
G=(obsdat(curON,9))
H=(obsdat(curON,10))
```

C---Trifluoperazine (number of cells for concentration-response curve of Trifluoperazine is in column 2)

$$Y(2) = R01*(1-((ImaxA*(E**gA))/(IC50A**gA+E**gA)))$$

C---Gemcitabine (number of cells for concentration-response curve of Gemcitabine is in column 3)

$$Y(3)= R02*(1-((ImaxC*(G**gC))/(IC50C**gC+G**gC)))$$

C---paclitaxel (number of cells for concentration-response curve of Paclitaxel is in column 4)

$$Y(4)=R03*(1-((ImaxD*(H**gD))/(IC50D**gD+H**gD)))$$

C--- (percentage of cells for the 3-drug combination is in duplicate in column 1 and 11 (same data, but different equations for the fitting), column 1 is used for the competitive inhibition equation and the column 11 is used for the joint inhibition equation)

C---Competitive inhibition

$$Y(1) = R0*(1-(ImaxA*A+ImaxC*C+ImaxD*D)/(1+A+C+D))$$

C---Joint inhibition

$$Y(11) = R0*(1-(ImaxA*AJ))*(1-(ImaxC*CJ))*(1-(ImaxD*DJ))$$

Y(5)=1
Y(6)=1
Y(7)=1
Y(8)=1
Y(9)=1
Y(10)=1

C-----C
C-----C
C

Return
End

C#####C

Subroutine VARMOD(V,T,X,Y)
Implicit None

Include 'globals.inc'
Include 'model.inc'

Real*8 V(MaxNOE),T,X(MaxNDE),Y(MaxNOE)
real*8 sigma, intercept,sigma2, intercept2,sigma3, intercept3
real*8 sigma4,intercept4,sigma5,intercept5

CC
C-----C
C Enter Variance Model Equations Below C
C {e.g. V(1) = (PV(1) + PV(2)*Y(1))**2 } C
C-----C

intercept=PV(1)
sigma=PV(2)

```

    intercept2=PV(3)
    sigma2=PV(4)
    intercept3=PV(5)
    sigma3=PV(6)
    intercept4=PV(7)
    sigma4=PV(8)
    intercept5=PV(9)
    sigma5=PV(10)
V(1) = (PV(1) + PV(2)*Y(1))**2
V(2)=(PV(3) + PV(4)*Y(2))**2
V(3)=(PV(5) + PV(6)*Y(3))**2
V(4)=(PV(7) + PV(8)*Y(4))**2
V(5)=1
V(6)=1
V(7)=1
V(8)=1
V(9)=1
V(10)=1
V(11) = (PV(9) + PV(10)*Y(11))**2

```

```

C-----C
C-----C
C

```

```

    Return
    End

```

```

C#####C

```

```

    Subroutine COVMOD(Pmean, ICmean, PC)
C Defines any covariate model equations (MLEM, ITS)
    Implicit None

```

```

    Include 'globals.inc'
    Include 'model.inc'

```

```

    Real*8 PC(MaxNCP)
    Real*8 Pmean(MaxNSP+MaxNDE), ICmean(MaxNDE)

```

```

CC
C-----C
C   Enter # of Covariate Parameters                               C
C-----C

```

```

    NCparam = 0    ! Enter # of Covariate Parameters.

```

```

CC
C-----C
C   Enter Symbol for Covariate Params {eg: PCsym(1)='CLRrenal'}   C
C-----C

```

```

CC
C-----C
C   For the Model Params. that Depend on Covariates Enter the Equation C
C   {e.g. Pmean(1) = PC(1)*R(2) }                                   C
C-----C

```

```

C-----C
C-----C
C
    Return
    End

C#####C

    Subroutine POPINIT(PmeanI,ICmeanI,PcovI,ICcovI, PCI)
C Initial parameter values for population program parameters (ITS, MLEM)

    Implicit None

    Include 'globals.inc'
    Include 'model.inc'

    Integer I,J
    Real*8 PmeanI(MaxNSP+MaxNDE), ICmeanI(MaxNDE)
    Real*8 PcovI(MaxNSP+MaxNDE,MaxNSP+MaxNDE), ICcovI(MaxNDE,MaxNDE)
    Real*8 PCI(MaxNCP)

CC
C-----C
C Enter Initial Values for Population Means C
C { e.g. PmeanI(1) = 10.0 } C
C-----C

CC
C-----C
C Enter Initial Values for Pop. Covariance Matrix (Lower Triang.) C
C { e.g. PcovI(2,1) = 0.25 } C
C-----C

CC
C-----C
C Enter Values for Covariate Model Parameters C
C { e.g. PCI(1) = 2.0 } C
C-----C

C-----C
C-----C
C
    Return
    End

C#####C

    Subroutine PRIOR(Pmean,Pcov,ICmean,ICcov)
C Parameter mean and covariance values for MAP estimation (ID,NPD,STS)
    Implicit None

    Include 'globals.inc'
    Include 'model.inc'

    Integer I,J

```

```

Real*8 Pmean(MaxNSP+MaxNDE), ICmean(MaxNDE)
Real*8 Pcov(MaxNSP+MaxNDE,MaxNSP+MaxNDE), ICcov(MaxNDE,MaxNDE)

CC
C-----C
C   Enter Nonzero Elements of Prior Mean Vector           C
C       { e.g. Pmean(1) = 10.0   }                       C
C-----C

CC
C-----C
C   Enter Nonzero Elements of Covariance Matrix (Lower Triang.) C
C       { e.g. Pcov(2,1) = 0.25   }                       C
C-----C

C-----C
C-----C
C
Return
End

C#####C

Subroutine SPARAM(PS,P,IC)
Implicit None

Include 'globals.inc'

Real*8 PS(MaxNSECP), P(MaxNSP+MaxNDE), IC(MaxNDE)

CC
C-----C
C   Enter Equations Defining Secondary Paramters         C
C       { e.g. PS(1) = P(1)*P(2)   }                     C
C-----C

C-----C
C-----C
C
Return
End

C#####C

Subroutine AMAT(A)
Implicit None

Include 'globals.inc'
Include 'model.inc'

Integer I,J
Real*8 A(MaxNDE,MaxNDE)

DO I=1,Ndeqs
  Do J=1,Ndeqs

```



```
        A(I,J)=0.0D0
      End Do
    End Do
```

```
CC
C-----C
C  Enter non zero elements of state matrix {e.g. A(1,1) = -P(1) }  C
C-----C
```

```
C-----C
C-----C
C
```

```
      Return
    End
```

```
C#####C
```

0
0
0
11
124

1	40.508058	-1.000000	-1.000000	-1.000000	4768.000000	10.160000	5.155000	-1.000000	-1.000000	-1.000000	40.508058
2	39.598926	-1.000000	-1.000000	-1.000000	4768.000000	10.160000	5.155000	-1.000000	-1.000000	-1.000000	39.598926
3	39.581707	-1.000000	-1.000000	-1.000000	4768.000000	10.160000	5.155000	-1.000000	-1.000000	-1.000000	39.581707
4	33.327976	-1.000000	-1.000000	-1.000000	4768.000000	10.160000	6.467000	-1.000000	-1.000000	-1.000000	33.327976
5	32.480830	-1.000000	-1.000000	-1.000000	4768.000000	10.160000	6.467000	-1.000000	-1.000000	-1.000000	32.480830
6	25.417834	-1.000000	-1.000000	-1.000000	4768.000000	10.160000	7.800000	-1.000000	-1.000000	-1.000000	25.417834
7	23.957712	-1.000000	-1.000000	-1.000000	4768.000000	10.160000	7.800000	-1.000000	-1.000000	-1.000000	23.957712
8	26.795307	-1.000000	-1.000000	-1.000000	4768.000000	10.160000	7.800000	-1.000000	-1.000000	-1.000000	26.795307
9	33.176454	-1.000000	-1.000000	-1.000000	8123.000000	10.160000	5.155000	-1.000000	-1.000000	-1.000000	33.176454
10	40.380642	-1.000000	-1.000000	-1.000000	8123.000000	10.160000	5.155000	-1.000000	-1.000000	-1.000000	40.380642
11	40.143028	-1.000000	-1.000000	-1.000000	8123.000000	10.160000	5.155000	-1.000000	-1.000000	-1.000000	40.143028
12	30.049589	-1.000000	-1.000000	-1.000000	8123.000000	10.160000	6.467000	-1.000000	-1.000000	-1.000000	30.049589
13	29.309197	-1.000000	-1.000000	-1.000000	8123.000000	10.160000	6.467000	-1.000000	-1.000000	-1.000000	29.309197
14	32.367189	-1.000000	-1.000000	-1.000000	8123.000000	10.160000	6.467000	-1.000000	-1.000000	-1.000000	32.367189
15	25.335185	-1.000000	-1.000000	-1.000000	8123.000000	10.160000	7.800000	-1.000000	-1.000000	-1.000000	25.335185
16	26.602461	-1.000000	-1.000000	-1.000000	8123.000000	10.160000	7.800000	-1.000000	-1.000000	-1.000000	26.602461
17	27.267092	-1.000000	-1.000000	-1.000000	8123.000000	10.160000	7.800000	-1.000000	-1.000000	-1.000000	27.267092
18	27.036365	-1.000000	-1.000000	-1.000000	12620.000000	10.160000	5.155000	-1.000000	-1.000000	-1.000000	27.036365
19	26.402727	-1.000000	-1.000000	-1.000000	12620.000000	10.160000	5.155000	-1.000000	-1.000000	-1.000000	26.402727
20	27.676891	-1.000000	-1.000000	-1.000000	12620.000000	10.160000	5.155000	-1.000000	-1.000000	-1.000000	27.676891
21	23.392947	-1.000000	-1.000000	-1.000000	12620.000000	10.160000	6.467000	-1.000000	-1.000000	-1.000000	23.392947
22	24.267643	-1.000000	-1.000000	-1.000000	12620.000000	10.160000	6.467000	-1.000000	-1.000000	-1.000000	24.267643
23	25.107902	-1.000000	-1.000000	-1.000000	12620.000000	10.160000	6.467000	-1.000000	-1.000000	-1.000000	25.107902
24	24.277974	-1.000000	-1.000000	-1.000000	12620.000000	10.160000	7.800000	-1.000000	-1.000000	-1.000000	24.277974
25	23.764865	-1.000000	-1.000000	-1.000000	12620.000000	10.160000	7.800000	-1.000000	-1.000000	-1.000000	23.764865
26	22.490702	-1.000000	-1.000000	-1.000000	12620.000000	10.160000	7.800000	-1.000000	-1.000000	-1.000000	22.490702
27	99.684329	-1.000000	-1.000000	-1.000000	0.000000	0.000000	0.000000	-1.000000	-1.000000	-1.000000	99.684329
28	99.370954	-1.000000	-1.000000	-1.000000	0.000000	0.000000	0.000000	-1.000000	-1.000000	-1.000000	99.370954
29	100.944717	-1.000000	-1.000000	-1.000000	0.000000	0.000000	0.000000	-1.000000	-1.000000	-1.000000	100.944717
30	34.137113	-1.000000	-1.000000	-1.000000	4768.000000	14.900000	5.155000	-1.000000	-1.000000	-1.000000	34.137113
31	33.665798	-1.000000	-1.000000	-1.000000	4768.000000	14.900000	5.155000	-1.000000	-1.000000	-1.000000	33.665798
32	36.198284	-1.000000	-1.000000	-1.000000	4768.000000	14.900000	5.155000	-1.000000	-1.000000	-1.000000	36.198284
33	28.799973	-1.000000	-1.000000	-1.000000	4768.000000	14.900000	6.467000	-1.000000	-1.000000	-1.000000	28.799973
34	28.428232	-1.000000	-1.000000	-1.000000	4768.000000	14.900000	6.467000	-1.000000	-1.000000	-1.000000	28.428232
35	29.666263	-1.000000	-1.000000	-1.000000	4768.000000	14.900000	6.467000	-1.000000	-1.000000	-1.000000	29.666263
36	22.948371	-1.000000	-1.000000	-1.000000	4768.000000	14.900000	7.800000	-1.000000	-1.000000	-1.000000	22.948371

37	22.818926	-1.000000	-1.000000	-1.000000	4768.000000	14.900000	7.800000	-1.000000	-1.000000	-1.000000	22.818926
38	24.362315	-1.000000	-1.000000	-1.000000	4768.000000	14.900000	7.800000	-1.000000	-1.000000	-1.000000	24.362315
39	29.888644	-1.000000	-1.000000	-1.000000	8123.000000	14.900000	5.155000	-1.000000	-1.000000	-1.000000	29.888644
40	29.619795	-1.000000	-1.000000	-1.000000	8123.000000	14.900000	5.155000	-1.000000	-1.000000	-1.000000	29.619795
41	28.381765	-1.000000	-1.000000	-1.000000	8123.000000	14.900000	5.155000	-1.000000	-1.000000	-1.000000	28.381765
42	26.599399	-1.000000	-1.000000	-1.000000	8123.000000	14.900000	6.467000	-1.000000	-1.000000	-1.000000	26.599399
43	27.010970	-1.000000	-1.000000	-1.000000	8123.000000	14.900000	6.467000	-1.000000	-1.000000	-1.000000	27.010970
44	26.194467	-1.000000	-1.000000	-1.000000	8123.000000	14.900000	6.467000	-1.000000	-1.000000	-1.000000	26.194467
45	20.817498	-1.000000	-1.000000	-1.000000	8123.000000	14.900000	7.800000	-1.000000	-1.000000	-1.000000	20.817498
46	20.110527	-1.000000	-1.000000	-1.000000	8123.000000	14.900000	7.800000	-1.000000	-1.000000	-1.000000	20.110527
47	18.839305	-1.000000	-1.000000	-1.000000	8123.000000	14.900000	7.800000	-1.000000	-1.000000	-1.000000	18.839305
48	22.799011	-1.000000	-1.000000	-1.000000	12620.000000	14.900000	5.155000	-1.000000	-1.000000	-1.000000	22.799011
49	22.666246	-1.000000	-1.000000	-1.000000	12620.000000	14.900000	5.155000	-1.000000	-1.000000	-1.000000	22.666246
50	22.958328	-1.000000	-1.000000	-1.000000	12620.000000	14.900000	5.155000	-1.000000	-1.000000	-1.000000	22.958328
51	22.520205	-1.000000	-1.000000	-1.000000	12620.000000	14.900000	6.467000	-1.000000	-1.000000	-1.000000	22.520205
52	20.127122	-1.000000	-1.000000	-1.000000	12620.000000	14.900000	6.467000	-1.000000	-1.000000	-1.000000	20.127122
53	19.373683	-1.000000	-1.000000	-1.000000	12620.000000	14.900000	6.467000	-1.000000	-1.000000	-1.000000	19.373683
54	18.527308	-1.000000	-1.000000	-1.000000	12620.000000	14.900000	7.800000	-1.000000	-1.000000	-1.000000	18.527308
55	19.051728	-1.000000	-1.000000	-1.000000	12620.000000	14.900000	7.800000	-1.000000	-1.000000	-1.000000	19.051728
56	19.383640	-1.000000	-1.000000	-1.000000	12620.000000	14.900000	7.800000	-1.000000	-1.000000	-1.000000	19.383640
57	99.985064	-1.000000	-1.000000	-1.000000	0.000000	0.000000	0.000000	-1.000000	-1.000000	-1.000000	99.985064
58	99.971788	-1.000000	-1.000000	-1.000000	0.000000	0.000000	0.000000	-1.000000	-1.000000	-1.000000	99.971788
59	100.028212	-1.000000	-1.000000	-1.000000	0.000000	0.000000	0.000000	-1.000000	-1.000000	-1.000000	100.028212
60	27.372393	-1.000000	-1.000000	-1.000000	4768.000000	20.460000	5.155000	-1.000000	-1.000000	-1.000000	27.372393
61	31.597494	-1.000000	-1.000000	-1.000000	4768.000000	20.460000	5.155000	-1.000000	-1.000000	-1.000000	31.597494
62	29.529437	-1.000000	-1.000000	-1.000000	4768.000000	20.460000	5.155000	-1.000000	-1.000000	-1.000000	29.529437
63	25.831138	-1.000000	-1.000000	-1.000000	4768.000000	20.460000	6.467000	-1.000000	-1.000000	-1.000000	25.831138
64	25.051612	-1.000000	-1.000000	-1.000000	4768.000000	20.460000	6.467000	-1.000000	-1.000000	-1.000000	25.051612
65	27.319000	-1.000000	-1.000000	-1.000000	4768.000000	20.460000	6.467000	-1.000000	-1.000000	-1.000000	27.319000
66	20.833630	-1.000000	-1.000000	-1.000000	4768.000000	20.460000	7.800000	-1.000000	-1.000000	-1.000000	20.833630
67	22.495907	-1.000000	-1.000000	-1.000000	4768.000000	20.460000	7.800000	-1.000000	-1.000000	-1.000000	22.495907
68	21.214494	-1.000000	-1.000000	-1.000000	4768.000000	20.460000	7.800000	-1.000000	-1.000000	-1.000000	21.214494
69	25.140599	-1.000000	-1.000000	-1.000000	8123.000000	20.460000	5.155000	-1.000000	-1.000000	-1.000000	25.140599
70	26.457607	-1.000000	-1.000000	-1.000000	8123.000000	20.460000	5.155000	-1.000000	-1.000000	-1.000000	26.457607
71	24.086994	-1.000000	-1.000000	-1.000000	8123.000000	20.460000	5.155000	-1.000000	-1.000000	-1.000000	24.086994
72	22.606250	-1.000000	-1.000000	-1.000000	8123.000000	20.460000	6.467000	-1.000000	-1.000000	-1.000000	22.606250
73	21.150424	-1.000000	-1.000000	-1.000000	8123.000000	20.460000	6.467000	-1.000000	-1.000000	-1.000000	21.150424
74	22.713035	-1.000000	-1.000000	-1.000000	8123.000000	20.460000	6.467000	-1.000000	-1.000000	-1.000000	22.713035
75	19.584253	-1.000000	-1.000000	-1.000000	8123.000000	20.460000	7.800000	-1.000000	-1.000000	-1.000000	19.584253
76	20.780238	-1.000000	-1.000000	-1.000000	8123.000000	20.460000	7.800000	-1.000000	-1.000000	-1.000000	20.780238
77	20.545312	-1.000000	-1.000000	-1.000000	8123.000000	20.460000	7.800000	-1.000000	-1.000000	-1.000000	20.545312

78	20.705489	-1.000000	-1.000000	-1.000000	12620.000000	20.460000	5.155000	-1.000000	-1.000000	-1.000000	20.705489
79	26.276073	-1.000000	-1.000000	-1.000000	12620.000000	20.460000	5.155000	-1.000000	-1.000000	-1.000000	26.276073
80	23.364419	-1.000000	-1.000000	-1.000000	12620.000000	20.460000	5.155000	-1.000000	-1.000000	-1.000000	23.364419
81	19.011177	-1.000000	-1.000000	-1.000000	12620.000000	20.460000	6.467000	-1.000000	-1.000000	-1.000000	19.011177
82	19.616288	-1.000000	-1.000000	-1.000000	12620.000000	20.460000	6.467000	-1.000000	-1.000000	-1.000000	19.616288
83	20.474123	-1.000000	-1.000000	-1.000000	12620.000000	20.460000	6.467000	-1.000000	-1.000000	-1.000000	20.474123
84	14.935573	-1.000000	-1.000000	-1.000000	12620.000000	20.460000	7.800000	-1.000000	-1.000000	-1.000000	14.935573
85	18.591158	-1.000000	-1.000000	-1.000000	12620.000000	20.460000	7.800000	-1.000000	-1.000000	-1.000000	18.591158
86	19.246102	-1.000000	-1.000000	-1.000000	12620.000000	20.460000	7.800000	-1.000000	-1.000000	-1.000000	19.246102
87	98.138393	-1.000000	-1.000000	-1.000000	0.000000	0.000000	0.000000	-1.000000	-1.000000	-1.000000	98.138393
88	98.202463	-1.000000	-1.000000	-1.000000	0.000000	0.000000	0.000000	-1.000000	-1.000000	-1.000000	98.202463
89	103.659144	-1.000000	-1.000000	-1.000000	0.000000	0.000000	0.000000	-1.000000	-1.000000	-1.000000	103.659144
90	-1.000000	882944.4444	-1.000000	-1.000000	-1.000000	-1.000000	-1.000000	4768.000000	0.000000	0.000000	-1.000000
91	-1.000000	900566.6666	-1.000000	-1.000000	-1.000000	-1.000000	-1.000000	4768.000000	0.000000	0.000000	-1.000000
92	-1.000000	669566.6666	-1.000000	-1.000000	-1.000000	-1.000000	-1.000000	8123.000000	0.000000	0.000000	-1.000000
93	-1.000000	688033.3333	-1.000000	-1.000000	-1.000000	-1.000000	-1.000000	8123.000000	0.000000	0.000000	-1.000000
94	-1.000000	682866.6666	-1.000000	-1.000000	-1.000000	-1.000000	-1.000000	8123.000000	0.000000	0.000000	-1.000000
95	-1.000000	440500.0000	-1.000000	-1.000000	-1.000000	-1.000000	-1.000000	12620.000000	0.000000	0.000000	-1.000000
96	-1.000000	444466.6666	-1.000000	-1.000000	-1.000000	-1.000000	-1.000000	12620.000000	0.000000	0.000000	-1.000000
97	-1.000000	432700.0000	-1.000000	-1.000000	-1.000000	-1.000000	-1.000000	12620.000000	0.000000	0.000000	-1.000000
98	-1.000000	1010850.000	-1.000000	-1.000000	-1.000000	-1.000000	-1.000000	0.000000	0.000000	0.000000	-1.000000
99	-1.000000	1018800.000	-1.000000	-1.000000	-1.000000	-1.000000	-1.000000	0.000000	0.000000	0.000000	-1.000000
100	-1.000000	1042100.000	-1.000000	-1.000000	-1.000000	-1.000000	-1.000000	0.000000	0.000000	0.000000	-1.000000
101	-1.000000	-1.000000	847366.666667	-1.000000	-1.000000	-1.000000	-1.000000	0.000000	10.160000	0.000000	-1.000000
102	-1.000000	-1.000000	873266.666667	-1.000000	-1.000000	-1.000000	-1.000000	0.000000	10.160000	0.000000	-1.000000
103	-1.000000	-1.000000	882033.333333	-1.000000	-1.000000	-1.000000	-1.000000	0.000000	10.160000	0.000000	-1.000000
104	-1.000000	-1.000000	626566.666667	-1.000000	-1.000000	-1.000000	-1.000000	0.000000	14.900000	0.000000	-1.000000
105	-1.000000	-1.000000	627900.000000	-1.000000	-1.000000	-1.000000	-1.000000	0.000000	14.900000	0.000000	-1.000000
106	-1.000000	-1.000000	611433.333333	-1.000000	-1.000000	-1.000000	-1.000000	0.000000	14.900000	0.000000	-1.000000
107	-1.000000	-1.000000	409500.000000	-1.000000	-1.000000	-1.000000	-1.000000	0.000000	20.460000	0.000000	-1.000000
108	-1.000000	-1.000000	440000.000000	-1.000000	-1.000000	-1.000000	-1.000000	0.000000	20.460000	0.000000	-1.000000
109	-1.000000	-1.000000	430100.000000	-1.000000	-1.000000	-1.000000	-1.000000	0.000000	20.460000	0.000000	-1.000000
110	-1.000000	-1.000000	997444.444444	-1.000000	-1.000000	-1.000000	-1.000000	0.000000	0.000000	0.000000	-1.000000
111	-1.000000	-1.000000	1035866.666667	-1.000000	-1.000000	-1.000000	-1.000000	0.000000	0.000000	0.000000	-1.000000
112	-1.000000	-1.000000	1024966.666667	-1.000000	-1.000000	-1.000000	-1.000000	0.000000	0.000000	0.000000	-1.000000
113	-1.000000	-1.000000	-1.000000	766333.333333	-1.000000	-1.000000	-1.000000	0.000000	0.000000	5.155000	-1.000000
114	-1.000000	-1.000000	-1.000000	778166.666667	-1.000000	-1.000000	-1.000000	0.000000	0.000000	5.155000	-1.000000
115	-1.000000	-1.000000	-1.000000	769166.666667	-1.000000	-1.000000	-1.000000	0.000000	0.000000	5.155000	-1.000000
116	-1.000000	-1.000000	-1.000000	567166.666667	-1.000000	-1.000000	-1.000000	0.000000	0.000000	6.467000	-1.000000
117	-1.000000	-1.000000	-1.000000	560333.333333	-1.000000	-1.000000	-1.000000	0.000000	0.000000	6.467000	-1.000000
118	-1.000000	-1.000000	-1.000000	595866.666667	-1.000000	-1.000000	-1.000000	0.000000	0.000000	6.467000	-1.000000

119	-1.000000	-1.000000	-1.000000	343366.666667	-1.000000	-1.000000	-1.000000	0.000000	0.000000	7.800000	-1.000000
120	-1.000000	-1.000000	-1.000000	368683.333333	-1.000000	-1.000000	-1.000000	0.000000	0.000000	7.800000	-1.000000
121	-1.000000	-1.000000	-1.000000	341466.666667	-1.000000	-1.000000	-1.000000	0.000000	0.000000	7.800000	-1.000000
122	-1.000000	-1.000000	-1.000000	934700.000000	-1.000000	-1.000000	-1.000000	0.000000	0.000000	0.000000	-1.000000
123	-1.000000	-1.000000	-1.000000	1001666.666667	-1.000000	-1.000000	-1.000000	0.000000	0.000000	0.000000	-1.000000
124	-1.000000	-1.000000	-1.000000	1012433.333333	-1.000000	-1.000000	-1.000000	0.000000	0.000000	0.000000	-1.000000