In[1]:=
```
(* Mathematica code for Model2 of Eshra et al. eLife 2021 *)
(* Stefan Hallermann and Hartmut Schmidt Aug 2021 *)
```

Import

general

In[2]:=
```
(* imported data all Ca in uM, all times in ms,
all ampltiudes and Nv in vesicels *)
```

In[3]:=
```
CmToVesConversionFactor = (1/90.12) * (1/70*^-18);(* explained in methods *)
```

In[4]:=
```
rrp = 10;(* pool of release-ready vesicles per connection *)
```

In[5]:=
```
dir = NotebookDirectory[];
SetDirectory[dir];
dataFolder = "../data to fit/";
```

tau1 Cm 5kHz

In[8]:=
```
data = Import[dataFolder <> "all_t1_v02_C5.txt", "Table"];
```

In[9]:=
```
dataT1C5Ca = 0.001 * data[[All, 1]];
dataT1C5RelRate = 1000. * data[[All, 2]];
dataT1C5Delay = data[[All, 3]];
dataT1C5ChiRatio = data[[All, 4]];
dataT1C5Amplitude = CmToVesConversionFactor data[[All, 5]];

dataT1C5Nv = Table[0, {7}];
tmp1 = 1;
tmp2 = 6;
dataT1C5Nv[[tmp1]] = CmToVesConversionFactor data[[All, tmp2]];
tmp1 += 1;
tmp2 += 1;
dataT1C5Nv[[tmp1]] = CmToVesConversionFactor data[[All, tmp2]];
tmp1 += 1;
tmp2 += 1;
dataT1C5Nv[[tmp1]] = CmToVesConversionFactor data[[All, tmp2]];
tmp1 += 1;
tmp2 += 1;
dataT1C5Nv[[tmp1]] = CmToVesConversionFactor data[[All, tmp2]];
tmp1 += 1;
tmp2 += 1;
dataT1C5Nv[[tmp1]] = CmToVesConversionFactor data[[All, tmp2]];
tmp1 += 1;
tmp2 += 1;
dataT1C5Nv[[tmp1]] = CmToVesConversionFactor data[[All, tmp2]];
tmp1 += 1;
tmp2 += 1;
dataT1C5Nv[[tmp1]] = CmToVesConversionFactor data[[All, tmp2]];
```

tau1 Cm 10kHz

In[22]:=
```
data = Import[dataFolder <> "all_t1_v02_C10.txt", "Table"];
```

In[23]:=
```
dataT1C10Ca = 0.001 * data[[All, 1]];
dataT1C10RelRate = 1000. * data[[All, 2]];
dataT1C10Delay = data[[All, 3]];
dataT1C10ChiRatio = data[[All, 4]];
dataT1C10Amplitude = CmToVesConversionFactor data[[All, 5]];

dataT1C10Nv = Table[0, {7}];
tmp1 = 1;
tmp2 = 6;
dataT1C10Nv[[tmp1]] = CmToVesConversionFactor data[[All, tmp2]];
tmp1 += 1;
tmp2 += 1;
dataT1C10Nv[[tmp1]] = CmToVesConversionFactor data[[All, tmp2]];
tmp1 += 1;
tmp2 += 1;
dataT1C10Nv[[tmp1]] = CmToVesConversionFactor data[[All, tmp2]];
tmp1 += 1;
tmp2 += 1;
dataT1C10Nv[[tmp1]] = CmToVesConversionFactor data[[All, tmp2]];
tmp1 += 1;
tmp2 += 1;
dataT1C10Nv[[tmp1]] = CmToVesConversionFactor data[[All, tmp2]];
tmp1 += 1;
tmp2 += 1;
dataT1C10Nv[[tmp1]] = CmToVesConversionFactor data[[All, tmp2]];
tmp1 += 1;
tmp2 += 1;
dataT1C10Nv[[tmp1]] = CmToVesConversionFactor data[[All, tmp2]];
```

tau1 Deconv

In[36]:=
```
data = Import[dataFolder <> "all_t1_v02_D.txt", "Table"];
```

In[37]:=
```
dataT1DCa = 0.001 * data[[All, 1]];
dataT1DRelRate = 1000. * data[[All, 2]];
dataT1DDelay = data[[All, 3]];
dataT1DChiRatio = data[[All, 4]];
dataT1DAmplitude = data[[All, 5]];

dataT1DNv = Table[0, {7}];
tmp1 = 1; tmp2 = 6; dataT1DNv[[tmp1]] = data[[All, tmp2]];
tmp1 += 1; tmp2 += 1; dataT1DNv[[tmp1]] = data[[All, tmp2]];
tmp1 += 1; tmp2 += 1; dataT1DNv[[tmp1]] = data[[All, tmp2]];
tmp1 += 1; tmp2 += 1; dataT1DNv[[tmp1]] = data[[All, tmp2]];
tmp1 += 1; tmp2 += 1; dataT1DNv[[tmp1]] = data[[All, tmp2]];
tmp1 += 1; tmp2 += 1; dataT1DNv[[tmp1]] = data[[All, tmp2]];
tmp1 += 1; tmp2 += 1; dataT1DNv[[tmp1]] = data[[All, tmp2]];
```

tau2 Cm 5kHz

In[50]:=
```
data = Import[dataFolder <> "all_t2_v02_C5.txt", "Table"];
```

In[51]:=
```
dataT2C5Ca = 0.001 * data[[All, 1]];
dataT2C5RelRate = 1000. * data[[All, 2]];
dataT2C5Amplitude2 = CmToVesConversionFactor data[[All, 3]];
dataT2C5Amplitude1 = CmToVesConversionFactor data[[All, 4]];
```

tau2 Cm 10kHz

In[55]:=
```
data = Import[dataFolder <> "all_t2_v02_C10.txt", "Table"];
```

In[56]:=
```
dataT2C10Ca = 0.001 * data[[All, 1]];
dataT2C10RelRate = 1000. * data[[All, 2]];
dataT2C10Amplitude2 = CmToVesConversionFactor data[[All, 3]];
dataT2C10Amplitude1 = CmToVesConversionFactor data[[All, 4]];
```

tau2 Deconv

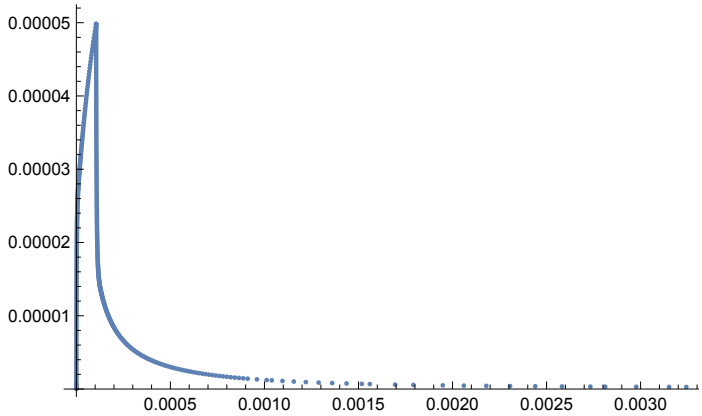
In[59]:=
```
data = Import[dataFolder <> "all_t2_v02_D.txt", "Table"];
```

In[60]:=
```
dataT2DCa = 0.001 * data[[All, 1]];
dataT2DRelRate = 1000. * data[[All, 2]];
dataT2DAmplitude2 = data[[All, 3]];
dataT2DAmplitude1 = data[[All, 4]];
```

local Ca

In[64]:=
```
data = Import[dataFolder <> "local Ca at 20 nm in uM and ms.txt", "Table"];
dataLocalCa = 1*^-6 data[[All, 1]];
dataLocalCaTime = 1*^-3 data[[All, 2]];
ListPlot[Transpose[{dataLocalCaTime, dataLocalCa}], PlotRange → All]
```

Out[67]=



General parameters and definitions

general stuff

In[68]:=
```
(* for calulations: time in s, Ca in M *)
numberOfFitParamToBeSaved = 16;
(*
1 max release

 Mono
2 chi2Mono
3 delayMono
4 ampMono
5 1/tau1Mono

 Bi
6 chi2Mono/chi2Bi
7 delay
8 amp
9 amp1 (=amp*relative amp1)
10 1/tau1
11 1/tau2

 merge
12 delay
13 amp
14 amp1
15 1/tau1
16 1/tau2
*)
cursorStart = -0.002;(*s*)
cursorEnd = 0.01;(*s*)
cursorEndLong = 0.061;(*s*)
timeOfNv = {0.0001, 0.0002, 0.001, 0.005, 0.01, 0.1, 0.4};
SeedRandom[1];
myMaxIterations = 100;
```

In[75]:=
```
timeStart = AbsoluteTime[]
```

Out[75]= $3.841505620316198 \times 10^{9}$

noiseRepeats

In[76]:=
```
noiseRepeats = 50;
(* should be increased to 50 for a full dataset *)
myQuantile1 = 0.25;
myQuantile2 = 0.75;
```

export parameters

In[79]:=
```
dtOfPlotsForExport = 20*^-5;
exportYes = 1;
```

sampling and myNoise

In[81]:=
```
samplingOfDataInKHzC5 = 5;
myNoiseC5 = CmToVesConversionFactor * 1.36937*^-14 / rrp(*cannot be 0*)
signalToNoiseRatioC5 = 1.;(*minimum s-to-n-ratio to attempt fitting*)
dtOfDataC5 = (1 / (1000 * samplingOfDataInKHzC5));

samplingOfDataInKHzC10 = 10;
myNoiseC10 = CmToVesConversionFactor * 1.67583*^-14 / rrp(*cannot be 0*)
signalToNoiseRatioC10 = 1.;(*minimum s-to-n-ratio to attempt fitting*)
dtOfDataC10 = (1 / (1000 * samplingOfDataInKHzC10));

samplingOfDataInKHzD = 10;
myNoiseD = 0.367584 / rrp(*cannot be 0*)
signalToNoiseRatioD = 1.;(*minimum s-to-n-ratio to attempt fitting*)
dtOfDataD = (1 / (1000 * samplingOfDataInKHzD));

samplingOfDataInKHzLong = 1;
myNoiseLong = myNoiseC5;(*cannot be 0*)
dtOfDataLong = (1 / (1000 * samplingOfDataInKHzLong));
```

Out[82]= 0.217071

Out[86]= 0.265651

Out[90]= 0.0367584

number of simulations per DMN

In[96]:=
```
aNumberDMN05 = 2;
aNumberDMN2 = 2;
aNumberDMN10 = 2;

(* for full dataset: *)
aNumberDMN05 = 2 * 20;
aNumberDMN2 = 2 * 17;
aNumberDMN10 = 2 * 10;
```

Exp fit function

In[102]:=
```
myFitMono[t_] :=
  If[t <= delayMono, 0, ampMono (1 - Exp[-(t - delayMono) / tau1Mono])];

myFitBi[t_] := If[t <= delay, 0,
   amp (1 - amp1 Exp[-(t - delay) / tau1] - (1 - amp1) Exp[-(t - delay) / tau2])];

(*guess for 10 uM; will be changed according to a power of 1 law*)(*in s*)
ampGuess = 2.;(*each pool has size 1.0*)
tau1Guess = 0.001;(*in s*)
delayGuess = 0.0005;(*in s*)
amp1Guess = 0.5;
```

Calculate Ca transients

First, the resting conditions are numerically calculated. Subsequently, the resulting values are used as initial conditions for the main simulations of the flash-evoked Ca2+ transitions . All calculations are repeated in a loop with increasing uncaging efficacy for three different DMN concentrations. The resulting free Ca2+ concentration is later used to drive the release schemes.

General definitions for all DMN conc.

In[108]:=
```
CaListReal = CaListDye = {};
```

0.5 mM DMN

general parameters

In[109]:=
```
TimeWindow = 0.006; (*End of simulation*)
tflash = 0.0;  (*Time of flash*)
PlStart = 0.; (*Plot start*)

af = 0.67; (*fast uncaging fraction; Faas et al*)

(*Select dye*)
OGB1 = 0;
OGB5N = 0;
OGB6F = 0;
Fluo5F = 1;

CaRest = 227. * 10^-9; (*Free pre-flash rersting Ca;
equilibrates with all buffers and DM*)
MgT = 0.5 * 10^-3; (*total Mg in pipette*)
γ = 0.; (*Pump rate*)

(*Concentrations of dye, buffers, DM*)
OGtotal = 50. * 10^-6 ;
ATPtotal = 5. * 10^-3 ;
MBtotal = 480. * 10^-6 ;(*(*Delvendahl, PNAS, 2015*)*)

DMT = 0.5 * 10^-3;  (*total concentration of DMn *)
(*uncaging efficiency*)
aStartDMN05 = 0.08;
aEndDMN05 = 0.5;
```

definitions and loop

In[126]:=
```
(*Dye*)
If[OGB1 == 1,
 kOnOG  = 4.3 * 10^8;
kOffOG = 103.;]

If[OGB5N == 1,
 kOnOG  = 2.5 * 10^8;
kOffOG = 6000. * 31.4 / 24;]

If[OGB6F == 1,
 kOnOG  = 3. * 10^8;
kOffOG = 900.;]

If[Fluo5F == 1,
```

```
 kOnOG  = 3. * 10^8;
kOffOG = 249.;] (*Delvendahl PNAS; before: 432*)

KdOG = kOffOG / kOnOG;
kappaOG = OGtotal / KdOG;

(*ATP*)
kOnATP  = 5. * 10^8;
kOffATP = 100 000.;
kOnMgATP  = 1. * 10^7; (*Bollmann Dissertation S. 59; *)
kOffMgATP = 1000.;

KdATP = kOffATP / kOnATP;
kappaATP = ATPtotal / KdATP;
KdMgATP = kOffMgATP / kOnMgATP;

(*DM*)
If[MgT == 0.,
 kOnDM = 1.98 * 10^7; (*Faas Plos Biol, 2007*)
kOffDM = 0.14;
 ,
 kOnDM = 2.9 * 10^7; (*Faas Biophys J, 2005*)
kOffDM = 0.19;
]

(*Mg binding constants for DMn, DMf, DMs*)
kOnMg = 1.3 * 10^5; (*all values for Mg are from Faas et al., 2005*)
kOffMg = 0.2;

(*Ca binding constants for PP*)
kOnPP2 = kOnPP1 = kOnDM;
kOffPP2 = 3.6 * 10 ^ 3;
If[MgT == 0.,
 kOffPP1 = 7. * 10 ^ 4;,
 kOffPP1 = 6.9 * 10 ^ 4; ]

(*Mg binding constants for PP1,PP2*)
kOffMgPP = 3. * 10 ^ 2; (*for PP1,PP2*)
konMgPP = kOnMg; (*koMgPP not used in below diff. eq., only kOnMg*)

(*Equilibrium constants (not complete)*)
KdDM = kOffDM / kOnDM;
KdPP1 = kOffPP1 / kOnPP1;
KdMg = kOffMg / kOnMg;
kappaDM = DMT / KdDM;
```

```
 (*Endogenous buffer*)
kOnMB  = 5 * 10^8;(*Delvendahl, PNAS, 2015*)
kOffMB = 16 000;
KdMB = kOffMB / kOnMB;

TRest = 1000.;


(*----------------------------------  Loop  ----------
 ----------------------------------------*)
(*----------------------------------  Loop  ----------
 ----------------------------------------*)
(*----------------------------------  Loop  ----------
 ----------------------------------------*)


For[aCount = 1, aCount ≤ aNumberDMN05, aCount += 1,
  a = 10 ^ (Log10[aStartDMN05] +
      (aCount - 1) * (Log10[aEndDMN05] - Log10[aStartDMN05]) / (aNumberDMN05 - 1));

  (*------------------------- Resting
    Equations -------------------------------------------*)

  (*Dye*)
  OGRest := {

    OG[0] == OGtotal,
    CaOG[0] == 0,

    OG'[tt] == -kOnOG * CaRest * OG[tt] + kOffOG * CaOG[tt],
    CaOG'[tt] == kOnOG * CaRest * OG[tt] - kOffOG * CaOG[tt]
   }
  ;

  (*ATP*)
  ATPRest := {

    ATP[0] == ATPtotal,
    CaATP[0] == 0,
    MgATP[0] == 0,

    ATP'[tt] == -kOnATP * CaRest * ATP[tt] + kOffATP * CaATP[tt] -
      kOnMgATP * Mg[tt] * ATP[tt] + kOffMgATP * MgATP[tt],
    CaATP'[tt] == kOnATP * CaRest * ATP[tt] - kOffATP * CaATP[tt],
    MgATP'[tt] == kOnMgATP * Mg[tt] * ATP[tt] - kOffMgATP * MgATP[tt]

   }
```

```
;

(*DM nitrophene*)
DMnRest := {

  DMn[0] == (1 - a) * DMT,
  CaDMn[0] == 0.,
  MgDMn[0] == 0.,

  DMn'[tt] == -kOnDM * CaRest * DMn[tt] +
    kOffDM * CaDMn[tt] - kOnMg * Mg[tt] * DMn[tt] + kOffMg * MgDMn[tt],
  CaDMn'[tt] == kOnDM * CaRest * DMn[tt] - kOffDM * CaDMn[tt],
  MgDMn'[tt] == kOnMg * Mg[tt] * DMn[tt] - kOffMg * MgDMn[tt]
 }

;
DMfRest := {

  DMf[0] == a * af * DMT,
  CaDMf[0] == 0.,
  MgDMf[0] == 0.,

  DMf'[tt] == -kOnDM * CaRest * DMf[tt] +
    kOffDM * CaDMf[tt] - kOnMg * Mg[tt] * DMf[tt] + kOffMg * MgDMf[tt],
  CaDMf'[tt] == kOnDM * CaRest * DMf[tt] - kOffDM * CaDMf[tt],
  MgDMf'[tt] == kOnMg * Mg[tt] * DMf[tt] - kOffMg * MgDMf[tt]
 }

;
DMsRest := {

  DMs[0] == a * (1 - af) * DMT,
  CaDMs[0] == 0.,
  MgDMs[0] == 0.,

  DMs'[tt] == -kOnDM * CaRest * DMs[tt] +
    kOffDM * CaDMs[tt] - kOnMg * Mg[tt] * DMs[tt] + kOffMg * MgDMs[tt],
  CaDMs'[tt] == kOnDM * CaRest * DMs[tt] - kOffDM * CaDMs[tt],
  MgDMs'[tt] == kOnMg * Mg[tt] * DMs[tt] - kOffMg * MgDMs[tt]
 }
;

(*Endogeneous buffer*)
MBRest := {

  MB[0] == MBtotal,
```

```
  CaMB[0] == 0,

  MB'[tt] == -kOnMB * CaRest * MB[tt] + kOffMB * CaMB[tt],
  CaMB'[tt] == kOnMB * CaRest * MB[tt] - kOffMB * CaMB[tt]
 }

;

(*Free Mg*)
MgfRest := {
  Mg[0] == MgT,

  Mg'[tt] ==
   -kOnMgATP * Mg[tt] * ATP[tt] + kOffMgATP * MgATP[tt]
    - kOnMg * Mg[tt] * DMn[tt] + kOffMg * MgDMn[tt]
    - kOnMg * Mg[tt] * DMf[tt] + kOffMg * MgDMf[tt]
    - kOnMg * Mg[tt] * DMs[tt] + kOffMg * MgDMs[tt]
 }

;
EqRest := {ATPRest, MgfRest, OGRest, DMnRest, DMfRest, DMsRest, MBRest};
VarsRest := {ATP, Mg, CaATP, MgATP, CaOG, OG, DMn,
  CaDMn, MgDMn, DMf, CaDMf, MgDMf, DMs, CaDMs, MgDMs, MB, CaMB}
;
solr := NDSolve[EqRest, VarsRest, {tt, 0, TRest}]
;

Ca0 = CaRest;
Mg0 = Extract[Mg[TRest] /. solr, 1];
ATP0 = Extract[ATP[TRest] /. solr, 1];
CaATP0 = Extract[CaATP[TRest] /. solr, 1];
MgATP0 = Extract[MgATP[TRest] /. solr, 1];
OG0 = Extract[OG[TRest] /. solr, 1];
CaOG0 = Extract[CaOG[TRest] /. solr, 1];
DMn0 = Extract[DMn[TRest] /. solr, 1];
CaDMn0 = Extract[CaDMn[TRest] /. solr, 1];
MgDMn0 = Extract[MgDMn[TRest] /. solr, 1];
DMf0 = Extract[DMf[TRest] /. solr, 1];
CaDMf0 = Extract[CaDMf[TRest] /. solr, 1];
MgDMf0 = Extract[MgDMf[TRest] /. solr, 1];
DMs0 = Extract[DMs[TRest] /. solr, 1];
CaDMs0 = Extract[CaDMs[TRest] /. solr, 1];
MgDMs0 = Extract[MgDMs[TRest] /. solr, 1];
MB0 = Extract[MB[TRest] /. solr, 1];
CaMB0 = Extract[CaMB[TRest] /. solr, 1];
```

```
  ClearAll[EqRest, VarsRest];


  (*------------------------- Flash
    Equations -------------------------------------------*)

  (*Dye*)
  BufferOG := {

    OG[0] == OG0,
    CaOG[0] == CaOG0,

    OG'[tt] == -kOnOG * Ca[tt] * OG[tt] + kOffOG * CaOG[tt],
    CaOG'[tt] == kOnOG * Ca[tt] * OG[tt] - kOffOG * CaOG[tt]}
  ;

  (*ATP*)
BufferATP := {

    ATP[0] == ATP0,
    CaATP[0] == CaATP0,
    MgATP[0] == MgATP0,

    ATP'[tt] == -kOnATP * Ca[tt] * ATP[tt] + kOffATP * CaATP[tt] -
      kOnMgATP * Mg[tt] * ATP[tt] + kOffMgATP * MgATP[tt],
    CaATP'[tt] == kOnATP * Ca[tt] * ATP[tt] - kOffATP * CaATP[tt],
    MgATP'[tt] == kOnMgATP * Mg[tt] * ATP[tt] - kOffMgATP * MgATP[tt]
   }
  ;

  (*fast (tauf) and slow (taus) time constants for uncageing;
  Faas et al., 2005,2007*)
If[MgT == 0.,
   tauf = 15.2 * 10^-6;  (*Faas, 2007*)
   taus = 1.9 * 10^-3;
   ,
   tauf = 15. * 10^-6;  (*Faas,2005*)
   taus = 2. * 10^-3; ]

  ;

  (*The differential equations*)
  (*non uncaging fraction of DMn*)
  BufferDMn := {

    DMn[0] == DMn0,
    CaDMn[0] == CaDMn0,
```

```
  MgDMn[0] == MgDMn0,

  DMn'[tt] == -kOnDM * Ca[tt] * DMn[tt] +
    kOffDM * CaDMn[tt] - kOnMg * Mg[tt] * DMn[tt] + kOffMg * MgDMn[tt],
  CaDMn'[tt] == kOnDM * Ca[tt] * DMn[tt] - kOffDM * CaDMn[tt],
  MgDMn'[tt] == kOnMg * Mg[tt] * DMn[tt] - kOffMg * MgDMn[tt]
 }
;

(*fast uncaging fraction of DMn*)
BufferDMf := {

  DMf[0] == DMf0,
  CaDMf[0] == CaDMf0,
  MgDMf[0] == MgDMf0,

  DMf'[tt] == -kOnDM * Ca[tt] * DMf[tt] + kOffDM * CaDMf[tt] - kOnMg * Mg[tt] *
     DMf[tt] + kOffMg * MgDMf[tt] - 1 / tauf * DMf[tt] * UnitStep[tt - tflash],
  CaDMf'[tt] == kOnDM * Ca[tt] * DMf[tt] - kOffDM * CaDMf[tt] -
    1 / tauf * CaDMf[tt] * UnitStep[tt - tflash],
  MgDMf'[tt] == kOnMg * Mg[tt] * DMf[tt] - kOffMg * MgDMf[tt] -
    1 / tauf * MgDMf[tt] * UnitStep[tt - tflash]
 }

;
(*slow uncaging fraction of DMn*)
BufferDMs := {

  DMs[0] == DMs0,
  CaDMs[0] == CaDMs0,
  MgDMs[0] == MgDMs0,

  DMs'[tt] == -kOnDM * Ca[tt] * DMs[tt] + kOffDM * CaDMs[tt] - kOnMg * Mg[tt] *
     DMs[tt] + kOffMg * MgDMs[tt] - 1 / taus * DMs[tt] * UnitStep[tt - tflash],
  CaDMs'[tt] == kOnDM * Ca[tt] * DMs[tt] - kOffDM * CaDMs[tt] -
    1 / taus * CaDMs[tt] * UnitStep[tt - tflash],
  MgDMs'[tt] == kOnMg * Mg[tt] * DMs[tt] - kOffMg * MgDMs[tt] -
    1 / taus * MgDMs[tt] * UnitStep[tt - tflash]
 }
;

(*Photoproducts*)
(*PP2: comes from DMf,DMs and MgDMf,MgDMs; but also binds Ca*)
BufferPP2 := {

  PP2[0] == 0,
  CaPP2[0] == 0,
```

```
  MgPP2[0] == 0,

  PP2'[tt] == -kOnPP2 * Ca[tt] * PP2[tt] + kOffPP2 * CaPP2[tt] -
    kOnMg * Mg[tt] * PP2[tt] + kOffMgPP * MgPP2[tt] + 2 * (1 / tauf * DMf[tt] *
        UnitStep[tt - tflash] + 1 / taus * DMs[tt] * UnitStep[tt - tflash])
    + 1 / tauf * MgDMf[tt] * UnitStep[tt - tflash] +
    1 / taus * MgDMs[tt] * UnitStep[tt - tflash],

  CaPP2'[tt] == kOnPP2 * Ca[tt] * PP2[tt] - kOffPP2 * CaPP2[tt],

  MgPP2'[tt] == kOnMg * Mg[tt] * PP2[tt] - kOffMgPP * MgPP2[tt] + 1 / tauf *
     MgDMf[tt] * UnitStep[tt - tflash] + 1 / taus * MgDMs[tt] * UnitStep[tt - tflash]
 }
;

(*PP1: Comes from CaDMf,CaDMs and binds Ca and Mg*)
BufferPP1 := {

  PP1[0] == 0,
  CaPP1[0] == 0,
  MgPP1[0] == 0,

  PP1'[tt] == -kOnPP1 * Ca[tt] * PP1[tt] +
    kOffPP1 * CaPP1[tt] - kOnMg * Mg[tt] * PP1[tt] + kOffMgPP * MgPP1[tt]
    + 1 / tauf * CaDMf[tt] * UnitStep[tt - tflash] +
    1 / taus * CaDMs[tt] * UnitStep[tt - tflash],

  CaPP1'[tt] == kOnPP1 * Ca[tt] * PP1[tt] -
    kOffPP1 * CaPP1[tt] + 1 / tauf * CaDMf[tt] * UnitStep[tt - tflash] +
    1 / taus * CaDMs[tt] * UnitStep[tt - tflash],

  MgPP1'[tt] == kOnMg * Mg[tt] * PP1[tt] - kOffMgPP * MgPP1[tt]

 }
;

(*Endogeneous Buffer*)
BufferMB := {

  MB[0] == MB0,
  CaMB[0] == CaMB0,

  MB'[tt] == -kOnMB * Ca[tt] * MB[tt] + kOffMB * CaMB[tt],
  CaMB'[tt] == kOnMB * Ca[tt] * MB[tt] - kOffMB * CaMB[tt]}

;
```

```
(*Clear[Eqns,Vars,sol]*)

  (*Free Ca*)
  FreeCa := {
    Ca[0] == Ca0,

    Ca'[tt] == -γ * (Ca[tt] - CaRest)
      (*DMn*)
      - kOnPP1 * Ca[tt] * PP1[tt] + kOffPP1 * CaPP1[tt]
      - kOnPP2 * Ca[tt] * PP2[tt] + kOffPP2 * CaPP2[tt]
      - kOnDM * Ca[tt] * DMn[tt] + kOffDM * CaDMn[tt]
      - kOnDM * Ca[tt] * DMf[tt] + kOffDM * CaDMf[tt]
      - kOnDM * Ca[tt] * DMs[tt] + kOffDM * CaDMs[tt]
      (*buffers*)
      - kOnATP * Ca[tt] * ATP[tt] + kOffATP * CaATP[tt]
      - kOnMB * Ca[tt] * MB[tt] + kOffMB * CaMB[tt]
      (*dye*)
      - kOnOG * Ca[tt] * OG[tt] + kOffOG * CaOG[tt]
    }
  ;

  (*Free Mg*)
  FreeMg := {
    Mg[0] == Mg0,

    Mg'[tt] ==
     -kOnMgATP * Mg[tt] * ATP[tt] + kOffMgATP * MgATP[tt]
      - kOnMg * Mg[tt] * DMn[tt] + kOffMg * MgDMn[tt]
      - kOnMg * Mg[tt] * DMf[tt] + kOffMg * MgDMf[tt]
      - kOnMg * Mg[tt] * DMs[tt] + kOffMg * MgDMs[tt]
      - kOnMg * Mg[tt] * PP2[tt] + kOffMgPP * MgPP2[tt]
      - kOnMg * Mg[tt] * PP1[tt] + kOffMgPP * MgPP1[tt]
   }

  ;

  Eqns := {BufferDMn, BufferDMf, BufferDMs, BufferATP,
    BufferPP1, BufferPP2, FreeCa, FreeMg, BufferMB, BufferOG}
  ;
  Vars := {ATP, CaATP, MgATP, Ca, Mg, CaDMn, DMn, CaDMf, DMf, CaDMs,
    DMs, CaPP1, PP1, CaPP2, PP2, MgPP2, MgPP1, MB, CaMB, OG, CaOG}
  ;
  sol := NDSolve[Eqns, Vars, {tt, 0., TimeWindow}
    (*,Method→{"EquationSimplification"->"Solve"}*)]
  ;
  CafP = Extract[Ca[TimeWindow] /. sol, 1];
  CafOG = KdOG * CaOG[tt] / OG[tt];
```

```
    AppendTo[CaListReal, Evaluate[{Ca[tt]} /. sol]];
    AppendTo[CaListDye, Evaluate[{CafOG} /. sol]];

  ];
```

2 mM DMN

general parameters

In[156]:=
```
TimeWindow = 0.006; (*End of simulation*)
tflash = 0.0;  (*Time of flash*)
PlStart = 0.; (*Plot start*)

af = 0.67; (*fast uncaging fraction; Faas et al*)

(*Select dye*)
OGB1 = 0;
OGB5N = 1;
OGB6F = 0;
Fluo5F = 0;

CaRest = 227. * 10^-9; (*Free pre-flash rersting Ca;
equilibrates with all buffers and DM*)
MgT = 0.5 * 10^-3; (*total Mg in pipette*)
γ = 0.; (*Pump rate*)

(*Concentrations of dye, buffers, DM*)
OGtotal = 200. * 10^-6 ;
ATPtotal = 5. * 10^-3 ;
MBtotal = 480. * 10^-6 ;(*(*Delvendahl, PNAS, 2015*)*)

DMT = 2. * 10^-3;  (*total concentration of DMn *)
(*uncaging efficiency*)
aStartDMN2 = 0.15;
aEndDMN2 = 0.55;
```

definitions and loop

In[173]:=
```
(*Dye*)
If[OGB1 == 1,
 kOnOG  = 4.3 * 10^8;
kOffOG = 103.;]
```

```
If[OGB5N == 1,
 kOnOG  = 2.5 * 10^8;
kOffOG = 6000. * 31.4 / 24;]

If[OGB6F == 1,
 kOnOG  = 3. * 10^8;
kOffOG = 900.;]

If[Fluo5F == 1,
 kOnOG  = 3. * 10^8;
kOffOG = 249.;] (*Delvendahl PNAS; before: 432*)

KdOG = kOffOG / kOnOG;
kappaOG = OGtotal / KdOG;

(*ATP*)
kOnATP  = 5. * 10^8;
kOffATP = 100 000.;
kOnMgATP  = 1. * 10^7; (*Bollmann Dissertation S. 59; *)
kOffMgATP = 1000.;

KdATP = kOffATP / kOnATP;
kappaATP = ATPtotal / KdATP;
KdMgATP = kOffMgATP / kOnMgATP;

(*DM*)
If[MgT == 0.,
 kOnDM = 1.98 * 10^7; (*Faas Plos Biol, 2007*)
kOffDM = 0.14;
 ,
 kOnDM = 2.9 * 10^7; (*Faas Biophys J, 2005*)
kOffDM = 0.19;
]

(*Mg binding constants for DMn, DMf, DMs*)
kOnMg = 1.3 * 10^5; (*all values for Mg are from Faas et al., 2005*)
kOffMg = 0.2;

(*Ca binding constants for PP*)
kOnPP2 = kOnPP1 = kOnDM;
kOffPP2 = 3.6 * 10 ^ 3;
If[MgT == 0.,
 kOffPP1 = 7. * 10 ^ 4;,
 kOffPP1 = 6.9 * 10 ^ 4; ]

(*Mg binding constants for PP1,PP2*)
```

```
kOffMgPP = 3. * 10 ^ 2; (*for PP1,PP2*)
konMgPP = kOnMg; (*koMgPP not used in below diff. eq., only kOnMg*)

(*Equilibrium constants (not complete)*)
KdDM = kOffDM / kOnDM;
KdPP1 = kOffPP1 / kOnPP1;
KdMg = kOffMg / kOnMg;
kappaDM = DMT / KdDM;

 (*Endogenous buffer*)
kOnMB = 5 * 10^8;(*Delvendahl, PNAS, 2015*)
kOffMB = 16 000;
KdMB = kOffMB / kOnMB;

TRest = 1000.;


(*----------------------------------  Loop  ----------
 ----------------------------------------*)
(*----------------------------------  Loop  ----------
 ----------------------------------------*)
(*----------------------------------  Loop  ----------
 ----------------------------------------*)

For[aCount = 1, aCount ≤ aNumberDMN2, aCount += 1,
  a = 10 ^ (Log10[aStartDMN2] +
      (aCount - 1) * (Log10[aEndDMN2] - Log10[aStartDMN2]) / (aNumberDMN2 - 1));

  (*------------------------- Resting
    Equations ------------------------------------------*)

  (*Dye*)
  OGRest := {

    OG[0] == OGtotal,
    CaOG[0] == 0,

    OG'[tt] == -kOnOG * CaRest * OG[tt] + kOffOG * CaOG[tt],
    CaOG'[tt] == kOnOG * CaRest * OG[tt] - kOffOG * CaOG[tt]
   }
  ;

  (*ATP*)
  ATPRest := {

    ATP[0] == ATPtotal,
    CaATP[0] == 0,
```

```
  MgATP[0] == 0,

  ATP'[tt] == -kOnATP * CaRest * ATP[tt] + kOffATP * CaATP[tt] -
    kOnMgATP * Mg[tt] * ATP[tt] + kOffMgATP * MgATP[tt],
  CaATP'[tt] == kOnATP * CaRest * ATP[tt] - kOffATP * CaATP[tt],
  MgATP'[tt] == kOnMgATP * Mg[tt] * ATP[tt] - kOffMgATP * MgATP[tt]

 }

;

(*DM nitrophene*)
DMnRest := {

  DMn[0] == (1 - a) * DMT,
  CaDMn[0] == 0.,
  MgDMn[0] == 0.,

  DMn'[tt] == -kOnDM * CaRest * DMn[tt] +
    kOffDM * CaDMn[tt] - kOnMg * Mg[tt] * DMn[tt] + kOffMg * MgDMn[tt],
  CaDMn'[tt] == kOnDM * CaRest * DMn[tt] - kOffDM * CaDMn[tt],
  MgDMn'[tt] == kOnMg * Mg[tt] * DMn[tt] - kOffMg * MgDMn[tt]
 }

;
DMfRest := {

  DMf[0] == a * af * DMT,
  CaDMf[0] == 0.,
  MgDMf[0] == 0.,

  DMf'[tt] == -kOnDM * CaRest * DMf[tt] +
    kOffDM * CaDMf[tt] - kOnMg * Mg[tt] * DMf[tt] + kOffMg * MgDMf[tt],
  CaDMf'[tt] == kOnDM * CaRest * DMf[tt] - kOffDM * CaDMf[tt],
  MgDMf'[tt] == kOnMg * Mg[tt] * DMf[tt] - kOffMg * MgDMf[tt]
 }

;
DMsRest := {

  DMs[0] == a * (1 - af) * DMT,
  CaDMs[0] == 0.,
  MgDMs[0] == 0.,

  DMs'[tt] == -kOnDM * CaRest * DMs[tt] +
    kOffDM * CaDMs[tt] - kOnMg * Mg[tt] * DMs[tt] + kOffMg * MgDMs[tt],
  CaDMs'[tt] == kOnDM * CaRest * DMs[tt] - kOffDM * CaDMs[tt],
```

```
    MgDMs'[tt] == kOnMg * Mg[tt] * DMs[tt] - kOffMg * MgDMs[tt]
   }
  ;

  (*Endogeneous buffer*)
  MBRest := {

    MB[0] == MBtotal,
    CaMB[0] == 0,

    MB'[tt] == -kOnMB * CaRest * MB[tt] + kOffMB * CaMB[tt],
    CaMB'[tt] == kOnMB * CaRest * MB[tt] - kOffMB * CaMB[tt]
   }

  ;

  (*Free Mg*)
  MgfRest := {
    Mg[0] == MgT,

    Mg'[tt] ==
     -kOnMgATP * Mg[tt] * ATP[tt] + kOffMgATP * MgATP[tt]
      - kOnMg * Mg[tt] * DMn[tt] + kOffMg * MgDMn[tt]
      - kOnMg * Mg[tt] * DMf[tt] + kOffMg * MgDMf[tt]
      - kOnMg * Mg[tt] * DMs[tt] + kOffMg * MgDMs[tt]
   }

  ;
  EqRest := {ATPRest, MgfRest, OGRest, DMnRest, DMfRest, DMsRest, MBRest};
  VarsRest := {ATP, Mg, CaATP, MgATP, CaOG, OG, DMn,
    CaDMn, MgDMn, DMf, CaDMf, MgDMf, DMs, CaDMs, MgDMs, MB, CaMB}
  ;
  solr := NDSolve[EqRest, VarsRest, {tt, 0, TRest}]
  ;

  Ca0 = CaRest;
  Mg0 = Extract[Mg[TRest] /. solr, 1];
  ATP0 = Extract[ATP[TRest] /. solr, 1];
  CaATP0 = Extract[CaATP[TRest] /. solr, 1];
  MgATP0 = Extract[MgATP[TRest] /. solr, 1];
  OG0 = Extract[OG[TRest] /. solr, 1];
  CaOG0 = Extract[CaOG[TRest] /. solr, 1];
  DMn0 = Extract[DMn[TRest] /. solr, 1];
  CaDMn0 = Extract[CaDMn[TRest] /. solr, 1];
  MgDMn0 = Extract[MgDMn[TRest] /. solr, 1];
  DMf0 = Extract[DMf[TRest] /. solr, 1];
  CaDMf0 = Extract[CaDMf[TRest] /. solr, 1];
```

```
  MgDMf0 = Extract[MgDMf[TRest] /. solr, 1];
  DMs0 = Extract[DMs[TRest] /. solr, 1];
  CaDMs0 = Extract[CaDMs[TRest] /. solr, 1];
  MgDMs0 = Extract[MgDMs[TRest] /. solr, 1];
  MB0 = Extract[MB[TRest] /. solr, 1];
  CaMB0 = Extract[CaMB[TRest] /. solr, 1];


  ClearAll[EqRest, VarsRest];


  (*------------------------- Flash
    Equations -------------------------------------------*)

  (*Dye*)
  BufferOG := {

    OG[0] == OG0,
    CaOG[0] == CaOG0,

    OG'[tt] == -kOnOG * Ca[tt] * OG[tt] + kOffOG * CaOG[tt],
    CaOG'[tt] == kOnOG * Ca[tt] * OG[tt] - kOffOG * CaOG[tt]}
  ;

  (*ATP*)
BufferATP := {

    ATP[0] == ATP0,
    CaATP[0] == CaATP0,
    MgATP[0] == MgATP0,

    ATP'[tt] == -kOnATP * Ca[tt] * ATP[tt] + kOffATP * CaATP[tt] -
      kOnMgATP * Mg[tt] * ATP[tt] + kOffMgATP * MgATP[tt],
    CaATP'[tt] == kOnATP * Ca[tt] * ATP[tt] - kOffATP * CaATP[tt],
    MgATP'[tt] == kOnMgATP * Mg[tt] * ATP[tt] - kOffMgATP * MgATP[tt]
   }
  ;

  (*fast (tauf) and slow (taus) time constants for uncageing;
  Faas et al., 2005,2007*)
If[MgT == 0.,
   tauf = 15.2 * 10^-6;  (*Faas, 2007*)
   taus = 1.9 * 10^-3;
   ,
   tauf = 15. * 10^-6;  (*Faas,2005*)
   taus = 2. * 10^-3; ]
```

```
;

(*The differential equations*)
(*non uncaging fraction of DMn*)
BufferDMn := {

  DMn[0] == DMn0,
  CaDMn[0] == CaDMn0,
  MgDMn[0] == MgDMn0,

  DMn'[tt] == -kOnDM * Ca[tt] * DMn[tt] +
    kOffDM * CaDMn[tt] - kOnMg * Mg[tt] * DMn[tt] + kOffMg * MgDMn[tt],
  CaDMn'[tt] == kOnDM * Ca[tt] * DMn[tt] - kOffDM * CaDMn[tt],
  MgDMn'[tt] == kOnMg * Mg[tt] * DMn[tt] - kOffMg * MgDMn[tt]
 }
;

(*fast uncaging fraction of DMn*)
BufferDMf := {

  DMf[0] == DMf0,
  CaDMf[0] == CaDMf0,
  MgDMf[0] == MgDMf0,

  DMf'[tt] == -kOnDM * Ca[tt] * DMf[tt] + kOffDM * CaDMf[tt] - kOnMg * Mg[tt] *
     DMf[tt] + kOffMg * MgDMf[tt] - 1 / tauf * DMf[tt] * UnitStep[tt - tflash],
  CaDMf'[tt] == kOnDM * Ca[tt] * DMf[tt] - kOffDM * CaDMf[tt] -
    1 / tauf * CaDMf[tt] * UnitStep[tt - tflash],
  MgDMf'[tt] == kOnMg * Mg[tt] * DMf[tt] - kOffMg * MgDMf[tt] -
    1 / tauf * MgDMf[tt] * UnitStep[tt - tflash]
 }

;
(*slow uncaging fraction of DMn*)
BufferDMs := {

  DMs[0] == DMs0,
  CaDMs[0] == CaDMs0,
  MgDMs[0] == MgDMs0,

  DMs'[tt] == -kOnDM * Ca[tt] * DMs[tt] + kOffDM * CaDMs[tt] - kOnMg * Mg[tt] *
     DMs[tt] + kOffMg * MgDMs[tt] - 1 / taus * DMs[tt] * UnitStep[tt - tflash],
  CaDMs'[tt] == kOnDM * Ca[tt] * DMs[tt] - kOffDM * CaDMs[tt] -
    1 / taus * CaDMs[tt] * UnitStep[tt - tflash],
  MgDMs'[tt] == kOnMg * Mg[tt] * DMs[tt] - kOffMg * MgDMs[tt] -
    1 / taus * MgDMs[tt] * UnitStep[tt - tflash]
 }
```

```
;

(*Photoproducts*)
(*PP2: comes from DMf,DMs and MgDMf,MgDMs; but also binds Ca*)
BufferPP2 := {

  PP2[0] == 0,
  CaPP2[0] == 0,
  MgPP2[0] == 0,

  PP2'[tt] == -kOnPP2 * Ca[tt] * PP2[tt] + kOffPP2 * CaPP2[tt] -
    kOnMg * Mg[tt] * PP2[tt] + kOffMgPP * MgPP2[tt] + 2 * (1 / tauf * DMf[tt] *
        UnitStep[tt - tflash] + 1 / taus * DMs[tt] * UnitStep[tt - tflash])
    + 1 / tauf * MgDMf[tt] * UnitStep[tt - tflash] +
    1 / taus * MgDMs[tt] * UnitStep[tt - tflash],

  CaPP2'[tt] == kOnPP2 * Ca[tt] * PP2[tt] - kOffPP2 * CaPP2[tt],

  MgPP2'[tt] == kOnMg * Mg[tt] * PP2[tt] - kOffMgPP * MgPP2[tt] + 1 / tauf *
     MgDMf[tt] * UnitStep[tt - tflash] + 1 / taus * MgDMs[tt] * UnitStep[tt - tflash]
 }
;

(*PP1: Comes from CaDMf,CaDMs and binds Ca and Mg*)
BufferPP1 := {

  PP1[0] == 0,
  CaPP1[0] == 0,
  MgPP1[0] == 0,

  PP1'[tt] == -kOnPP1 * Ca[tt] * PP1[tt] +
    kOffPP1 * CaPP1[tt] - kOnMg * Mg[tt] * PP1[tt] + kOffMgPP * MgPP1[tt]
    + 1 / tauf * CaDMf[tt] * UnitStep[tt - tflash] +
    1 / taus * CaDMs[tt] * UnitStep[tt - tflash],

  CaPP1'[tt] == kOnPP1 * Ca[tt] * PP1[tt] -
    kOffPP1 * CaPP1[tt] + 1 / tauf * CaDMf[tt] * UnitStep[tt - tflash] +
    1 / taus * CaDMs[tt] * UnitStep[tt - tflash],

  MgPP1'[tt] == kOnMg * Mg[tt] * PP1[tt] - kOffMgPP * MgPP1[tt]

 }
;

(*Endogeneous Buffer*)
BufferMB := {
```

```
    MB[0] == MB0,
    CaMB[0] == CaMB0,

    MB'[tt] == -kOnMB * Ca[tt] * MB[tt] + kOffMB * CaMB[tt],
    CaMB'[tt] == kOnMB * Ca[tt] * MB[tt] - kOffMB * CaMB[tt]}

  ;

(*Clear[Eqns,Vars,sol]*)

  (*Free Ca*)
  FreeCa := {
    Ca[0] == Ca0,

    Ca'[tt] == -γ * (Ca[tt] - CaRest)
      (*DMn*)
      - kOnPP1 * Ca[tt] * PP1[tt] + kOffPP1 * CaPP1[tt]
      - kOnPP2 * Ca[tt] * PP2[tt] + kOffPP2 * CaPP2[tt]
      - kOnDM * Ca[tt] * DMn[tt] + kOffDM * CaDMn[tt]
      - kOnDM * Ca[tt] * DMf[tt] + kOffDM * CaDMf[tt]
      - kOnDM * Ca[tt] * DMs[tt] + kOffDM * CaDMs[tt]
      (*buffers*)
      - kOnATP * Ca[tt] * ATP[tt] + kOffATP * CaATP[tt]
      - kOnMB * Ca[tt] * MB[tt] + kOffMB * CaMB[tt]
      (*dye*)
      - kOnOG * Ca[tt] * OG[tt] + kOffOG * CaOG[tt]
    }
  ;

  (*Free Mg*)
  FreeMg := {
    Mg[0] == Mg0,

    Mg'[tt] ==
     -kOnMgATP * Mg[tt] * ATP[tt] + kOffMgATP * MgATP[tt]
      - kOnMg * Mg[tt] * DMn[tt] + kOffMg * MgDMn[tt]
      - kOnMg * Mg[tt] * DMf[tt] + kOffMg * MgDMf[tt]
      - kOnMg * Mg[tt] * DMs[tt] + kOffMg * MgDMs[tt]
      - kOnMg * Mg[tt] * PP2[tt] + kOffMgPP * MgPP2[tt]
      - kOnMg * Mg[tt] * PP1[tt] + kOffMgPP * MgPP1[tt]
   }

  ;

  Eqns := {BufferDMn, BufferDMf, BufferDMs, BufferATP,
    BufferPP1, BufferPP2, FreeCa, FreeMg, BufferMB, BufferOG}
  ;
```

```
  Vars := {ATP, CaATP, MgATP, Ca, Mg, CaDMn, DMn, CaDMf, DMf, CaDMs,
    DMs, CaPP1, PP1, CaPP2, PP2, MgPP2, MgPP1, MB, CaMB, OG, CaOG}
  ;
  sol := NDSolve[Eqns, Vars, {tt, 0., TimeWindow}
    (*,Method→{"EquationSimplification"->"Solve"}*)]
  ;
  CafP = Extract[Ca[TimeWindow] /. sol, 1];
  CafOG = KdOG * CaOG[tt] / OG[tt];

  AppendTo[CaListReal, Evaluate[{Ca[tt]} /. sol]];
  AppendTo[CaListDye, Evaluate[{CafOG} /. sol]];

 ];
```

10 mM DMN

general parameters

In[203]:=
```
TimeWindow = 0.006; (*End of simulation*)
tflash = 0.0;  (*Time of flash*)
PlStart = 0.; (*Plot start*)

af = 0.67; (*fast uncaging fraction; Faas et al*)

(*Select dye*)
OGB1 = 0;
OGB5N = 1;
OGB6F = 0;
Fluo5F = 0;

CaRest = 227. * 10^-9; (*Free pre-flash rersting Ca;
equilibrates with all buffers and DM*)
MgT = 0.5 * 10^-3; (*total Mg in pipette*)
γ = 0.; (*Pump rate*)

(*Concentrations of dye, buffers, DM*)
OGtotal = 200. * 10^-6 ;
ATPtotal = 5. * 10^-3 ;
MBtotal = 480. * 10^-6 ;(*(*Delvendahl, PNAS, 2015*)*)

DMT = 10. * 10^-3;  (*total concentration of DMn *)
(*uncaging efficiency*)
aStartDMN10 = 0.14;
aEndDMN10 = 0.25;
```

definitions and loop

In[220]:=
```
(*Dye*)
If[OGB1 == 1,
 kOnOG  = 4.3 * 10^8;
kOffOG = 103.;]

If[OGB5N == 1,
 kOnOG  = 2.5 * 10^8;
kOffOG = 6000. * 31.4 / 24;]

If[OGB6F == 1,
 kOnOG  = 3. * 10^8;
kOffOG = 900.;]

If[Fluo5F == 1,
 kOnOG  = 3. * 10^8;
kOffOG = 249.;] (*Delvendahl PNAS; before: 432*)

KdOG = kOffOG / kOnOG;
kappaOG = OGtotal / KdOG;

(*ATP*)
kOnATP  = 5. * 10^8;
kOffATP = 100 000.;
kOnMgATP  = 1. * 10^7; (*Bollmann Dissertation S. 59; *)
kOffMgATP = 1000.;

KdATP = kOffATP / kOnATP;
kappaATP = ATPtotal / KdATP;
KdMgATP = kOffMgATP / kOnMgATP;

(*DM*)
If[MgT == 0.,
 kOnDM = 1.98 * 10^7; (*Faas Plos Biol, 2007*)
kOffDM = 0.14;
 ,
 kOnDM = 2.9 * 10^7; (*Faas Biophys J, 2005*)
kOffDM = 0.19;
]

(*Mg binding constants for DMn, DMf, DMs*)
kOnMg = 1.3 * 10^5; (*all values for Mg are from Faas et al., 2005*)
kOffMg = 0.2;
```

```
(*Ca binding constants for PP*)
kOnPP2 = kOnPP1 = kOnDM;
kOffPP2 = 3.6 * 10 ^ 3;
If[MgT == 0.,
 kOffPP1 = 7. * 10 ^ 4;,
 kOffPP1 = 6.9 * 10 ^ 4; ]

(*Mg binding constants for PP1,PP2*)
kOffMgPP = 3. * 10 ^ 2; (*for PP1,PP2*)
konMgPP = kOnMg; (*koMgPP not used in below diff. eq., only kOnMg*)

(*Equilibrium constants (not complete)*)
KdDM = kOffDM / kOnDM;
KdPP1 = kOffPP1 / kOnPP1;
KdMg = kOffMg / kOnMg;
kappaDM = DMT / KdDM;

 (*Endogenous buffer*)
kOnMB = 5 * 10^8;(*Delvendahl, PNAS, 2015*)
kOffMB = 16 000;
KdMB = kOffMB / kOnMB;

TRest = 1000.;


(*----------------------------------  Loop  ----------
 ----------------------------------------*)
(*----------------------------------  Loop  ----------
 ----------------------------------------*)
(*----------------------------------  Loop  ----------
 ----------------------------------------*)

For[aCount = 1, aCount ≤ aNumberDMN10, aCount += 1,
  a = 10 ^ (Log10[aStartDMN10] +
      (aCount - 1) * (Log10[aEndDMN10] - Log10[aStartDMN10]) / (aNumberDMN10 - 1));

  (*------------------------- Resting
    Equations -------------------------------------------*)

  (*Dye*)
  OGRest := {

    OG[0] == OGtotal,
    CaOG[0] == 0,

    OG'[tt] == -kOnOG * CaRest * OG[tt] + kOffOG * CaOG[tt],
    CaOG'[tt] == kOnOG * CaRest * OG[tt] - kOffOG * CaOG[tt]
```

```
 }
;

(*ATP*)
ATPRest := {

  ATP[0] == ATPtotal,
  CaATP[0] == 0,
  MgATP[0] == 0,

  ATP'[tt] == -kOnATP * CaRest * ATP[tt] + kOffATP * CaATP[tt] -
    kOnMgATP * Mg[tt] * ATP[tt] + kOffMgATP * MgATP[tt],
  CaATP'[tt] == kOnATP * CaRest * ATP[tt] - kOffATP * CaATP[tt],
  MgATP'[tt] == kOnMgATP * Mg[tt] * ATP[tt] - kOffMgATP * MgATP[tt]

 }

;

(*DM nitrophene*)
DMnRest := {

  DMn[0] == (1 - a) * DMT,
  CaDMn[0] == 0.,
  MgDMn[0] == 0.,

  DMn'[tt] == -kOnDM * CaRest * DMn[tt] +
    kOffDM * CaDMn[tt] - kOnMg * Mg[tt] * DMn[tt] + kOffMg * MgDMn[tt],
  CaDMn'[tt] == kOnDM * CaRest * DMn[tt] - kOffDM * CaDMn[tt],
  MgDMn'[tt] == kOnMg * Mg[tt] * DMn[tt] - kOffMg * MgDMn[tt]
 }

;
DMfRest := {

  DMf[0] == a * af * DMT,
  CaDMf[0] == 0.,
  MgDMf[0] == 0.,

  DMf'[tt] == -kOnDM * CaRest * DMf[tt] +
    kOffDM * CaDMf[tt] - kOnMg * Mg[tt] * DMf[tt] + kOffMg * MgDMf[tt],
  CaDMf'[tt] == kOnDM * CaRest * DMf[tt] - kOffDM * CaDMf[tt],
  MgDMf'[tt] == kOnMg * Mg[tt] * DMf[tt] - kOffMg * MgDMf[tt]
 }

;
DMsRest := {
```

```
  DMs[0] == a * (1 - af) * DMT,
  CaDMs[0] == 0.,
  MgDMs[0] == 0.,

  DMs'[tt] == -kOnDM * CaRest * DMs[tt] +
    kOffDM * CaDMs[tt] - kOnMg * Mg[tt] * DMs[tt] + kOffMg * MgDMs[tt],
  CaDMs'[tt] == kOnDM * CaRest * DMs[tt] - kOffDM * CaDMs[tt],
  MgDMs'[tt] == kOnMg * Mg[tt] * DMs[tt] - kOffMg * MgDMs[tt]
 }
;

(*Endogeneous buffer*)
MBRest := {

  MB[0] == MBtotal,
  CaMB[0] == 0,

  MB'[tt] == -kOnMB * CaRest * MB[tt] + kOffMB * CaMB[tt],
  CaMB'[tt] == kOnMB * CaRest * MB[tt] - kOffMB * CaMB[tt]
 }

;

(*Free Mg*)
MgfRest := {
  Mg[0] == MgT,

  Mg'[tt] ==
   -kOnMgATP * Mg[tt] * ATP[tt] + kOffMgATP * MgATP[tt]
    - kOnMg * Mg[tt] * DMn[tt] + kOffMg * MgDMn[tt]
    - kOnMg * Mg[tt] * DMf[tt] + kOffMg * MgDMf[tt]
    - kOnMg * Mg[tt] * DMs[tt] + kOffMg * MgDMs[tt]
 }

;
EqRest := {ATPRest, MgfRest, OGRest, DMnRest, DMfRest, DMsRest, MBRest};
VarsRest := {ATP, Mg, CaATP, MgATP, CaOG, OG, DMn,
  CaDMn, MgDMn, DMf, CaDMf, MgDMf, DMs, CaDMs, MgDMs, MB, CaMB}
;
solr := NDSolve[EqRest, VarsRest, {tt, 0, TRest}]
;

Ca0 = CaRest;
Mg0 = Extract[Mg[TRest] /. solr, 1];
ATP0 = Extract[ATP[TRest] /. solr, 1];
CaATP0 = Extract[CaATP[TRest] /. solr, 1];
```

```
MgATP0 = Extract[MgATP[TRest] /. solr, 1];
OG0 = Extract[OG[TRest] /. solr, 1];
CaOG0 = Extract[CaOG[TRest] /. solr, 1];
DMn0 = Extract[DMn[TRest] /. solr, 1];
CaDMn0 = Extract[CaDMn[TRest] /. solr, 1];
MgDMn0 = Extract[MgDMn[TRest] /. solr, 1];
DMf0 = Extract[DMf[TRest] /. solr, 1];
CaDMf0 = Extract[CaDMf[TRest] /. solr, 1];
MgDMf0 = Extract[MgDMf[TRest] /. solr, 1];
DMs0 = Extract[DMs[TRest] /. solr, 1];
CaDMs0 = Extract[CaDMs[TRest] /. solr, 1];
MgDMs0 = Extract[MgDMs[TRest] /. solr, 1];
MB0 = Extract[MB[TRest] /. solr, 1];
CaMB0 = Extract[CaMB[TRest] /. solr, 1];


ClearAll[EqRest, VarsRest];


(*------------------------- Flash
  Equations -------------------------------------------*)

(*Dye*)
BufferOG := {

  OG[0] == OG0,
  CaOG[0] == CaOG0,

  OG'[tt] == -kOnOG * Ca[tt] * OG[tt] + kOffOG * CaOG[tt],
  CaOG'[tt] == kOnOG * Ca[tt] * OG[tt] - kOffOG * CaOG[tt]}
;

(*ATP*)
BufferATP := {

  ATP[0] == ATP0,
  CaATP[0] == CaATP0,
  MgATP[0] == MgATP0,

  ATP'[tt] == -kOnATP * Ca[tt] * ATP[tt] + kOffATP * CaATP[tt] -
    kOnMgATP * Mg[tt] * ATP[tt] + kOffMgATP * MgATP[tt],
  CaATP'[tt] == kOnATP * Ca[tt] * ATP[tt] - kOffATP * CaATP[tt],
  MgATP'[tt] == kOnMgATP * Mg[tt] * ATP[tt] - kOffMgATP * MgATP[tt]
 }
;

(*fast (tauf) and slow (taus) time constants for uncageing;
```

```
  Faas et al., 2005,2007*)
If[MgT == 0.,
   tauf = 15.2 * 10^-6;  (*Faas, 2007*)
   taus = 1.9 * 10^-3;
   ,
   tauf = 15. * 10^-6;  (*Faas,2005*)
   taus = 2. * 10^-3; ]

  ;

  (*The differential equations*)
  (*non uncaging fraction of DMn*)
  BufferDMn := {

    DMn[0] == DMn0,
    CaDMn[0] == CaDMn0,
    MgDMn[0] == MgDMn0,

    DMn'[tt] == -kOnDM * Ca[tt] * DMn[tt] +
      kOffDM * CaDMn[tt] - kOnMg * Mg[tt] * DMn[tt] + kOffMg * MgDMn[tt],
    CaDMn'[tt] == kOnDM * Ca[tt] * DMn[tt] - kOffDM * CaDMn[tt],
    MgDMn'[tt] == kOnMg * Mg[tt] * DMn[tt] - kOffMg * MgDMn[tt]
   }
  ;

  (*fast uncaging fraction of DMn*)
  BufferDMf := {

    DMf[0] == DMf0,
    CaDMf[0] == CaDMf0,
    MgDMf[0] == MgDMf0,

    DMf'[tt] == -kOnDM * Ca[tt] * DMf[tt] + kOffDM * CaDMf[tt] - kOnMg * Mg[tt] *
       DMf[tt] + kOffMg * MgDMf[tt] - 1 / tauf * DMf[tt] * UnitStep[tt - tflash],
    CaDMf'[tt] == kOnDM * Ca[tt] * DMf[tt] - kOffDM * CaDMf[tt] -
      1 / tauf * CaDMf[tt] * UnitStep[tt - tflash],
    MgDMf'[tt] == kOnMg * Mg[tt] * DMf[tt] - kOffMg * MgDMf[tt] -
      1 / tauf * MgDMf[tt] * UnitStep[tt - tflash]
   }

  ;
  (*slow uncaging fraction of DMn*)
  BufferDMs := {

    DMs[0] == DMs0,
    CaDMs[0] == CaDMs0,
    MgDMs[0] == MgDMs0,
```

```
  DMs'[tt] == -kOnDM * Ca[tt] * DMs[tt] + kOffDM * CaDMs[tt] - kOnMg * Mg[tt] *
     DMs[tt] + kOffMg * MgDMs[tt] - 1 / taus * DMs[tt] * UnitStep[tt - tflash],
  CaDMs'[tt] == kOnDM * Ca[tt] * DMs[tt] - kOffDM * CaDMs[tt] -
    1 / taus * CaDMs[tt] * UnitStep[tt - tflash],
  MgDMs'[tt] == kOnMg * Mg[tt] * DMs[tt] - kOffMg * MgDMs[tt] -
    1 / taus * MgDMs[tt] * UnitStep[tt - tflash]
 }
;

(*Photoproducts*)
(*PP2: comes from DMf,DMs and MgDMf,MgDMs; but also binds Ca*)
BufferPP2 := {

  PP2[0] == 0,
  CaPP2[0] == 0,
  MgPP2[0] == 0,

  PP2'[tt] == -kOnPP2 * Ca[tt] * PP2[tt] + kOffPP2 * CaPP2[tt] -
    kOnMg * Mg[tt] * PP2[tt] + kOffMgPP * MgPP2[tt] + 2 * (1 / tauf * DMf[tt] *
        UnitStep[tt - tflash] + 1 / taus * DMs[tt] * UnitStep[tt - tflash])
    + 1 / tauf * MgDMf[tt] * UnitStep[tt - tflash] +
    1 / taus * MgDMs[tt] * UnitStep[tt - tflash],

  CaPP2'[tt] == kOnPP2 * Ca[tt] * PP2[tt] - kOffPP2 * CaPP2[tt],

  MgPP2'[tt] == kOnMg * Mg[tt] * PP2[tt] - kOffMgPP * MgPP2[tt] + 1 / tauf *
     MgDMf[tt] * UnitStep[tt - tflash] + 1 / taus * MgDMs[tt] * UnitStep[tt - tflash]
 }
;

(*PP1: Comes from CaDMf,CaDMs and binds Ca and Mg*)
BufferPP1 := {

  PP1[0] == 0,
  CaPP1[0] == 0,
  MgPP1[0] == 0,

  PP1'[tt] == -kOnPP1 * Ca[tt] * PP1[tt] +
    kOffPP1 * CaPP1[tt] - kOnMg * Mg[tt] * PP1[tt] + kOffMgPP * MgPP1[tt]
    + 1 / tauf * CaDMf[tt] * UnitStep[tt - tflash] +
    1 / taus * CaDMs[tt] * UnitStep[tt - tflash],

  CaPP1'[tt] == kOnPP1 * Ca[tt] * PP1[tt] -
    kOffPP1 * CaPP1[tt] + 1 / tauf * CaDMf[tt] * UnitStep[tt - tflash] +
    1 / taus * CaDMs[tt] * UnitStep[tt - tflash],
```

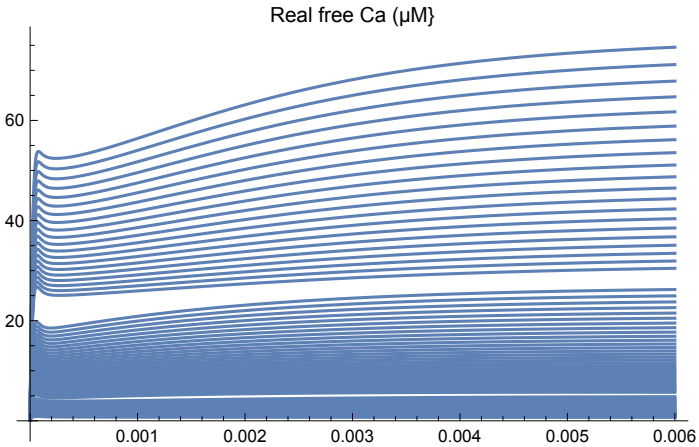
```
    MgPP1'[tt] == kOnMg * Mg[tt] * PP1[tt] - kOffMgPP * MgPP1[tt]

   }
  ;

  (*Endogeneous Buffer*)
  BufferMB := {

    MB[0] == MB0,
    CaMB[0] == CaMB0,

    MB'[tt] == -kOnMB * Ca[tt] * MB[tt] + kOffMB * CaMB[tt],
    CaMB'[tt] == kOnMB * Ca[tt] * MB[tt] - kOffMB * CaMB[tt]}

  ;

(*Clear[Eqns,Vars,sol]*)

  (*Free Ca*)
  FreeCa := {
    Ca[0] == Ca0,

    Ca'[tt] == -γ * (Ca[tt] - CaRest)
      (*DMn*)
      - kOnPP1 * Ca[tt] * PP1[tt] + kOffPP1 * CaPP1[tt]
      - kOnPP2 * Ca[tt] * PP2[tt] + kOffPP2 * CaPP2[tt]
      - kOnDM * Ca[tt] * DMn[tt] + kOffDM * CaDMn[tt]
      - kOnDM * Ca[tt] * DMf[tt] + kOffDM * CaDMf[tt]
      - kOnDM * Ca[tt] * DMs[tt] + kOffDM * CaDMs[tt]
      (*buffers*)
      - kOnATP * Ca[tt] * ATP[tt] + kOffATP * CaATP[tt]
      - kOnMB * Ca[tt] * MB[tt] + kOffMB * CaMB[tt]
      (*dye*)
      - kOnOG * Ca[tt] * OG[tt] + kOffOG * CaOG[tt]
    }
  ;

  (*Free Mg*)
  FreeMg := {
    Mg[0] == Mg0,

    Mg'[tt] ==
     -kOnMgATP * Mg[tt] * ATP[tt] + kOffMgATP * MgATP[tt]
      - kOnMg * Mg[tt] * DMn[tt] + kOffMg * MgDMn[tt]
      - kOnMg * Mg[tt] * DMf[tt] + kOffMg * MgDMf[tt]
      - kOnMg * Mg[tt] * DMs[tt] + kOffMg * MgDMs[tt]
      - kOnMg * Mg[tt] * PP2[tt] + kOffMgPP * MgPP2[tt]
```

```
        - kOnMg * Mg[tt] * PP1[tt] + kOffMgPP * MgPP1[tt]
    }

  ;

  Eqns := {BufferDMn, BufferDMf, BufferDMs, BufferATP,
    BufferPP1, BufferPP2, FreeCa, FreeMg, BufferMB, BufferOG}
  ;
  Vars := {ATP, CaATP, MgATP, Ca, Mg, CaDMn, DMn, CaDMf, DMf, CaDMs,
    DMs, CaPP1, PP1, CaPP2, PP2, MgPP2, MgPP1, MB, CaMB, OG, CaOG}
  ;
  sol := NDSolve[Eqns, Vars, {tt, 0., TimeWindow}
    (*,Method→{"EquationSimplification"->"Solve"}*)]
  ;
  CafP = Extract[Ca[TimeWindow] /. sol, 1];
  CafOG = KdOG * CaOG[tt] / OG[tt];


  AppendTo[CaListReal, Evaluate[{Ca[tt]} /. sol]];
  AppendTo[CaListDye, Evaluate[{CafOG} /. sol]];
 ];
```

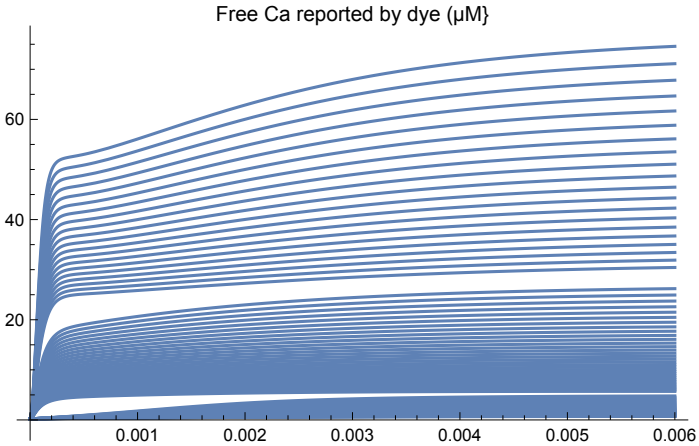
Plot and further processing

```
In[250]:= Plot[10^6 * CaListReal, {tt, 0, TimeWindow}, PlotLabel → "Real free Ca (μM}"]
Plot[10^6 * CaListDye, {tt, 0, TimeWindow},
 PlotLabel → "Free Ca reported by dye (μM}"]
LogPlot[10^6 * CaListReal, {tt, 0, TimeWindow}, PlotLabel → "Real free Ca (μM}"]
LogPlot[10^6 * CaListDye, {tt, 0, TimeWindow},
 PlotLabel → "Free Ca reported by dye (μM}"]
CaListDyePeak =
 Table[NMaximize[{CaListDye[[nn]][[1]][[1]], 0 ≤ tt ≤ TimeWindow}, tt][[1]],
  {nn, Length[CaListDye]}]
  (*"[[1]][[1]]" is neede to get rid of these brackets {{}}*)
```

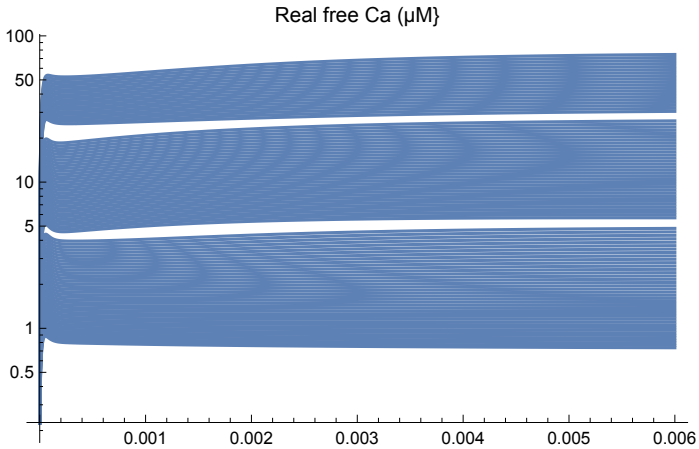
Out[250]=



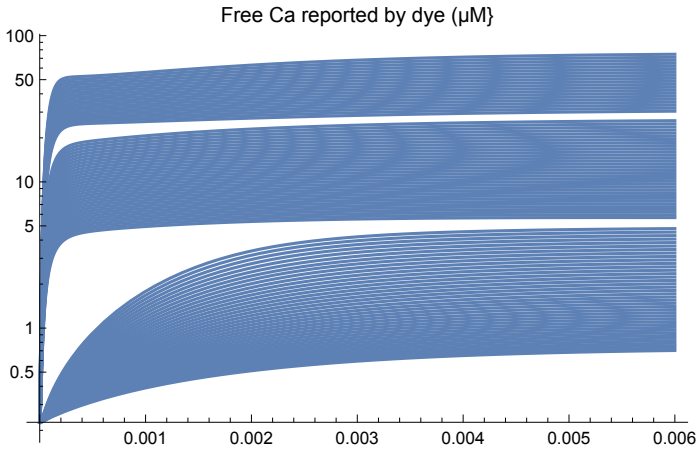
Out[251]=



Out[252]=



Out[253]=



Out[254]= $\{7.03073\times10^{-7}, 7.29825\times10^{-7}, 7.58204\times10^{-7}, 7.88054\times10^{-7},$
$8.20427\times10^{-7}, 8.54404\times10^{-7}, 8.90526\times10^{-7}, 9.28936\times10^{-7}, 9.68962\times10^{-7},$
$1.01226\times10^{-6}, 1.05883\times10^{-6}, 1.10833\times10^{-6}, 1.16077\times10^{-6}, 1.21664\times10^{-6},$
$1.27589\times10^{-6}, 1.33895\times10^{-6}, 1.40597\times10^{-6}, 1.47745\times10^{-6}, 1.55324\times10^{-6},$
$1.63202\times10^{-6}, 1.71772\times10^{-6}, 1.81058\times10^{-6}, 1.90732\times10^{-6}, 2.01009\times10^{-6},$
$2.11924\times10^{-6}, 2.23489\times10^{-6}, 2.35773\times10^{-6}, 2.48791\times10^{-6}, 2.62605\times10^{-6},$
$2.77177\times10^{-6}, 2.92648\times10^{-6}, 3.0905\times10^{-6}, 3.26357\times10^{-6}, 3.44741\times10^{-6},$
$3.64088\times10^{-6}, 3.84593\times10^{-6}, 4.06272\times10^{-6}, 4.29254\times10^{-6}, 4.53549\times10^{-6},$
$4.79194\times10^{-6}, 5.70182\times10^{-6}, 5.94854\times10^{-6}, 6.20769\times10^{-6}, 6.48003\times10^{-6},$
$6.76619\times10^{-6}, 7.06711\times10^{-6}, 7.38317\times10^{-6}, 7.71513\times10^{-6}, 8.06387\times10^{-6},$
$8.43035\times10^{-6}, 8.8155\times10^{-6}, 9.22041\times10^{-6}, 9.64607\times10^{-6}, 0.0000100938,$
0.0000105647, 0.0000110598, 0.0000115813, 0.0000121299, 0.0000127076,
0.0000133154, 0.0000139549, 0.00001463, 0.0000153404, 0.0000160887,
0.0000168774, 0.0000177084, 0.0000185844, 0.0000195079, 0.0000204816,
0.0000215084, 0.0000225913, 0.0000237336, 0.000024939, 0.0000262105,
0.0000304385, 0.0000319006, 0.0000334338, 0.0000350413, 0.000036727,
0.0000384944, 0.0000403477, 0.0000422911, 0.0000443291, 0.0000464665,
0.0000487083, 0.0000510599, 0.0000535266, 0.0000561157, 0.0000588318,
0.0000616839, 0.0000646772, 0.0000678199, 0.0000711201, 0.0000745861}

In[255]:=
```
runs = Length[CaListDyePeak];
```

Release scheme and parameters

Define release scheme

In[256]:=
```
nStates = 7;
mat = Table[0, {nStates}, {nStates}];
```

forward rates

In[258]:=
```
from = 1;(*0 ca bound*)
kk = 5 kon;
mat[[from + 1, from]] += kk; mat[[from, from]] += -kk;

from = 2;
kk = 4 kon;
mat[[from + 1, from]] += kk; mat[[from, from]] += -kk;

from = 3;
kk = 3 kon;
mat[[from + 1, from]] += kk; mat[[from, from]] += -kk;

from = 4;
kk = 2 kon;
mat[[from + 1, from]] += kk; mat[[from, from]] += -kk;

from = 5;(*4 ca bound*)
kk = kon;
mat[[from + 1, from]] += kk; mat[[from, from]] += -kk;

from = 6;(*5 ca bound*)
kk = gamma;
mat[[from + 1, from]] += kk; mat[[from, from]] += -kk;
```

backwards rates

In[276]:=
```
from = 2;(*1 ca bound*)
kk = koff b^0;
mat[[from - 1, from]] += kk; mat[[from, from]] += -kk;

from = 3;
kk = 2 koff b^1;
mat[[from - 1, from]] += kk; mat[[from, from]] += -kk;

from = 4;
kk = 3 koff b^2;
mat[[from - 1, from]] += kk; mat[[from, from]] += -kk;

from = 5;
kk = 4 koff b^3;
mat[[from - 1, from]] += kk; mat[[from, from]] += -kk;

from = 6;(*5 ca bound*)
kk = 5 koff b^4;
mat[[from - 1, from]] += kk; mat[[from, from]] += -kk;
```

outflux from matrix

In[291]:=
```
mat[[1, 1]] += -kunfill;(* is multiplied by ss1[t] *)
```

influx in matrix

In[292]:=
```
mat[[1, 1]] += (1 / ss1[t]) kfill fillStateSS[t];
(* (1/ss1[t]) is needed to merge the fillState
 Diff Eq. in the matrix format. Note ss1[t] is never 0 *)
```

Matrix

In[293]:=
```
mat // TableForm
```

Out[293]//TableForm=

$-5\,\text{kon} - \text{kunfill} + \frac{\text{kfill fillStateSS}[t]}{\text{ss1}[t]}$	koff	0	0
5 kon	$-\text{koff} - 4\,\text{kon}$	$2\,b\,\text{koff}$	0
0	4 kon	$-2\,b\,\text{koff} - 3\,\text{kon}$	$3\,b^2\,\text{koff}$
0	0	3 kon	$-3\,b^2\,\text{koff} - 2\,\text{kc}$
0	0	0	2 kon
0	0	0	0
0	0	0	0

Parameters of release scheme

In[294]:=
```
linInterpol[x_, a_, b_] := a + x * (b - a);
```

In[295]:=
```
q10 = 2.3;
tempFact = q10 ^ ((37 - 24) / 10);
```

In[297]:=
```
Clear[caFunc, kprimScheme];
(*Clear is needed if the cell is exectued for a 2nd time when
 caFunc is already set to a value or an Interpolationfunction*)

caRest = CaRest;(*227nM see above*)

affinityFactor = 3.0;
konScheme = linInterpol[sitePlugging[t],
   caFunc[t] Sqrt[affinityFactor] tempFact 1.*^8,
   0.1 caFunc[t] Sqrt[affinityFactor] tempFact 1.*^8
  ];(*M^-1 s^-1*)

koffScheme = linInterpol[sitePlugging[t],
   (1 / Sqrt[affinityFactor]) tempFact 15 000,
   0.4 (1 / Sqrt[affinityFactor]) tempFact 15 000
  ];(*s^-1*)
gammaScheme = tempFact 6000;(*s^-1*)
bScheme = 0.25;

KdPrim = 2.*^-6;
kprimScheme  = 2.5 + 60. (caFunc[t] / (KdPrim + caFunc[t]));
kunprimScheme = 2.5 + 60. (caRest / (KdPrim + caRest));

KdFill = 2.*^-6;
kfillScheme =  100 + 800. (caFunc[t] / (KdFill + caFunc[t]));
kunfillScheme = 100 + 800. (caRest / (KdFill + caRest));


repl = {
   kon → konScheme,
   koff → koffScheme ,
   gamma → gammaScheme ,
    b → bScheme,

   kprim → kprimScheme ,
   kunprim → kunprimScheme ,

   kfill → kfillScheme ,
   kunfill → kunfillScheme

   (*
   kbasal→ kbasalScheme  ,
   kunfill→ kunfillScheme
   *)
  };
```

In[311]:=
```
tauOfDecayOfUncagedCa = 0.4;
```

In[312]:=
```
siteClearanceTau = 0.04;
```

Initial occupancy

In[313]:=
```
(*test initial equilibrium occupancy*)
caFunc[t_] := caTmp;
fillStateSSInitial = kprimScheme / kunprimScheme;
ss0Initial = fillStateSSInitial * kfillScheme / kunfillScheme;
(ss0Initial /. caTmp → 180*^-9)
(ss0Initial /. caTmp → 50*^-9)
(ss0Initial /. caTmp → 30*^-9)
(ss0Initial /. caTmp → 180*^-9) / (ss0Initial /. caTmp → 30*^-9)
(*test initial *)
Plot[kprimScheme / kunprimScheme, {caTmp, 0, 300*^-9}]
Plot[kfillScheme / kunfillScheme, {caTmp, 0, 300*^-9}]
LogLinearPlot[{kprimScheme / kunprimScheme, kfillScheme / kunfillScheme},
 {caTmp, .1*^-9, 30*^-6}, PlotRange → All]
Plot[{kprimScheme / kunprimScheme, kfillScheme / kunfillScheme},
 {caTmp, .1*^-9, 1*^-6}, PlotRange → All]
```

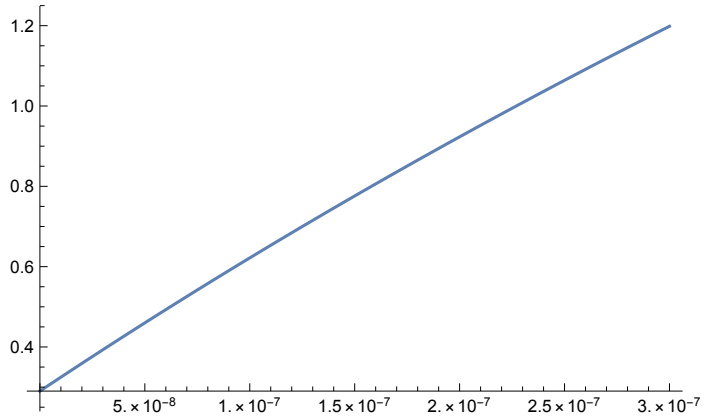
Out[316]= 0.791348

Out[317]= 0.302831

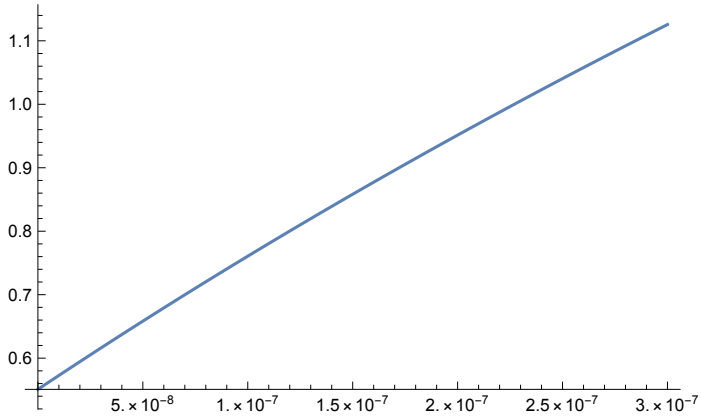
Out[318]= 0.242117

Out[319]= 3.26845

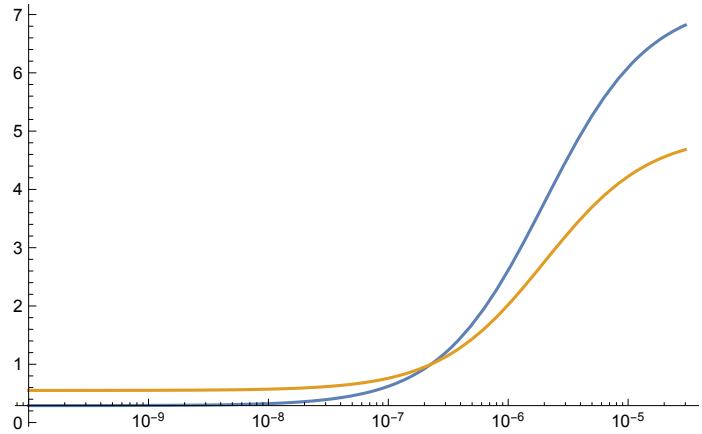
Out[320]=



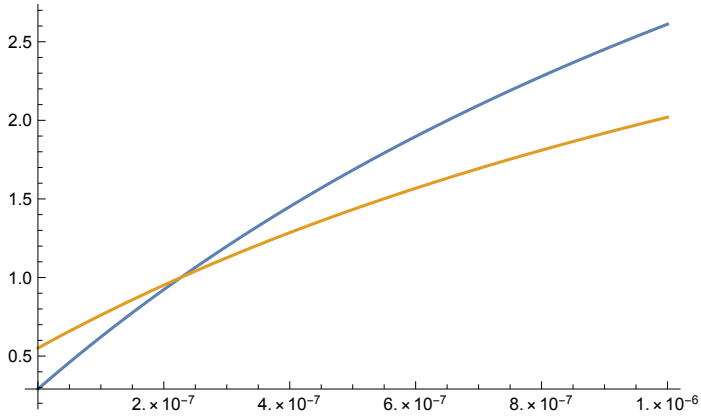
Out[321]=



Out[322]=



Out[323]=



In[324]:=
```
(*calualte initial equilibrium occupancy*)
caFunc[t_] := caRest;
kprimScheme
kunprimScheme
fillStateSSInitial = kprimScheme / kunprimScheme
kfillScheme
kunfillScheme
ss0Initial = fillStateSSInitial * kfillScheme / kunfillScheme
```

Out[325]= 8.61585

Out[326]= 8.61585

Out[327]= 1.

Out[328]= 181.545

Out[329]= 181.545

Out[330]= 1.

In[331]:=
```
caRest
```

Out[331]= 2.27×10^{-7}

Diff eq.

In[332]:=
```
Clear[caFunc, eq];(*Clear is needed if the cell is exectued for a 2nd time
 when caFunc is already set to a value or an Interpolationfunction*)
ss[t_] = {ss1[t], ss2[t], ss3[t], ss4[t], ss5[t], ss6[t], ss7[t]};
eq = {ss'[t] == (mat /. repl).ss[t],
   ss[0] == {ss0Initial, 0., 0., 0., 0., 0., 0.},
   (fillStateSS'[t] == kprim - kunprim fillStateSS[t] -
       kfill fillStateSS[t] + kunfill ss1[t]) /. repl,
   fillStateSS[0] == fillStateSSInitial,
   sitePlugging'[t] ==
    (1 - sitePlugging[t]) ss7'[t] - siteClearanceTau sitePlugging[t],
   sitePlugging[0] == 0
  };
```

Print diff eq.

In[335]:=
```
mat
```

Out[335]=
$$\left\{\left\{-5\,\text{kon}-\text{kunfill}+\frac{\text{kfill fillStateSS}[t]}{\text{ss1}[t]},\ \text{koff},\ 0,\ 0,\ 0,\ 0,\ 0\right\},\right.$$
$$\{5\,\text{kon},\ -\text{koff}-4\,\text{kon},\ 2\,b\,\text{koff},\ 0,\ 0,\ 0,\ 0\},$$
$$\{0,\ 4\,\text{kon},\ -2\,b\,\text{koff}-3\,\text{kon},\ 3\,b^2\,\text{koff},\ 0,\ 0,\ 0\},$$
$$\{0,\ 0,\ 3\,\text{kon},\ -3\,b^2\,\text{koff}-2\,\text{kon},\ 4\,b^3\,\text{koff},\ 0,\ 0\},$$
$$\{0,\ 0,\ 0,\ 2\,\text{kon},\ -4\,b^3\,\text{koff}-\text{kon},\ 5\,b^4\,\text{koff},\ 0\},$$
$$\left.\{0,\ 0,\ 0,\ 0,\ \text{kon},\ -\text{gamma}-5\,b^4\,\text{koff},\ 0\},\ \{0,\ 0,\ 0,\ 0,\ 0,\ \text{gamma},\ 0\}\right\}$$

In[336]:=
```
repl
```

Out[336]=
$$\left\{\text{kon}\to 5.11454\times 10^8\,\text{caFunc}[t]-4.60309\times 10^8\,\text{caFunc}[t]\times\text{sitePlugging}[t],\right.$$
$$\text{koff}\to 25\,572.7-15\,343.6\,\text{sitePlugging}[t],\ \text{gamma}\to 17\,717.3,$$
$$b\to 0.25,\ \text{kprim}\to 2.5+\frac{60.\ \text{caFunc}[t]}{2.\times 10^{-6}+\text{caFunc}[t]},\ \text{kunprim}\to 8.61585,$$
$$\left.\text{kfill}\to 100+\frac{800.\ \text{caFunc}[t]}{2.\times 10^{-6}+\text{caFunc}[t]},\ \text{kunfill}\to 181.545\right\}$$

In[337]:=
```
mat /. repl
```

Out[337]=
$$\left\{\left\{-181.545-5\left(5.11454\times 10^8\,\text{caFunc}[t]-4.60309\times 10^8\,\text{caFunc}[t]\times\text{sitePlugging}[t]\right)+\right.\right.$$
$$\frac{\left(100+\frac{800.\ \text{caFunc}[t]}{2.\times 10^{-6}+\text{caFunc}[t]}\right)\text{fillStateSS}[t]}{\text{ss1}[t]},$$
$$\left.25\,572.7-15\,343.6\,\text{sitePlugging}[t],\ 0,\ 0,\ 0,\ 0,\ 0\right\},$$
$$\{5\left(5.11454\times 10^8\,\text{caFunc}[t]-4.60309\times 10^8\,\text{caFunc}[t]\times\text{sitePlugging}[t]\right),$$
$$-25\,572.7+15\,343.6\,\text{sitePlugging}[t]-$$
$$4\left(5.11454\times 10^8\,\text{caFunc}[t]-4.60309\times 10^8\,\text{caFunc}[t]\times\text{sitePlugging}[t]\right),$$
$$0.5\left(25\,572.7-15\,343.6\,\text{sitePlugging}[t]\right),\ 0,\ 0,\ 0,\ 0\},$$
$$\{0,\ 4\left(5.11454\times 10^8\,\text{caFunc}[t]-4.60309\times 10^8\,\text{caFunc}[t]\times\text{sitePlugging}[t]\right),$$
$$-0.5\left(25\,572.7-15\,343.6\,\text{sitePlugging}[t]\right)-$$
$$3\left(5.11454\times 10^8\,\text{caFunc}[t]-4.60309\times 10^8\,\text{caFunc}[t]\times\text{sitePlugging}[t]\right),$$
$$0.1875\left(25\,572.7-15\,343.6\,\text{sitePlugging}[t]\right),\ 0,\ 0,\ 0\},$$
$$\{0,\ 0,\ 3\left(5.11454\times 10^8\,\text{caFunc}[t]-4.60309\times 10^8\,\text{caFunc}[t]\times\text{sitePlugging}[t]\right),$$
$$-0.1875\left(25\,572.7-15\,343.6\,\text{sitePlugging}[t]\right)-$$
$$2\left(5.11454\times 10^8\,\text{caFunc}[t]-4.60309\times 10^8\,\text{caFunc}[t]\times\text{sitePlugging}[t]\right),$$
$$0.0625\left(25\,572.7-15\,343.6\,\text{sitePlugging}[t]\right),\ 0,\ 0\},$$
$$\{0,\ 0,\ 0,\ 2\left(5.11454\times 10^8\,\text{caFunc}[t]-4.60309\times 10^8\,\text{caFunc}[t]\times\text{sitePlugging}[t]\right),$$
$$-5.11454\times 10^8\,\text{caFunc}[t]-0.0625\left(25\,572.7-15\,343.6\,\text{sitePlugging}[t]\right)+$$
$$4.60309\times 10^8\,\text{caFunc}[t]\times\text{sitePlugging}[t],$$
$$0.0195313\left(25\,572.7-15\,343.6\,\text{sitePlugging}[t]\right),\ 0\},$$
$$\{0,\ 0,\ 0,\ 0,\ 5.11454\times 10^8\,\text{caFunc}[t]-4.60309\times 10^8\,\text{caFunc}[t]\times\text{sitePlugging}[t],$$
$$-17\,717.3-0.0195313\left(25\,572.7-15\,343.6\,\text{sitePlugging}[t]\right),\ 0\},$$
$$\left.\{0,\ 0,\ 0,\ 0,\ 0,\ 17\,717.3,\ 0\}\right\}$$

In[338]:= **eq**

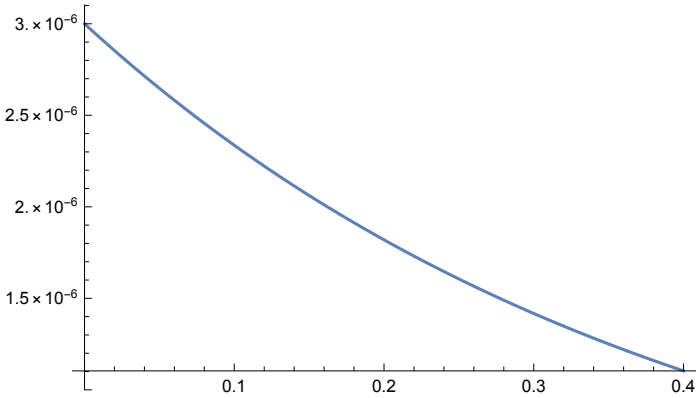
Out[338]=

```
{{ss1′[t], ss2′[t], ss3′[t], ss4′[t], ss5′[t], ss6′[t], ss7′[t]} ==
  {(-181.545 - 5 (5.11454 × 10^8 caFunc[t] - 4.60309 × 10^8 caFunc[t] × sitePlugging[t]) +
       ((100 + (800. caFunc[t])/(2.×10^-6+caFunc[t])) fillStateSS[t])/ss1[t]) ss1[t] +
    (25572.7 - 15343.6 sitePlugging[t]) ss2[t],
   5 (5.11454 × 10^8 caFunc[t] - 4.60309 × 10^8 caFunc[t] × sitePlugging[t]) ss1[t] +
    (-25572.7 + 15343.6 sitePlugging[t] -
       4 (5.11454 × 10^8 caFunc[t] - 4.60309 × 10^8 caFunc[t] × sitePlugging[t]))
     ss2[t] + 0.5 (25572.7 - 15343.6 sitePlugging[t]) ss3[t],
   4 (5.11454 × 10^8 caFunc[t] - 4.60309 × 10^8 caFunc[t] × sitePlugging[t]) ss2[t] +
    (-0.5 (25572.7 - 15343.6 sitePlugging[t]) -
       3 (5.11454 × 10^8 caFunc[t] - 4.60309 × 10^8 caFunc[t] × sitePlugging[t]))
     ss3[t] + 0.1875 (25572.7 - 15343.6 sitePlugging[t]) ss4[t],
   3 (5.11454 × 10^8 caFunc[t] - 4.60309 × 10^8 caFunc[t] × sitePlugging[t]) ss3[t] +
    (-0.1875 (25572.7 - 15343.6 sitePlugging[t]) -
       2 (5.11454 × 10^8 caFunc[t] - 4.60309 × 10^8 caFunc[t] × sitePlugging[t]))
     ss4[t] + 0.0625 (25572.7 - 15343.6 sitePlugging[t]) ss5[t],
   2 (5.11454 × 10^8 caFunc[t] - 4.60309 × 10^8 caFunc[t] × sitePlugging[t]) ss4[t] +
    (-5.11454 × 10^8 caFunc[t] - 0.0625 (25572.7 - 15343.6 sitePlugging[t]) +
       4.60309 × 10^8 caFunc[t] × sitePlugging[t]) ss5[t] +
    0.0195313 (25572.7 - 15343.6 sitePlugging[t]) ss6[t],
   (5.11454 × 10^8 caFunc[t] - 4.60309 × 10^8 caFunc[t] × sitePlugging[t]) ss5[t] +
    (-17717.3 - 0.0195313 (25572.7 - 15343.6 sitePlugging[t])) ss6[t],
   17717.3 ss6[t]}, {ss1[0], ss2[0], ss3[0], ss4[0], ss5[0],
   ss6[0], ss7[0]} == {1., 0., 0., 0., 0., 0., 0.},
  fillStateSS′[t] == 2.5 + (60. caFunc[t])/(2. × 10^-6 + caFunc[t]) - 8.61585 fillStateSS[t] -
   (100 + (800. caFunc[t])/(2. × 10^-6 + caFunc[t])) fillStateSS[t] + 181.545 ss1[t],
  fillStateSS[0] == 1., sitePlugging′[t] ==
   -0.04 sitePlugging[t] + (1 - sitePlugging[t]) ss7′[t],
  sitePlugging[0] == 0}
```

Solve all states

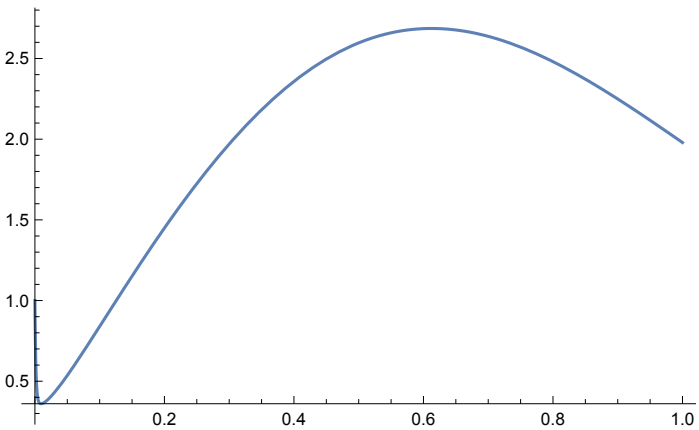
In[339]:=
```
caFunc[t_] := 3*^-6 * Exp[-t / tauOfDecayOfUncagedCa];;
Plot[caFunc[t], {t, 0, 0.4}, PlotRange → All]
```

Out[340]=

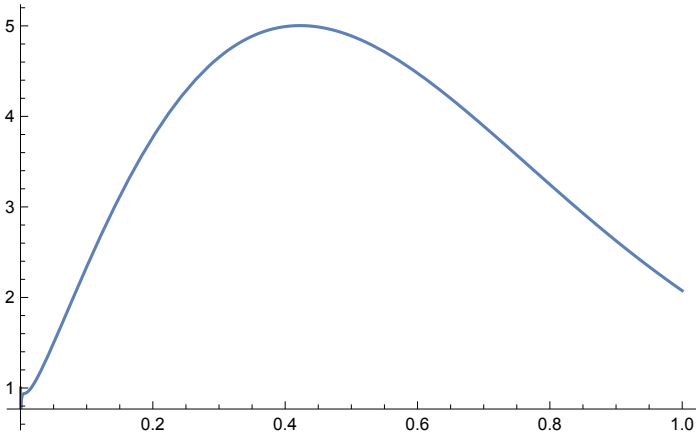


In[341]:=
```
myNDSolveResults = NDSolve[eq,
   {fillStateSS, ss1, ss2, ss3, ss4, ss5, ss6, ss7, sitePlugging}, {t, 0, 10.}];
tEndForPlot = 1.;
Plot[(fillStateSS[t] /. myNDSolveResults), {t, 0, tEndForPlot}, PlotRange → All]
Plot[(ss1[t] /. myNDSolveResults), {t, 0, tEndForPlot}, PlotRange → All]
Plot[(ss2[t] /. myNDSolveResults), {t, 0, tEndForPlot}, PlotRange → All]
Plot[(ss3[t] /. myNDSolveResults), {t, 0, tEndForPlot}, PlotRange → All]
Plot[(ss4[t] /. myNDSolveResults), {t, 0, tEndForPlot}, PlotRange → All]
Plot[(ss5[t] /. myNDSolveResults), {t, 0, tEndForPlot}, PlotRange → All]
Plot[(ss6[t] /. myNDSolveResults), {t, 0, tEndForPlot}, PlotRange → All]
Plot[(ss7[t] /. myNDSolveResults), {t, 0, tEndForPlot}, PlotRange → All]
Plot[(sitePlugging[t] /. myNDSolveResults), {t, 0, tEndForPlot}, PlotRange → All]
```

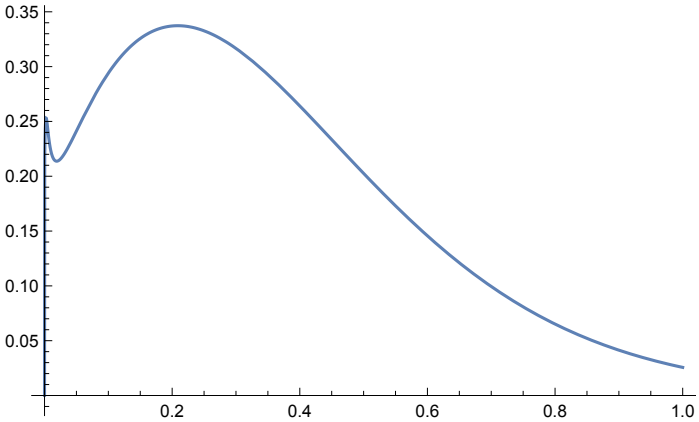
Out[343]=



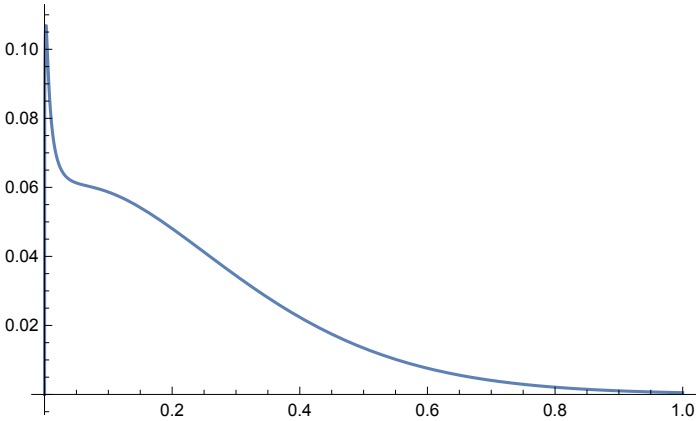
Out[344]=



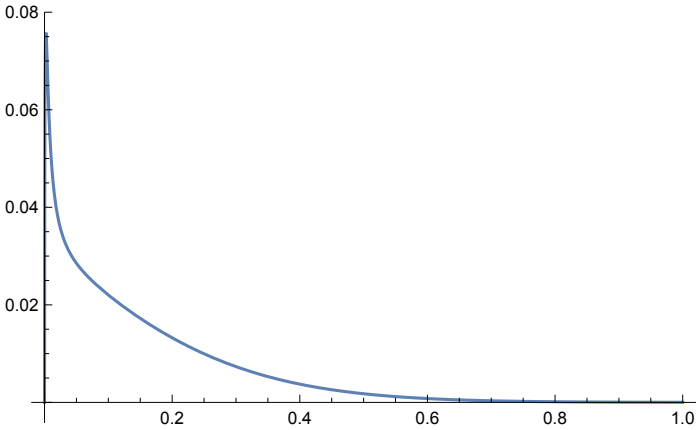
Out[345]=



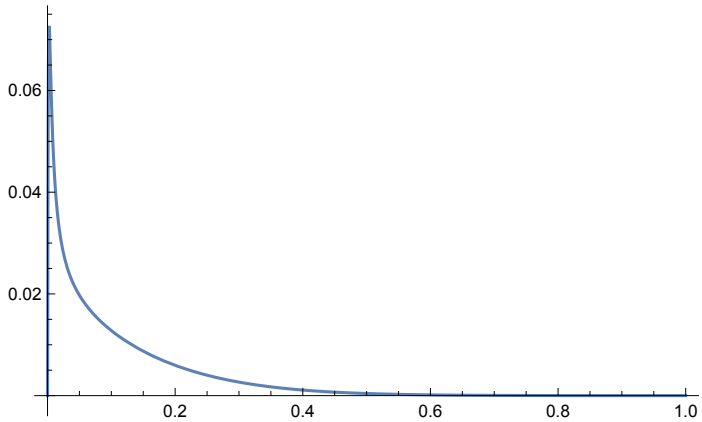
Out[346]=



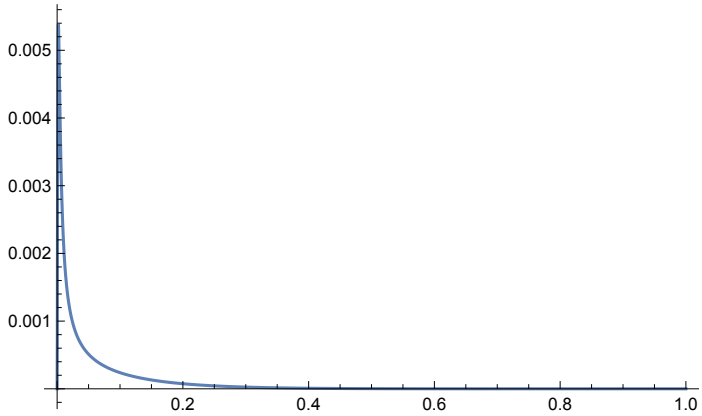
Out[347]=



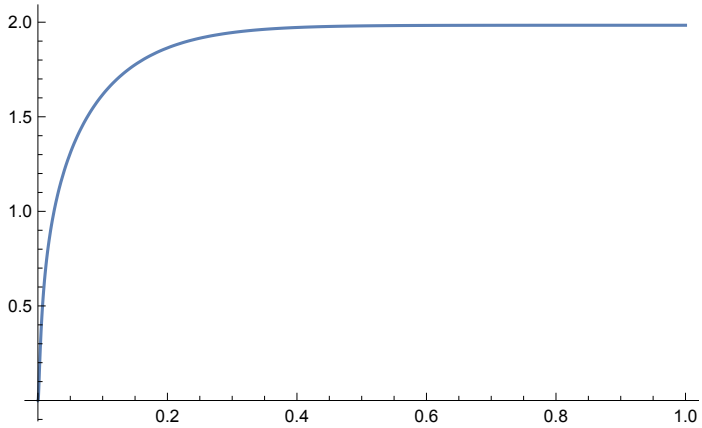
Out[348]=



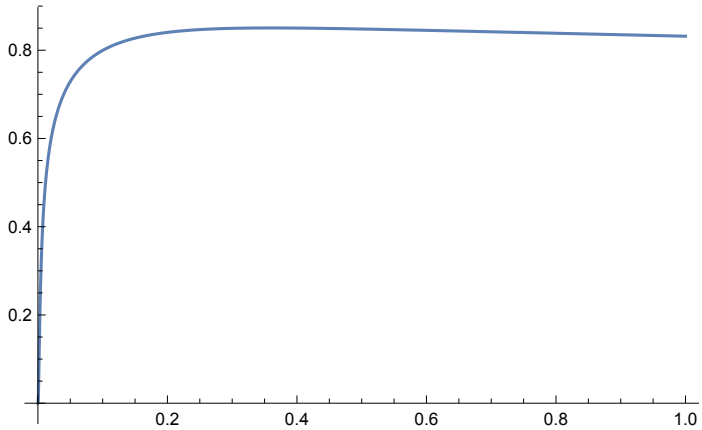
Out[349]=



Out[350]=



Out[351]=



Loop

make lists for later

In[352]:=
```
simCaList = Table[0, {runs}];
simParamNv = Table[0, {7}, {runs}];
```

C5

In[354]:=
```
baselineC5 = Table[{ttt, 0}, {ttt, cursorStart, -1*^-6, dtOfDataC5}];
(*Lists for saving data within loop*)
simParamNoiseC5 = Table[0, {numberOfFitParamToBeSaved}, {noiseRepeats}];
simParamMedianC5 = Table[0, {numberOfFitParamToBeSaved}, {runs}];
simParamQuantile1C5 = Table[0, {numberOfFitParamToBeSaved}, {runs}];
simParamQuantile2C5 = Table[0, {numberOfFitParamToBeSaved}, {runs}];
```

C10

In[359]:=
```
baselineC10 = Table[{ttt, 0}, {ttt, cursorStart, -1*^-6, dtOfDataC10}];
(*Lists for saving data within loop*)
simParamNoiseC10 = Table[0, {numberOfFitParamToBeSaved}, {noiseRepeats}];
simParamMedianC10 = Table[0, {numberOfFitParamToBeSaved}, {runs}];
simParamQuantile1C10 = Table[0, {numberOfFitParamToBeSaved}, {runs}];
simParamQuantile2C10 = Table[0, {numberOfFitParamToBeSaved}, {runs}];
```

D

In[364]:=
```
baselineD = Table[{ttt, 0}, {ttt, cursorStart, -1*^-6, dtOfDataD}];
(*Lists for saving data within loop*)
simParamNoiseD = Table[0, {numberOfFitParamToBeSaved}, {noiseRepeats}];
simParamMedianD = Table[0, {numberOfFitParamToBeSaved}, {runs}];
simParamQuantile1D = Table[0, {numberOfFitParamToBeSaved}, {runs}];
simParamQuantile2D = Table[0, {numberOfFitParamToBeSaved}, {runs}];
```

Long

In[369]:=
```
baselineLong = Table[{ttt, 0}, {ttt, -0.05, -1*^-6, dtOfDataLong}];
```

Loop

In[370]:=
```
For[r = 1, r ≤ runs, r += 1,
  myCaNow = CaListDyePeak[[r]];
  lastSimulatedCaListReal = CaListReal[[r]][[1]][[1]] /. tt → TimeWindow;
```

```
(*"[[1]][[1]]" is neede to get rid of these brackets {{}}*)
Print[
 "-----------------------------------------------------------------------
   -----------------------------------"];
Print["----------------    Ca = ", 1*^6 myCaNow,
 " uM         -------------------------------------------------------"];
Print[
 "-----------------------------------------------------------------------
   -----------------------------------"];
simCaList[[r]] = myCaNow;
caFunc[ttt_] := If[ttt < TimeWindow,
  CaListReal[[r]][[1]][[1]] /. tt → ttt,
  (*tt because this is the symbol used in "Calculate Ca transients"*)
  lastSimulatedCaListReal * Exp[-ttt / tauOfDecayOfUncagedCa]
 ];
(* solve Diff Eq.: *)
myNDSolveResults = NDSolve[eq, ss7, {t, 0, 0.4}];
(* plot results: *)
fused[t_] := ss7[t];
Plot[(fused[t] /. myNDSolveResults),
  {t, 0, cursorEnd}, PlotRange → All] // Print;
Plot[(fused[t] /. myNDSolveResults), {t, 0, cursorEndLong},
  PlotRange → All] // Print;
If[exportYes == 1,
 toExport = Table[{t, (fused[t] /. myNDSolveResults)[[1]]},
   {t, 0., cursorEndLong, dtOfPlotsForExport}];
 Export["withinLoop r" <> ToString[r] <> " Ca" <> ToString[1*^6 myCaNow] <>
   " withoutNoise.txt", toExport, "Table"];
];
(* sample data and add baseline: --------*)
tmpCumRelC5 = Table[{ttt, (fused[ttt] /. myNDSolveResults)[[1]]},
  {ttt, 0., cursorEnd, dtOfDataC5}];
tmpToFitC5 = Catenate[{baselineC5, tmpCumRelC5}];
tmpCumRelC10 = Table[{ttt, (fused[ttt] /. myNDSolveResults)[[1]]},
  {ttt, 0., cursorEnd, dtOfDataC10}];
tmpToFitC10 = Catenate[{baselineC10, tmpCumRelC10}];
tmpCumRelD = Table[{ttt, (fused[ttt] /. myNDSolveResults)[[1]]},
  {ttt, 0., cursorEnd, dtOfDataD}];
tmpToFitD = Catenate[{baselineD, tmpCumRelD}];
tmpCumRelLong = Table[{ttt, (fused[ttt] /. myNDSolveResults)[[1]]},
  {ttt, 0., cursorEndLong, dtOfDataLong}];
tmpToFitLong = Catenate[{baselineLong, tmpCumRelLong}];

(*---------    get amplitude
  without noise and without fitting -----------------*)
For[NvCount = 1, NvCount ≤ 7, NvCount += 1,
```

```
 simParamNv[[NvCount, r]] =
   (fused[timeOfNv[[NvCount]]] /. myNDSolveResults)[[1]];
  (* the [[1]] is somehow needed to get rid of a list structure
  probably related to the interpolate function*)
];

(*--------------   Startvalues for
  fit the same for all C5 C10 and D -------------*)
caAdjustedTau1Guess = tau1Guess / ((myCaNow / 10.*^-6) ^4);
caAdjustedTau1Guess = tau1Guess / ((myCaNow / 10.*^-6) ^1);
caAdjustedTau2Guess = 10 caAdjustedTau1Guess;
caAdjustedDelayGuess = delayGuess / ((myCaNow / 10.*^-6) ^1);

(*---------    Fitting of data,
saving of results, and plotting-----------------*)
(*-----------------------------------------------------------------------
                                        ----*)
(*--------------------------------------    C5     ------------------------
                         ----*)
(*-----------------------------------------------------------------------
                                        ----*)
Print[
 "-----------------------------------------------------------------------
   C5"];
(*check that signal is large enough relative to noise to obtain
 useful fit results. If not, do not do fitting and set everything to {}*)
If[simParamNv[[5, r]] > signalToNoiseRatioC5 myNoiseC5, (*add noise
  several times and do the fitting and than average the results*)
 For[noiseN = 1, noiseN ≤ noiseRepeats, noiseN += 1,
  (*Print[noiseN];*)
  tmpToFitNoise = Transpose[{tmpToFitC5[[All, 1]],
     # + RandomVariate[NormalDistribution[0, myNoiseC5]] & /@
      tmpToFitC5[[All, 2]]}];
  (*fit mono-exp*)
  fitResultsTMP = NonlinearModelFit[tmpToFitNoise, myFitMono[x1],
    {{delayMono, delayGuess}, {ampMono, ampGuess}, {tau1Mono,
      caAdjustedTau1Guess}}, x1, MaxIterations → myMaxIterations];
  fitResultMono = fitResultsTMP[{"BestFitParameters"}];
  simParamNoiseC5[[1, noiseN]] = 0; (*not used anymore*)
  simParamNoiseC5[[2, noiseN]] =
   fitResultsTMP["ANOVATableSumsOfSquares"][[2]];
  (*Print[fitResultsTMP["ANOVATableSumsOfSquares"]];*)
  simParamNoiseC5[[3, noiseN]] = (delayMono /. fitResultMono)[[1]];
  simParamNoiseC5[[4, noiseN]] = ((ampMono /. fitResultMono))[[1]];
  simParamNoiseC5[[5, noiseN]] = (1 / (tau1Mono /. fitResultMono))[[1]];
  (*fit bi-exp*)
  fitResultsTMP =
```

```
 NonlinearModelFit[tmpToFitNoise, myFitBi[x1], {{delay, delayGuess},
   {amp, ampGuess}, {amp1, amp1Guess}, {tau1, caAdjustedTau1Guess},
   {tau2, caAdjustedTau2Guess}}, x1, MaxIterations → myMaxIterations];
fitResultBi = fitResultsTMP[{"BestFitParameters"}];
simParamNoiseC5[[6, noiseN]] = simParamNoiseC5[[2, noiseN]] /
  fitResultsTMP["ANOVATableSumsOfSquares"][[2]];
simParamNoiseC5[[7, noiseN]] = (delay /. fitResultBi)[[1]];
simParamNoiseC5[[8, noiseN]] = ((amp /. fitResultBi))[[1]];
simParamNoiseC5[[9, noiseN]] = ((amp amp1 /. fitResultBi))[[1]];
(*relative amp1*)
simParamNoiseC5[[10, noiseN]] = (1 / (tau1 /. fitResultBi))[[1]];
simParamNoiseC5[[11, noiseN]] = (1 / (tau2 /. fitResultBi))[[1]];
(*merge*)
If[
 (*to use the bi-exp fit, the following cirteria should be fullfilled:*)
 (*chi2 should imporve(=decrease) by >10%*)
 (simParamNoiseC5[[6, noiseN]] > 1.04)
  &&
  (*tau1 and tau2 of bi fit should be factor of >3 different*)
  ((simParamNoiseC5[[11, noiseN]] / simParamNoiseC5[[10, noiseN]]) < 3.)
  &&
  (*relative amplitude of 1st component should be > 5% *)
  (((amp1 /. fitResultBi))[[1]] > 0.05)
  &&
  (*relative amplitude of 1st component should be < 95% *)
  (((amp1 /. fitResultBi))[[1]] < 0.95)
 ,
 (*take bi*)
 Print["take bi"];
 simParamNoiseC5[[12, noiseN]] = simParamNoiseC5[[7, noiseN]];
 (*delay*)
 simParamNoiseC5[[13, noiseN]] = simParamNoiseC5[[8, noiseN]];
 (*amp*)
 simParamNoiseC5[[14, noiseN]] = simParamNoiseC5[[9, noiseN]];
 (*amp1*)
 simParamNoiseC5[[15, noiseN]] = simParamNoiseC5[[10, noiseN]];
 (*tau1*)
 simParamNoiseC5[[16, noiseN]] = simParamNoiseC5[[11, noiseN]];(*tau2*)
 ,
 (*take mono*)
 Print["take mono"];
 simParamNoiseC5[[12, noiseN]] = simParamNoiseC5[[3, noiseN]];
 (*delay*)
 simParamNoiseC5[[13, noiseN]] = simParamNoiseC5[[4, noiseN]];
 (*amp*)
 simParamNoiseC5[[14, noiseN]] = NaN; (*amp1*)
 simParamNoiseC5[[15, noiseN]] = simParamNoiseC5[[5, noiseN]];
```

```
  (*tau1*)
  simParamNoiseC5[[16, noiseN]] = NaN;(*tau2*)
 ];
];
(*plot last example of the noise loop*)
gr1 = ListPlot[tmpToFitNoise, PlotRange → All, PlotStyle → Black];
gr2 = Plot[myFitMono[x1] /. fitResultMono,
  {x1, cursorStart, cursorEnd}, PlotRange → All, PlotStyle → {Blue, Dashed}];
gr3 = Plot[myFitBi[x1] /. fitResultBi, {x1, cursorStart, cursorEnd},
  PlotRange → All, PlotStyle → {Green, Dashed}];
Show[gr1, gr2, gr3, PlotRange → All ] // Print;
If[exportYes == 1,
 Export["withinLoop r" <> ToString[r] <> " Ca" <>
   ToString[1*^6 myCaNow] <> " C5 data.txt", tmpToFitNoise, "Table"];
 toExport = Table[{t, (myFitMono[t] /. fitResultMono)[[1]]},
   {t, cursorStart, cursorEnd, dtOfPlotsForExport}];
 Export["withinLoop r" <> ToString[r] <> " Ca" <> ToString[1*^6 myCaNow] <>
   " C5 fitMono.txt", toExport, "Table"];
 toExport = Table[{t, (myFitBi[t] /. fitResultBi)[[1]]},
   {t, cursorStart, cursorEnd, dtOfPlotsForExport}];
 Export["withinLoop r" <> ToString[r] <> " Ca" <>
   ToString[1*^6 myCaNow] <> " C5 fitBi.txt", toExport, "Table"];
];
noiseN = noiseRepeats; (*fit parameter of last noisetrace*)
Print["Mono: chi2 = ", simParamNoiseC5[[2, noiseN]], "     d = ",
 simParamNoiseC5[[2, noiseN]], "     a = ", simParamNoiseC5[[4, noiseN]],
 "     t = ", 1/simParamNoiseC5[[5, noiseN]]];
Print["Bi: ratio chi2Mono/chi2Bi = ", simParamNoiseC5[[6, noiseN]],
 "     d = ", simParamNoiseC5[[7, noiseN]], "     a = ",
 simParamNoiseC5[[8, noiseN]], "     a1 = ", simParamNoiseC5[[9, noiseN]],
 "     t1 =", 1/simParamNoiseC5[[10, noiseN]],
 "     t2 = ", 1/simParamNoiseC5[[11, noiseN]]];
(*average fit results*)
For[p = 1, p ≤ numberOfFitParamToBeSaved, p += 1,
 simParamMedianC5[[p, r]] =
  Median[simParamNoiseC5[[p, All]] /. NaN → Sequence[]];
 simParamQuantile1C5[[p, r]] = Quantile[
   simParamNoiseC5[[p, All]] /. NaN → Sequence[], myQuantile1];
 simParamQuantile2C5[[p, r]] = Quantile[
   simParamNoiseC5[[p, All]] /. NaN → Sequence[], myQuantile2];
];

(*if tau1 merge > 10 ms, use long trace for fitting*)
If[(1/simParamMedianC5[[15, r]]) > 0.01,
 Print["Long trace was used for fitting."];
 For[noiseN = 1, noiseN ≤ noiseRepeats, noiseN += 1,
```

```
tmpToFitNoiseLong = Transpose[{tmpToFitLong[[All, 1]],
   # + RandomVariate[NormalDistribution[0, myNoiseLong]] & /@
    tmpToFitLong[[All, 2]]}];
(*fit mono-exp to Long trace*)
fitResultsTMP = NonlinearModelFit[tmpToFitNoiseLong, myFitMono[x1],
  {{delayMono, delayGuess}, {ampMono, ampGuess}, {tau1Mono,
    caAdjustedTau1Guess}}, x1, MaxIterations → myMaxIterations];
fitResultLongMono = fitResultsTMP[{"BestFitParameters"}];
simParamNoiseC5[[2, noiseN]] =
 fitResultsTMP["ANOVATableSumsOfSquares"][[2]];
(*Print[fitResultsTMP["ANOVATableSumsOfSquares"]];*)
simParamNoiseC5[[3, noiseN]] = (delayMono /. fitResultLongMono)[[1]];
simParamNoiseC5[[4, noiseN]] = ((ampMono /. fitResultLongMono))[[1]];
simParamNoiseC5[[5, noiseN]] = (1 / (tau1Mono /. fitResultLongMono))[[1]];
(*fit bi-exp*)
fitResultsTMP =
 NonlinearModelFit[tmpToFitNoiseLong, myFitBi[x1], {{delay, delayGuess},
   {amp, ampGuess}, {amp1, amp1Guess}, {tau1, caAdjustedTau1Guess},
   {tau2, caAdjustedTau2Guess}}, x1, MaxIterations → myMaxIterations];
fitResultLongBi = fitResultsTMP[{"BestFitParameters"}];
simParamNoiseC5[[6, noiseN]] = simParamNoiseC5[[2, noiseN]] /
  fitResultsTMP["ANOVATableSumsOfSquares"][[2]];
simParamNoiseC5[[7, noiseN]] = (delay /. fitResultLongBi)[[1]];
simParamNoiseC5[[8, noiseN]] = ((amp /. fitResultLongBi))[[1]];
simParamNoiseC5[[9, noiseN]] = ((amp amp1 /. fitResultLongBi))[[1]];
(*relative amp1*)
simParamNoiseC5[[10, noiseN]] = (1 / (tau1 /. fitResultLongBi))[[1]];
simParamNoiseC5[[11, noiseN]] = (1 / (tau2 /. fitResultLongBi))[[1]];
(*merge*)
If[
 (*to use the bi-exp fit,
 the following cirteria should be fullfilled:*)
 (*chi2 should imporve(=decrease) by >10%*)
 (simParamNoiseC5[[6, noiseN]] > 1.04)
  &&
  (*tau1 and tau2 of bi fit should be factor of >3 different*)
  ((simParamNoiseC5[[11, noiseN]] / simParamNoiseC5[[10, noiseN]]) < 3.)
  &&
  (*relative amplitude of 1st component should be > 5% *)
  (((amp1 /. fitResultLongBi))[[1]] > 0.05)
  &&
  (*relative amplitude of 1st component should be < 95% *)
  (((amp1 /. fitResultLongBi))[[1]] < 0.95)
 ,
 (*take bi*)
 Print["take bi"];
```

```
  simParamNoiseC5[[12, noiseN]] = simParamNoiseC5[[7, noiseN]];
  (*delay*)
  simParamNoiseC5[[13, noiseN]] = simParamNoiseC5[[8, noiseN]];
  (*amp*)
  simParamNoiseC5[[14, noiseN]] = simParamNoiseC5[[9, noiseN]];
  (*amp1*)
  simParamNoiseC5[[15, noiseN]] = simParamNoiseC5[[10, noiseN]];
  (*tau1*)
  simParamNoiseC5[[16, noiseN]] = simParamNoiseC5[[11, noiseN]];(*tau2*)
  ,
  (*take mono*)
  Print["take mono"];
  simParamNoiseC5[[12, noiseN]] = simParamNoiseC5[[3, noiseN]];
  (*delay*)
  simParamNoiseC5[[13, noiseN]] = simParamNoiseC5[[4, noiseN]];
  (*amp*)
  simParamNoiseC5[[14, noiseN]] = NaN; (*amp1*)
  simParamNoiseC5[[15, noiseN]] = simParamNoiseC5[[5, noiseN]];
  (*tau1*)
  simParamNoiseC5[[16, noiseN]] = NaN;(*tau2*)
 ];
];
(*plot last example of the noise loop*)
gr1 = ListPlot[tmpToFitNoiseLong, PlotRange → All, PlotStyle → Black];
gr2 = Plot[myFitMono[x1] /. fitResultLongMono, {x1, cursorStart,
   cursorEndLong}, PlotRange → All, PlotStyle → {Blue, Dashed}];
gr3 = Plot[myFitBi[x1] /. fitResultLongBi, {x1, cursorStart, cursorEndLong},
  PlotRange → All, PlotStyle → {Green, Dashed}];
Show[gr1, gr2, gr3, PlotRange → All ] // Print;
If[exportYes == 1,
 Export["withinLoop r" <> ToString[r] <> " Ca" <> ToString[1*^6 myCaNow] <>
   " C5 dataLong.txt", tmpToFitNoiseLong, "Table"];
 toExport = Table[{t, (myFitMono[t] /. fitResultLongMono) [[1]]},
   {t, cursorStart, cursorEndLong, dtOfPlotsForExport}];
 Export["withinLoop r" <> ToString[r] <> " Ca" <> ToString[1*^6 myCaNow] <>
   " C5 fitLongMono.txt", toExport, "Table"];
 toExport = Table[{t, (myFitBi[t] /. fitResultLongBi) [[1]]},
   {t, cursorStart, cursorEndLong, dtOfPlotsForExport}];
 Export["withinLoop r" <> ToString[r] <> " Ca" <> ToString[1*^6 myCaNow] <>
   " C5 fitLongBi.txt", toExport, "Table"];

];
noiseN = noiseRepeats; (*fit parameter of last noisetrace*)
Print["Mono: chi2 = ", simParamNoiseC5[[2, noiseN]], "     d = ",
 simParamNoiseC5[[3, noiseN]], "     a = ", simParamNoiseC5[[4, noiseN]],
 "     t = ", 1/simParamNoiseC5[[5, noiseN]]];
Print["Bi: ratio chi2Mono/chi2Bi = ", simParamNoiseC5[[6, noiseN]],
```

```
    "     d = ", simParamNoiseC5[[7, noiseN]], "     a = ",
    simParamNoiseC5[[8, noiseN]], "     a1 = ", simParamNoiseC5[[9, noiseN]],
    "     t1 =", 1/simParamNoiseC5[[10, noiseN]],
    "     t2 = ", 1/simParamNoiseC5[[11, noiseN]]];
   (*average fit results*)
   For[p = 1, p ≤ numberOfFitParamToBeSaved, p += 1,
    simParamMedianC5[[p, r]] =
     Median[simParamNoiseC5[[p, All]] /. NaN → Sequence[]];
    simParamQuantile1C5[[p, r]] = Quantile[
      simParamNoiseC5[[p, All]] /. NaN → Sequence[], myQuantile1];
    simParamQuantile2C5[[p, r]] = Quantile[
      simParamNoiseC5[[p, All]] /. NaN → Sequence[], myQuantile2];
   ];
  ];

  , (*else: signal is not large enough*)
  For[p = 1, p ≤ numberOfFitParamToBeSaved, p += 1,
    simParamMedianC5[[p, r]] = {};
    simParamQuantile1C5[[p, r]] = {};
    simParamQuantile2C5[[p, r]] = {};
   ];
];


(*---------    Fitting of data,
saving of results, and plotting-----------------*)
(*-----------------------------------------------------------------------
                                        ----*)
(*--------------------------------------    C10     ------------------------
                         ----*)
(*-----------------------------------------------------------------------
                                        ----*)
Print[
 "-----------------------------------------------------------------------
   C10"];
(*check that signal is large enough relative to noise to obtain
 useful fit results. If not, do not do fitting and set everything to {}*)
If[simParamNv[[5, r]] > signalToNoiseRatioC10 myNoiseC10, (*add noise
  and do the fitting several times and then average the results*)
 For[noiseN = 1, noiseN ≤ noiseRepeats, noiseN += 1,
  (*Print[noiseN];*)
  tmpToFitNoise = Transpose[{tmpToFitC10[[All, 1]],
     # + RandomVariate[NormalDistribution[0, myNoiseC10]] & /@
      tmpToFitC10[[All, 2]]}];
  (*fit mono-exp*)
  fitResultsTMP = NonlinearModelFit[tmpToFitNoise, myFitMono[x1],
    {{delayMono, delayGuess}, {ampMono, ampGuess}, {tau1Mono,
```

```
    caAdjustedTau1Guess}}, x1, MaxIterations → myMaxIterations];
fitResultMono = fitResultsTMP[{"BestFitParameters"}];
simParamNoiseC10[[1, noiseN]] = 0; (*not used anymore*)
simParamNoiseC10[[2, noiseN]] =
 fitResultsTMP["ANOVATableSumsOfSquares"][[2]];
(*Print[fitResultsTMP["ANOVATableSumsOfSquares"]];*)
simParamNoiseC10[[3, noiseN]] = (delayMono /. fitResultMono)[[1]];
simParamNoiseC10[[4, noiseN]] = ((ampMono /. fitResultMono))[[1]];
simParamNoiseC10[[5, noiseN]] = (1 / (tau1Mono /. fitResultMono))[[1]];
(*fit bi-exp*)
fitResultsTMP =
 NonlinearModelFit[tmpToFitNoise, myFitBi[x1], {{delay, delayGuess},
   {amp, ampGuess}, {amp1, amp1Guess}, {tau1, caAdjustedTau1Guess},
   {tau2, caAdjustedTau2Guess}}, x1, MaxIterations → myMaxIterations];
fitResultBi = fitResultsTMP[{"BestFitParameters"}];
simParamNoiseC10[[6, noiseN]] = simParamNoiseC10[[2, noiseN]] /
  fitResultsTMP["ANOVATableSumsOfSquares"][[2]];
simParamNoiseC10[[7, noiseN]] = (delay /. fitResultBi)[[1]];
simParamNoiseC10[[8, noiseN]] = ((amp /. fitResultBi))[[1]];
simParamNoiseC10[[9, noiseN]] = ((amp amp1 /. fitResultBi))[[1]];
(*relative amp1*)
simParamNoiseC10[[10, noiseN]] = (1 / (tau1 /. fitResultBi))[[1]];
simParamNoiseC10[[11, noiseN]] = (1 / (tau2 /. fitResultBi))[[1]];
(*merge*)
If[
 (*to use the bi-exp fit, the following cirteria should be fullfilled:*)
 (*chi2 should improve(=decrease) by >4%*)
 (simParamNoiseC10[[6, noiseN]] > 1.04)
  &&
  (*tau1 and tau2 of bi fit should be factor of >3 different*)
  ((simParamNoiseC10[[11, noiseN]] / simParamNoiseC10[[10, noiseN]]) < 3.)
  &&
  (*relative amplitude of 1st component should be > 5% *)
  (((amp1 /. fitResultBi))[[1]] > 0.05)
  &&
  (*relative amplitude of 1st component should be < 95% *)
  (((amp1 /. fitResultBi))[[1]] < 0.95)
 ,
 (*take bi*)
 Print["take bi"];
 simParamNoiseC10[[12, noiseN]] = simParamNoiseC10[[7, noiseN]];
 (*delay*)
 simParamNoiseC10[[13, noiseN]] = simParamNoiseC10[[8, noiseN]];
 (*amp*)
 simParamNoiseC10[[14, noiseN]] = simParamNoiseC10[[9, noiseN]];
 (*amp1*)
```

```
    simParamNoiseC10[[15, noiseN]] = simParamNoiseC10[[10, noiseN]];
    (*tau1*)
    simParamNoiseC10[[16, noiseN]] = simParamNoiseC10[[11, noiseN]];(*tau2*)
    ,
    (*take mono*)
    Print["take mono"];
    simParamNoiseC10[[12, noiseN]] = simParamNoiseC10[[3, noiseN]];
    (*delay*)
    simParamNoiseC10[[13, noiseN]] = simParamNoiseC10[[4, noiseN]];
    (*amp*)
    simParamNoiseC10[[14, noiseN]] = NaN; (*amp1*)
    simParamNoiseC10[[15, noiseN]] = simParamNoiseC10[[5, noiseN]];
    (*tau1*)
    simParamNoiseC10[[16, noiseN]] = NaN;(*tau2*)
  ];
];
(*plot last example of the noise loop*)
gr1 = ListPlot[tmpToFitNoise, PlotRange → All, PlotStyle → Black];
gr2 = Plot[myFitMono[x1] /. fitResultMono,
  {x1, cursorStart, cursorEnd}, PlotRange → All, PlotStyle → {Blue, Dashed}];
gr3 = Plot[myFitBi[x1] /. fitResultBi, {x1, cursorStart, cursorEnd},
  PlotRange → All, PlotStyle → {Green, Dashed}];
Show[gr1, gr2, gr3, PlotRange → All ] // Print;
If[exportYes == 1,
 Export["withinLoop r" <> ToString[r] <> " Ca" <>
   ToString[1*^6 myCaNow] <> " C10 data.txt", tmpToFitNoise, "Table"];
 toExport = Table[{t, (myFitMono[t] /. fitResultMono)[[1]]},
   {t, cursorStart, cursorEnd, dtOfPlotsForExport}];
 Export["withinLoop r" <> ToString[r] <> " Ca" <> ToString[1*^6 myCaNow] <>
   " C10 fitMono.txt", toExport, "Table"];
 toExport = Table[{t, (myFitBi[t] /. fitResultBi)[[1]]},
   {t, cursorStart, cursorEnd, dtOfPlotsForExport}];
 Export["withinLoop r" <> ToString[r] <> " Ca" <> ToString[1*^6 myCaNow] <>
   " C10 fitBi.txt", toExport, "Table"];
];
noiseN = noiseRepeats; (*fit parameter of last noisetrace*)
Print["Mono: chi2 = ", simParamNoiseC10[[2, noiseN]], "     d = ",
 simParamNoiseC10[[2, noiseN]], "     a = ", simParamNoiseC10[[4, noiseN]],
 "     t = ", 1/simParamNoiseC10[[5, noiseN]]];
Print["Bi: ratio chi2Mono/chi2Bi = ", simParamNoiseC10[[6, noiseN]],
 "     d = ", simParamNoiseC10[[7, noiseN]], "     a = ",
 simParamNoiseC10[[8, noiseN]], "     a1 = ", simParamNoiseC10[[9, noiseN]],
 "     t1 =", 1/simParamNoiseC10[[10, noiseN]],
 "     t2 = ", 1/simParamNoiseC10[[11, noiseN]]];
(*average fit results*)
For[p = 1, p ≤ numberOfFitParamToBeSaved, p += 1,
```

```
 simParamMedianC10[[p, r]] =
  Median[simParamNoiseC10[[p, All]] /. NaN → Sequence[]];
 simParamQuantile1C10[[p, r]] = Quantile[
   simParamNoiseC10[[p, All]] /. NaN → Sequence[], myQuantile1];
 simParamQuantile2C10[[p, r]] = Quantile[
   simParamNoiseC10[[p, All]] /. NaN → Sequence[], myQuantile2];
];

(*if tau1 merge > 10 ms, use long trace for fitting*)
If[(1 / simParamMedianC10[[15, r]]) > 0.01,
 Print["Long trace was used for fitting."];
 For[noiseN = 1, noiseN ≤ noiseRepeats, noiseN += 1,
  tmpToFitNoiseLong = Transpose[{tmpToFitLong[[All, 1]],
     # + RandomVariate[NormalDistribution[0, myNoiseLong]] & /@
      tmpToFitLong[[All, 2]]}];
  (*fit mono-exp to Long trace*)
  fitResultsTMP = NonlinearModelFit[tmpToFitNoiseLong, myFitMono[x1],
    {{delayMono, delayGuess}, {ampMono, ampGuess}, {tau1Mono,
      caAdjustedTau1Guess}}, x1, MaxIterations → myMaxIterations];
  fitResultLongMono = fitResultsTMP[{"BestFitParameters"}];
  simParamNoiseC10[[2, noiseN]] =
   fitResultsTMP["ANOVATableSumsOfSquares"][[2]];
  (*Print[fitResultsTMP["ANOVATableSumsOfSquares"]];*)
  simParamNoiseC10[[3, noiseN]] = (delayMono /. fitResultLongMono)[[1]];
  simParamNoiseC10[[4, noiseN]] = ((ampMono /. fitResultLongMono))[[1]];
  simParamNoiseC10[[5, noiseN]] = (1 / (tau1Mono /. fitResultLongMono))[[1]];
  (*fit bi-exp*)
  fitResultsTMP =
   NonlinearModelFit[tmpToFitNoiseLong, myFitBi[x1], {{delay, delayGuess},
     {amp, ampGuess}, {amp1, amp1Guess}, {tau1, caAdjustedTau1Guess},
     {tau2, caAdjustedTau2Guess}}, x1, MaxIterations → myMaxIterations];
  fitResultLongBi = fitResultsTMP[{"BestFitParameters"}];
  simParamNoiseC10[[6, noiseN]] = simParamNoiseC10[[2, noiseN]] /
    fitResultsTMP["ANOVATableSumsOfSquares"][[2]];
  simParamNoiseC10[[7, noiseN]] = (delay /. fitResultLongBi)[[1]];
  simParamNoiseC10[[8, noiseN]] = ((amp /. fitResultLongBi))[[1]];
  simParamNoiseC10[[9, noiseN]] = ((amp amp1 /. fitResultLongBi))[[1]];
  (*relative amp1*)
  simParamNoiseC10[[10, noiseN]] = (1 / (tau1 /. fitResultLongBi))[[1]];
  simParamNoiseC10[[11, noiseN]] = (1 / (tau2 /. fitResultLongBi))[[1]];
  (*merge*)
  If[
   (*to use the bi-exp fit,
   the following cirteria should be fullfilled:*)
   (*chi2 should improve(=decrease) by >4%*)
   (simParamNoiseC10[[6, noiseN]] > 1.04)
```

```
    &&
    (*tau1 and tau2 of bi fit should be factor of >3 different*)
    ((simParamNoiseC10[[11, noiseN]] / simParamNoiseC10[[10, noiseN]]) < 3.)
    &&
    (*relative amplitude of 1st component should be > 5% *)
    (((amp1 /. fitResultLongBi))[[1]] > 0.05)
    &&
    (*relative amplitude of 1st component should be < 95% *)
    (((amp1 /. fitResultLongBi))[[1]] < 0.95)
   ,
   (*take bi*)
   Print["take bi"];
   simParamNoiseC10[[12, noiseN]] = simParamNoiseC10[[7, noiseN]];
   (*delay*)
   simParamNoiseC10[[13, noiseN]] = simParamNoiseC10[[8, noiseN]];
   (*amp*)
   simParamNoiseC10[[14, noiseN]] = simParamNoiseC10[[9, noiseN]];
   (*amp1*)
   simParamNoiseC10[[15, noiseN]] = simParamNoiseC10[[10, noiseN]];
   (*tau1*)
   simParamNoiseC10[[16, noiseN]] = simParamNoiseC10[[11, noiseN]];(*tau2*)
   ,
   (*take mono*)
   Print["take mono"];
   simParamNoiseC10[[12, noiseN]] = simParamNoiseC10[[3, noiseN]];
   (*delay*)
   simParamNoiseC10[[13, noiseN]] = simParamNoiseC10[[4, noiseN]];
   (*amp*)
   simParamNoiseC10[[14, noiseN]] = NaN; (*amp1*)
   simParamNoiseC10[[15, noiseN]] = simParamNoiseC10[[5, noiseN]];
   (*tau1*)
   simParamNoiseC10[[16, noiseN]] = NaN;(*tau2*)
  ];
 ];
 (*plot last example of the noise loop*)
 gr1 = ListPlot[tmpToFitNoiseLong, PlotRange → All, PlotStyle → Black];
 gr2 = Plot[myFitMono[x1] /. fitResultLongMono, {x1, cursorStart,
    cursorEndLong}, PlotRange → All, PlotStyle → {Blue, Dashed}];
 gr3 = Plot[myFitBi[x1] /. fitResultLongBi, {x1, cursorStart, cursorEndLong},
   PlotRange → All, PlotStyle → {Green, Dashed}];
 Show[gr1, gr2, gr3, PlotRange → All ] // Print;
 If[exportYes == 1,
  Export["withinLoop r" <> ToString[r] <> " Ca" <> ToString[1*^6 myCaNow] <>
    " C10 dataLong.txt", tmpToFitNoiseLong, "Table"];
  toExport = Table[{t, (myFitMono[t] /. fitResultLongMono)[[1]]},
    {t, cursorStart, cursorEndLong, dtOfPlotsForExport}];
  Export["withinLoop r" <> ToString[r] <> " Ca" <> ToString[1*^6 myCaNow] <>
```

```
      " C10 fitLongMono.txt", toExport, "Table"];
    toExport = Table[{t, (myFitBi[t] /. fitResultLongBi) [[1]]},
      {t, cursorStart, cursorEndLong, dtOfPlotsForExport}];
    Export["withinLoop r" <> ToString[r] <> " Ca" <> ToString[1*^6 myCaNow] <>
      " C10 fitLongBi.txt", toExport, "Table"];

  ];
  noiseN = noiseRepeats; (*fit parameter of last noisetrace*)
  Print["Mono: chi2 = ", simParamNoiseC10[[2, noiseN]], "     d = ",
   simParamNoiseC10[[3, noiseN]], "     a = ", simParamNoiseC10[[4, noiseN]],
   "     t = ", 1/simParamNoiseC10[[5, noiseN]]];
  Print["Bi: ratio chi2Mono/chi2Bi = ", simParamNoiseC10[[6, noiseN]],
   "     d = ", simParamNoiseC10[[7, noiseN]], "     a = ",
   simParamNoiseC10[[8, noiseN]], "     a1 = ", simParamNoiseC10[[9, noiseN]],
   "     t1 =", 1/simParamNoiseC10[[10, noiseN]],
   "     t2 = ", 1/simParamNoiseC10[[11, noiseN]]];
  (*average fit results*)
  For[p = 1, p ≤ numberOfFitParamToBeSaved, p += 1,
   simParamMedianC10[[p, r]] =
    Median[simParamNoiseC10[[p, All]] /. NaN → Sequence[]];
   simParamQuantile1C10[[p, r]] = Quantile[
     simParamNoiseC10[[p, All]] /. NaN → Sequence[], myQuantile1];
   simParamQuantile2C10[[p, r]] = Quantile[
     simParamNoiseC10[[p, All]] /. NaN → Sequence[], myQuantile2];
  ];
 ];

 , (*else: signal is not large enough*)
 For[p = 1, p ≤ numberOfFitParamToBeSaved, p += 1,
   simParamMedianC10[[p, r]] = {};
   simParamQuantile1C10[[p, r]] = {};
   simParamQuantile2C10[[p, r]] = {};
  ];
];


(*---------    Fitting of data,
saving of results, and plotting-----------------*)
(*-----------------------------------------------------------------------
                                        ----*)
(*-------------------------------------    D     --------------------------
                        --*)
(*-----------------------------------------------------------------------
                                        ----*)
Print[
 "-----------------------------------------------------------------------
   D"];
```

```
(*check that signal is large enough relative to noise to obtain
 useful fit results. If not, do not do fitting and set everything to {}*)
If[simParamNv[[5, r]] > signalToNoiseRatioD myNoiseD, (*add noise
  several times and do the fitting and than average the results*)
 For[noiseN = 1, noiseN ≤ noiseRepeats, noiseN += 1,
  (*Print[noiseN];*)
  tmpToFitNoise = Transpose[{tmpToFitD[[All, 1]],
     # + RandomVariate[NormalDistribution[0, myNoiseD]] & /@
      tmpToFitD[[All, 2]]}];
  (*fit mono-exp*)
  fitResultsTMP = NonlinearModelFit[tmpToFitNoise, myFitMono[x1],
    {{delayMono, delayGuess}, {ampMono, ampGuess}, {tau1Mono,
      caAdjustedTau1Guess}}, x1, MaxIterations → myMaxIterations];
  fitResultMono = fitResultsTMP[{"BestFitParameters"}];
  simParamNoiseD[[1, noiseN]] = 0; (*not used anymore*)
  simParamNoiseD[[2, noiseN]] =
   fitResultsTMP["ANOVATableSumsOfSquares"][[2]];
  (*Print[fitResultsTMP["ANOVATableSumsOfSquares"]];*)
  simParamNoiseD[[3, noiseN]] = (delayMono /. fitResultMono)[[1]];
  simParamNoiseD[[4, noiseN]] = ((ampMono /. fitResultMono))[[1]];
  simParamNoiseD[[5, noiseN]] = (1 / (tau1Mono /. fitResultMono))[[1]];
  (*fit bi-exp*)
  fitResultsTMP =
   NonlinearModelFit[tmpToFitNoise, myFitBi[x1], {{delay, delayGuess},
     {amp, ampGuess}, {amp1, amp1Guess}, {tau1, caAdjustedTau1Guess},
     {tau2, caAdjustedTau2Guess}}, x1, MaxIterations → myMaxIterations];
  fitResultBi = fitResultsTMP[{"BestFitParameters"}];
  simParamNoiseD[[6, noiseN]] = simParamNoiseD[[2, noiseN]] /
    fitResultsTMP["ANOVATableSumsOfSquares"][[2]];
  simParamNoiseD[[7, noiseN]] = (delay /. fitResultBi)[[1]];
  simParamNoiseD[[8, noiseN]] = ((amp /. fitResultBi))[[1]];
  simParamNoiseD[[9, noiseN]] = ((amp amp1 /. fitResultBi))[[1]];
  (*relative amp1*)
  simParamNoiseD[[10, noiseN]] = (1 / (tau1 /. fitResultBi))[[1]];
  simParamNoiseD[[11, noiseN]] = (1 / (tau2 /. fitResultBi))[[1]];
  (*merge*)
  If[
   (*to use the bi-exp fit, the following cirteria should be fullfilled:*)
   (*chi2 should improve(=decrease) by >4%*)
   (simParamNoiseD[[6, noiseN]] > 1.04)
    &&
    (*tau1 and tau2 of bi fit should be factor of >3 different*)
    ((simParamNoiseD[[11, noiseN]] / simParamNoiseD[[10, noiseN]]) < 3.)
    &&
    (*relative amplitude of 1st component should be > 5% *)
    (((amp1 /. fitResultBi))[[1]] > 0.05)
```

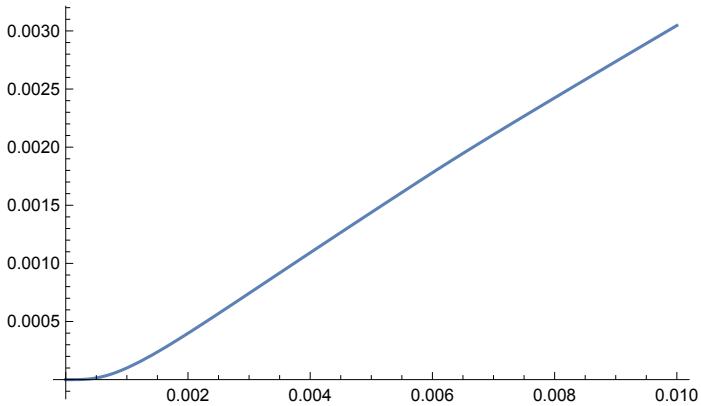
```
    &&
    (*relative amplitude of 1st component should be < 95% *)
    (((amp1 /. fitResultBi))[[1]] < 0.95)
   ,
   (*take bi*)
   Print["take bi"];
   simParamNoiseD[[12, noiseN]] = simParamNoiseD[[7, noiseN]];
   (*delay*)
   simParamNoiseD[[13, noiseN]] = simParamNoiseD[[8, noiseN]];
   (*amp*)
   simParamNoiseD[[14, noiseN]] = simParamNoiseD[[9, noiseN]];
   (*amp1*)
   simParamNoiseD[[15, noiseN]] = simParamNoiseD[[10, noiseN]];
   (*tau1*)
   simParamNoiseD[[16, noiseN]] = simParamNoiseD[[11, noiseN]];(*tau2*)
   ,
   (*take mono*)
   Print["take mono"];
   simParamNoiseD[[12, noiseN]] = simParamNoiseD[[3, noiseN]];
   (*delay*)
   simParamNoiseD[[13, noiseN]] = simParamNoiseD[[4, noiseN]];
   (*amp*)
   simParamNoiseD[[14, noiseN]] = NaN; (*amp1*)
   simParamNoiseD[[15, noiseN]] = simParamNoiseD[[5, noiseN]];
   (*tau1*)
   simParamNoiseD[[16, noiseN]] = NaN;(*tau2*)
  ];
];
(*plot last example of the noise loop*)
gr1 = ListPlot[tmpToFitNoise, PlotRange → All, PlotStyle → Black];
gr2 = Plot[myFitMono[x1] /. fitResultMono,
  {x1, cursorStart, cursorEnd}, PlotRange → All, PlotStyle → {Blue, Dashed}];
gr3 = Plot[myFitBi[x1] /. fitResultBi, {x1, cursorStart, cursorEnd},
  PlotRange → All, PlotStyle → {Green, Dashed}];
Show[gr1, gr2, gr3, PlotRange → All ] // Print;
If[exportYes == 1,
 Export["withinLoop r" <> ToString[r] <> " Ca" <>
   ToString[1*^6 myCaNow] <> " D data.txt", tmpToFitNoise, "Table"];
 toExport = Table[{t, (myFitMono[t] /. fitResultMono)[[1]]},
   {t, cursorStart, cursorEnd, dtOfPlotsForExport}];
 Export["withinLoop r" <> ToString[r] <> " Ca" <> ToString[1*^6 myCaNow] <>
   " D fitMono.txt", toExport, "Table"];
 toExport = Table[{t, (myFitBi[t] /. fitResultBi)[[1]]},
   {t, cursorStart, cursorEnd, dtOfPlotsForExport}];
 Export["withinLoop r" <> ToString[r] <> " Ca" <>
   ToString[1*^6 myCaNow] <> " D fitBi.txt", toExport, "Table"];
];
```

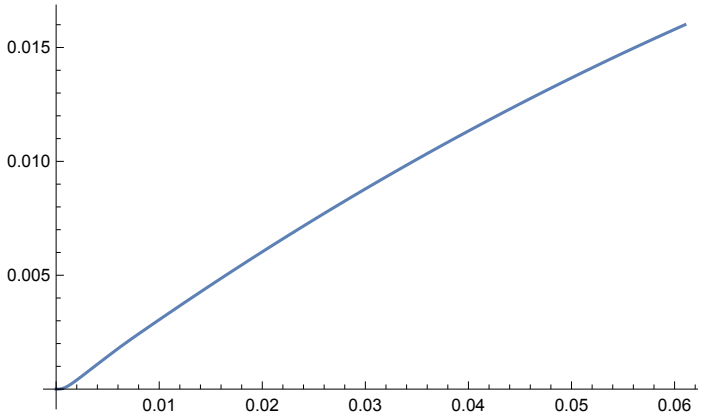
```
noiseN = noiseRepeats; (*fit parameter of last noisetrace*)
Print["Mono: chi2 = ", simParamNoiseD[[2, noiseN]],
 "     d = ", simParamNoiseD[[2, noiseN]], "     a = ",
 simParamNoiseD[[4, noiseN]], "     t = ", 1/simParamNoiseD[[5, noise N]]];
Print["Bi: ratio chi2Mono/chi2Bi = ", simParamNoiseD[[6, noiseN]],
 "     d = ", simParamNoiseD[[7, noiseN]], "     a = ",
 simParamNoiseD[[8, noiseN]], "     a1 = ", simParamNoiseD[[9, noiseN]],
 "     t1 =", 1/simParamNoiseD[[10, noiseN]],
 "     t2 = ", 1/simParamNoiseD[[11, noiseN]]];
(*average fit results*)
For[p = 1, p ≤ numberOfFitParamToBeSaved, p += 1,
 simParamMedianD[[p, r]] =
  Median[simParamNoiseD[[p, All]] /. NaN → Sequence[]];
 simParamQuantile1D[[p, r]] = Quantile[
   simParamNoiseD[[p, All]] /. NaN → Sequence[], myQuantile1];
 simParamQuantile2D[[p, r]] = Quantile[
   simParamNoiseD[[p, All]] /. NaN → Sequence[], myQuantile2];
];

(*if tau1 merge > 10 ms, use long trace for fitting*)
If[(1/simParamMedianD[[15, r]]) > 0.01,
 Print["Long trace was used for fitting."];
 For[noiseN = 1, noiseN ≤ noiseRepeats, noiseN += 1,
  tmpToFitNoiseLong = Transpose[{tmpToFitLong[[All, 1]],
     # + RandomVariate[NormalDistribution[0, myNoiseLong]] & /@
      tmpToFitLong[[All, 2]]}];
  (*fit mono-exp to Long trace*)
  fitResultsTMP = NonlinearModelFit[tmpToFitNoiseLong, myFitMono[x1],
    {{delayMono, delayGuess}, {ampMono, ampGuess}, {tau1Mono,
      caAdjustedTau1Guess}}, x1, MaxIterations → myMaxIterations];
  fitResultLongMono = fitResultsTMP[{"BestFitParameters"}];
  simParamNoiseD[[2, noiseN]] =
   fitResultsTMP["ANOVATableSumsOfSquares"][[2]];
  (*Print[fitResultsTMP["ANOVATableSumsOfSquares"]];*)
  simParamNoiseD[[3, noiseN]] = (delayMono /. fitResultLongMono)[[1]];
  simParamNoiseD[[4, noiseN]] = ((ampMono /. fitResultLongMono))[[1]];
  simParamNoiseD[[5, noiseN]] = (1/(tau1Mono /. fitResultLongMono))[[1]];
  (*fit bi-exp*)
  fitResultsTMP =
   NonlinearModelFit[tmpToFitNoiseLong, myFitBi[x1], {{delay, delayGuess},
     {amp, ampGuess}, {amp1, amp1Guess}, {tau1, caAdjustedTau1Guess},
     {tau2, caAdjustedTau2Guess}}, x1, MaxIterations → myMaxIterations];
  fitResultLongBi = fitResultsTMP[{"BestFitParameters"}];
  simParamNoiseD[[6, noiseN]] = simParamNoiseD[[2, noiseN]]/
    fitResultsTMP["ANOVATableSumsOfSquares"][[2]];
  simParamNoiseD[[7, noiseN]] = (delay /. fitResultLongBi)[[1]];
```

```
 simParamNoiseD[[8, noiseN]] = ((amp /. fitResultLongBi))[[1]];
 simParamNoiseD[[9, noiseN]] = ((amp amp1 /. fitResultLongBi))[[1]];
 (*relative amp1*)
 simParamNoiseD[[10, noiseN]] = (1 / (tau1 /. fitResultLongBi))[[1]];
 simParamNoiseD[[11, noiseN]] = (1 / (tau2 /. fitResultLongBi))[[1]];
 (*merge*)
 If[
  (*to use the bi-exp fit,
  the following cirteria should be fullfilled:*)
  (*chi2 should improve(=decrease) by >4%*)
  (simParamNoiseD[[6, noiseN]] > 1.04)
   &&
   (*tau1 and tau2 of bi fit should be factor of >3 different*)
   ((simParamNoiseD[[11, noiseN]] / simParamNoiseD[[10, noiseN]]) < 3.)
   &&
   (*relative amplitude of 1st component should be > 5% *)
   (((amp1 /. fitResultLongBi))[[1]] > 0.05)
   &&
   (*relative amplitude of 1st component should be < 95% *)
   (((amp1 /. fitResultLongBi))[[1]] < 0.95)
  ,
  (*take bi*)
  Print["take bi"];
  simParamNoiseD[[12, noiseN]] = simParamNoiseD[[7, noiseN]];
  (*delay*)
  simParamNoiseD[[13, noiseN]] = simParamNoiseD[[8, noiseN]];
  (*amp*)
  simParamNoiseD[[14, noiseN]] = simParamNoiseD[[9, noiseN]];
  (*amp1*)
  simParamNoiseD[[15, noiseN]] = simParamNoiseD[[10, noiseN]];
  (*tau1*)
  simParamNoiseD[[16, noiseN]] = simParamNoiseD[[11, noiseN]];(*tau2*)
  ,
  (*take mono*)
  Print["take mono"];
  simParamNoiseD[[12, noiseN]] = simParamNoiseD[[3, noiseN]];
  (*delay*)
  simParamNoiseD[[13, noiseN]] = simParamNoiseD[[4, noiseN]];
  (*amp*)
  simParamNoiseD[[14, noiseN]] = NaN; (*amp1*)
  simParamNoiseD[[15, noiseN]] = simParamNoiseD[[5, noiseN]];
  (*tau1*)
  simParamNoiseD[[16, noiseN]] = NaN;(*tau2*)
 ];
];
(*plot last example of the noise loop*)
gr1 = ListPlot[tmpToFitNoiseLong, PlotRange → All, PlotStyle → Black];
```

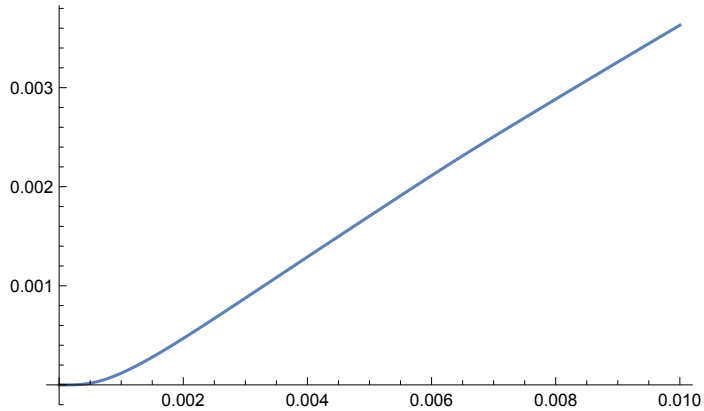
```
      gr2 = Plot[myFitMono[x1] /. fitResultLongMono, {x1, cursorStart,
         cursorEndLong}, PlotRange → All, PlotStyle → {Blue, Dashed}];
      gr3 = Plot[myFitBi[x1] /. fitResultLongBi, {x1, cursorStart, cursorEndLong},
        PlotRange → All, PlotStyle → {Green, Dashed}];
      Show[gr1, gr2, gr3, PlotRange → All ] // Print;
      If[exportYes == 1,
       Export["withinLoop r" <> ToString[r] <> " Ca" <> ToString[1*^6 myCaNow] <>
         " D dataLong.txt", tmpToFitNoiseLong, "Table"];
       toExport = Table[{t, (myFitMono[t] /. fitResultLongMono) [[1]]},
         {t, cursorStart, cursorEndLong, dtOfPlotsForExport}];
       Export["withinLoop r" <> ToString[r] <> " Ca" <> ToString[1*^6 myCaNow] <>
         " D fitLongMono.txt", toExport, "Table"];
       toExport = Table[{t, (myFitBi[t] /. fitResultLongBi) [[1]]},
         {t, cursorStart, cursorEndLong, dtOfPlotsForExport}];
       Export["withinLoop r" <> ToString[r] <> " Ca" <> ToString[1*^6 myCaNow] <>
         " D fitLongBi.txt", toExport, "Table"];

      ];
      noiseN = noiseRepeats; (*fit parameter of last noisetrace*)
      Print["Mono: chi2 = ", simParamNoiseD[[2, noiseN]],
       "     d = ", simParamNoiseD[[3, noiseN]], "     a = ",
       simParamNoiseD[[4, noiseN]], "     t = ", 1/simParamNoiseD[[5, noise N]]];
      Print["Bi: ratio chi2Mono/chi2Bi = ", simParamNoiseD[[6, noiseN]],
       "     d = ", simParamNoiseD[[7, noiseN]], "     a = ",
       simParamNoiseD[[8, noiseN]], "     a1 = ", simParamNoiseD[[9, noiseN]],
       "     t1 =", 1/simParamNoiseD[[10, noiseN]],
       "     t2 = ", 1/simParamNoiseD[[11, noiseN]]];
      (*average fit results*)
      For[p = 1, p ≤ numberOfFitParamToBeSaved, p += 1,
       simParamMedianD[[p, r]] =
        Median[simParamNoiseD[[p, All]] /. NaN → Sequence[]];
       simParamQuantile1D[[p, r]] = Quantile[
         simParamNoiseD[[p, All]] /. NaN → Sequence[], myQuantile1];
       simParamQuantile2D[[p, r]] = Quantile[
         simParamNoiseD[[p, All]] /. NaN → Sequence[], myQuantile2];
      ];
     ];

     , (*else: signal is not large enough*)
     For[p = 1, p ≤ numberOfFitParamToBeSaved, p += 1,
       simParamMedianD[[p, r]] = {};
       simParamQuantile1D[[p, r]] = {};
       simParamQuantile2D[[p, r]] = {};
      ];
    ];
   ];
```

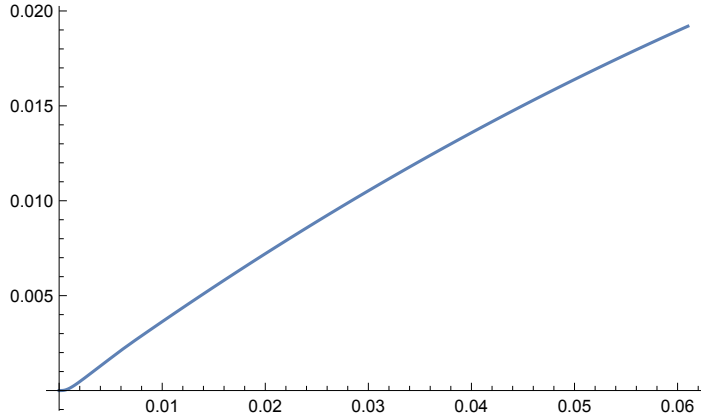
```
-----------------------------------------------------------------------------------------------
  --------------------------
----------------     Ca = 0.703073
  uM          -------------------------------------------------------
-----------------------------------------------------------------------------------------------
  --------------------------
```






```
------------------------------------------------------------------------------ C5
------------------------------------------------------------------------------ C10
------------------------------------------------------------------------------ D
-----------------------------------------------------------------------------------------------
  --------------------------
----------------     Ca = 0.729825
  uM          -------------------------------------------------------
-----------------------------------------------------------------------------------------------
  --------------------------
```





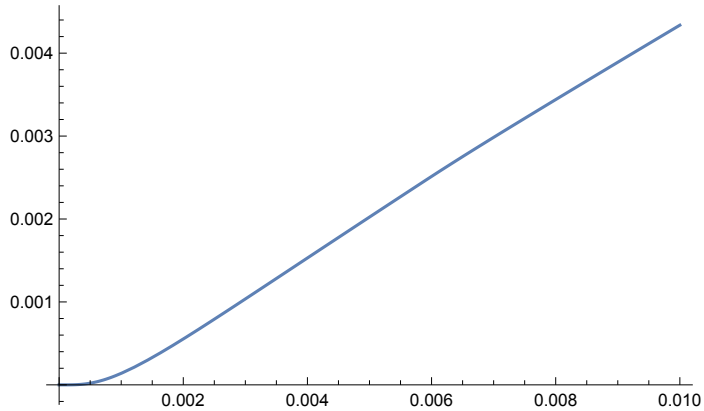
---------- C5

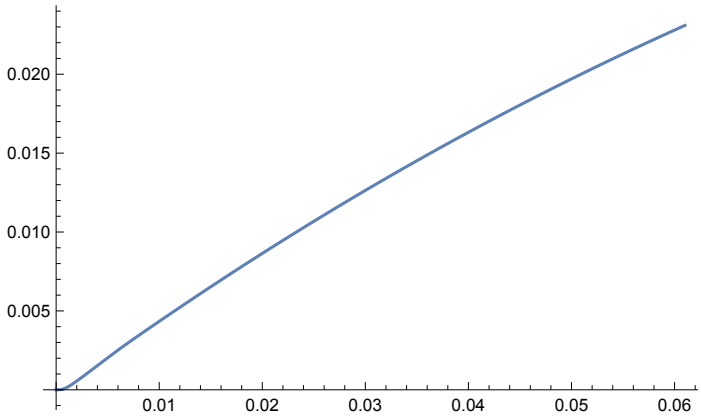
---------- C10

---------- D

---------- Ca = 0.758204

uM ----------





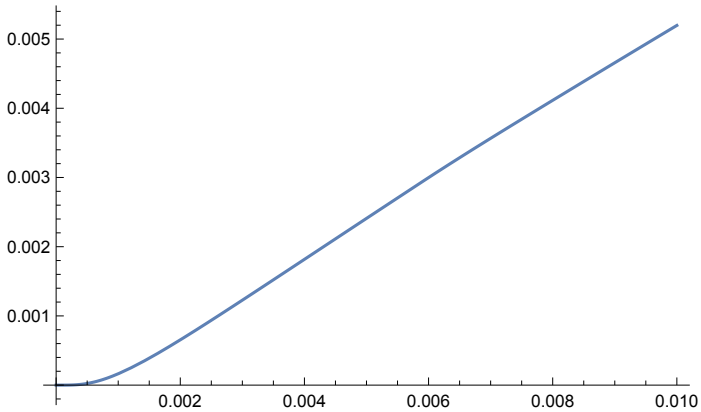
---------- C5

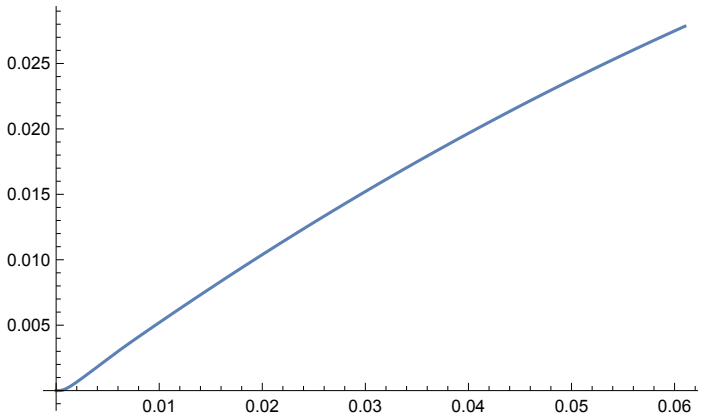
---------- C10

---------- D

---------- Ca = 0.788054

uM ----------



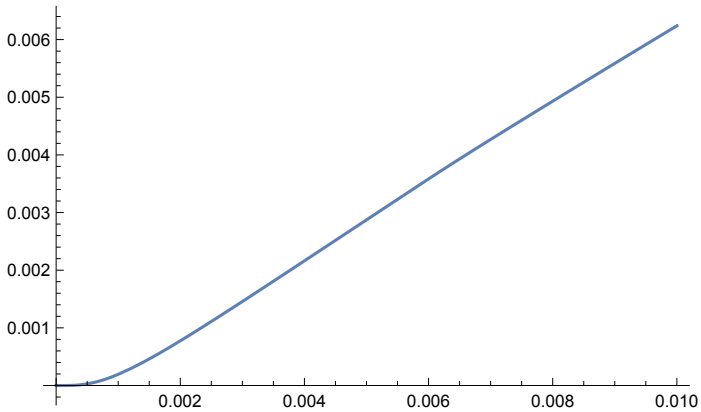


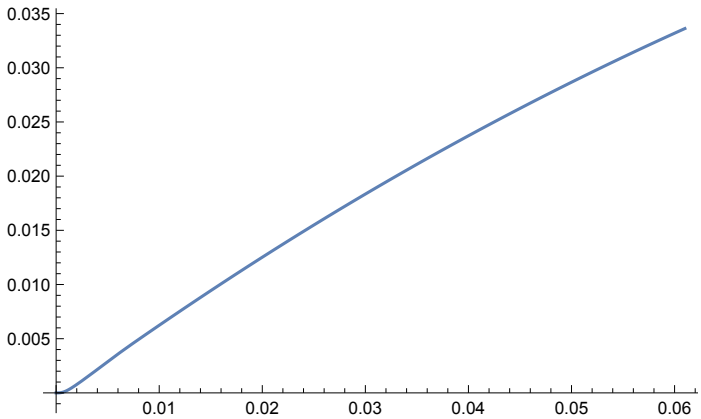
---------- C5

---------- C10

---------- D

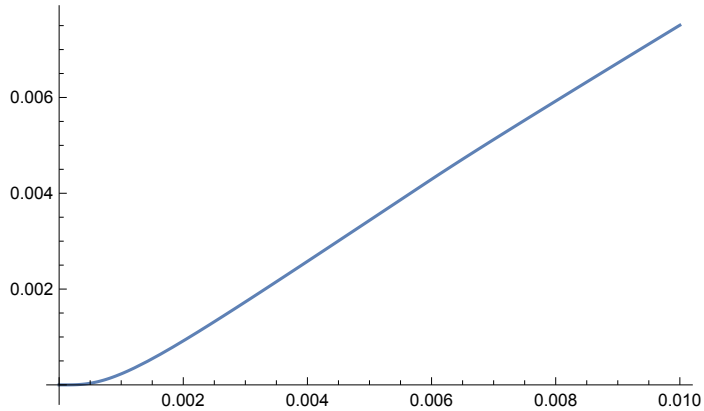
---------- Ca = 0.820427
uM ----------

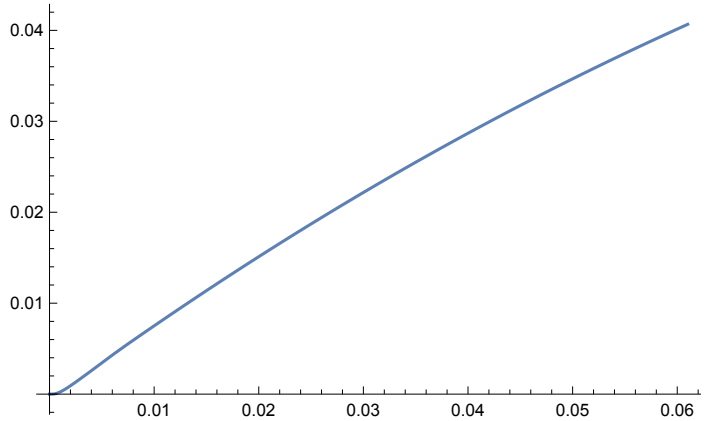




---------- C5
---------- C10
---------- D

---------- Ca = 0.854404
uM ----------





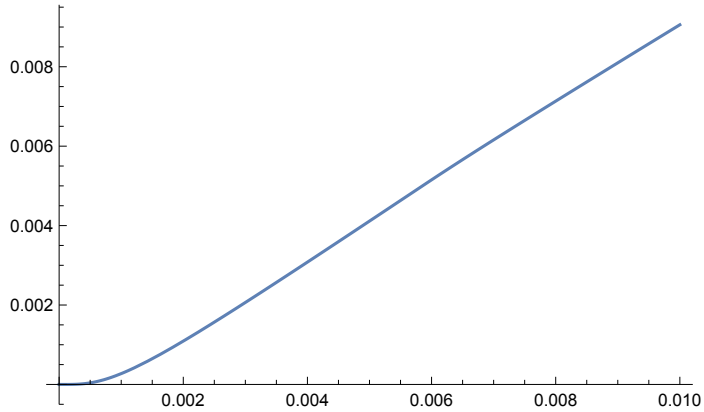
---------- C5

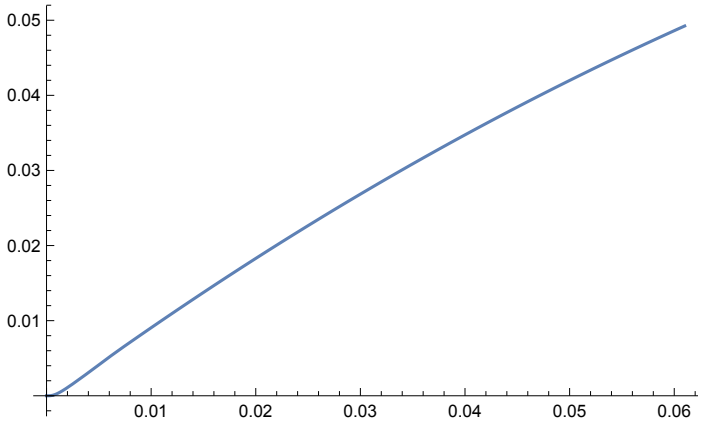
---------- C10

---------- D

---------- Ca = 0.890526

uM ----------





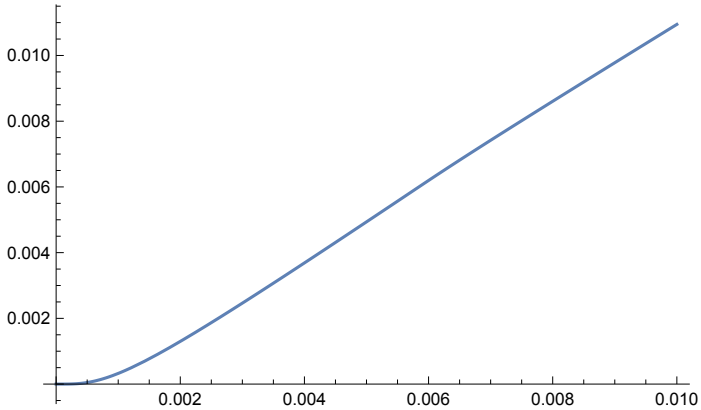
---------- C5

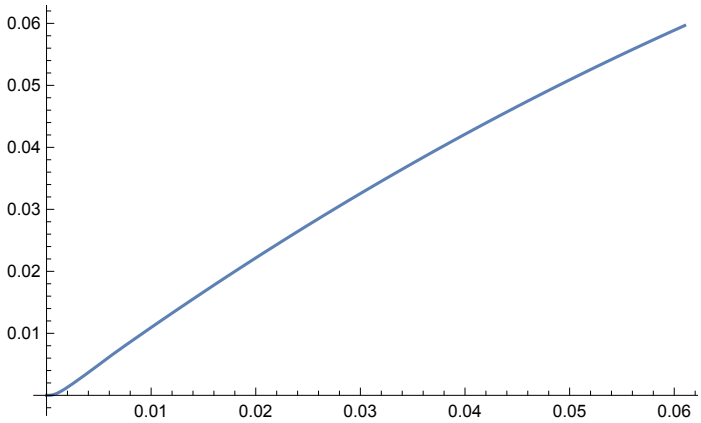
---------- C10

---------- D

---------- Ca = 0.928936

uM ----------





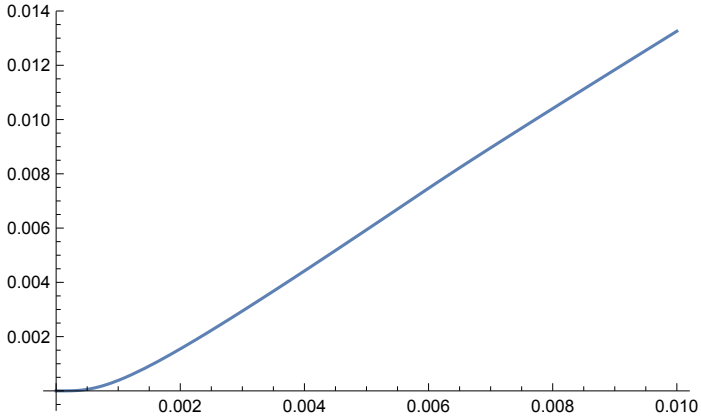
---------- C5

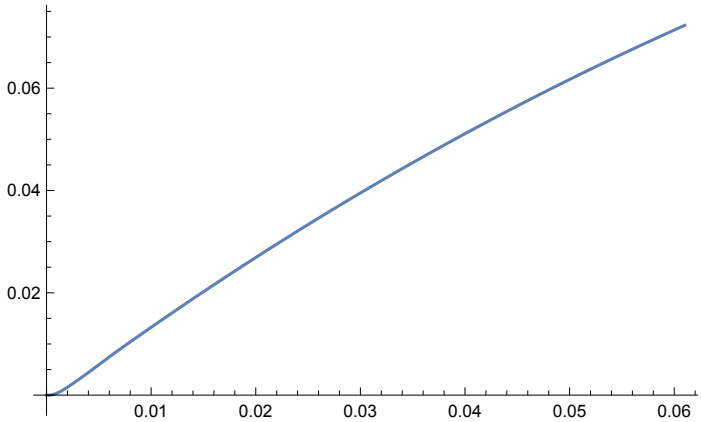
---------- C10

---------- D

---------- Ca = 0.968962

uM ----------





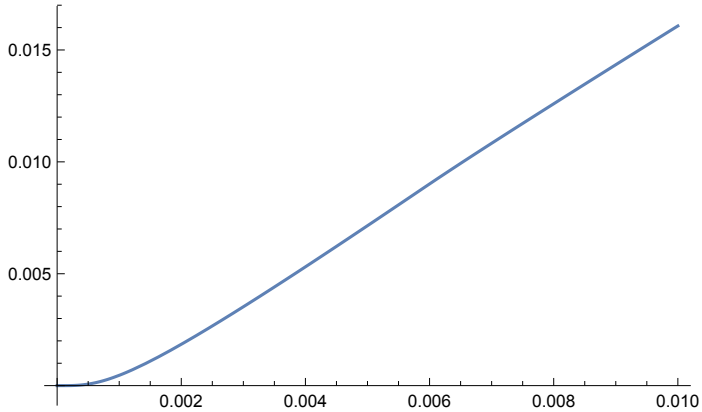
---------- C5

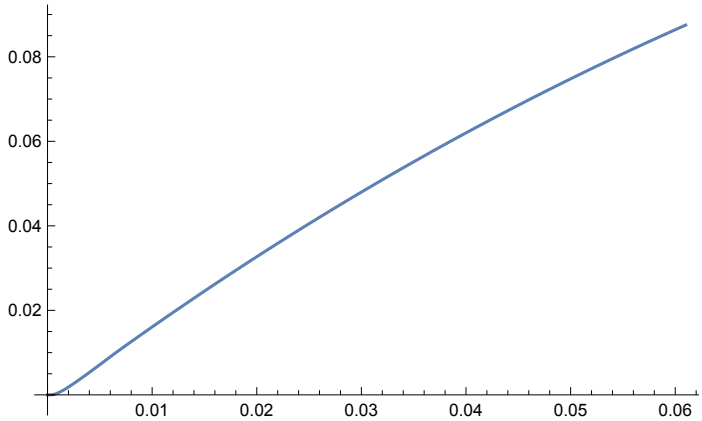
---------- C10

---------- D

---------- Ca = 1.01226

uM ----------



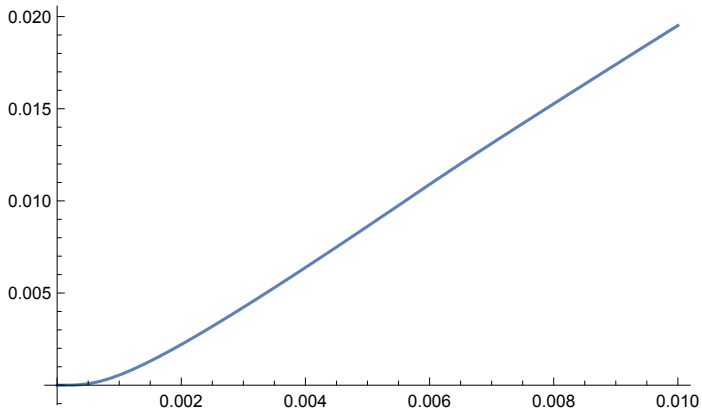


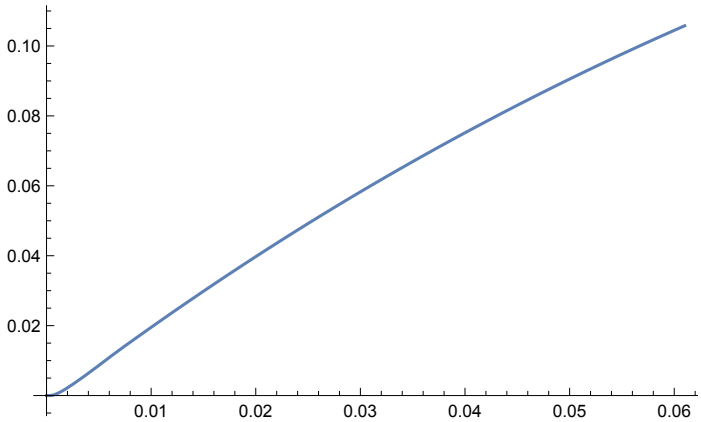
---------- C5

---------- C10

---------- D

---------- Ca = 1.05883 uM ----------





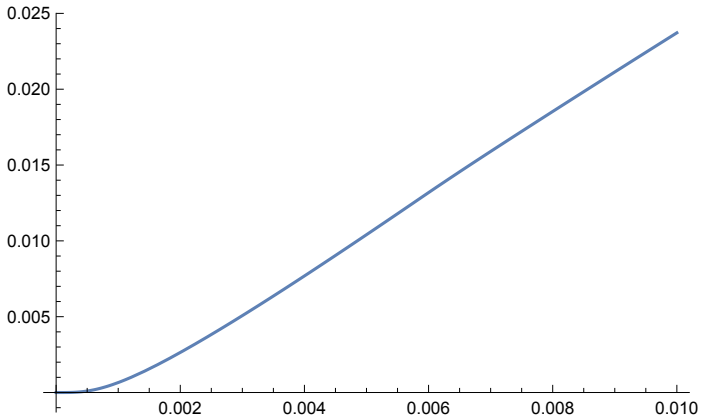
---------- C5

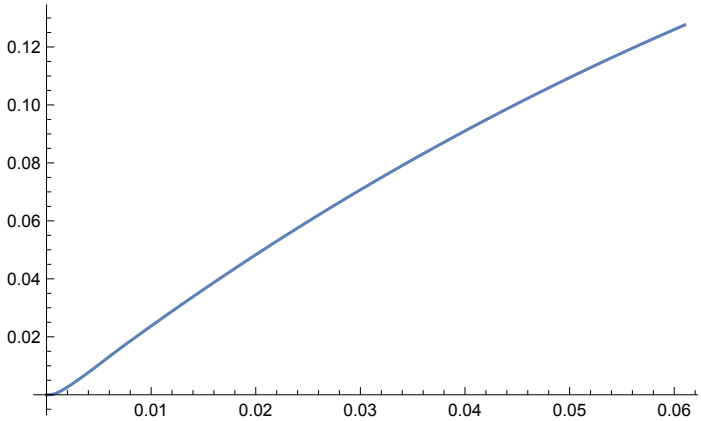
---------- C10

---------- D

---------- Ca = 1.10833

uM ----------





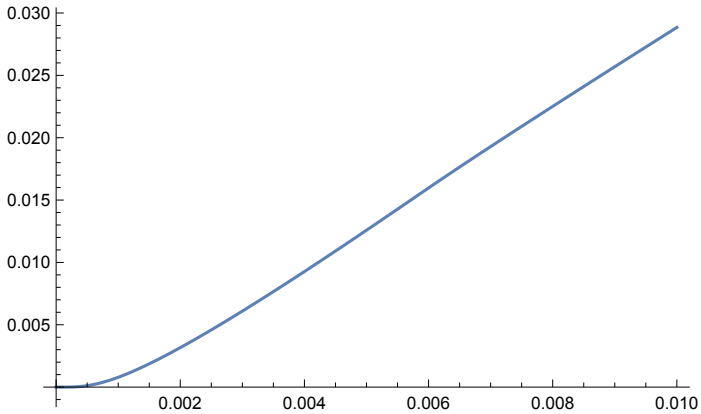
---------- C5

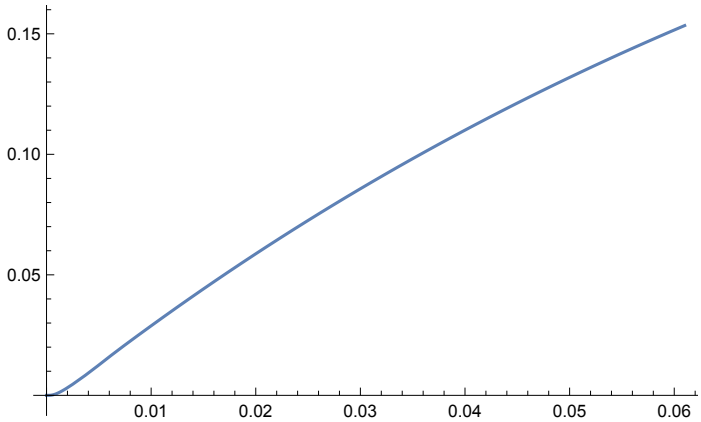
---------- C10

---------- D

---------- Ca = 1.16077

uM ----------





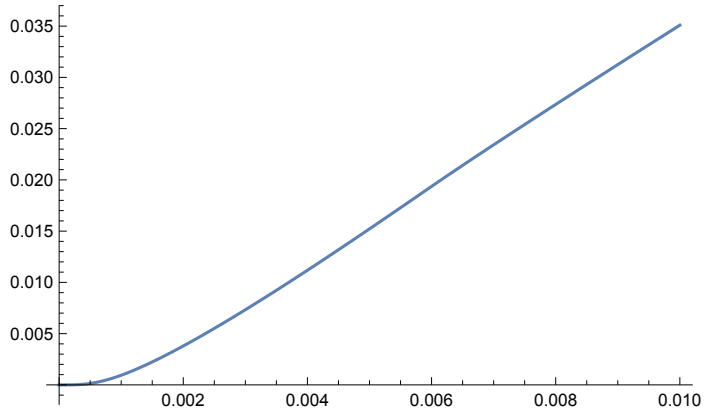
---------- C5

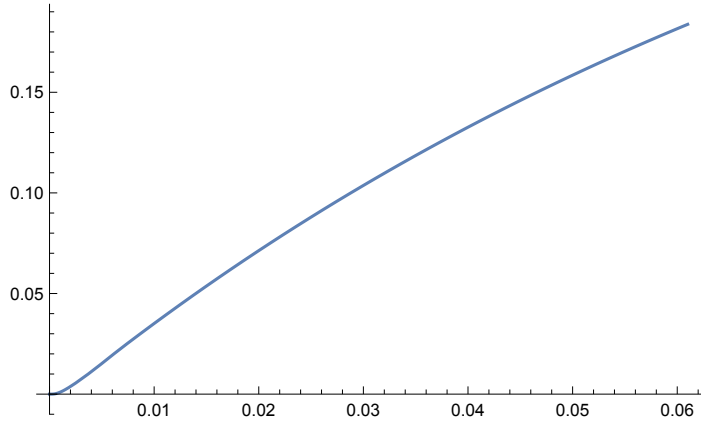
---------- C10

---------- D

---------- Ca = 1.21664

uM ----------





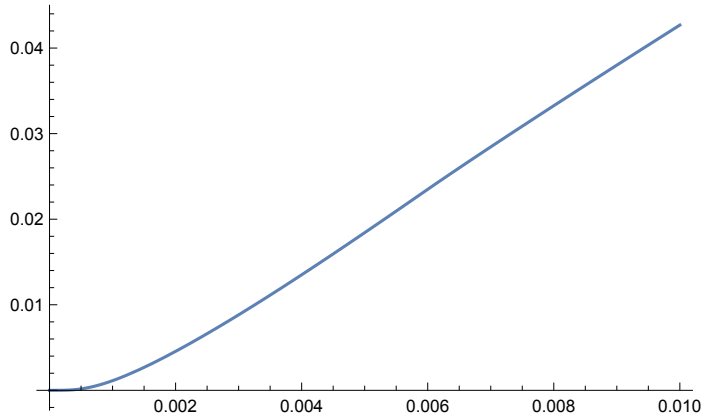
---------- C5

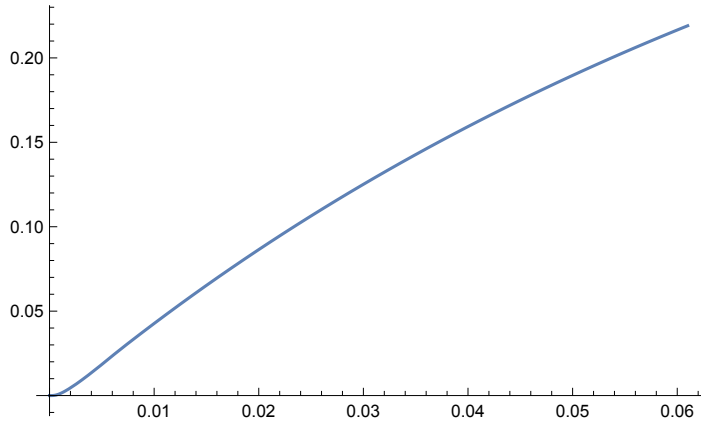
---------- C10

---------- D

---------- Ca = 1.27589

uM ----------





---------- C5

---------- C10

---------- D

```
take mono
```

NonlinearModelFit: The step size in the search has become less than the tolerance prescribed by the PrecisionGoal option, but the gradient is larger than the tolerance specified by the AccuracyGoal option. There is a possibility that the method has stalled at a point that is not a local minimum.

```
take mono
take mono
take mono
```

General: Exp[−759.277] is too small to represent as a normalized machine number; precision may be lost.

General: Exp[−814.064] is too small to represent as a normalized machine number; precision may be lost.

General: Exp[−868.851] is too small to represent as a normalized machine number; precision may be lost.

General: Further output of General::munfl will be suppressed during this calculation.

```
take mono
take mono
```

NonlinearModelFit: Failed to converge to the requested accuracy or precision within 100 iterations.

```
take mono
take mono
take mono
```

NonlinearModelFit: The step size in the search has become less than the tolerance prescribed by the PrecisionGoal option, but the gradient is larger than the tolerance specified by the AccuracyGoal option. There is a possibility that the method has stalled at a point that is not a local minimum.

```
take mono
take mono
take mono
take mono
```

NonlinearModelFit: The step size in the search has become less than the tolerance prescribed by the PrecisionGoal option, but the gradient is larger than the tolerance specified by the AccuracyGoal option. There is a possibility that the method has stalled at a point that is not a local minimum.

General: Further output of NonlinearModelFit::sszero will be suppressed during this calculation.

```
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```

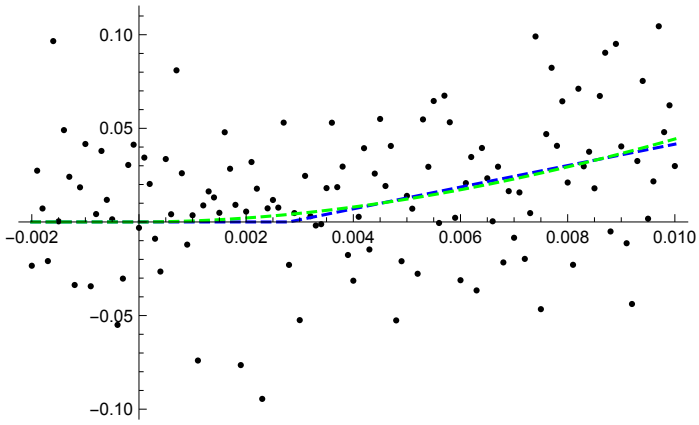
NonlinearModelFit: Failed to converge to the requested accuracy or precision within 100 iterations.

```
take mono
```

NonlinearModelFit: Failed to converge to the requested accuracy or precision within 100 iterations.

General: Further output of NonlinearModelFit::cvmit will be suppressed during this calculation.

```
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```




```
Mono: chi2 = 0.154568     d = 0.154568     a = 1.43608     t = 0.245334
Bi: ratio chi2Mono/chi2Bi = 1.00156     d = -0.0000691317     a =
 4.41362     a1 = -0.471532     t1 =0.0201662     t2 = 0.209126
```

Quantile: Argument {} should be a non−empty list.

Quantile: Argument {} should be a non−empty list.

Quantile: Argument {} should be a non−empty list.

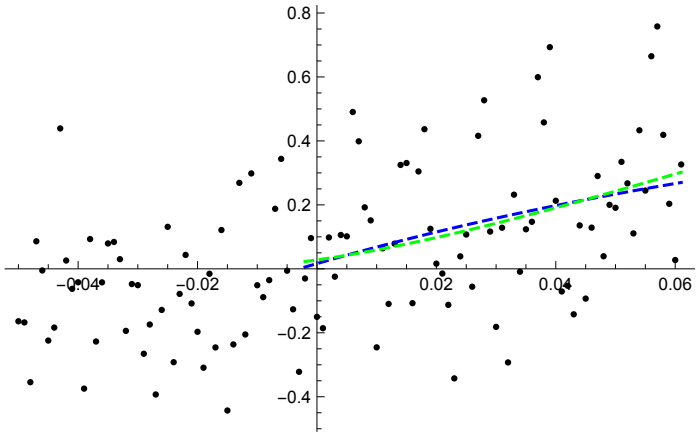
General: Further output of Quantile::empt will be suppressed during this calculation.

```
Long trace was used for fitting.
take mono
take mono
```

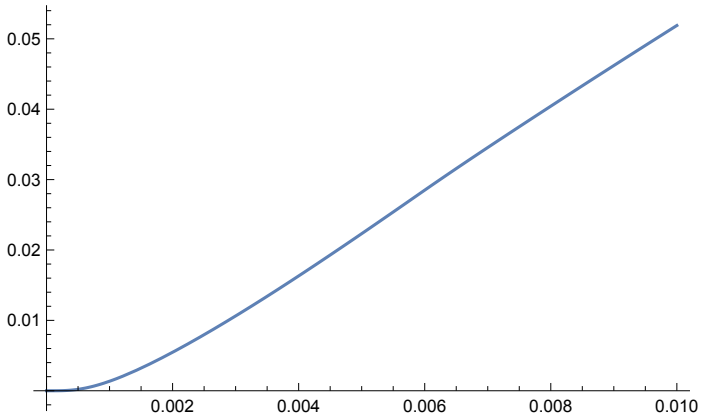
LinearAlgebra`BLAS`TRSV: Machine overflow encountered during computations.

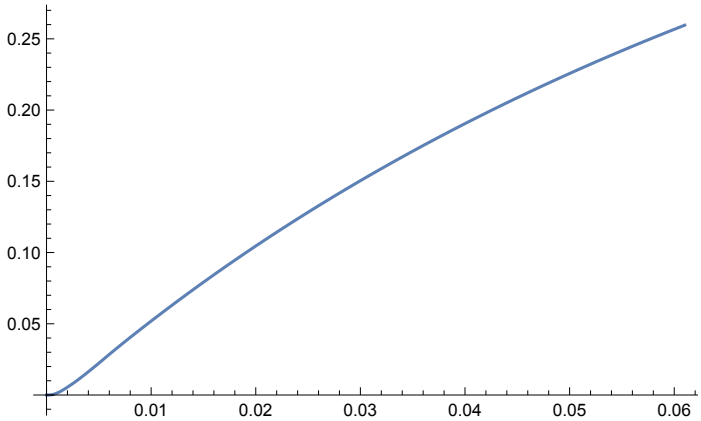
```
take mono
take mono
take mono
```

```
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```



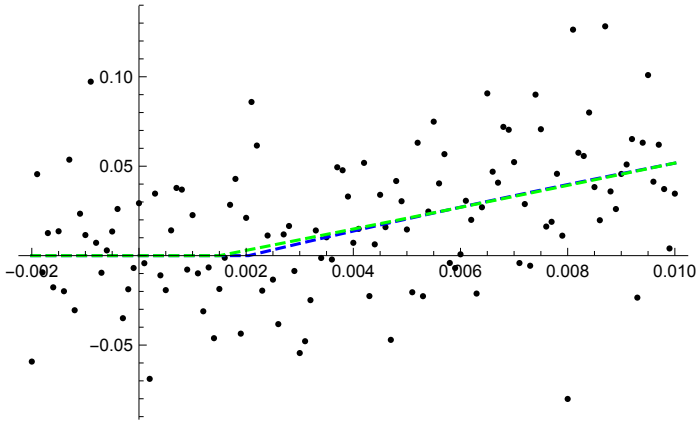

```
Mono: chi2 = 5.37064     d = -0.003     a = 0.618002     t = 0.111499
Bi: ratio chi2Mono/chi2Bi = 1.00532     d = -0.015     a =
 1.98451     a1 = -0.570374     t1 =0.0551308     t2 = 0.226367
-------------------------------------------------------------------------------------
  --------------------------
----------------     Ca = 1.33895
  uM         -------------------------------------------------------
-------------------------------------------------------------------------------------
  --------------------------
```





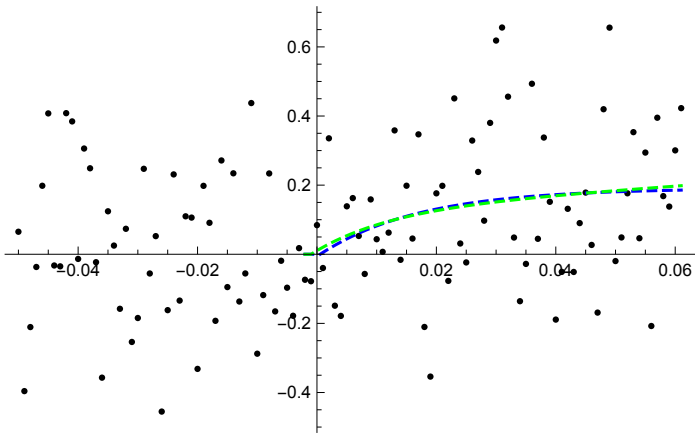

```
------------------------------------------------------------------------ C5
------------------------------------------------------------------------ C10
------------------------------------------------------------------------ D
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```

```
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```



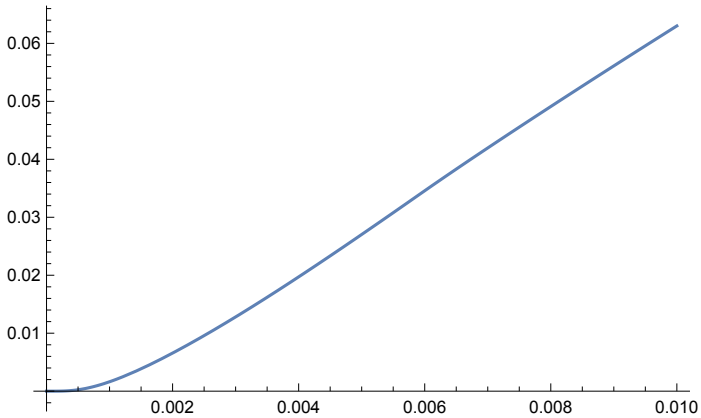

```
Mono: chi2 = 0.150144     d = 0.150144     a = 0.268524     t = 0.0371701

Bi: ratio chi2Mono/chi2Bi = 1.00002     d = 0.0015     a =
 3.11987     a1 = -1.21695     t1 =0.0990934     t2 = 0.238585

Long trace was used for fitting.

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono
```

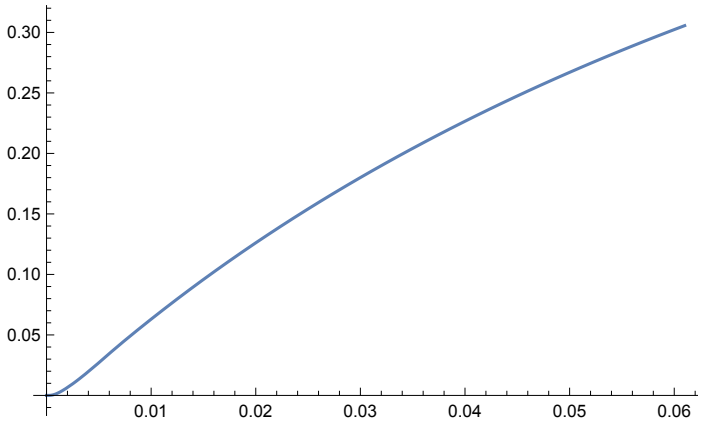
```
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```




```
Mono: chi2 = 5.23574     d = 0.000533899     a = 0.190858     t = 0.0168466
Bi: ratio chi2Mono/chi2Bi = 0.999936     d = -0.001     a =
 3.48175     a1 = 0.125569     t1 =0.0129179     t2 = 2.78974
-------------------------------------------------------------------------------------
  --------------------------
```

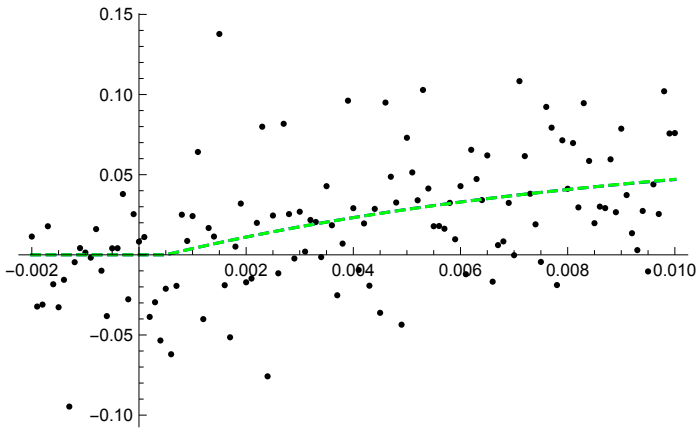
```
----------------     Ca = 1.40597
  uM          -------------------------------------------------------
-----------------------------------------------------------------------------------------
  --------------------------
```






```
------------------------------------------------------------------------- C5
------------------------------------------------------------------------- C10
------------------------------------------------------------------------- D
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```

```
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```




```
Mono: chi2 = 0.156418     d = 0.156418     a = 0.0717291     t = 0.0089365
Bi: ratio chi2Mono/chi2Bi = 1.00004     d = 0.0005     a =
 0.401614     a1 = 0.0564113     t1 =0.00776535     t2 = 0.442296
Long trace was used for fitting.
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

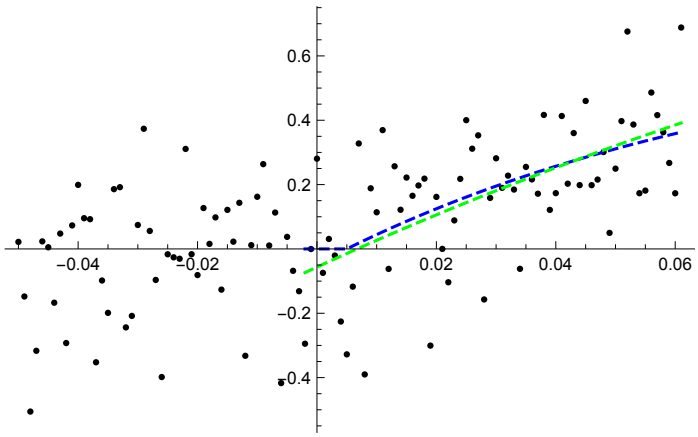
take mono

take mono

take mono

take mono

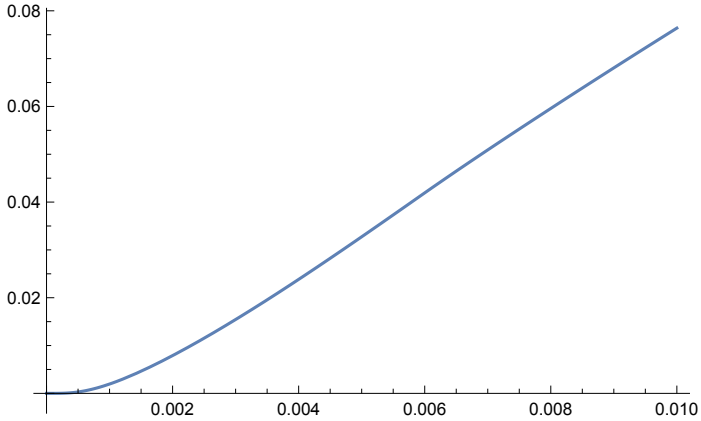
take mono

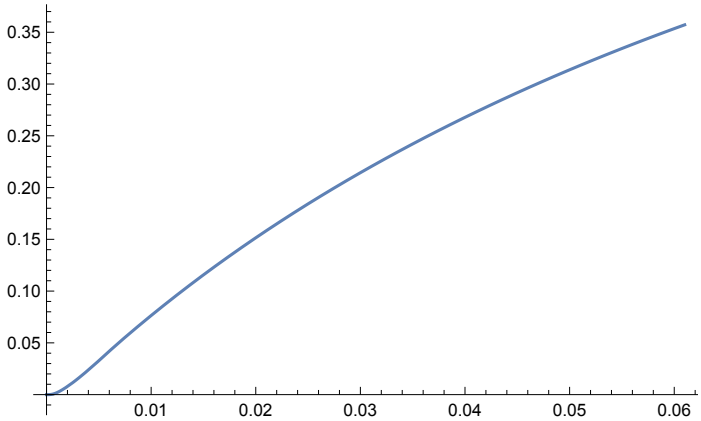


Mono: chi2 = 3.80961 d = 0.005 a = 0.692538 t = 0.0754616

Bi: ratio chi2Mono/chi2Bi = 1.02399 d = −0.00600002 a = 1.63626 a1 = −0.108407 t1 = 3.90996×10^{-10} t2 = 0.198452

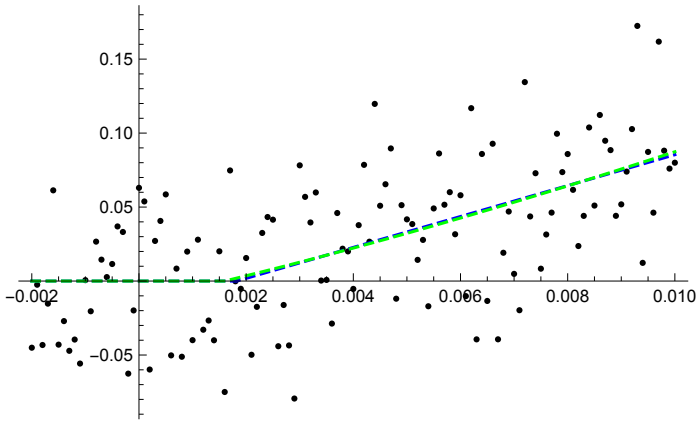
```
----------------     Ca = 1.47745
  uM          -------------------------------------------------------
-------------------------------------------------------------------------------------------
  --------------------------
```






```
------------------------------------------------------------------------- C5
------------------------------------------------------------------------- C10
------------------------------------------------------------------------- D
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```

```
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```



Mono: chi2 = 0.20699 d = 0.20699 a = 1.0907×10^6 t = 104 435.

Bi: ratio chi2Mono/chi2Bi = 1.00102 d = 0.0016 a = −1.53233 a1 = −0.070336 t1 =0.0152276 t2 = −0.108947

Long trace was used for fitting.

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

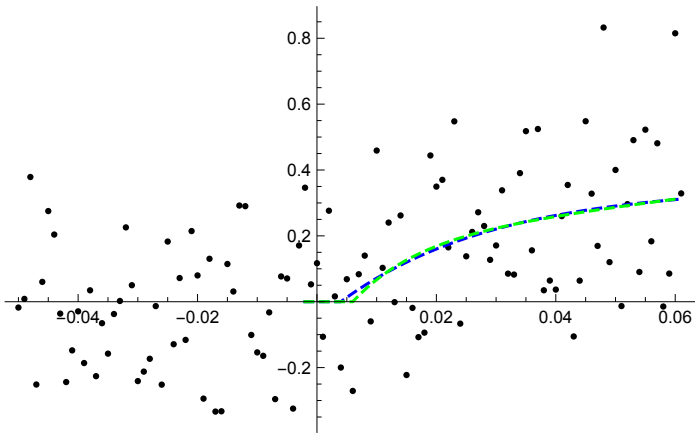
take mono

take mono

take mono

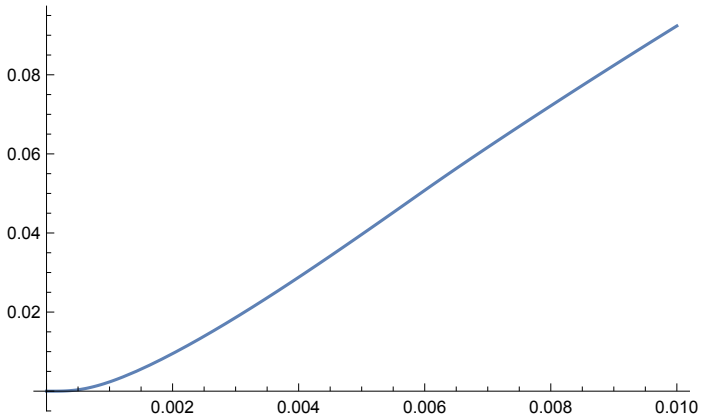
take mono

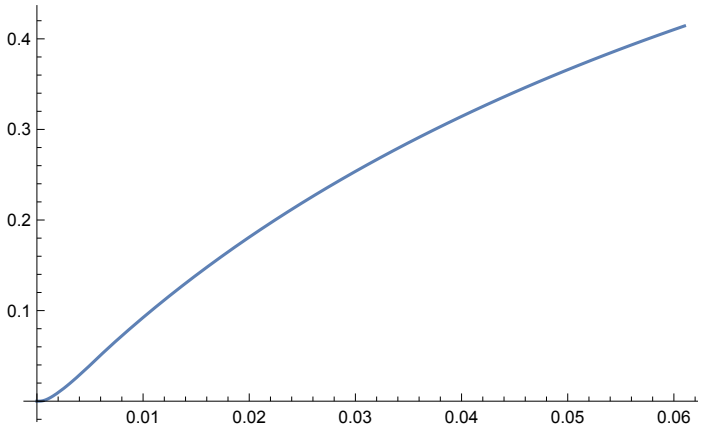
```
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```




```
Mono: chi2 = 4.59945     d = 0.004     a = 0.35245     t = 0.0264357
Bi: ratio chi2Mono/chi2Bi = 1.0018     d = 0.006     a =
 7.19248     a1 = 0.189069     t1 =0.0109875     t2 = 3.02724
--------------------------------------------------------------------------------
  -------------------------
```

---------- Ca = 1.55324
uM ----------





---------- C5
---------- C10
---------- D

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

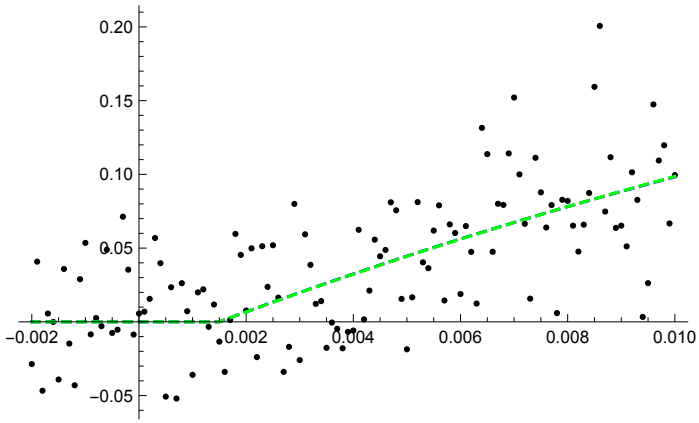
take mono

take mono

take mono

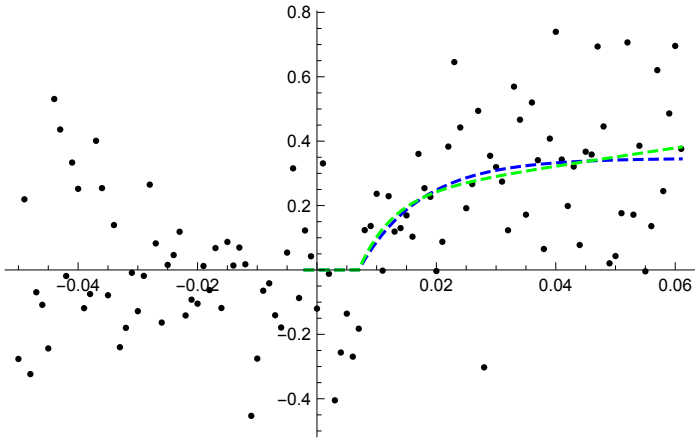
take mono

```
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```



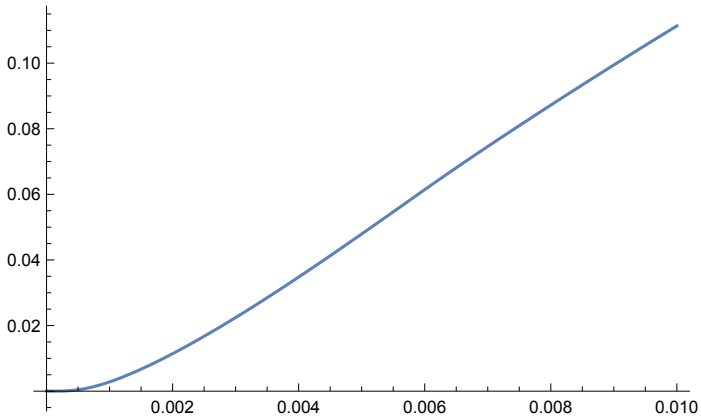

```
Mono: chi2 = 0.157759     d = 0.157759     a = 0.340781     t = 0.0249713

Bi: ratio chi2Mono/chi2Bi = 1.00002     d = 0.0015     a =
 0.229727     a1 = 0.475078     t1 =0.0303947     t2 = 0.116254

Long trace was used for fitting.

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono
```

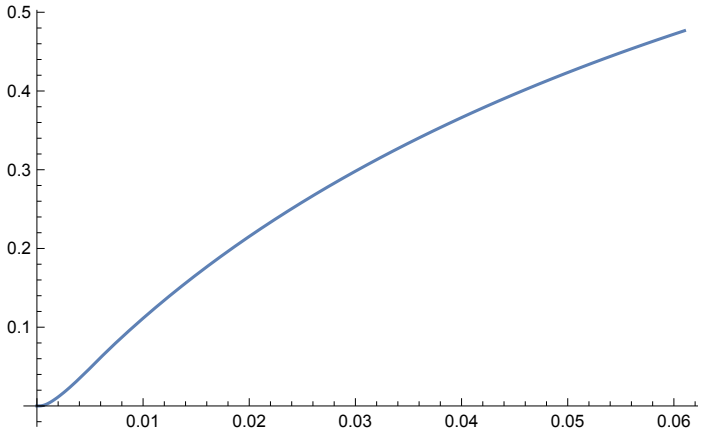
```
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```




```
Mono: chi2 = 4.67516     d = 0.007     a = 0.346737     t = 0.0103255
Bi: ratio chi2Mono/chi2Bi = 1.00101     d = 0.007     a =
 2.49235     a1 = 0.226859     t1 =0.00563868     t2 = 0.763024
-------------------------------------------------------------------------------------
  --------------------------
```

---------- Ca = 1.63202
uM ----------

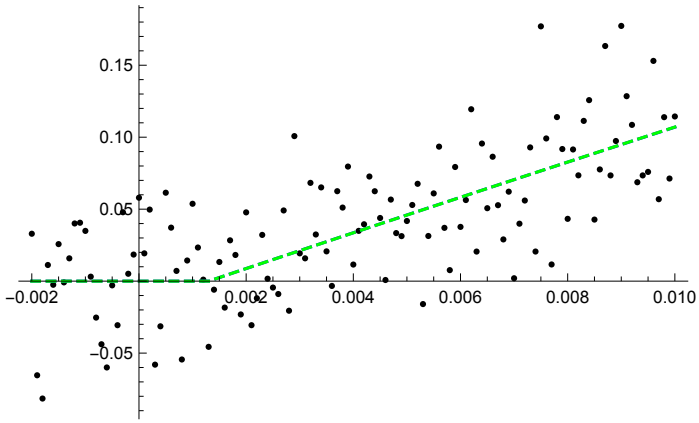




---------- C5
---------- C10
---------- D

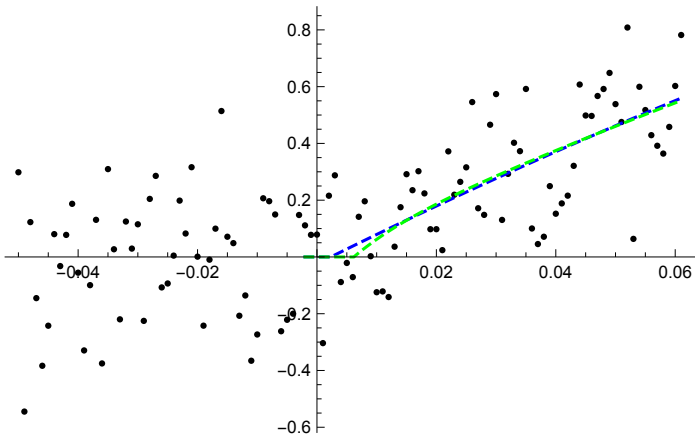
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono

```
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```



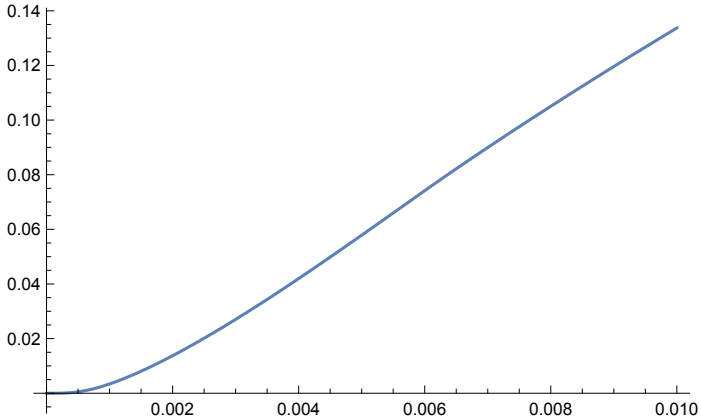

```
Mono: chi2 = 0.153734     d = 0.153734     a = 3.10415     t = 0.248092

Bi: ratio chi2Mono/chi2Bi = 0.999994     d = 0.0013     a =
 11.565     a1 = 0.062954     t1 =0.041871     t2 = 1.04633

Long trace was used for fitting.

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono
```

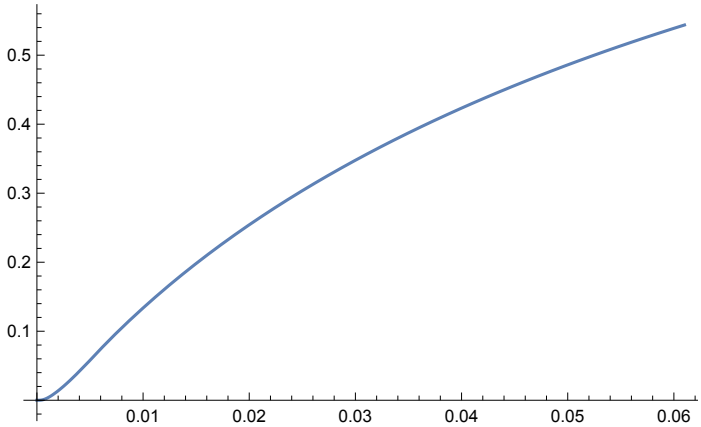
```
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```




```
Mono: chi2 = 4.20734     d = 0.00231724     a = 3.35038     t = 0.321211
Bi: ratio chi2Mono/chi2Bi = 1.00313     d = 0.00617193     a =
 3.87277     a1 = 0.0758148     t1 =0.00877412     t2 = 0.410014
--------------------------------------------------------------------------------
  -------------------------
```

---------- Ca = 1.71772
uM ----------

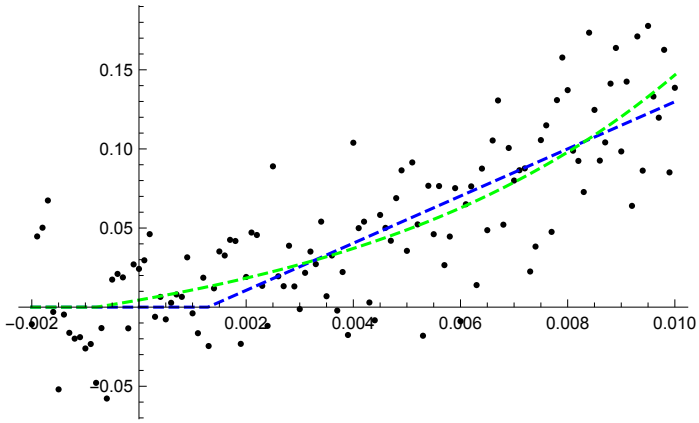




---------- C5
---------- C10
---------- D

take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono

```
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```



Mono: chi2 = 0.125308 d = 0.125308 a = 4.44858×10^6 t = 298 582.

Bi: ratio chi2Mono/chi2Bi = 1.04742 d = -0.0008 a = 0.0376842 a1 = 0.0646742 t1 =0.0845015 t2 = -0.00594614

Long trace was used for fitting.

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take bi

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

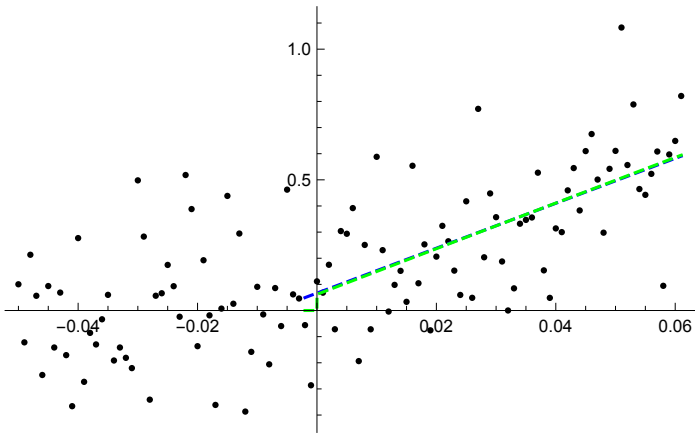
take mono

take mono

take mono

take mono

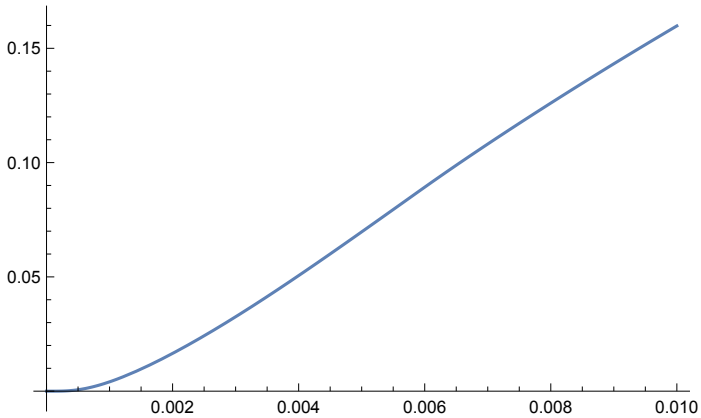
take mono

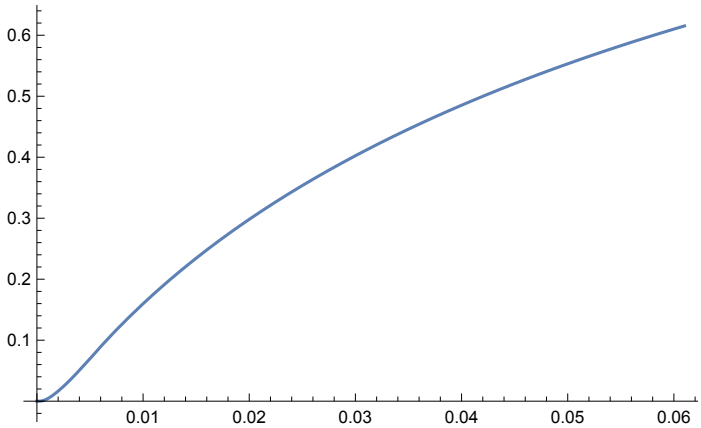


Mono: chi2 = 5.09446 d = -0.00775232 a = 1.59842×10^{7} t = 1.86043×10^{6}

Bi: ratio chi2Mono/chi2Bi = 1.00379 d = -2.34648×10^{-7} a = 157.233 a1 = 0.0617977 t1 = 5.86197×10^{-9} t2 = 17.9747

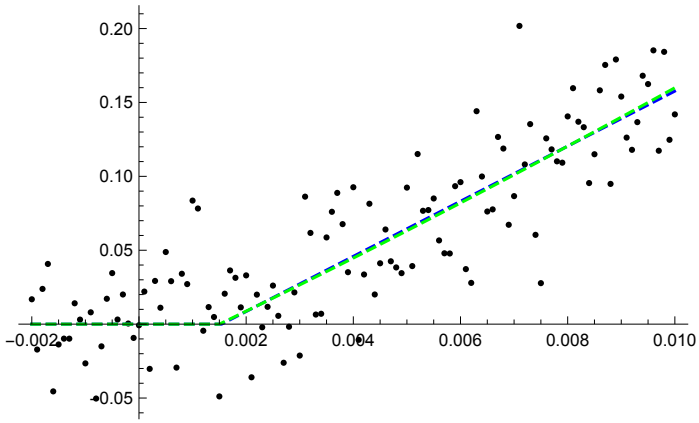
```
----------------     Ca = 1.81058
  uM          -------------------------------------------------------
-----------------------------------------------------------------------------------------
  --------------------------
```






```
------------------------------------------------------------------------------ C5
------------------------------------------------------------------------------ C10
------------------------------------------------------------------------------ D
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```

```
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```



Mono: chi2 = 0.120317 d = 0.120317 a = 2.73833×10^6 t = 146 897.

Bi: ratio chi2Mono/chi2Bi = 1.00148 d = 0.0015 a = 3.33941 a1 = -1.61723 t1 =0.0386648 t2 = 0.0836224

Long trace was used for fitting.

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

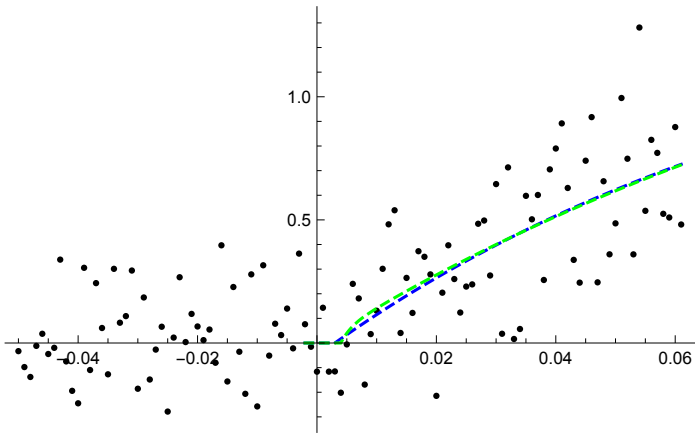
take mono

take mono

take mono

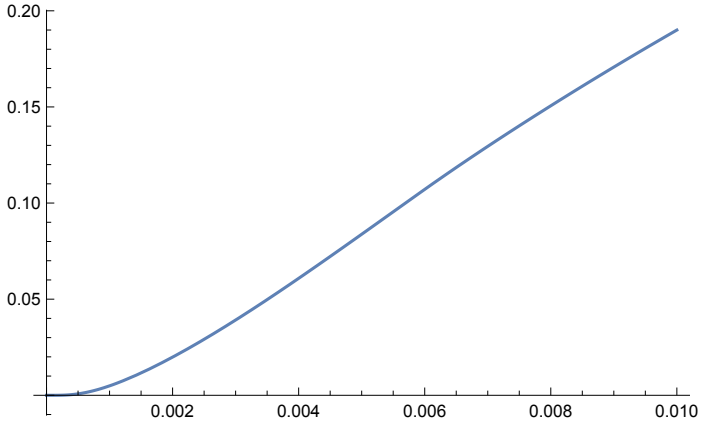
take mono

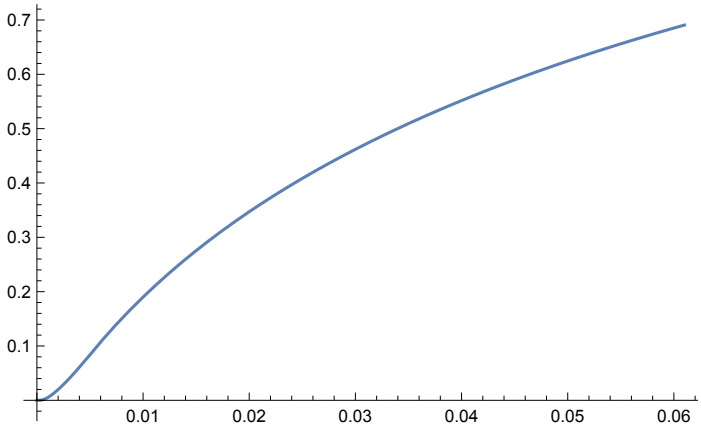
```
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```




```
Mono: chi2 = 4.78693     d = 0.003     a = 1.49452     t = 0.0872743
Bi: ratio chi2Mono/chi2Bi = 1.0042     d = 0.004     a =
 1.82062     a1 = 0.0565242     t1 =0.00169375     t2 = 0.120098
-------------------------------------------------------------------------------------
  --------------------------
```

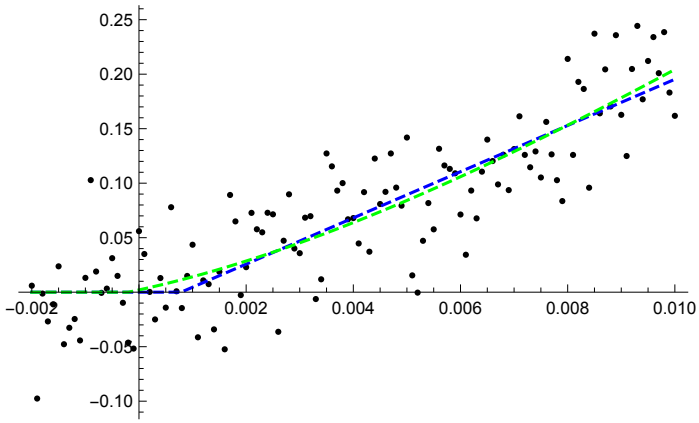
```
----------------     Ca = 1.90732
  uM          -------------------------------------------------------
-----------------------------------------------------------------------------------------
  --------------------------
```






```
------------------------------------------------------------------------------ C5
------------------------------------------------------------------------------ C10
------------------------------------------------------------------------------ D
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```

```
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```



Mono: chi2 = 0.183382 d = 0.183382 a = 9.70061×10^{6} t = 457 646.

Bi: ratio chi2Mono/chi2Bi = 1.02034 d = −0.0002 a = 2.05257 a1 = −0.54016 t1 =0.0114744 t2 = 0.045333

Long trace was used for fitting.

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

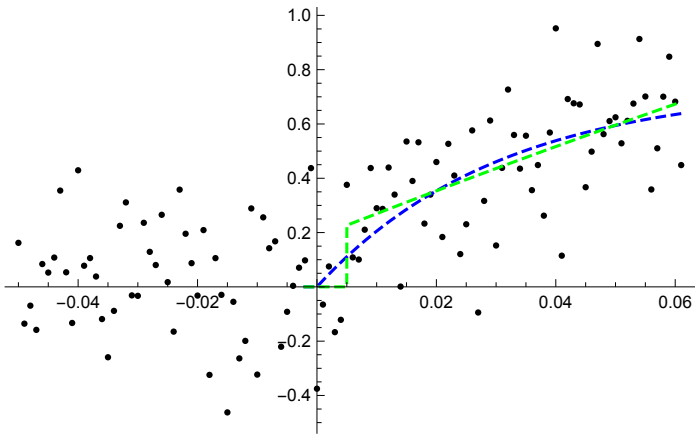
take mono

take mono

take mono

take mono

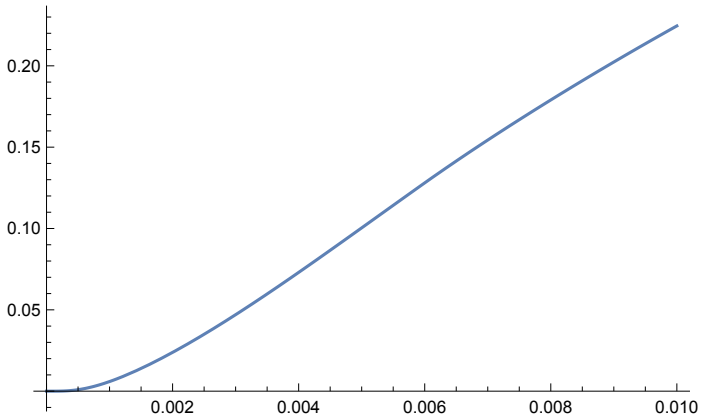
take mono

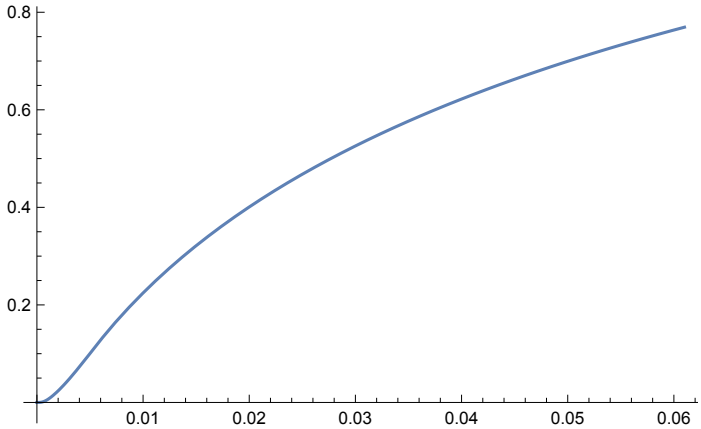


Mono: chi2 = 4.35088 d = -5.97475×10^{-16} a = 0.740437 t = 0.0308073

Bi: ratio chi2Mono/chi2Bi = 1.0378 d = 0.00499999 a = 4.34177 a1 = 0.226769 t1 = 1.5336×10^{-10} t2 = 0.479104

---------- Ca = 2.01009
uM ----------





---------- C5

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

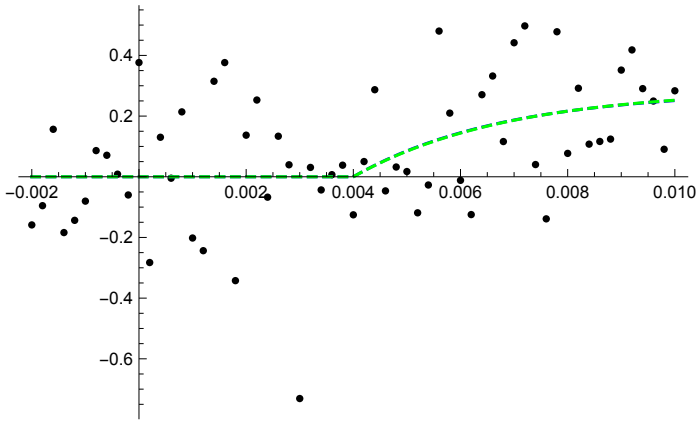
take mono

take mono

take mono

take mono

```
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```




```
Mono: chi2 = 2.47037     d = 2.47037     a = 0.284809     t = 0.00280807
Bi: ratio chi2Mono/chi2Bi = 0.999995     d = 0.004     a =
 0.219937     a1 = 0.291033     t1 =0.00291071     t2 = 0.255142
------------------------------------------------------------------------ C10
------------------------------------------------------------------------ D
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

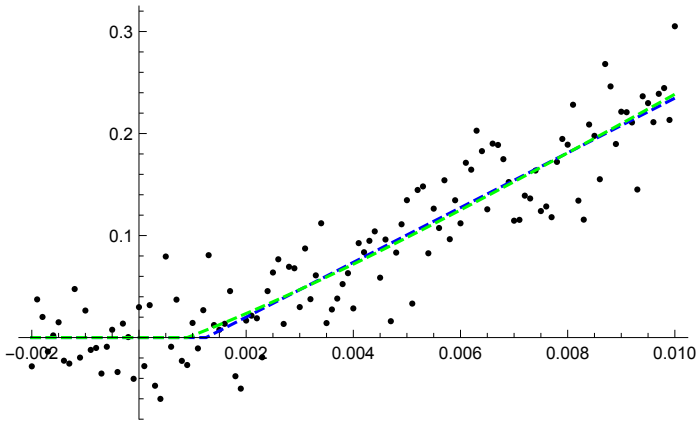
take mono

take mono

take mono

take mono

take mono



Mono: chi2 = 0.140388 d = 0.140388 a = 4.91699×10^6 t = 183 249.

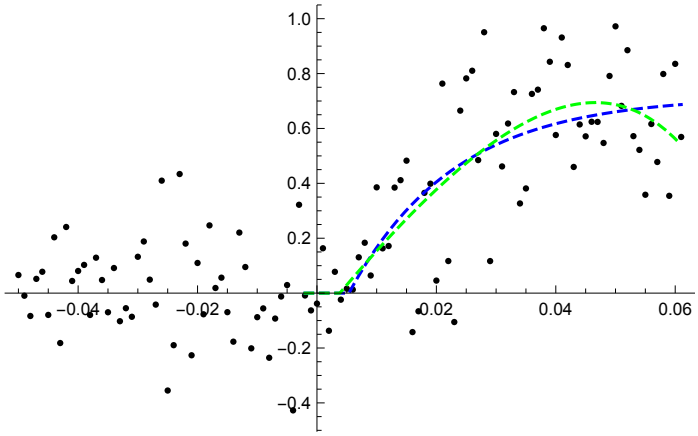
Bi: ratio chi2Mono/chi2Bi = 1.00464 d = 0.0009 a = 2.95304 a1 = −0.0809415 t1 =0.00537811 t2 = 0.0860148

Long trace was used for fitting.

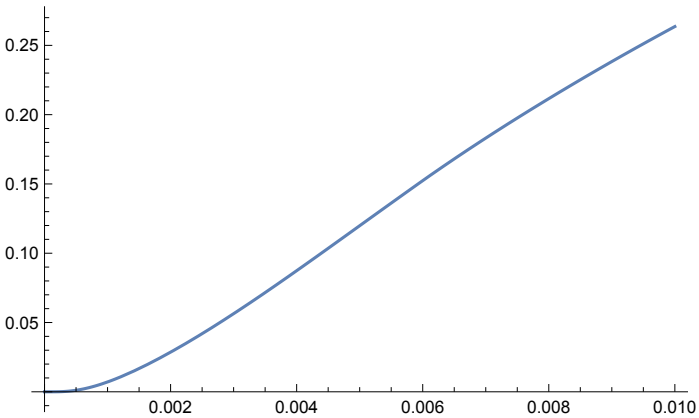
take mono

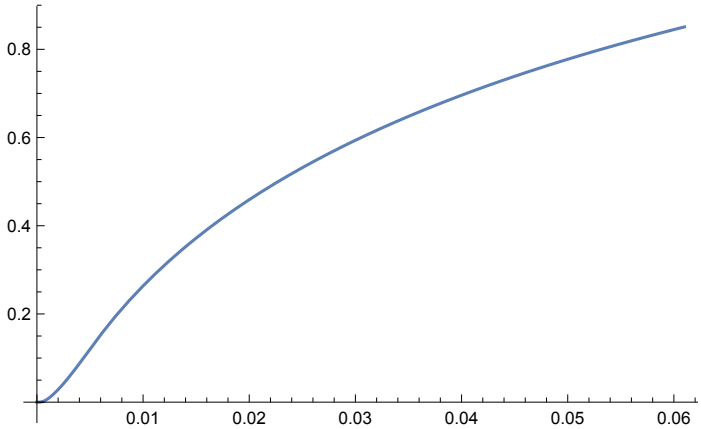
```
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```

```
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```




```
Mono: chi2 = 4.3554     d = 0.00536294     a = 0.717467     t = 0.0176084
Bi: ratio chi2Mono/chi2Bi = 1.03285     d = 0.00383175     a =
 37.4347     a1 = 37.2973     t1 =1.19355     t2 = -0.0250819
--------------------------------------------------------------------------------
  --------------------------
----------------     Ca = 2.11924
  uM          -------------------------------------------------------
--------------------------------------------------------------------------------
  --------------------------
```

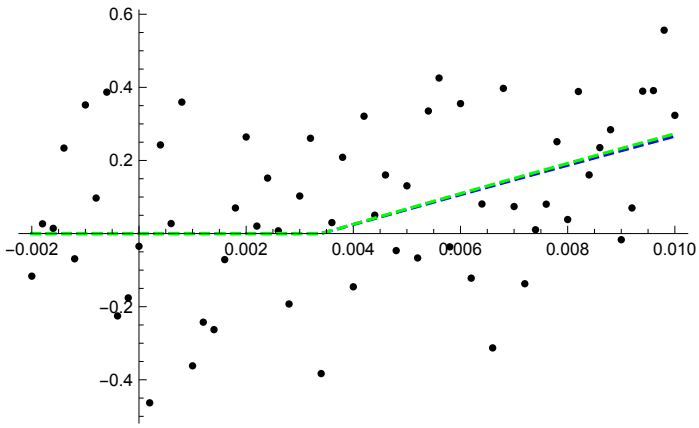




---------- C5

```
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```

```
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```




```
Mono: chi2 = 2.65533     d = 2.65533     a = 5.96823     t = 0.144565
Bi: ratio chi2Mono/chi2Bi = 0.999996     d = 0.0034     a =
 -3.07879     a1 = 1.36095     t1 =0.0528808     t2 = -0.26143
------------------------------------------------------------------------ C10
------------------------------------------------------------------------ D
take mono
take mono
take mono
take mono
```

```
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```

take mono

take mono

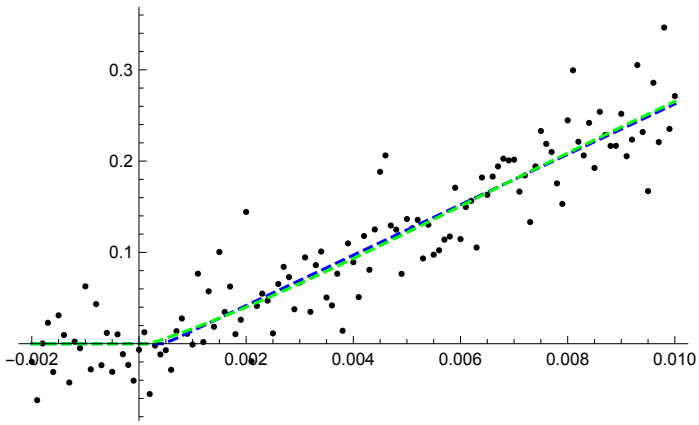
take mono

take mono

take mono

take mono

take mono



Mono: chi2 = 0.145782 d = 0.145782 a = 8.76866×10^6 t = 317 663.

Bi: ratio chi2Mono/chi2Bi = 1.00615 d = 0.0002 a = 0.782254 a1 = -0.342263 t1 =0.00618127 t2 = 0.0150781

Long trace was used for fitting.

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

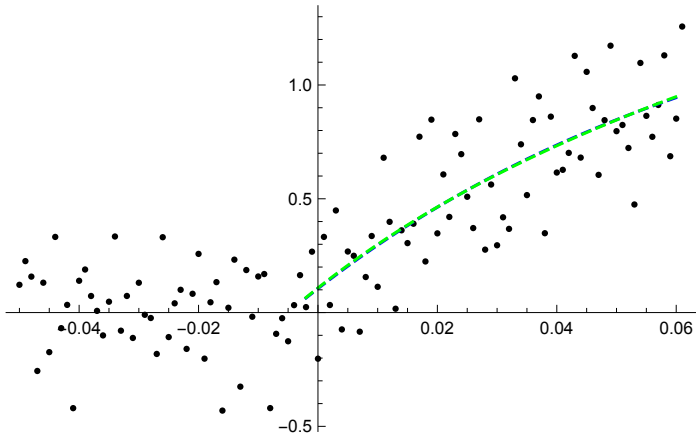
take mono

take bi

take mono

take mono

```
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```

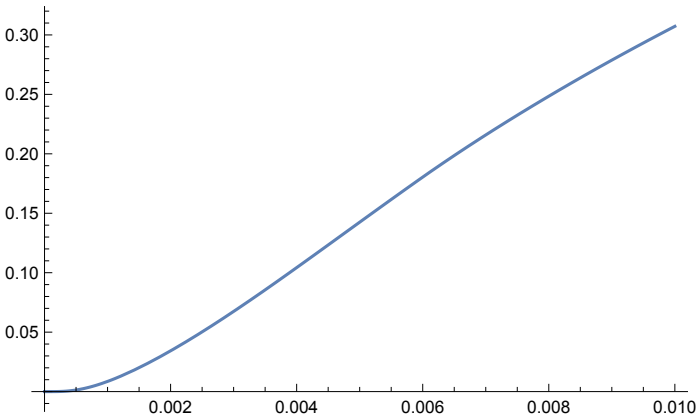


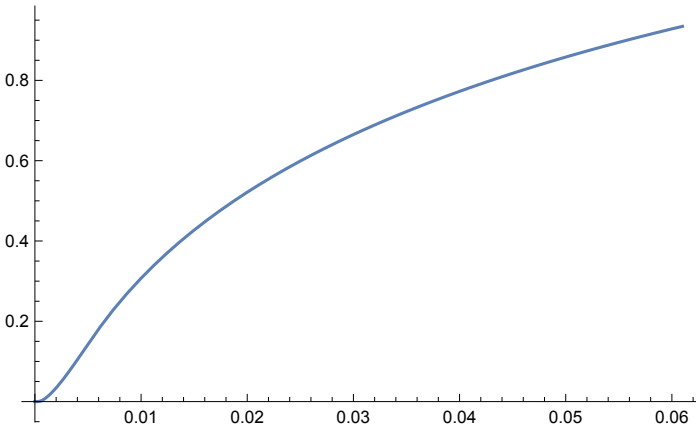
Mono: chi2 = 4.61165 d = -0.005 a = 1.61995 t = 0.0742907

Bi: ratio chi2Mono/chi2Bi = 0.999913 d = -0.005 a = 3.98376 a1 = 0.533471 t1 =0.0379643 t2 = 0.405097

--- Ca = 2.23489

uM ---





--- C5

take mono

take mono

```
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```

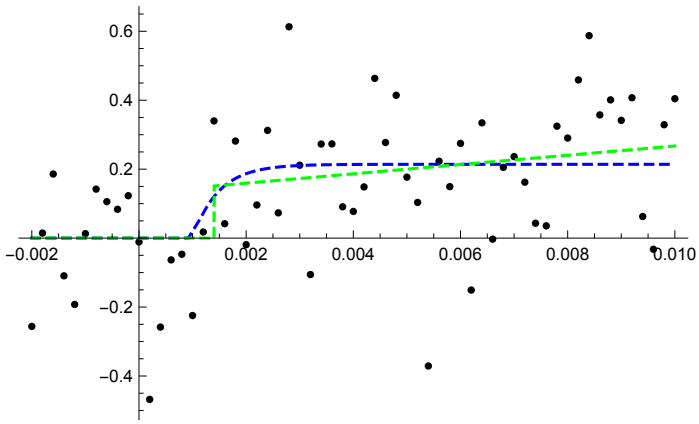
LinearAlgebra`BLAS`TRSV: Machine overflow encountered during computations.

```
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```

LinearAlgebra`BLAS`TRSV: Machine overflow encountered during computations.

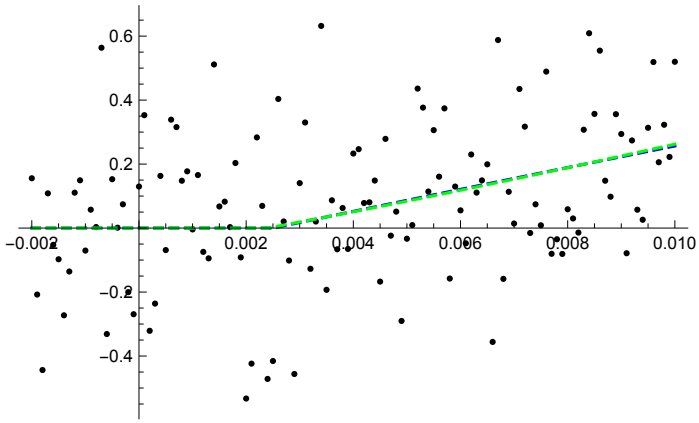
General: Further output of LinearAlgebra`BLAS`TRSV::oflow will be suppressed during this calculation.

```
take mono
```




```
Mono: chi2 = 2.20054     d = 2.20054     a = 0.214055     t = 0.000485265
Bi: ratio chi2Mono/chi2Bi = 1.03036     d = 0.00139985     a =
 6.61329     a1 = 0.151236     t1 =2.01003 × 10^-10     t2 = 0.474726
------------------------------------------------------------------------ C10
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```

```
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```




```
Mono: chi2 = 6.43425     d = 6.43425     a = 6.32252     t = 0.181095

Bi: ratio chi2Mono/chi2Bi = 1.00048     d = 0.0024     a =
 8.32831     a1 = -10.1387     t1 =0.0520566     t2 = 0.0817447

Long trace was used for fitting.

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono
```

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

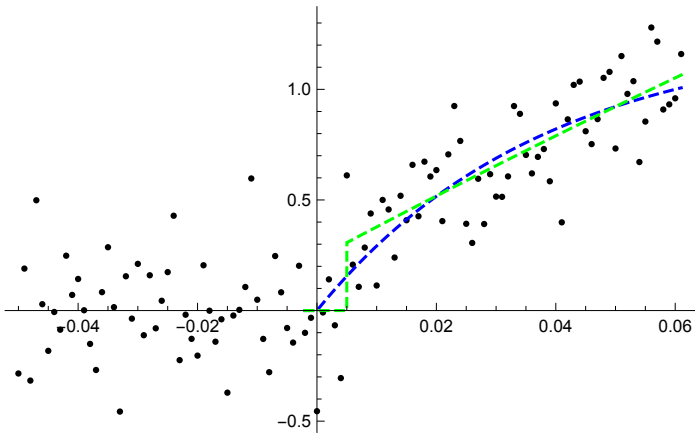
take mono

take mono

take mono

take mono

take mono



Mono: chi2 = 4.49154 d = -8.41431×10^{-16} a = 1.25742 t = 0.0378224

Bi: ratio chi2Mono/chi2Bi = 1.06229 d = 0.00499999 a = 7.92197 a1 = 0.307119 t1 = 1.40631×10^{-10} t2 = 0.534403

---------- D

take mono

take mono

```
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```

take mono

take mono

take mono

take mono

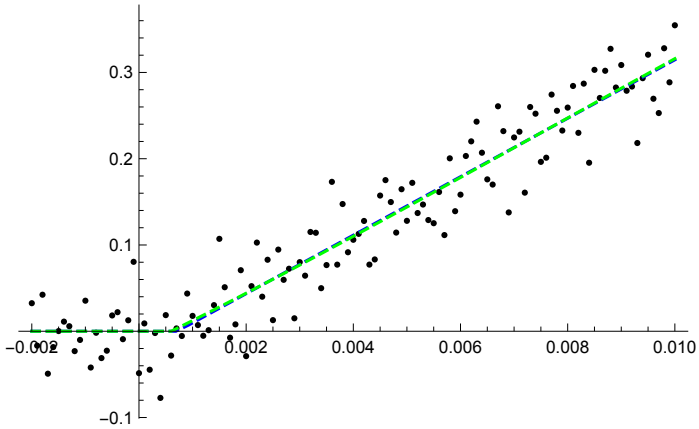
take mono

take mono

take mono

take mono

take mono



Mono: chi2 = 0.138337 d = 0.138337 a = 5.42244×10^6 t = 160 022.

Bi: ratio chi2Mono/chi2Bi = 1.00158 d = 0.0006 a = 1.49674 a1 = −0.563249 t1 =0.0112326 t2 = 0.0254928

Long trace was used for fitting.

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

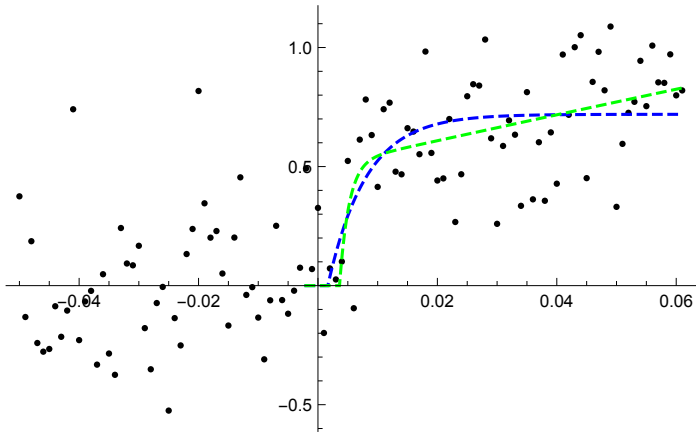
take mono

take mono

take mono

take mono

```
take mono
take mono
take bi
take mono
take mono
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take bi
```

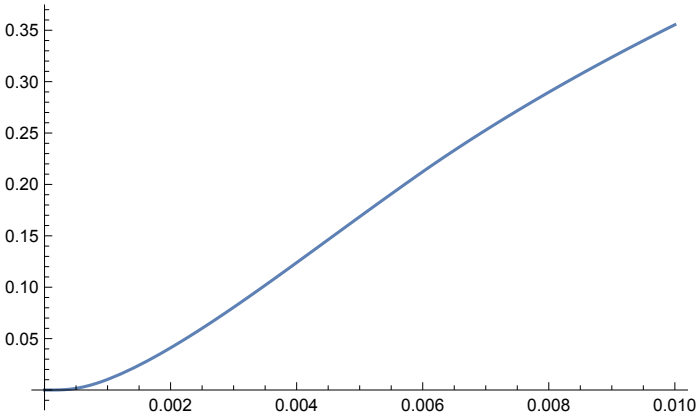


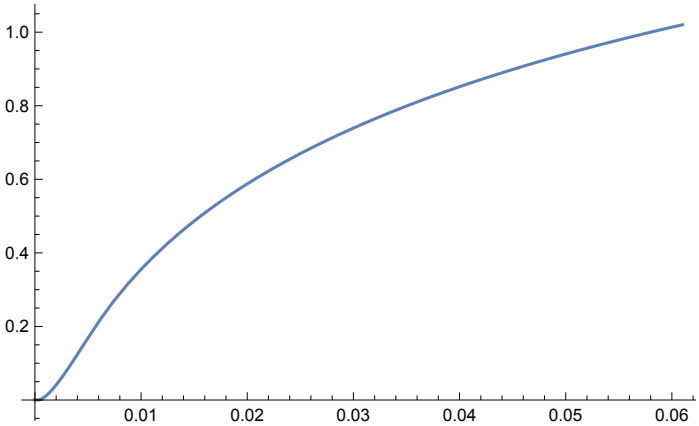
Mono: chi2 = 6.78058 d = 0.00165513 a = 0.719446 t = 0.00638959

Bi: ratio chi2Mono/chi2Bi = 1.04847 d = 0.00360963 a = 9.17045 a1 = 0.518361 t1 =0.00157802 t2 = 1.5636

--- Ca = 2.35773

uM ---





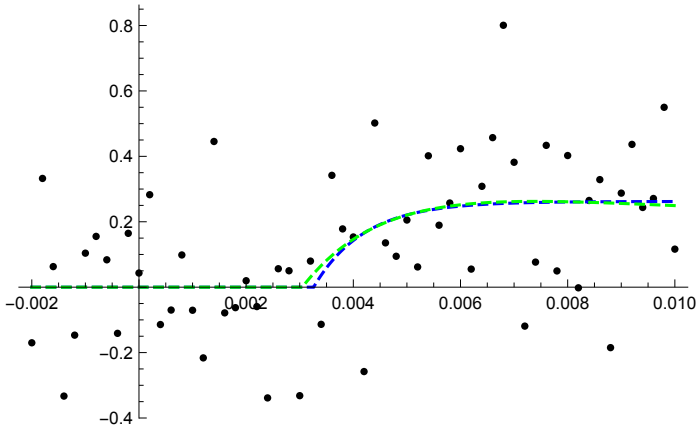
--- C5

take mono

take mono

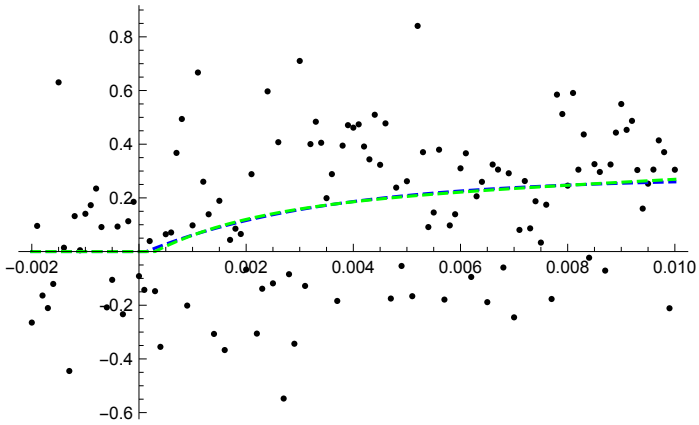
```
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```

```
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```



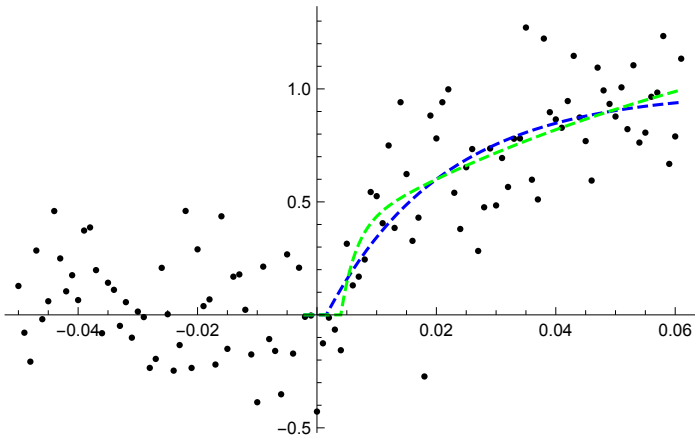

```
Mono: chi2 = 2.53143     d = 2.53143     a = 0.262081     t = 0.000942944
Bi: ratio chi2Mono/chi2Bi = 1.00223     d = 0.00304725     a =
 0.205161     a1 = 0.423538     t1 =0.0016467     t2 = 0.00474282
------------------------------------------------------------------------ C10
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```

```
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```




```
Mono: chi2 = 8.09699     d = 8.09699     a = 0.274893     t = 0.0034078

Bi: ratio chi2Mono/chi2Bi = 1.00076     d = 0.0003     a =
 3.62977     a1 = 0.169777     t1 =0.00184836     t2 = 0.329683

Long trace was used for fitting.

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono
```

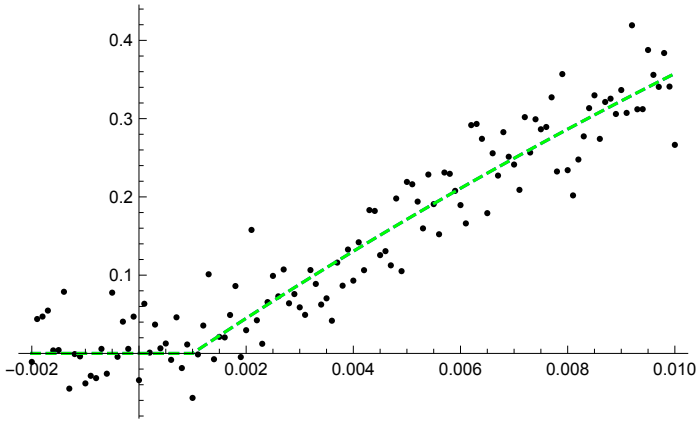
```
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take mono
take mono
```




```
Mono: chi2 = 5.70159     d = 0.00157559     a = 0.989544     t = 0.01976
Bi: ratio chi2Mono/chi2Bi = 1.02914     d = 0.004     a =
 1.56177     a1 = 0.380081     t1 =0.00245118     t2 = 0.0774349
------------------------------------------------------------------------ D
take mono
take mono
```

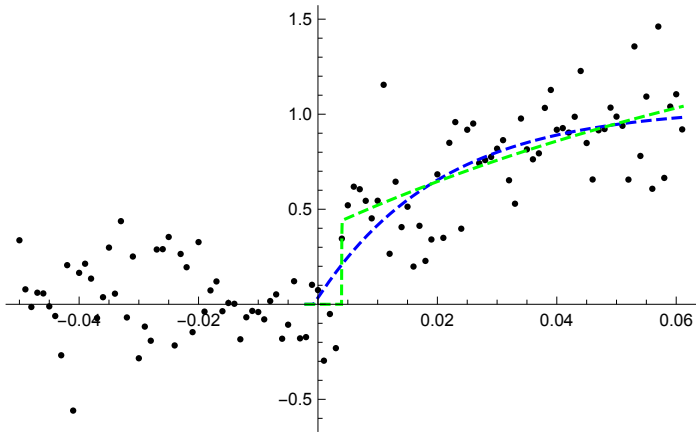
```
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```

```
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```




```
Mono: chi2 = 0.183024     d = 0.183024     a = 1.46205     t = 0.0320905
Bi: ratio chi2Mono/chi2Bi = 0.999959     d = 0.001     a =
 1.98792     a1 = 1.2239     t1 =0.0294675     t2 = 0.188932
Long trace was used for fitting.
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```

```
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take bi
```

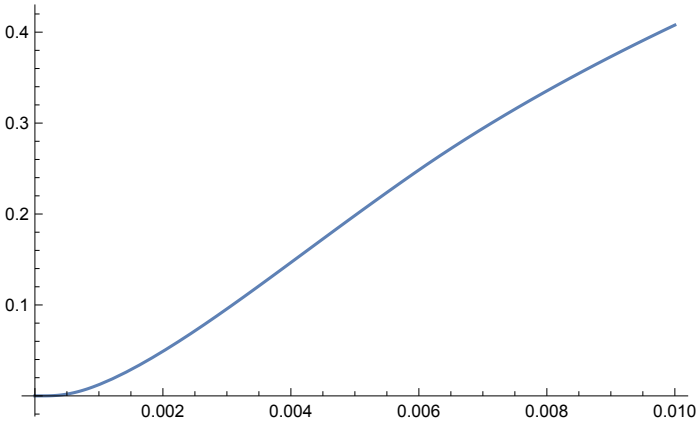


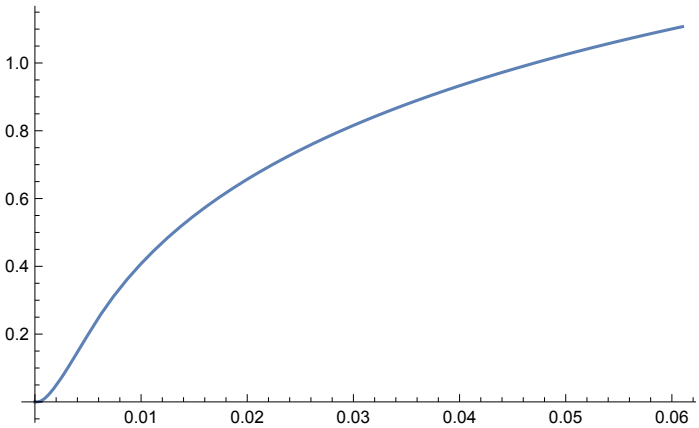
Mono: chi2 = 5.18297 d = -0.000680859 a = 1.03645 t = 0.0207672

Bi: ratio chi2Mono/chi2Bi = 1.10087 d = 0.00395637 a = 1.79979 a1 = 0.439978 t1 =0.0000284696 t2 = 0.0978925

--- Ca = 2.48791

uM ---





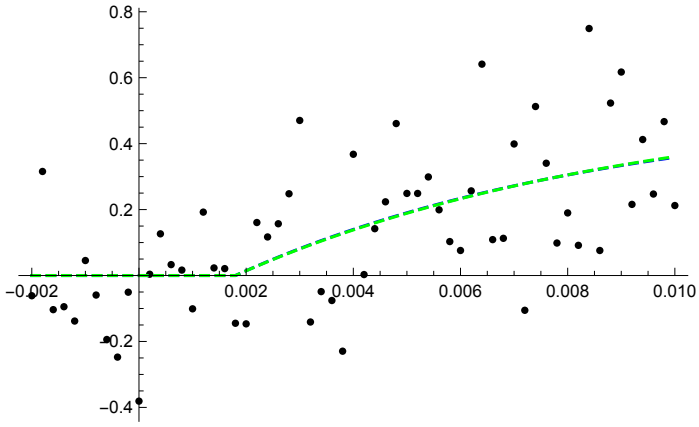
--- C5

take mono

take mono

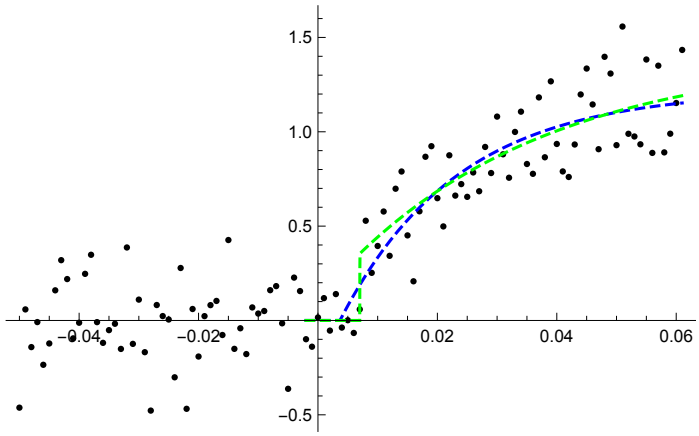
```
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```

```
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```



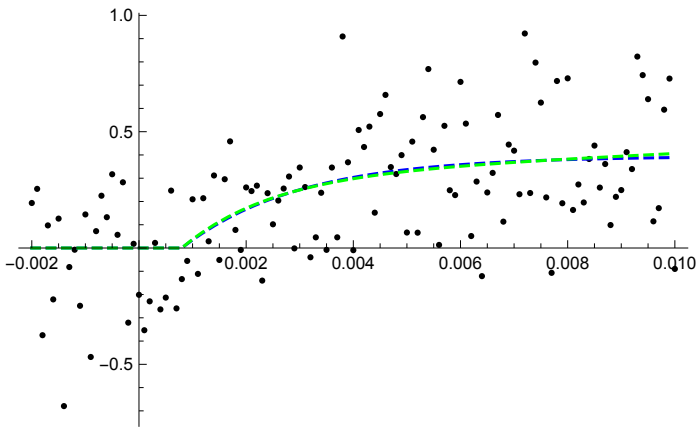

```
Mono: chi2 = 2.12586     d = 2.12586     a = 0.521252     t = 0.00704696
Bi: ratio chi2Mono/chi2Bi = 0.999957     d = 0.0018     a =
 0.988354     a1 = 0.527385     t1 =0.00731931     t2 = 0.704678
Long trace was used for fitting.
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take mono
take mono
take mono
```

```
take mono
take mono
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```




```
Mono: chi2 = 4.2729     d = 0.00368876     a = 1.21902     t = 0.0197113

Bi: ratio chi2Mono/chi2Bi = 1.0384     d = 0.00699753     a =
 1.41539     a1 = 0.35393     t1 =0.0000135609     t2 = 0.0347355

------------------------------------------------------------------------- C10

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono
```

```
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take mono
take mono
```




```
Mono: chi2 = 6.98925     d = 6.98925     a = 0.394639     t = 0.00218427
Bi: ratio chi2Mono/chi2Bi = 0.998606     d = 0.0008     a =
 3.15793     a1 = 0.308915     t1 =0.00167257     t2 = 0.261479
Long trace was used for fitting.
take mono
take mono
```

```
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```

take mono

take mono

take mono

take mono

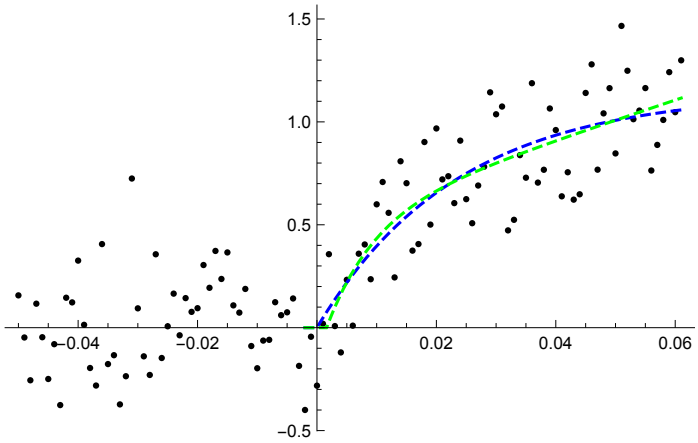
take mono

take mono

take mono

take mono

take mono



Mono: chi2 = 5.36723 d = -2.99931×10^{-16} a = 1.143 t = 0.0234538

Bi: ratio chi2Mono/chi2Bi = 1.01437 d = 0.00162441 a = 29.6715 a1 = 0.53293 t1 =0.00778607 t2 = 2.93774

---------- D

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

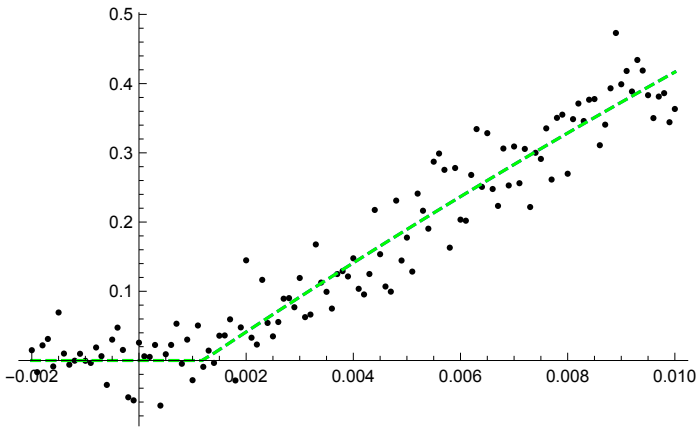
take mono

take mono

take mono

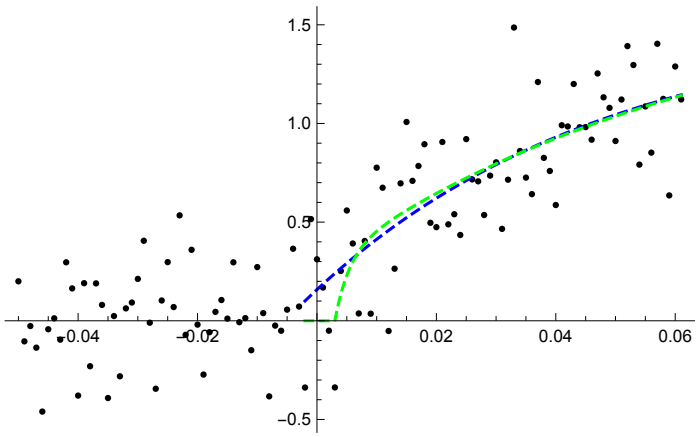
take mono

```
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```



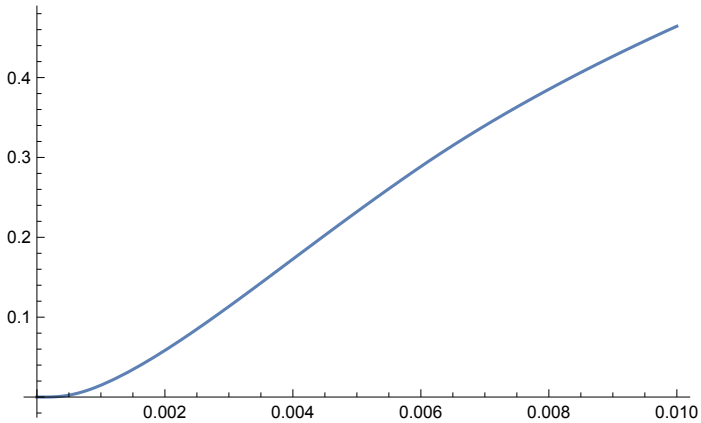

```
Mono: chi2 = 0.183897     d = 0.183897     a = 2.5068     t = 0.0484222
Bi: ratio chi2Mono/chi2Bi = 1.00004     d = 0.00119706
      a = 1.48211     a1 = 4.253     t1 =0.0591593     t2 = 0.137884
Long trace was used for fitting.
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take bi
take mono
```

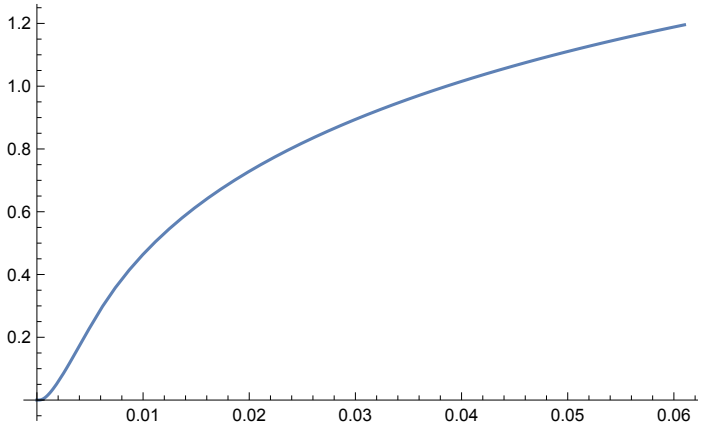
```
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```




```
Mono: chi2 = 6.32987     d = -0.00531166     a = 1.54968     t = 0.0494032
Bi: ratio chi2Mono/chi2Bi = 1.01122     d = 0.003     a =
 1.72648     a1 = 0.332436     t1 =0.00237913     t2 = 0.0668114
-------------------------------------------------------------------------------------
  --------------------------
```

---------- Ca = 2.62605
uM ----------





---------- C5

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

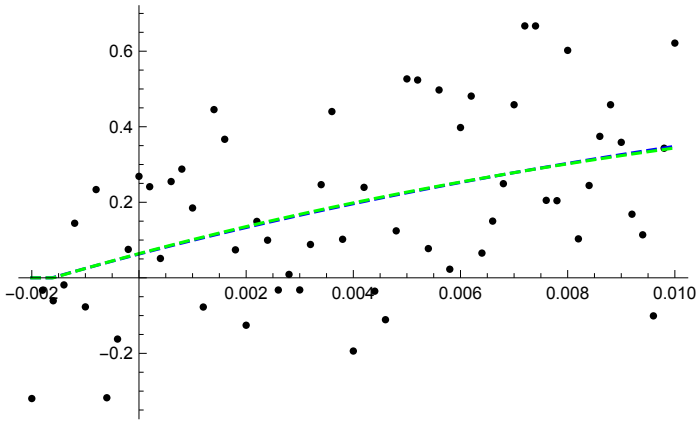
take mono

take mono

take mono

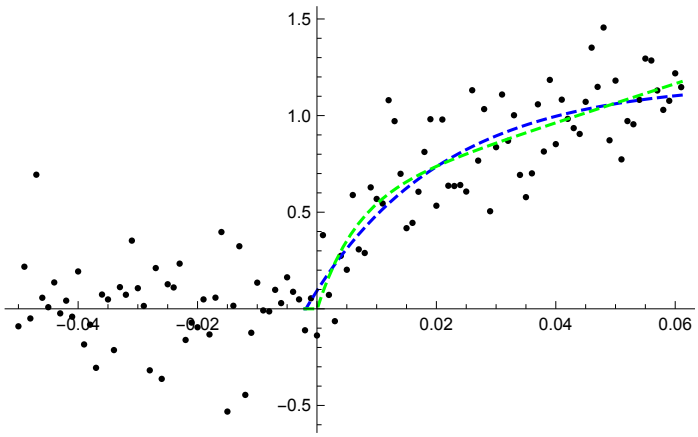
take mono

```
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```




```
Mono: chi2 = 2.56392     d = 2.56392     a = 0.734683     t = 0.0180949
Bi: ratio chi2Mono/chi2Bi = 0.999955     d = -0.0016     a =
 0.252346     a1 = 0.936713     t1 =0.0184182     t2 = 0.0785313
Long trace was used for fitting.
take mono
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take mono
take mono
```

```
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take mono
take mono
take mono
```




```
Mono: chi2 = 4.62849     d = -0.00184691     a = 1.17535     t = 0.0222315
Bi: ratio chi2Mono/chi2Bi = 1.0299     d = 0.000059836     a =
 26.1083     a1 = 0.556425     t1 =0.00630501     t2 = 2.48616
------------------------------------------------------------------------- C10
take mono
take mono
```

```
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```

take mono

take mono

take mono

take mono

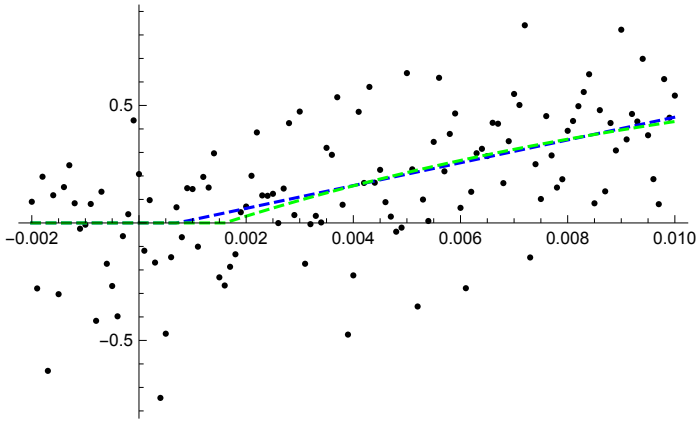
take mono

take mono

take mono

take mono

take mono



Mono: chi2 = 7.06696 d = 7.06696 a = 6.85447×10^6 t = 141 252.

Bi: ratio chi2Mono/chi2Bi = 0.996895 d = 0.0016 a = 1.09108 a1 = 0.843882 t1 =0.0113815 t2 = -0.239196

Long trace was used for fitting.

take mono

take mono

take mono

take bi

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

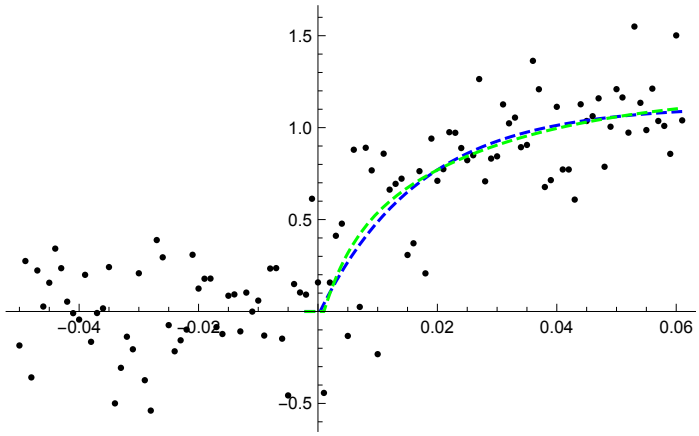
take bi

take mono

take bi

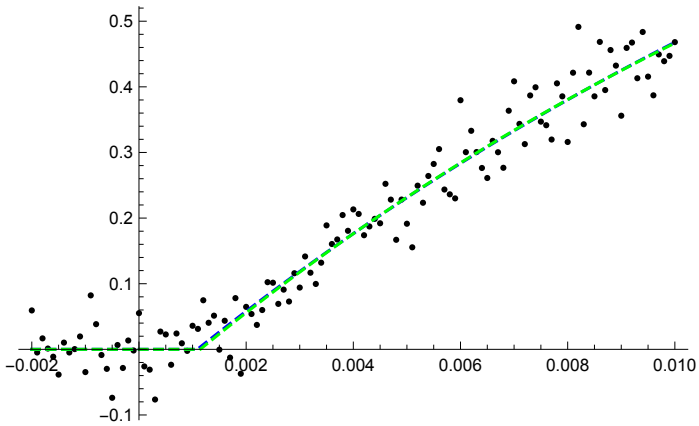
take mono

```
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take mono
take mono
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take mono
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take mono
take mono
```




```
Mono: chi2 = 6.96417     d = 0.000357869     a = 1.1182     t = 0.0168258

Bi: ratio chi2Mono/chi2Bi = 1.00946     d = 0.001     a =
 1.20139     a1 = 0.350824     t1 =0.00466174     t2 = 0.0274464

------------------------------------------------------------------------- D

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono
```

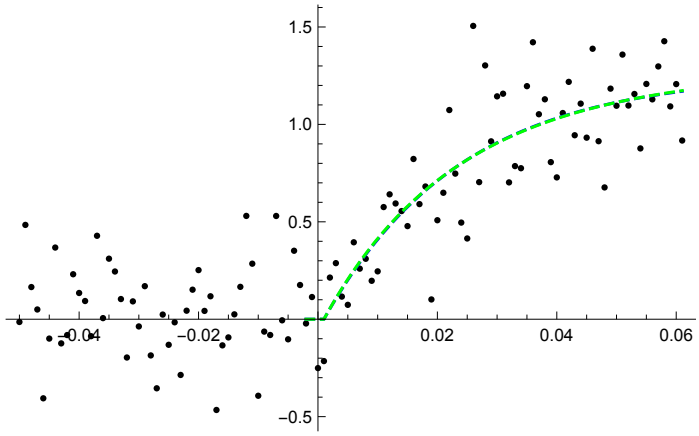
```
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```



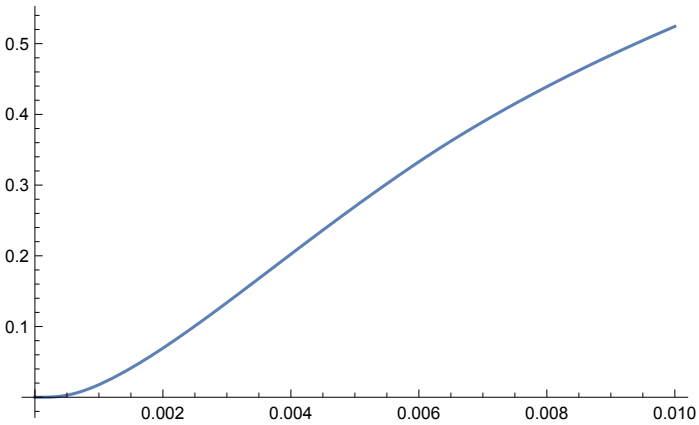

```
Mono: chi2 = 0.161529     d = 0.161529     a = 1.29645     t = 0.0199049
Bi: ratio chi2Mono/chi2Bi = 1.00068     d = 0.00114235     a =
 0.762634     a1 = 1.97487     t1 =0.0221252     t2 = 0.0535348
Long trace was used for fitting.
take mono
take mono
```

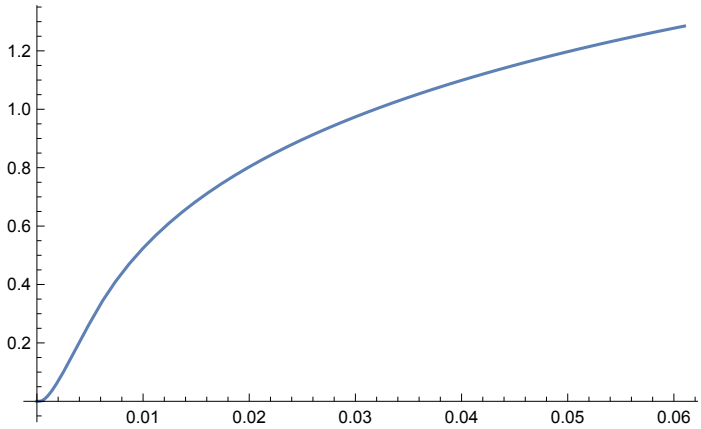
```
take mono
take mono
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take bi
take mono
take mono
take mono
take bi
take mono
take mono
take mono
```

```
take mono
take mono
take bi
take mono
take mono
take mono
take bi
take bi
take mono
```




```
Mono: chi2 = 5.79948     d = 0.001     a = 1.2622     t = 0.0229347
Bi: ratio chi2Mono/chi2Bi = 0.999429     d = 0.001     a =
 1.29056     a1 = 0.430598     t1 =0.0163092     t2 = 0.0287373
-------------------------------------------------------------------------------------
  -------------------------
----------------     Ca = 2.77177
  uM          -------------------------------------------------------
-------------------------------------------------------------------------------------
  -------------------------
```

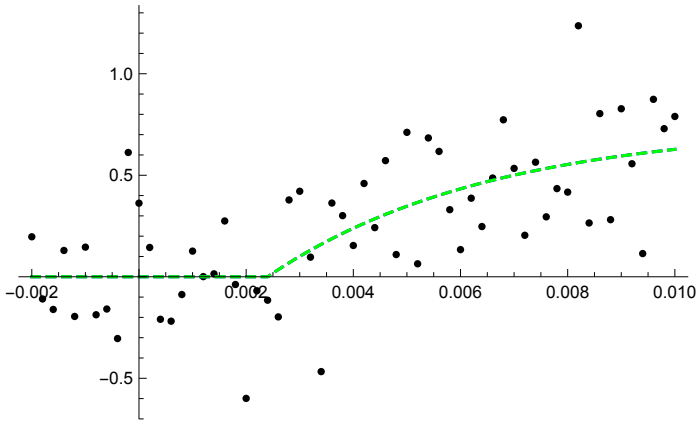




---------- C5

```
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```

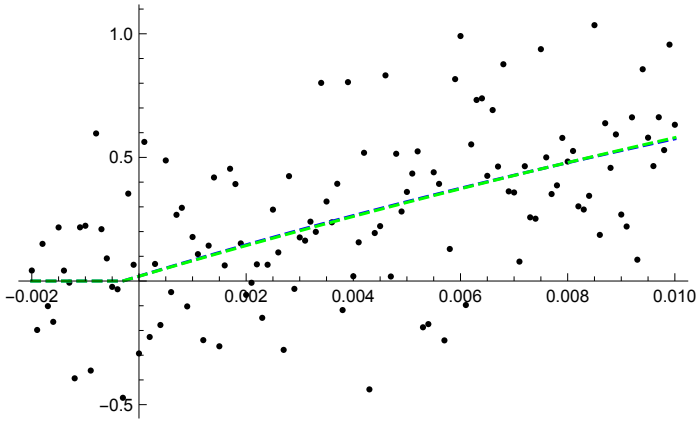
```
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```




```
Mono: chi2 = 4.12441     d = 4.12441     a = 0.748031     t = 0.00415985
Bi: ratio chi2Mono/chi2Bi = 1.00002     d = 0.0024     a =
 0.854944     a1 = 0.742187     t1 =0.00412967     t2 = 0.269066
------------------------------------------------------------------------ C10
take mono
take mono
take mono
take mono
take mono
```

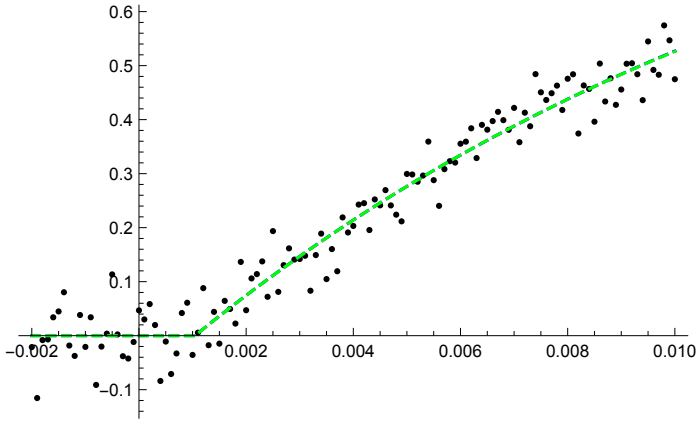
```
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take mono
take mono
take mono
```

```
take mono
take mono
take mono
take mono
take mono
take mono
```



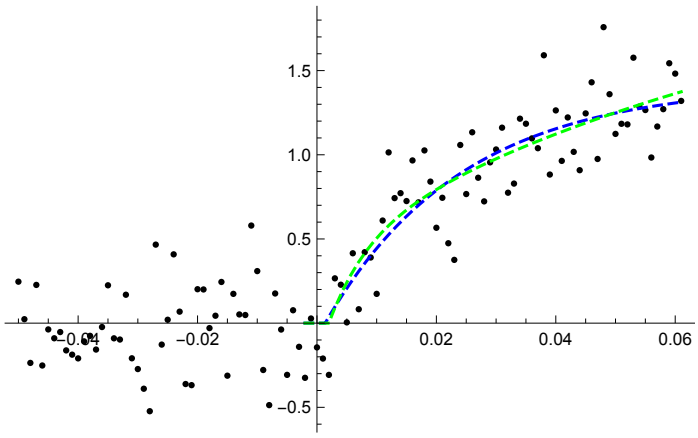

```
Mono: chi2 = 9.07469     d = 9.07469     a = 1.96558     t = 0.0297425
Bi: ratio chi2Mono/chi2Bi = 1.00035     d = -0.0003     a =
 2.99015     a1 = 2.37222     t1 =0.0374977     t2 = 0.621089
------------------------------------------------------------------------ D
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```

```
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```

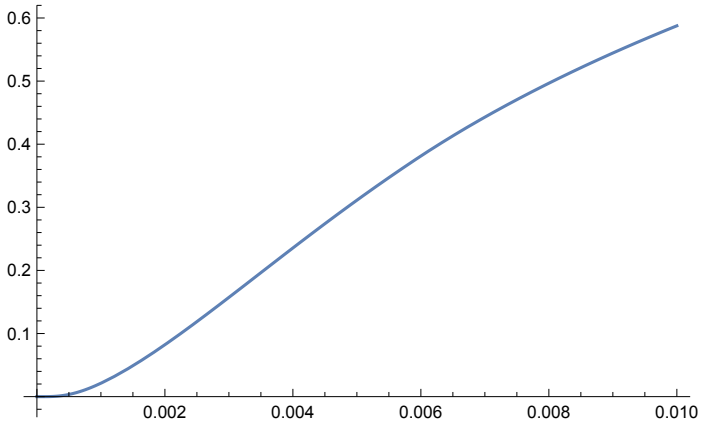


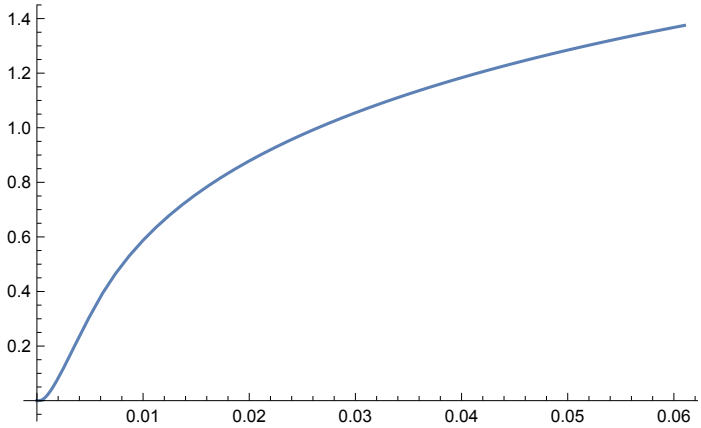
```
Mono: chi2 = 0.201192     d = 0.201192     a = 1.0791     t = 0.0133665
Bi: ratio chi2Mono/chi2Bi = 1.00079     d = 0.00104416     a =
 0.637295     a1 = 1.88022     t1 =0.016878     t2 = 0.0402553
Long trace was used for fitting.
take bi
take mono
take mono
take bi
take mono
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take mono
take bi
take mono
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take mono
take mono
take mono
```

```
take mono
take bi
take mono
take mono
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```




```
Mono: chi2 = 5.83768     d = 0.00137785     a = 1.41786     t = 0.0229438
Bi: ratio chi2Mono/chi2Bi = 1.01788     d = 0.002     a =
 2.27621     a1 = 0.482965     t1 =0.00637528     t2 = 0.0858796
-------------------------------------------------------------------------------------
  --------------------------
----------------     Ca = 2.92648
  uM         -------------------------------------------------------
-------------------------------------------------------------------------------------
  --------------------------
```

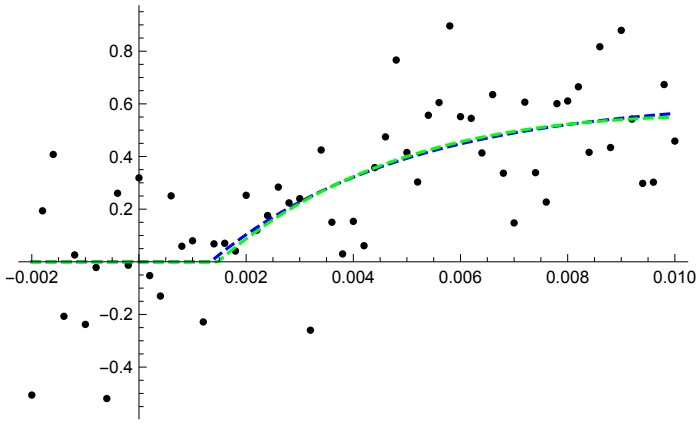




---------- C5

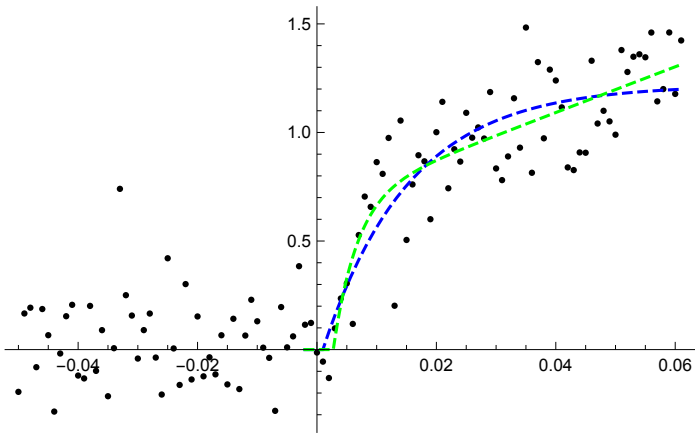
```
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```

```
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```




```
Mono: chi2 = 2.80427     d = 2.80427     a = 0.62184     t = 0.00365997
Bi: ratio chi2Mono/chi2Bi = 1.00289     d = 0.00147117     a =
 0.340337     a1 = 1.16118     t1 =0.00472552     t2 = 0.0118809
Long trace was used for fitting.
take mono
take mono
take mono
take bi
take mono
take bi
take mono
take mono
take mono
take bi
take mono
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take mono
take mono
```

```
take mono
take bi
take mono
take mono
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take bi
take mono
```




```
Mono: chi2 = 4.32198     d = 0.001     a = 1.21822     t = 0.0144723
Bi: ratio chi2Mono/chi2Bi = 1.07097     d = 0.00273237     a =
 37.2301     a1 = 0.695798     t1 =0.00393326     t2 = 3.42022
------------------------------------------------------------------------- C10
take mono
take mono
```

```
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```

take mono

take mono

take mono

take mono

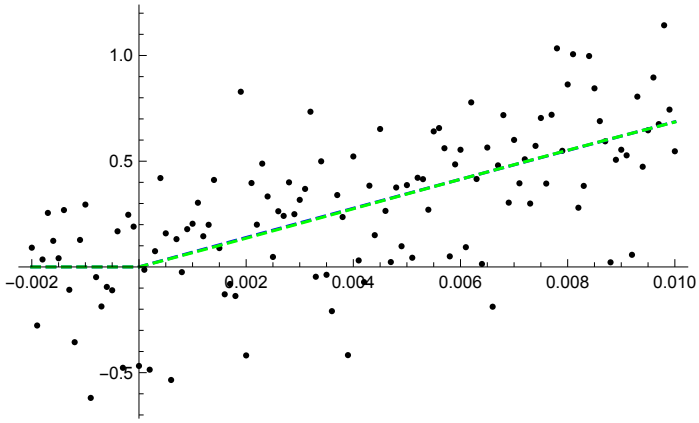
take mono

take mono

take mono

take mono

take mono



Mono: chi2 = 8.95377 d = 8.95377 a = 20.8261 t = 0.298376

Bi: ratio chi2Mono/chi2Bi = 0.999743 d = -9.04569×10^{-16}

a = 2.60422 a1 = −0.567993 t1 =0.00889763 t2 = 0.02434

Long trace was used for fitting.

take mono

take mono

take bi

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

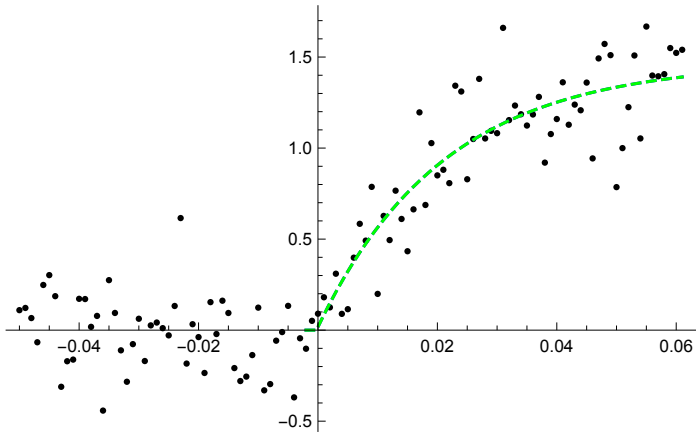
take mono

take mono

take bi

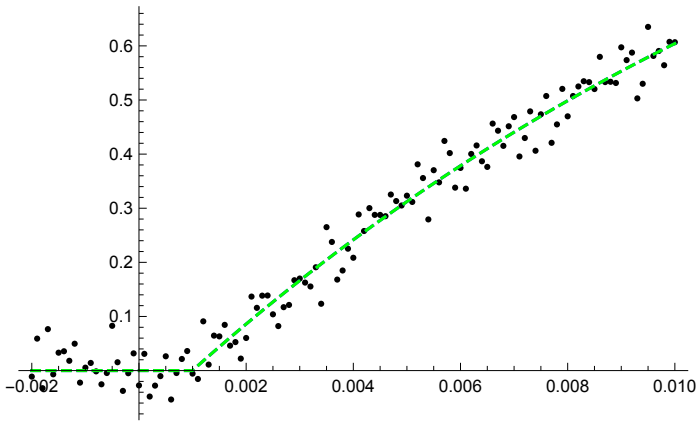
take mono

```
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take mono
take bi
take bi
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```




```
Mono: chi2 = 4.50586     d = -0.000249435     a = 1.47213     t = 0.0211918

Bi: ratio chi2Mono/chi2Bi = 1.     d = -0.000249435     a =
 1.47213     a1 = 0.623716     t1 =0.0211918     t2 = 0.0211918

------------------------------------------------------------------------- D

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono
```

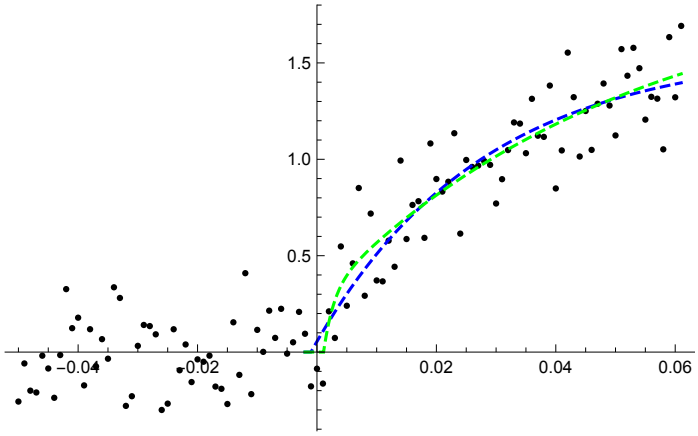
```
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```



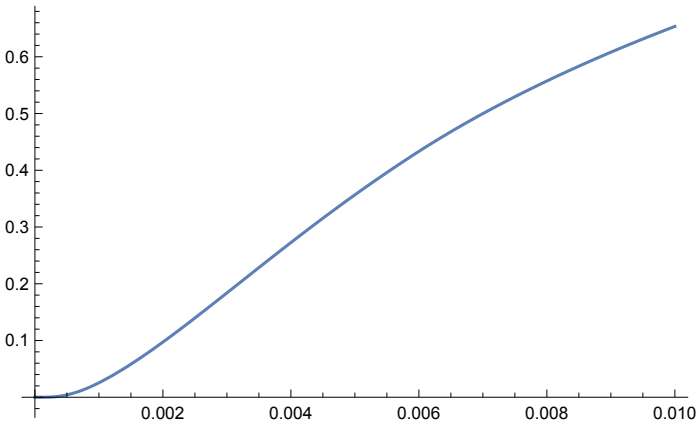

```
Mono: chi2 = 0.131583     d = 0.131583     a = 1.37055     t = 0.0154833
Bi: ratio chi2Mono/chi2Bi = 1.00001     d = 0.000996288
      a = 1.15236     a1 = 1.38965     t1 =0.0156049     t2 = 0.428093
Long trace was used for fitting.
take mono
take mono
```

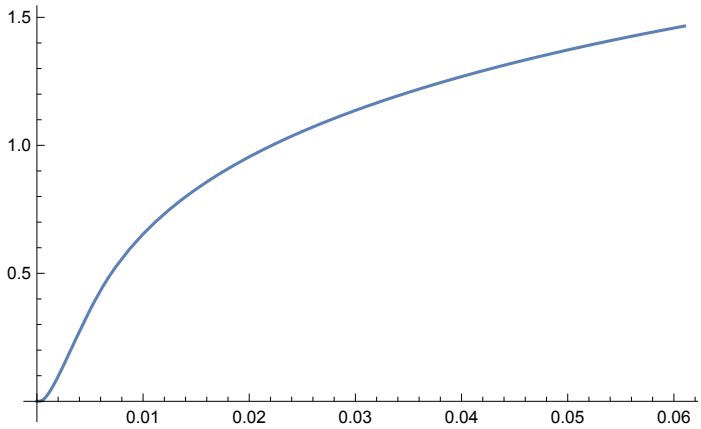
```
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take mono
take bi
take mono
take bi
take mono
take mono
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take bi
```

```
take mono
take bi
take bi
take bi
take mono
take mono
take mono
take mono
take bi
```




```
Mono: chi2 = 3.65841     d = -0.001     a = 1.56906     t = 0.0280788
Bi: ratio chi2Mono/chi2Bi = 1.04042     d = 0.00110828     a =
 1.96436     a1 = 0.30727     t1 =0.00167546     t2 = 0.0517858
--------------------------------------------------------------------------------
  -------------------------
----------------     Ca = 3.0905
  uM         -------------------------------------------------------
--------------------------------------------------------------------------------
  -------------------------
```

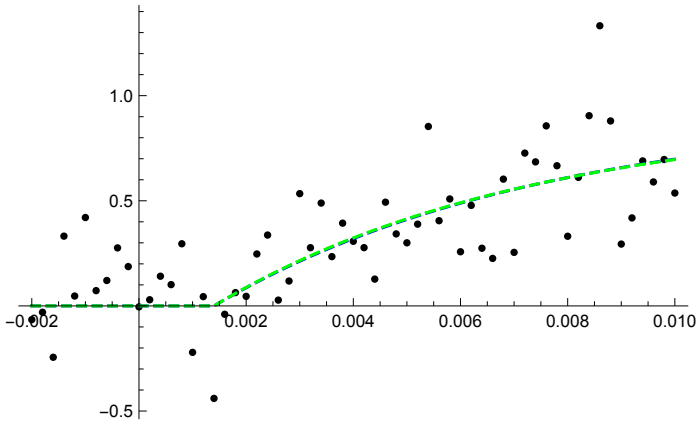




---------- C5

```
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take bi
```

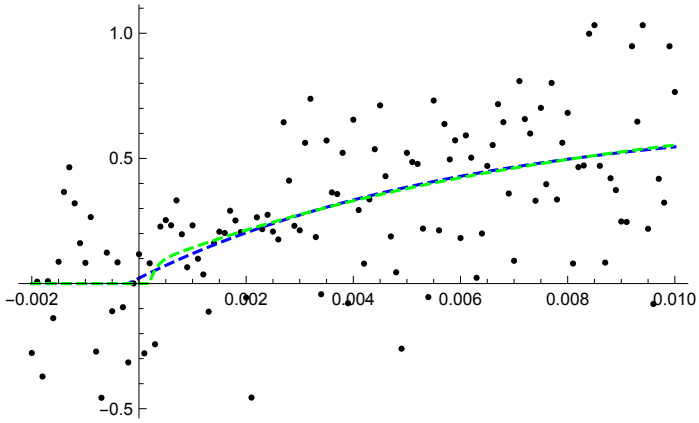
```
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```




```
Mono: chi2 = 2.68979     d = 2.68979     a = 0.92436     t = 0.00611354
Bi: ratio chi2Mono/chi2Bi = 1.0006     d = 0.0014     a =
 1.43419     a1 = 0.835705     t1 =0.00558176     t2 = 0.125741
------------------------------------------------------------------------ C10
take mono
take mono
take mono
take mono
take mono
```

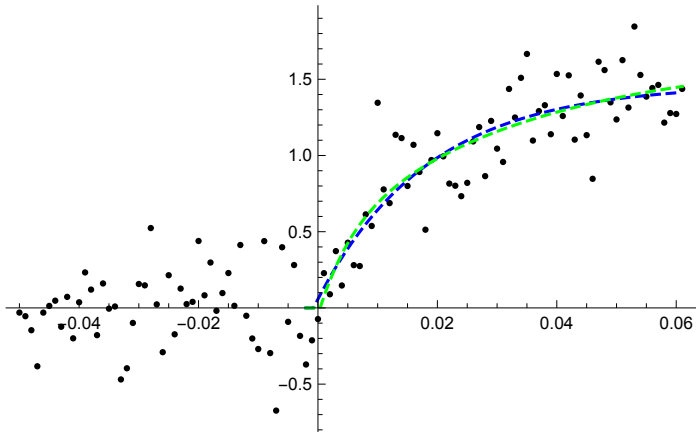
```
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```

```
take mono
take mono
take mono
take mono
take mono
take mono
```



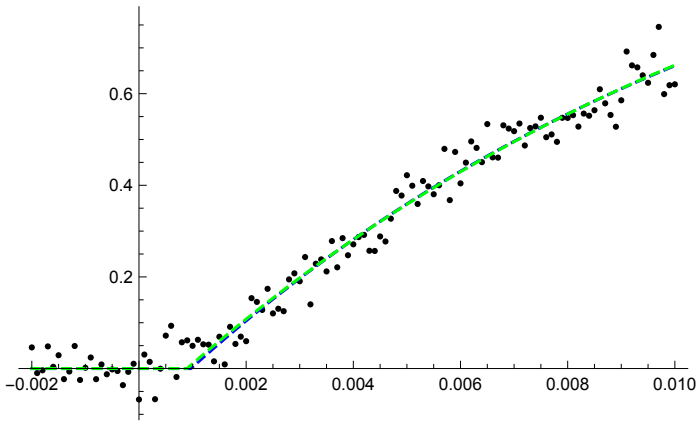

```
Mono: chi2 = 7.71324     d = 7.71324     a = 0.674118     t = 0.00613825
Bi: ratio chi2Mono/chi2Bi = 1.00376     d = 0.000198812     a =
 0.767691     a1 = 0.0812999     t1 =0.000120492     t2 = 0.00842225
Long trace was used for fitting.
take mono
take mono
take mono
take mono
take mono
take bi
take mono
take mono
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```

```
take mono
take bi
take mono
take mono
take mono
take mono
take bi
take mono
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take mono
take bi
take mono
take bi
take mono
take mono
take mono
take mono
```




```
Mono: chi2 = 6.00933     d = -0.000744817     a = 1.46719     t = 0.0186189

Bi: ratio chi2Mono/chi2Bi = 1.01     d = 0.000378193     a =
 1.64567     a1 = 0.470337     t1 =0.00526403     t2 = 0.0335706

------------------------------------------------------------------------- D

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono
```

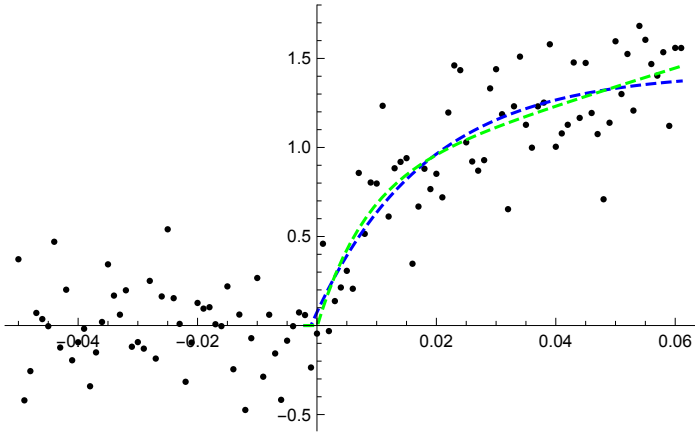
```
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```



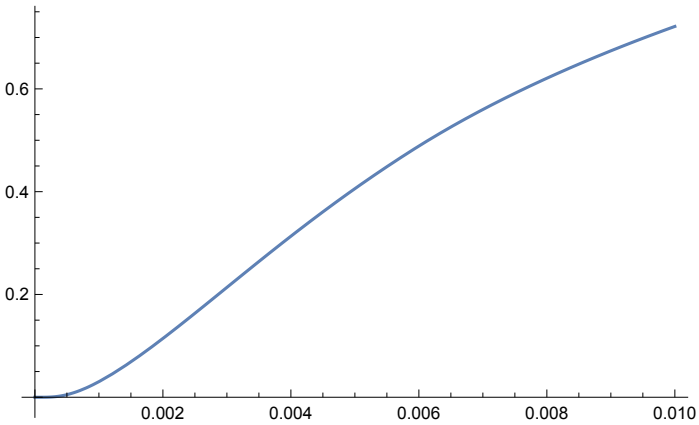

```
Mono: chi2 = 0.162315     d = 0.162315     a = 1.21597     t = 0.0115134
Bi: ratio chi2Mono/chi2Bi = 0.998736     d = 0.000897968     a =
 0.768059     a1 = 2.26878     t1 =0.015981     t2 = 0.0375634
Long trace was used for fitting.
take bi
take mono
```

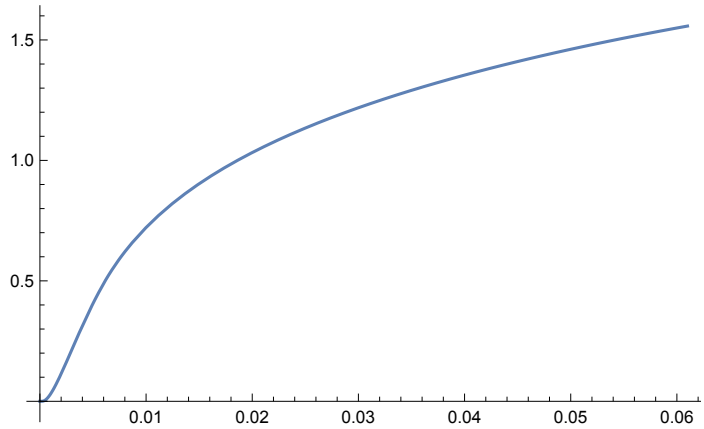
```
take mono
take mono
take mono
take bi
take mono
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take bi
take mono
take mono
take mono
take mono
take bi
take mono
take bi
take mono
take mono
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take bi
take mono
take mono
```

```
take bi
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take mono
```




```
Mono: chi2 = 6.00381     d = -0.001     a = 1.42401     t = 0.0186133
Bi: ratio chi2Mono/chi2Bi = 1.02015     d = 0.0000865584     a =
 31.0795     a1 = 0.815334     t1 =0.00801949     t2 = 2.84302
-------------------------------------------------------------------------------------
  -------------------------
----------------     Ca = 3.26357
  uM          -------------------------------------------------------
-------------------------------------------------------------------------------------
  -------------------------
```

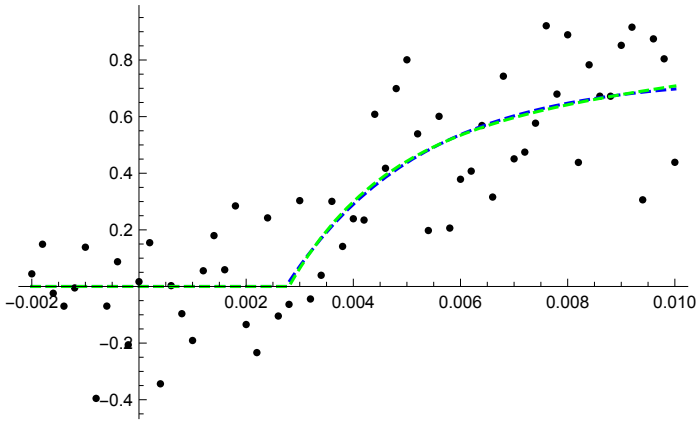




---------- C5

```
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```

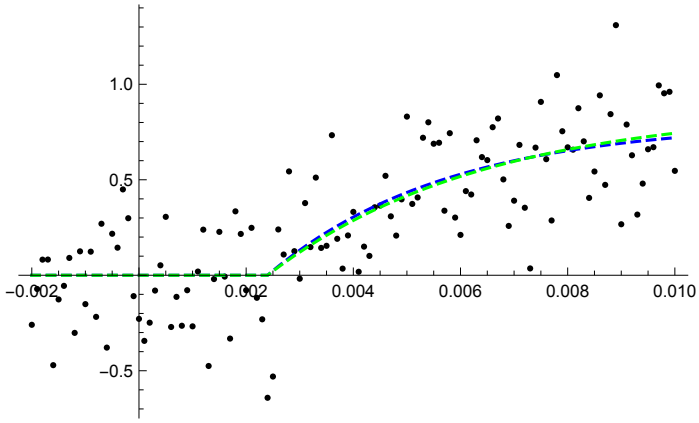
```
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```




```
Mono: chi2 = 2.05003     d = 2.05003     a = 0.738882     t = 0.00251599
Bi: ratio chi2Mono/chi2Bi = 1.00205     d = 0.0028     a =
 1.70728     a1 = 0.529981     t1 =0.00171913     t2 = 0.0418206
------------------------------------------------------------------------ C10
take mono
take mono
take mono
take mono
take mono
```

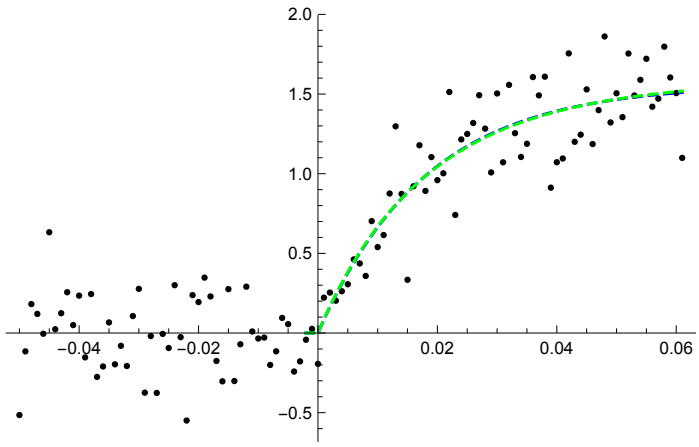
```
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```

```
take mono
take mono
take mono
take mono
take mono
take mono
```




```
Mono: chi2 = 7.16751     d = 7.16751     a = 0.803295     t = 0.00335046
Bi: ratio chi2Mono/chi2Bi = 0.997949     d = 0.0024     a =
 0.873845     a1 = 0.877397     t1 =0.0040363     t2 = 0.20219
Long trace was used for fitting.
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take bi
take mono
take mono
take mono
take bi
take mono
```

```
take mono
take mono
take mono
take bi
take bi
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take mono
take mono
take mono
```



Mono: chi2 = 5.7045 d = -8.01678×10^{-16} a = 1.56344 t = 0.0180469

Bi: ratio chi2Mono/chi2Bi = 0.999967 d = -1.76219×10^{-15}

a = 1.59877 a1 = 0.809937 t1 =0.0142405 t2 = 0.0250418

---------- D

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

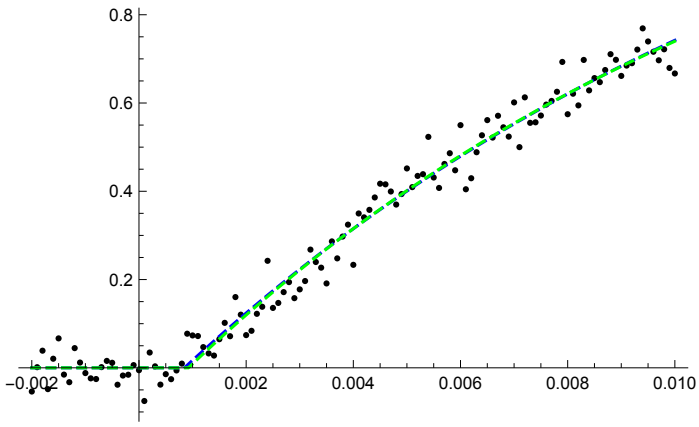
take mono

take mono

take mono

take mono

```
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```




```
Mono: chi2 = 0.166834     d = 0.166834     a = 1.48444     t = 0.0132086
Bi: ratio chi2Mono/chi2Bi = 0.998381     d = 0.000922171     a =
 1.39579     a1 = 0.749179     t1 =0.0120203     t2 = 0.0120203
Long trace was used for fitting.
take mono
```

```
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take mono
take bi
take mono
take bi
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take bi
take mono
take mono
take mono
take mono
```

take mono

take mono

take mono

take mono

take mono

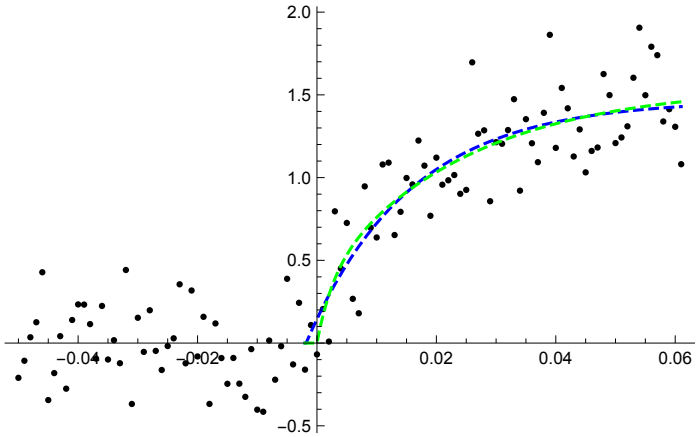
take mono

take mono

take mono

take mono

take mono

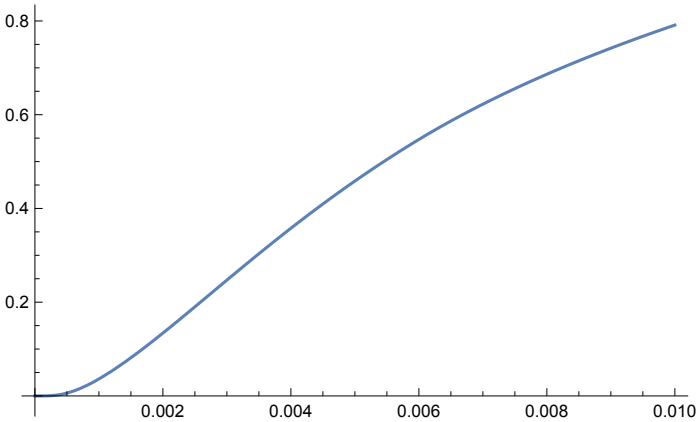


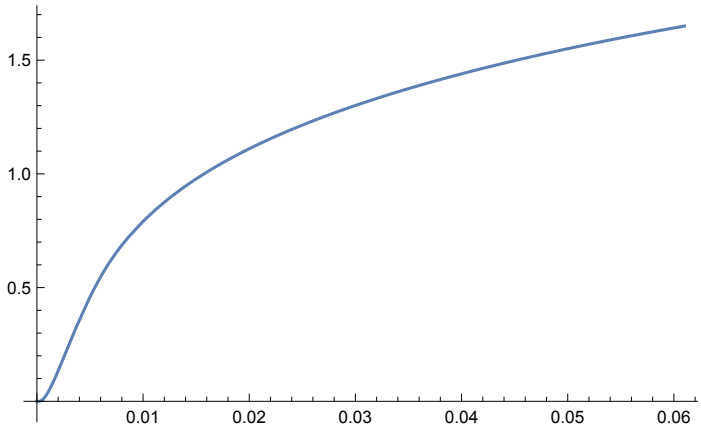
Mono: chi2 = 5.76151 d = -0.00181029 a = 1.46855 t = 0.0173875

Bi: ratio chi2Mono/chi2Bi = 1.012 d = -2.55915×10^{-15} a = 1.55491 a1 = 0.368038 t1 =0.00262193 t2 = 0.0243398

---- Ca = 3.44741

uM ----------





---------- C5

```
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

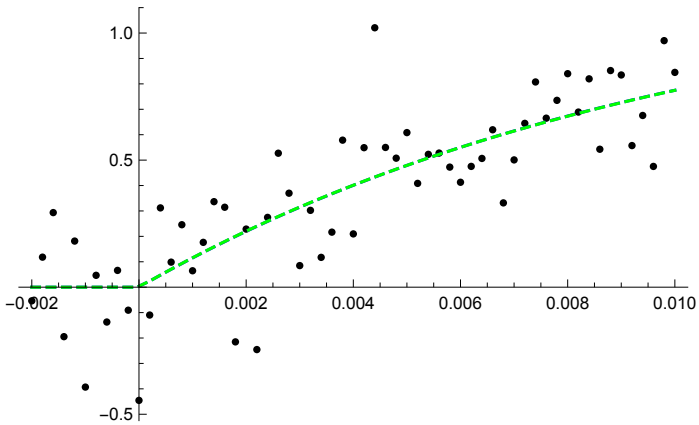
take mono

take mono

take mono

take mono

take mono



Mono: chi2 = 2.22587 d = 2.22587 a = 1.25051 t = 0.0103467

Bi: ratio chi2Mono/chi2Bi = 0.999888 d = -4.37914×10^{-16}

a = 2.03132 a1 = 1.10512 t1 =0.00956585 t2 = 0.154774

---------- C10

take mono

take mono

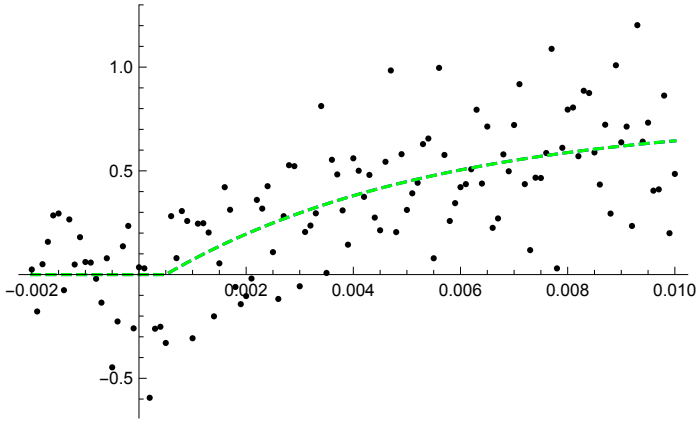
take mono

take mono

take mono

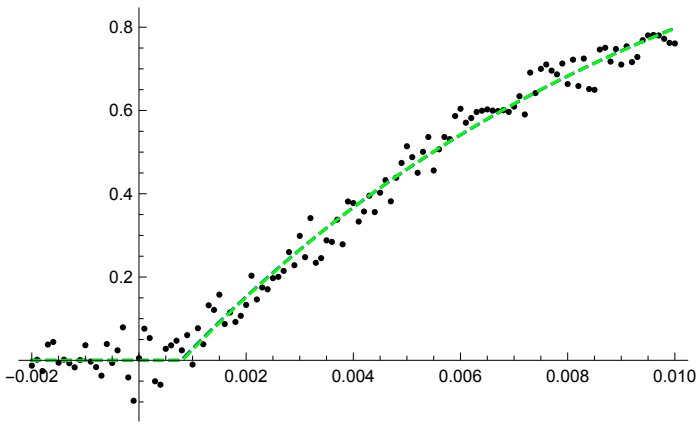
```
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```

```
take mono
take mono
take mono
take mono
take mono
take mono
```

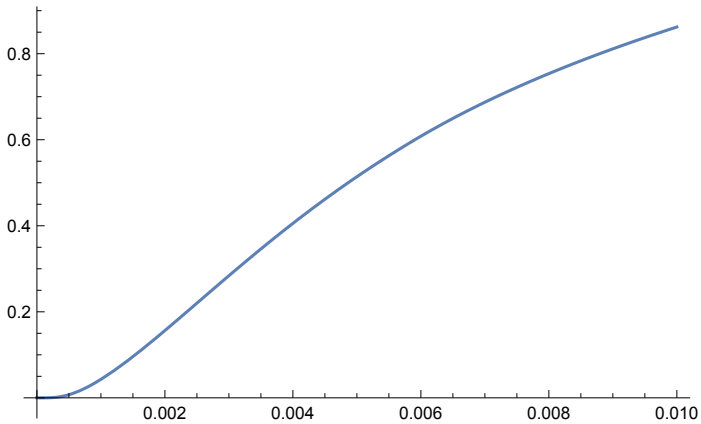


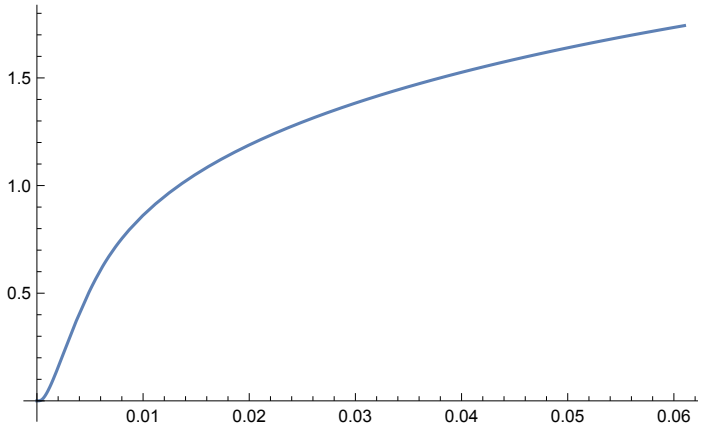

```
Mono: chi2 = 6.97042     d = 6.97042     a = 0.760123     t = 0.00504635
Bi: ratio chi2Mono/chi2Bi = 0.999956     d = 0.0005     a =
 0.8868     a1 = 0.750082     t1 =0.00500684     t2 = 0.172558
------------------------------------------------------------------------ D
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```

```
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```



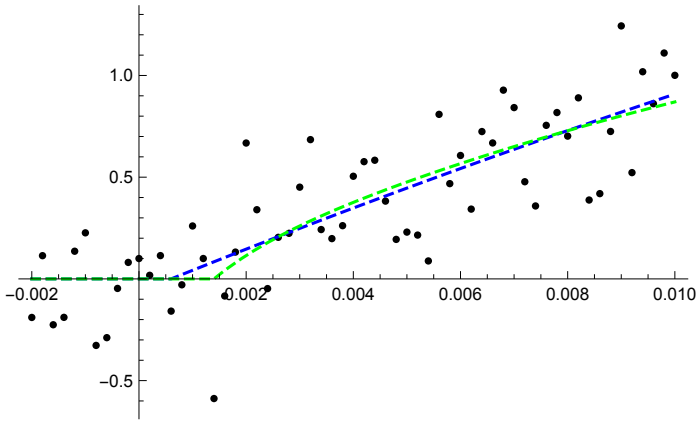
```
Mono: chi2 = 0.150194     d = 0.150194     a = 1.29726     t = 0.00965015
Bi: ratio chi2Mono/chi2Bi = 0.999989     d = 0.000810238     a =
 1.28181     a1 = 1.0837     t1 =0.00944958     t2 = 0.00944958
-------------------------------------------------------------------------------------
  -------------------------
----------------     Ca = 3.64088
  uM         -------------------------------------------------------
-------------------------------------------------------------------------------------
  -------------------------
```






```
------------------------------------------------------------------------------ C5
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```

```
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```




```
Mono: chi2 = 3.13289     d = 3.13289     a = 5.35283     t = 0.0505384

Bi: ratio chi2Mono/chi2Bi = 1.00714     d = 0.0014     a =
 1.91942     a1 = 0.113457     t1 =0.00110103     t2 = 0.0158431

------------------------------------------------------------------------ C10

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono
```

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

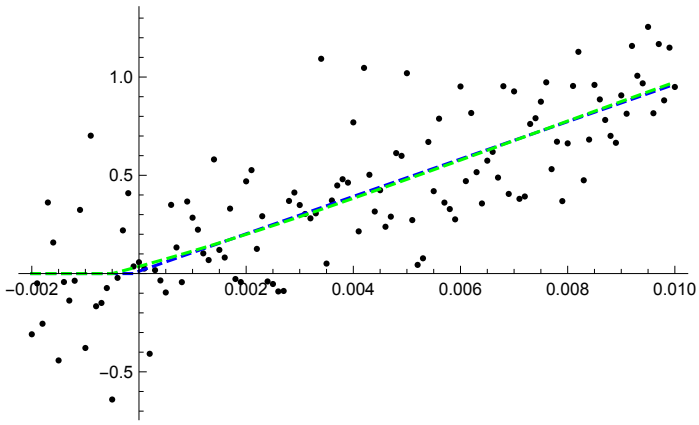
take mono

take mono

take mono

take mono

take mono



Mono: chi2 = 7.46019 d = 7.46019 a = 1.33247×10^{7} t = 140 011.

Bi: ratio chi2Mono/chi2Bi = 1.00252 d = -0.0005 a = 3.73259 a1 = -1.32154 t1 =0.00821926 t2 = 0.0218648

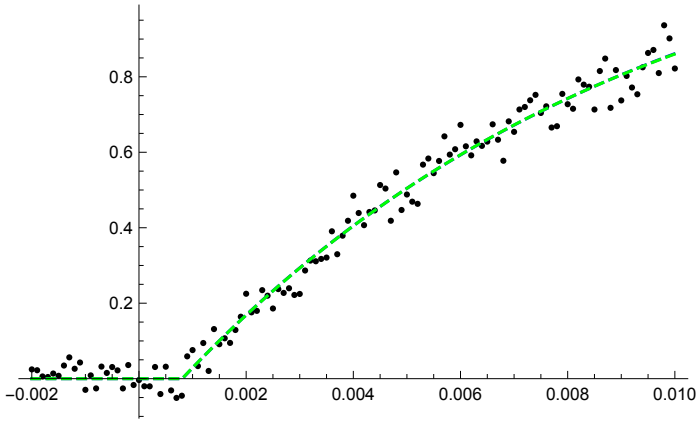
---------- D

take mono

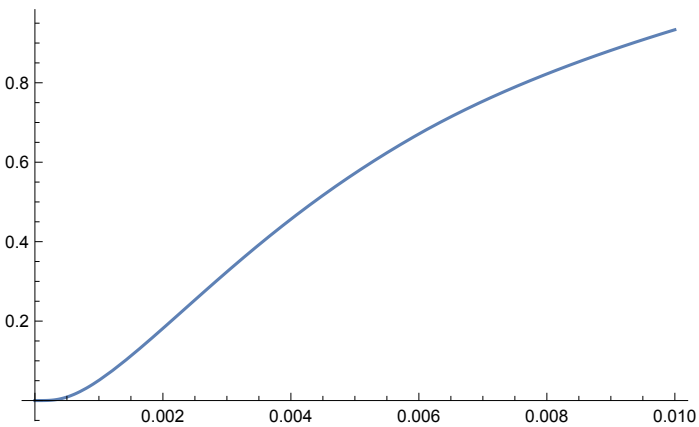
take mono

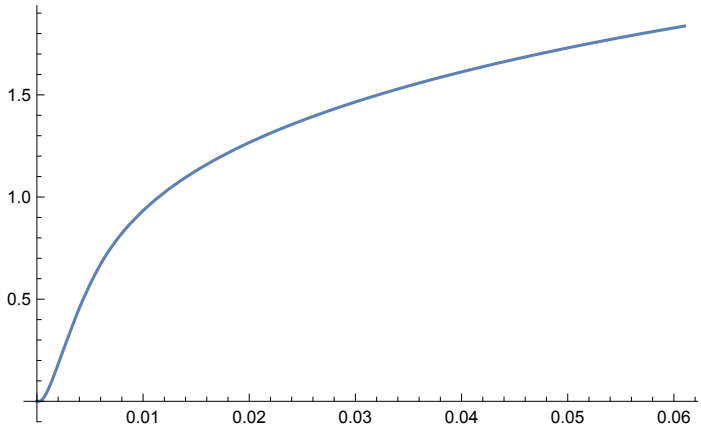
```
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```

```
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```




```
Mono: chi2 = 0.168634     d = 0.168634     a = 1.32318     t = 0.0087314
Bi: ratio chi2Mono/chi2Bi = 1.00185     d = 0.00080535     a =
 1.00029     a1 = 1.88024     t1 =0.010309     t2 = 0.0276045
-------------------------------------------------------------------------------------
  -------------------------
----------------     Ca = 3.84593
  uM         -------------------------------------------------------
-------------------------------------------------------------------------------------
  -------------------------
```

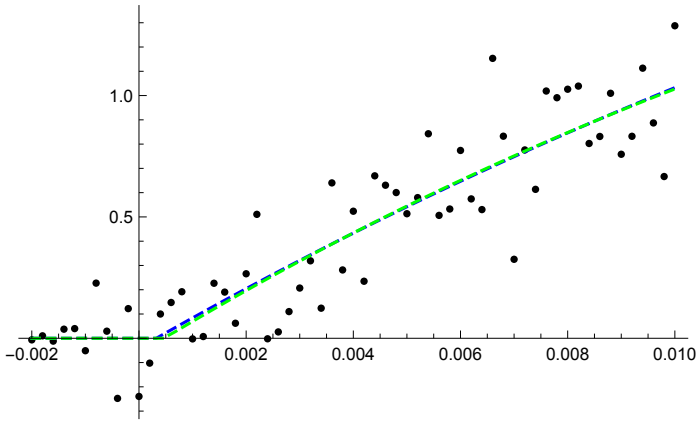




---------- C5

```
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```

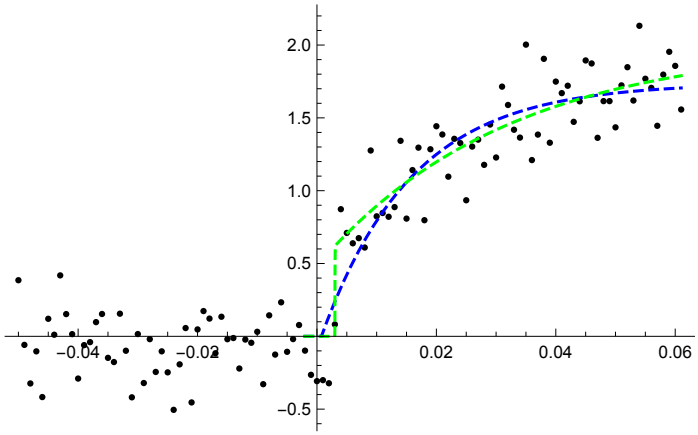
```
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```




```
Mono: chi2 = 1.77099     d = 1.77099     a = 3.6505     t = 0.0291092
Bi: ratio chi2Mono/chi2Bi = 1.00009     d = 0.000472156     a =
 1.40929     a1 = 5.99616     t1 =0.0288725     t2 = 0.0614973
Long trace was used for fitting.
take mono
take mono
take mono
take bi
take bi
```

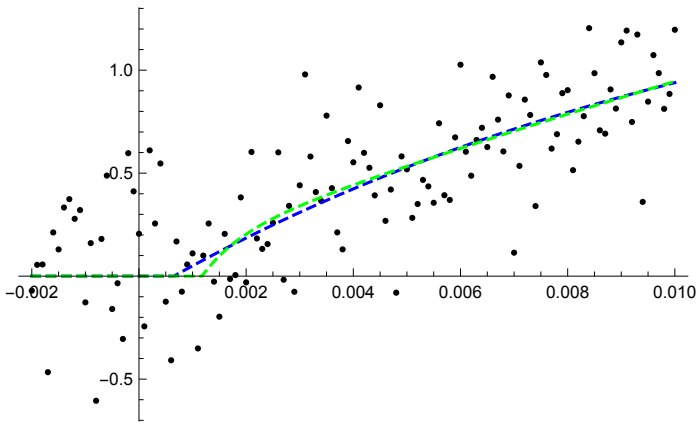
```
take bi
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take bi
take mono
take mono
take mono
take mono
take bi
take bi
take bi
take mono
take mono
take mono
take bi
take bi
take mono
take mono
take bi
take mono
take bi
take mono
take bi
take mono
take mono
take bi
take mono
take mono
take mono
take bi
take mono
take mono
```

```
take bi
take mono
take bi
take bi
take mono
take bi
```



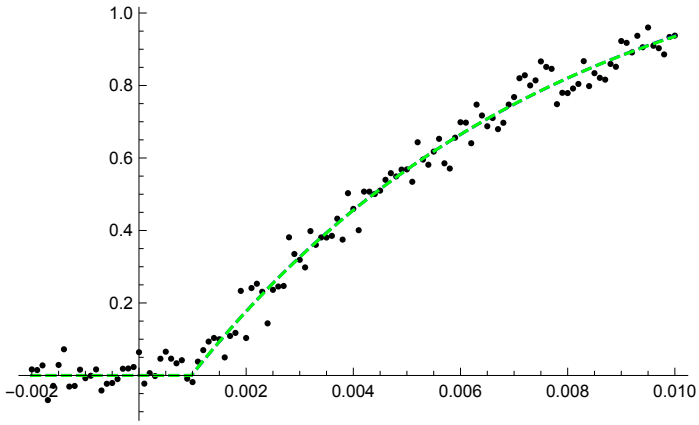

```
Mono: chi2 = 5.53246     d = 0.00075666     a = 1.73808     t = 0.0151711
Bi: ratio chi2Mono/chi2Bi = 1.13115     d = 0.002997     a =
 2.01456     a1 = 0.620226     t1 =0.0000212893     t2 = 0.0318188
------------------------------------------------------------------------- C10
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take mono
take mono
take mono
```

```
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```

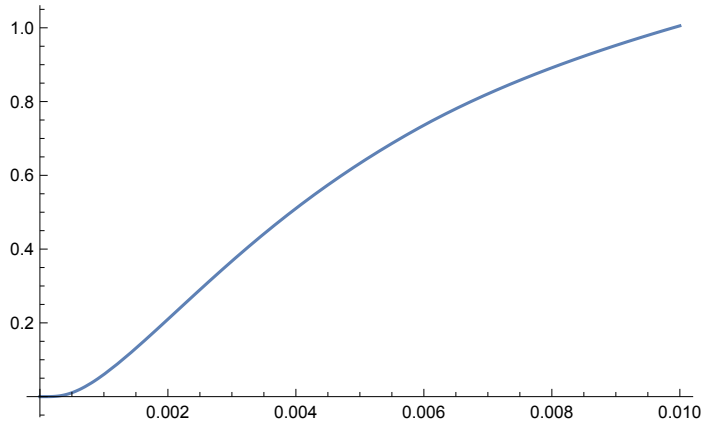


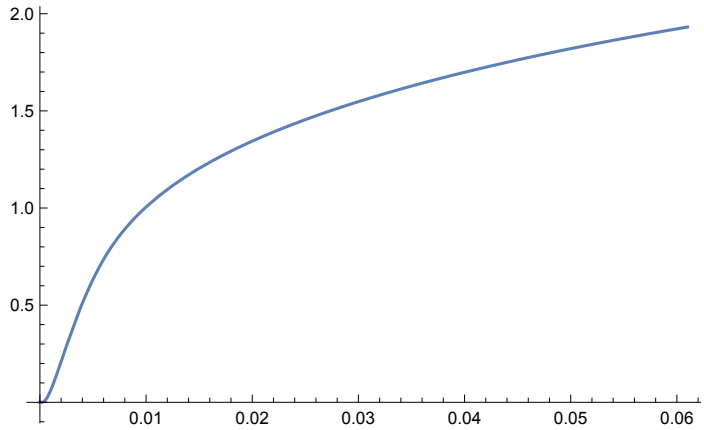
```
Mono: chi2 = 8.12874     d = 8.12874     a = 1.72167     t = 0.0118541
Bi: ratio chi2Mono/chi2Bi = 1.01279     d = 0.00117576     a =
 4.19177     a1 = 0.184274     t1 =0.000714482     t2 = 0.0418903
------------------------------------------------------------------------ D
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```

```
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```




```
Mono: chi2 = 0.168381     d = 0.168381     a = 1.27915     t = 0.00684523
Bi: ratio chi2Mono/chi2Bi = 1.00121     d = 0.000976024     a =
 0.886868     a1 = 1.50777     t1 =0.00755499     t2 = 0.0437349
-------------------------------------------------------------------------------------
  --------------------------
----------------     Ca = 4.06272
  uM          -------------------------------------------------------
-------------------------------------------------------------------------------------
  --------------------------
```

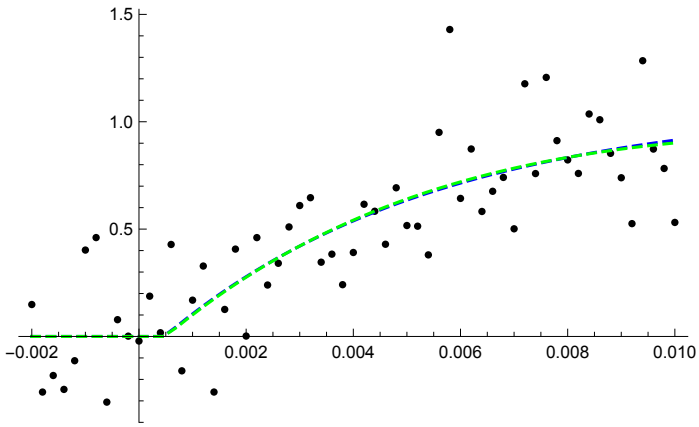




---------- C5

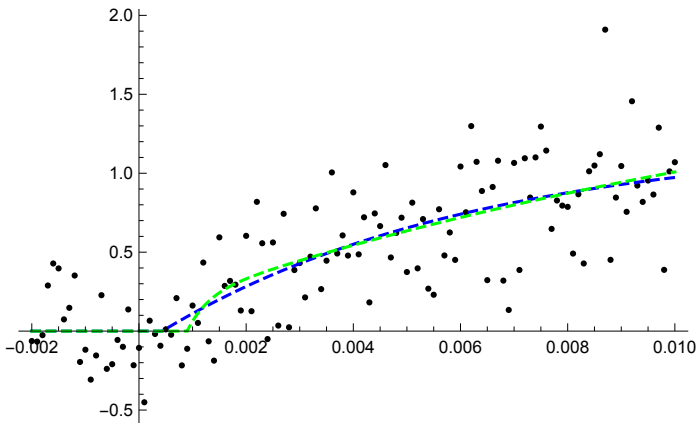
```
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take mono
take mono
take mono
```

```
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```




```
Mono: chi2 = 3.24104     d = 3.24104     a = 1.08334     t = 0.00512861

Bi: ratio chi2Mono/chi2Bi = 1.00427     d = 0.000496516     a =
 0.448771     a1 = 2.55134     t1 =0.00756606     t2 = 0.0164283

------------------------------------------------------------------------ C10

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono
```

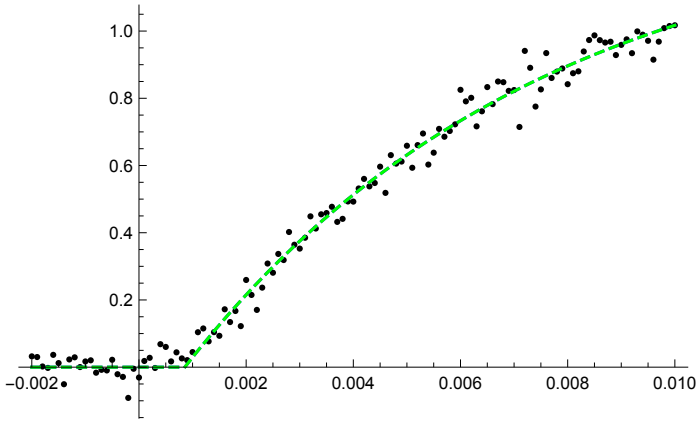
```
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```



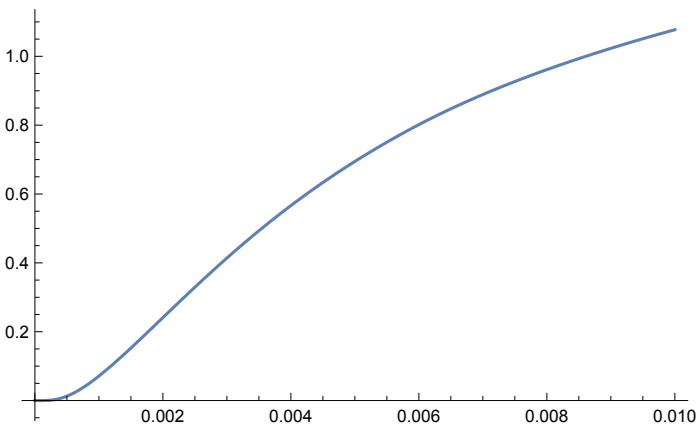

```
Mono: chi2 = 9.25668     d = 9.25668     a = 1.2133     t = 0.00590329
Bi: ratio chi2Mono/chi2Bi = 1.00937     d = 0.0009     a =
 1.96111     a1 = 0.221927     t1 =0.000385461     t2 = 0.0151318
------------------------------------------------------------------------ D
take mono
take mono
```

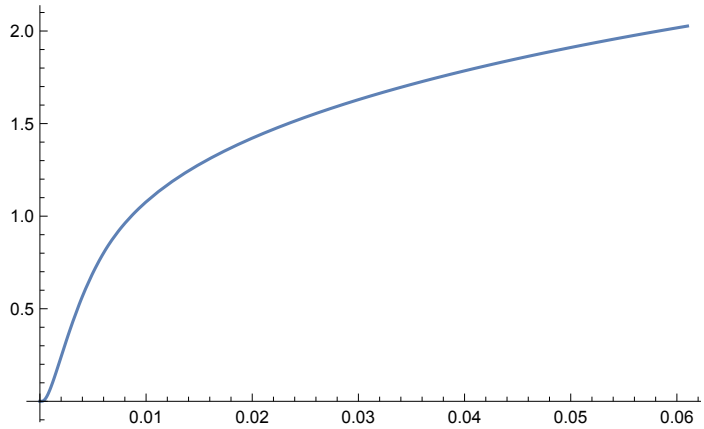
```
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```

```
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```




```
Mono: chi2 = 0.1722     d = 0.1722     a = 1.36109     t = 0.00664776
Bi: ratio chi2Mono/chi2Bi = 1.     d = 0.000855439     a =
 1.36109     a1 = 0.786522     t1 =0.00664776     t2 = 0.00664776
------------------------------------------------------------------------------------------
  -------------------------
----------------     Ca = 4.29254
  uM         -------------------------------------------------------
------------------------------------------------------------------------------------------
  -------------------------
```

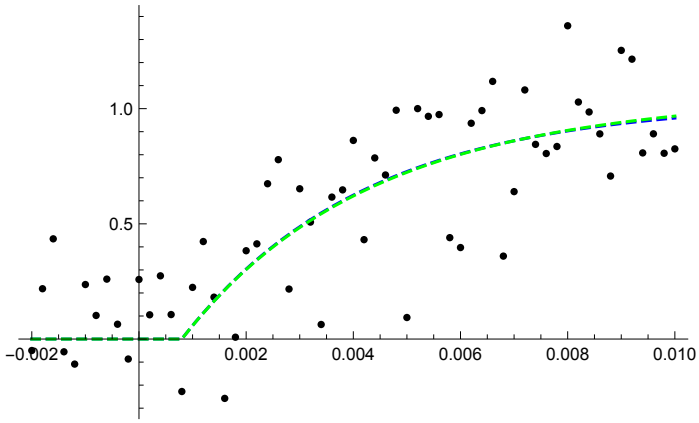




---------- C5

```
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take mono
```

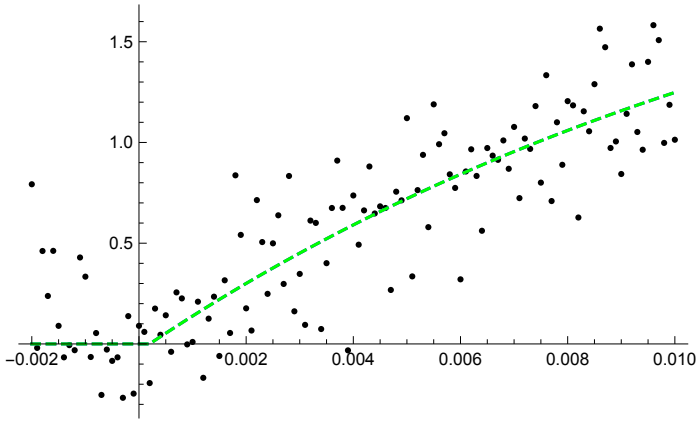
```
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```




```
Mono: chi2 = 3.58661     d = 3.58661     a = 1.02964     t = 0.00343043
Bi: ratio chi2Mono/chi2Bi = 0.999898     d = 0.0008     a =
 1.46684     a1 = 0.976001     t1 =0.00333804     t2 = 0.0796488
------------------------------------------------------------------------ C10
take mono
take mono
take mono
take mono
take mono
```

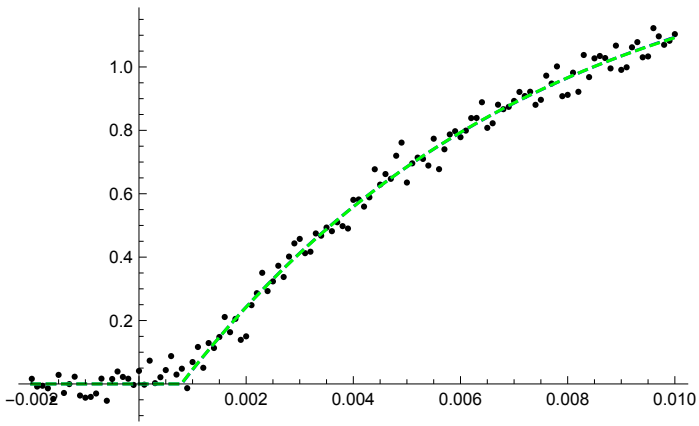
```
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```

```
take mono
take mono
take mono
take mono
take mono
take mono
```

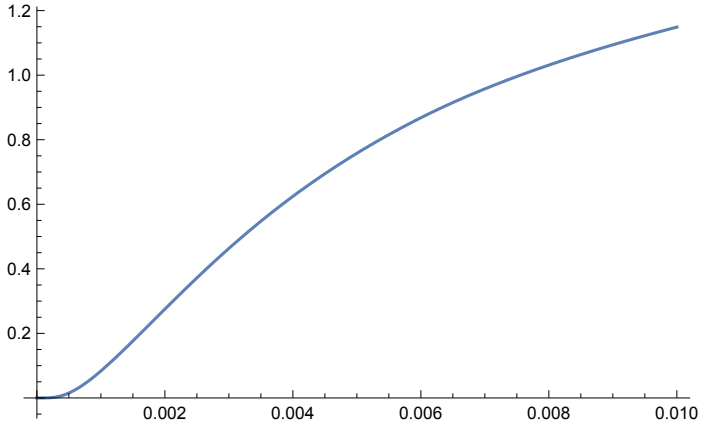


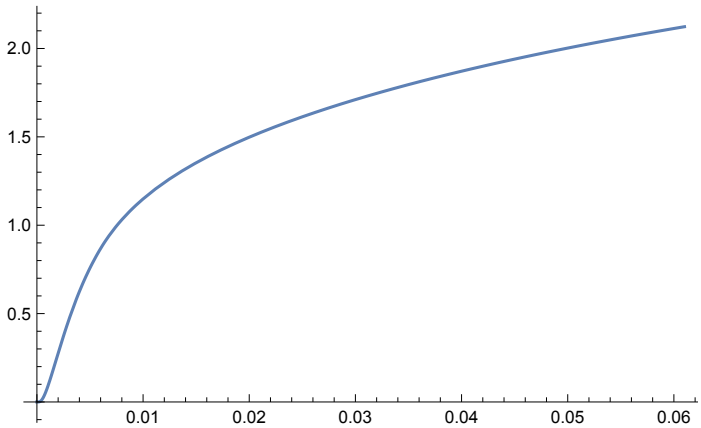

```
Mono: chi2 = 6.91324     d = 6.91324     a = 2.46154     t = 0.0138572
Bi: ratio chi2Mono/chi2Bi = 1.00002     d = 0.0002     a =
 2.57061     a1 = 0.528575     t1 =0.00950805     t2 = 0.01665
------------------------------------------------------------------------ D
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```

```
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```



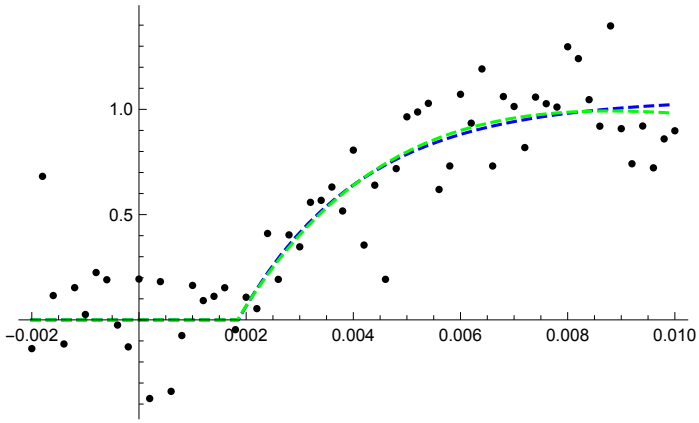
```
Mono: chi2 = 0.14594     d = 0.14594     a = 1.45537     t = 0.0066133
Bi: ratio chi2Mono/chi2Bi = 1.00069     d = 0.000788537     a =
 1.01048     a1 = 1.68141     t1 =0.00723519     t2 = 0.0474664
-------------------------------------------------------------------------------------
  -------------------------
----------------     Ca = 4.53549
  uM         -------------------------------------------------------
-------------------------------------------------------------------------------------
  -------------------------
```





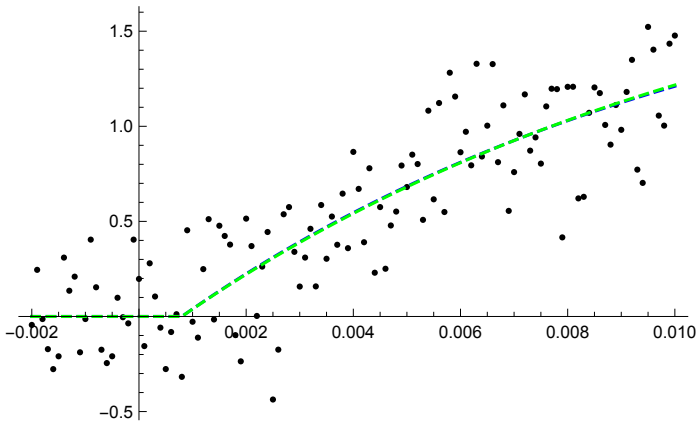

```
------------------------------------------------------------------------ C5
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```

```
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```




```
Mono: chi2 = 2.48813     d = 2.48813     a = 1.05278     t = 0.00228651

Bi: ratio chi2Mono/chi2Bi = 1.02243     d = 0.00183807     a =
 0.376688     a1 = 2.81686     t1 =0.00406388     t2 = 0.00897594

------------------------------------------------------------------------ C10

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono
```

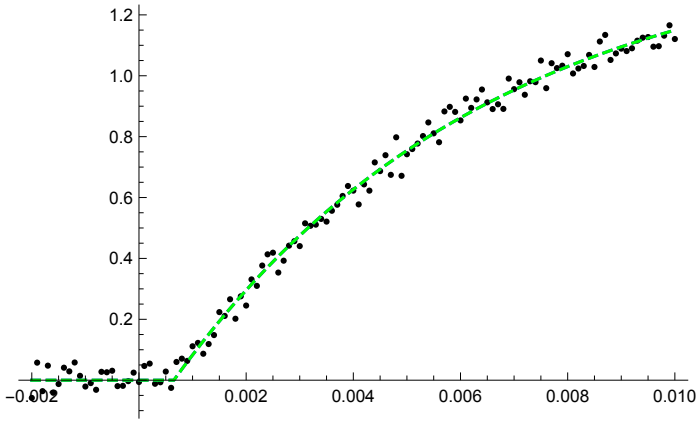
```
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```



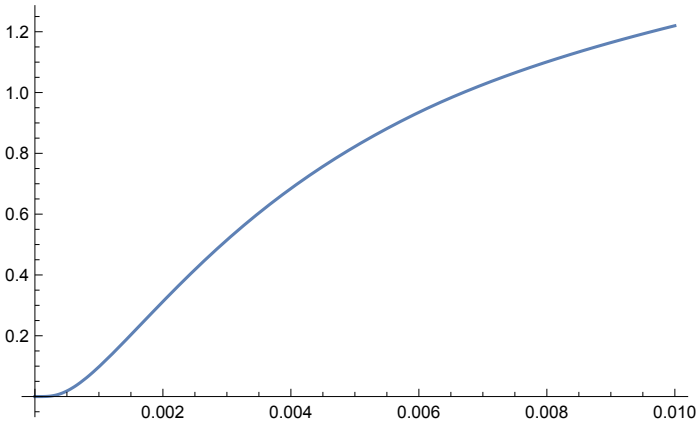

```
Mono: chi2 = 7.32126     d = 7.32126     a = 2.06728     t = 0.0104439
Bi: ratio chi2Mono/chi2Bi = 0.99999     d = 0.0008     a =
 2.11527     a1 = 2.15925     t1 =0.0110521     t2 = 0.134554
------------------------------------------------------------------------ D
take mono
take mono
```

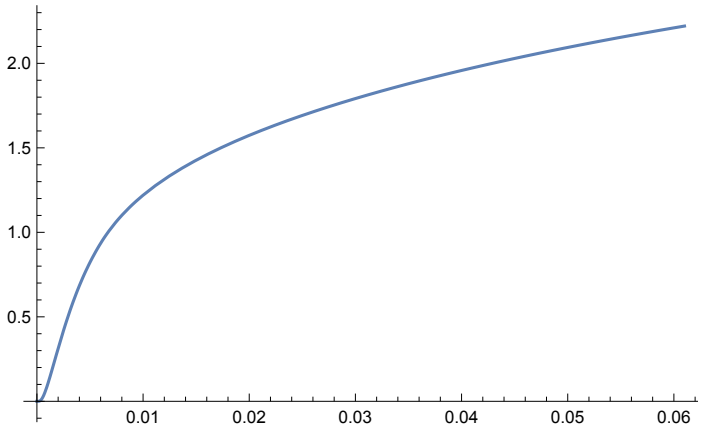
```
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```

```
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```




```
Mono: chi2 = 0.12366     d = 0.12366     a = 1.44634     t = 0.00589994
Bi: ratio chi2Mono/chi2Bi = 1.     d = 0.000650992     a =
 1.44634     a1 = 0.749684     t1 =0.00589994     t2 = 0.00589994
--------------------------------------------------------------------------------
  -------------------------
----------------     Ca = 4.79194
  uM         -------------------------------------------------------
--------------------------------------------------------------------------------
  -------------------------
```

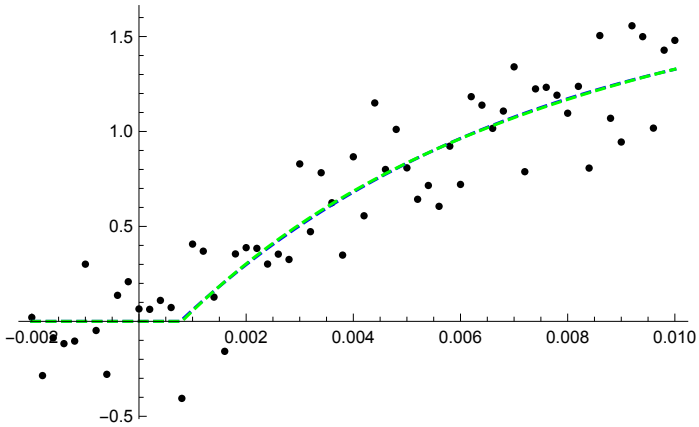




---------- C5

```
take mono
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take mono
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```

```
take mono
take mono
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```




```
Mono: chi2 = 2.51961     d = 2.51961     a = 1.76692     t = 0.00663315
Bi: ratio chi2Mono/chi2Bi = 1.00211     d = 0.0008     a =
 2.19629     a1 = 0.780183     t1 =0.00408649     t2 = 0.0156297
------------------------------------------------------------------------ C10
take mono
take mono
take mono
take mono
take mono
```

```
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```

take mono

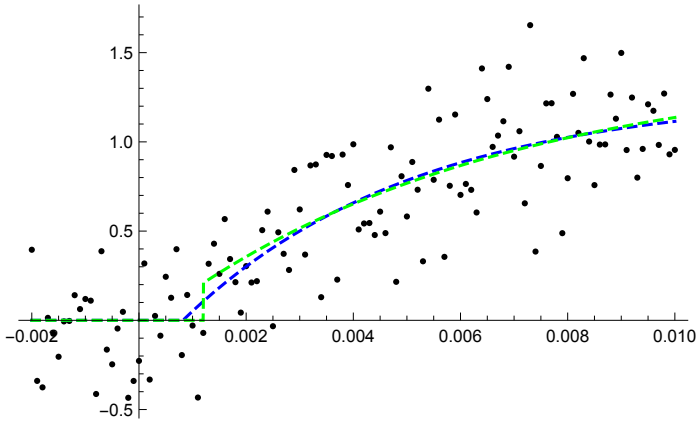
take mono

take mono

take mono

take mono

take mono



Mono: chi2 = 8.32523 d = 8.32523 a = 1.26738 t = 0.0043368

Bi: ratio chi2Mono/chi2Bi = 1.02109 d = 0.00120033 a = 1.43668 a1 = 0.208857 t1 = 6.25028×10^{-7} t2 = 0.00624719

---------- D

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

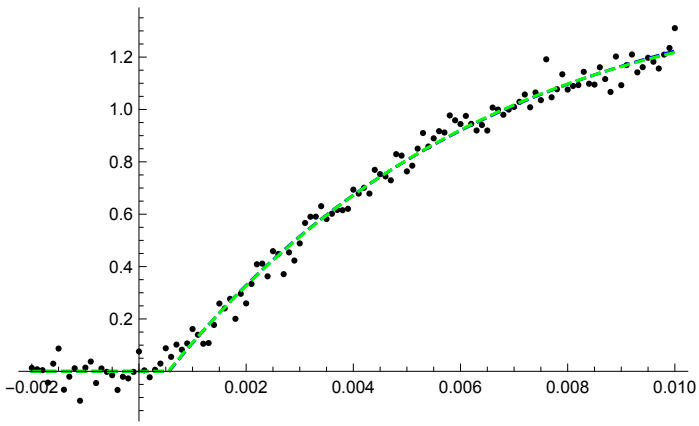
take mono

take mono

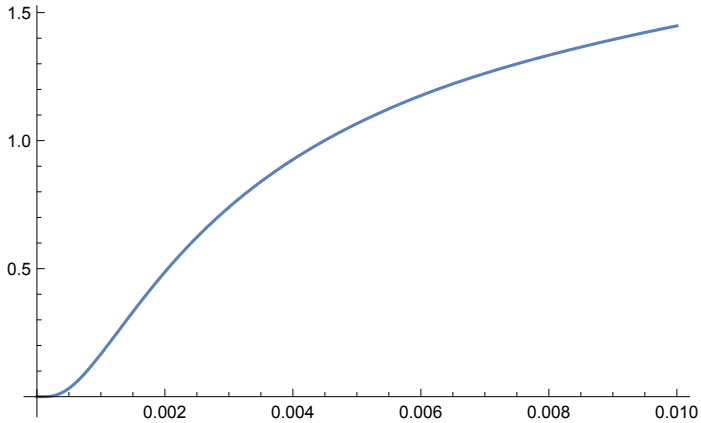
take mono

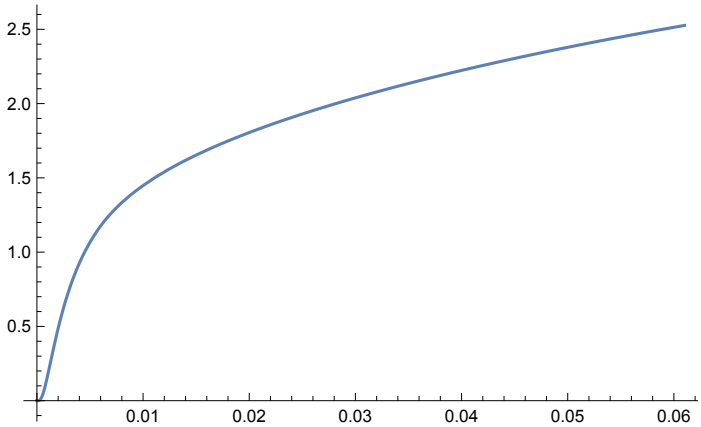
take mono

```
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```



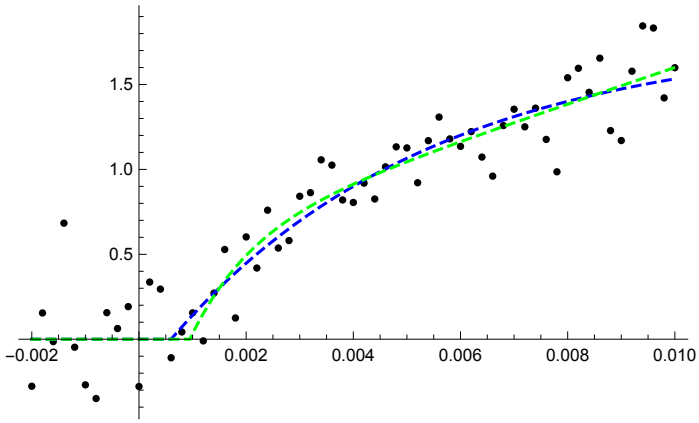
```
Mono: chi2 = 0.206286     d = 0.206286     a = 1.54344     t = 0.0060015
Bi: ratio chi2Mono/chi2Bi = 1.0129     d = 0.00054835     a =
 0.837447     a1 = 3.11329     t1 =0.00846164     t2 = 0.019425
-------------------------------------------------------------------------------
  -------------------------
----------------     Ca = 5.70182
  uM         -------------------------------------------------------
-------------------------------------------------------------------------------
  -------------------------
```





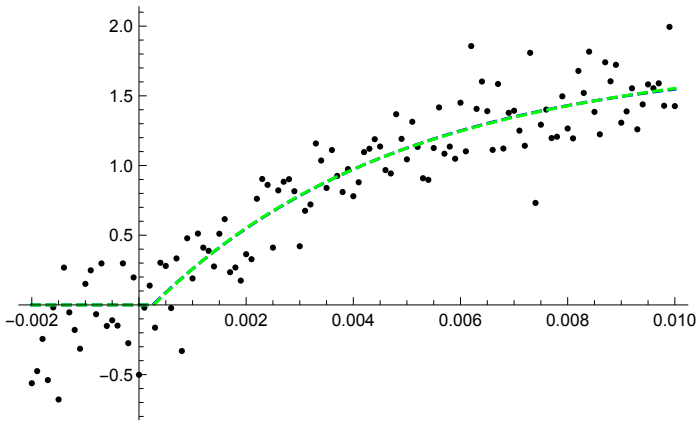

```
------------------------------------------------------------------------ C5
take mono
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take mono
take mono
```

```
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take mono
take mono
take mono
```




```
Mono: chi2 = 2.4359     d = 2.4359     a = 1.79467     t = 0.00488161

Bi: ratio chi2Mono/chi2Bi = 1.04476     d = 0.000950537     a =
 73.1064     a1 = 0.620944     t1 =0.00110974     t2 = 0.665184

------------------------------------------------------------------------ C10

take mono

take mono

take bi

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono
```

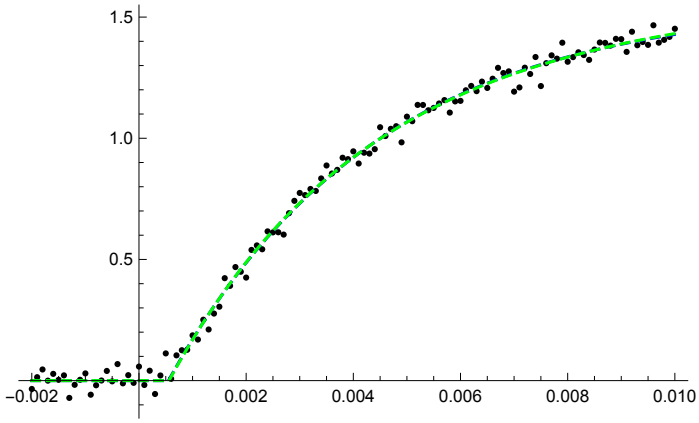
```
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```



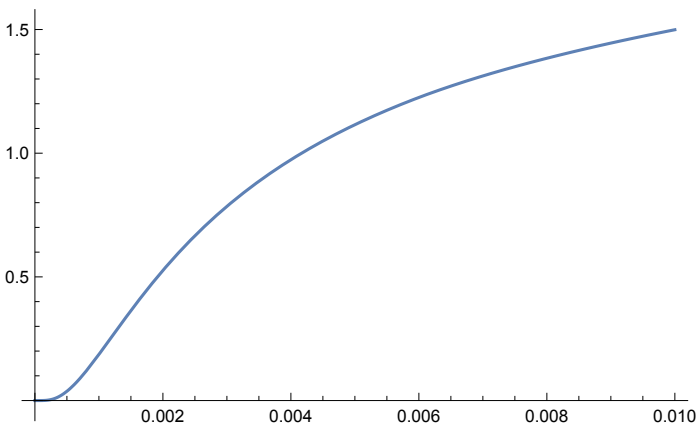

```
Mono: chi2 = 6.66428     d = 6.66428     a = 1.7693     t = 0.00468757
Bi: ratio chi2Mono/chi2Bi = 1.00009     d = 0.000273985     a =
 4.84032     a1 = 1.54687     t1 =0.00418698     t2 = 0.197757
------------------------------------------------------------------------- D
take mono
take bi
```

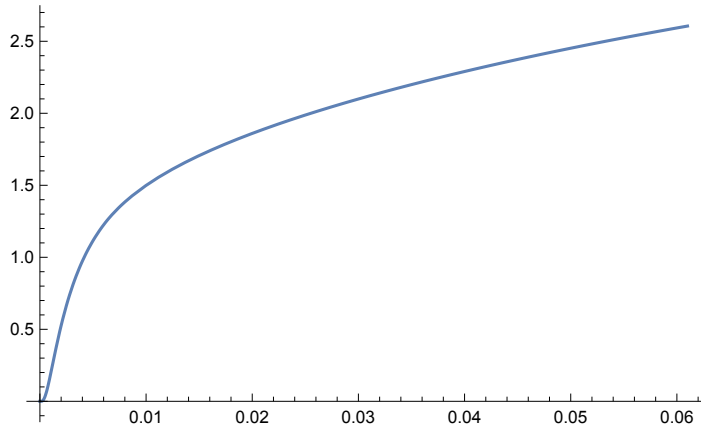
```
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take mono
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take mono
take mono
```

```
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take mono
take mono
```




```
Mono: chi2 = 0.138008     d = 0.138008     a = 1.5666     t = 0.00388996
Bi: ratio chi2Mono/chi2Bi = 1.00131     d = 0.000560562     a =
 3.12013     a1 = 1.46896     t1 =0.00366966     t2 = 0.202891
-------------------------------------------------------------------------------------
  -------------------------
----------------     Ca = 5.94854
  uM         -------------------------------------------------------
-------------------------------------------------------------------------------------
  -------------------------
```





---------- C5

```
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take bi

take bi

take mono

take mono

take mono

take mono

take mono

take mono

take mono

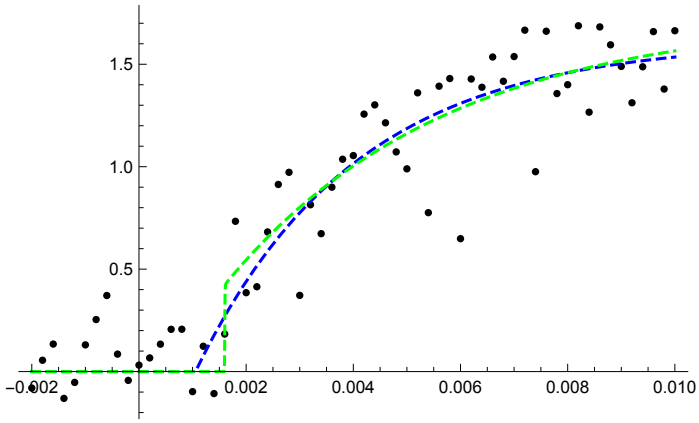
take mono

take mono

take mono

take mono

take bi



Mono: chi2 = 2.4717 d = 2.4717 a = 1.61442 t = 0.00296965

Bi: ratio chi2Mono/chi2Bi = 1.05173 d = 0.00159742 a = 1.73478 a1 = 0.42246 t1 = 4.55921×10^{-6} t2 = 0.00410685

---------- C10

take mono

take mono

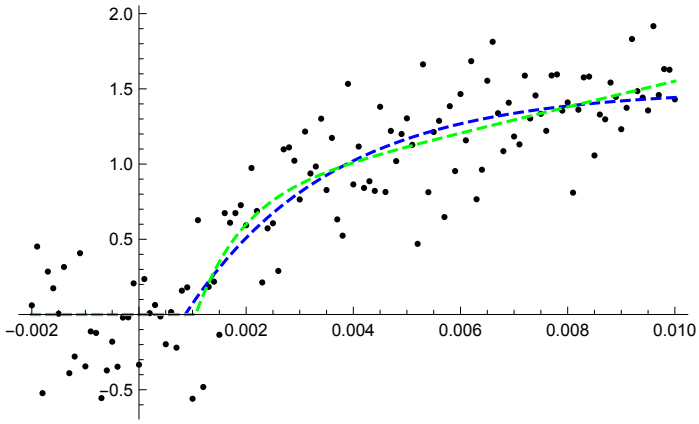
take mono

take bi

take mono

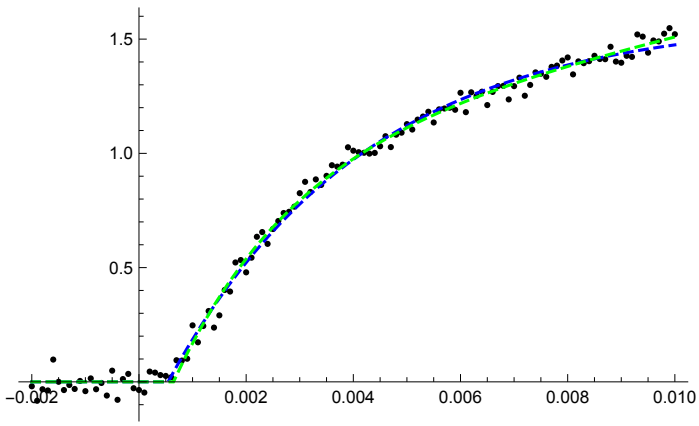
```
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```

```
take mono
take mono
take mono
take mono
take mono
take mono
```

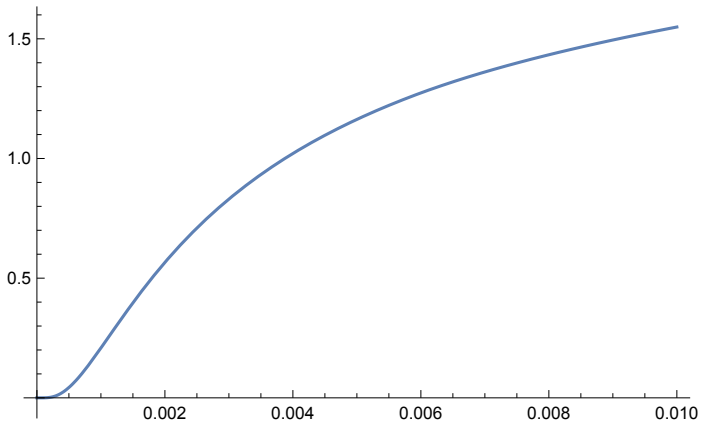


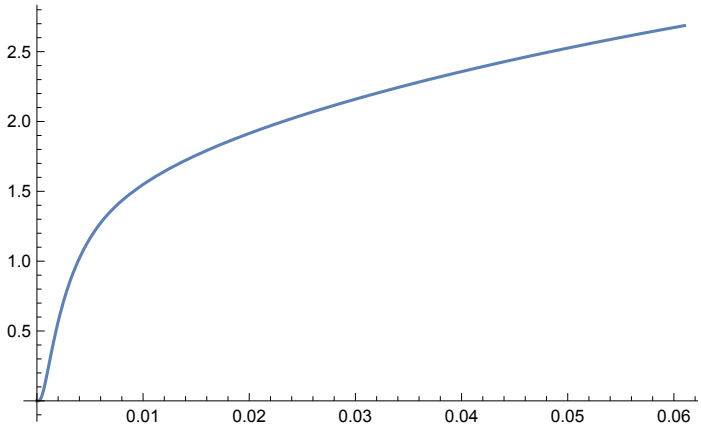

```
Mono: chi2 = 9.65112     d = 9.65112     a = 1.49534     t = 0.00272711
Bi: ratio chi2Mono/chi2Bi = 1.04142     d = 0.00105895     a =
 30.9288     a1 = 0.778872     t1 =0.00086306     t2 = 0.344626
------------------------------------------------------------------------ D
take bi
take bi
take mono
take bi
take mono
take bi
take mono
take bi
take mono
take mono
take bi
take mono
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take mono
```

```
take mono
take mono
take mono
take mono
take mono
take bi
take mono
take mono
take bi
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take bi
take bi
take mono
take mono
take bi
```



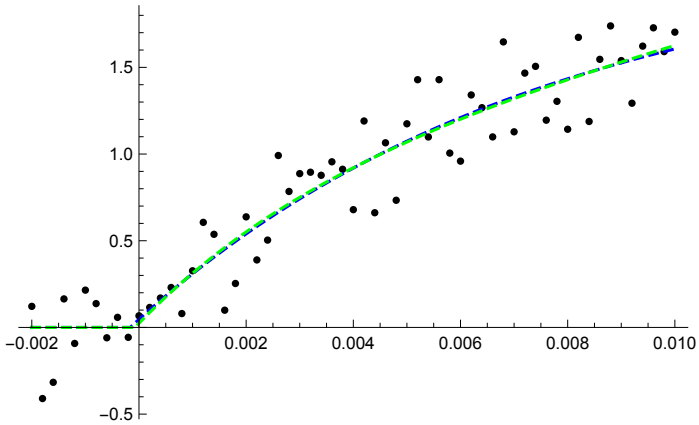
```
Mono: chi2 = 0.176724     d = 0.176724     a = 1.59647     t = 0.00367332
Bi: ratio chi2Mono/chi2Bi = 1.15278     d = 0.000645618
      a = 12.5949     a1 = 1.01432     t1 =0.0022178     t2 = 0.207765
-------------------------------------------------------------------------------------
  -------------------------
----------------     Ca = 6.20769
  uM         -------------------------------------------------------
-------------------------------------------------------------------------------------
  -------------------------
```





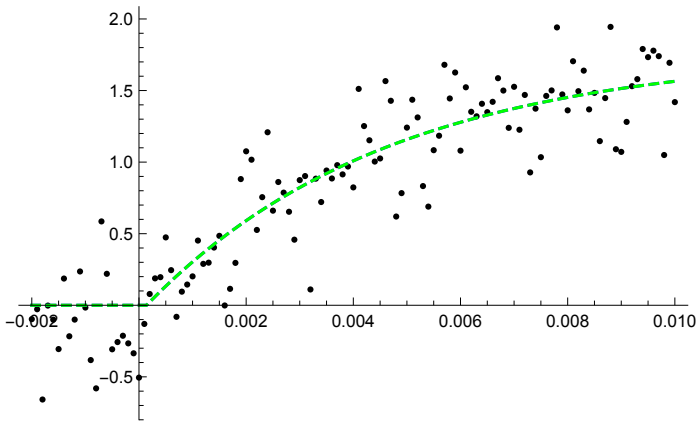

```
------------------------------------------------------------------------------ C5
take mono
take mono
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take mono
take mono
```

```
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take mono
take mono
```




```
Mono: chi2 = 2.17167     d = 2.17167     a = 2.17656     t = 0.00758864

Bi: ratio chi2Mono/chi2Bi = 1.00294     d = -0.0000740409
      a = 25.0237     a1 = 0.86481     t1 =0.00356689     t2 = 0.294318

------------------------------------------------------------------------- C10

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take bi

take mono

take mono

take mono

take mono

take mono

take mono

take mono
```

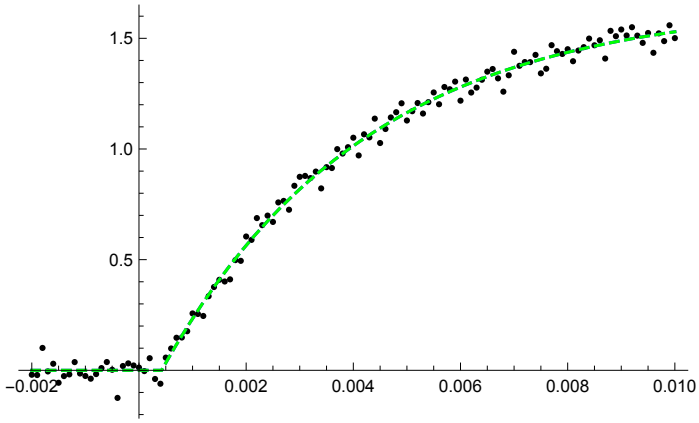
```
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```



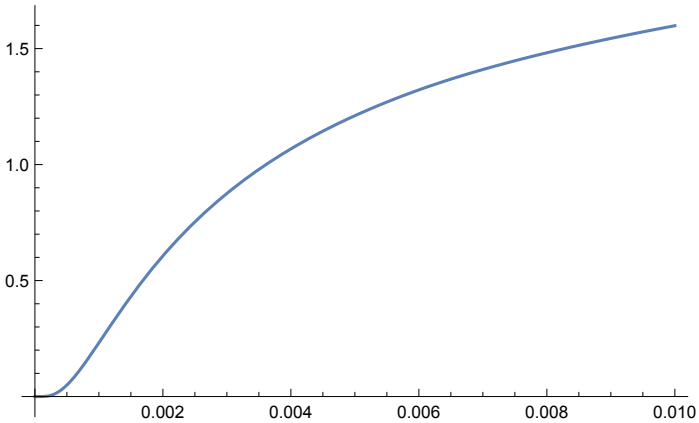

```
Mono: chi2 = 8.68334      d = 8.68334      a = 1.76865      t = 0.00456746
Bi: ratio chi2Mono/chi2Bi = 1.      d = 0.000141259      a =
 1.76865      a1 = 1.19338      t1 =0.00456746      t2 = 0.00456746
------------------------------------------------------------------------- D
take mono
take mono
```

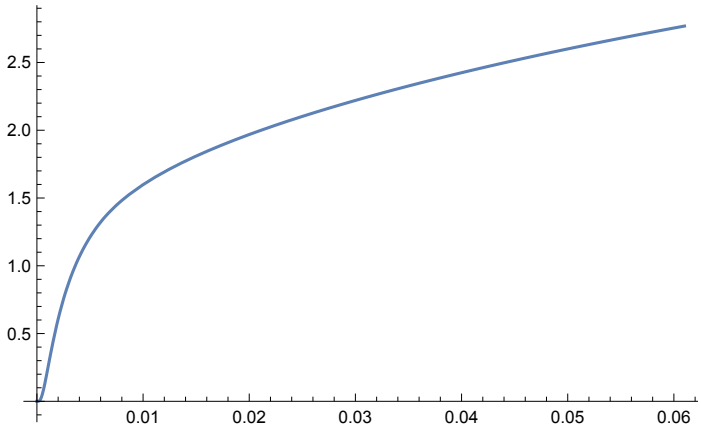
```
take bi
take mono
take bi
take mono
take bi
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take bi
take mono
take mono
take bi
take bi
take bi
take bi
take bi
take bi
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```

```
take mono
take mono
take bi
take mono
take bi
take mono
take mono
take mono
take mono
```




```
Mono: chi2 = 0.176639     d = 0.176639     a = 1.6638     t = 0.0038032
Bi: ratio chi2Mono/chi2Bi = 1.00001     d = 0.000423137     a =
 1.66026     a1 = 1.98851     t1 =0.00391843     t2 = 0.00464247
------------------------------------------------------------------------------------------
  -------------------------
----------------     Ca = 6.48003
  uM         -------------------------------------------------------
------------------------------------------------------------------------------------------
  -------------------------
```

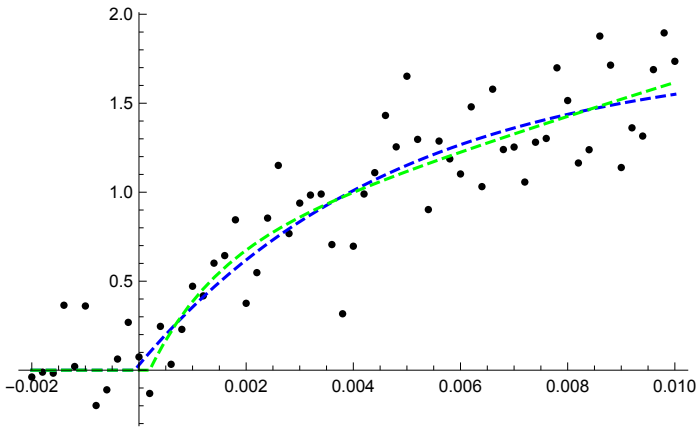




---------- C5

```
take mono
take mono
take mono
take bi
take mono
take mono
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take mono
take mono
take bi
take mono
take bi
take mono
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take mono
```

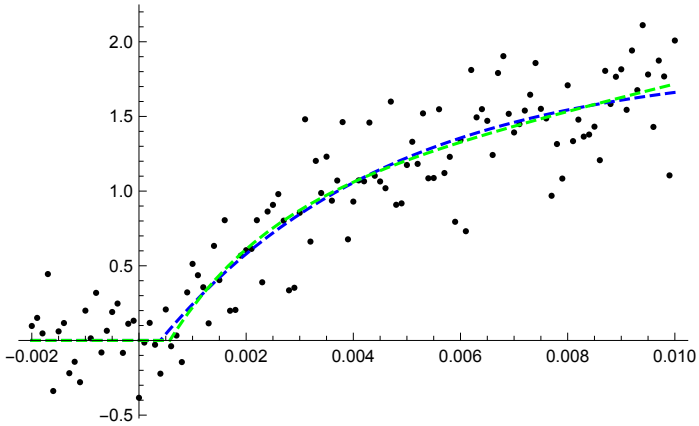
```
take bi
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```




```
Mono: chi2 = 3.14543     d = 3.14543     a = 1.76936     t = 0.00482783
Bi: ratio chi2Mono/chi2Bi = 1.03352     d = 0.0002     a =
 6.58013     a1 = 0.614001     t1 =0.00120502     t2 = 0.0532488
------------------------------------------------------------------------ C10
take mono
take mono
take mono
take mono
take mono
```

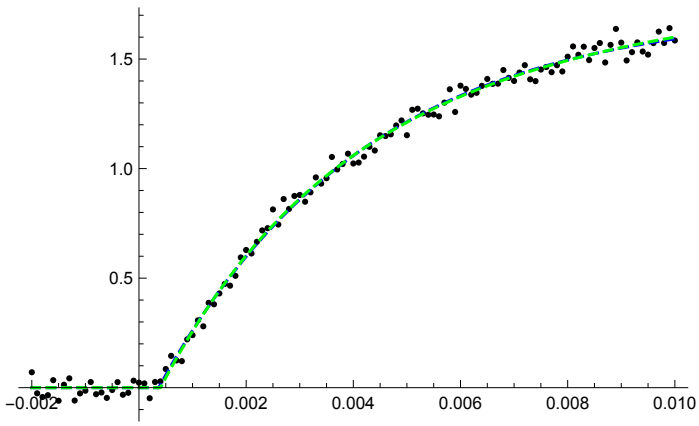
```
take mono
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take mono
```

```
take mono
take bi
take mono
take mono
take mono
take mono
```

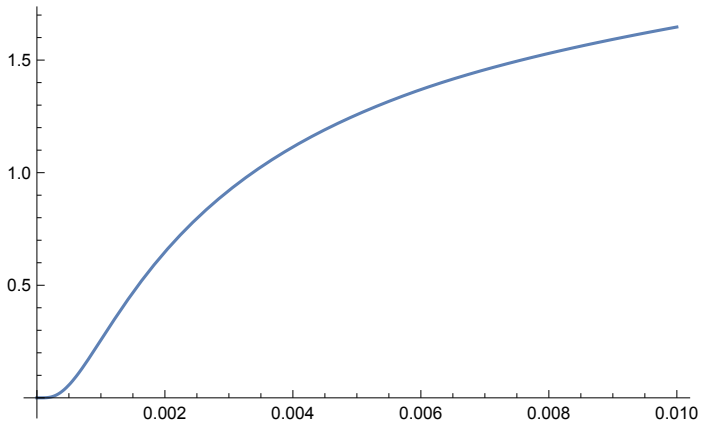


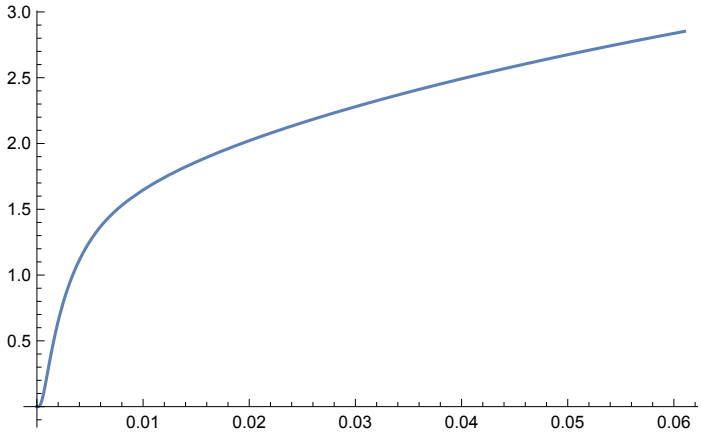

```
Mono: chi2 = 7.40991     d = 7.40991     a = 1.85857     t = 0.0042833
Bi: ratio chi2Mono/chi2Bi = 1.00732     d = 0.000576367
      a = 24.2985     a1 = 0.88766     t1 =0.0018128     t2 = 0.259551
------------------------------------------------------------------------ D
take bi
take mono
take bi
take bi
take mono
take bi
take mono
take mono
take mono
take bi
take bi
take bi
take mono
take mono
take bi
take bi
take bi
take mono
take bi
take mono
```

```
take bi
take mono
take mono
take bi
take mono
take bi
take bi
take bi
take bi
take bi
take mono
take mono
take bi
take mono
take mono
take bi
take mono
take bi
take mono
take mono
take mono
take mono
take bi
take mono
take mono
take bi
take mono
take mono
take mono
take mono
```



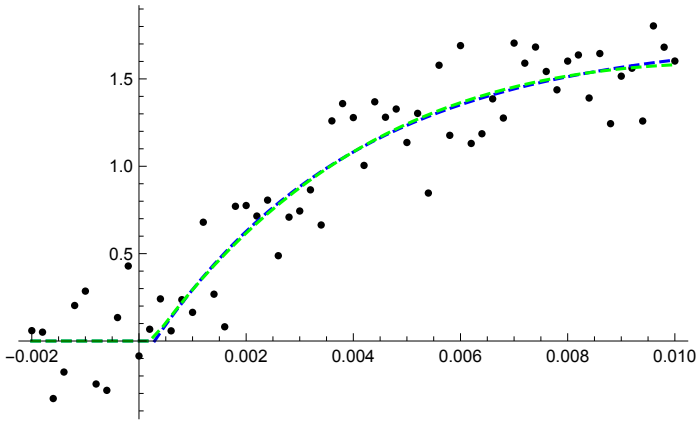
```
Mono: chi2 = 0.145786     d = 0.145786     a = 1.73404     t = 0.00384624
Bi: ratio chi2Mono/chi2Bi = 1.00478     d = 0.000400906     a =
 1.96143     a1 = 1.35975     t1 =0.00319906     t2 = 0.013391
-------------------------------------------------------------------------------------
  -------------------------
----------------     Ca = 6.76619
  uM         -------------------------------------------------------
-------------------------------------------------------------------------------------
  -------------------------
```





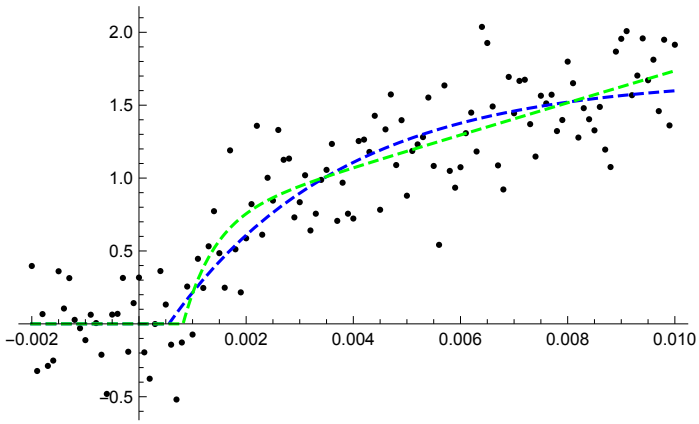

```
------------------------------------------------------------------------ C5
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take mono
```

```
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take mono
take bi
take mono
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```




```
Mono: chi2 = 2.55119     d = 2.55119     a = 1.74751     t = 0.0038423

Bi: ratio chi2Mono/chi2Bi = 1.00584     d = 0.000245752     a =
 0.520027     a1 = 5.98201     t1 =0.0071182     t2 = 0.0130083

------------------------------------------------------------------------ C10

take mono

take bi

take mono

take bi

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono
```

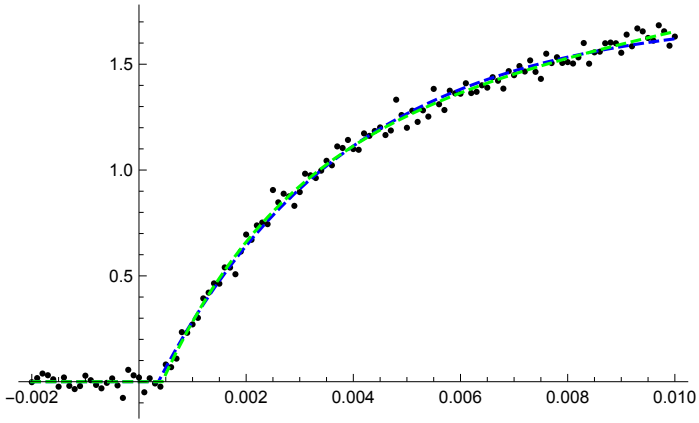
```
take mono
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take mono
```



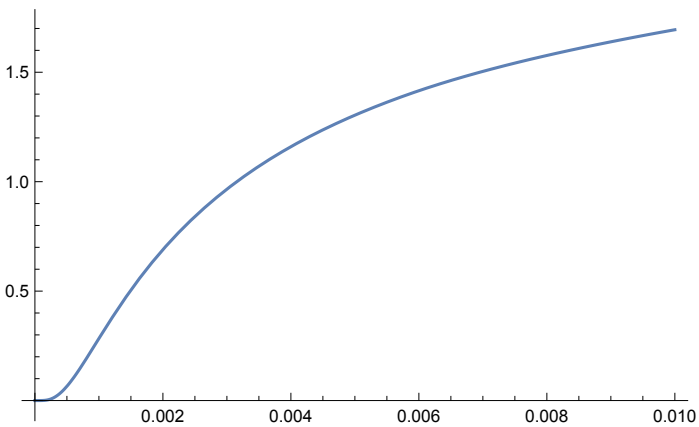

```
Mono: chi2 = 9.38136     d = 9.38136     a = 1.68933     t = 0.00322613
Bi: ratio chi2Mono/chi2Bi = 1.0836     d = 0.000823138     a =
 31.8013     a1 = 0.715769     t1 =0.000577715     t2 = 0.274981
------------------------------------------------------------------------- D
take bi
take mono
```

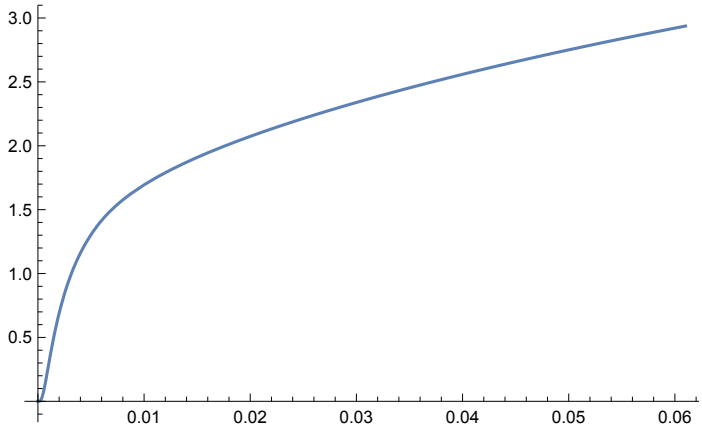
```
take bi
take mono
take bi
take bi
take bi
take mono
take mono
take bi
take mono
take bi
take bi
take mono
take mono
take mono
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take mono
take bi
take bi
take bi
take bi
take mono
take bi
take bi
take bi
```

```
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
```




```
Mono: chi2 = 0.161147     d = 0.161147     a = 1.73349     t = 0.00353538
Bi: ratio chi2Mono/chi2Bi = 1.15622     d = 0.000435636     a =
 8.02604     a1 = 1.18665     t1 =0.00234011     t2 = 0.129364
------------------------------------------------------------------------------------------
  --------------------------
----------------     Ca = 7.06711
  uM         -------------------------------------------------------
------------------------------------------------------------------------------------------
  --------------------------
```

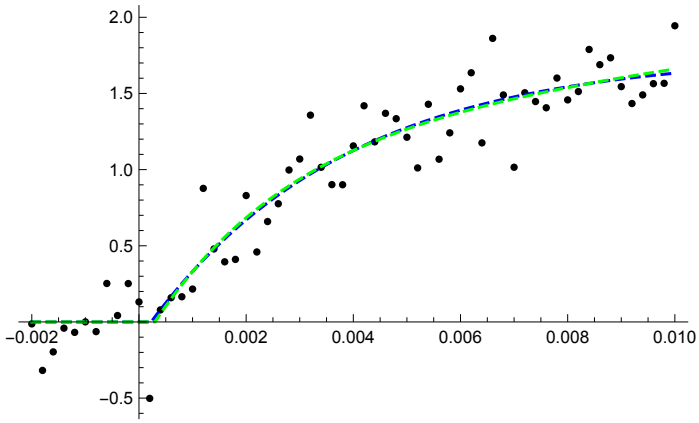




---------- C5

```
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take mono
take bi
take mono
take mono
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take mono
take mono
```

```
take bi
take bi
take mono
take mono
take mono
take bi
take mono
take mono
take bi
take bi
take mono
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take mono
take mono
take mono
```




```
Mono: chi2 = 2.28719     d = 2.28719     a = 1.7573     t = 0.00368791
Bi: ratio chi2Mono/chi2Bi = 1.00363     d = 0.000298069     a =
 13.6184     a1 = 1.26255     t1 =0.00258842     t2 = 0.275468
------------------------------------------------------------------------ C10
take mono
take mono
take bi
take mono
take mono
```

```
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```

take mono

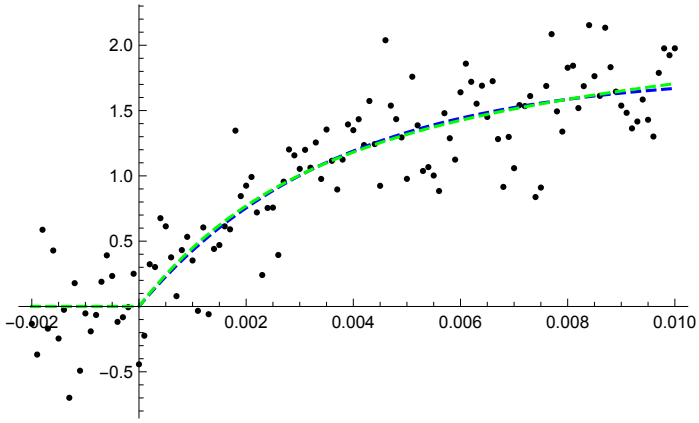
take mono

take mono

take mono

take mono

take mono



Mono: chi2 = 10.6107 d = 10.6107 a = 1.78322 t = 0.00363269

Bi: ratio chi2Mono/chi2Bi = 1.0024 d = 1.3633×10^{-17}

a = 2.54749 a1 = 1.1369 t1 =0.002503 t2 = 0.0184631

---------- D

take bi

take bi

take bi

take bi

take bi

take mono

take bi

take mono

take mono

take bi

take mono

take bi

take bi

take mono

take bi

take bi

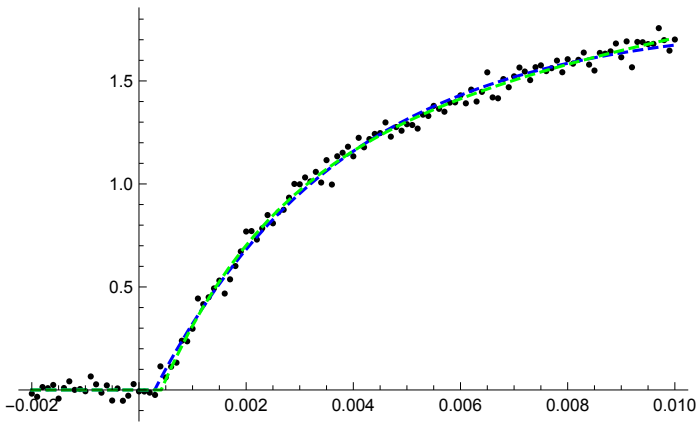
take bi

take bi

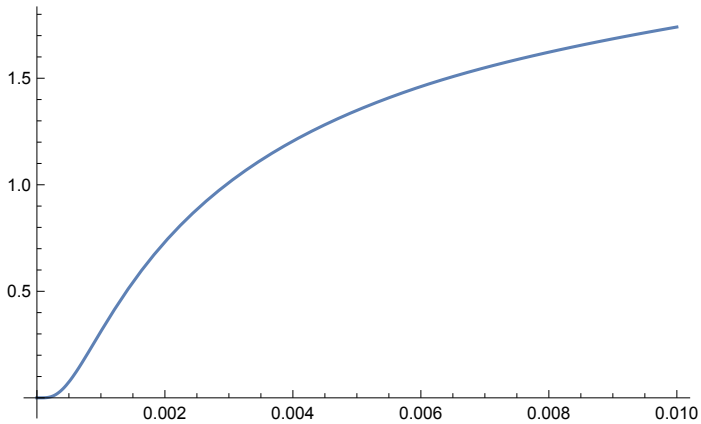
take bi

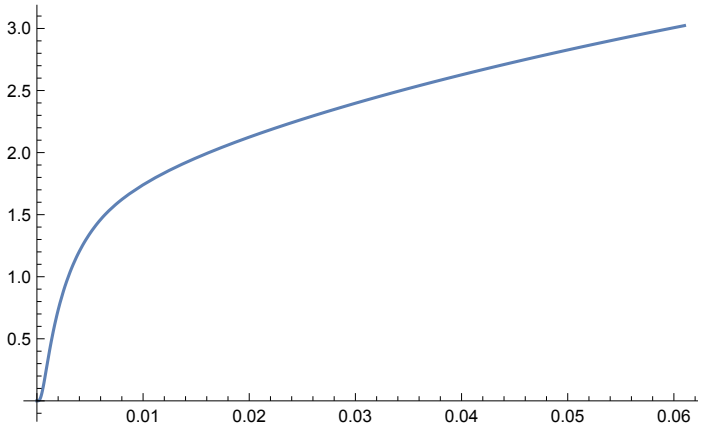
take bi

```
take bi
take bi
take bi
take bi
take mono
take bi
take bi
take mono
take bi
take bi
take bi
take bi
take mono
take bi
take bi
take mono
take mono
take bi
take bi
take bi
take bi
take mono
take bi
take bi
take mono
take bi
take mono
take bi
take bi
take bi
```



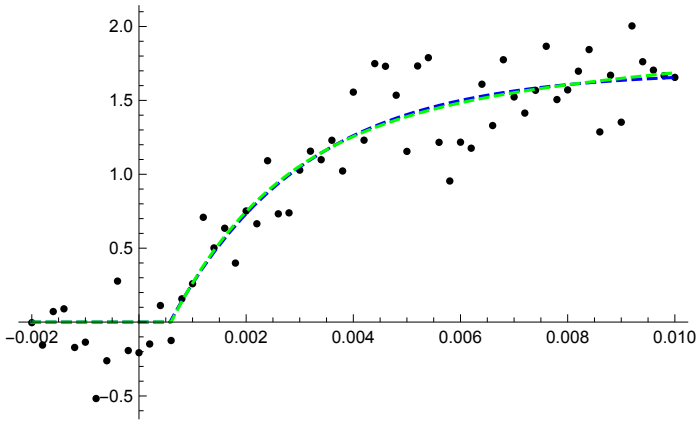
```
Mono: chi2 = 0.174847     d = 0.174847     a = 1.79116     t = 0.00355843
Bi: ratio chi2Mono/chi2Bi = 1.10579     d = 0.000414677     a =
 2.68517     a1 = 1.05739     t1 =0.00205911     t2 = 0.0184112
-------------------------------------------------------------------------------------
  -------------------------
----------------     Ca = 7.38317
  uM         -------------------------------------------------------
-------------------------------------------------------------------------------------
  -------------------------
```





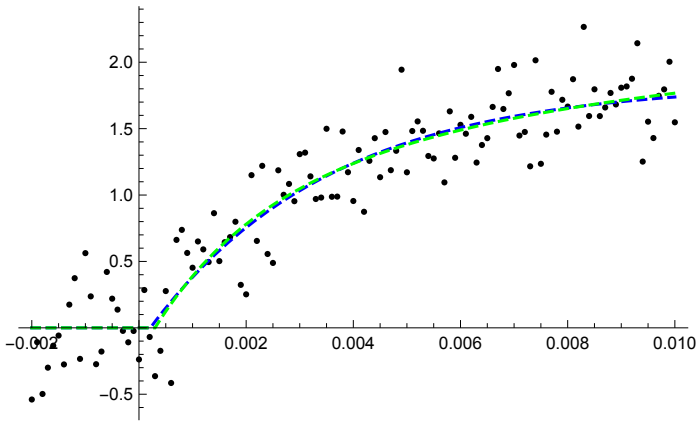

```
------------------------------------------------------------------------------ C5
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take mono
```

```
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take mono
take mono
```




```
Mono: chi2 = 2.90328     d = 2.90328     a = 1.69457     t = 0.00250604

Bi: ratio chi2Mono/chi2Bi = 1.00341     d = 0.0006     a =
 3.13202     a1 = 1.40427     t1 =0.00202438     t2 = 0.0500116

------------------------------------------------------------------------ C10

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono
```

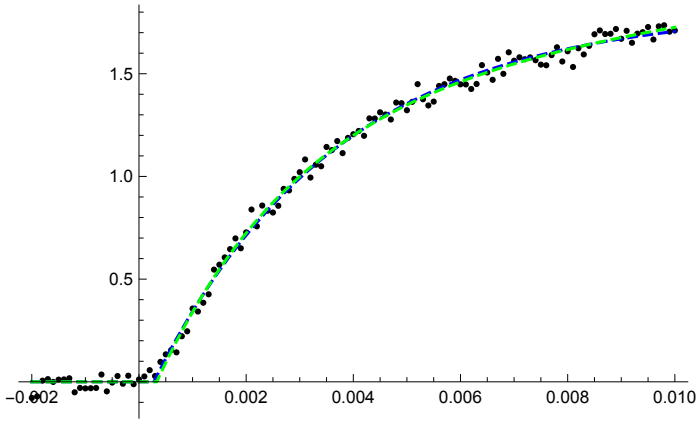
```
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```



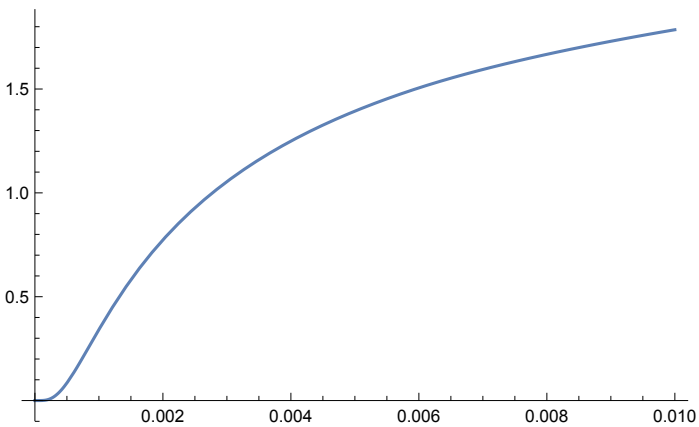

```
Mono: chi2 = 7.83127     d = 7.83127     a = 1.83967     t = 0.00337908
Bi: ratio chi2Mono/chi2Bi = 1.0073     d = 0.0003     a =
 2.17463     a1 = 0.917425     t1 =0.00183719     t2 = 0.00852407
------------------------------------------------------------------------ D
take bi
take mono
```

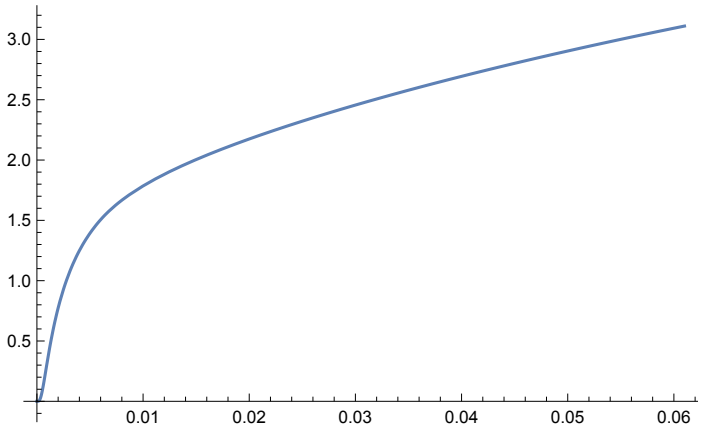
```
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take mono
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
```

```
take mono
take bi
take bi
take bi
take bi
take mono
take bi
take bi
take bi
```




```
Mono: chi2 = 0.156241     d = 0.156241     a = 1.81302     t = 0.00343431
Bi: ratio chi2Mono/chi2Bi = 1.04661     d = 0.000331138
      a = 6.33933     a1 = 1.4549     t1 =0.00271019     t2 = 0.146441
--------------------------------------------------------------------------------
  -------------------------
----------------     Ca = 7.71513
  uM          -------------------------------------------------------
--------------------------------------------------------------------------------
  -------------------------
```





---------- C5

```
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take mono
take mono
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take mono
take mono
take bi
take bi
take mono
take bi
take mono
```

take bi

take mono

take bi

take bi

take bi

take mono

take mono

take mono

take mono

take mono

take bi

take mono

take mono

take bi

take mono

take mono

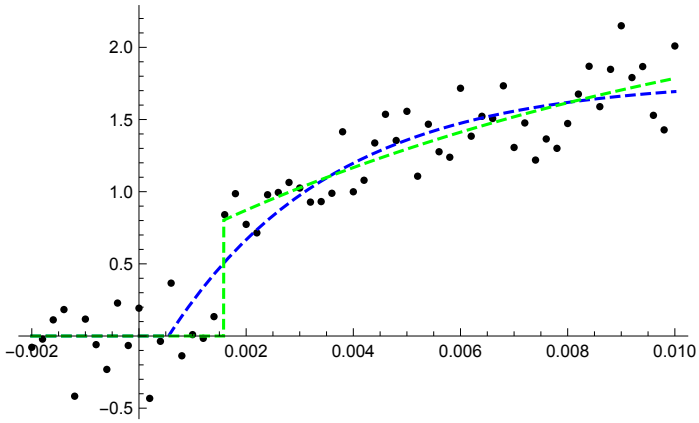
take mono

take mono

take mono

take mono

take bi



Mono: chi2 = 2.86462 d = 2.86462 a = 1.77529 t = 0.00307003

Bi: ratio chi2Mono/chi2Bi = 1.27006 d = 0.00158042 a = 2.61515 a1 = 0.802843 t1 = 2.01117×10^{-7} t2 = 0.0107826

---------- C10

take mono

take mono

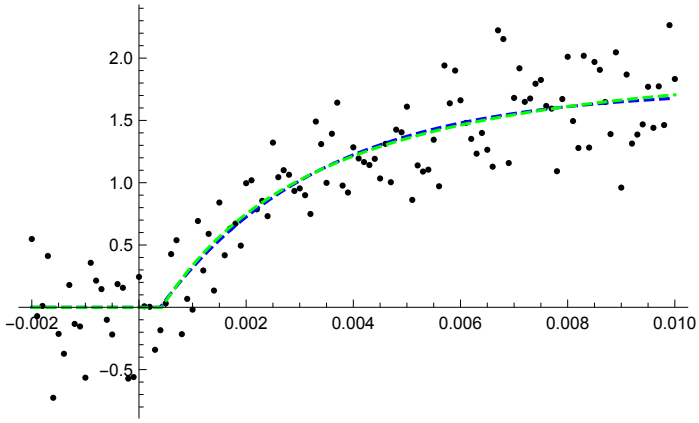
take mono

take mono

take mono

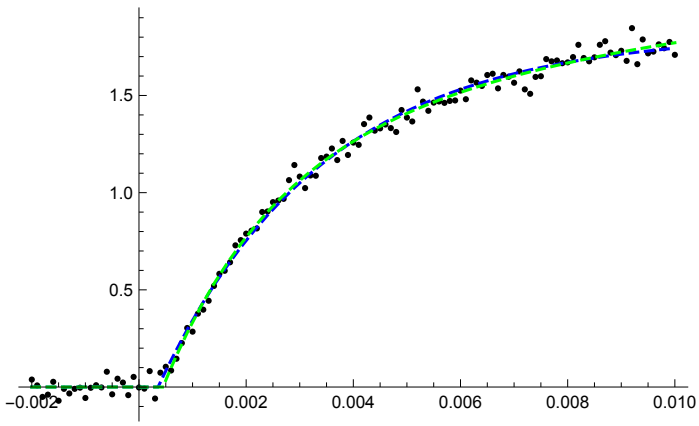
```
take mono
take mono
take mono
take mono
take bi
take mono
take mono
take bi
take mono
take mono
take bi
take mono
take mono
take mono
take mono
take mono
take bi
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take mono
```

```
take mono
take mono
take mono
take mono
take mono
take mono
```

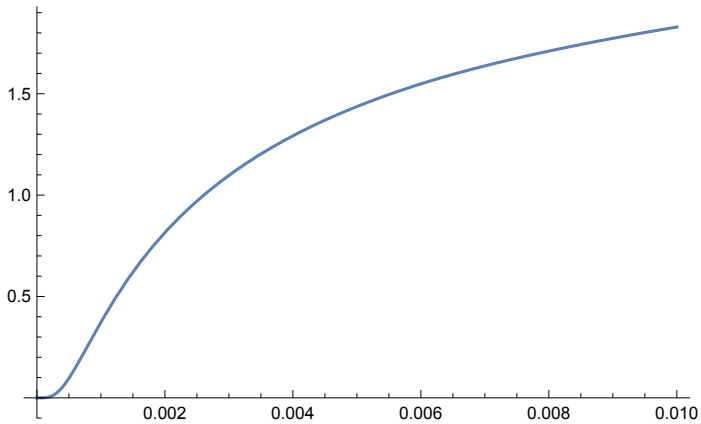


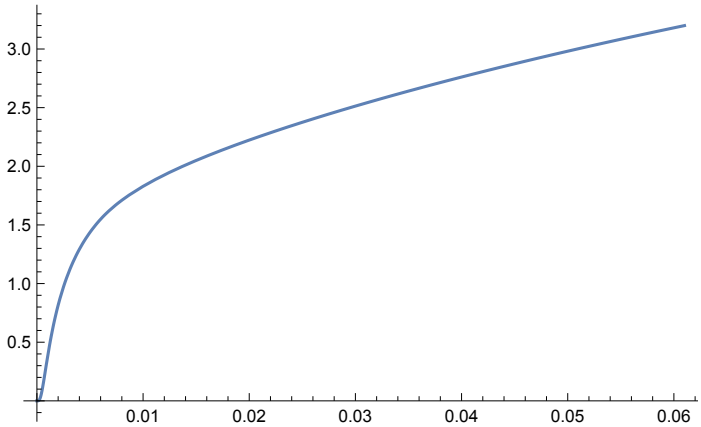

```
Mono: chi2 = 10.5293     d = 10.5293     a = 1.74803     t = 0.00299187
Bi: ratio chi2Mono/chi2Bi = 1.00244     d = 0.000428436     a =
 1.87777     a1 = 0.528426     t1 =0.00136036     t2 = 0.00464631
------------------------------------------------------------------------ D
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
```

```
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
```



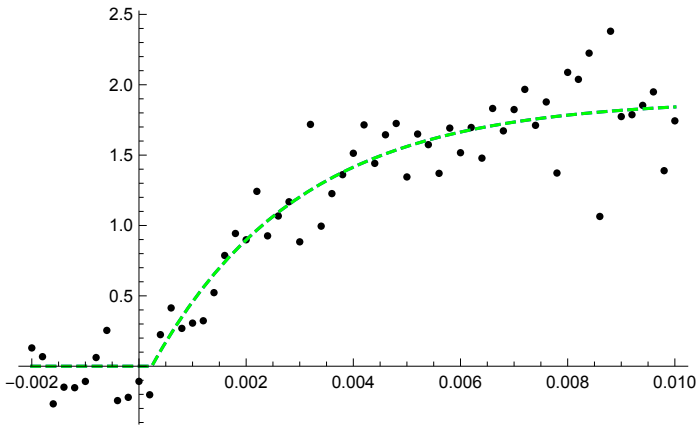
```
Mono: chi2 = 0.225539     d = 0.225539     a = 1.82245     t = 0.00307685
Bi: ratio chi2Mono/chi2Bi = 1.08216     d = 0.000449105     a =
 2.17548     a1 = 1.14152     t1 =0.00197056     t2 = 0.0099339
-------------------------------------------------------------------------------------
  -------------------------
----------------     Ca = 8.06387
  uM         -------------------------------------------------------
-------------------------------------------------------------------------------------
  -------------------------
```





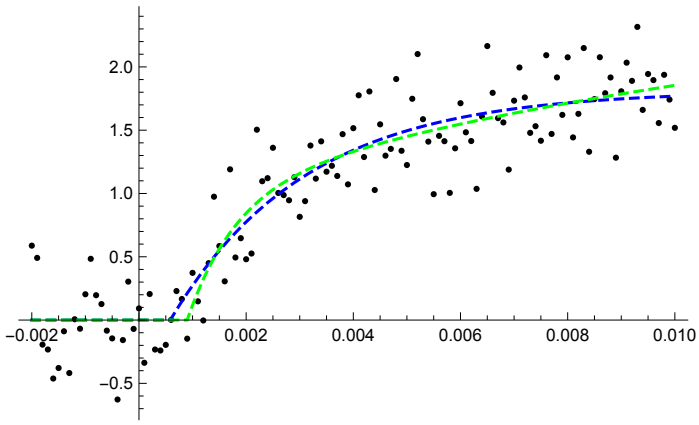

```
------------------------------------------------------------------------------ C5
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take mono
take mono
take mono
```

```
take mono
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take mono
take mono
take bi
take mono
take bi
take bi
take mono
take mono
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take mono
```




```
Mono: chi2 = 3.06909     d = 3.06909     a = 1.89619     t = 0.0027434

Bi: ratio chi2Mono/chi2Bi = 1.     d = 0.000239911     a =
 1.89619     a1 = 1.69607     t1 =0.0027434     t2 = 0.00274341

------------------------------------------------------------------------ C10

take mono

take mono

take mono

take mono

take mono

take mono

take bi

take mono

take mono

take mono

take bi

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take bi

take mono

take mono

take mono

take mono

take mono

take mono

take mono
```

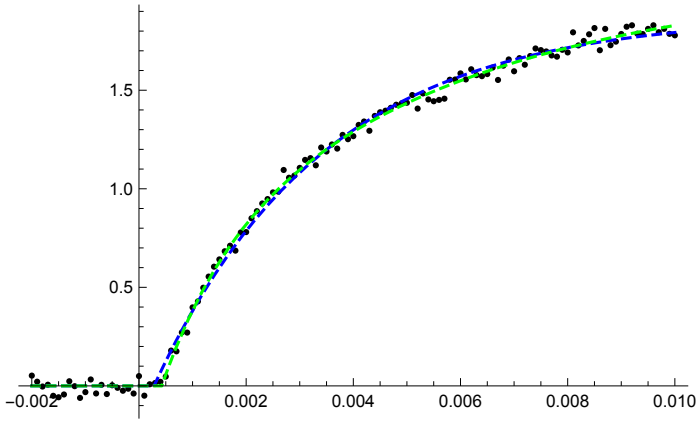
```
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```



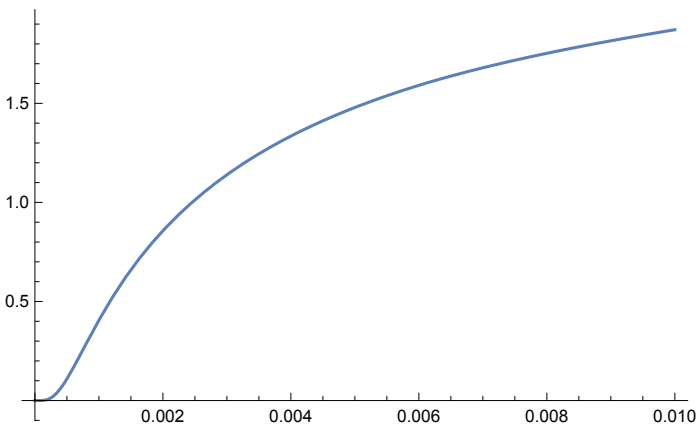

```
Mono: chi2 = 9.61264     d = 9.61264     a = 1.81283     t = 0.00253227
Bi: ratio chi2Mono/chi2Bi = 1.02171     d = 0.0009     a =
 2.7696     a1 = 1.01802     t1 =0.00091438     t2 = 0.0140254
------------------------------------------------------------------------ D
take bi
take bi
```

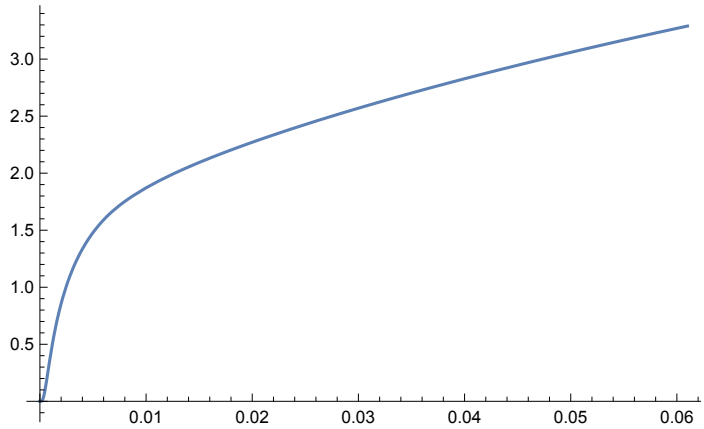
```
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
```

```
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
```




```
Mono: chi2 = 0.160802     d = 0.160802     a = 1.8807     t = 0.00317153
Bi: ratio chi2Mono/chi2Bi = 1.40355     d = 0.000425969     a =
 2.08269     a1 = 0.610085     t1 =0.00117601     t2 = 0.00544598
-------------------------------------------------------------------------------------
  -------------------------
----------------     Ca = 8.43035
  uM         -------------------------------------------------------
-------------------------------------------------------------------------------------
  -------------------------
```

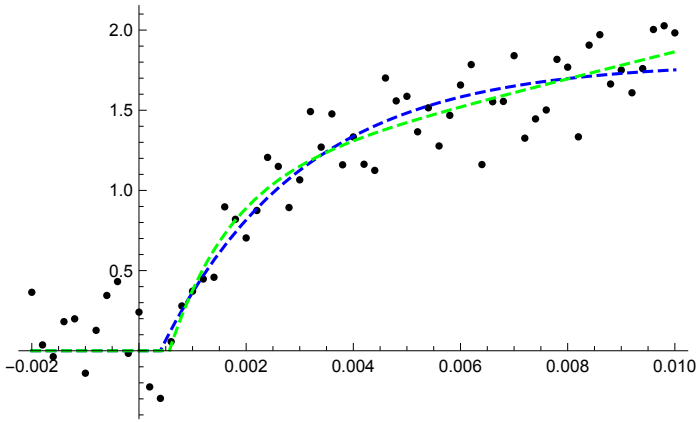




---------- C5

```
take mono
take bi
take mono
take mono
take mono
take mono
take mono
take bi
take mono
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take bi
take bi
take mono
take mono
take mono
take bi
take mono
take mono
```

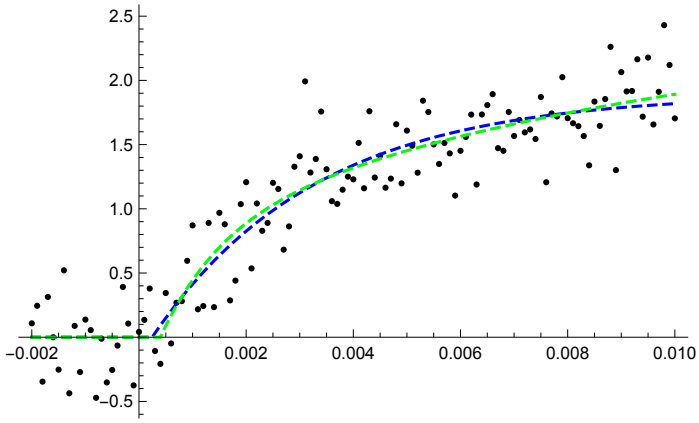
```
take mono
take bi
take mono
take mono
take bi
take mono
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take mono
take mono
take mono
```




```
Mono: chi2 = 2.41338     d = 2.41338     a = 1.79956     t = 0.00264687
Bi: ratio chi2Mono/chi2Bi = 1.08576     d = 0.000566848     a =
 41.9892     a1 = 1.06752     t1 =0.00112922     t2 = 0.479407
------------------------------------------------------------------------ C10
take mono
take mono
take mono
take mono
take mono
```

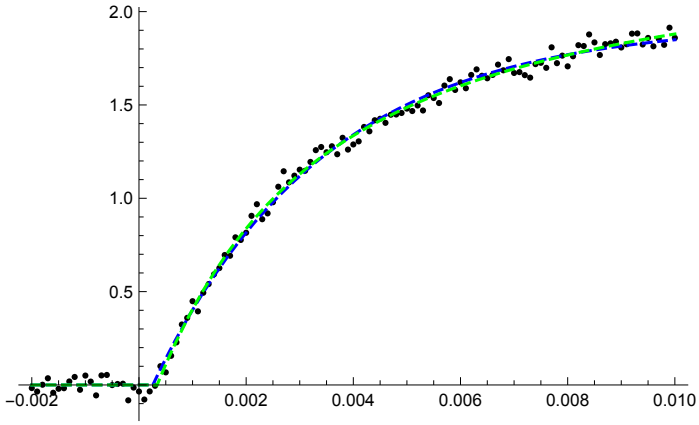
```
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```

```
take mono
take bi
take mono
take mono
take mono
take mono
```

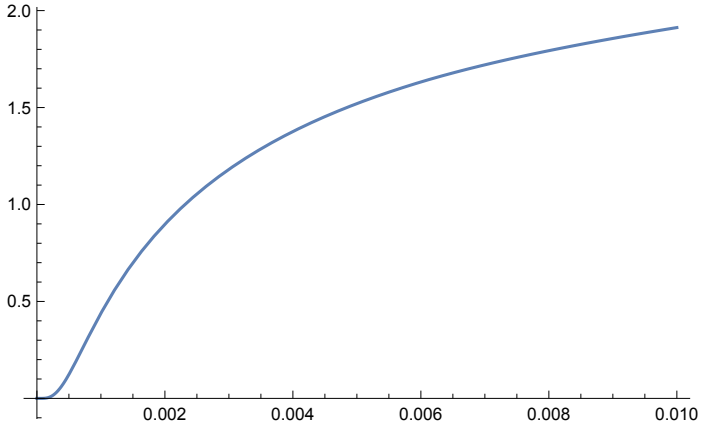


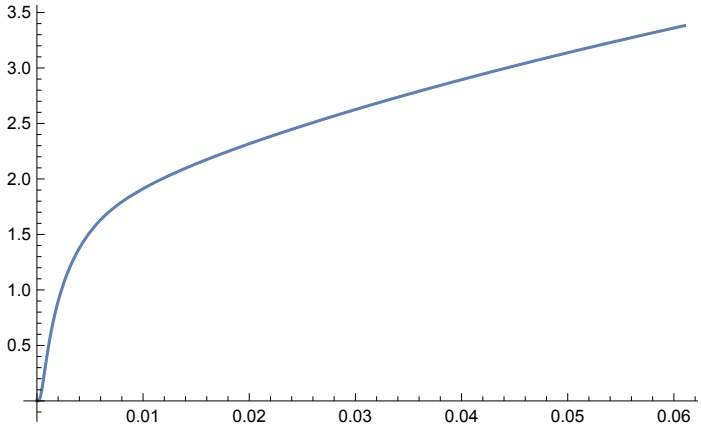

```
Mono: chi2 = 8.49524     d = 8.49524     a = 1.89739     t = 0.00306398
Bi: ratio chi2Mono/chi2Bi = 1.03699     d = 0.0004     a =
 2.53454     a1 = 0.828825     t1 =0.00111361     t2 = 0.00983822
------------------------------------------------------------------------ D
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
```

```
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
```



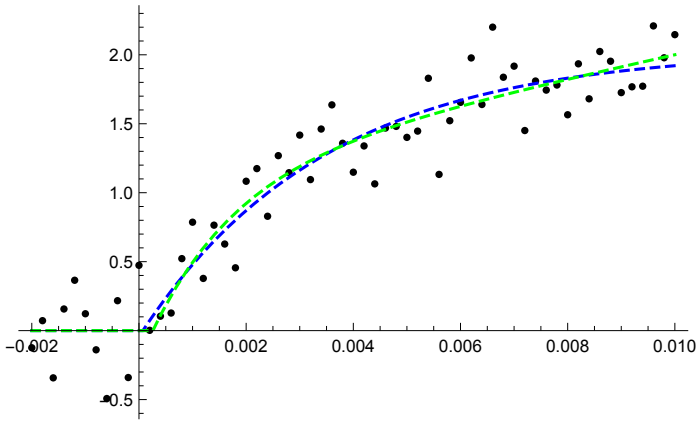
```
Mono: chi2 = 0.182911     d = 0.182911     a = 1.94043     t = 0.00318716
Bi: ratio chi2Mono/chi2Bi = 1.15527     d = 0.000339899     a =
 2.1936     a1 = 0.939011     t1 =0.00177599     t2 = 0.00690285
-------------------------------------------------------------------------------------
  -------------------------
----------------     Ca = 8.8155
  uM         -------------------------------------------------------
-------------------------------------------------------------------------------------
  -------------------------
```





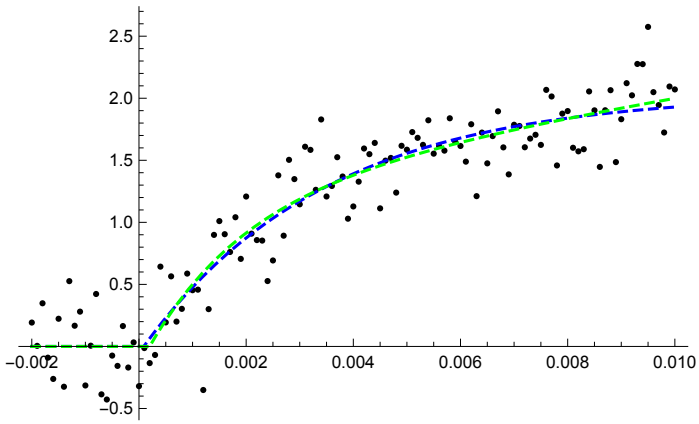

```
------------------------------------------------------------------------ C5
take bi
take bi
take mono
take mono
take bi
take mono
take mono
take mono
take mono
take mono
take mono
```

```
take mono
take mono
take mono
take mono
take mono
take bi
take bi
take mono
take mono
take mono
take mono
take bi
take bi
take bi
take mono
take bi
take mono
take bi
take bi
take mono
take mono
take mono
take bi
take mono
take mono
take bi
take mono
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```




```
Mono: chi2 = 3.05758     d = 3.05758     a = 2.03546     t = 0.00345172
Bi: ratio chi2Mono/chi2Bi = 1.02544     d = 0.000260806
      a = 18.9845     a1 = 1.14574     t1 =0.0015727     t2 = 0.197878
------------------------------------------------------------------------ C10
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take bi
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take mono
```

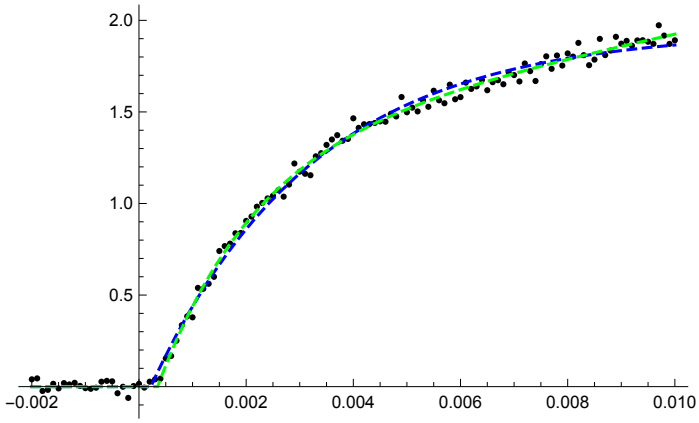
```
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take bi
take mono
take mono
take bi
take mono
take mono
take mono
take mono
```



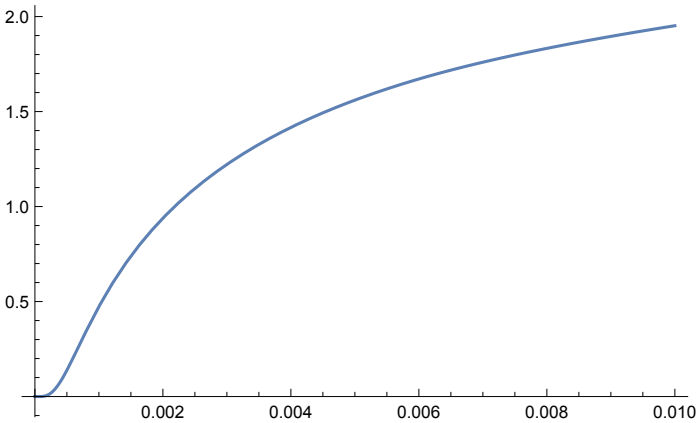

```
Mono: chi2 = 7.68711     d = 7.68711     a = 2.04099     t = 0.00341417
Bi: ratio chi2Mono/chi2Bi = 1.02248     d = 0.0002     a =
 4.45184     a1 = 1.14916     t1 =0.00175148     t2 = 0.0327526
------------------------------------------------------------------------- D
take bi
take bi
```

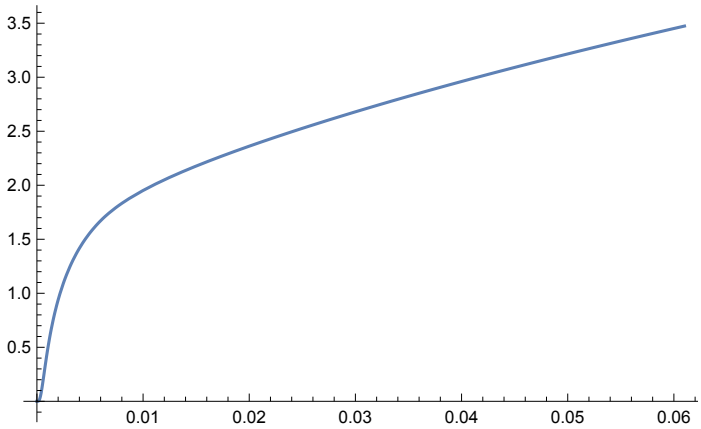
```
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
```

```
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
```




```
Mono: chi2 = 0.205301     d = 0.205301     a = 1.94335     t = 0.0030421
Bi: ratio chi2Mono/chi2Bi = 1.52001     d = 0.000348178     a =
 13.8693     a1 = 1.31601     t1 =0.00181268     t2 = 0.192118
-------------------------------------------------------------------------------------
  -------------------------
----------------     Ca = 9.22041
  uM          -------------------------------------------------------
-------------------------------------------------------------------------------------
  -------------------------
```

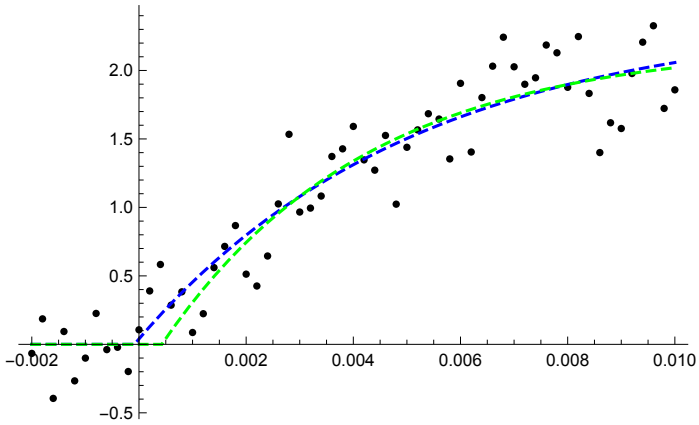




---------- C5

```
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take bi
take mono
take bi
take mono
take mono
```

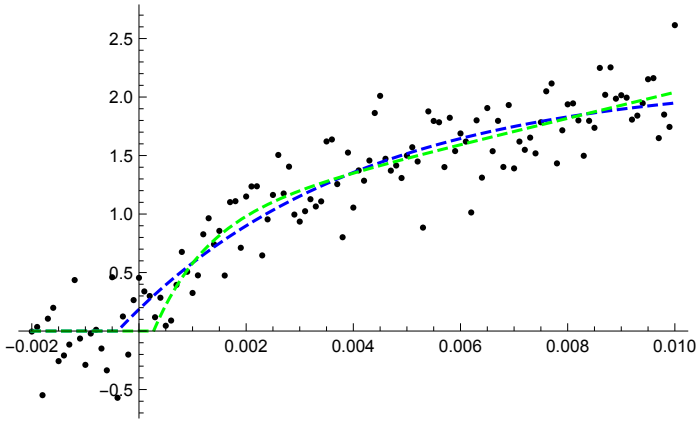
```
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```




```
Mono: chi2 = 3.60879     d = 3.60879     a = 2.39583     t = 0.00515008
Bi: ratio chi2Mono/chi2Bi = 0.96563     d = 0.000427734     a =
 2.19696     a1 = 1.13129     t1 =0.00380024     t2 = 0.00380024
------------------------------------------------------------------------ C10
take mono
take bi
take bi
take mono
take mono
```

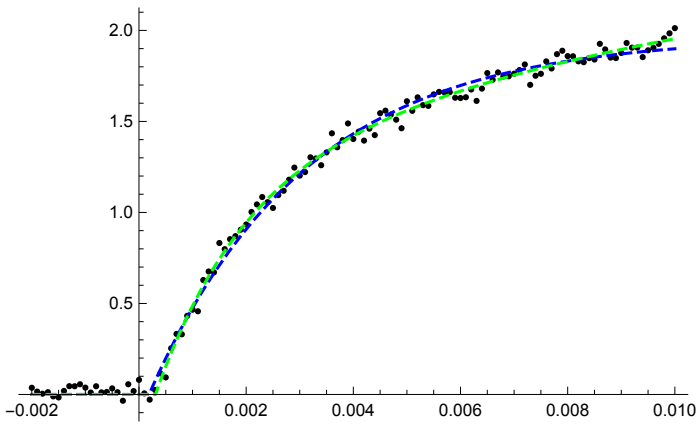
```
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take bi
take bi
take mono
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```

```
take mono
take mono
take mono
take mono
take bi
take mono
```

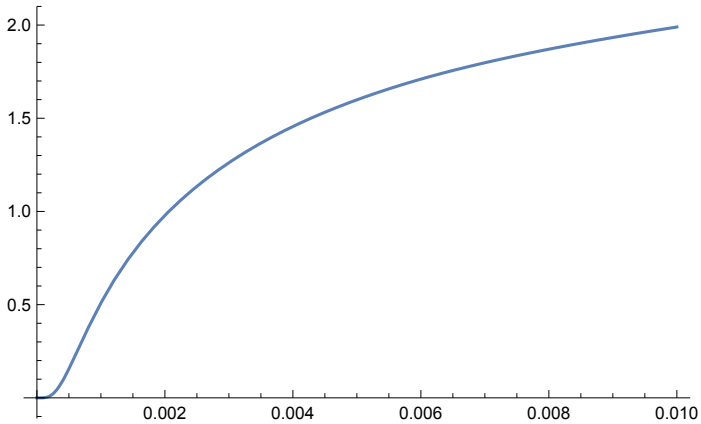


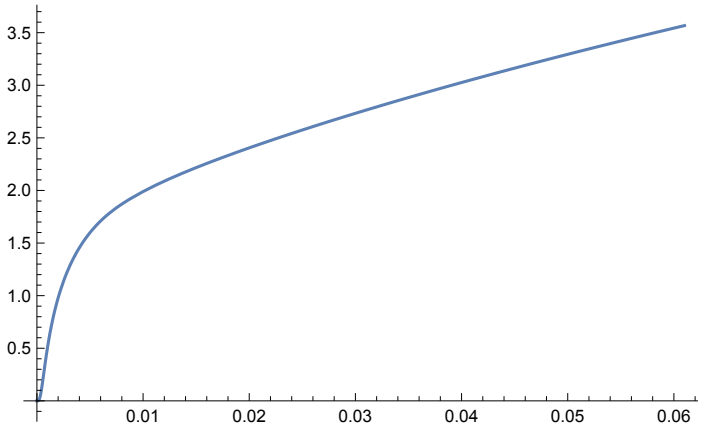

```
Mono: chi2 = 7.79221     d = 7.79221     a = 2.15642     t = 0.00444499
Bi: ratio chi2Mono/chi2Bi = 1.01545     d = 0.000273395     a =
 46.6411     a1 = 0.949057     t1 =0.000981202     t2 = 0.402274
------------------------------------------------------------------------ D
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
```

```
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
```



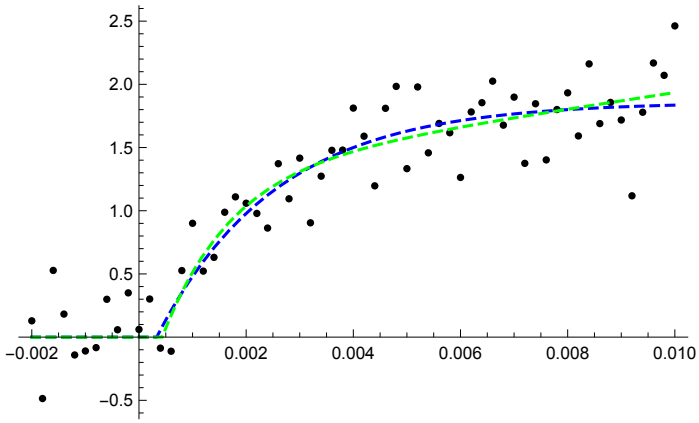
```
Mono: chi2 = 0.244123     d = 0.244123     a = 1.96818     t = 0.00292944
Bi: ratio chi2Mono/chi2Bi = 1.40779     d = 0.000308127     a =
 2.58429     a1 = 1.13185     t1 =0.00156832     t2 = 0.0115562
-------------------------------------------------------------------------------------
  -------------------------
----------------     Ca = 9.64607
  uM         -------------------------------------------------------
-------------------------------------------------------------------------------------
  -------------------------
```





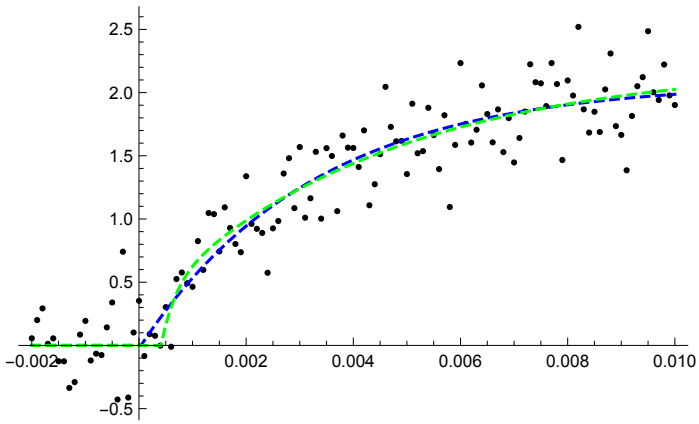

```
------------------------------------------------------------------------------ C5
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take mono
take bi
take mono
take mono
```

```
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take mono
take bi
take mono
take mono
take mono
take mono
take bi
take mono
take bi
take mono
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take bi
take mono
take mono
take mono
take bi
take mono
take mono
```




```
Mono: chi2 = 4.28079     d = 4.28079     a = 1.86     t = 0.00223329

Bi: ratio chi2Mono/chi2Bi = 1.02784     d = 0.000434789
      a = 21.807     a1 = 1.30936     t1 =0.00125497     t2 = 0.308387

------------------------------------------------------------------------ C10

take mono

take bi

take bi

take mono

take mono

take bi

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take mono
```

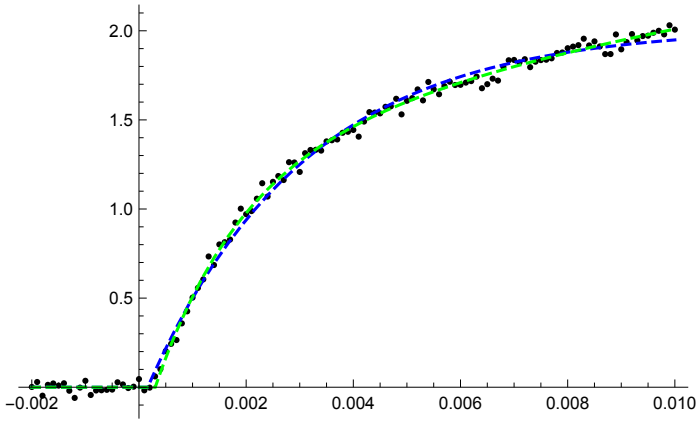
```
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take mono
take mono
```



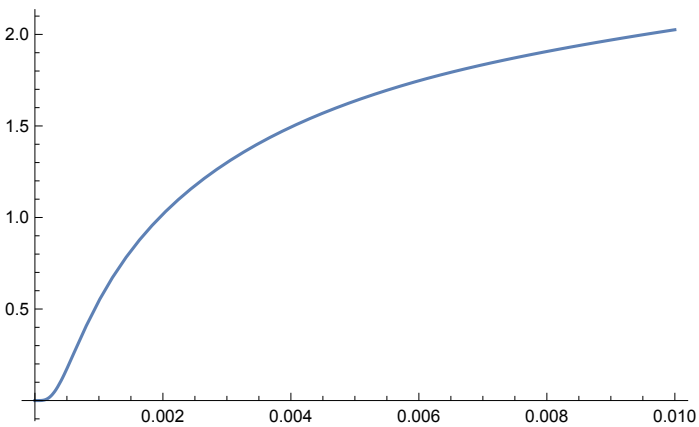

```
Mono: chi2 = 7.53415     d = 7.53415     a = 2.08319     t = 0.00324733
Bi: ratio chi2Mono/chi2Bi = 1.0252     d = 0.000414899     a =
 2.22817     a1 = 0.454559     t1 =0.000265775     t2 = 0.00442129
------------------------------------------------------------------------- D
take bi
take bi
```

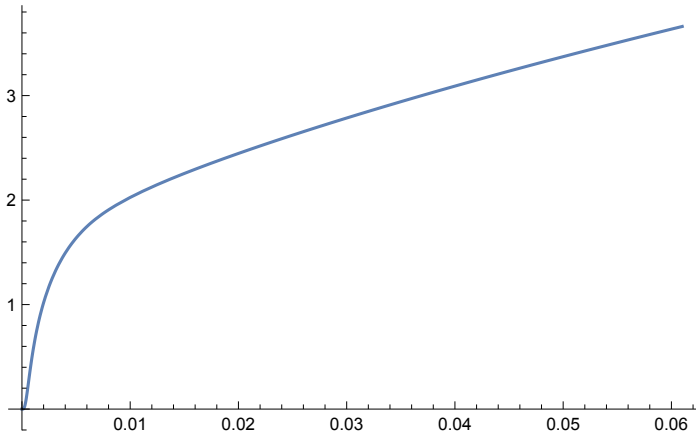
```
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
```

```
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
```




```
Mono: chi2 = 0.192497     d = 0.192497     a = 2.01965     t = 0.0029367
Bi: ratio chi2Mono/chi2Bi = 1.71455     d = 0.000303632     a =
 2.94671     a1 = 1.21937     t1 =0.00158038     t2 = 0.0157892
------------------------------------------------------------------------------------------
  -------------------------
----------------     Ca = 10.0938
  uM         -------------------------------------------------------
------------------------------------------------------------------------------------------
  -------------------------
```

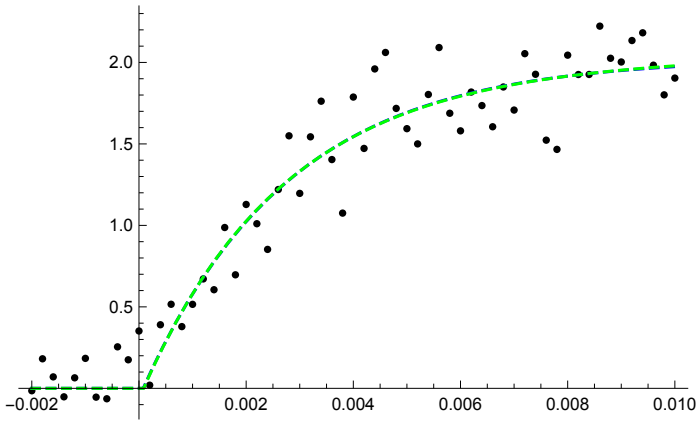




---------- C5

```
take mono
take mono
take mono
take bi
take bi
take mono
take mono
take bi
take bi
take bi
take bi
take mono
take mono
take bi
take mono
take mono
take bi
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```

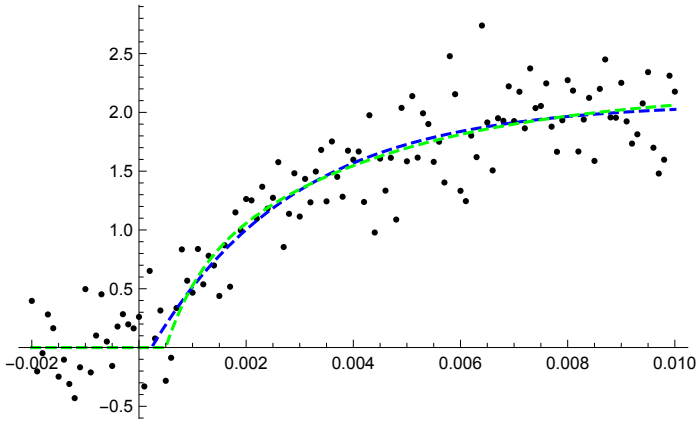
```
take bi
take mono
take mono
take mono
take mono
take mono
take bi
take bi
take mono
take bi
take bi
take mono
take mono
take bi
take mono
take mono
take mono
take bi
take mono
take mono
take bi
take mono
```




```
Mono: chi2 = 2.29673     d = 2.29673     a = 2.0278     t = 0.00273003
Bi: ratio chi2Mono/chi2Bi = 1.00012     d = 0.0000873246     a =
 5.52673     a1 = 1.97072     t1 =0.00264133     t2 = 0.638771
------------------------------------------------------------------------ C10
take mono
take mono
take bi
take mono
```

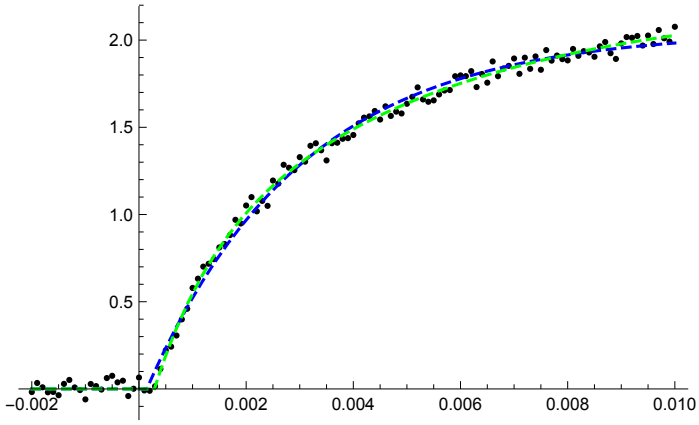
```
take mono
take bi
take mono
take bi
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take bi
take mono
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take mono
```

```
take mono
take mono
take mono
take bi
take mono
take mono
take mono
```




```
Mono: chi2 = 9.96713     d = 9.96713     a = 2.07974     t = 0.00267963
Bi: ratio chi2Mono/chi2Bi = 1.00876     d = 0.0005     a =
 2.19872     a1 = 0.584965     t1 =0.000600607     t2 = 0.00385021
------------------------------------------------------------------------ D
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
```

```
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
```

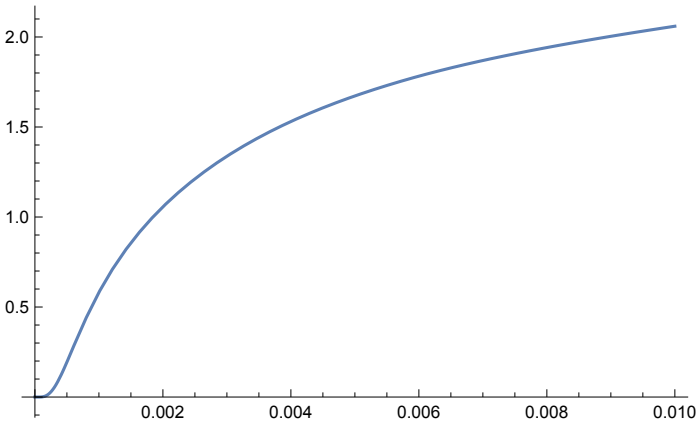


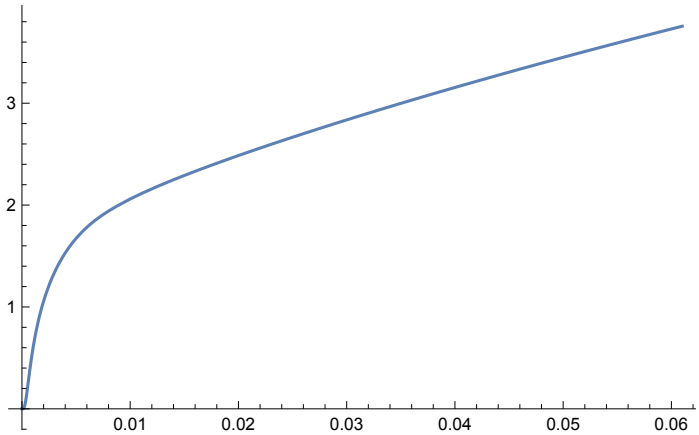
Mono: chi2 = 0.238096 d = 0.238096 a = 2.0517 t = 0.00290025

Bi: ratio chi2Mono/chi2Bi = 1.49366 d = 0.000288609 a = 2.24318 a1 = 0.680294 t1 =0.00104152 t2 = 0.00491062

--- Ca = 10.5647

uM ---





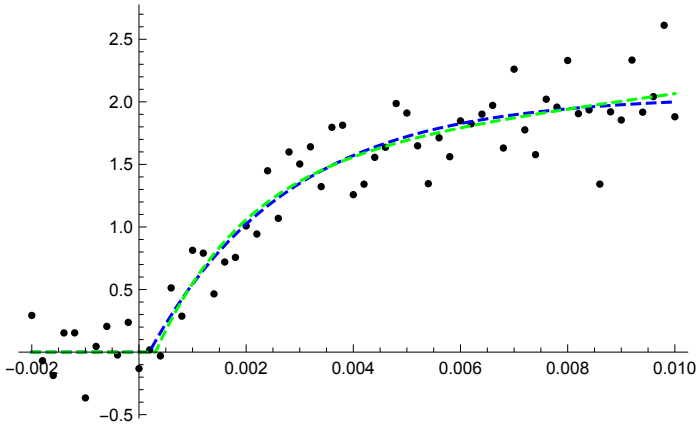
--- C5

take mono

take mono

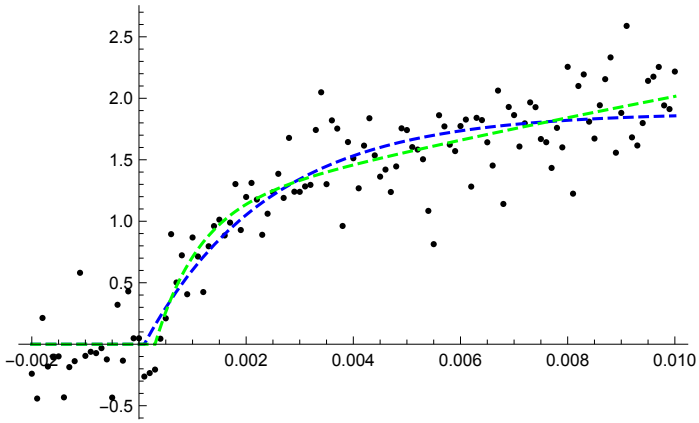
```
take mono
take bi
take mono
take mono
take bi
take bi
take mono
take bi
take mono
take bi
take bi
take bi
take mono
take bi
take bi
take bi
take mono
take bi
take mono
take mono
take mono
take bi
take mono
take mono
take bi
take bi
take bi
take mono
take mono
take mono
take bi
take bi
take bi
take mono
take bi
take mono
take bi
take mono
take mono
```

```
take mono
take bi
take bi
take mono
take bi
take bi
take mono
take bi
take mono
```



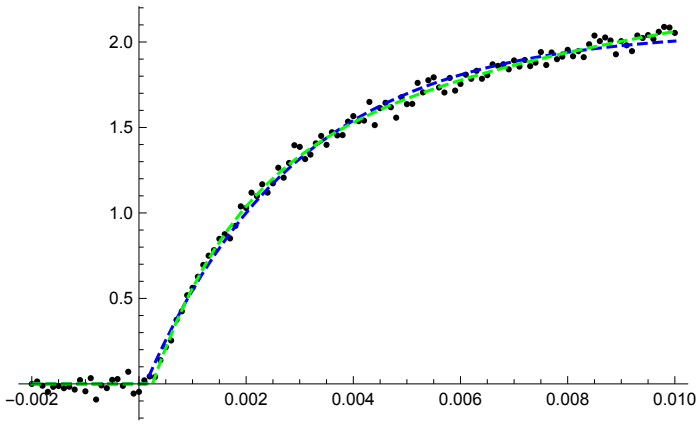

```
Mono: chi2 = 3.23086     d = 3.23086     a = 2.04667     t = 0.00260654
Bi: ratio chi2Mono/chi2Bi = 1.01728     d = 0.000308713     a =
 24.2247     a1 = 1.51728     t1 =0.00168623     t2 = 0.393213
------------------------------------------------------------------------ C10
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take mono
```

```
take mono
take mono
take bi
take mono
take mono
take mono
take mono
take bi
take mono
take mono
take bi
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take bi
```



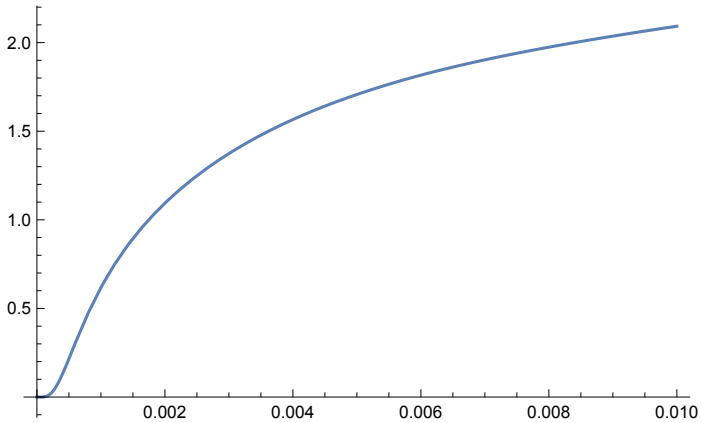

```
Mono: chi2 = 9.11757     d = 9.11757     a = 1.88385     t = 0.00232333

Bi: ratio chi2Mono/chi2Bi = 1.10157     d = 0.0003     a =
 5.38576     a1 = 1.08799     t1 =0.000799627     t2 = 0.0399066

------------------------------------------------------------------------ D

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi
```

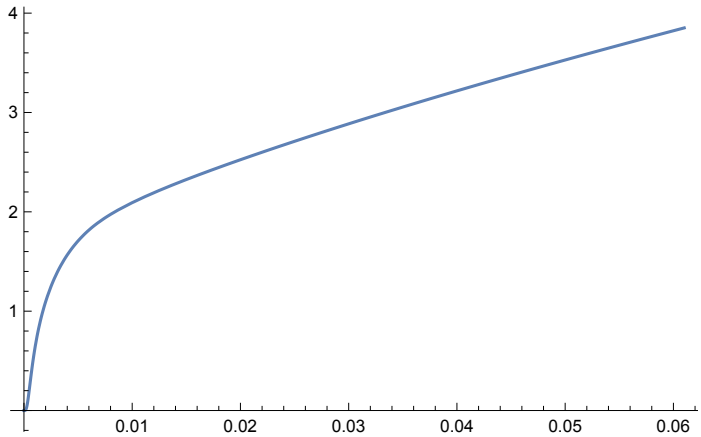
```
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
```




```
Mono: chi2 = 0.229218     d = 0.229218     a = 2.06927     t = 0.0028391
Bi: ratio chi2Mono/chi2Bi = 1.50474     d = 0.00025304     a =
 2.67057     a1 = 1.23679     t1 =0.00155953     t2 = 0.0113231
-------------------------------------------------------------------------------------
  --------------------------
```

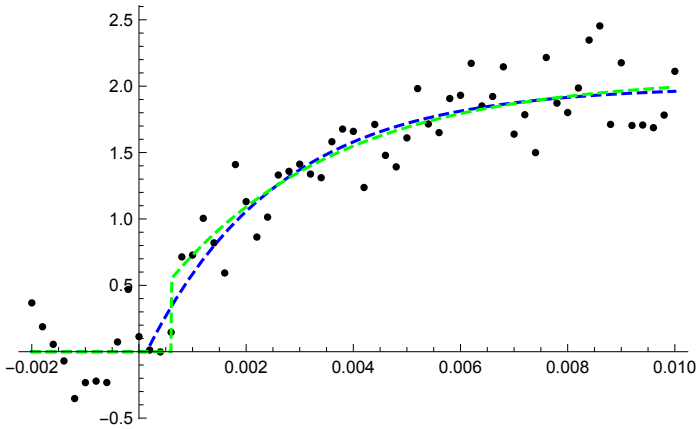
```
----------------     Ca = 11.0598
  uM          -------------------------------------------------------
-------------------------------------------------------------------------------------------
  --------------------------
```






```
------------------------------------------------------------------------------- C5
take bi
take bi
take mono
take mono
take bi
take mono
take mono
take bi
take mono
take mono
take mono
take mono
take mono
take bi
take bi
take mono
```

```
take mono
take bi
take mono
take bi
take mono
take bi
take bi
take bi
take bi
take bi
take mono
take mono
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take bi
take mono
take bi
take bi
take mono
take mono
take mono
take mono
take bi
```



Mono: chi2 = 3.13407 d = 3.13407 a = 1.99787 t = 0.00246238

Bi: ratio chi2Mono/chi2Bi = 1.06201 d = 0.000598136 a = 2.07235 a1 = 0.546693 t1 = 6.02922×10^{-6} t2 = 0.00317951

---------- C10

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take bi

take mono

take mono

take mono

take mono

take bi

take mono

take bi

take mono

take mono

take mono

take bi

take mono

take mono

take mono

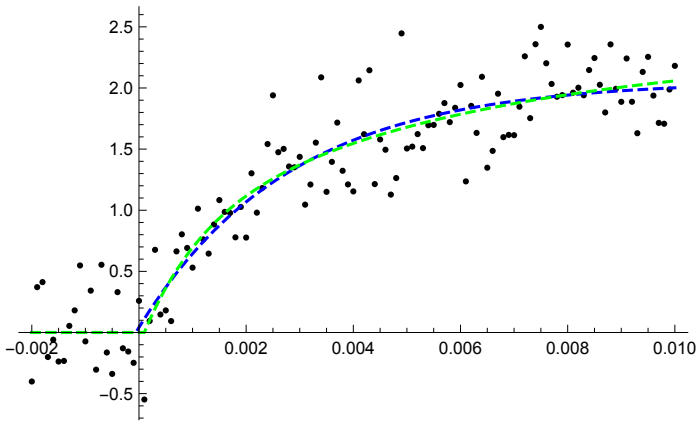
take mono

take mono

take bi

take bi

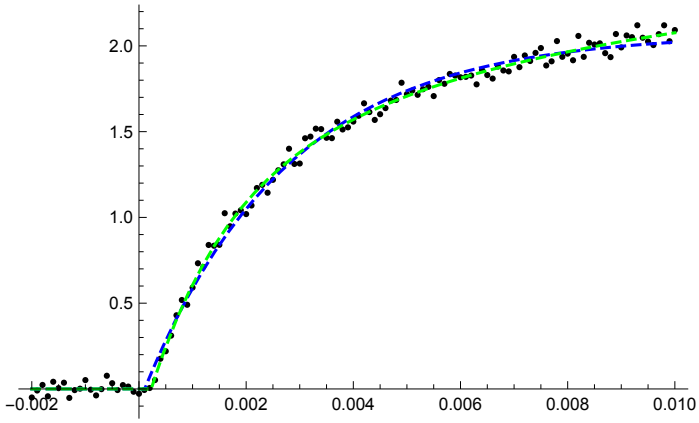
```
take mono
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take bi
take bi
take mono
take mono
take mono
take mono
take mono
take bi
take mono
```



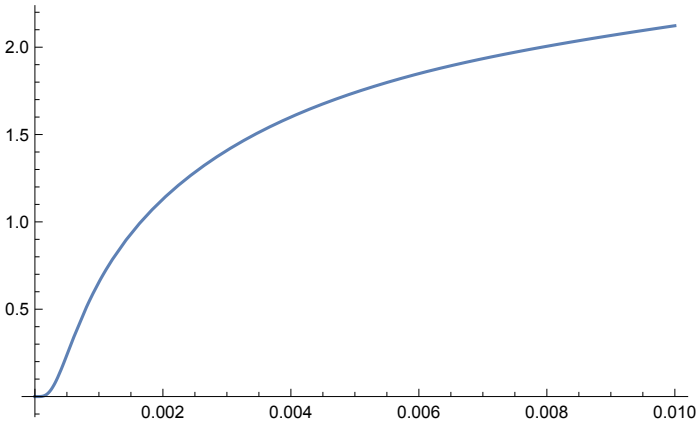

```
Mono: chi2 = 9.78588     d = 9.78588     a = 2.05879     t = 0.00280924
Bi: ratio chi2Mono/chi2Bi = 1.02949     d = 0.0001     a =
 2.33968     a1 = 0.857766     t1 =0.00106975     t2 = 0.00596228
------------------------------------------------------------------------ D
take bi
take bi
```

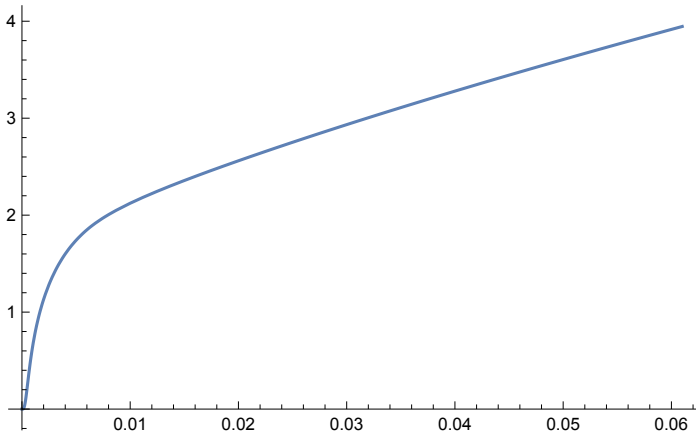
```
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
```

```
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
```




```
Mono: chi2 = 0.274289     d = 0.274289     a = 2.07301     t = 0.00268082
Bi: ratio chi2Mono/chi2Bi = 1.44387     d = 0.00022914     a =
 2.44093     a1 = 1.15016     t1 =0.00140617     t2 = 0.00770916
-------------------------------------------------------------------------------------
  -------------------------
----------------     Ca = 11.5813
  uM         -------------------------------------------------------
-------------------------------------------------------------------------------------
  -------------------------
```

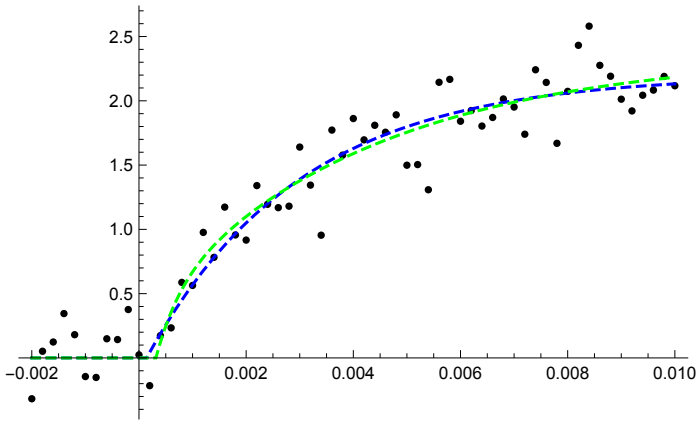




---------- C5

```
take mono
take bi
take mono
take bi
take mono
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take mono
take mono
take bi
take mono
take mono
take mono
take bi
take mono
take bi
take mono
take bi
take mono
take mono
```

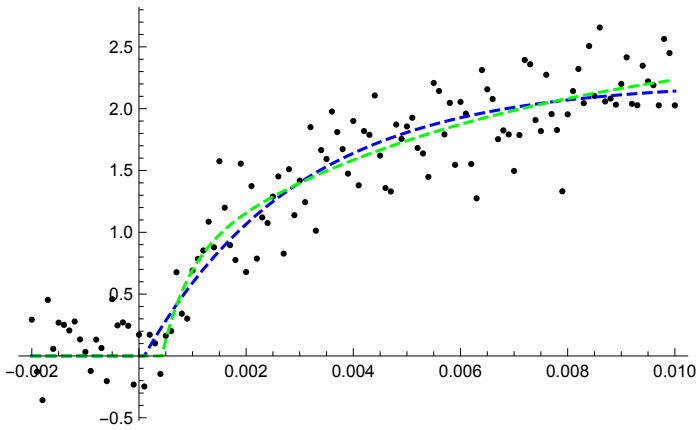
```
take mono
take bi
take mono
take mono
take mono
take mono
take mono
take bi
take bi
take bi
take mono
take mono
take mono
take mono
take bi
take mono
take mono
take bi
take mono
take mono
take mono
take bi
```




```
Mono: chi2 = 2.79771     d = 2.79771     a = 2.20209     t = 0.00286303
Bi: ratio chi2Mono/chi2Bi = 1.04275     d = 0.000317284     a =
 2.36714     a1 = 0.4848     t1 =0.000433602     t2 = 0.00416477
------------------------------------------------------------------------ C10
take mono
take bi
take mono
take bi
```

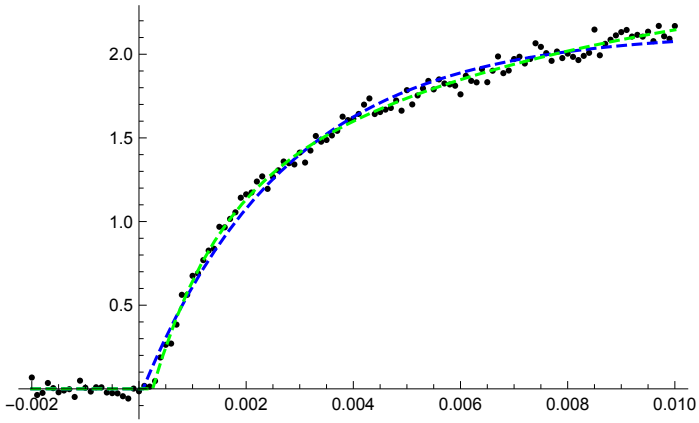
```
take bi
take bi
take mono
take mono
take bi
take bi
take mono
take mono
take bi
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take mono
take bi
take bi
take mono
take mono
take bi
take mono
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take bi
take mono
take mono
take mono
```

```
take mono
take mono
take mono
take mono
take mono
take mono
take bi
```




```
Mono: chi2 = 8.7456     d = 8.7456     a = 2.21412     t = 0.00288921
Bi: ratio chi2Mono/chi2Bi = 1.05351     d = 0.00042597     a =
 2.63386     a1 = 0.774004     t1 =0.000494518     t2 = 0.00623296
------------------------------------------------------------------------- D
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
```

```
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
```

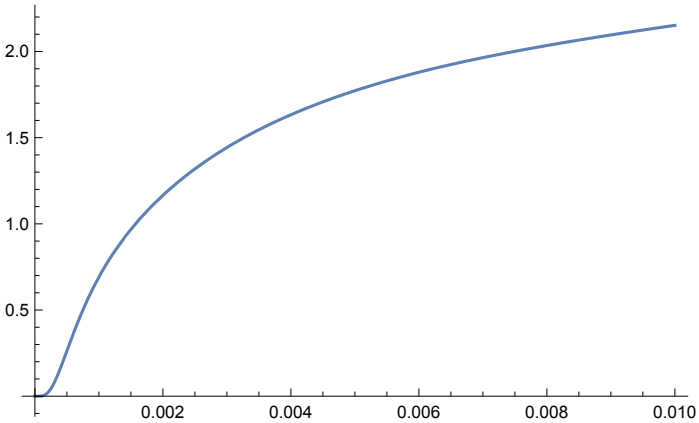


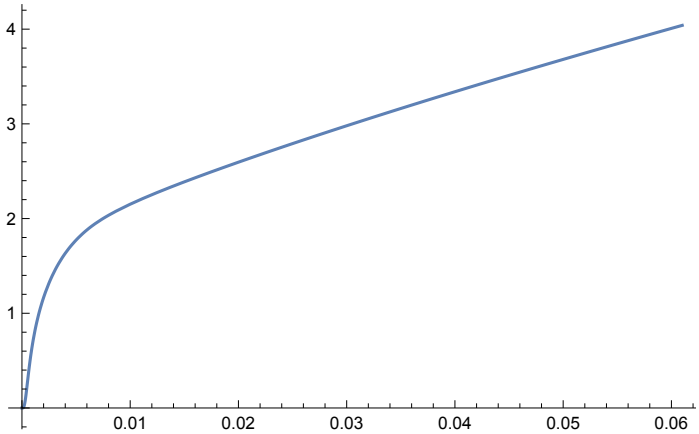
Mono: chi2 = 0.335672 d = 0.335672 a = 2.13293 t = 0.00273348

Bi: ratio chi2Mono/chi2Bi = 1.91587 d = 0.000256975 a = 2.54047 a1 = 1.01875 t1 =0.00111147 t2 = 0.00721801

---------- Ca = 12.1299

uM ----------





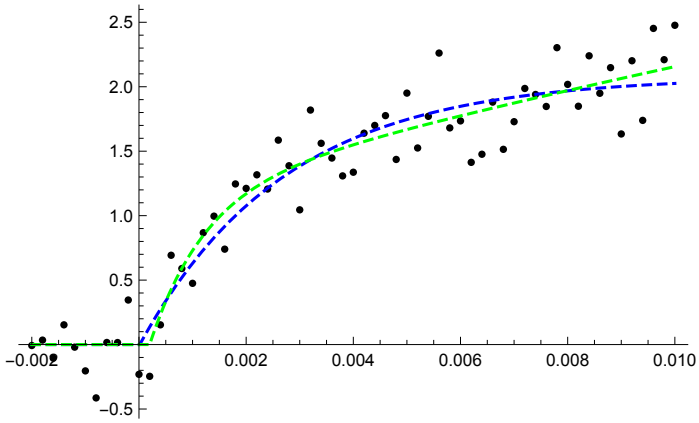
---------- C5

take bi

take bi

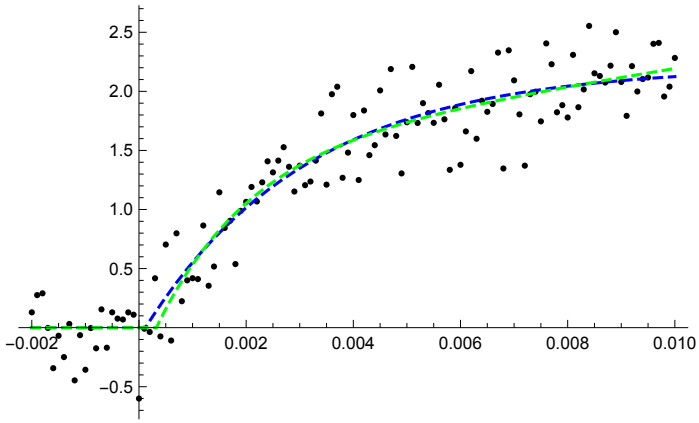
```
take mono
take mono
take bi
take bi
take mono
take bi
take bi
take bi
take bi
take mono
take mono
take bi
take bi
take mono
take mono
take bi
take mono
take mono
take mono
take bi
take mono
take mono
take bi
take bi
take mono
take mono
take bi
take bi
take mono
take mono
take bi
take mono
take mono
take bi
take mono
take bi
take bi
take bi
take bi
```

```
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take bi
take bi
```



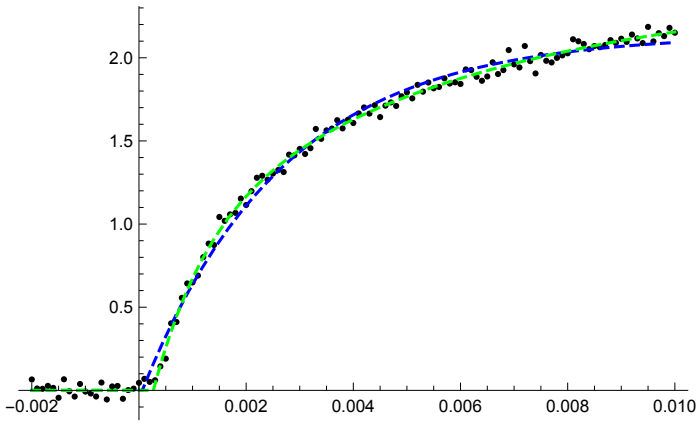

```
Mono: chi2 = 3.2931     d = 3.2931     a = 2.07842     t = 0.00272003
Bi: ratio chi2Mono/chi2Bi = 1.1545     d = 0.0002     a =
 6.68788     a1 = 1.17156     t1 =0.00100874     t2 = 0.0498526
------------------------------------------------------------------------ C10
take mono
take bi
take mono
take bi
take mono
take mono
take bi
take mono
take bi
take bi
take mono
take mono
take bi
take mono
take mono
take mono
take mono
```

```
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take bi
take mono
take bi
take mono
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take mono
take mono
take mono
```




```
Mono: chi2 = 7.83955     d = 7.83955     a = 2.21167     t = 0.00305419

Bi: ratio chi2Mono/chi2Bi = 1.00793     d = 0.000324861     a =
 24.9348     a1 = 1.48881     t1 =0.00171227     t2 = 0.314723

------------------------------------------------------------------------ D

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi
```

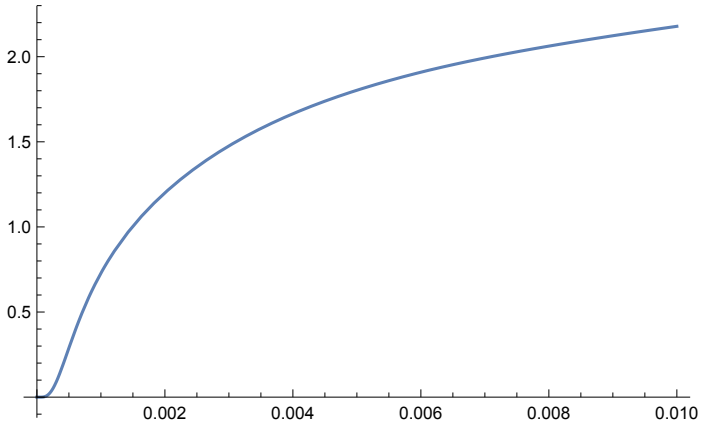
```
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
```

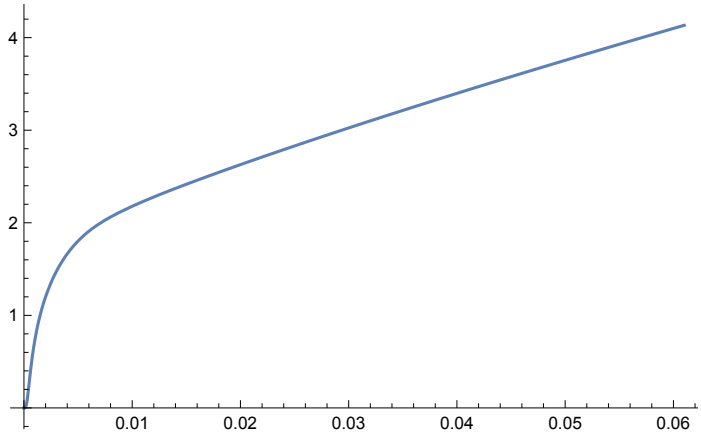



```
Mono: chi2 = 0.312171     d = 0.312171     a = 2.14185     t = 0.00264907
Bi: ratio chi2Mono/chi2Bi = 2.04222     d = 0.000268587     a =
 2.43493     a1 = 0.943824     t1 =0.000978953     t2 = 0.00581315
-------------------------------------------------------------------------------------
  --------------------------
```

---------- Ca = 12.7076

uM ----------





---------- C5

take bi

take mono

take mono

take mono

take bi

take mono

take mono

take bi

take mono

take mono

take mono

take mono

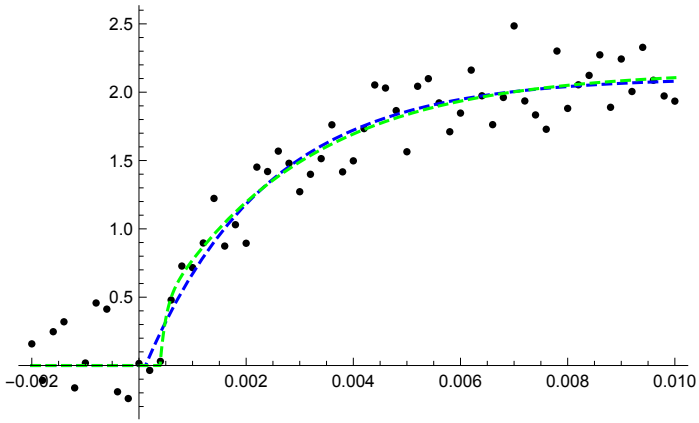
take mono

take mono

take bi

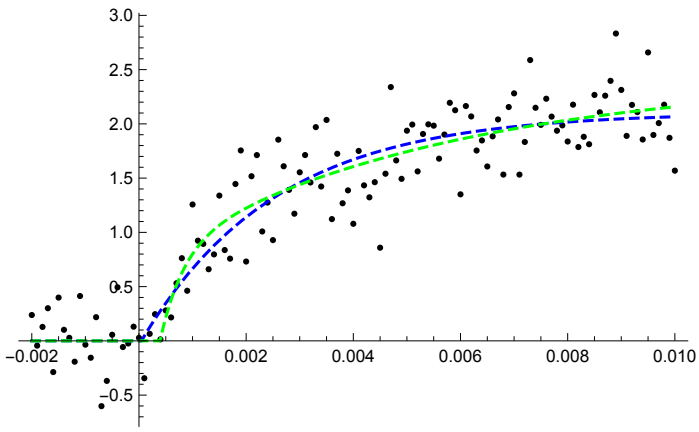
take mono

```
take mono
take mono
take mono
take mono
take bi
take bi
take mono
take mono
take bi
take mono
take bi
take mono
take bi
take mono
take mono
take mono
take bi
take mono
take mono
take bi
take bi
take mono
take mono
take mono
take mono
take bi
take bi
take mono
take mono
take mono
take mono
take mono
take bi
take bi
```




```
Mono: chi2 = 2.41979     d = 2.41979     a = 2.10788     t = 0.00228069

Bi: ratio chi2Mono/chi2Bi = 1.05041     d = 0.000393681     a =
 2.15841     a1 = 0.430376     t1 =0.000103894     t2 = 0.00274327

------------------------------------------------------------------------ C10

take bi

take bi

take mono

take bi

take bi

take mono

take mono

take mono

take bi

take mono

take mono

take mono

take bi

take mono

take mono

take mono

take mono

take mono

take mono

take mono

take bi

take mono

take bi

take bi

take mono

take mono
```

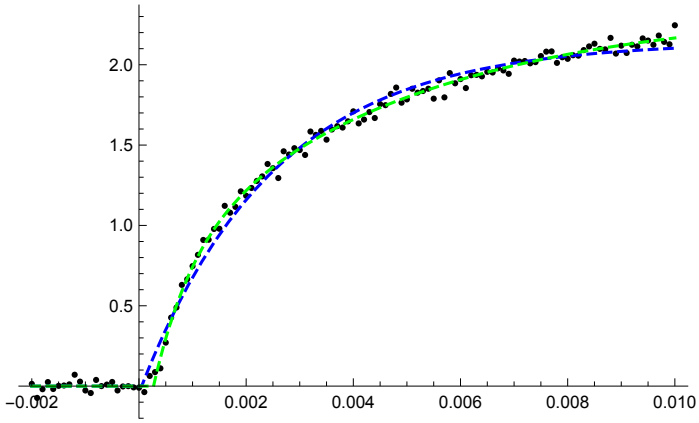
```
take mono
take bi
take mono
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take bi
take bi
take mono
take mono
take mono
take mono
take bi
take mono
take bi
take bi
take bi
```



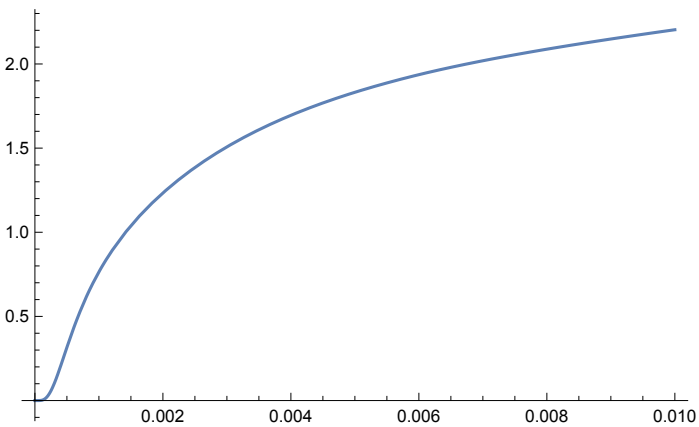

```
Mono: chi2 = 10.8125     d = 10.8125     a = 2.105     t = 0.00250326
Bi: ratio chi2Mono/chi2Bi = 1.05012     d = 0.000393127     a =
 2.43872     a1 = 0.843006     t1 =0.00043463     t2 = 0.0055411
------------------------------------------------------------------------ D
take bi
take bi
```

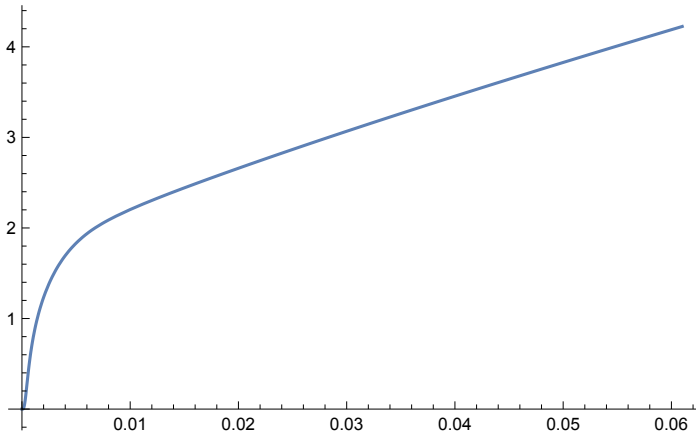
```
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
```

```
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
```




```
Mono: chi2 = 0.352539     d = 0.352539     a = 2.14298     t = 0.0025023
Bi: ratio chi2Mono/chi2Bi = 2.47522     d = 0.000271988     a =
 2.35089     a1 = 0.794193     t1 =0.000701685     t2 = 0.00456115
------------------------------------------------------------------------------------------
  -------------------------
----------------     Ca = 13.3154
  uM         -------------------------------------------------------
------------------------------------------------------------------------------------------
  -------------------------
```

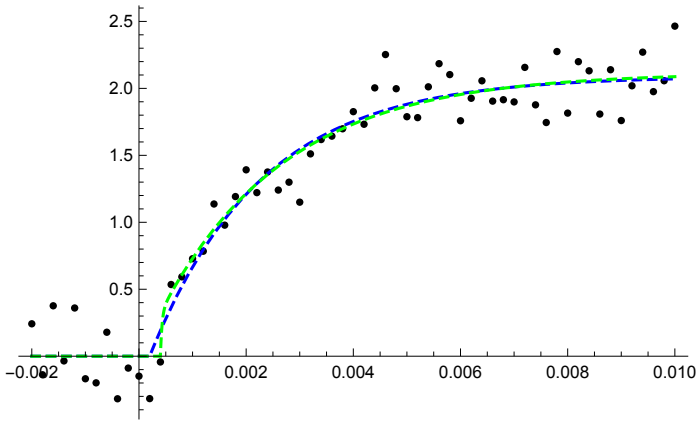




C5

```
take mono
take bi
take mono
take bi
take mono
take bi
take mono
take bi
take mono
take bi
take bi
take mono
take bi
take bi
take mono
take bi
take bi
take bi
take bi
take mono
take mono
take bi
take mono
take bi
take mono
take mono
take mono
take bi
```

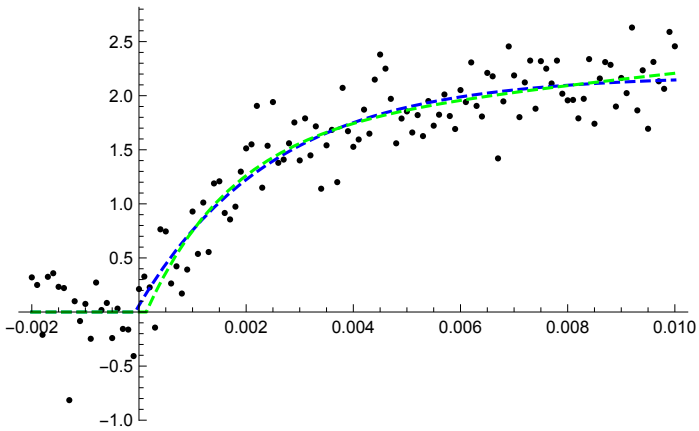
```
take mono
take bi
take bi
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take bi
take bi
take mono
take bi
take mono
take bi
take bi
```




```
Mono: chi2 = 2.16217     d = 2.16217     a = 2.0898     t = 0.00208161
Bi: ratio chi2Mono/chi2Bi = 1.0474     d = 0.0004     a =
 2.11653     a1 = 0.324773     t1 =0.0000300013     t2 = 0.00233138
------------------------------------------------------------------------ C10
take mono
take bi
take mono
take mono
```

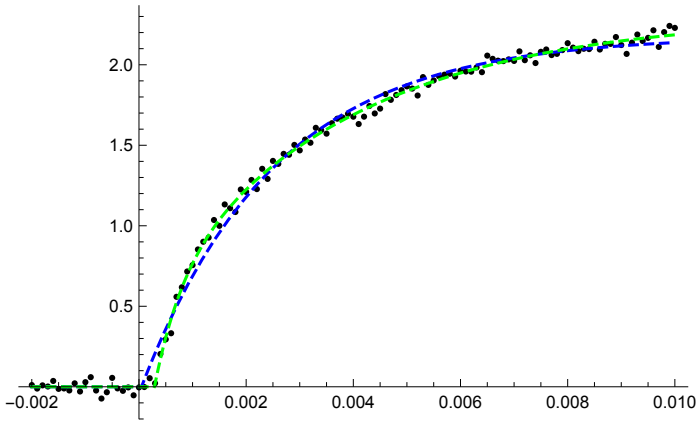
```
take mono
take bi
take bi
take mono
take bi
take bi
take mono
take bi
take bi
take bi
take mono
take mono
take bi
take mono
take bi
take mono
take mono
take bi
take mono
take bi
take mono
take mono
take bi
take bi
take mono
take mono
take mono
take mono
take mono
take bi
take mono
take mono
take bi
take mono
take bi
take mono
take mono
take mono
take mono
```

```
take mono
take mono
take mono
take mono
take bi
take mono
take mono
```




```
Mono: chi2 = 8.29949     d = 8.29949     a = 2.18561     t = 0.00252222
Bi: ratio chi2Mono/chi2Bi = 1.00657     d = 0.000137022     a =
 14.3218     a1 = 1.68006     t1 =0.00158908     t2 = 0.229985
------------------------------------------------------------------------- D
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
```

```
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
```

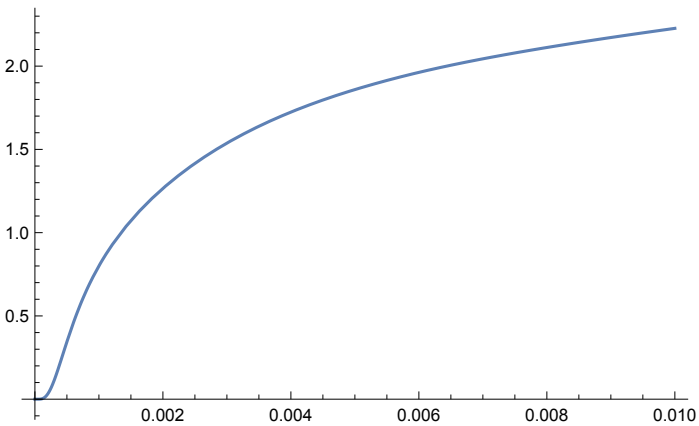


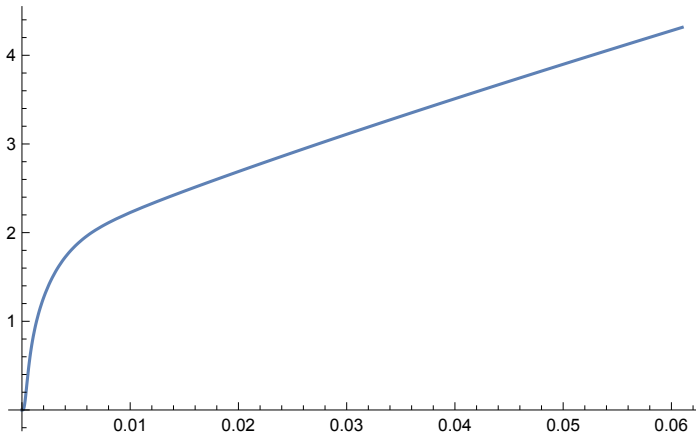
Mono: chi2 = 0.319909 d = 0.319909 a = 2.17875 t = 0.0025068

Bi: ratio chi2Mono/chi2Bi = 2.49269 d = 0.000289738 a = 2.30727 a1 = 0.619426 t1 =0.00049989 t2 = 0.00368759

--- Ca = 13.9549

uM ---





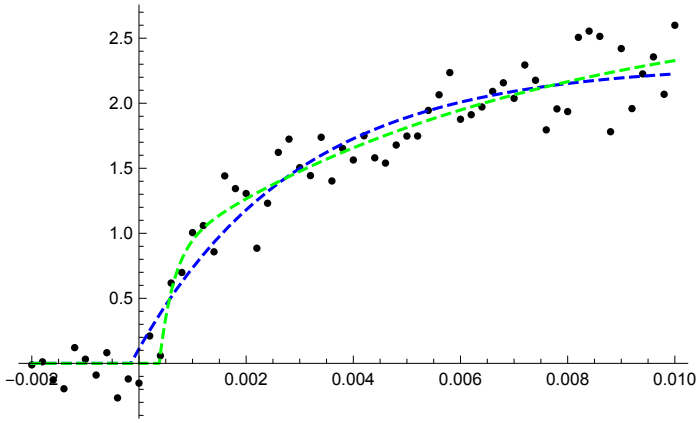
--- C5

take bi

take mono

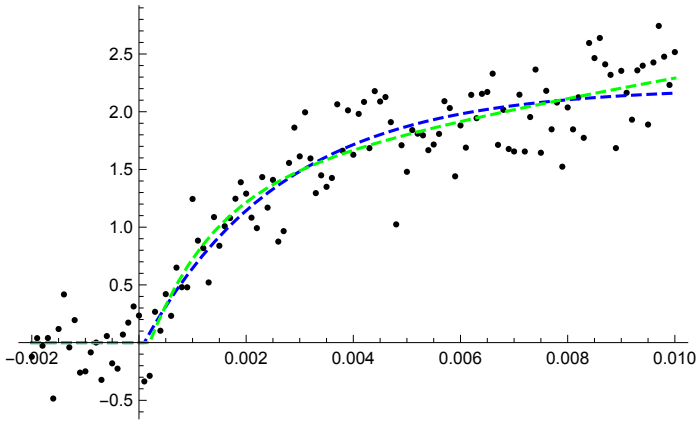
```
take bi
take bi
take bi
take mono
take bi
take bi
take mono
take bi
take mono
take mono
take mono
take mono
take mono
take bi
take bi
take bi
take mono
take bi
take bi
take mono
take mono
take bi
take mono
take bi
take bi
take bi
take bi
take bi
take mono
take bi
take bi
take bi
take bi
take mono
take bi
take mono
take mono
take bi
take bi
```

```
take bi
take bi
take mono
take bi
take mono
take bi
take bi
take mono
take bi
```



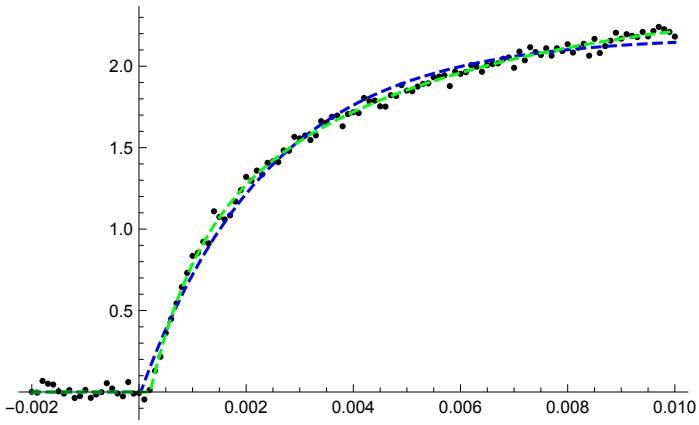

```
Mono: chi2 = 2.54549     d = 2.54549     a = 2.3027     t = 0.00298922
Bi: ratio chi2Mono/chi2Bi = 1.20349     d = 0.000378737     a =
 2.80972     a1 = 0.85671     t1 =0.000262632     t2 = 0.00686879
------------------------------------------------------------------------- C10
take mono
take bi
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take bi
take mono
take bi
take mono
take mono
take mono
take mono
take bi
```

```
take mono
take mono
take bi
take bi
take mono
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take bi
take mono
take mono
take bi
take bi
take bi
take mono
take bi
take bi
take mono
take mono
take bi
take bi
take bi
take mono
take mono
take bi
take bi
```



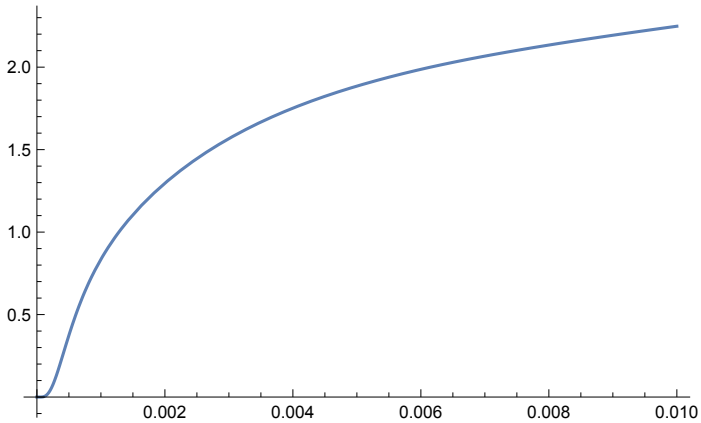

```
Mono: chi2 = 8.88632     d = 8.88632     a = 2.21027     t = 0.00260654

Bi: ratio chi2Mono/chi2Bi = 1.06557     d = 0.0002     a =
 4.48347     a1 = 1.27938     t1 =0.00118438     t2 = 0.0258149

------------------------------------------------------------------------ D

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi
```

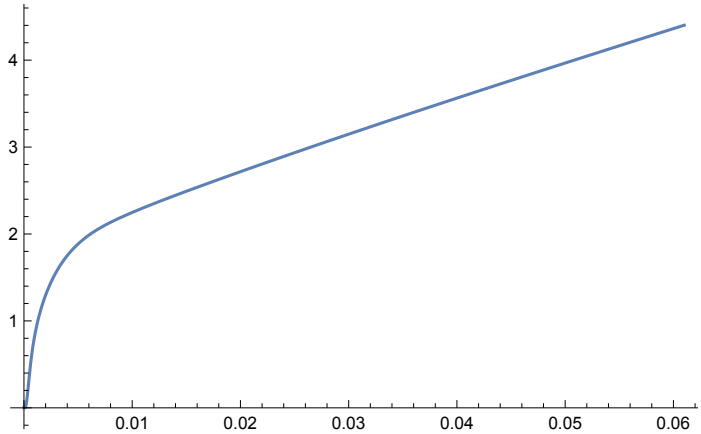
```
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
```




```
Mono: chi2 = 0.322202     d = 0.322202     a = 2.18107     t = 0.0024075
Bi: ratio chi2Mono/chi2Bi = 2.86022     d = 0.000209705     a =
 2.4141     a1 = 0.923431     t1 =0.000841889     t2 = 0.00486734
--------------------------------------------------------------------------------
  -------------------------
```

---------- Ca = 14.63
uM ----------





---------- C5

take bi

take mono

take mono

take bi

take mono

take bi

take bi

take mono

take mono

take bi

take mono

take mono

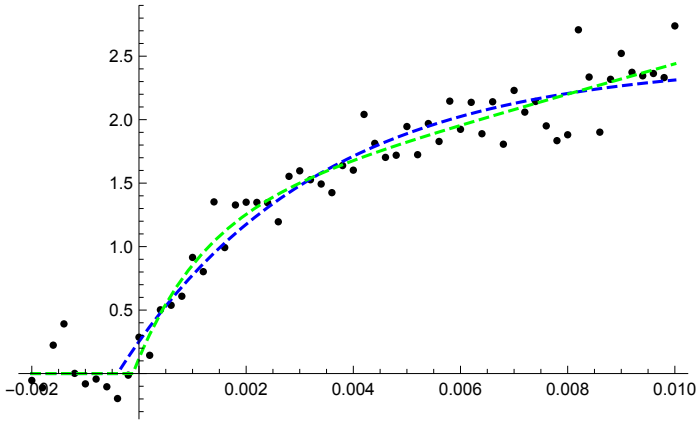
take bi

take bi

take mono

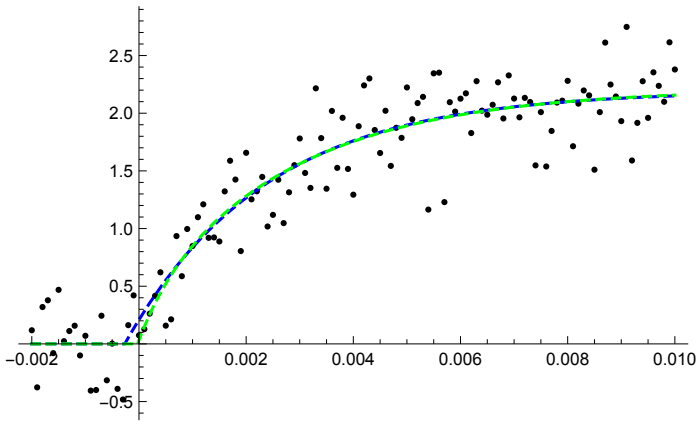
take bi

```
take mono
take bi
take mono
take bi
take mono
take mono
take bi
take mono
take bi
take mono
take mono
take bi
take bi
take mono
take mono
take mono
take bi
take mono
take bi
take bi
take mono
take bi
take mono
take bi
take mono
take bi
take mono
take bi
take mono
take bi
take bi
take mono
```




```
Mono: chi2 = 2.04445     d = 2.04445     a = 2.45921     t = 0.00369119
Bi: ratio chi2Mono/chi2Bi = 1.15286     d = -0.000112627
      a = 54.6654     a1 = 1.2277     t1 =0.00125744     t2 = 0.440597
------------------------------------------------------------------------ C10
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take mono
take bi
take mono
take mono
take mono
take mono
take mono
take mono
take bi
take mono
take bi
take mono
take mono
take bi
take mono
take bi
take bi
take bi
take mono
```

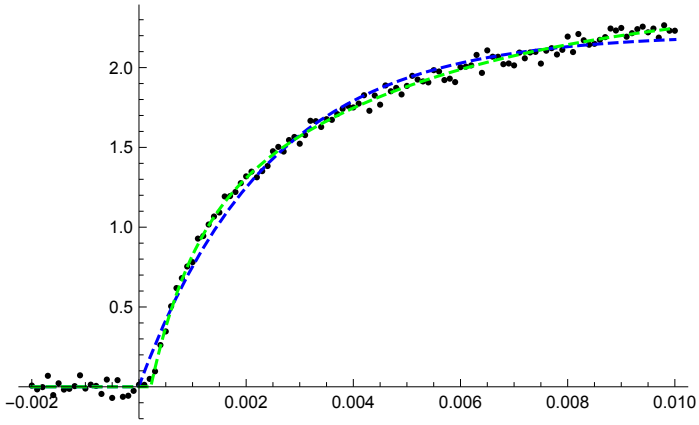
```
take mono
take mono
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take mono
take mono
take bi
take mono
take bi
take bi
take mono
take bi
take mono
take bi
take bi
take mono
take mono
take bi
take mono
```



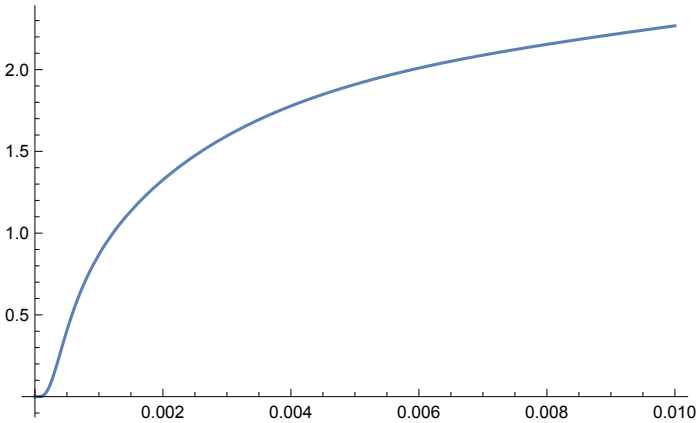

```
Mono: chi2 = 9.69275     d = 9.69275     a = 2.19433     t = 0.00263052
Bi: ratio chi2Mono/chi2Bi = 0.996455     d = -0.0000264127     a =
 2.21281     a1 = 0.338928     t1 =0.000560316     t2 = 0.00285323
------------------------------------------------------------------------- D
take bi
take bi
```

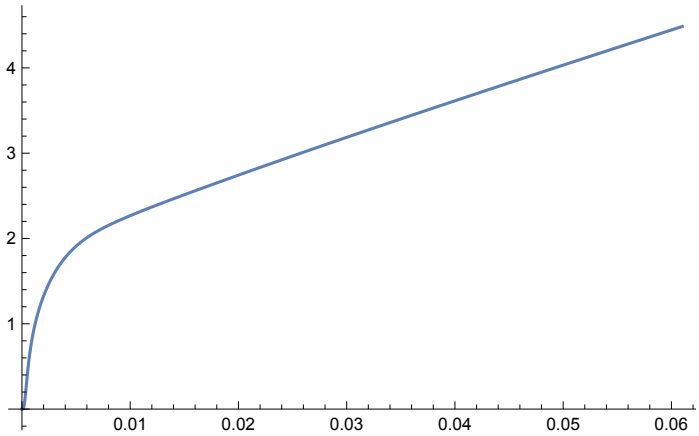
```
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
```

```
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
```




```
Mono: chi2 = 0.38785     d = 0.38785     a = 2.21028     t = 0.00240453
Bi: ratio chi2Mono/chi2Bi = 2.6411     d = 0.000220868     a =
 2.4455     a1 = 0.925916     t1 =0.00075158     t2 = 0.00480902
------------------------------------------------------------------------------------------
  -------------------------
----------------     Ca = 15.3404
  uM         -------------------------------------------------------
------------------------------------------------------------------------------------------
  -------------------------
```





---------- C5

```
take mono
take mono
take bi
take bi
take bi
take mono
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take mono
take mono
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take mono
take bi
take bi
take bi
take bi
```

take mono

take mono

take bi

take mono

take mono

take mono

take bi

take mono

take bi

take bi

take mono

take mono

take mono

take mono

take mono

take mono

take bi

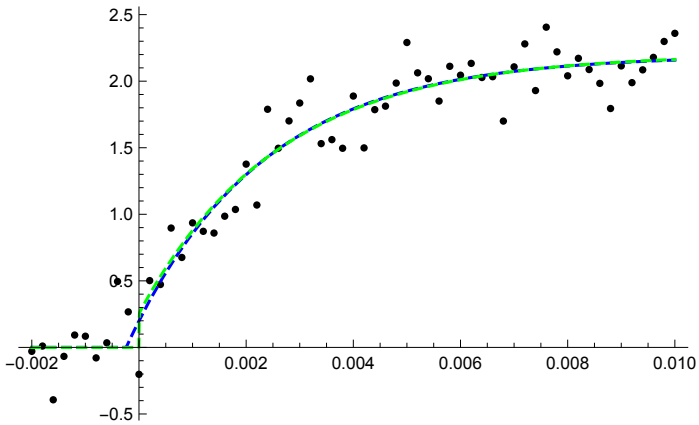
take mono

take mono

take bi

take mono

take bi



Mono: chi2 = 2.29086 d = 2.29086 a = 2.1951 t = 0.00250016

Bi: ratio chi2Mono/chi2Bi = 1.05081 d = 5.41073×10^{-9} a = 2.20438 a1 = 0.254849 t1 =3.08155×10^{-6} t2 = 0.00259525

---------- C10

take bi

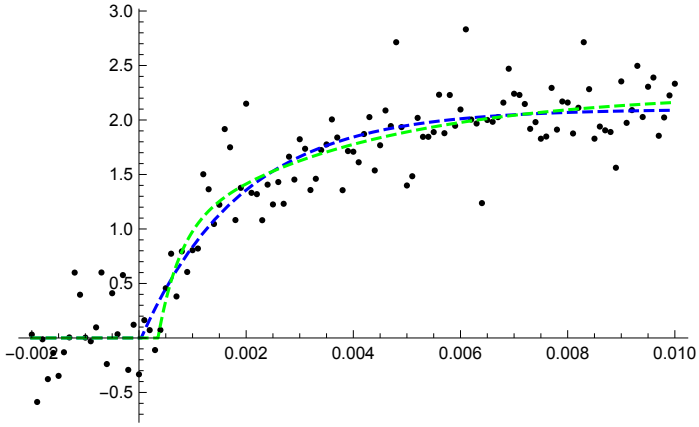
take bi

take mono

take mono

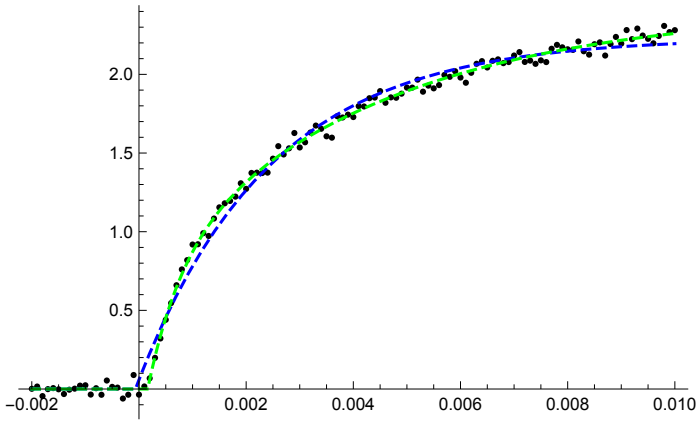
```
take mono
take bi
take bi
take mono
take mono
take mono
take mono
take bi
take mono
take bi
take mono
take mono
take bi
take bi
take mono
take mono
take bi
take mono
take mono
take mono
take bi
take bi
take bi
take bi
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take bi
take mono
take bi
take bi
```

```
take mono
take mono
take mono
take mono
take mono
take bi
take bi
```




```
Mono: chi2 = 10.3758     d = 10.3758     a = 2.09991     t = 0.0018818
Bi: ratio chi2Mono/chi2Bi = 1.05905     d = 0.000354901     a =
 2.25375     a1 = 0.962797     t1 =0.000402372     t2 = 0.00366194
------------------------------------------------------------------------- D
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
```

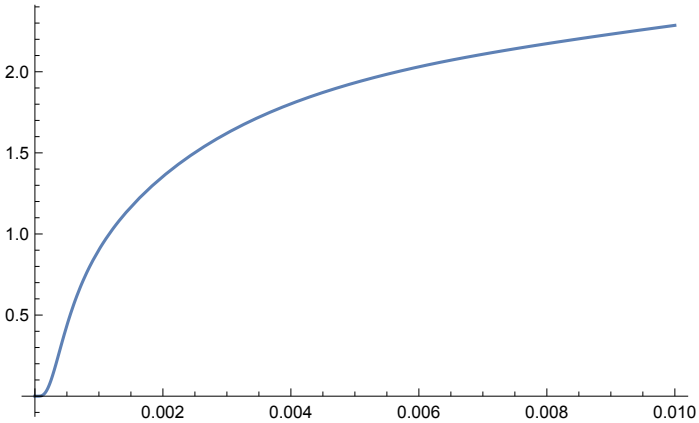
```
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
```

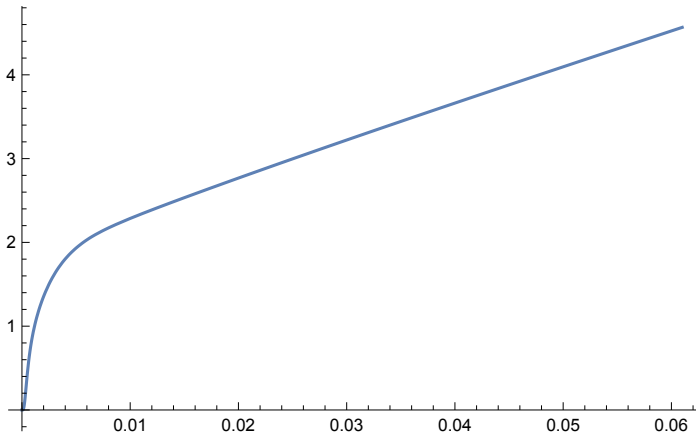


Mono: chi2 = 0.400036 d = 0.400036 a = 2.23311 t = 0.00247355

Bi: ratio chi2Mono/chi2Bi = 2.85441 d = 0.000163463 a = 2.42525 a1 = 0.783309 t1 =0.000620362 t2 = 0.00428265

---------- Ca = 16.0887 uM ----------





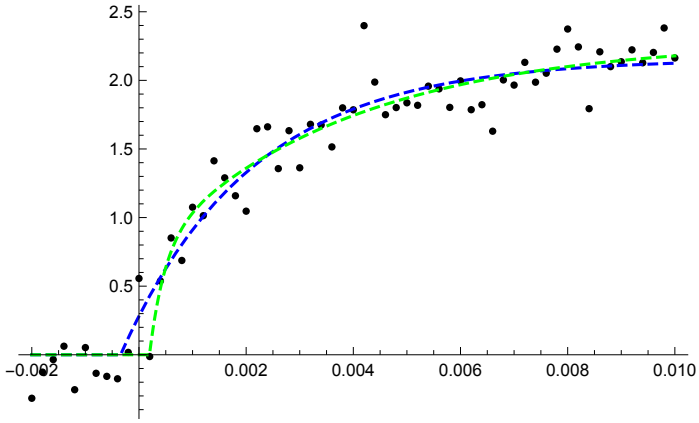
---------- C5

take mono

take bi

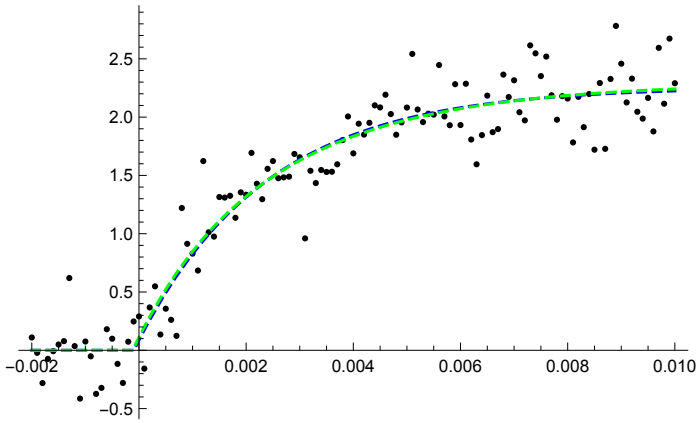
```
take mono
take mono
take bi
take bi
take mono
take bi
take bi
take bi
take bi
take mono
take mono
take bi
take mono
take mono
take bi
take mono
take bi
take bi
take mono
take mono
take bi
take mono
take bi
take mono
take mono
take mono
take bi
take bi
take bi
take mono
take bi
take bi
take mono
take mono
take bi
take mono
take bi
take bi
take bi
```

```
take mono
take mono
take mono
take mono
take bi
take mono
take bi
take mono
take mono
```



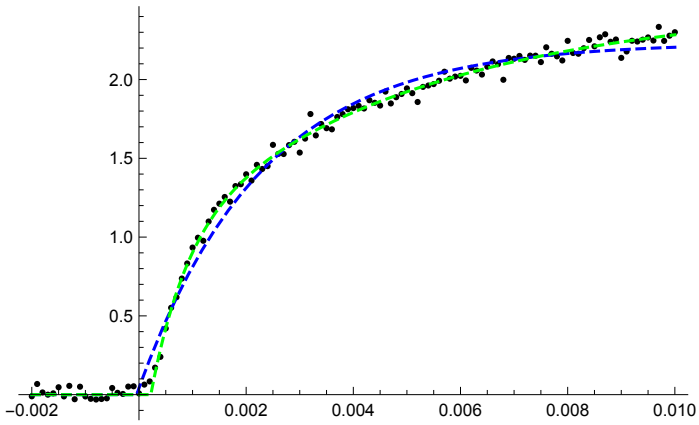

```
Mono: chi2 = 2.07461     d = 2.07461     a = 2.15617     t = 0.00244477
Bi: ratio chi2Mono/chi2Bi = 1.02393     d = 0.000196264     a =
 2.2892     a1 = 0.792106     t1 =0.000284307     t2 = 0.00376716
------------------------------------------------------------------------ C10
take mono
take mono
take bi
take mono
take mono
take bi
take bi
take mono
take bi
take bi
take mono
take mono
take bi
take mono
take mono
take bi
take mono
```

```
take mono
take mono
take mono
take bi
take mono
take bi
take mono
take mono
take bi
take bi
take bi
take bi
take mono
take bi
take bi
take bi
take mono
take bi
take bi
take mono
take mono
take mono
take bi
take bi
take bi
take bi
take mono
take mono
take bi
take bi
take mono
take mono
take mono
```




```
Mono: chi2 = 7.35047     d = 7.35047     a = 2.25867     t = 0.00240113

Bi: ratio chi2Mono/chi2Bi = 1.00196     d = -0.000116496     a =
 2.29422     a1 = 0.395419     t1 =0.00128037     t2 = 0.00282876

------------------------------------------------------------------------ D

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take mono

take bi

take bi

take bi

take bi

take bi

take bi

take bi
```

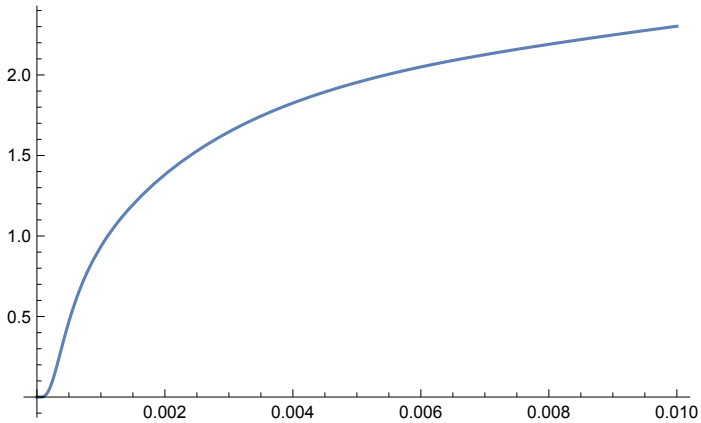
```
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
```

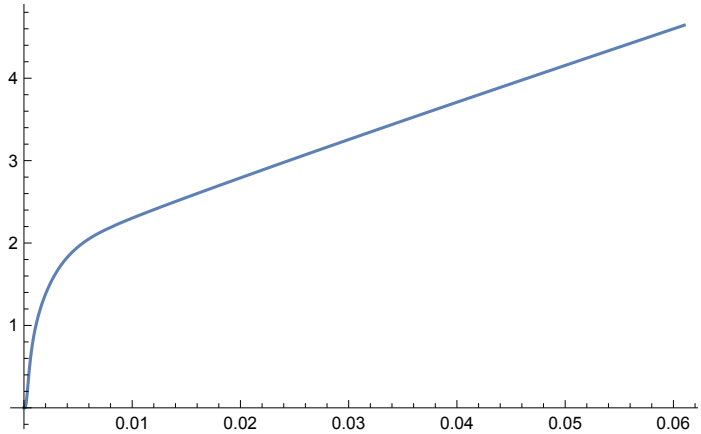



```
Mono: chi2 = 0.482326     d = 0.482326     a = 2.23358     t = 0.00230575
Bi: ratio chi2Mono/chi2Bi = 2.86899     d = 0.000221378     a =
 2.48275     a1 = 0.979986     t1 =0.000660314     t2 = 0.00483434
-------------------------------------------------------------------------------------
  --------------------------
```

---------- Ca = 16.8774

uM ----------





---------- C5

take bi

take bi

take bi

take mono

take mono

take bi

take mono

take bi

take mono

take mono

take bi

take bi

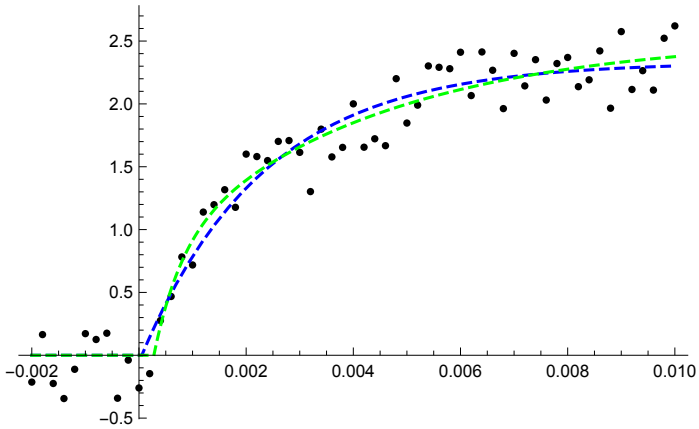
take bi

take bi

take bi

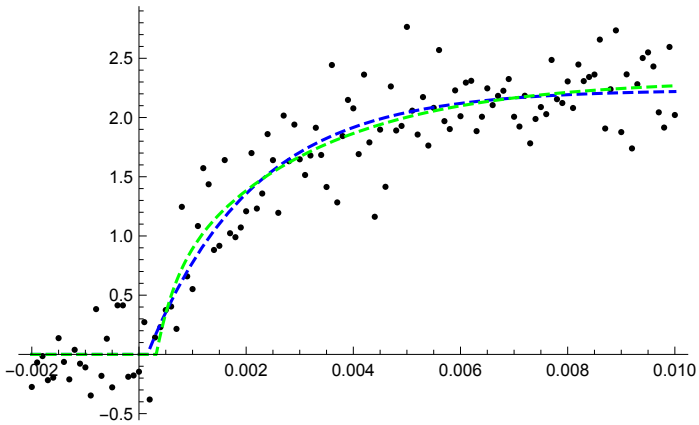
take bi

```
take mono
take bi
take bi
take mono
take bi
take mono
take bi
take mono
take bi
take bi
take mono
take bi
take bi
take mono
take bi
take bi
take bi
take mono
take bi
take mono
take mono
take bi
take mono
take bi
take mono
take bi
take bi
take bi
take bi
take bi
take bi
take mono
take mono
take bi
```




```
Mono: chi2 = 2.37673     d = 2.37673     a = 2.33275     t = 0.00230565

Bi: ratio chi2Mono/chi2Bi = 1.11768     d = 0.000278365     a =
 2.53379     a1 = 0.839493     t1 =0.000502019     t2 = 0.00409752

------------------------------------------------------------------------- C10

take bi

take bi

take bi

take mono

take bi

take bi

take mono

take mono

take mono

take mono

take mono

take bi

take bi

take mono

take bi

take bi

take mono

take bi

take mono

take bi

take mono

take mono

take bi

take bi

take mono

take mono
```

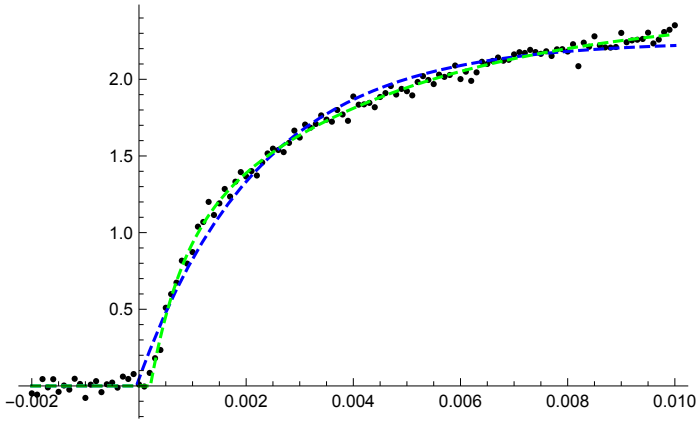
```
take mono
take mono
take bi
take bi
take bi
take bi
take mono
take mono
take bi
take bi
take mono
take bi
take mono
take mono
take bi
take mono
take bi
take mono
take bi
take bi
take bi
take mono
take bi
take mono
```



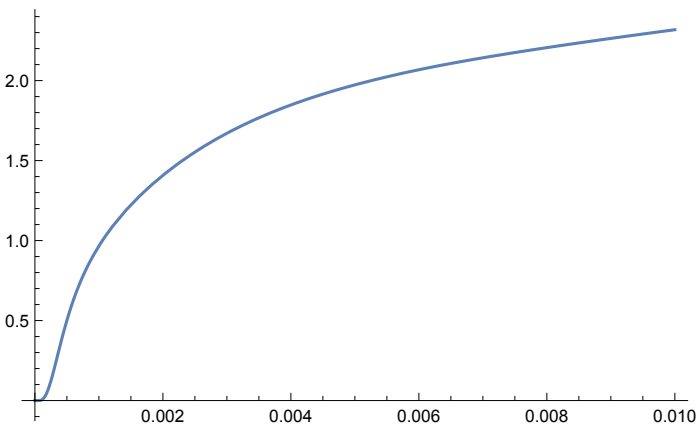

```
Mono: chi2 = 9.31957     d = 9.31957     a = 2.23426     t = 0.001969
Bi: ratio chi2Mono/chi2Bi = 1.02423     d = 0.000322619     a =
 2.32092     a1 = 0.621158     t1 =0.000359348     t2 = 0.00279068
------------------------------------------------------------------------ D
take bi
take bi
```

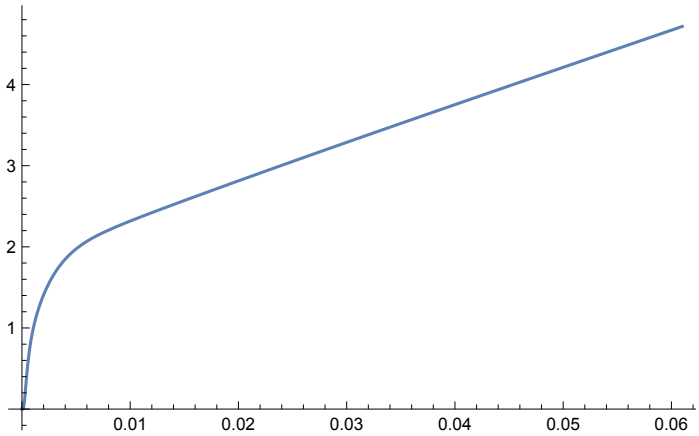
```
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
```

```
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
```




```
Mono: chi2 = 0.500917     d = 0.500917     a = 2.24761     t = 0.0022759
Bi: ratio chi2Mono/chi2Bi = 2.80826     d = 0.000213408     a =
 2.4457     a1 = 0.888897     t1 =0.000567572     t2 = 0.00421267
--------------------------------------------------------------------------------
  -------------------------
----------------     Ca = 17.7084
  uM         -------------------------------------------------------
--------------------------------------------------------------------------------
  -------------------------
```

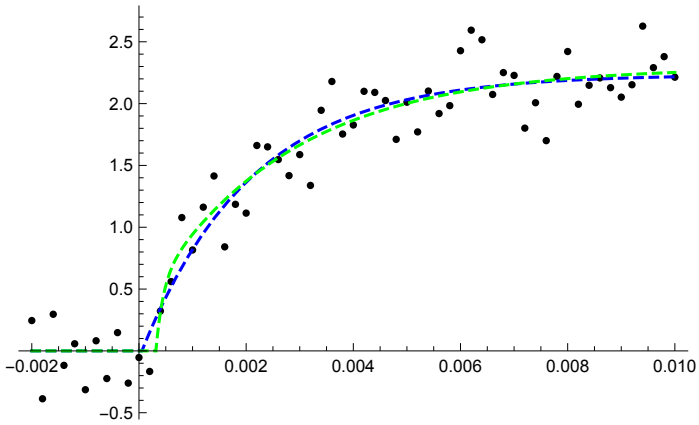




---------- C5

```
take bi
take mono
take mono
take mono
take bi
take mono
take mono
take mono
take mono
take mono
take bi
take bi
take mono
take mono
take mono
take bi
take bi
take bi
take bi
take bi
take bi
take mono
take mono
take mono
take bi
take bi
take mono
take mono
```

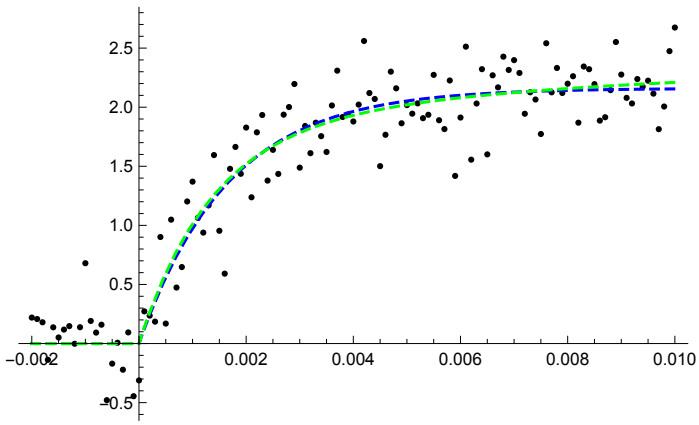
```
take bi
take bi
take mono
take bi
take bi
take bi
take mono
take mono
take mono
take bi
take mono
take bi
take bi
take bi
take bi
take mono
take bi
take bi
take mono
take bi
take bi
take bi
```




```
Mono: chi2 = 3.10082     d = 3.10082     a = 2.23471     t = 0.00206114
Bi: ratio chi2Mono/chi2Bi = 1.06112     d = 0.000315984     a =
 2.29581     a1 = 0.544467     t1 =0.00013208     t2 = 0.0026261
------------------------------------------------------------------------ C10
take bi
take bi
take mono
take bi
```

```
take mono
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take mono
take mono
take bi
take mono
take bi
take bi
take bi
take bi
take bi
take bi
take mono
take bi
take mono
take bi
take bi
take bi
take mono
take mono
take mono
take mono
take bi
take mono
take bi
take bi
take mono
take bi
take mono
take mono
take mono
take mono
take mono
```

```
take bi
take mono
take bi
take mono
take bi
take mono
take mono
```



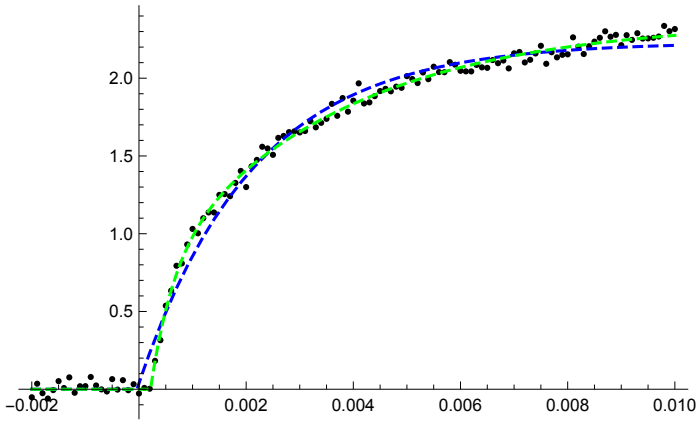
Mono: chi2 = 8.2719 d = 8.2719 a = 2.15998 t = 0.00166576

Bi: ratio chi2Mono/chi2Bi = 1.00826 d = -7.52102×10^{-17} a = 2.38823 a1 = 1.78988 t1 =0.00133307 t2 = 0.00822171

---------- D

```
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
```

```
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
```

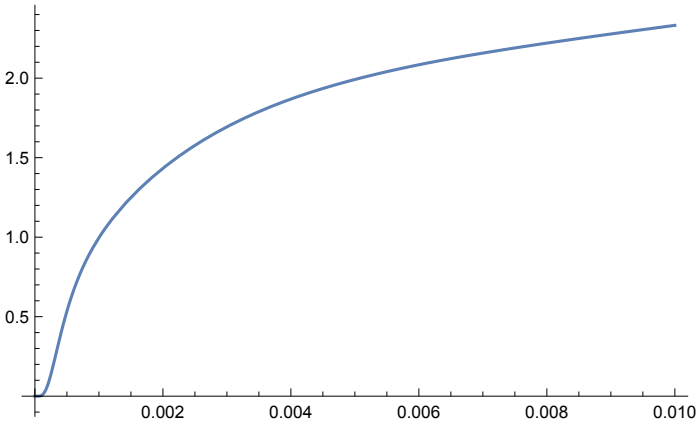


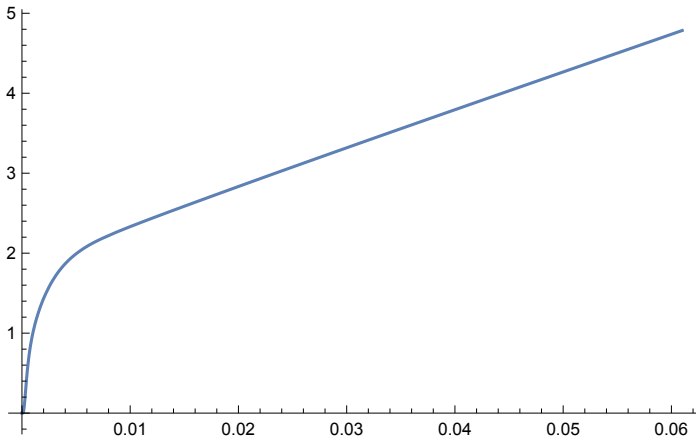
Mono: chi2 = 0.528246 d = 0.528246 a = 2.23142 t = 0.00213747

Bi: ratio chi2Mono/chi2Bi = 2.91047 d = 0.00021546 a = 2.3708 a1 = 0.78295 t1 =0.000422844 t2 = 0.00348335

--- Ca = 18.5844

uM ---





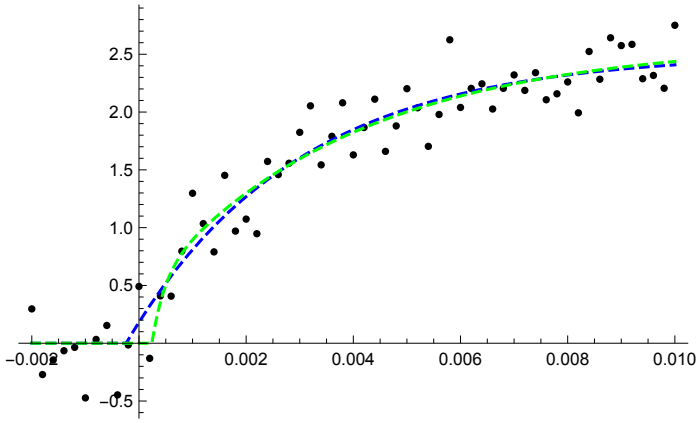
--- C5

take bi

take mono

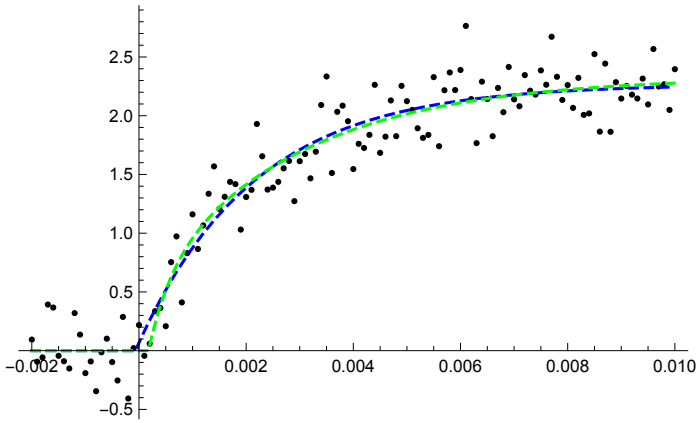
```
take bi
take mono
take mono
take bi
take mono
take bi
take bi
take bi
take bi
take bi
take mono
take mono
take bi
take mono
take mono
take bi
take bi
take bi
take bi
take bi
take bi
take mono
take bi
take bi
take mono
take bi
take bi
take mono
take bi
take mono
take bi
take bi
take bi
take bi
take bi
take mono
take bi
take mono
take bi
```

```
take bi
take bi
take mono
take bi
take bi
take bi
take mono
take bi
take mono
```



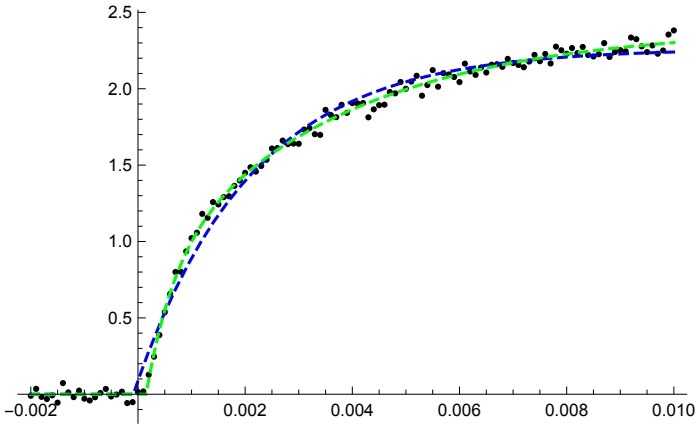

```
Mono: chi2 = 3.22258     d = 3.22258     a = 2.50828     t = 0.00317655
Bi: ratio chi2Mono/chi2Bi = 1.03118     d = 0.000241524     a =
 2.60286     a1 = 0.550826     t1 =0.000232565     t2 = 0.00387609
------------------------------------------------------------------------- C10
take mono
take mono
take bi
take bi
take bi
take mono
take mono
take mono
take bi
take bi
take bi
take bi
take bi
take mono
take bi
take bi
take bi
```

```
take bi
take bi
take mono
take bi
take mono
take bi
take mono
take bi
take bi
take mono
take mono
take bi
take bi
take mono
take bi
take bi
take bi
take mono
take bi
take bi
take mono
take mono
take mono
take bi
take mono
take bi
take bi
take mono
take bi
take mono
take mono
take bi
take mono
```



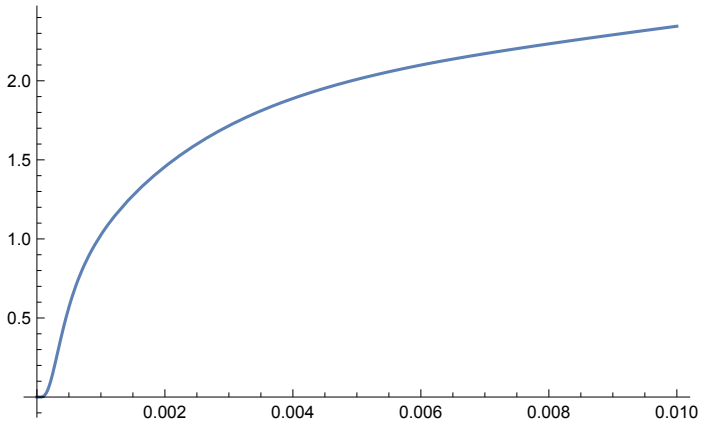

```
Mono: chi2 = 5.93655     d = 5.93655     a = 2.26697     t = 0.00218016

Bi: ratio chi2Mono/chi2Bi = 1.03202     d = 0.000176735     a =
 2.33188     a1 = 0.603444     t1 =0.000412414     t2 = 0.00283886

------------------------------------------------------------------------ D

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi
```

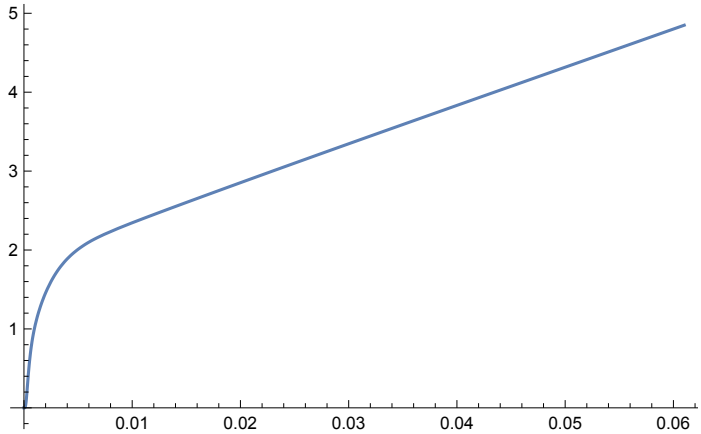
```
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
```




```
Mono: chi2 = 0.461472     d = 0.461472     a = 2.26188     t = 0.00216718
Bi: ratio chi2Mono/chi2Bi = 2.80559     d = 0.000152696     a =
 2.40201     a1 = 0.822925     t1 =0.000517013     t2 = 0.00356917
--------------------------------------------------------------------------------
  -------------------------
```

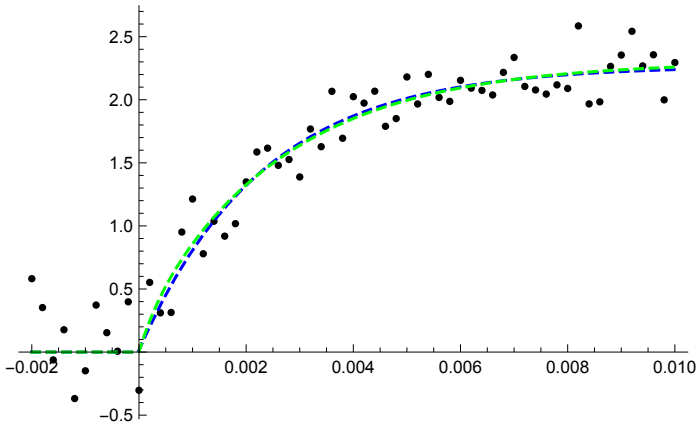
```
----------------     Ca = 19.5079
  uM          -------------------------------------------------------
-------------------------------------------------------------------------------------------
  --------------------------
```






```
------------------------------------------------------------------------------- C5
take bi
take bi
take bi
take bi
take mono
take bi
take bi
take bi
take bi
take bi
take mono
take mono
take bi
take bi
take bi
take bi
```

```
take bi
take mono
take mono
take bi
take bi
take mono
take bi
take mono
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take mono
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take mono
take bi
take mono
take mono
```



Mono: chi2 = 2.57796 d = 2.57796 a = 2.26838 t = 0.00230231

Bi: ratio chi2Mono/chi2Bi = 1.01145 d = 9.59503×10^{-19} a = 2.30333 a1 = 0.194064 t1 =0.000324468 t2 = 0.00259722

---------- C10

take mono

take mono

take bi

take bi

take mono

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take mono

take mono

take bi

take mono

take bi

take bi

take bi

take mono

take mono

take bi

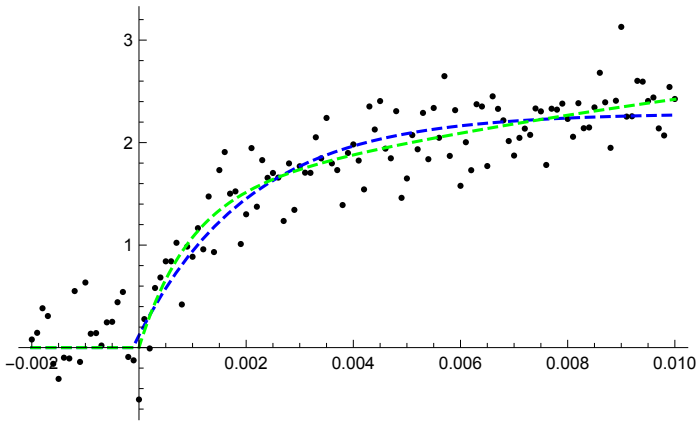
take bi

take mono

take bi

take bi

```
take bi
take bi
take mono
take bi
take mono
take mono
take mono
take bi
take bi
take bi
take bi
take mono
take bi
take bi
take bi
take mono
take bi
take mono
take bi
take bi
take bi
take bi
take mono
take bi
```



Mono: chi2 = 9.74617 d = 9.74617 a = 2.28683 t = 0.00209268

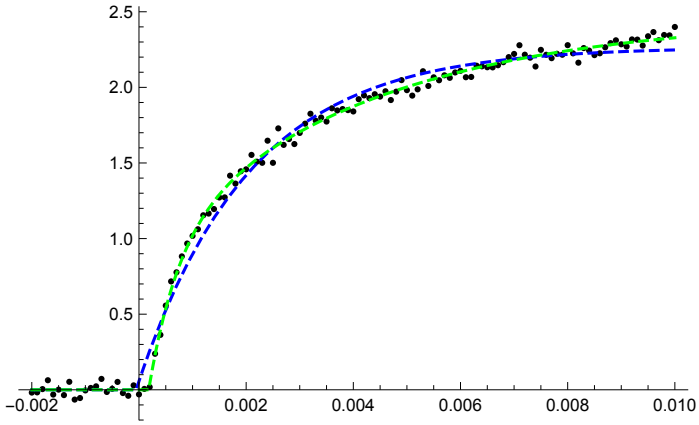
Bi: ratio chi2Mono/chi2Bi = 1.09073 d = -5.9938×10^{-17} a = 3.71122 a1 = 1.43515 t1 =0.000921998 t2 = 0.0175788

---------- D

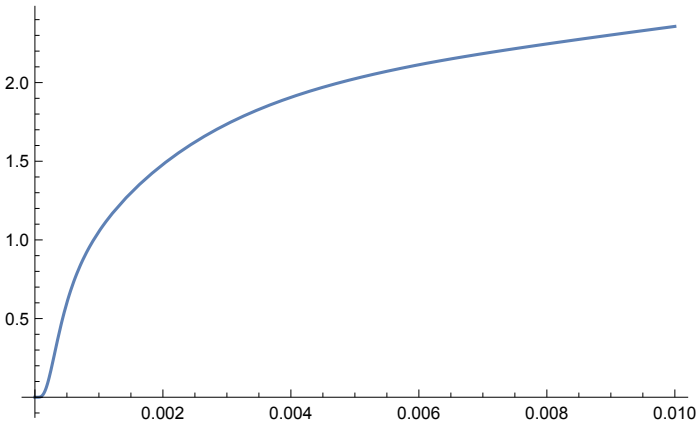
```
take bi
take bi
```

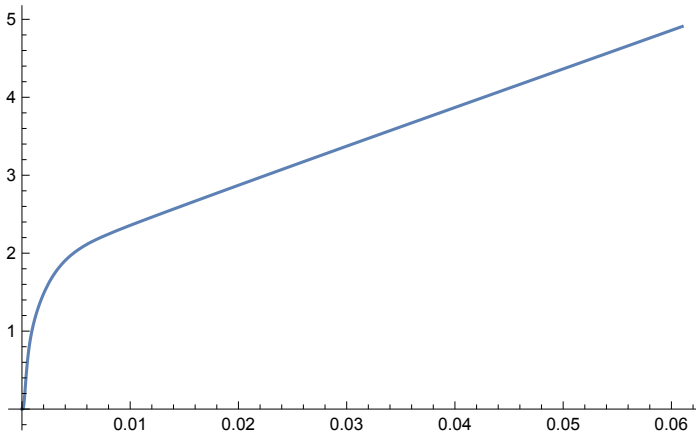
```
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
```

```
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
```




```
Mono: chi2 = 0.583637     d = 0.583637     a = 2.26566     t = 0.00208471
Bi: ratio chi2Mono/chi2Bi = 3.35838     d = 0.000181832     a =
 2.46323     a1 = 0.964335     t1 =0.000547454     t2 = 0.00408243
-------------------------------------------------------------------------------------
  -------------------------
----------------     Ca = 20.4816
  uM          -------------------------------------------------------
-------------------------------------------------------------------------------------
  -------------------------
```

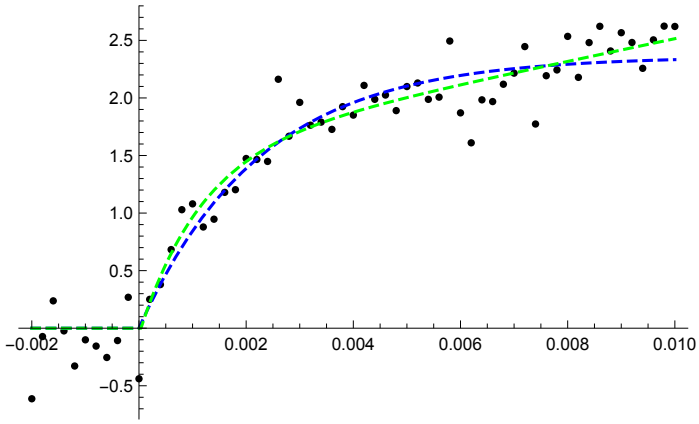




---------- C5

```
take mono
take mono
take mono
take bi
take bi
take bi
take bi
take bi
take bi
take mono
take mono
take mono
take bi
take bi
take bi
take mono
take bi
take mono
take bi
take bi
take mono
take mono
take bi
take bi
take bi
take mono
take mono
take bi
```

```
take bi
take mono
take mono
take bi
take mono
take mono
take bi
take mono
take mono
take bi
take bi
take bi
take mono
take bi
take bi
take bi
take bi
take mono
take bi
take bi
take bi
take mono
```




```
Mono: chi2 = 3.15226     d = 3.15226     a = 2.36087     t = 0.00225672
Bi: ratio chi2Mono/chi2Bi = 1.16077     d = 0.0000373605     a =
 56.5242     a1 = 1.53051     t1 =0.00114912     t2 = 0.551566
------------------------------------------------------------------------ C10
take bi
take bi
take bi
take mono
```

```
take mono
take bi
take bi
take mono
take bi
take mono
take bi
take mono
take bi
take mono
take bi
take bi
take mono
take bi
take bi
take mono
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take mono
take bi
take bi
take bi
take mono
take bi
take mono
take bi
take bi
take mono
```

take mono

take mono

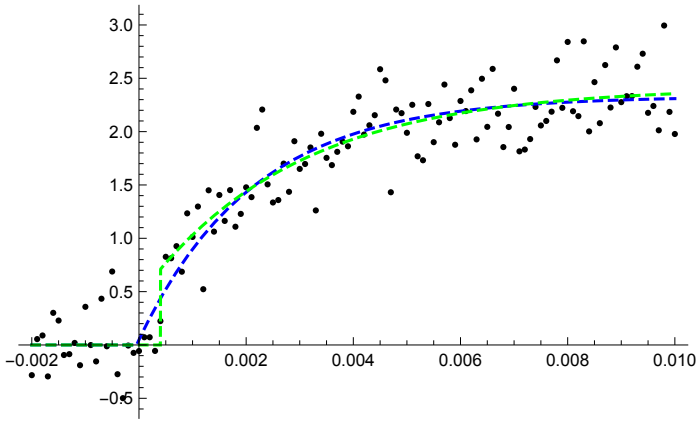
take bi

take bi

take mono

take bi

take bi



Mono: chi2 = 9.35333 d = 9.35333 a = 2.3309 t = 0.00214368

Bi: ratio chi2Mono/chi2Bi = 1.06525 d = 0.000399709 a = 2.41524 a1 = 0.709449 t1 = 7.68653×10^{-7} t2 = 0.00286522

---------- D

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

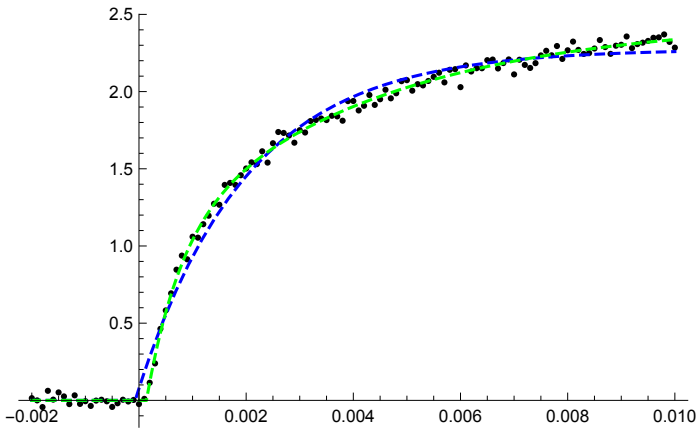
take bi

take bi

take bi

take bi

```
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
```

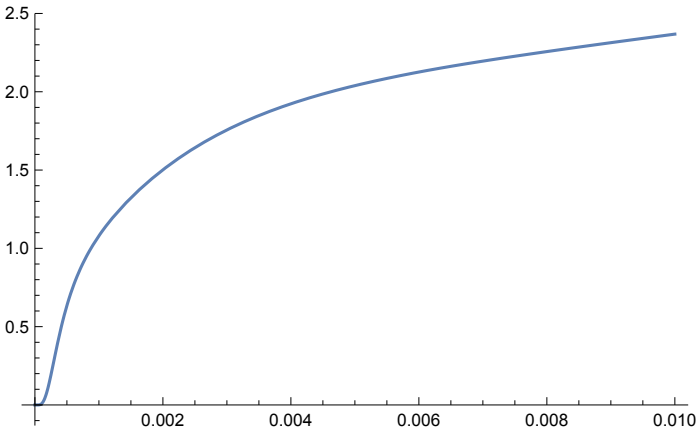


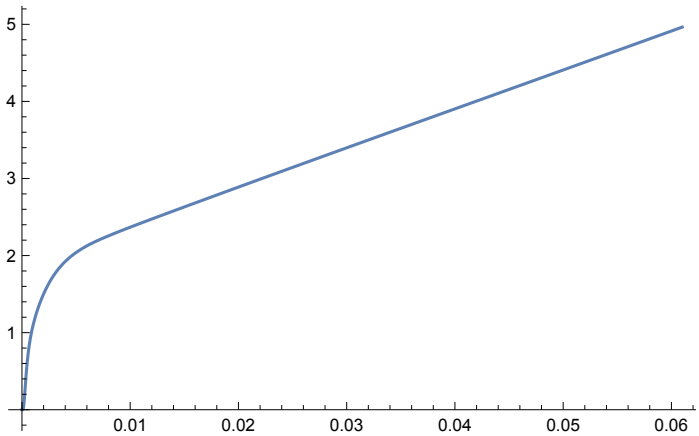
Mono: chi2 = 0.496733 d = 0.496733 a = 2.27492 t = 0.00203405

Bi: ratio chi2Mono/chi2Bi = 3.53555 d = 0.000139748 a = 2.46534 a1 = 1.02214 t1 =0.000624566 t2 = 0.00407692

--- Ca = 21.5084

uM ---





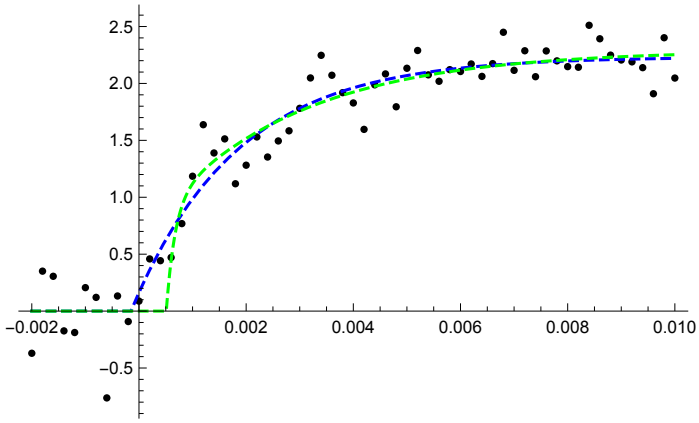
--- C5

take bi

take bi

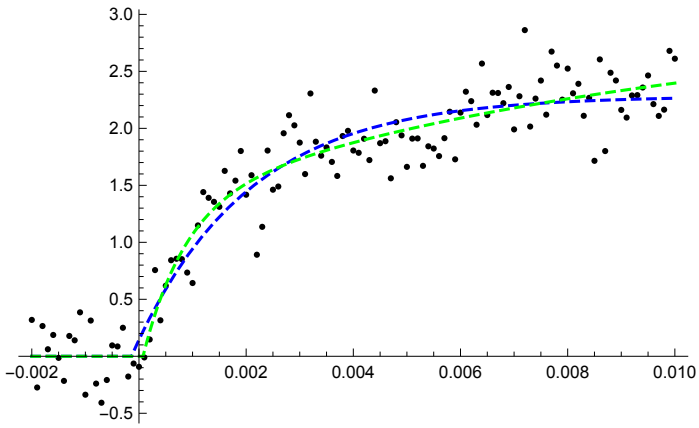
```
take bi
take mono
take mono
take bi
take bi
take bi
take bi
take bi
take mono
take bi
take bi
take bi
take bi
take bi
take mono
take bi
take mono
take bi
take mono
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take mono
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take mono
```

```
take bi
take bi
take bi
take bi
take bi
take mono
take bi
take bi
take mono
```



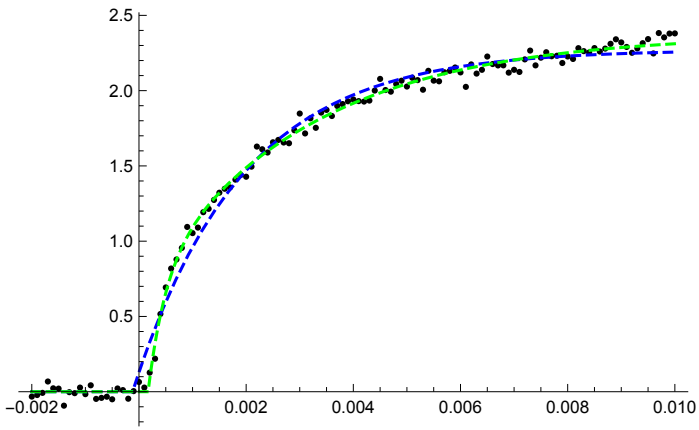

```
Mono: chi2 = 2.76255     d = 2.76255     a = 2.23304     t = 0.00196989
Bi: ratio chi2Mono/chi2Bi = 0.924743     d = 0.000509702     a =
 2.29187     a1 = 0.941568     t1 =0.000164215     t2 = 0.00268426
------------------------------------------------------------------------ C10
take mono
take bi
take mono
take mono
take mono
take bi
take mono
take bi
take mono
take mono
take mono
take bi
take mono
take bi
take bi
take mono
take bi
```

```
take bi
take bi
take bi
take mono
take bi
take mono
take bi
take bi
take mono
take bi
take bi
take mono
take mono
take mono
take bi
take bi
take bi
take bi
take bi
take mono
take mono
take mono
take mono
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
```



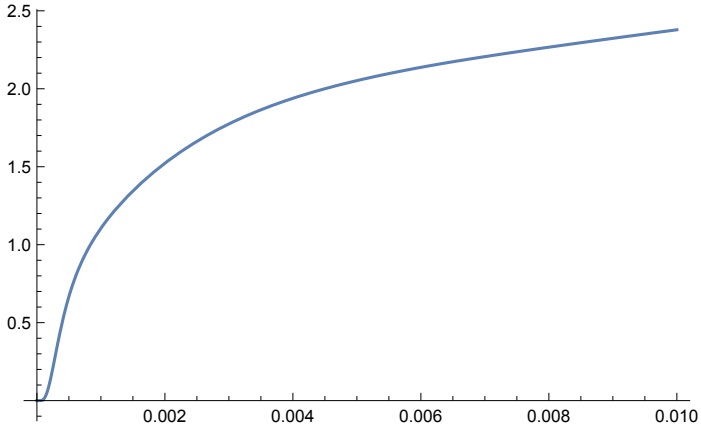

```
Mono: chi2 = 7.52947     d = 7.52947     a = 2.28383     t = 0.0021364

Bi: ratio chi2Mono/chi2Bi = 1.10083     d = 0.0000756972     a =
 3.00263     a1 = 1.33022     t1 =0.000786305     t2 = 0.00977372

------------------------------------------------------------------------ D

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi
```

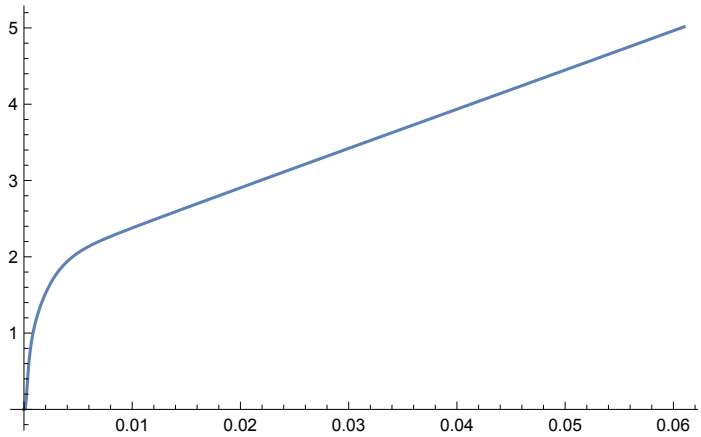
```
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
```




```
Mono: chi2 = 0.561462     d = 0.561462     a = 2.27145     t = 0.00203157
Bi: ratio chi2Mono/chi2Bi = 2.68738     d = 0.000170588     a =
 2.37589     a1 = 0.765517     t1 =0.000320595     t2 = 0.00305376
--------------------------------------------------------------------------------
  -------------------------
```

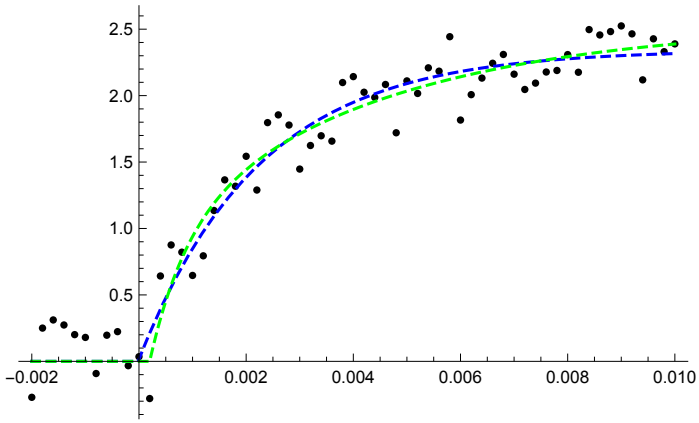
```
----------------     Ca = 22.5913
  uM          -------------------------------------------------------
-----------------------------------------------------------------------------------------
  --------------------------
```





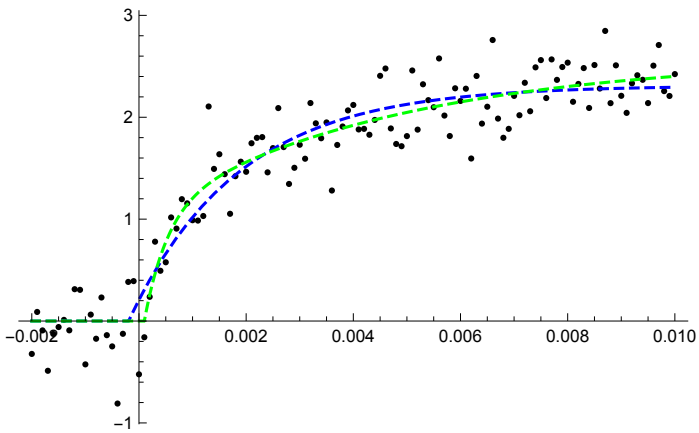

```
------------------------------------------------------------------------------- C5
take mono
take bi
take bi
take bi
take bi
take bi
take bi
take mono
take bi
take bi
take bi
take bi
take bi
take mono
take bi
take mono
```

```
take bi
take bi
take bi
take bi
take mono
take bi
take bi
take bi
take mono
take bi
take bi
take mono
take bi
take mono
take bi
take bi
take bi
take mono
take bi
take bi
take bi
take mono
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take mono
take mono
take bi
```




```
Mono: chi2 = 2.16888     d = 2.16888     a = 2.34373     t = 0.00225206

Bi: ratio chi2Mono/chi2Bi = 1.07386     d = 0.0002     a =
 2.54598     a1 = 0.966586     t1 =0.000679878     t2 = 0.00425428

------------------------------------------------------------------------ C10

take bi

take bi

take bi

take bi

take bi

take mono

take bi

take bi

take bi

take mono

take mono

take mono

take mono

take bi

take bi

take bi

take mono

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take mono

take bi
```

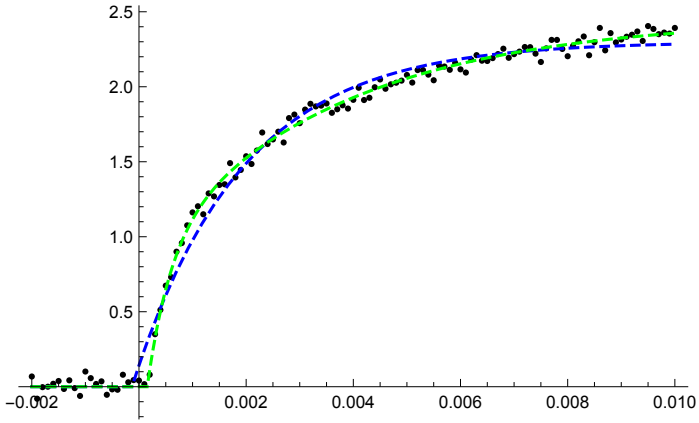
```
take mono
take mono
take bi
take bi
take mono
take mono
take mono
take mono
take mono
take bi
take bi
take bi
take bi
take mono
take bi
take bi
take bi
take bi
take mono
take bi
take mono
take bi
take bi
take bi
```



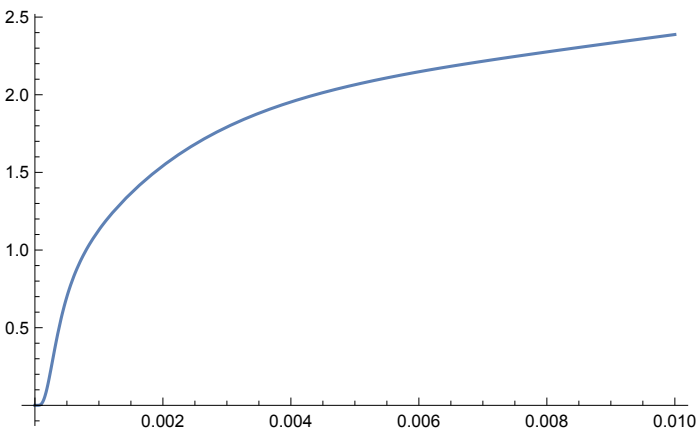

```
Mono: chi2 = 9.22651     d = 9.22651     a = 2.31026     t = 0.00204959
Bi: ratio chi2Mono/chi2Bi = 1.12772     d = 0.0001     a =
 2.59299     a1 = 1.07564     t1 =0.000427784     t2 = 0.00478743
------------------------------------------------------------------------- D
take bi
take bi
```

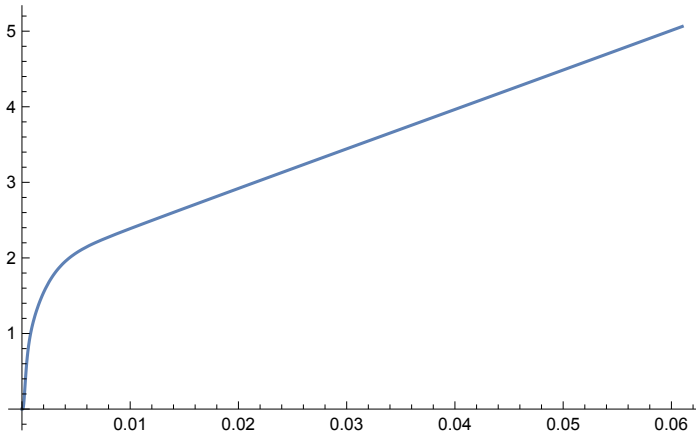
```
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
```

```
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
```




```
Mono: chi2 = 0.666668     d = 0.666668     a = 2.29959     t = 0.00203989
Bi: ratio chi2Mono/chi2Bi = 3.03964     d = 0.000155265     a =
 2.4588     a1 = 0.929528     t1 =0.000432588     t2 = 0.00363102
--------------------------------------------------------------------------------
  -------------------------
----------------     Ca = 23.7336
  uM         -------------------------------------------------------
--------------------------------------------------------------------------------
  -------------------------
```

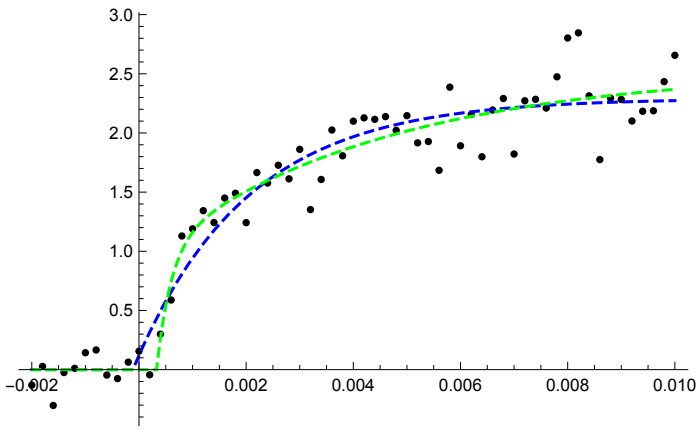




C5

```
take bi
take bi
take mono
take bi
take bi
take bi
take mono
take bi
take bi
take mono
take bi
take bi
take bi
take bi
take mono
take bi
take bi
take bi
take bi
take bi
take mono
take bi
take bi
take bi
take bi
take mono
take bi
take bi
```

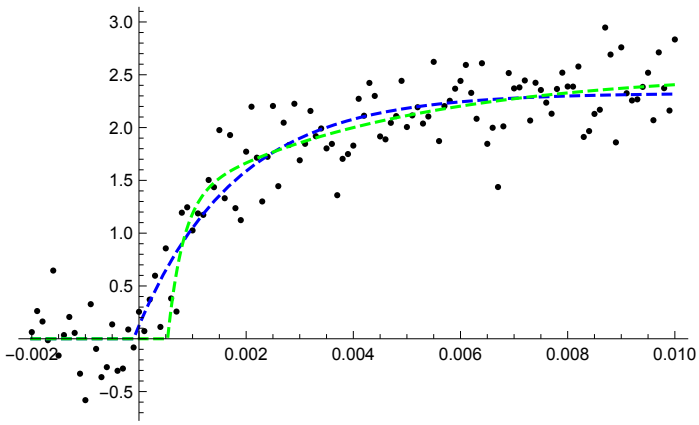
```
take mono
take bi
take bi
take bi
take mono
take bi
take mono
take mono
take bi
take mono
take bi
take bi
take bi
take mono
take mono
take bi
take mono
take bi
take bi
take bi
take bi
take bi
```




```
Mono: chi2 = 3.00216     d = 3.00216     a = 2.29167     t = 0.00209943
Bi: ratio chi2Mono/chi2Bi = 1.19046     d = 0.000329264     a =
 2.53549     a1 = 1.03621     t1 =0.000272903     t2 = 0.00440723
------------------------------------------------------------------------ C10
take bi
take bi
take bi
take bi
```

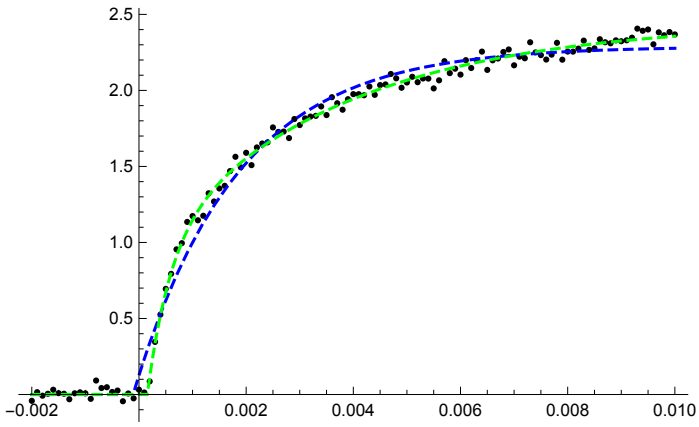
```
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take mono
take mono
take mono
take bi
take bi
take mono
take bi
take bi
take mono
take bi
take bi
take bi
take bi
take bi
take bi
take mono
take mono
take bi
take bi
take mono
take bi
take bi
take mono
take mono
take mono
take mono
take bi
take mono
```

```
take bi
take mono
take bi
take mono
take bi
take mono
take mono
```




```
Mono: chi2 = 9.59762     d = 9.59762     a = 2.32647     t = 0.0018294
Bi: ratio chi2Mono/chi2Bi = 0.970793     d = 0.000535055     a =
 2.53207     a1 = 1.31014     t1 =0.000283596     t2 = 0.00416837
------------------------------------------------------------------------- D
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
```

```
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
```

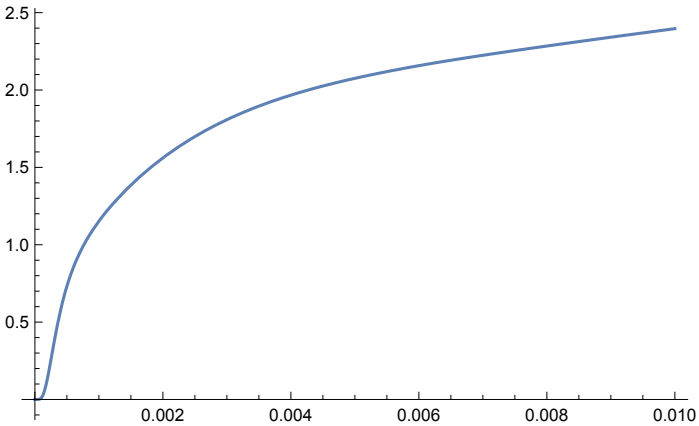


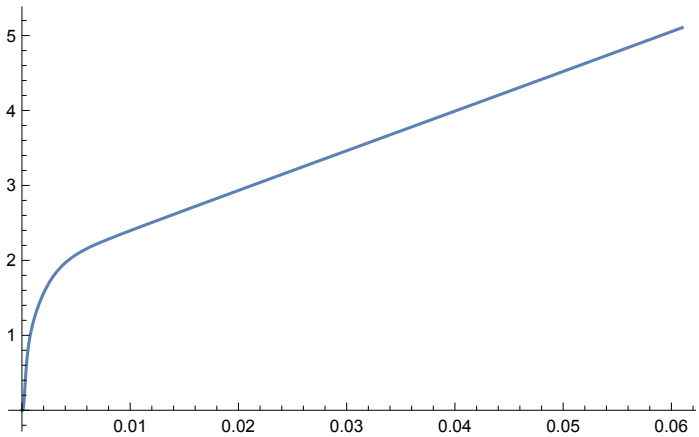
Mono: chi2 = 0.668601 d = 0.668601 a = 2.28907 t = 0.00192727

Bi: ratio chi2Mono/chi2Bi = 3.60518 d = 0.000155822 a = 2.45207 a1 = 0.973475 t1 =0.000428342 t2 = 0.00360037

--- Ca = 24.939

uM ---





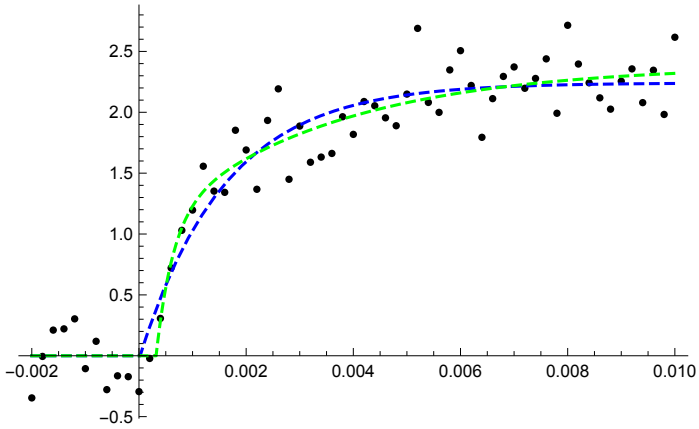
--- C5

take bi

take bi

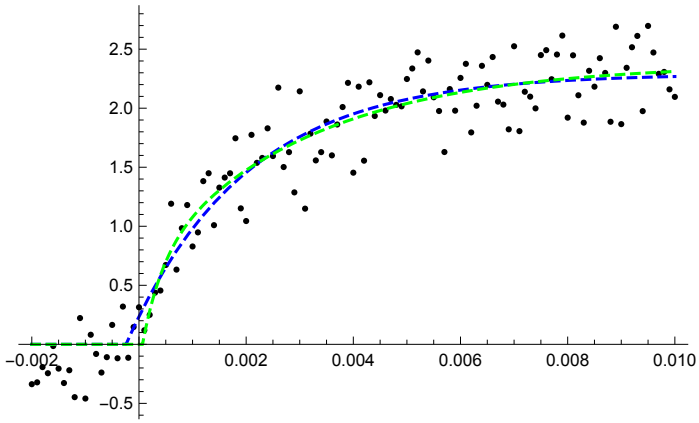
```
take bi
take bi
take bi
take bi
take bi
take bi
take mono
take bi
take mono
take bi
take mono
take bi
take bi
take bi
take mono
take mono
take bi
take mono
take bi
take bi
take bi
take bi
take bi
take mono
take mono
take mono
take bi
take mono
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take mono
```

```
take bi
take mono
take bi
take bi
take bi
take mono
take bi
take mono
take bi
```



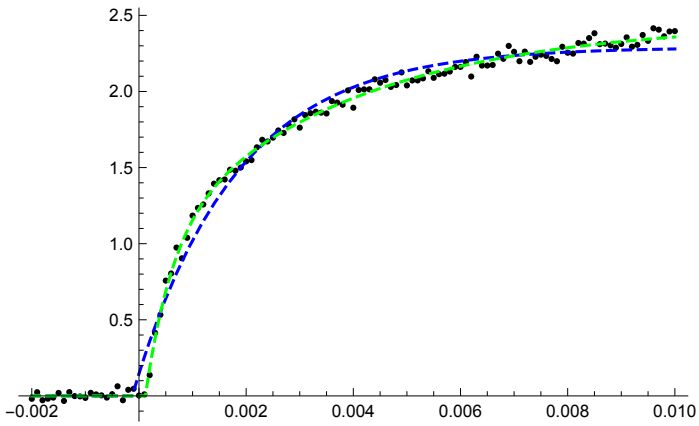

```
Mono: chi2 = 3.27978     d = 3.27978     a = 2.241     t = 0.0015915
Bi: ratio chi2Mono/chi2Bi = 1.14846     d = 0.000319498     a =
 2.38814     a1 = 1.11784     t1 =0.000311363     t2 = 0.00331218
------------------------------------------------------------------------ C10
take bi
take mono
take bi
take mono
take bi
take mono
take bi
take bi
take bi
take bi
take mono
take bi
take bi
take bi
take bi
take bi
take bi
```

```
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take mono
take bi
take mono
take mono
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take mono
take mono
take bi
take bi
take bi
take bi
take bi
take bi
take mono
take mono
take bi
take bi
take mono
```



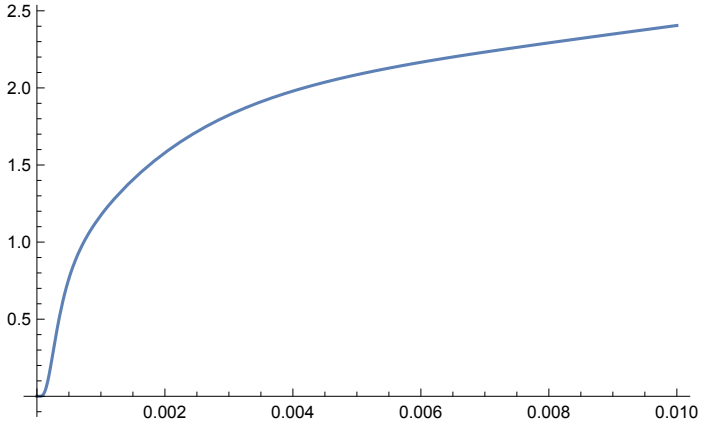

```
Mono: chi2 = 7.47687     d = 7.47687     a = 2.29105     t = 0.00221951

Bi: ratio chi2Mono/chi2Bi = 1.01707     d = 0.0000659627     a =
 2.37694     a1 = 0.688056     t1 =0.000369114     t2 = 0.00306123

------------------------------------------------------------------------ D

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi
```

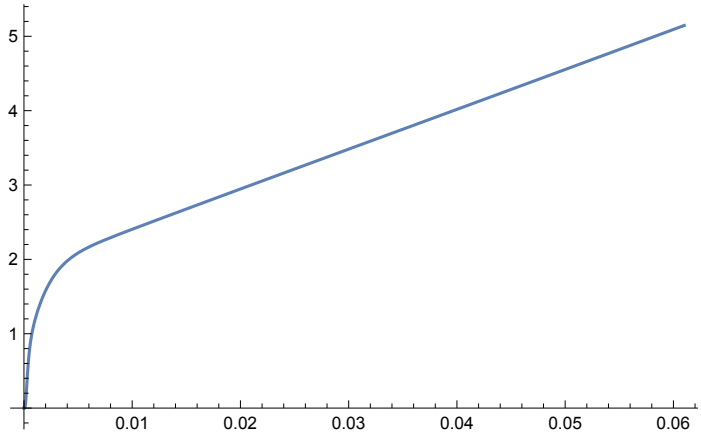
```
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
```




```
Mono: chi2 = 0.599771     d = 0.599771     a = 2.29049     t = 0.00190295
Bi: ratio chi2Mono/chi2Bi = 3.98834     d = 0.000120994     a =
 2.45549     a1 = 1.0247     t1 =0.00049641     t2 = 0.00368019
--------------------------------------------------------------------------------
  --------------------------
```

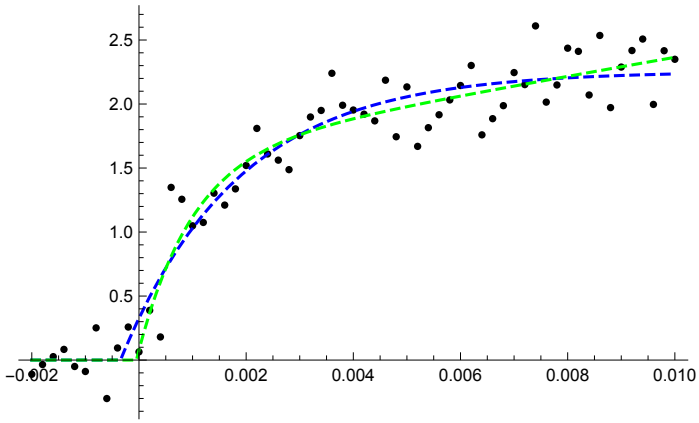
```
----------------     Ca = 26.2105
  uM          -------------------------------------------------------
-----------------------------------------------------------------------------------------
  -------------------------
```





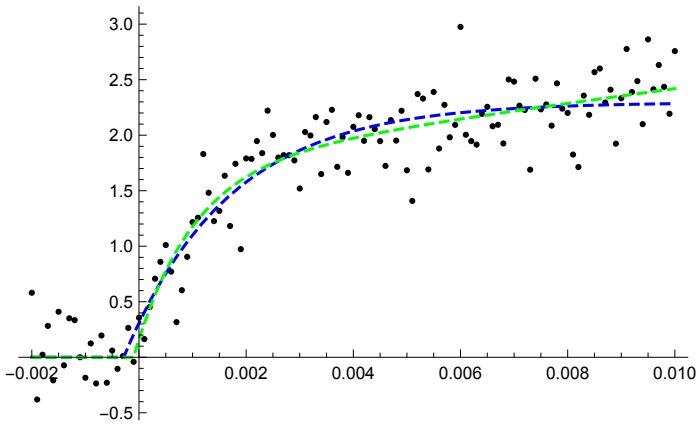

```
------------------------------------------------------------------------------ C5
take mono
take bi
take bi
take bi
take bi
take bi
take bi
take mono
take bi
take bi
take bi
take mono
take bi
take bi
take bi
take bi
```

```
take bi
take bi
take bi
take bi
take mono
take bi
take bi
take bi
take bi
take bi
take bi
take mono
take bi
take bi
take bi
take bi
take mono
take bi
take bi
take bi
take bi
take mono
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take mono
take bi
take bi
take bi
```




```
Mono: chi2 = 2.67709     d = 2.67709     a = 2.25515     t = 0.0022002
Bi: ratio chi2Mono/chi2Bi = 1.09162     d = -0.0000471302
      a = 11.7638     a1 = 1.59506     t1 =0.00100124     t2 = 0.127631
------------------------------------------------------------------------ C10
take mono
take bi
take bi
take bi
take mono
take bi
take mono
take mono
take mono
take mono
take bi
take mono
take bi
take bi
take mono
take bi
take mono
take mono
take bi
take bi
take bi
take bi
take bi
take bi
take mono
take bi
```

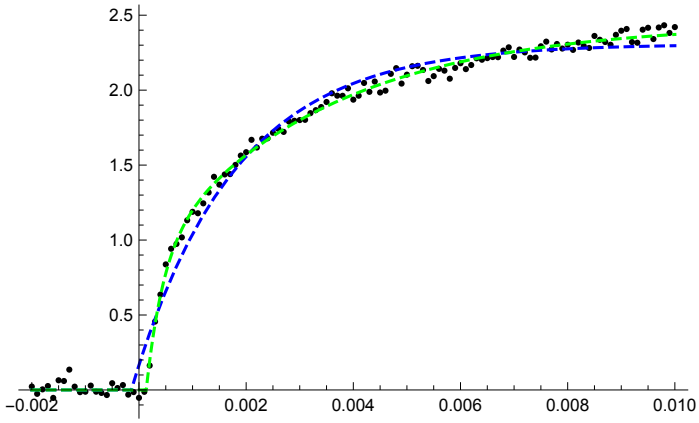
```
take mono
take mono
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take mono
take bi
take bi
take bi
take bi
take bi
take bi
take mono
take mono
take bi
take bi
take bi
take mono
take bi
take bi
```



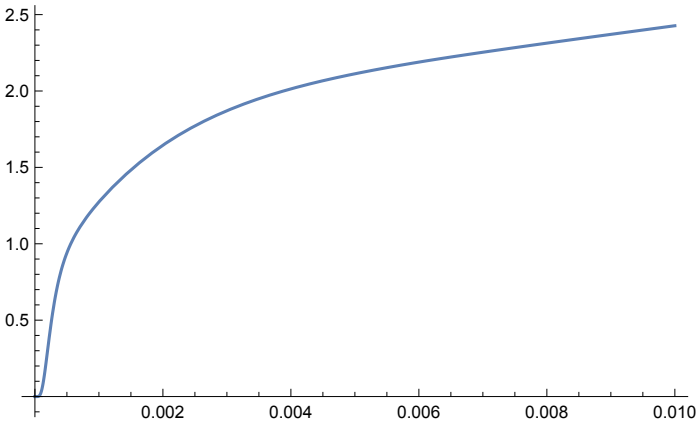

```
Mono: chi2 = 9.02117     d = 9.02117     a = 2.29624     t = 0.00196514
Bi: ratio chi2Mono/chi2Bi = 1.06377     d = -0.0001     a =
 6.60094     a1 = 1.70786     t1 =0.00107495     t2 = 0.0643209
------------------------------------------------------------------------ D
take bi
take bi
```

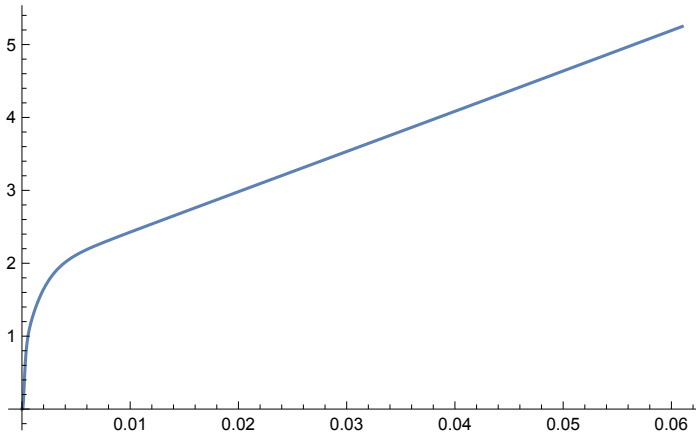
```
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
```

```
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
```




```
Mono: chi2 = 0.756442     d = 0.756442     a = 2.30767     t = 0.00190584
Bi: ratio chi2Mono/chi2Bi = 4.12726     d = 0.000135757     a =
 2.44813     a1 = 0.897909     t1 =0.000316274     t2 = 0.00328055
-------------------------------------------------------------------------------------
  -------------------------
----------------     Ca = 30.4385
  uM         -------------------------------------------------------
-------------------------------------------------------------------------------------
  -------------------------
```





---------- C5

```
take mono
take bi
take bi
take mono
take bi
take bi
take mono
take mono
take bi
take bi
take mono
take mono
take bi
take bi
take bi
take mono
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take mono
```

take bi

take mono

take bi

take bi

take bi

take bi

take bi

take mono

take bi

take bi

take bi

take mono

take bi

take bi

take bi

take mono

take bi

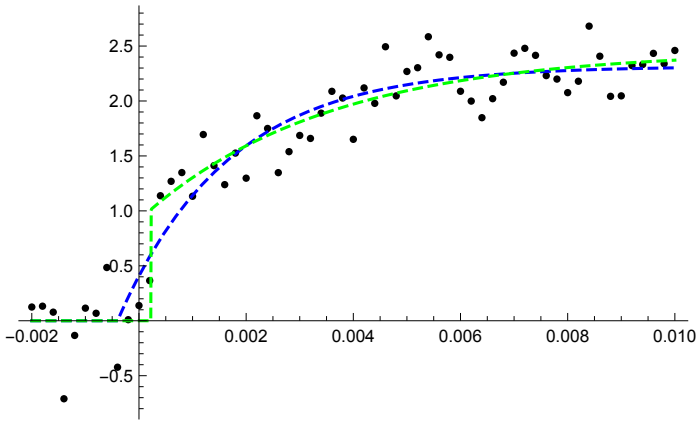
take bi

take bi

take bi

take bi

take bi



Mono: chi2 = 3.69082 d = 3.69082 a = 2.31649 t = 0.00206085

Bi: ratio chi2Mono/chi2Bi = 1.13578 d = 0.000222915 a = 2.45752 a1 = 1.01276 t1 = 1.68079×10^{-6} t2 = 0.00346669

---------- C10

take bi

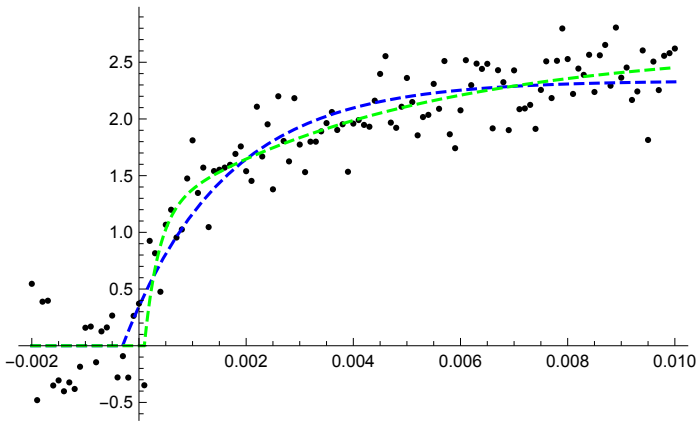
take bi

take bi

take bi

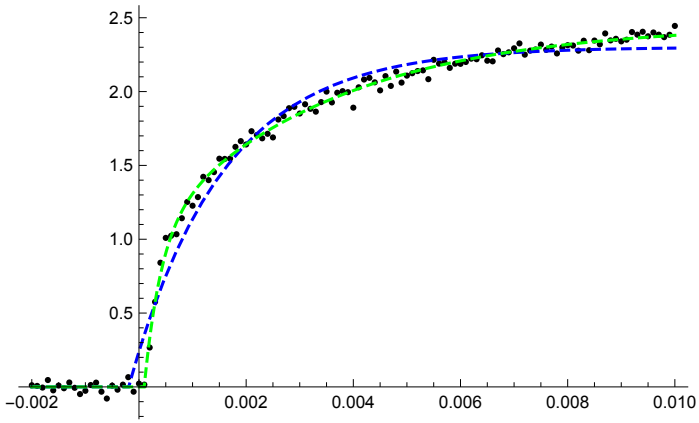
```
take bi
take bi
take bi
take bi
take mono
take bi
take mono
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take mono
take bi
take bi
take mono
take mono
take bi
take bi
take bi
take bi
take mono
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
```

```
take bi
take bi
take bi
take bi
take bi
take bi
take bi
```




```
Mono: chi2 = 8.64888     d = 8.64888     a = 2.33739     t = 0.00189166
Bi: ratio chi2Mono/chi2Bi = 1.14823     d = 0.0001     a =
 2.63757     a1 = 1.16275     t1 =0.000263105     t2 = 0.00476738
------------------------------------------------------------------------ D
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
```

```
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
```

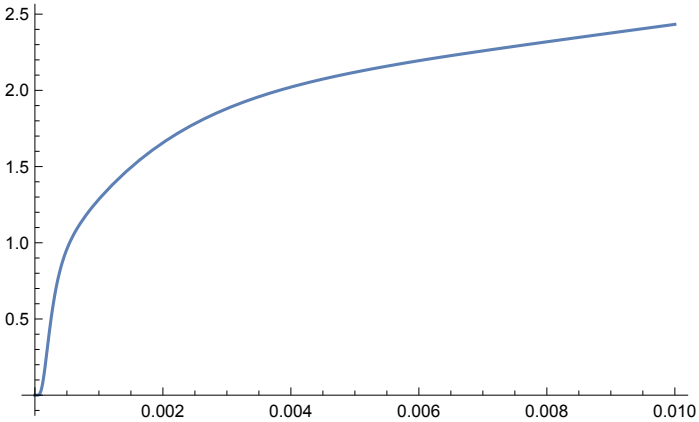


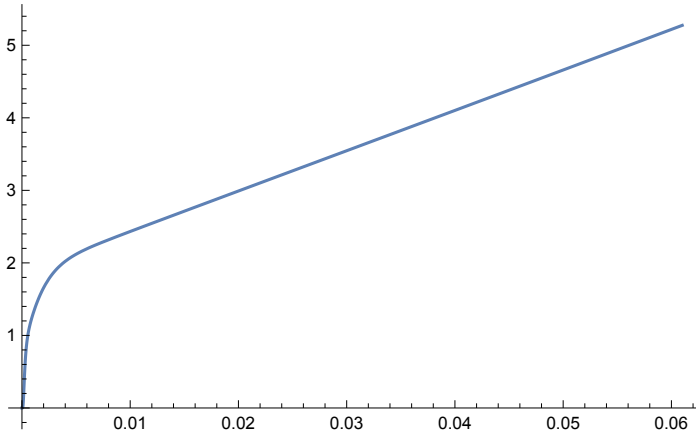
Mono: chi2 = 0.909624 d = 0.909624 a = 2.3011 t = 0.0017459

Bi: ratio chi2Mono/chi2Bi = 5.30931 d = 0.0000978732 a = 2.45754 a1 = 1.0339 t1 =0.000314125 t2 = 0.00339043

--- Ca = 31.9006

uM ---





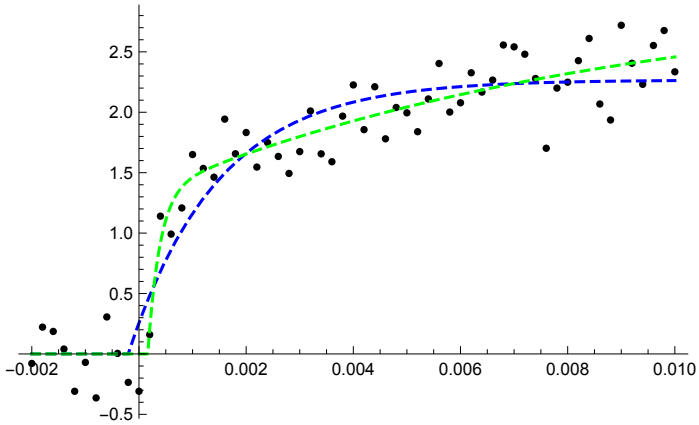
--- C5

take bi

take bi

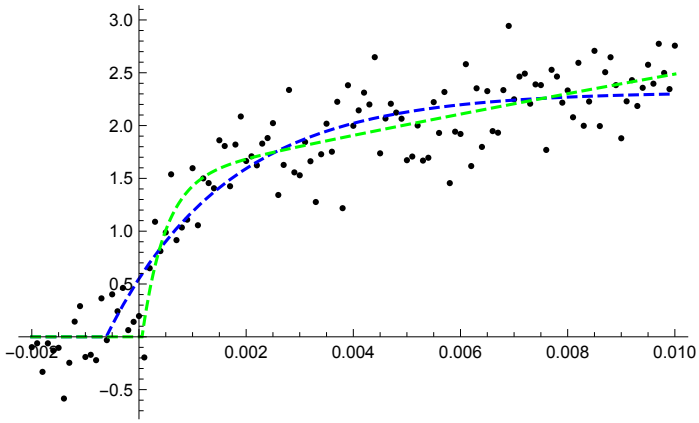
```
take mono
take bi
take bi
take bi
take bi
take mono
take bi
take bi
take bi
take bi
take bi
take mono
take bi
take bi
take bi
take bi
take bi
take bi
take mono
take bi
take bi
take bi
take mono
take bi
take bi
take bi
take mono
take bi
take bi
take mono
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
```

```
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
```



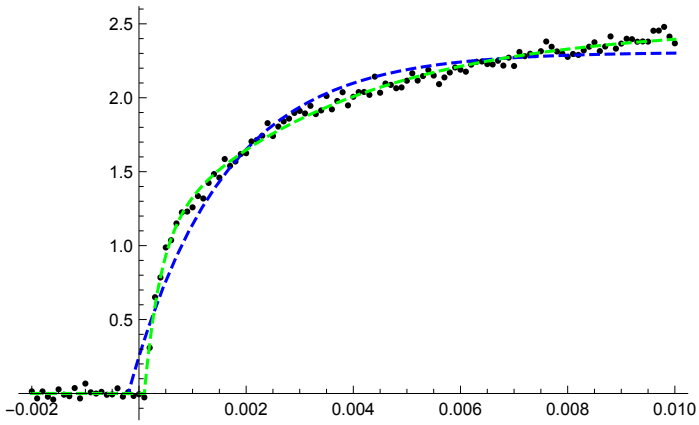

```
Mono: chi2 = 4.17588     d = 4.17588     a = 2.26718     t = 0.00166948
Bi: ratio chi2Mono/chi2Bi = 1.49715     d = 0.000164552     a =
 2.99645     a1 = 1.34166     t1 =0.000222797     t2 = 0.00876732
------------------------------------------------------------------------ C10
take mono
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take mono
take bi
take bi
take bi
take mono
take bi
take bi
take bi
```

```
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take mono
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take mono
take mono
take bi
take bi
take bi
take mono
take bi
```



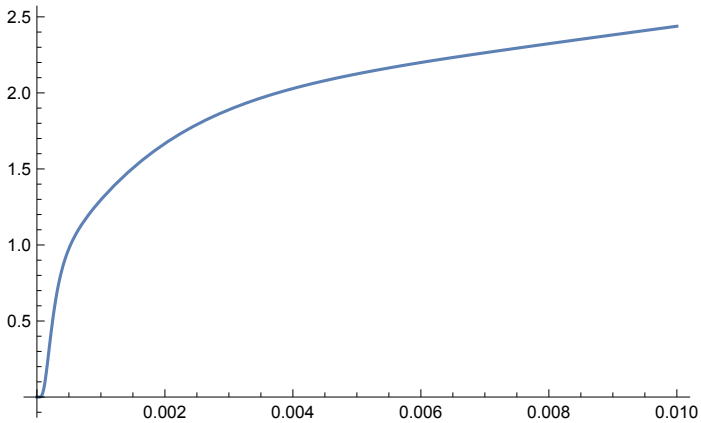

```
Mono: chi2 = 11.1232     d = 11.1232     a = 2.31952     t = 0.00224677

Bi: ratio chi2Mono/chi2Bi = 1.14877     d = 0.0000572483     a =
 7.01131     a1 = 1.48572     t1 =0.000426637     t2 = 0.0497041

------------------------------------------------------------------------ D

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi
```

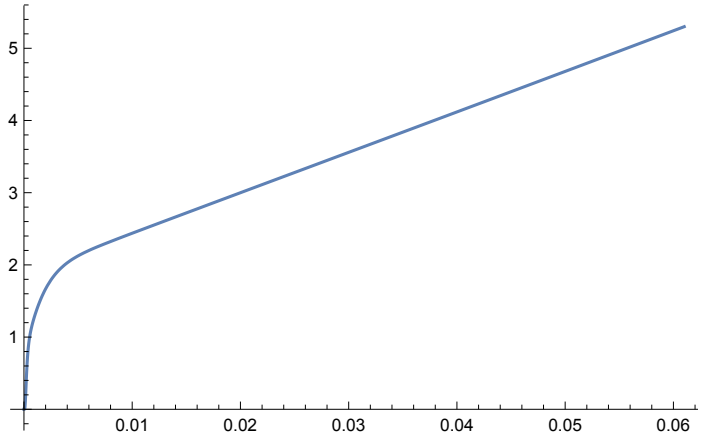
```
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
```




```
Mono: chi2 = 0.989511     d = 0.989511     a = 2.30871     t = 0.00175103
Bi: ratio chi2Mono/chi2Bi = 6.09681     d = 0.0001     a =
 2.48303     a1 = 1.05967     t1 =0.000300336     t2 = 0.00355281
-------------------------------------------------------------------------------------
  --------------------------
```

---------- Ca = 33.4338
uM ----------





---------- C5

take bi

take bi

take mono

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

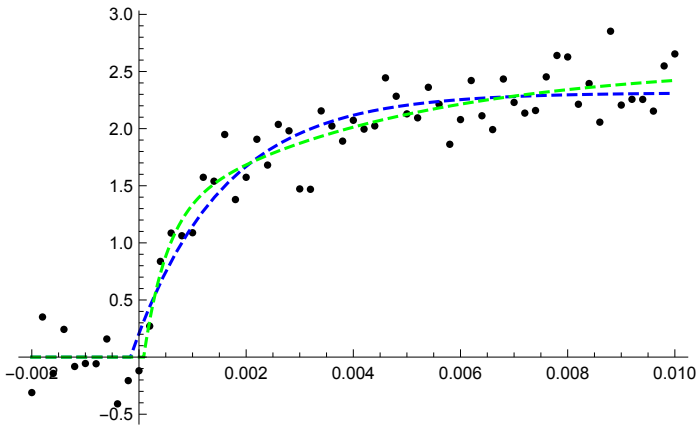
take bi

take mono

take bi

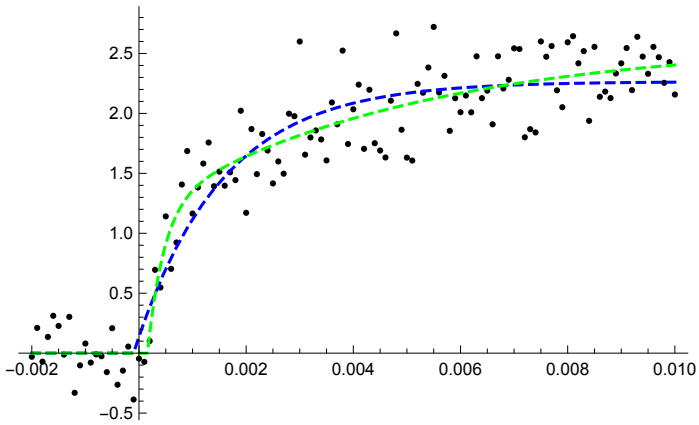
take bi

```
take bi
take mono
take bi
take mono
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take mono
take bi
take bi
take bi
take bi
take bi
take mono
take bi
take bi
take mono
take bi
take bi
take mono
take bi
take bi
take bi
take bi
take bi
take bi
take bi
```




```
Mono: chi2 = 3.18491     d = 3.18491     a = 2.31415     t = 0.00168673

Bi: ratio chi2Mono/chi2Bi = 1.17463     d = 0.0000880533     a =
 2.56195     a1 = 1.2236     t1 =0.000421141     t2 = 0.00438813

------------------------------------------------------------------------ C10

take mono

take bi

take bi

take bi

take bi

take bi

take mono

take bi

take mono

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take mono

take bi

take bi

take bi

take mono

take bi

take bi

take bi

take bi
```

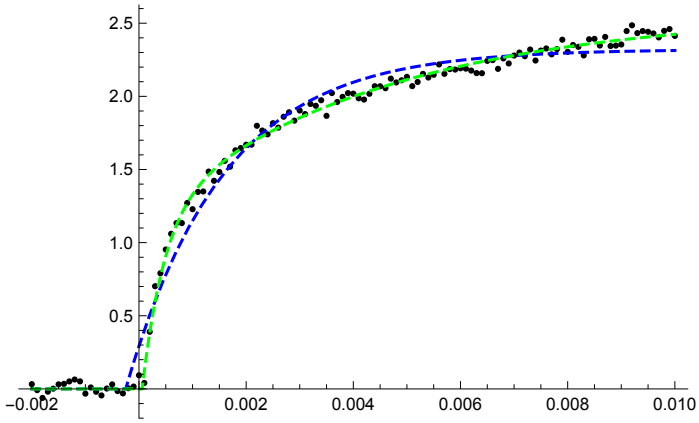
```
take bi
take mono
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take mono
take bi
take bi
take bi
take bi
take bi
```



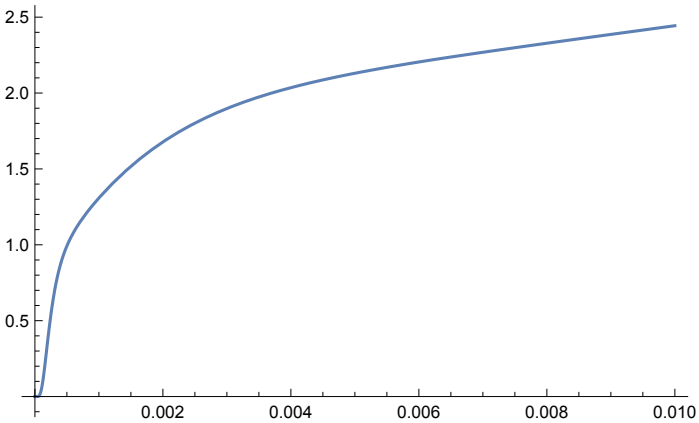

```
Mono: chi2 = 8.83462     d = 8.83462     a = 2.26492     t = 0.00161648
Bi: ratio chi2Mono/chi2Bi = 1.18655     d = 0.000159073     a =
 2.59549     a1 = 1.22056     t1 =0.000307198     t2 = 0.00499059
------------------------------------------------------------------------ D
take bi
take bi
```

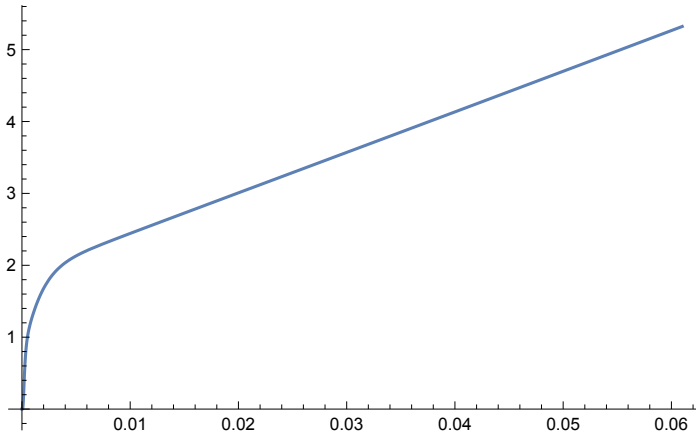
```
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
```

```
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
```




```
Mono: chi2 = 0.974334     d = 0.974334     a = 2.3216     t = 0.00181993
Bi: ratio chi2Mono/chi2Bi = 4.63598     d = 0.0000604789     a =
 2.57455     a1 = 1.1879     t1 =0.000413001     t2 = 0.00448165
------------------------------------------------------------------------------------------
  -------------------------
----------------     Ca = 35.0413
  uM         -------------------------------------------------------
------------------------------------------------------------------------------------------
  -------------------------
```

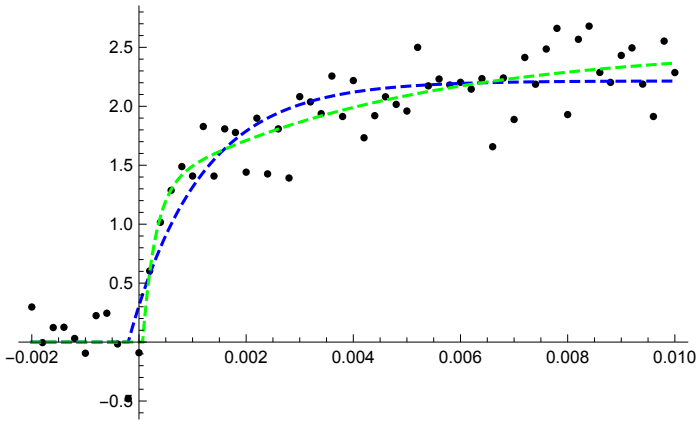




C5

```
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take mono
take bi
take bi
take bi
take bi
take bi
take mono
take bi
take bi
take bi
take bi
take bi
take bi
take mono
take bi
take bi
take bi
take bi
take bi
take bi
take bi
```

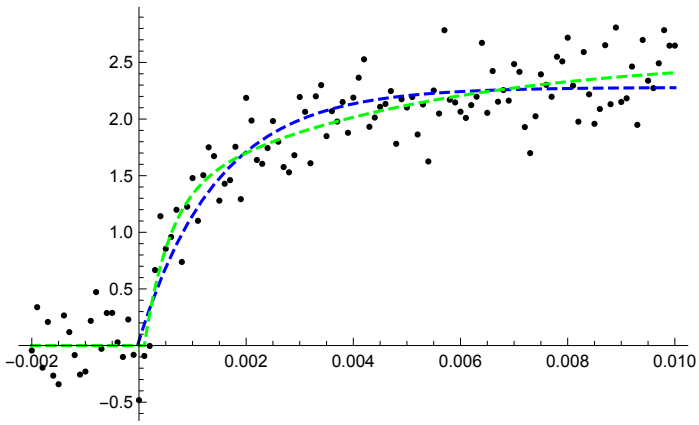
```
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take mono
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
```




```
Mono: chi2 = 3.76752     d = 3.76752     a = 2.21507     t = 0.00133426
Bi: ratio chi2Mono/chi2Bi = 1.31145     d = 0.0000684067     a =
 2.50758     a1 = 1.29719     t1 =0.000236004     t2 = 0.00462357
------------------------------------------------------------------------ C10
take mono
take mono
take bi
take bi
```

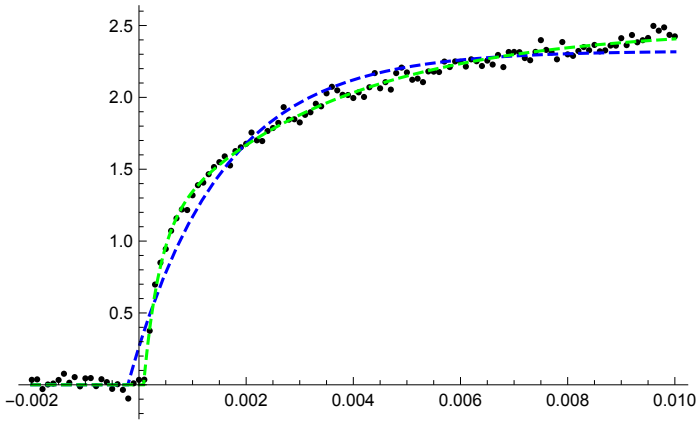
```
take bi
take mono
take bi
take bi
take bi
take bi
take mono
take bi
take bi
take bi
take bi
take bi
take bi
take mono
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take mono
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
```

```
take bi
take mono
take bi
take bi
take mono
take bi
take bi
```




```
Mono: chi2 = 8.26561     d = 8.26561     a = 2.27925     t = 0.00145899
Bi: ratio chi2Mono/chi2Bi = 1.1201     d = 0.0001     a =
 2.55499     a1 = 1.29397     t1 =0.00046028     t2 = 0.00458591
------------------------------------------------------------------------- D
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
```

```
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
```

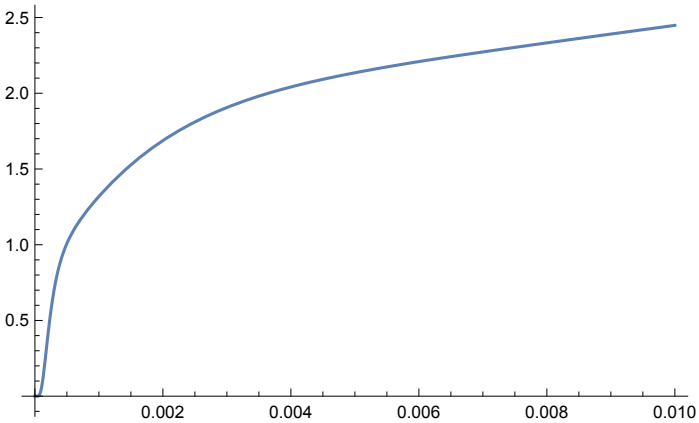


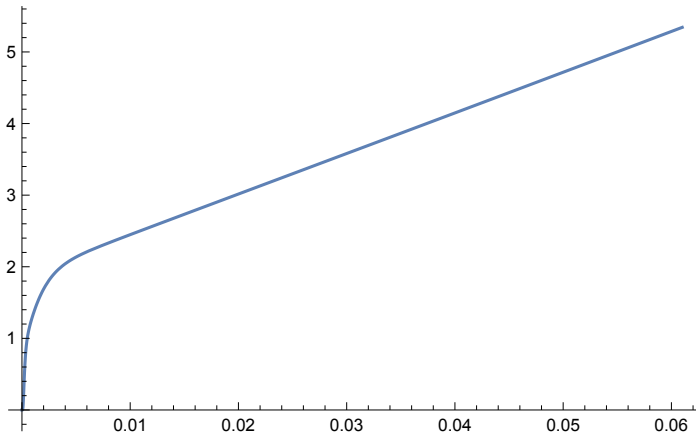
Mono: chi2 = 0.973859 d = 0.973859 a = 2.32317 t = 0.00171983

Bi: ratio chi2Mono/chi2Bi = 4.99979 d = 0.0000862918 a = 2.48239 a1 = 1.04782 t1 =0.000288572 t2 = 0.00336988

--- Ca = 36.727

uM ---





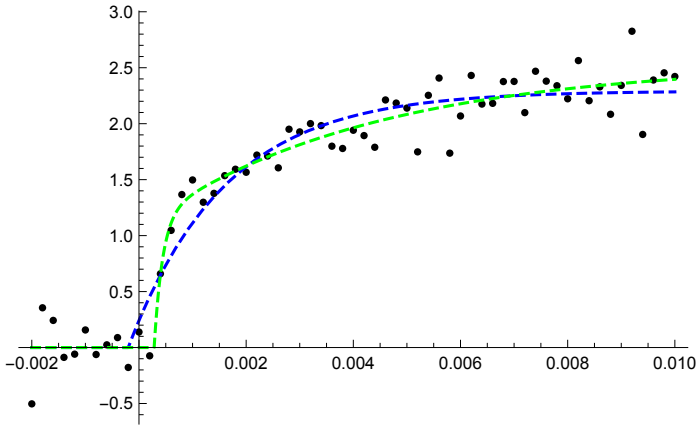
--- C5

take bi

take bi

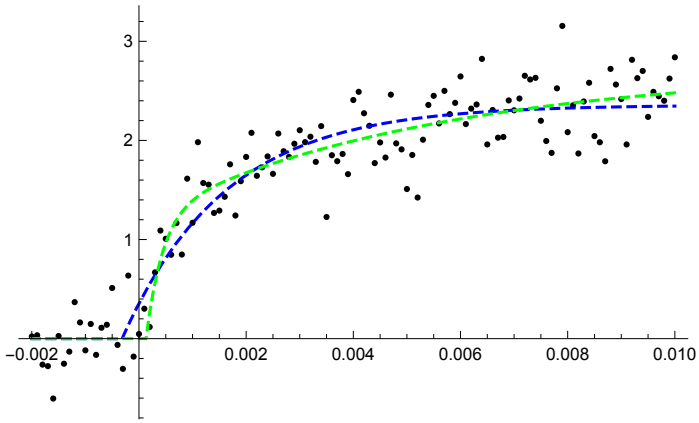
```
take bi
take bi
take mono
take bi
take bi
take bi
take bi
take bi
take mono
take bi
take bi
take bi
take bi
take mono
take bi
take mono
take bi
take bi
take bi
take mono
take bi
take bi
take bi
take bi
take mono
take mono
take mono
take bi
take bi
take mono
take mono
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
```

```
take bi
take mono
take mono
take mono
take bi
take bi
take bi
take bi
take bi
```



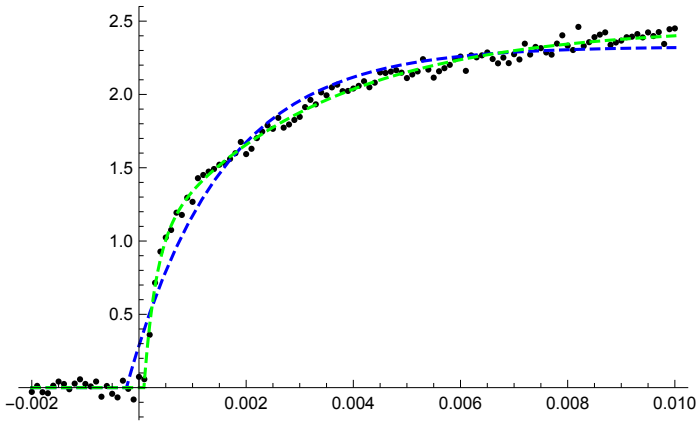

```
Mono: chi2 = 2.80317     d = 2.80317     a = 2.29207     t = 0.00180359
Bi: ratio chi2Mono/chi2Bi = 1.39368     d = 0.000283047     a =
 2.5375     a1 = 1.16929     t1 =0.000157526     t2 = 0.00427948
------------------------------------------------------------------------ C10
take mono
take bi
take bi
take bi
take mono
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
```

```
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take mono
take bi
take bi
take bi
take bi
take bi
take mono
take bi
take bi
take bi
take bi
take bi
take mono
take bi
take bi
take bi
take bi
take bi
take bi
take bi
```



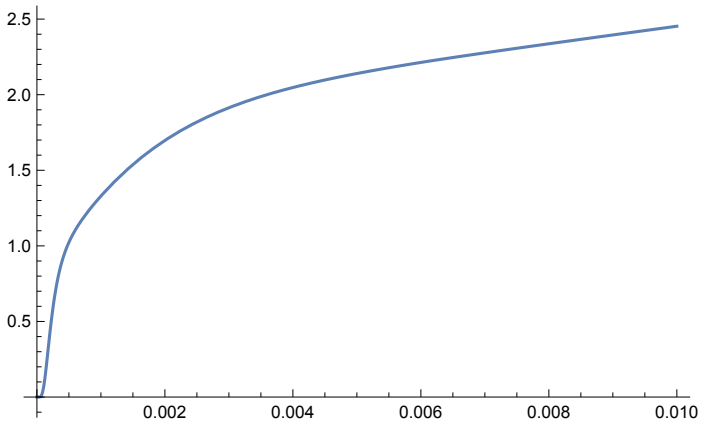

```
Mono: chi2 = 11.0262     d = 11.0262     a = 2.35739     t = 0.00192154

Bi: ratio chi2Mono/chi2Bi = 1.10387     d = 0.000133131     a =
 2.72986     a1 = 1.25778     t1 =0.000310452     t2 = 0.00556128

------------------------------------------------------------------------ D

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi
```

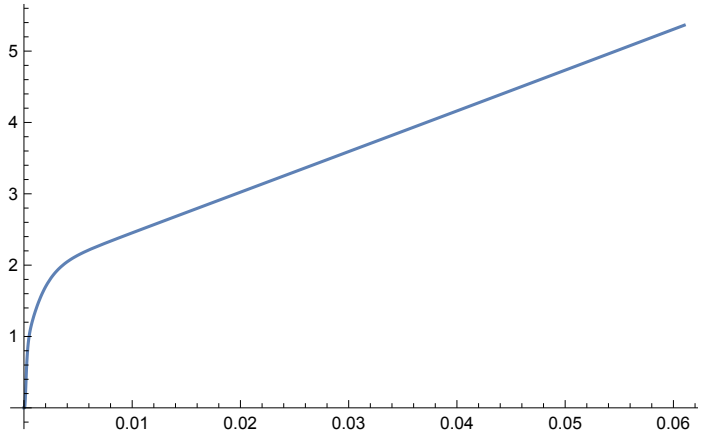
```
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
```




```
Mono: chi2 = 1.02078     d = 1.02078     a = 2.32628     t = 0.00175416
Bi: ratio chi2Mono/chi2Bi = 5.24392     d = 0.0000923096     a =
 2.46369     a1 = 0.987158     t1 =0.000224089     t2 = 0.00315151
-------------------------------------------------------------------------------------
  --------------------------
```

---------- Ca = 38.4944
uM ----------





---------- C5

take bi

take bi

take mono

take bi

take mono

take bi

take bi

take bi

take bi

take mono

take bi

take bi

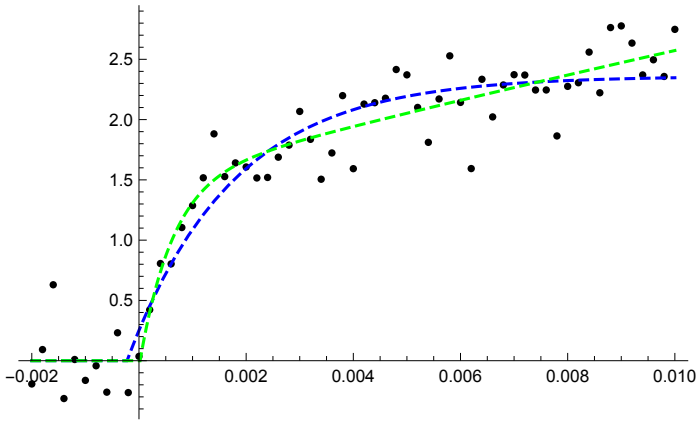
take bi

take bi

take bi

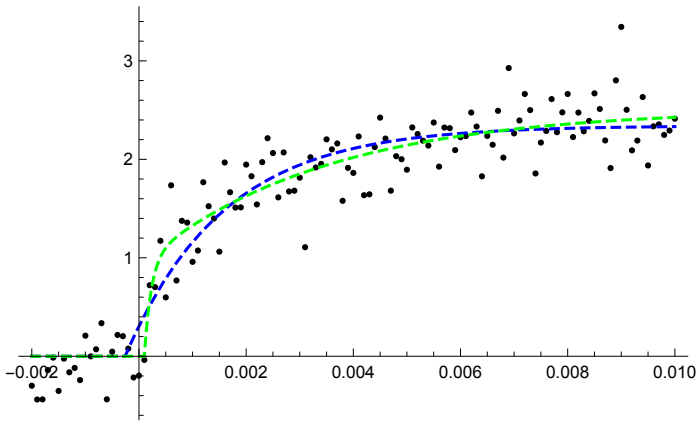
take bi

```
take bi
take bi
take mono
take bi
take mono
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take mono
take bi
take bi
take bi
take bi
take bi
take mono
take bi
take bi
take bi
take mono
take mono
take bi
take mono
take mono
take bi
take mono
take bi
take mono
take bi
```




```
Mono: chi2 = 3.88684     d = 3.88684     a = 2.36026     t = 0.00197391

Bi: ratio chi2Mono/chi2Bi = 1.2549     d = 0.0000205163     a =
 9.47756     a1 = 1.49591     t1 =0.000609843     t2 = 0.0688603

------------------------------------------------------------------------ C10

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi
```

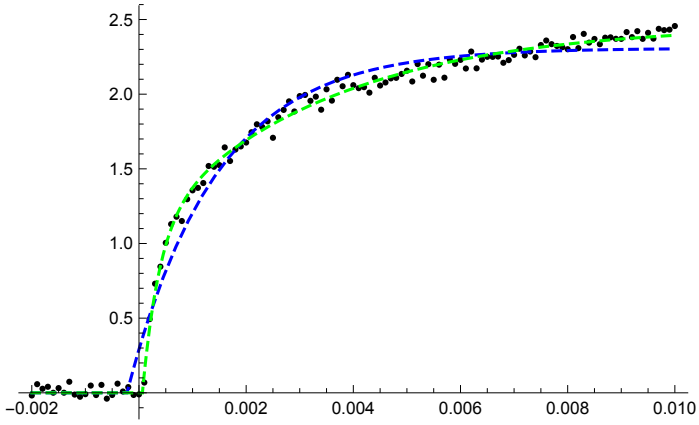
```
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take mono
take bi
take bi
```



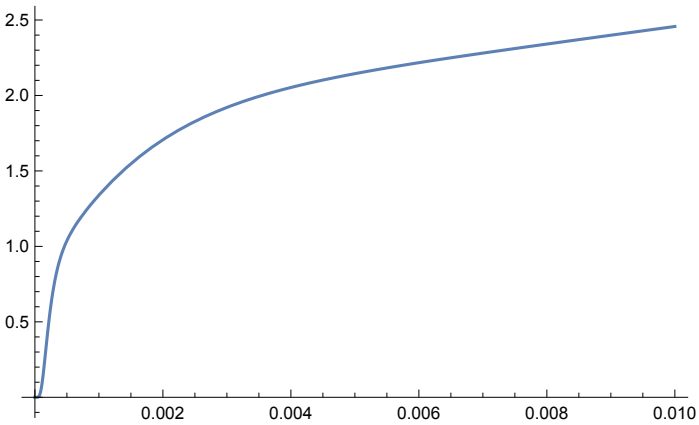

```
Mono: chi2 = 10.1999     d = 10.1999     a = 2.34076     t = 0.001836
Bi: ratio chi2Mono/chi2Bi = 1.15339     d = 0.0000996746     a =
 2.51195     a1 = 0.973503     t1 =0.00012971     t2 = 0.00342713
------------------------------------------------------------------------- D
take bi
take bi
```

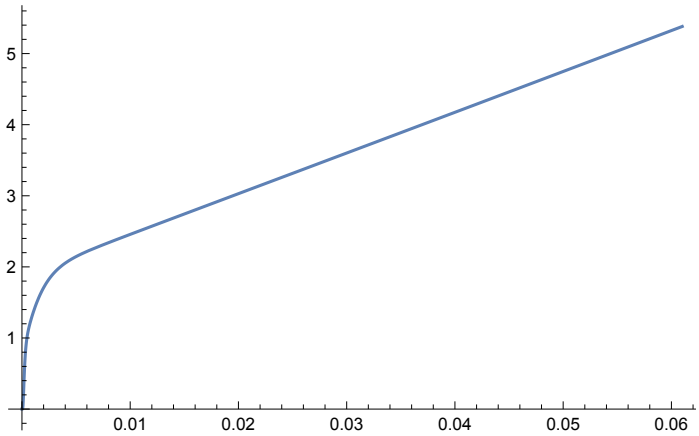
```
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
```

```
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
```




```
Mono: chi2 = 0.992548     d = 0.992548     a = 2.30804     t = 0.00165316
Bi: ratio chi2Mono/chi2Bi = 4.22896     d = 0.0000643286     a =
 2.46711     a1 = 1.09951     t1 =0.000315748     t2 = 0.00338817
--------------------------------------------------------------------------------
  -------------------------
----------------     Ca = 40.3477
  uM         -------------------------------------------------------
--------------------------------------------------------------------------------
  -------------------------
```

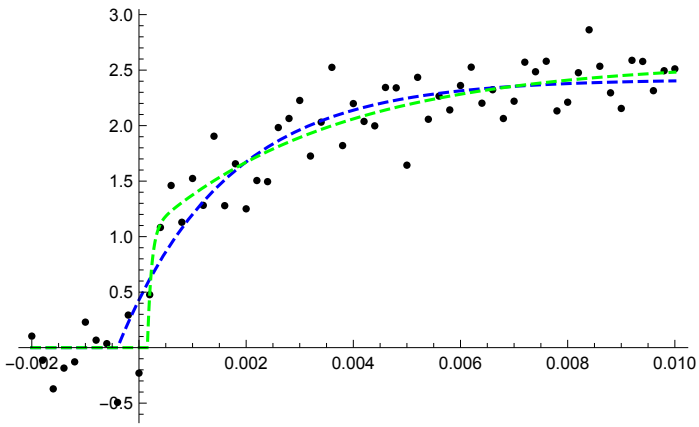




---------- C5

```
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take mono
take mono
take bi
take bi
take bi
take mono
take bi
take bi
take bi
take bi
take bi
take bi
take mono
take bi
take bi
take bi
take bi
take bi
take bi
take bi
```

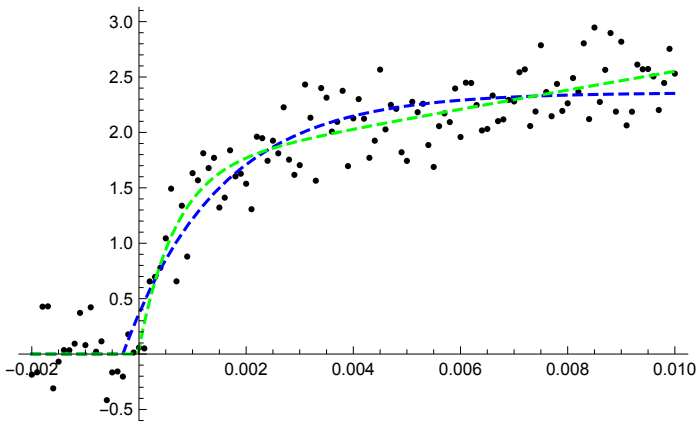
```
take bi
take bi
take bi
take bi
take bi
take bi
take mono
take bi
take bi
take mono
take bi
take bi
take bi
take bi
take mono
take mono
take bi
take bi
take mono
take bi
take bi
take bi
```




```
Mono: chi2 = 3.86378     d = 3.86378     a = 2.41769     t = 0.00203639
Bi: ratio chi2Mono/chi2Bi = 1.24202     d = 0.000157047     a =
 2.57684     a1 = 1.05439     t1 =0.0000755179     t2 = 0.00355188
------------------------------------------------------------------------- C10
take bi
take bi
take bi
take bi
```

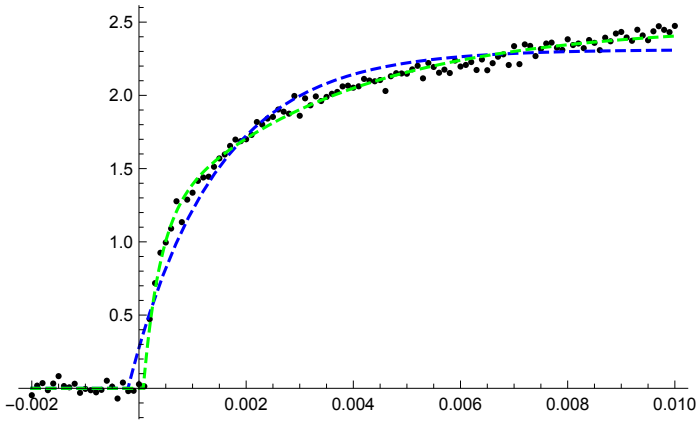
```
take bi
take bi
take bi
take bi
take mono
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take mono
take bi
take bi
take bi
take bi
take bi
take bi
take mono
take bi
take bi
take mono
take bi
take bi
take bi
take bi
take mono
take bi
take bi
take bi
```

```
take bi
take bi
take bi
take bi
take bi
take bi
take bi
```




```
Mono: chi2 = 8.44637     d = 8.44637     a = 2.35926     t = 0.00178189
Bi: ratio chi2Mono/chi2Bi = 1.16242     d = -0.000018477     a =
 10.478     a1 = 1.66598     t1 =0.000673697     t2 = 0.0946397
------------------------------------------------------------------------ D
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
```

```
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
```

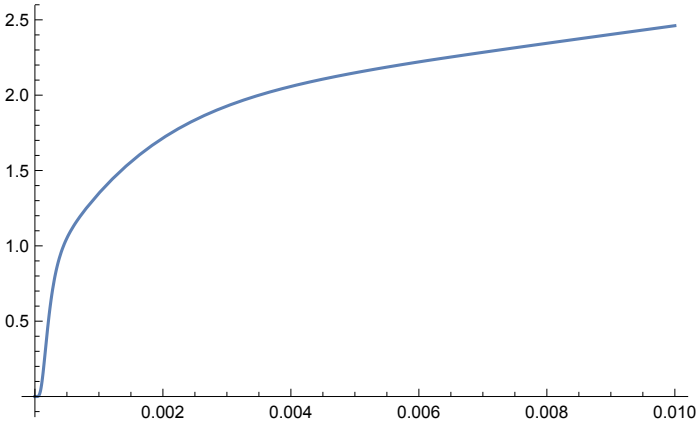


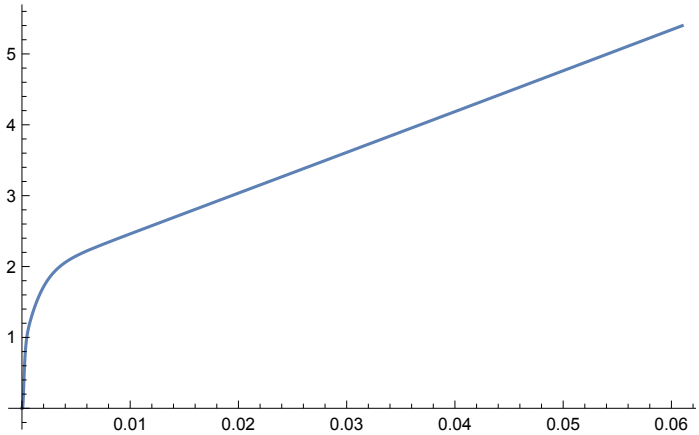
Mono: chi2 = 1.03587 d = 1.03587 a = 2.31261 t = 0.00160827

Bi: ratio chi2Mono/chi2Bi = 4.50756 d = 0.0000800045 a = 2.47934 a1 = 1.12534 t1 =0.000300077 t2 = 0.00342016

--- Ca = 42.2911

uM ---





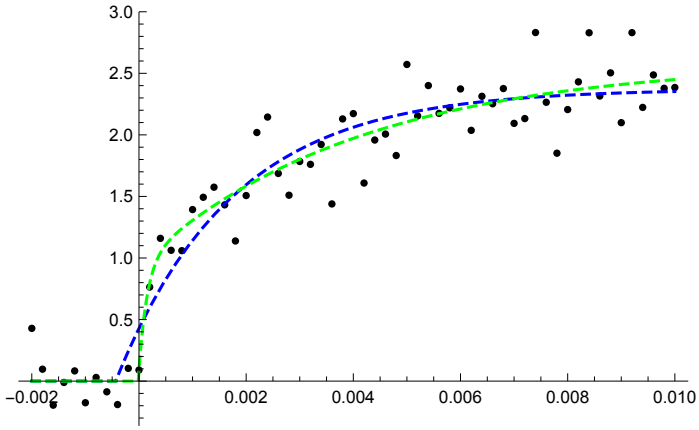
--- C5

take bi

take bi

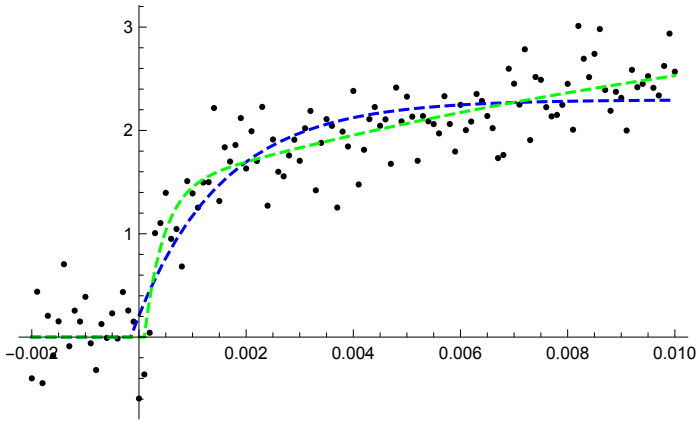
```
take bi
take mono
take mono
take bi
take mono
take bi
take bi
take mono
take bi
take bi
take bi
take mono
take mono
take bi
take bi
take bi
take bi
take bi
take bi
take mono
take bi
take bi
take bi
take mono
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take mono
take bi
take bi
take bi
take bi
take bi
take bi
take bi
```

```
take mono
take mono
take mono
take bi
take bi
take bi
take bi
take bi
take bi
```



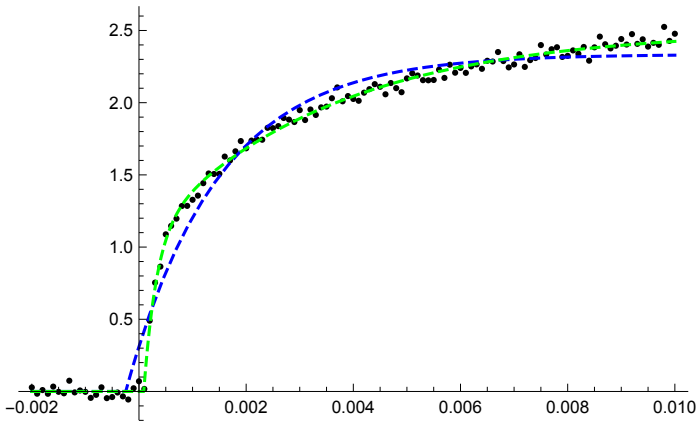

```
Mono: chi2 = 3.64594     d = 3.64594     a = 2.37184     t = 0.0021782
Bi: ratio chi2Mono/chi2Bi = 1.19293     d = -0.0000138261     a =
 2.59546     a1 = 0.949619     t1 =0.000153916     t2 = 0.00413544
------------------------------------------------------------------------ C10
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
```

```
take bi
take bi
take mono
take mono
take mono
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take mono
take bi
take bi
take bi
take bi
take mono
take bi
take bi
take bi
take bi
take bi
take mono
take bi
take mono
take bi
take bi
```



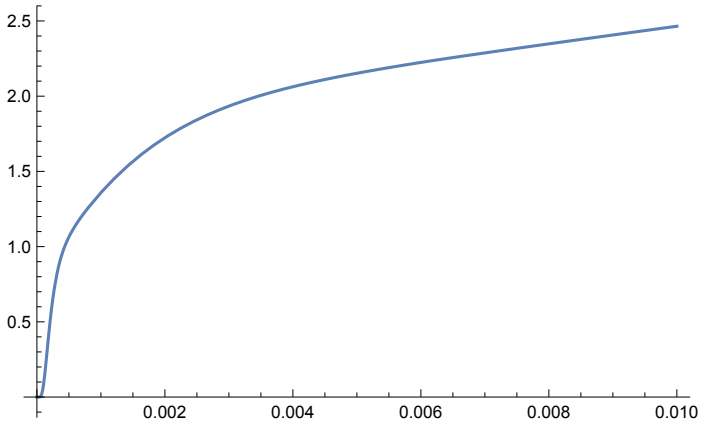

```
Mono: chi2 = 12.8921     d = 12.8921     a = 2.29669     t = 0.00160488

Bi: ratio chi2Mono/chi2Bi = 1.31044     d = 0.0001     a =
 3.62241     a1 = 1.4255     t1 =0.000352587     t2 = 0.0141727

------------------------------------------------------------------------ D

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi
```

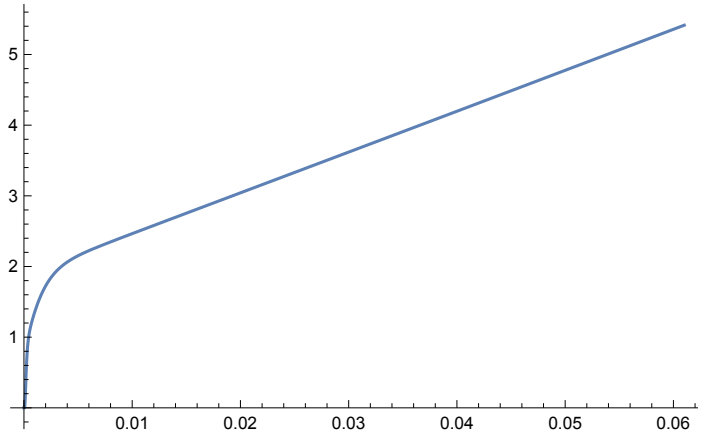
```
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
```




```
Mono: chi2 = 1.11049     d = 1.11049     a = 2.3349     t = 0.00171658
Bi: ratio chi2Mono/chi2Bi = 6.24841     d = 0.0000895484     a =
 2.5052     a1 = 1.07732     t1 =0.000237446     t2 = 0.00345293
-------------------------------------------------------------------------------------
  --------------------------
```

---------- Ca = 44.3291
uM ----------





---------- C5

take mono

take bi

take bi

take mono

take bi

take bi

take bi

take bi

take bi

take mono

take bi

take bi

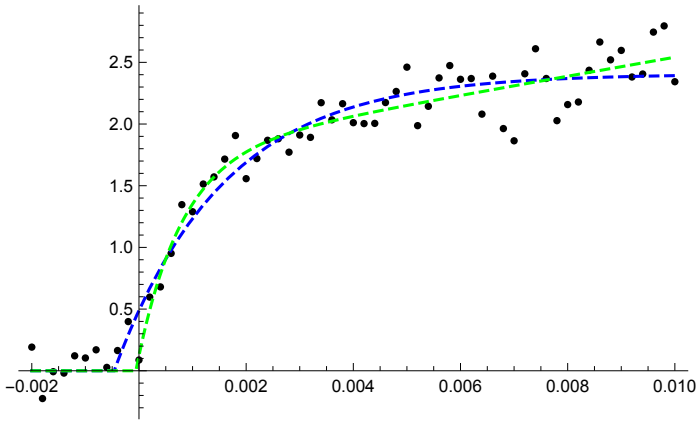
take bi

take bi

take bi

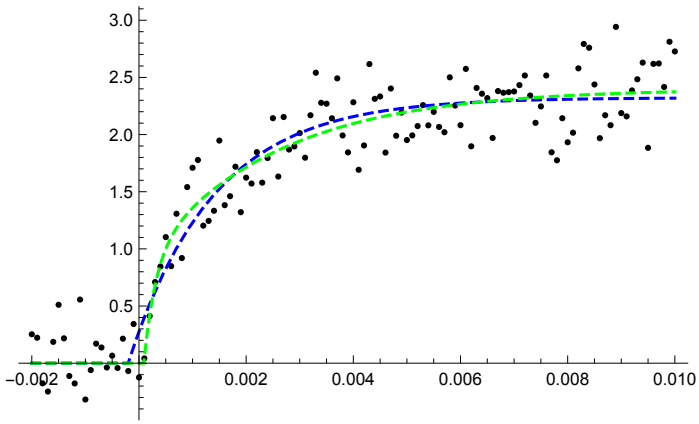
take bi

```
take bi
take bi
take bi
take bi
take mono
take bi
take bi
take mono
take bi
take mono
take bi
take mono
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take mono
take bi
take bi
take bi
take bi
take bi
take bi
take mono
take bi
take bi
```




```
Mono: chi2 = 2.05921     d = 2.05921     a = 2.4063     t = 0.00203343
Bi: ratio chi2Mono/chi2Bi = 1.16347     d = -0.0000570376
      a = 19.9154     a1 = 1.7533     t1 =0.00082374     t2 = 0.226645
------------------------------------------------------------------------ C10
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take mono
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
```

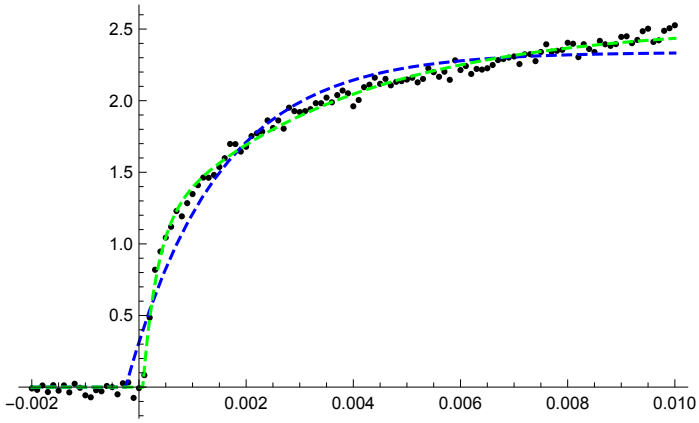
```
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take mono
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take mono
take bi
take bi
take bi
take bi
take bi
take bi
take bi
```



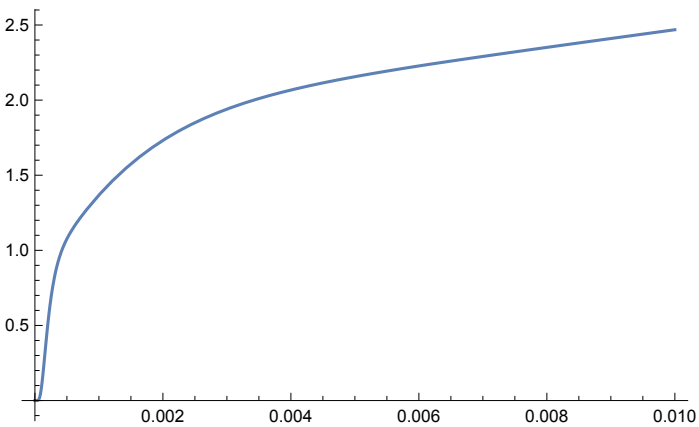

```
Mono: chi2 = 8.20042     d = 8.20042     a = 2.3221     t = 0.00158707
Bi: ratio chi2Mono/chi2Bi = 1.06977     d = 0.0000911495     a =
 2.40087     a1 = 0.915168     t1 =0.000220309     t2 = 0.0024662
------------------------------------------------------------------------- D
take bi
take bi
```

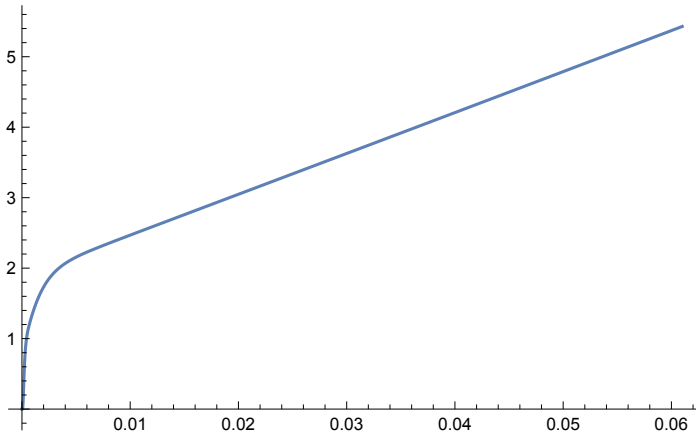
```
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
```

```
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
```




```
Mono: chi2 = 1.18592     d = 1.18592     a = 2.33843     t = 0.00170729
Bi: ratio chi2Mono/chi2Bi = 5.55815     d = 0.0000704923     a =
 2.52827     a1 = 1.10948     t1 =0.000267069     t2 = 0.00364342
-------------------------------------------------------------------------------------
  -------------------------
----------------     Ca = 46.4665
  uM          -------------------------------------------------------
-------------------------------------------------------------------------------------
  -------------------------
```

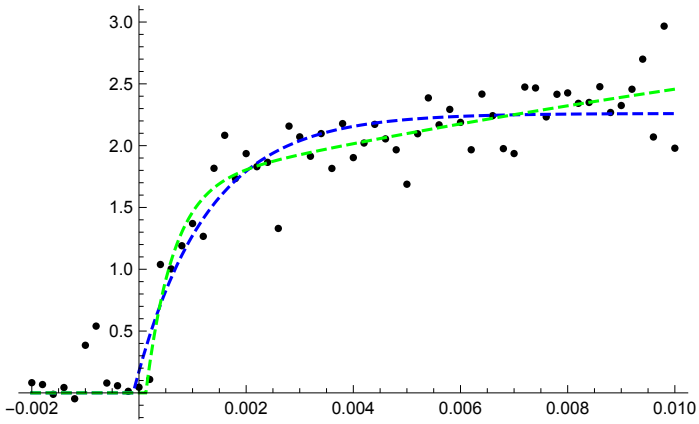




---------- C5

```
take bi
take bi
take mono
take mono
take bi
take bi
take bi
take mono
take bi
take bi
take bi
take bi
take bi
take bi
take mono
take bi
take mono
take bi
take bi
take mono
take mono
take bi
take mono
take bi
take bi
take mono
take bi
take bi
```

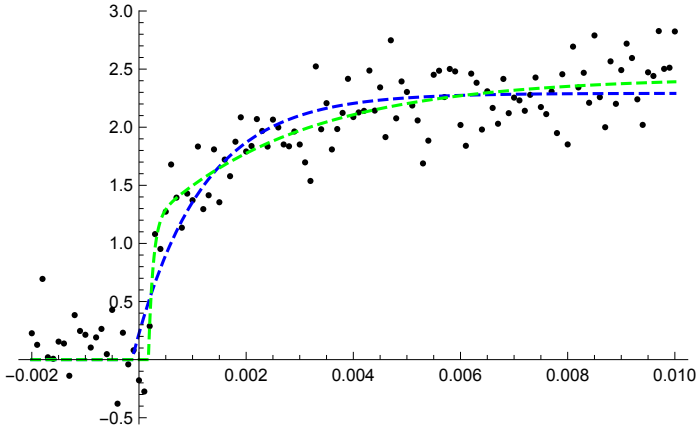
```
take bi
take mono
take bi
take bi
take bi
take bi
take bi
take mono
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take mono
take mono
take bi
take bi
take bi
take mono
take bi
take bi
```




```
Mono: chi2 = 3.44173     d = 3.44173     a = 2.2604     t = 0.00133616
Bi: ratio chi2Mono/chi2Bi = 1.25204     d = 0.000128472     a =
 3.97769     a1 = 1.66652     t1 =0.000496819     t2 = 0.0235838
------------------------------------------------------------------------ C10
take bi
take bi
take bi
take bi
```

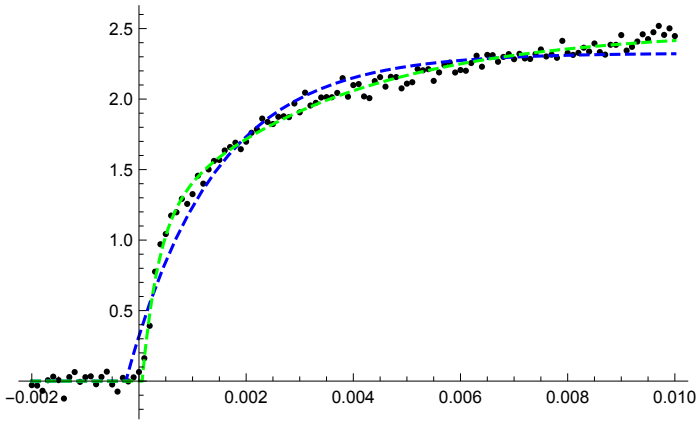
```
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take mono
take bi
take bi
take mono
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take mono
take bi
take bi
take bi
```

```
take bi
take bi
take bi
take mono
take bi
take bi
take bi
```




```
Mono: chi2 = 8.4238     d = 8.4238     a = 2.29161     t = 0.00126054
Bi: ratio chi2Mono/chi2Bi = 1.24201     d = 0.000175589     a =
 2.42933     a1 = 1.18257     t1 =0.000085497     t2 = 0.00282327
------------------------------------------------------------------------ D
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
```

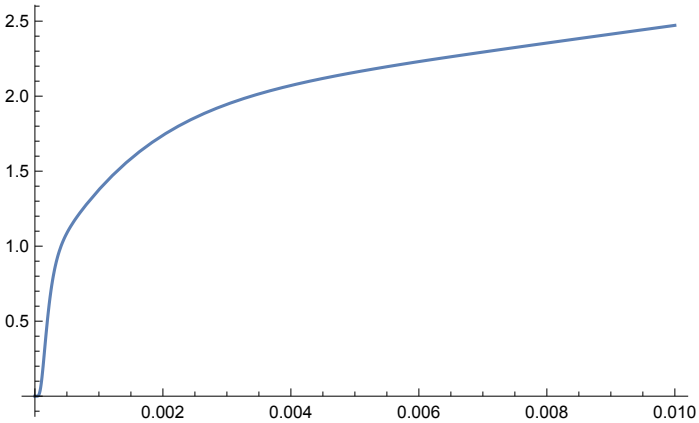
```
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
```

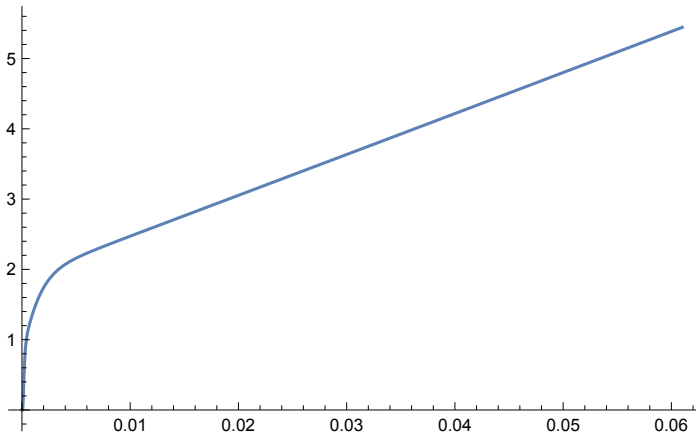


Mono: chi2 = 1.03236 d = 1.03236 a = 2.32598 t = 0.00163987

Bi: ratio chi2Mono/chi2Bi = 3.96157 d = 0.0000591994 a = 2.48981 a1 = 1.12984 t1 =0.000303307 t2 = 0.00342556

---------- Ca = 48.7083 uM ----------





---------- C5

take mono

take bi

```
take mono
take bi
take bi
take bi
take bi
take bi
take mono
take bi
take bi
take bi
take bi
take mono
take mono
take mono
take bi
take bi
take mono
take bi
take bi
take bi
take bi
take bi
take mono
take bi
take bi
take bi
take bi
take bi
take mono
take bi
take bi
take bi
take bi
take bi
take mono
take bi
take bi
take bi
take bi
```

take bi

take bi

take mono

take bi

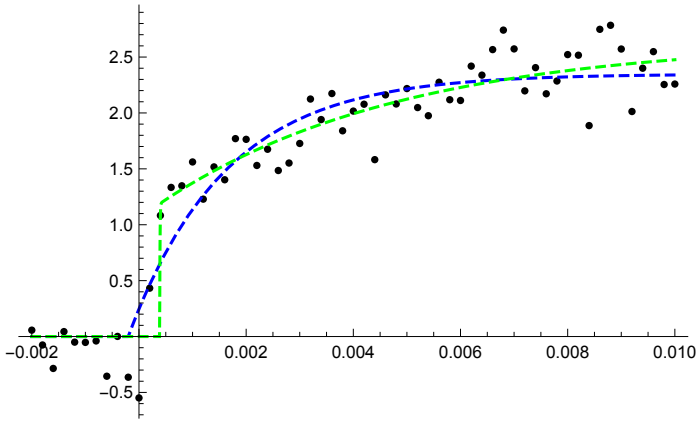
take bi

take bi

take bi

take mono

take bi



Mono: chi2 = 4.0457 d = 4.0457 a = 2.34809 t = 0.0018116

Bi: ratio chi2Mono/chi2Bi = 1.38745 d = 0.000385811 a = 2.65017 a1 = 1.18775 t1 =5.9562×10^{-6} t2 = 0.00451936

---------- C10

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take mono

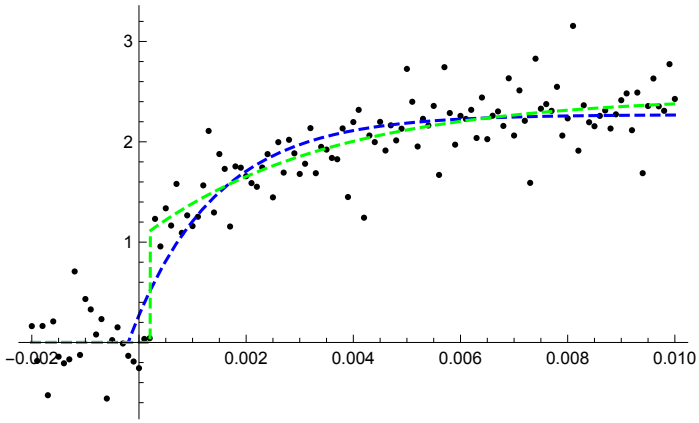
take bi

take bi

take bi

take bi

```
take bi
take mono
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take mono
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take mono
take bi
take bi
take bi
take mono
take bi
take bi
take bi
take mono
take bi
take bi
```



Mono: chi2 = 10.9443 d = 10.9443 a = 2.27044 t = 0.00157609

Bi: ratio chi2Mono/chi2Bi = 1.2538 d = 0.000208251 a = 2.45963 a1 = 1.11286 t1 = 1.22183×10^{-6} t2 = 0.00349007

---------- D

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

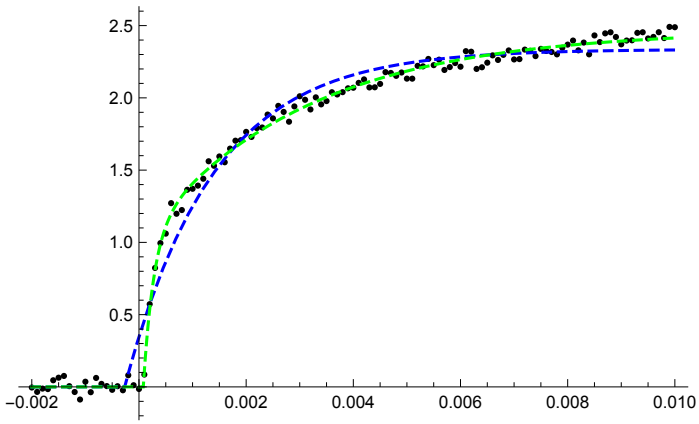
take bi

take bi

take bi

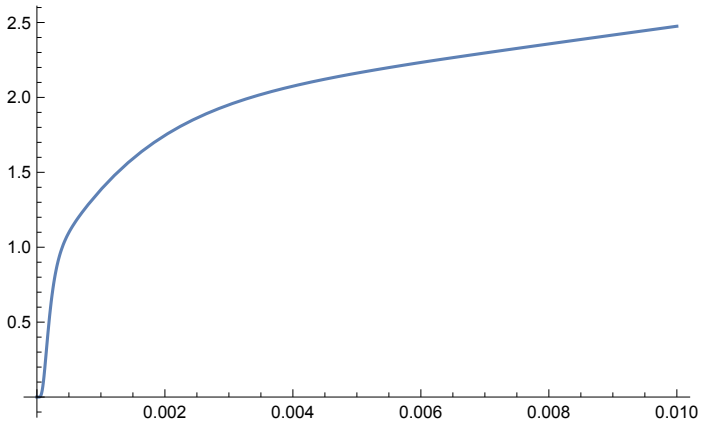
take bi

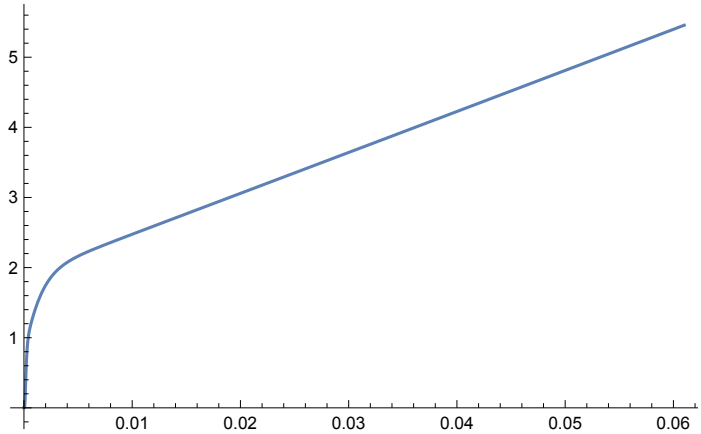
```
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
```




```
Mono: chi2 = 1.13495     d = 1.13495     a = 2.33603     t = 0.0016531
Bi: ratio chi2Mono/chi2Bi = 5.20732     d = 0.0000807109     a =
 2.46944     a1 = 1.04592     t1 =0.000193761     t2 = 0.00305191
-------------------------------------------------------------------------------------
  --------------------------
```

---------- Ca = 51.0599
uM ----------





---------- C5

take mono

take mono

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

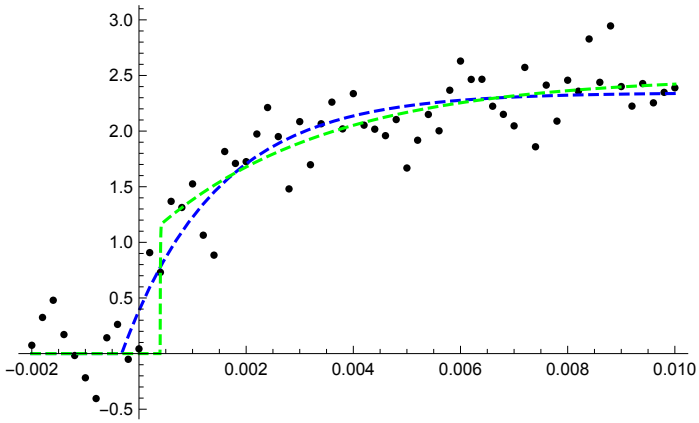
take bi

take bi

take bi

take bi

```
take bi
take mono
take bi
take bi
take bi
take bi
take mono
take bi
take bi
take mono
take bi
take bi
take mono
take mono
take bi
take bi
take bi
take bi
take bi
take bi
take mono
take bi
take bi
take mono
take bi
take bi
take mono
take mono
take bi
take mono
take bi
take bi
take bi
take mono
```



Mono: chi2 = 4.23567 d = 4.23567 a = 2.34492 t = 0.00178518

Bi: ratio chi2Mono/chi2Bi = 0.939702 d = 0.000395087 a = 2.4911 a1 = 1.15612 t1 = 4.94553×10^{-6} t2 = 0.00324104

---------- C10

take bi

take bi

take bi

take bi

take bi

take mono

take mono

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take mono

take bi

take mono

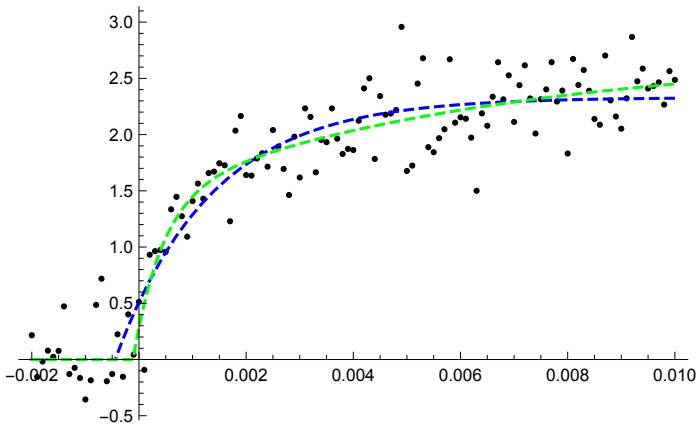
take bi

take bi

take bi

take bi

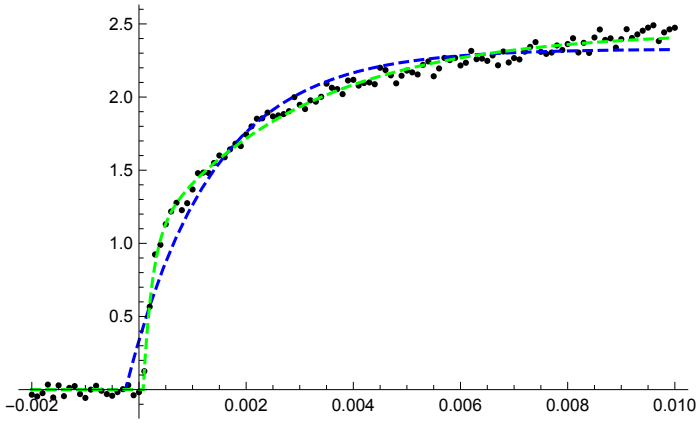
```
take bi
take bi
take bi
take mono
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take mono
take bi
take bi
take bi
take bi
take bi
```



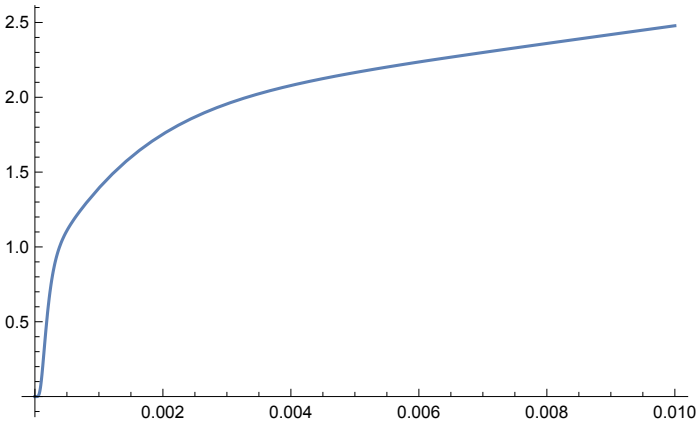

```
Mono: chi2 = 9.07652     d = 9.07652     a = 2.33008     t = 0.00178758
Bi: ratio chi2Mono/chi2Bi = 1.09356     d = -0.000109712     a =
 2.72363     a1 = 1.43294     t1 =0.000544872     t2 = 0.00651739
------------------------------------------------------------------------ D
take bi
take bi
```

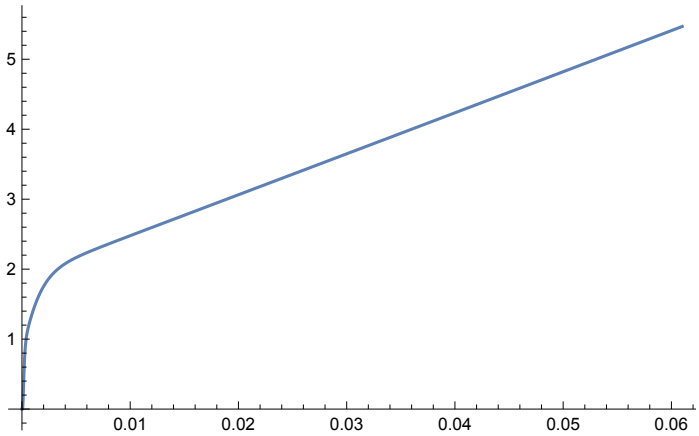
```
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
```

```
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
```




```
Mono: chi2 = 1.14798     d = 1.14798     a = 2.32822     t = 0.00159371
Bi: ratio chi2Mono/chi2Bi = 5.11655     d = 0.0000790957     a =
 2.45047     a1 = 1.02203     t1 =0.00016764     t2 = 0.00287969
------------------------------------------------------------------------------------------
  -------------------------
----------------     Ca = 53.5266
  uM         -------------------------------------------------------
------------------------------------------------------------------------------------------
  -------------------------
```





---------- C5

```
take bi
take bi
take mono
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take mono
take bi
take mono
take mono
take bi
take mono
take bi
take mono
take bi
take bi
take bi
take bi
take bi
take bi
```

take mono

take bi

take mono

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

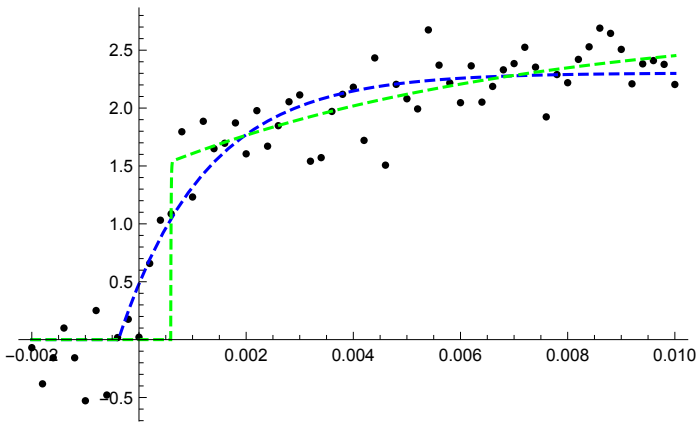
take bi

take mono

take bi

take bi

take mono



Mono: chi2 = 4.08645 d = 4.08645 a = 2.3032 t = 0.00162606

Bi: ratio chi2Mono/chi2Bi = 0.883843 d = 0.000592336 a = 2.75995 a1 = 1.53673 t1 = 6.25884×10^{-6} t2 = 0.00680936

---------- C10

take bi

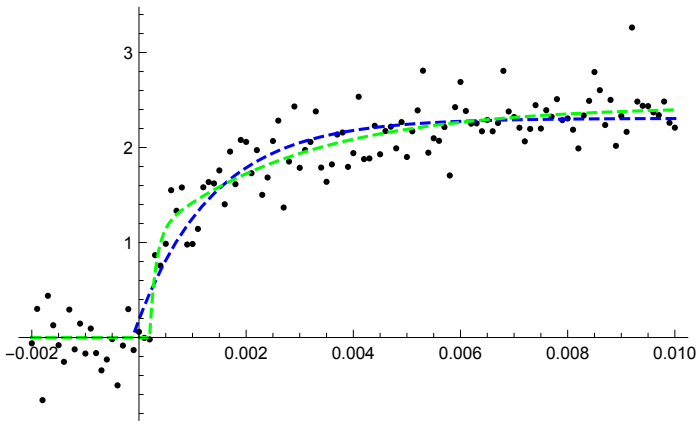
take bi

take bi

take bi

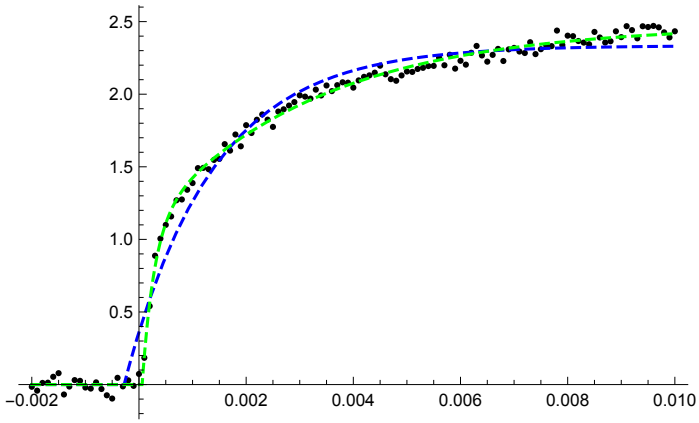
```
take bi
take bi
take bi
take bi
take bi
take mono
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take mono
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take mono
take bi
take bi
```

```
take mono
take bi
take mono
take bi
take bi
take bi
take bi
```




```
Mono: chi2 = 8.788     d = 8.788     a = 2.30702     t = 0.00142112
Bi: ratio chi2Mono/chi2Bi = 1.1539     d = 0.000198382     a =
 2.43893     a1 = 1.08708     t1 =0.000115978     t2 = 0.0028224
------------------------------------------------------------------------- D
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
```

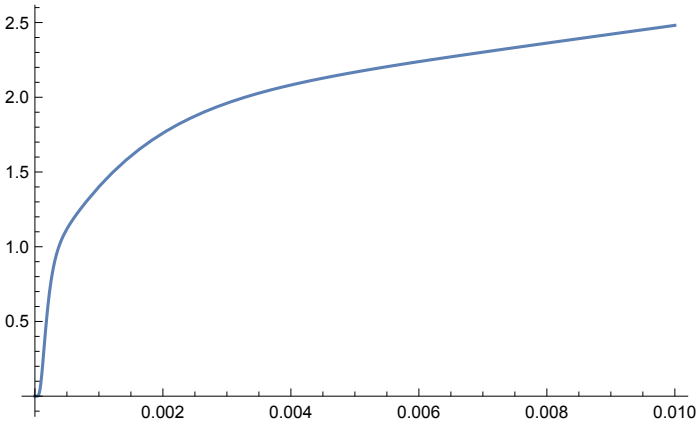
```
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
```

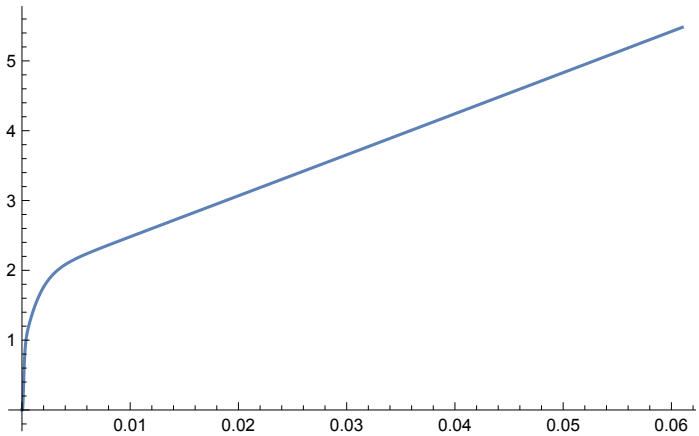


Mono: chi2 = 1.05546 d = 1.05546 a = 2.33444 t = 0.00163777

Bi: ratio chi2Mono/chi2Bi = 5.12857 d = 0.0000593785 a = 2.47676 a1 = 1.0796 t1 =0.00022514 t2 = 0.00315517

---------- Ca = 56.1157 uM ----------





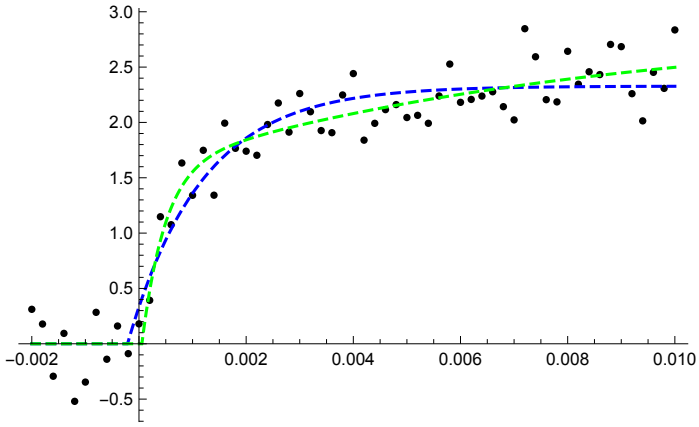
---------- C5

take mono

take bi

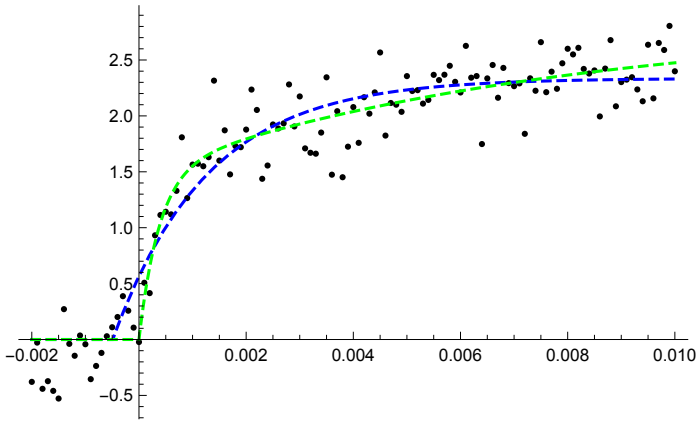
```
take bi
take mono
take bi
take mono
take bi
take bi
take mono
take bi
take mono
take mono
take bi
take bi
take mono
take bi
take mono
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take mono
take bi
take bi
take bi
take bi
take bi
take bi
take mono
take bi
take bi
take bi
take bi
take bi
```

```
take bi
take bi
take mono
take bi
take bi
take bi
take mono
take bi
take bi
```




```
Mono: chi2 = 3.44418     d = 3.44418     a = 2.32804     t = 0.00138299
Bi: ratio chi2Mono/chi2Bi = 1.1929     d = 0.0000546015     a =
 2.88993     a1 = 1.58597     t1 =0.00042664     t2 = 0.00827626
------------------------------------------------------------------------ C10
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take mono
take bi
take mono
take mono
take bi
take bi
take bi
take bi
take bi
```

```
take bi
take bi
take bi
take bi
take mono
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take mono
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take mono
take bi
take bi
take bi
take bi
take mono
take bi
take bi
take bi
take bi
take bi
```



Mono: chi2 = 8.07758 d = 8.07758 a = 2.33577 t = 0.00175997

Bi: ratio chi2Mono/chi2Bi = 1.22244 d = -1.37113×10^{-16} a = 2.85143 a1 = 1.49473 t1 =0.000378098 t2 = 0.00780274

---------- D

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

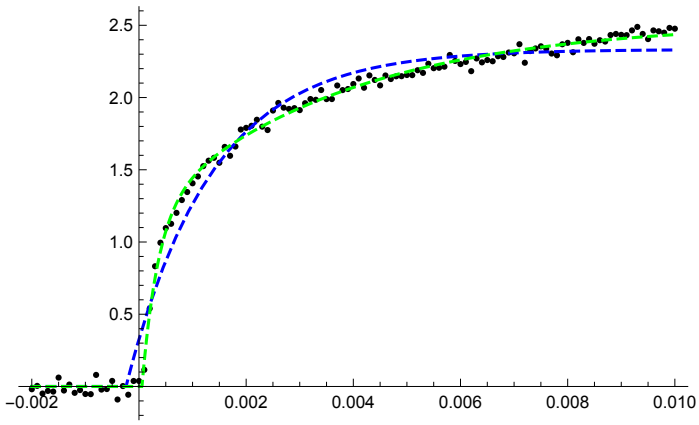
take bi

take bi

take bi

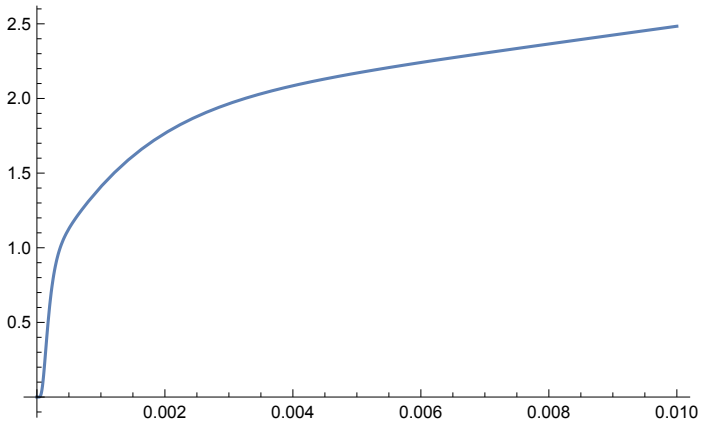
take bi

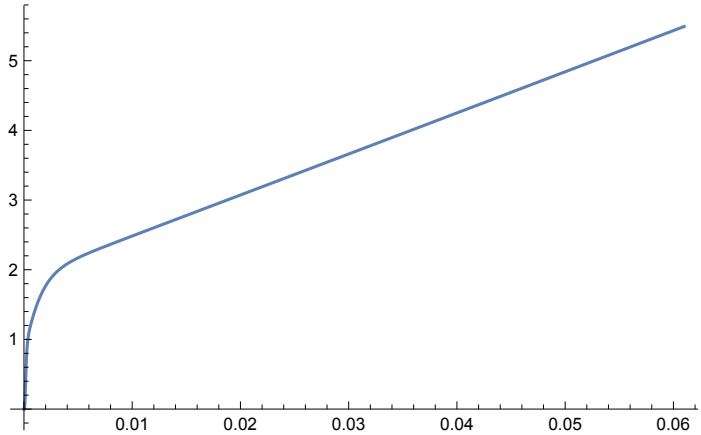
```
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
```




```
Mono: chi2 = 1.11511     d = 1.11511     a = 2.33284     t = 0.00158814
Bi: ratio chi2Mono/chi2Bi = 5.50085     d = 0.0000559123     a =
 2.52419     a1 = 1.19352     t1 =0.000300108     t2 = 0.00367194
-------------------------------------------------------------------------------------
  --------------------------
```

---------- Ca = 58.8318
uM ----------





---------- C5

take bi

take bi

take mono

take mono

take bi

take mono

take bi

take bi

take mono

take bi

take bi

take bi

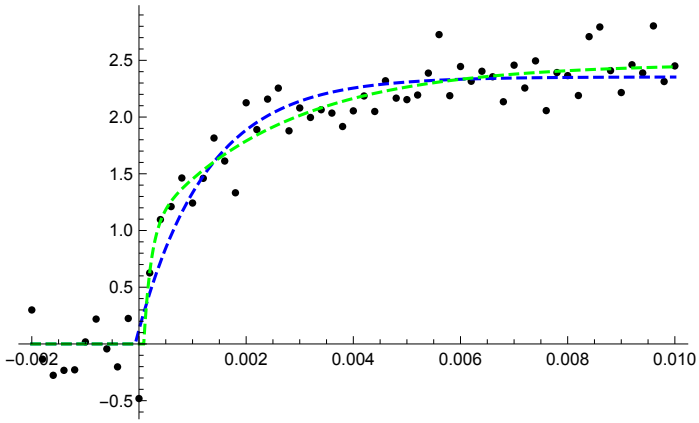
take bi

take bi

take bi

take bi

```
take mono
take bi
take bi
take mono
take bi
take bi
take bi
take bi
take bi
take mono
take mono
take mono
take mono
take mono
take bi
take bi
take bi
take mono
take mono
take bi
take mono
take bi
take mono
take bi
take bi
take mono
take bi
take bi
take bi
take mono
take bi
take bi
take bi
take bi
```




```
Mono: chi2 = 2.90907     d = 2.90907     a = 2.35348     t = 0.00128116

Bi: ratio chi2Mono/chi2Bi = 1.28496     d = 0.0000888776     a =
 2.47103     a1 = 1.01185     t1 =0.000136025     t2 = 0.00250833

------------------------------------------------------------------------ C10

take bi

take bi

take bi

take mono

take bi

take bi

take bi

take mono

take mono

take mono

take bi

take bi

take mono

take bi

take bi

take bi

take mono

take bi

take mono

take bi

take mono

take bi

take mono

take bi

take mono

take bi
```

take bi

take bi

take bi

take mono

take bi

take mono

take mono

take bi

take bi

take bi

take bi

take bi

take bi

take mono

take bi

take bi

take bi

take bi

take mono

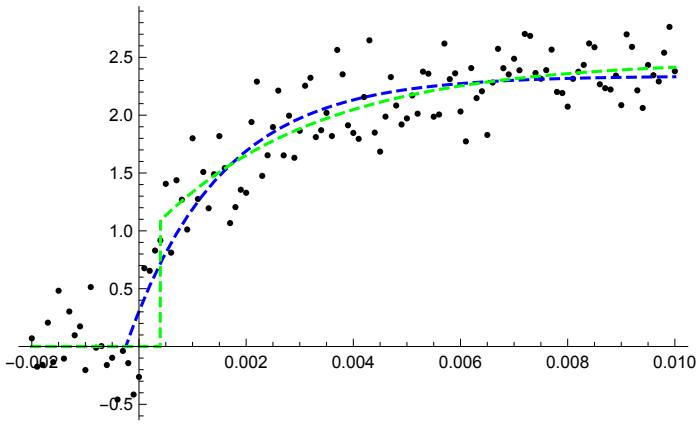
take mono

take bi

take bi

take bi

take mono



Mono: chi2 = 8.48342 d = 8.48342 a = 2.33897 t = 0.0017486

Bi: ratio chi2Mono/chi2Bi = 0.968017 d = 0.000398213 a = 2.4745 a1 = 1.08797 t1 = 9.65364×10^{-7} t2 = 0.00305229

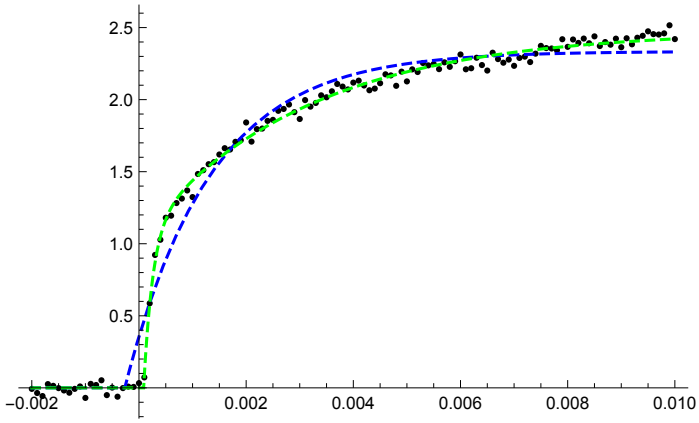
---------- D

take bi

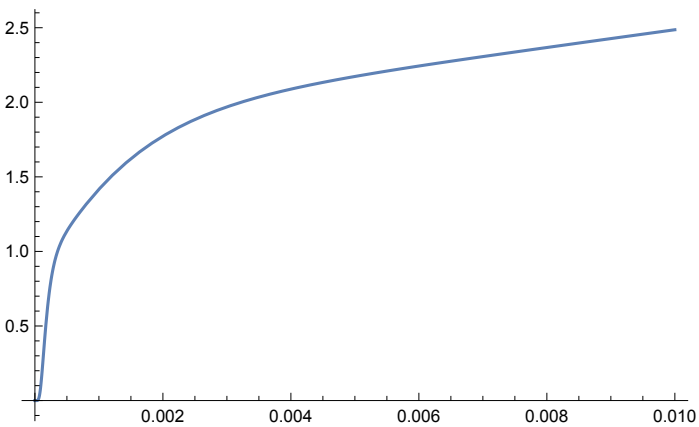
take bi

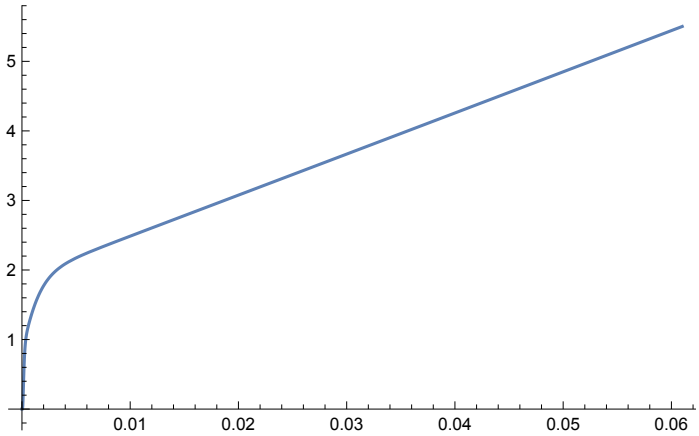
```
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
```

```
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
```




```
Mono: chi2 = 1.25886     d = 1.25886     a = 2.33454     t = 0.00159038
Bi: ratio chi2Mono/chi2Bi = 6.25242     d = 0.0000870567     a =
 2.47848     a1 = 1.09017     t1 =0.000170193     t2 = 0.0031073
-------------------------------------------------------------------------------------
  -------------------------
----------------     Ca = 61.6839
  uM         -------------------------------------------------------
-------------------------------------------------------------------------------------
  -------------------------
```

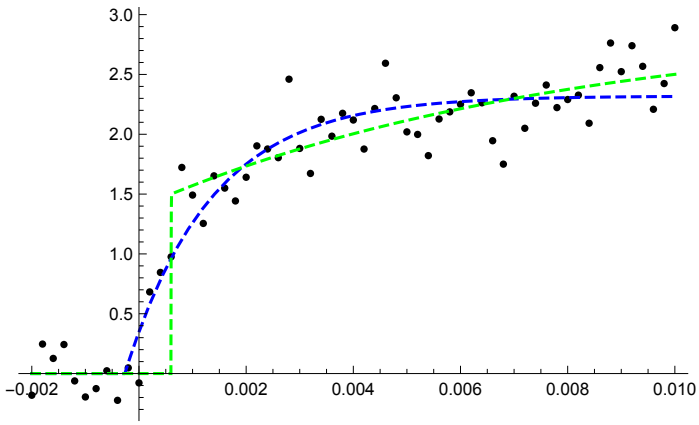




---------- C5

```
take bi
take bi
take bi
take bi
take bi
take bi
take mono
take mono
take bi
take mono
take mono
take bi
take bi
take mono
take bi
take bi
take mono
take bi
take mono
take bi
take bi
take bi
take bi
take mono
take mono
take bi
take bi
take bi
```

```
take bi
take mono
take bi
take bi
take mono
take bi
take mono
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take mono
```



Mono: chi2 = 3.45266 d = 3.45266 a = 2.31969 t = 0.00160854

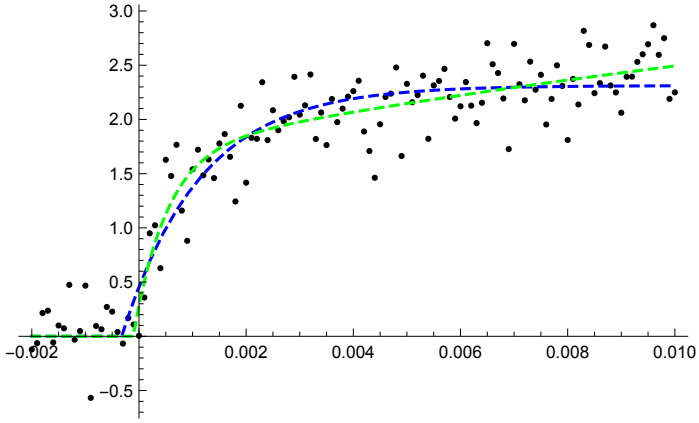
Bi: ratio chi2Mono/chi2Bi = 0.89963 d = 0.000597439 a = 2.93318 a1 = 1.49947 t1 = 2.43724×10^{-6} t2 = 0.00784452

---------- C10

```
take bi
take bi
take bi
take bi
```

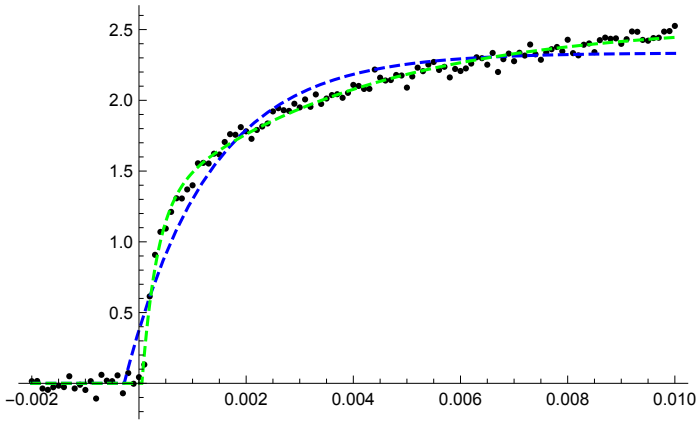
```
take bi
take mono
take mono
take mono
take bi
take mono
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take mono
take mono
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take mono
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
```

```
take bi
take bi
take bi
take bi
take bi
take bi
take bi
```




```
Mono: chi2 = 8.86583     d = 8.86583     a = 2.31206     t = 0.00146167
Bi: ratio chi2Mono/chi2Bi = 1.12686     d = -0.000106749     a =
 4.05255     a1 = 1.71501     t1 =0.00061911     t2 = 0.0249698
------------------------------------------------------------------------- D
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
```

```
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
```

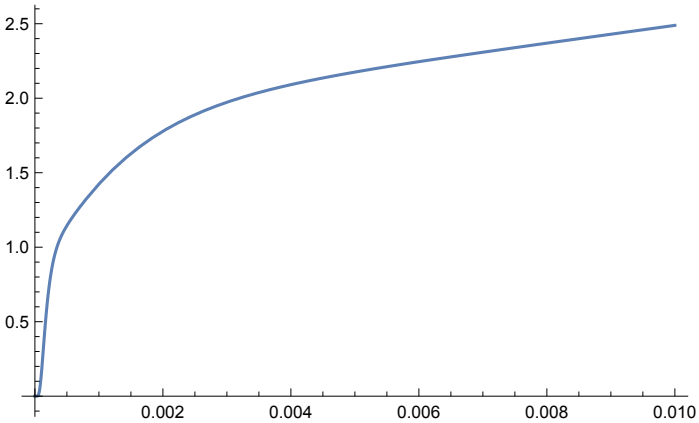


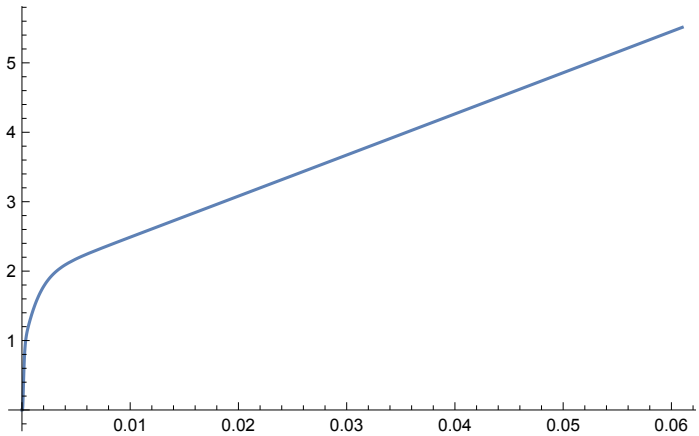
Mono: chi2 = 1.31386 d = 1.31386 a = 2.33493 t = 0.0015607

Bi: ratio chi2Mono/chi2Bi = 5.56063 d = 0.0000548908 a = 2.5433 a1 = 1.24956 t1 =0.000275297 t2 = 0.00386158

--- Ca = 64.6772

uM ---





--- C5

take bi

take bi

```
take bi
take bi
take bi
take bi
take bi
take mono
take bi
take bi
take bi
take mono
take bi
take mono
take mono
take bi
take bi
take bi
take mono
take bi
take bi
take bi
take mono
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take mono
take mono
take bi
take bi
take bi
take mono
take bi
take bi
take bi
take mono
```

take mono

take bi

take bi

take bi

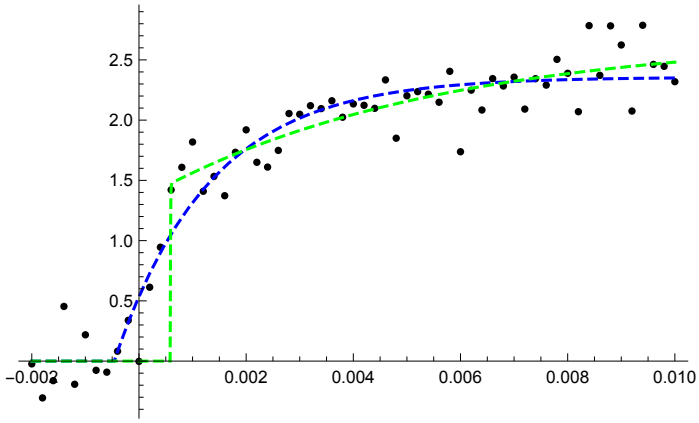
take mono

take bi

take bi

take bi

take mono



Mono: chi2 = 3.03214 d = 3.03214 a = 2.35682 t = 0.00178748

Bi: ratio chi2Mono/chi2Bi = 0.863864 d = 0.000583606 a = 2.69152 a1 = 1.47168 t1 =4.96798×10^{-6} t2 = 0.00536076

---------- C10

take bi

take bi

take bi

take mono

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take mono

take bi

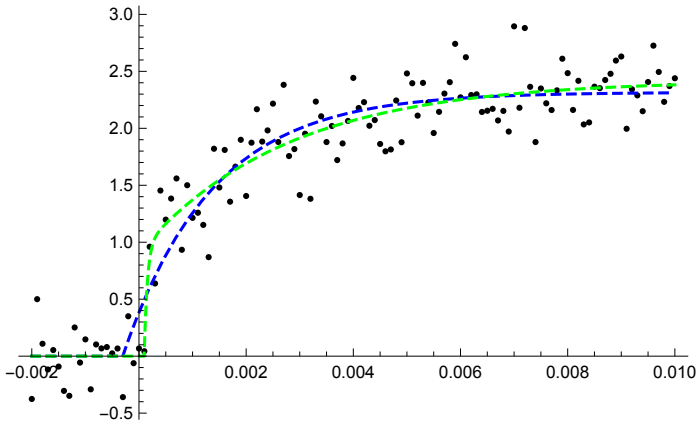
take bi

take mono

take bi

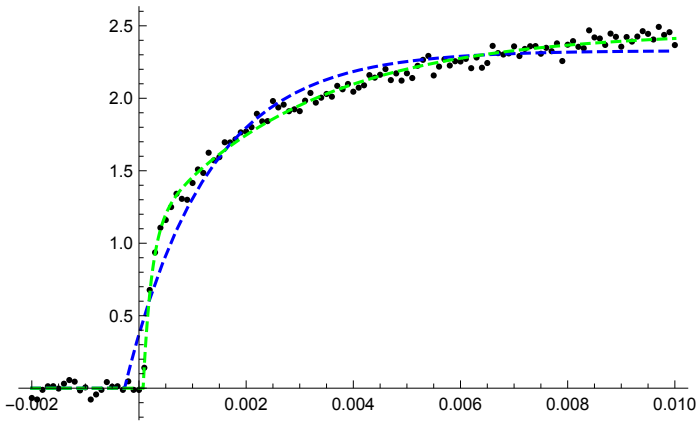
take bi

```
take bi
take bi
take mono
take bi
take bi
take bi
take bi
take bi
take bi
take mono
take bi
take bi
take bi
take bi
take bi
take mono
take bi
take bi
take bi
take bi
take bi
take mono
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
```



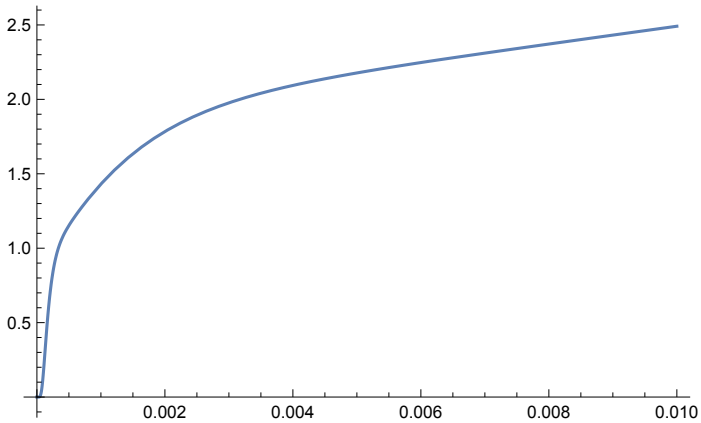

```
Mono: chi2 = 8.33956     d = 8.33956     a = 2.31609     t = 0.00166032

Bi: ratio chi2Mono/chi2Bi = 1.14861     d = 0.00009682     a =
 2.4216     a1 = 0.964718     t1 =0.0000589983     t2 = 0.00274922

------------------------------------------------------------------------- D

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi
```

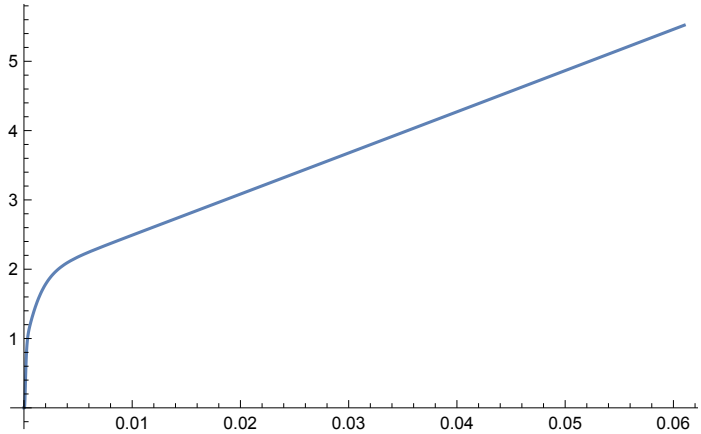
```
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
```




```
Mono: chi2 = 1.28568     d = 1.28568     a = 2.3286     t = 0.00153285
Bi: ratio chi2Mono/chi2Bi = 5.77915     d = 0.0000772744     a =
 2.46016     a1 = 1.09212     t1 =0.00015768     t2 = 0.0029544
--------------------------------------------------------------------------------
  -------------------------
```

---------- Ca = 67.8199
uM ----------





---------- C5

take mono

take mono

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take mono

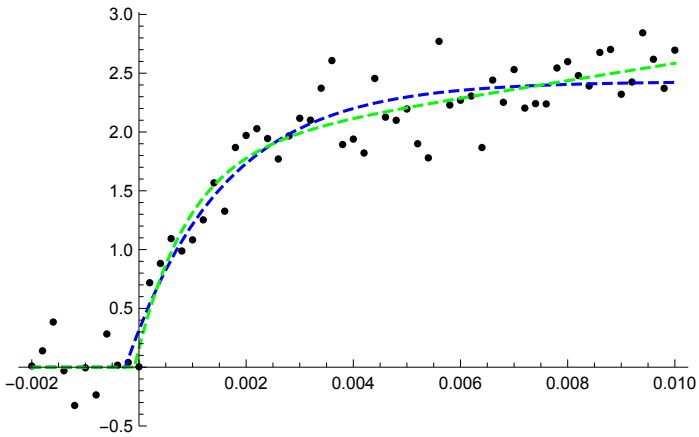
take bi

take bi

take mono

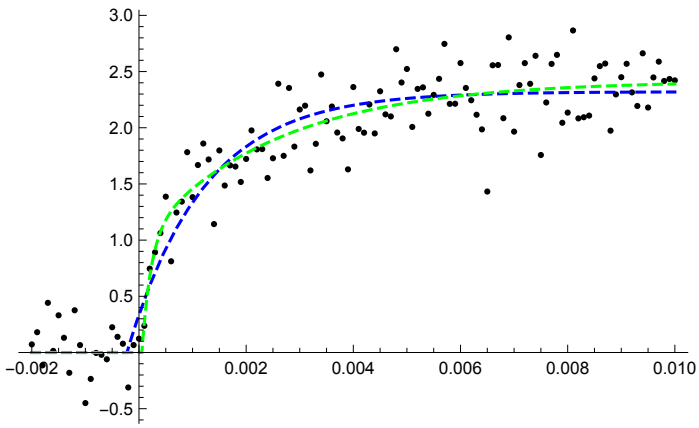
take bi

```
take bi
take mono
take bi
take mono
take bi
take bi
take mono
take mono
take mono
take bi
take mono
take bi
take mono
take bi
take bi
take bi
take bi
take bi
take mono
take mono
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
```




```
Mono: chi2 = 3.16602     d = 3.16602     a = 2.42962     t = 0.00180283
Bi: ratio chi2Mono/chi2Bi = 1.13604     d = -0.000084367     a =
 28.9552     a1 = 1.8365     t1 =0.000976078     t2 = 0.360905
------------------------------------------------------------------------ C10
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take mono
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take mono
take bi
take bi
take bi
take mono
```

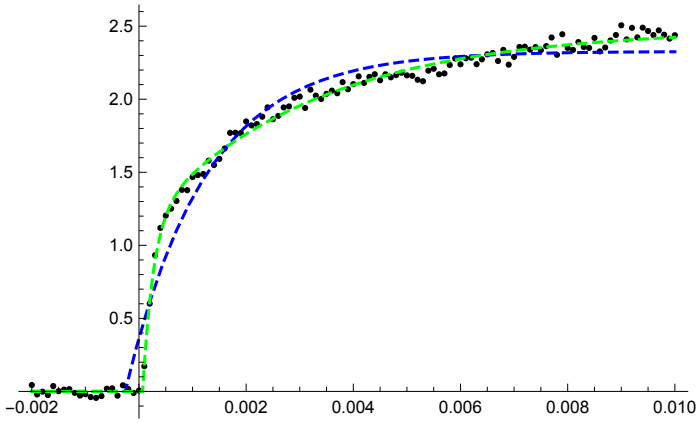
```
take bi
take bi
take bi
take mono
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
```



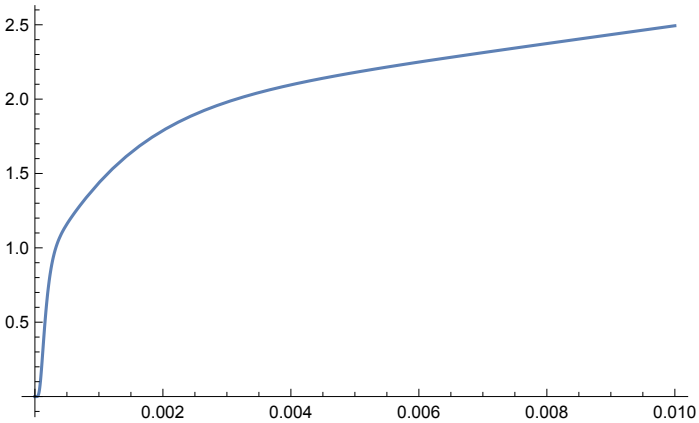

```
Mono: chi2 = 8.21963     d = 8.21963     a = 2.32001     t = 0.00142448
Bi: ratio chi2Mono/chi2Bi = 1.10276     d = 0.0000542931     a =
 2.4169     a1 = 1.02866     t1 =0.000169584     t2 = 0.00252871
------------------------------------------------------------------------ D
take bi
take bi
```

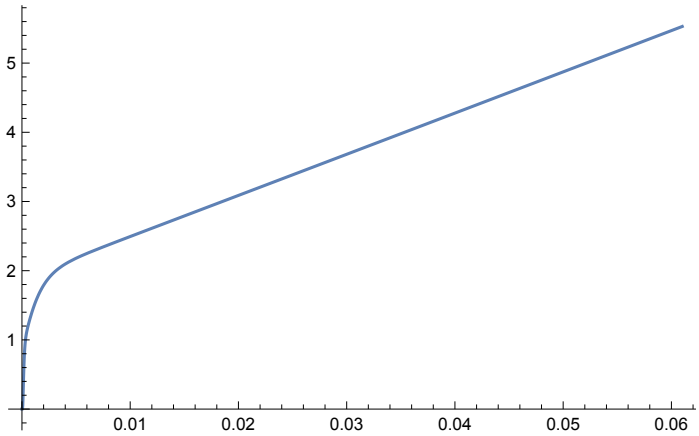
```
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
```

```
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
```




```
Mono: chi2 = 1.29119     d = 1.29119     a = 2.32735     t = 0.00148638
Bi: ratio chi2Mono/chi2Bi = 6.07545     d = 0.0000690666     a =
 2.48281     a1 = 1.16532     t1 =0.000198717     t2 = 0.00319782
------------------------------------------------------------------------------------------
  --------------------------
----------------     Ca = 71.1201
  uM         -------------------------------------------------------
------------------------------------------------------------------------------------------
  --------------------------
```





---------- C5

```
take mono
take bi
take bi
take bi
take mono
take mono
take bi
take mono
take bi
take bi
take bi
take bi
take mono
take bi
take mono
take bi
take mono
take bi
take mono
take mono
take mono
take bi
take bi
take bi
take mono
take bi
take bi
take bi
```

take bi

take bi

take bi

take bi

take mono

take bi

take bi

take bi

take bi

take mono

take bi

take bi

take bi

take bi

take bi

take mono

take mono

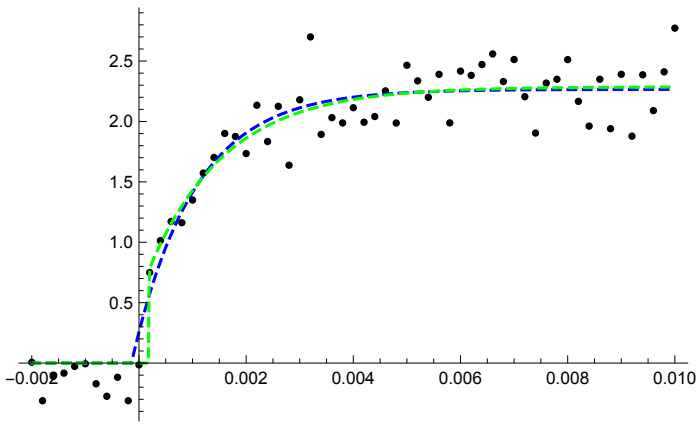
take bi

take bi

take bi

take bi

take bi



Mono: chi2 = 2.7155 d = 2.7155 a = 2.26569 t = 0.00116507

Bi: ratio chi2Mono/chi2Bi = 1.06075 d = 0.000177038 a = 2.28629 a1 = 0.764026 t1 = 7.70329×10^{-6} t2 = 0.0014273

---------- C10

take bi

take bi

take bi

take bi

```
take bi
take bi
take bi
take mono
take bi
take bi
take bi
take bi
take mono
take bi
take mono
take bi
take bi
take bi
take bi
take mono
take bi
take bi
take mono
take bi
take bi
take mono
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
```

take bi

take bi

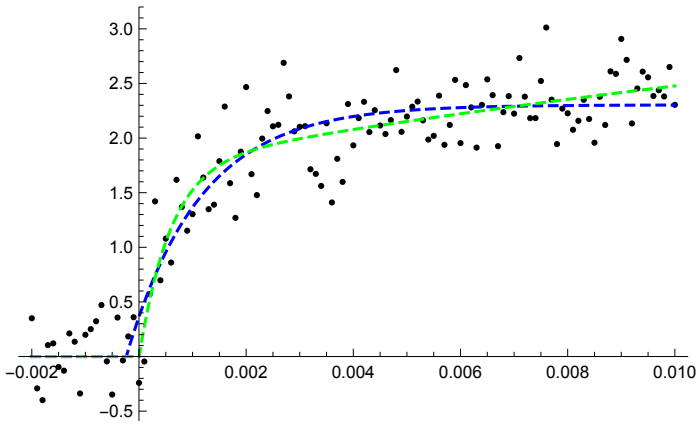
take bi

take bi

take bi

take bi

take bi



Mono: chi2 = 10.3904 d = 10.3904 a = 2.30357 t = 0.00137536

Bi: ratio chi2Mono/chi2Bi = 1.12084 d = 3.88045×10^{-6} a = 4.0879 a1 = 1.76274 t1 =0.000586385 t2 = 0.0272205

---------- D

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

take bi

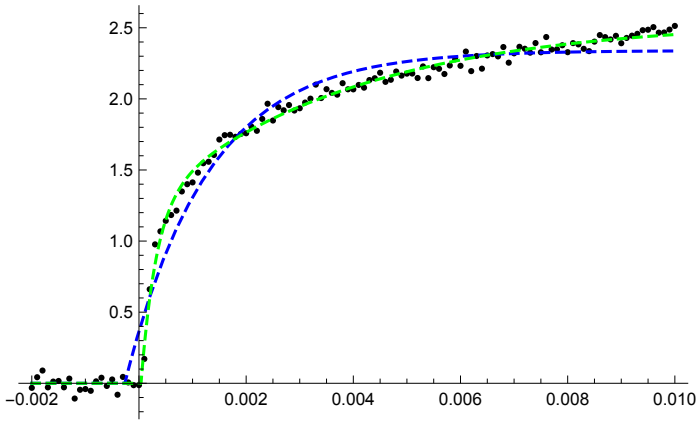
take bi

take bi

take bi

take bi

```
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
```

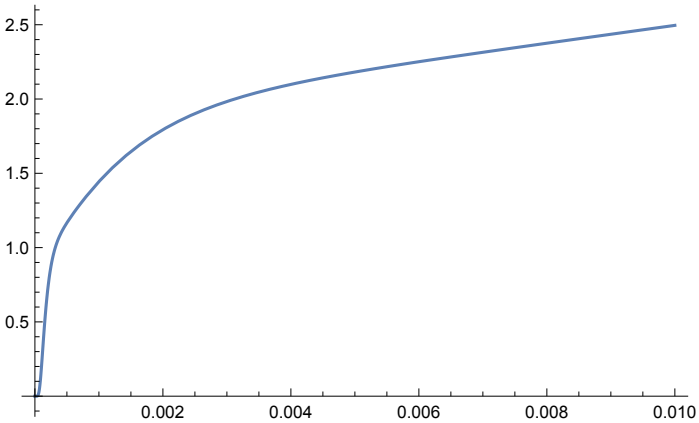


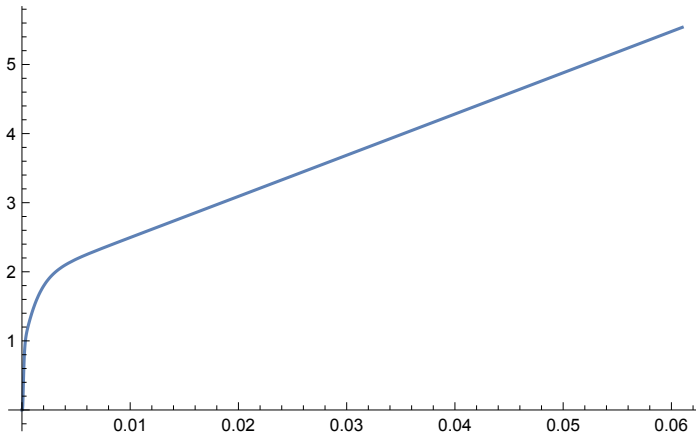
Mono: chi2 = 1.36355 d = 1.36355 a = 2.33982 t = 0.00154055

Bi: ratio chi2Mono/chi2Bi = 5.28468 d = 0.0000381699 a = 2.55045 a1 = 1.24419 t1 =0.00028266 t2 = 0.00384571

--- Ca = 74.5861

uM ---





--- C5

take bi

take bi

```
take bi
take bi
take bi
take bi
take mono
take bi
take mono
take bi
take mono
take mono
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take mono
take mono
take mono
take bi
take bi
take mono
take bi
take bi
take bi
take bi
take bi
take bi
take mono
take bi
take mono
take bi
take bi
take bi
take bi
take mono
take bi
take bi
```

take bi

take mono

take mono

take bi

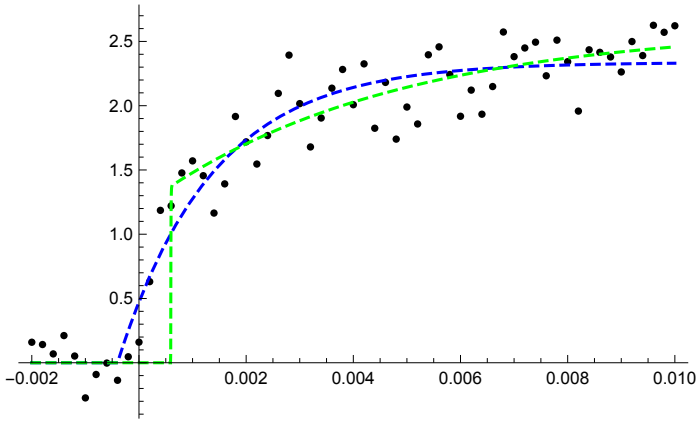
take mono

take bi

take bi

take mono

take mono



Mono: chi2 = 2.94518 d = 2.94518 a = 2.33695 t = 0.00176995

Bi: ratio chi2Mono/chi2Bi = 0.711357 d = 0.000592051 a = 2.61402 a1 = 1.37223 t1 = 3.63177×10^{-6} t2 = 0.00454174

---------- C10

take mono

take bi

take bi

take bi

take mono

take bi

take mono

take bi

take bi

take bi

take bi

take bi

take mono

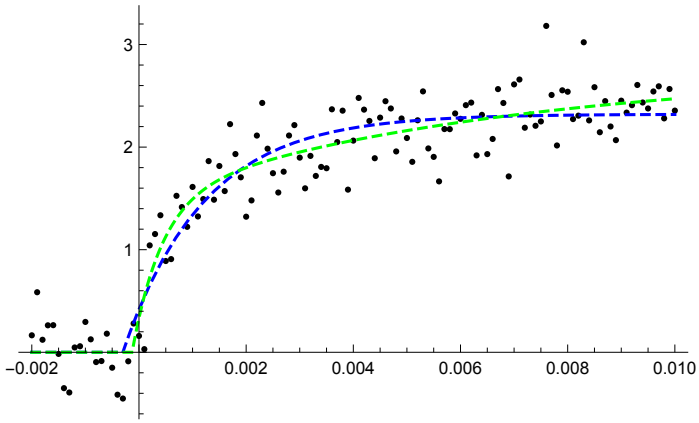
take bi

take bi

take bi

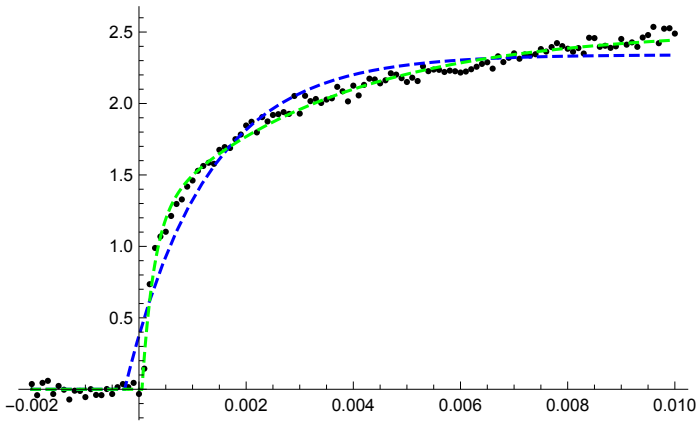
take bi

```
take mono
take mono
take bi
take bi
take bi
take mono
take bi
take bi
take bi
take bi
take bi
take mono
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take mono
take bi
```




```
Mono: chi2 = 9.50307     d = 9.50307     a = 2.32067     t = 0.00150669
Bi: ratio chi2Mono/chi2Bi = 1.12297     d = -0.000127832     a =
 2.75495     a1 = 1.48786     t1 =0.000548086     t2 = 0.00676705
------------------------------------------------------------------------ D
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
```

```
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
take bi
```




```
Mono: chi2 = 1.32633     d = 1.32633     a = 2.34113     t = 0.00151298
Bi: ratio chi2Mono/chi2Bi = 5.53203     d = 0.0000560447     a =
 2.51499     a1 = 1.19526     t1 =0.000224151     t2 = 0.00340844
```

Plots

In[371]:=
```
caFact = 1*^6;
```

In[372]:=
```
colorA = Green;
colorB = Red;
colorC = Blue;
```

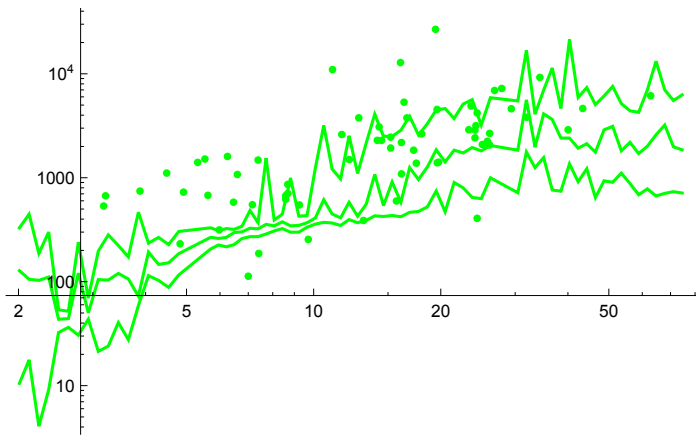
release rate 1/tau1 (merge of mono 1/tau and bi 1/tau1)

In[375]:=
```
simParam = 15;
```

C5

In[376]:=
```
gr1a = ListLogLogPlot[
   Transpose[{dataT1C5Ca, dataT1C5RelRate}], PlotStyle → {colorA}];
gr2a = ListLogLogPlot[Transpose[{caFact simCaList,
      simParamMedianC5[[simParam, All]]}],
   PlotStyle → {colorA}, Joined → True, PlotRange → All];
gr3a = ListLogLogPlot[Transpose[{caFact simCaList,
      simParamQuantile1C5[[simParam, All]]}],
   PlotStyle → {colorA}, Joined → True, PlotRange → All];
gr4a = ListLogLogPlot[Transpose[{caFact simCaList,
      simParamQuantile2C5[[simParam, All]]}],
   PlotStyle → {colorA}, Joined → True, PlotRange → All];
Show[gr1a, gr2a, gr3a, gr4a, PlotRange → All ]
If[exportYes == 1,
  Export["plot InvTau1 C5 data.txt",
   Transpose[{dataT1C5Ca, dataT1C5RelRate}], "Table"];
  toExport = Transpose[{caFact simCaList, simParamQuantile1C5[[simParam, All]],
      simParamMedianC5[[simParam, All]], simParamQuantile2C5[[simParam, All]]}];
  Export["plot InvTau1 C5 fit - quantiles and median.txt", toExport, "Table"];
 ];
```

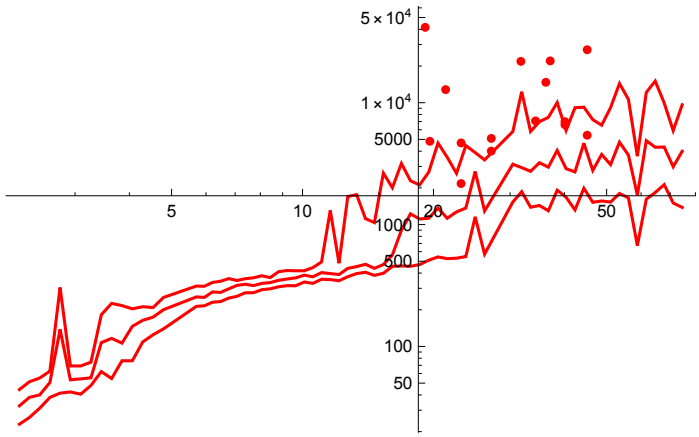
Out[380]=



C10

In[382]:=
```
gr1b = ListLogLogPlot[
   Transpose[{dataT1C10Ca, dataT1C10RelRate}], PlotStyle → {colorB}];
gr2b = ListLogLogPlot[Transpose[{caFact simCaList,
      simParamMedianC10[[simParam, All]]}],
   PlotStyle → { colorB}, Joined → True, PlotRange → All];
gr3b = ListLogLogPlot[Transpose[{caFact simCaList,
      simParamQuantile1C10[[simParam, All]]}],
   PlotStyle → { colorB}, Joined → True, PlotRange → All];
gr4b = ListLogLogPlot[Transpose[{caFact simCaList,
      simParamQuantile2C10[[simParam, All]]}],
   PlotStyle → { colorB}, Joined → True, PlotRange → All];
Show[gr1b, gr2b, gr3b, gr4b, PlotRange → All ]
If[exportYes == 1,
  Export["plot InvTau1 C10 data.txt",
   Transpose[{dataT1C10Ca, dataT1C10RelRate}], "Table"];
  toExport = Transpose[{caFact simCaList, simParamQuantile1C10[[simParam, All]],
      simParamMedianC10[[simParam, All]],
      simParamQuantile2C10[[simParam, All]]}];
  Export["plot InvTau1 C10 fit - quantiles and median.txt", toExport, "Table"];
 ];
```

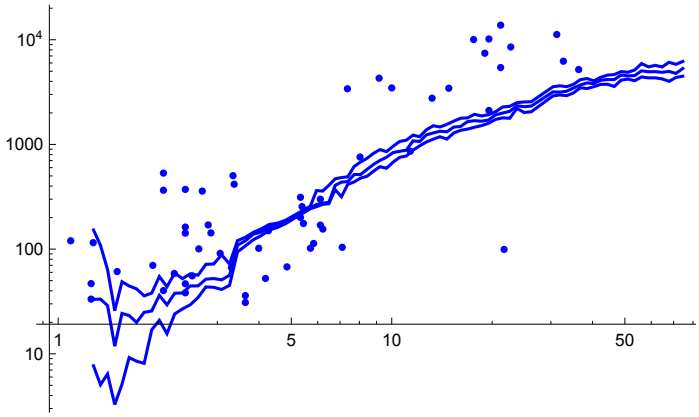
Out[386]=



D

In[388]:=
```
gr1c =
  ListLogLogPlot[Transpose[{dataT1DCa, dataT1DRelRate}], PlotStyle → {colorC}];
gr2c = ListLogLogPlot[Transpose[
    {caFact simCaList, simParamMedianD[[simParam, All]]}],
   PlotStyle → { colorC}, Joined → True, PlotRange → All];
gr3c = ListLogLogPlot[Transpose[{caFact simCaList,
     simParamQuantile1D[[simParam, All]]}],
   PlotStyle → { colorC}, Joined → True, PlotRange → All];
gr4c = ListLogLogPlot[Transpose[{caFact simCaList,
     simParamQuantile2D[[simParam, All]]}],
   PlotStyle → { colorC}, Joined → True, PlotRange → All];
Show[gr1c, gr2c, gr3c, gr4c, PlotRange → All ]
If[exportYes == 1,
  Export["plot InvTau1 D data.txt",
   Transpose[{dataT1DCa, dataT1DRelRate}], "Table"];
  toExport = Transpose[{caFact simCaList, simParamQuantile1D[[simParam, All]],
     simParamMedianD[[simParam, All]], simParamQuantile2D[[simParam, All]]}];
  Export["plot InvTau1 D fit - quantiles and median.txt", toExport, "Table"];
 ];
```

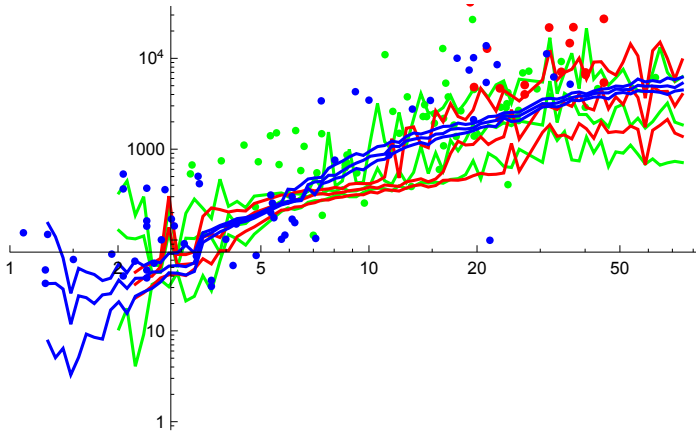
Out[392]=



C5 and C10 and D

In[394]:=
```
Show[gr1a, gr2a, gr3a, gr4a, gr1b, gr2b, gr3b,
 gr4b, gr1c, gr2c, gr3c, gr4c, PlotRange → {All, {0, 10}}]
```

Out[394]=



In[395]:=
```
Show[gr1a, gr1b, gr1c, PlotRange → {All, {2, 10}}];
```

delay (mono and bi merged)

In[396]:=
```
simParam = 12;
```

In[397]:=
```
Transpose[{caFact simCaList, simParamMedianC5[[simParam, All]]}] // TableForm
```

Out[397]//TableForm=

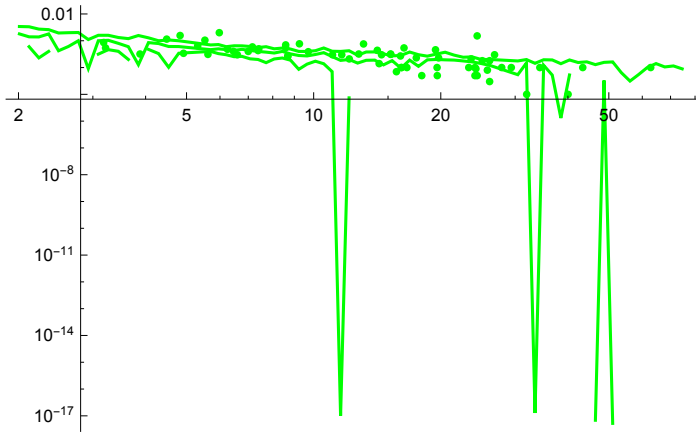
0.703073	
0.729825	
0.758204	
0.788054	
0.820427	
0.854404	
0.890526	
0.928936	
0.968962	
1.01226	
1.05883	
1.10833	
1.16077	
1.21664	
1.27589	
1.33895	
1.40597	
1.47745	
1.55324	
1.63202	
1.71772	
1.81058	
1.90732	
2.01009	0.0018
2.11924	0.0014
2.23489	0.00138728
2.35773	0.0018
2.48791	0.000422621
2.62605	0.000611383
2.77177	0.001
2.92648	0.0000906636

3.0905	0.001
3.26357	0.00103974
3.44741	0.0008
3.64088	0.0006
3.84593	0.000127193
4.06272	0.000852458
4.29254	0.000787432
4.53549	0.000610401
4.79194	0.000606915
5.70182	0.000465109
5.94854	0.000498781
6.20769	0.000468002
6.48003	0.000437696
6.76619	0.000477913
7.06711	0.00043402
7.38317	0.00039961
7.71513	0.000375908
8.06387	0.000348435
8.43035	0.0004
8.8155	0.000323033
9.22041	0.000281522
9.64607	0.000271024
10.0938	0.000307339
10.5647	0.000359025
11.0598	0.000256661
11.5813	0.000184777
12.1299	0.0002
12.7076	0.000146807
13.3154	0.000186504
13.9549	0.000189147
14.63	0.000125556
15.3404	0.000181661
16.0887	0.0000947706
16.8774	0.000189192
17.7084	0.000111048
18.5844	0.000194009
19.5079	0.0002
20.4816	0.000193916
21.5084	0.000189993
22.5913	0.000176626
23.7336	0.000162276
24.939	0.000141108
26.2105	0.000118533
30.4385	0.0000541655
31.9006	0.000147893
33.4338	1.27503×10^{-17}
35.0413	0.000121674
36.727	0.0000523963
38.4944	1.30775×10^{-6}
40.3477	0.0000528659
42.2911	-3.54005×10^{-18}
44.3291	-0.000012103
46.4665	6.84713×10^{-18}
48.7083	0.0000330978
51.0599	5.23607×10^{-18}
53.5266	-3.19906×10^{-7}
56.1157	-0.0000119389
58.8318	-0.0000311188
61.6839	-0.0000196131
64.6772	-7.08834×10^{-6}
67.8199	-2.21353×10^{-6}
71.1201	-6.53083×10^{-17}
74.5861	-0.0000212463

C5

In[398]:=
```
gr1a =
  ListLogLogPlot[Transpose[{dataT1C5Ca, dataT1C5Delay}], PlotStyle → {colorA}];
gr2a = ListLogLogPlot[Transpose[
    {caFact simCaList, simParamMedianC5[[simParam, All]]}],
   PlotStyle → {colorA}, Joined → True, PlotRange → All];
gr3a = ListLogLogPlot[Transpose[{caFact simCaList,
     simParamQuantile1C5[[simParam, All]]}],
   PlotStyle → {colorA}, Joined → True, PlotRange → All];
gr4a = ListLogLogPlot[Transpose[{caFact simCaList,
     simParamQuantile2C5[[simParam, All]]}],
   PlotStyle → {colorA}, Joined → True, PlotRange → All];
Show[gr1a, gr2a, gr3a, gr4a, PlotRange → All ]
If[exportYes == 1,
  Export["plot delay C5 data.txt",
   Transpose[{dataT1C5Ca, dataT1C5Delay}], "Table"];
  toExport = Transpose[{caFact simCaList, simParamQuantile1C5[[simParam, All]],
     simParamMedianC5[[simParam, All]], simParamQuantile2C5[[simParam, All]]}];
  Export["plot delay C5 fit - quantiles and median.txt", toExport, "Table"];
 ];
```

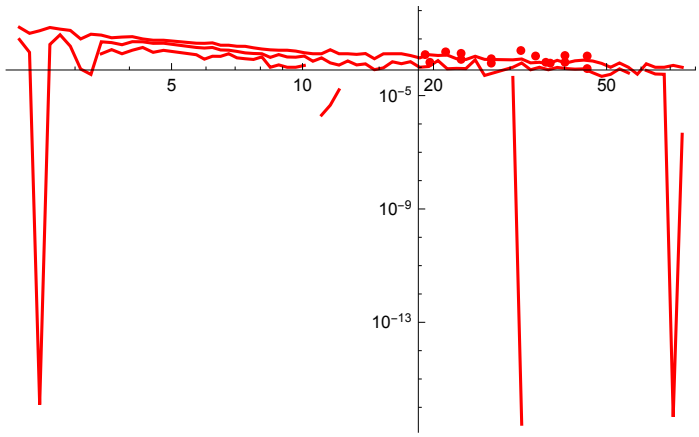
Out[402]=



C10

In[404]:=
```
gr1b = ListLogLogPlot[
   Transpose[{dataT1C10Ca, dataT1C10Delay}], PlotStyle → {colorB}];
gr2b = ListLogLogPlot[Transpose[{caFact simCaList,
      simParamMedianC10[[simParam, All]]}],
   PlotStyle → { colorB}, Joined → True, PlotRange → All];
gr3b = ListLogLogPlot[Transpose[{caFact simCaList,
      simParamQuantile1C10[[simParam, All]]}],
   PlotStyle → { colorB}, Joined → True, PlotRange → All];
gr4b = ListLogLogPlot[Transpose[{caFact simCaList,
      simParamQuantile2C10[[simParam, All]]}],
   PlotStyle → { colorB}, Joined → True, PlotRange → All];
Show[gr1b, gr2b, gr3b, gr4b, PlotRange → All ]
If[exportYes == 1,
  Export["plot delay C10 data.txt",
   Transpose[{dataT1C10Ca, dataT1C10Delay}], "Table"];
  toExport = Transpose[{caFact simCaList, simParamQuantile1C10[[simParam, All]],
      simParamMedianC10[[simParam, All]],
      simParamQuantile2C10[[simParam, All]]}];
  Export["plot delay C10 fit - quantiles and median.txt", toExport, "Table"];
 ];
```

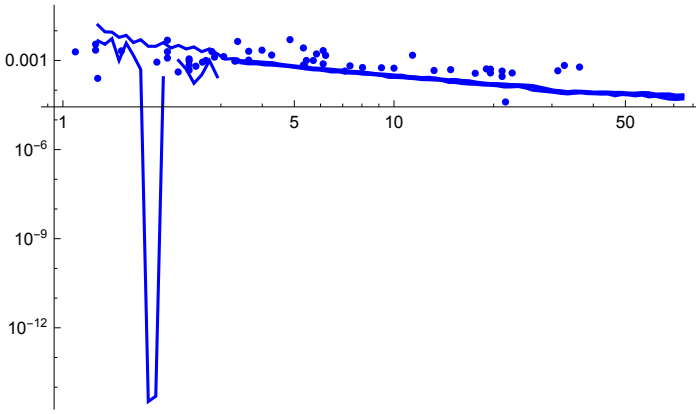
Out[408]=



D

In[410]:=
```
gr1c =
  ListLogLogPlot[Transpose[{dataT1DCa, dataT1DDelay}], PlotStyle → {colorC}];
gr2c = ListLogLogPlot[Transpose[
    {caFact simCaList, simParamMedianD[[simParam, All]]}],
   PlotStyle → { colorC}, Joined → True, PlotRange → All];
gr3c = ListLogLogPlot[Transpose[{caFact simCaList,
     simParamQuantile1D[[simParam, All]]}],
   PlotStyle → { colorC}, Joined → True, PlotRange → All];
gr4c = ListLogLogPlot[Transpose[{caFact simCaList,
     simParamQuantile2D[[simParam, All]]}],
   PlotStyle → { colorC}, Joined → True, PlotRange → All];
Show[gr1c, gr2c, gr3c, gr4c, PlotRange → All ]
If[exportYes == 1,
  Export["plot delay D data.txt",
   Transpose[{dataT1DCa, dataT1DDelay}], "Table"];
  toExport = Transpose[{caFact simCaList, simParamQuantile1D[[simParam, All]],
     simParamMedianD[[simParam, All]], simParamQuantile2D[[simParam, All]]}];
  Export["plot delay D fit - quantiles and median.txt", toExport, "Table"];
 ];
```

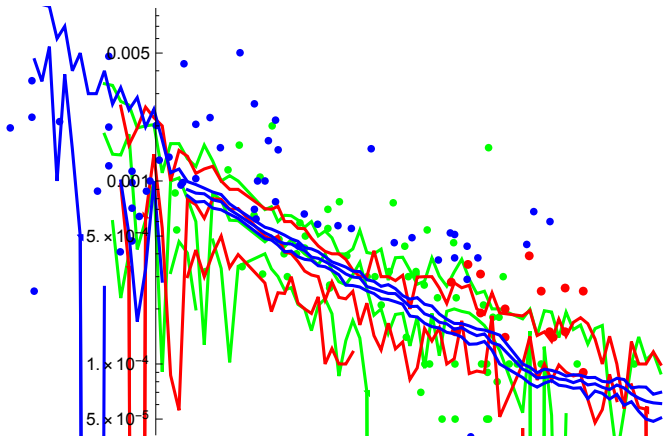
Out[414]=



C5 and C10 and D

In[416]:=
```
Show[gr1a, gr2a, gr3a, gr4a, gr1b, gr2b, gr3b,
 gr4b, gr1c, gr2c, gr3c, gr4c, PlotRange → {-10, -5}]
```

Out[416]=



In[417]:=
```
Show[gr1a, gr1b, gr1c, PlotRange → All];
```

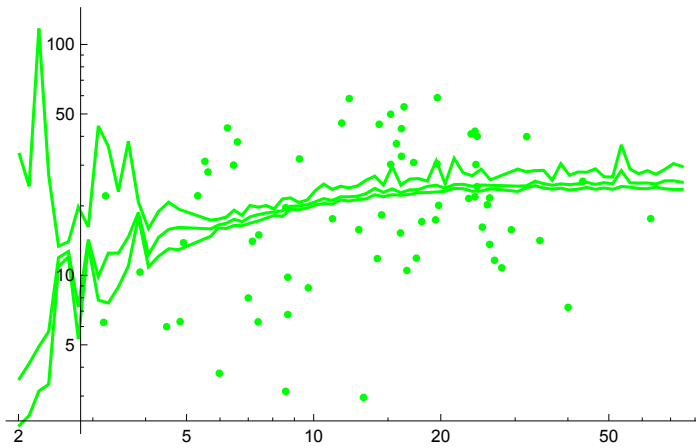
amp (merge of mono amp and bi amp)

In[418]:=
```
simParam = 13;
```

C5

In[419]:=
```
gr1a = ListLogLogPlot[
   Transpose[{dataT1C5Ca, dataT1C5Amplitude}], PlotStyle → {colorA}];
gr2a = ListLogLogPlot[Transpose[{caFact simCaList,
      rrp simParamMedianC5[[simParam, All]]}],
   PlotStyle → {colorA}, Joined → True, PlotRange → All];
gr3a = ListLogLogPlot[Transpose[{caFact simCaList,
      rrp simParamQuantile1C5[[simParam, All]]}],
   PlotStyle → {colorA}, Joined → True, PlotRange → All];
gr4a = ListLogLogPlot[Transpose[{caFact simCaList,
      rrp simParamQuantile2C5[[simParam, All]]}],
   PlotStyle → {colorA}, Joined → True, PlotRange → All];
Show[gr1a, gr2a, gr3a, gr4a, PlotRange → All ]
```

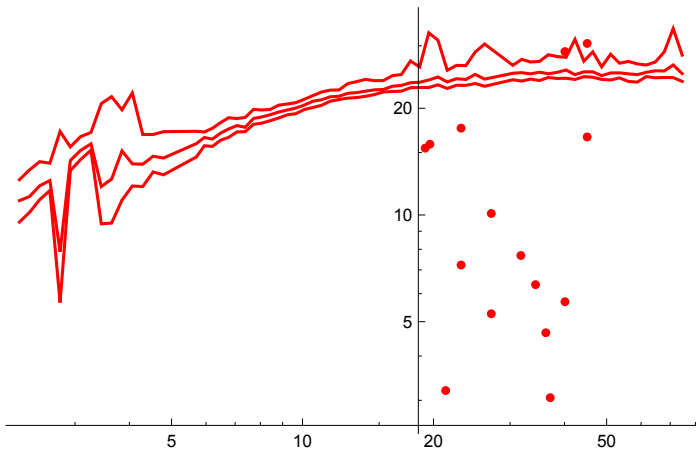
Out[423]=



C10

In[424]:=
```
gr1b = ListLogLogPlot[
   Transpose[{dataT1C10Ca, dataT1C10Amplitude}], PlotStyle → {colorB}];
gr2b = ListLogLogPlot[Transpose[{caFact simCaList,
      rrp simParamMedianC10[[simParam, All]]}],
   PlotStyle → { colorB}, Joined → True, PlotRange → All];
gr3b = ListLogLogPlot[Transpose[{caFact simCaList,
      rrp simParamQuantile1C10[[simParam, All]]}],
   PlotStyle → { colorB}, Joined → True, PlotRange → All];
gr4b = ListLogLogPlot[Transpose[{caFact simCaList,
      rrp simParamQuantile2C10[[simParam, All]]}],
   PlotStyle → { colorB}, Joined → True, PlotRange → All];
Show[gr1b, gr2b, gr3b, gr4b, PlotRange → All ]
```

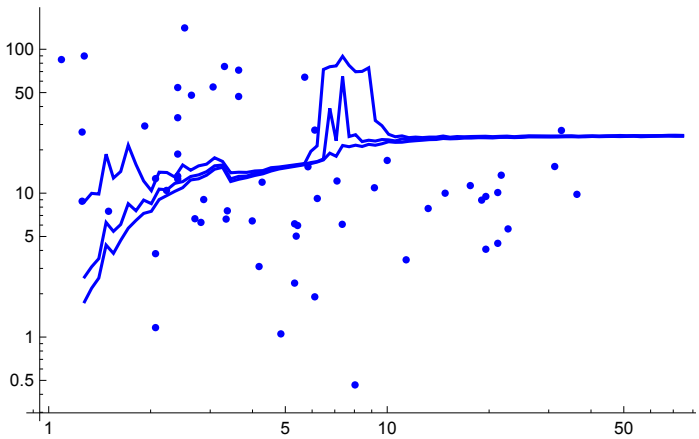
Out[428]=



D

In[429]:=
```
gr1c = ListLogLogPlot[
   Transpose[{dataT1DCa, dataT1DAmplitude}], PlotStyle → {colorC}];
gr2c = ListLogLogPlot[Transpose[{caFact simCaList,
      rrp simParamMedianD[[simParam, All]]}],
   PlotStyle → { colorC}, Joined → True, PlotRange → All];
gr3c = ListLogLogPlot[Transpose[{caFact simCaList,
      rrp simParamQuantile1D[[simParam, All]]}],
   PlotStyle → { colorC}, Joined → True, PlotRange → All];
gr4c = ListLogLogPlot[Transpose[{caFact simCaList,
      rrp simParamQuantile2D[[simParam, All]]}],
   PlotStyle → { colorC}, Joined → True, PlotRange → All];
Show[gr1c, gr2c, gr3c, gr4c, PlotRange → All ]
```

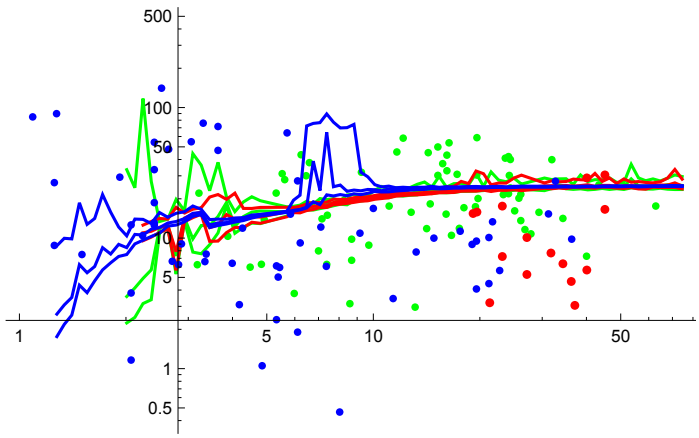
Out[433]=



C5 and C10 and D

In[434]:=
```
Show[gr1a, gr2a, gr3a, gr4a, gr1b, gr2b, gr3b,
 gr4b, gr1c, gr2c, gr3c, gr4c, PlotRange → {-1, 6} ]
```

Out[434]=



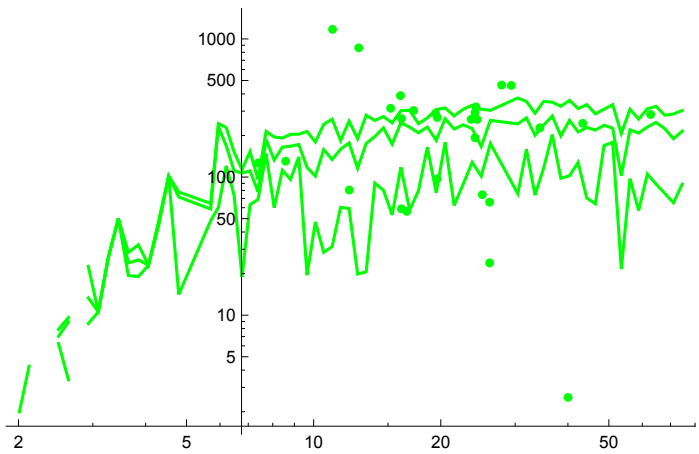
release rate 1/tau2 of bi fits (if bi is justified)

In[435]:=
```
simParam = 16;
```

C5

In[436]:=
```
gr1a = ListLogLogPlot[
   Transpose[{dataT2C5Ca, dataT2C5RelRate}], PlotStyle → {colorA}];
gr2a = ListLogLogPlot[Transpose[{caFact simCaList,
      simParamMedianC5[[simParam, All]]}],
   PlotStyle → {colorA}, Joined → True, PlotRange → All];
gr3a = ListLogLogPlot[Transpose[{caFact simCaList,
      simParamQuantile1C5[[simParam, All]]}],
   PlotStyle → {colorA}, Joined → True, PlotRange → All];
gr4a = ListLogLogPlot[Transpose[{caFact simCaList,
      simParamQuantile2C5[[simParam, All]]}],
   PlotStyle → {colorA}, Joined → True, PlotRange → All];
Show[gr1a, gr2a, gr3a, gr4a, PlotRange → All ]
If[exportYes == 1,
  Export["plot InvTau2 C5 data.txt",
   Transpose[{dataT2C5Ca, dataT2C5RelRate}], "Table"];
  toExport = Transpose[{caFact simCaList, simParamQuantile1C5[[simParam, All]],
      simParamMedianC5[[simParam, All]], simParamQuantile2C5[[simParam, All]]}];
  Export["plot InvTau2 C5 fit - quantiles and median.txt", toExport, "Table"];
 ];
```

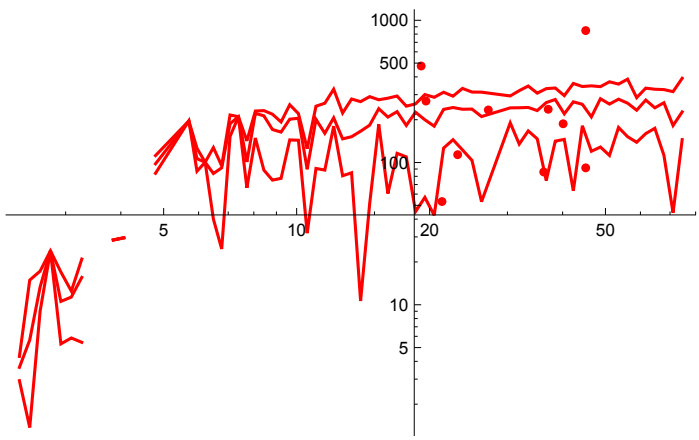
Out[440]=



C10

In[442]:=
```
gr1b = ListLogLogPlot[
   Transpose[{dataT2C10Ca, dataT2C10RelRate}], PlotStyle → {colorB}];
gr2b = ListLogLogPlot[Transpose[{caFact simCaList,
      simParamMedianC10[[simParam, All]]}],
   PlotStyle → { colorB}, Joined → True, PlotRange → All];
gr3b = ListLogLogPlot[Transpose[{caFact simCaList,
      simParamQuantile1C10[[simParam, All]]}],
   PlotStyle → { colorB}, Joined → True, PlotRange → All];
gr4b = ListLogLogPlot[Transpose[{caFact simCaList,
      simParamQuantile2C10[[simParam, All]]}],
   PlotStyle → { colorB}, Joined → True, PlotRange → All];
Show[gr1b, gr2b, gr3b, gr4b, PlotRange → All ]
If[exportYes == 1,
  Export["plot InvTau2 C10 data.txt",
   Transpose[{dataT2C10Ca, dataT2C10RelRate}], "Table"];
  toExport = Transpose[{caFact simCaList, simParamQuantile1C10[[simParam, All]],
      simParamMedianC10[[simParam, All]],
      simParamQuantile2C10[[simParam, All]]}];
  Export["plot InvTau2 C10 fit - quantiles and median.txt", toExport, "Table"];
 ];
```

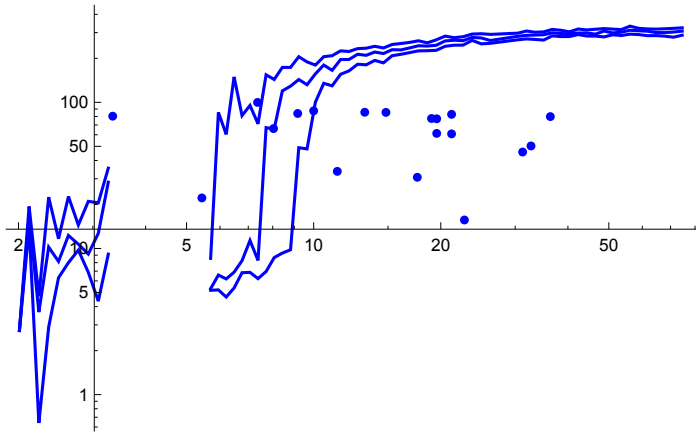
Out[446]=



D

In[448]:=
```
gr1c =
  ListLogLogPlot[Transpose[{dataT2DCa, dataT2DRelRate}], PlotStyle → {colorC}];
gr2c = ListLogLogPlot[Transpose[
    {caFact simCaList, simParamMedianD[[simParam, All]]}],
   PlotStyle → { colorC}, Joined → True, PlotRange → All];
gr3c = ListLogLogPlot[Transpose[{caFact simCaList,
     simParamQuantile1D[[simParam, All]]}],
   PlotStyle → { colorC}, Joined → True, PlotRange → All];
gr4c = ListLogLogPlot[Transpose[{caFact simCaList,
     simParamQuantile2D[[simParam, All]]}],
   PlotStyle → { colorC}, Joined → True, PlotRange → All];
Show[gr1c, gr2c, gr3c, gr4c, PlotRange → All ]
If[exportYes == 1,
  Export["plot InvTau2 D data.txt",
   Transpose[{dataT2DCa, dataT2DRelRate}], "Table"];
  toExport = Transpose[{caFact simCaList, simParamQuantile1D[[simParam, All]],
     simParamMedianD[[simParam, All]], simParamQuantile2D[[simParam, All]]}];
  Export["plot InvTau2 D fit - quantiles and median.txt", toExport, "Table"];
 ];
```

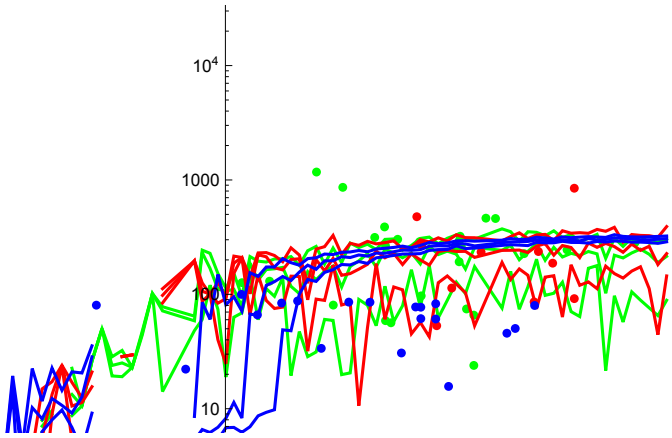
Out[452]=



C5 and C10 and D

In[454]:=
```
Show[gr1a, gr2a, gr3a, gr4a, gr1b, gr2b, gr3b,
 gr4b, gr1c, gr2c, gr3c, gr4c, PlotRange → {All, {2, 10}}]
```

Out[454]=



In[455]:=
```
Show[gr1a, gr1b, gr1c, PlotRange → All];
```

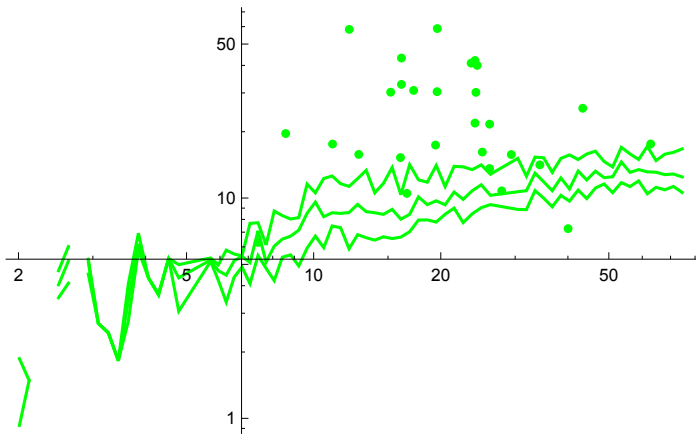
amp1 of bi fits (if bi is justified)

In[456]:=
```
simParam = 14;
```

C5

In[457]:=
```
gr1a = ListLogLogPlot[
   Transpose[{dataT2C5Ca, dataT2C5Amplitude1}], PlotStyle → {colorA}];
gr2a = ListLogLogPlot[Transpose[{caFact simCaList,
      rrp simParamMedianC5[[simParam, All]]}],
   PlotStyle → {colorA}, Joined → True, PlotRange → All];
gr3a = ListLogLogPlot[Transpose[{caFact simCaList,
      rrp simParamQuantile1C5[[simParam, All]]}],
   PlotStyle → {colorA}, Joined → True, PlotRange → All];
gr4a = ListLogLogPlot[Transpose[{caFact simCaList,
      rrp simParamQuantile2C5[[simParam, All]]}],
   PlotStyle → { colorA}, Joined → True, PlotRange → All];
Show[gr1a, gr2a, gr3a, gr4a, PlotRange → All ]
```

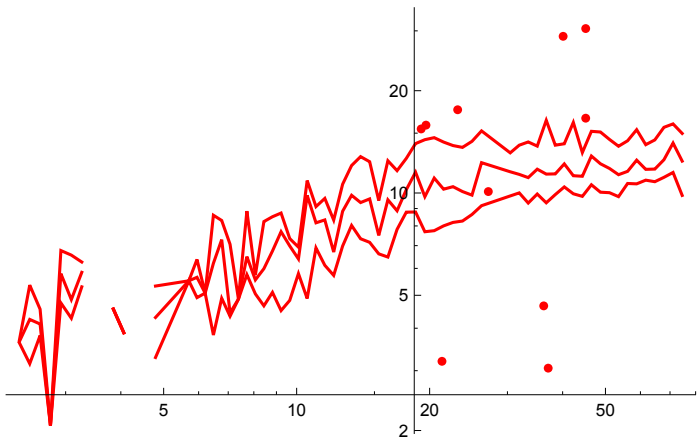
Out[461]=



C10

In[462]:=
```
gr1b = ListLogLogPlot[
   Transpose[{dataT2C10Ca, dataT2C10Amplitude1}], PlotStyle → {colorB}];
gr2b = ListLogLogPlot[Transpose[{caFact simCaList,
      rrp simParamMedianC10[[simParam, All]]}],
   PlotStyle → { colorB}, Joined → True, PlotRange → All];
gr3b = ListLogLogPlot[Transpose[{caFact simCaList,
      rrp simParamQuantile1C10[[simParam, All]]}],
   PlotStyle → {colorB}, Joined → True, PlotRange → All];
gr4b = ListLogLogPlot[Transpose[{caFact simCaList,
      rrp simParamQuantile2C10[[simParam, All]]}],
   PlotStyle → {colorB}, Joined → True, PlotRange → All];
Show[gr1b, gr2b, gr3b, gr4b, PlotRange → All ]
```

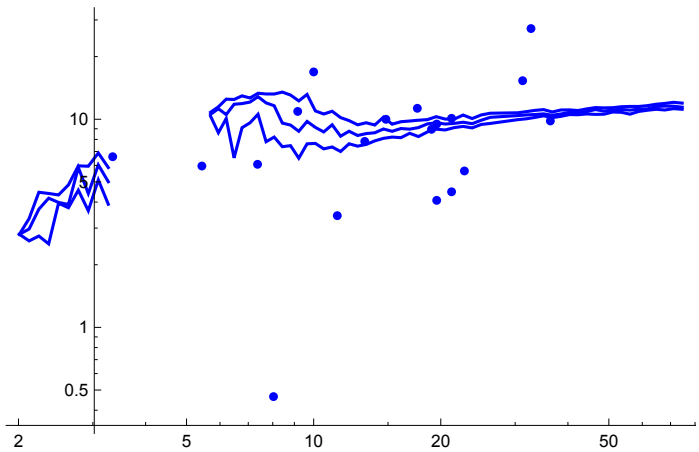
Out[466]=



D

In[467]:=
```
gr1c = ListLogLogPlot[
   Transpose[{dataT2DCa, dataT2DAmplitude1}], PlotStyle → {colorC}];
gr2c = ListLogLogPlot[Transpose[{caFact simCaList,
      rrp simParamMedianD[[simParam, All]]}],
   PlotStyle → {colorC}, Joined → True, PlotRange → All];
gr3c = ListLogLogPlot[Transpose[{caFact simCaList,
      rrp simParamQuantile1D[[simParam, All]]}],
   PlotStyle → {colorC}, Joined → True, PlotRange → All];
gr4c = ListLogLogPlot[Transpose[{caFact simCaList,
      rrp simParamQuantile2D[[simParam, All]]}],
   PlotStyle → {colorC}, Joined → True, PlotRange → All];
Show[gr1c, gr2c, gr3c, gr4c, PlotRange → All ]
```

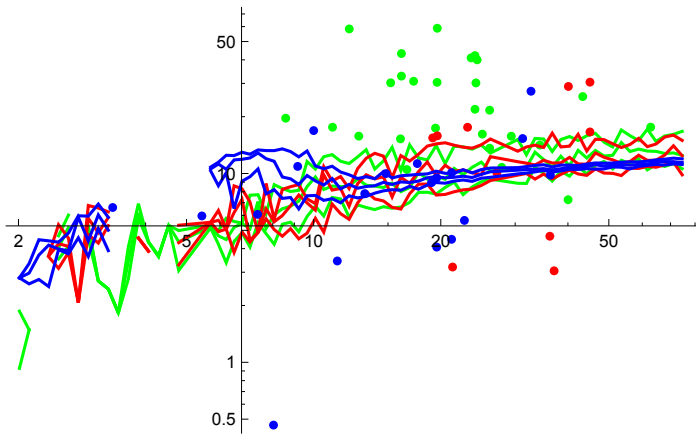
Out[471]=



C5 and C10 and D

In[472]:=
```
Show[gr1a, gr2a, gr3a, gr4a, gr1b, gr2b,
 gr3b, gr4b, gr1c, gr2c, gr3c, gr4c, PlotRange → All]
Show[gr1a, gr1b, gr1c, PlotRange → All];
```

Out[472]=



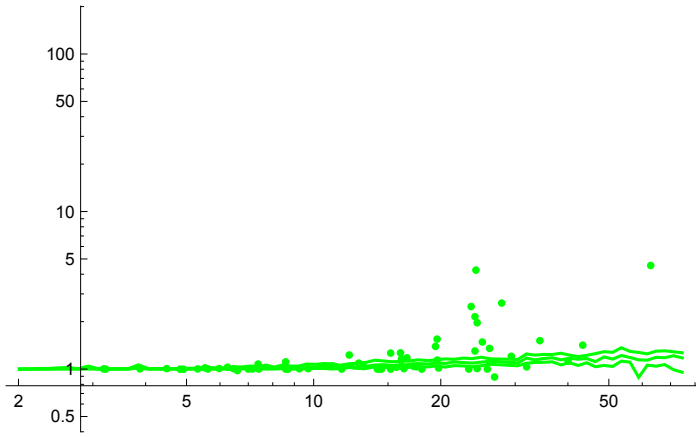
chi2 mono/bi ratio

In[474]:=
```
simParam = 6;
```

C5

In[475]:=
```
gr1a = ListLogLogPlot[
   Transpose[{dataT1C5Ca, dataT1C5ChiRatio}], PlotStyle → {colorA}];
gr2a = ListLogLogPlot[Transpose[{caFact simCaList,
      simParamMedianC5[[simParam, All]]}],
   PlotStyle → {colorA}, Joined → True, PlotRange → All];
gr3a = ListLogLogPlot[Transpose[{caFact simCaList,
      simParamQuantile1C5[[simParam, All]]}],
   PlotStyle → {colorA}, Joined → True, PlotRange → All];
gr4a = ListLogLogPlot[Transpose[{caFact simCaList,
      simParamQuantile2C5[[simParam, All]]}],
   PlotStyle → {colorA}, Joined → True, PlotRange → All];
Show[gr1a, gr2a, gr3a, gr4a, PlotRange → {All, {-0.8, 5}} ]
If[exportYes == 1,
  Export["plot chi2Ratio C5 data.txt",
   Transpose[{dataT1C5Ca, dataT1C5ChiRatio}], "Table"];
  toExport = Transpose[{caFact simCaList, simParamQuantile1C5[[simParam, All]],
      simParamMedianC5[[simParam, All]], simParamQuantile2C5[[simParam, All]]}];
  Export["plot chi2Ratio C5 fit - quantiles and median.txt",
   toExport, "Table"];
 ];
```

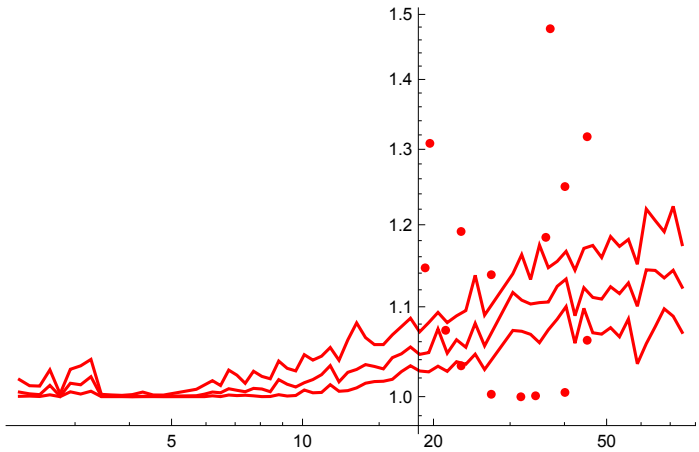
Out[479]=



C10

In[481]:=
```
gr1b = ListLogLogPlot[
   Transpose[{dataT1C10Ca, dataT1C10ChiRatio}], PlotStyle → {colorB}];
gr2b = ListLogLogPlot[Transpose[{caFact simCaList,
      simParamMedianC10[[simParam, All]]}],
   PlotStyle → {colorB}, Joined → True, PlotRange → All];
gr3b = ListLogLogPlot[Transpose[{caFact simCaList,
      simParamQuantile1C10[[simParam, All]]}],
   PlotStyle → {colorB}, Joined → True, PlotRange → All];
gr4b = ListLogLogPlot[Transpose[{caFact simCaList,
      simParamQuantile2C10[[simParam, All]]}],
   PlotStyle → {colorB}, Joined → True, PlotRange → All];
Show[gr1b, gr2b, gr3b, gr4b, PlotRange → All ]
If[exportYes == 1,
  Export["plot chi2Ratio C10 data.txt",
   Transpose[{dataT1C10Ca, dataT1C10ChiRatio}], "Table"];
  toExport = Transpose[{caFact simCaList, simParamQuantile1C10[[simParam, All]],
      simParamMedianC10[[simParam, All]],
      simParamQuantile2C10[[simParam, All]]}];
  Export["plot chi2Ratio C10 fit - quantiles and median.txt",
   toExport, "Table"];
 ];
```

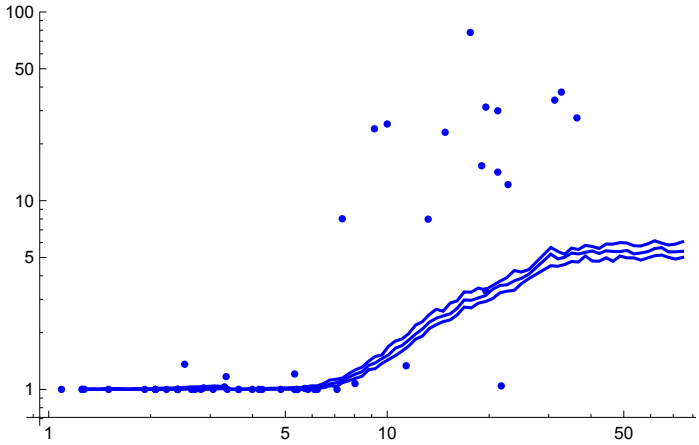
Out[485]=



D

In[487]:=
```
gr1c =
  ListLogLogPlot[Transpose[{dataT1DCa, dataT1DChiRatio}], PlotStyle → {colorC}];
gr2c = ListLogLogPlot[Transpose[
    {caFact simCaList, simParamMedianD[[simParam, All]]}],
   PlotStyle → {colorC}, Joined → True, PlotRange → All];
gr3c = ListLogLogPlot[Transpose[{caFact simCaList,
     simParamQuantile1D[[simParam, All]]}],
   PlotStyle → {colorC}, Joined → True, PlotRange → All];
gr4c = ListLogLogPlot[Transpose[{caFact simCaList,
     simParamQuantile2D[[simParam, All]]}],
   PlotStyle → {colorC}, Joined → True, PlotRange → All];
Show[gr1c, gr2c, gr3c, gr4c, PlotRange → All ]
If[exportYes == 1,
  Export["plot chi2Ratio D data.txt",
   Transpose[{dataT1DCa, dataT1DChiRatio}], "Table"];
  toExport = Transpose[{caFact simCaList, simParamQuantile1D[[simParam, All]],
     simParamMedianD[[simParam, All]], simParamQuantile2D[[simParam, All]]}];
  Export["plot chi2Ratio D fit - quantiles and median.txt", toExport, "Table"];
 ];
```

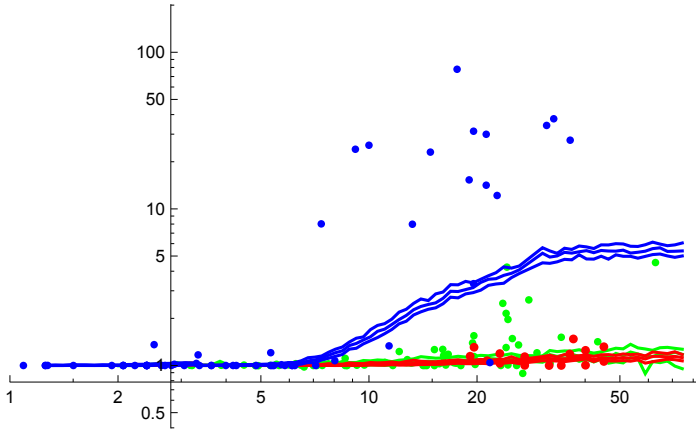
Out[491]=



C5 and C10 and D

In[493]:=
```
Show[gr1a, gr2a, gr3a, gr4a, gr1b, gr2b, gr3b,
 gr4b, gr1c, gr2c, gr3c, gr4c, PlotRange → {All, {-0.8, 5}}]
Show[gr1a, gr1b, gr1c, PlotRange → All];
```

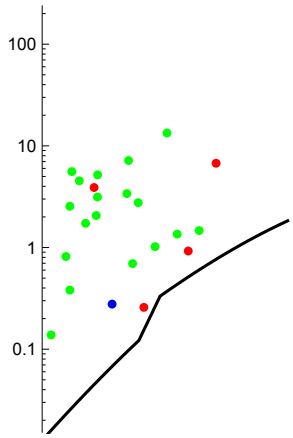
Out[493]=



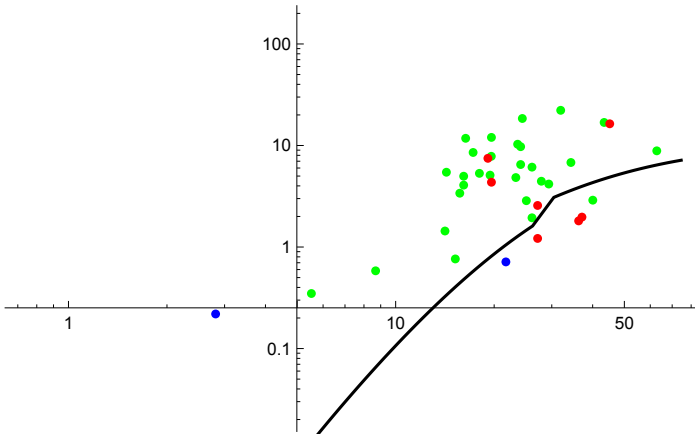
Nv

In[495]:=
```
For[NvCount = 1, NvCount ≤ 7, NvCount += 1,
  Print[" time for Nv (ms) = ", 1000 * timeOfNv[[NvCount]]];
  gr1a = ListLogLogPlot[
    Transpose[{dataT1C5Ca, dataT1C5Nv[[NvCount]]}], PlotStyle → {colorA}];
  gr1b = ListLogLogPlot[Transpose[{dataT1C10Ca, dataT1C10Nv[[NvCount]]}],
    PlotStyle → {colorB}];
  gr1c = ListLogLogPlot[Transpose[{dataT1DCa, dataT1DNv[[NvCount]]}],
    PlotStyle → {colorC}];
  gr2 = ListLogLogPlot[Transpose[{caFact simCaList, rrp simParamNv[[NvCount,
        All]]}], PlotStyle → { Black}, Joined → True, PlotRange → All];
  Show[gr1a, gr1b, gr1c, gr2, PlotRange → {All, {-4, 5}} ] // Print;
 ];
```

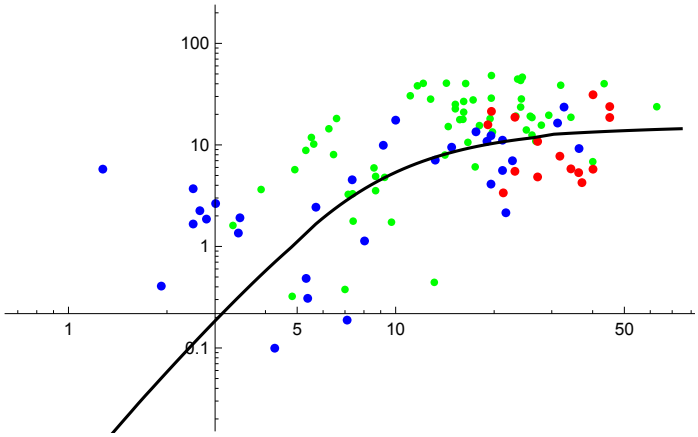
```
time for Nv (ms) = 0.1
```



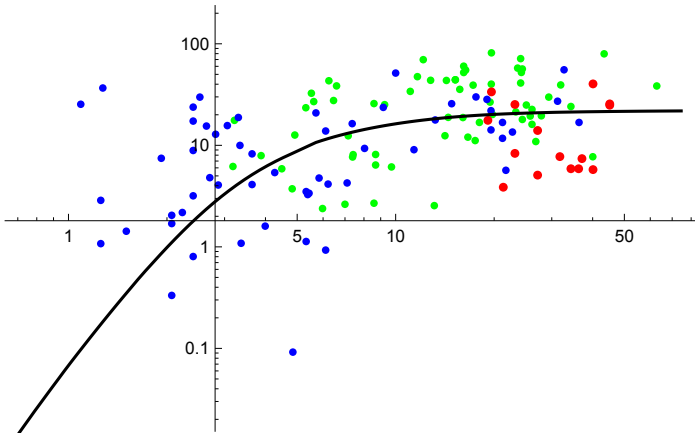

```
time for Nv (ms) = 0.2
```



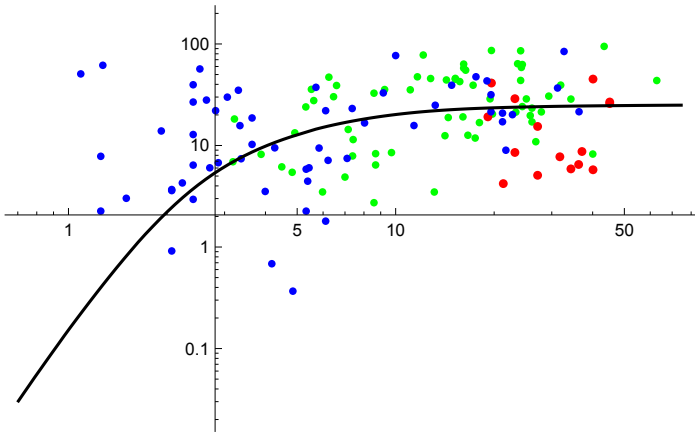
time for Nv (ms) = 1.



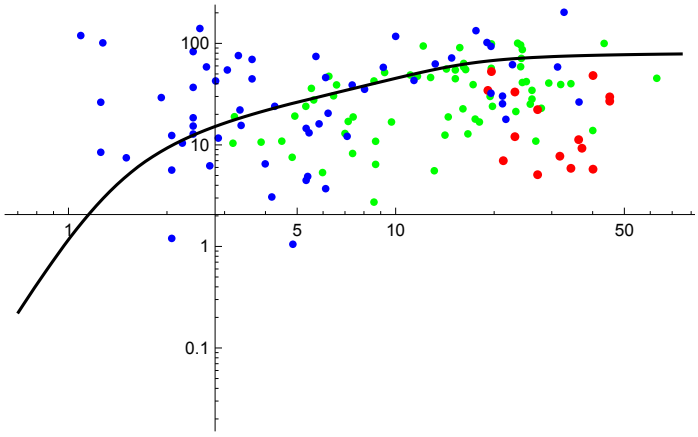
time for Nv (ms) = 5.



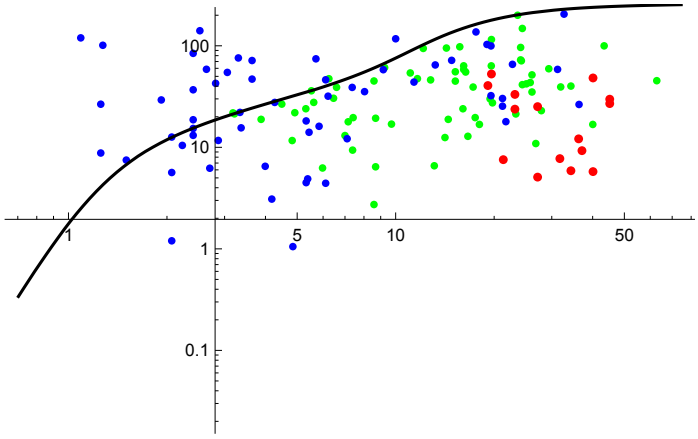
time for Nv (ms) = 10.




```
time for Nv (ms) = 100.
```

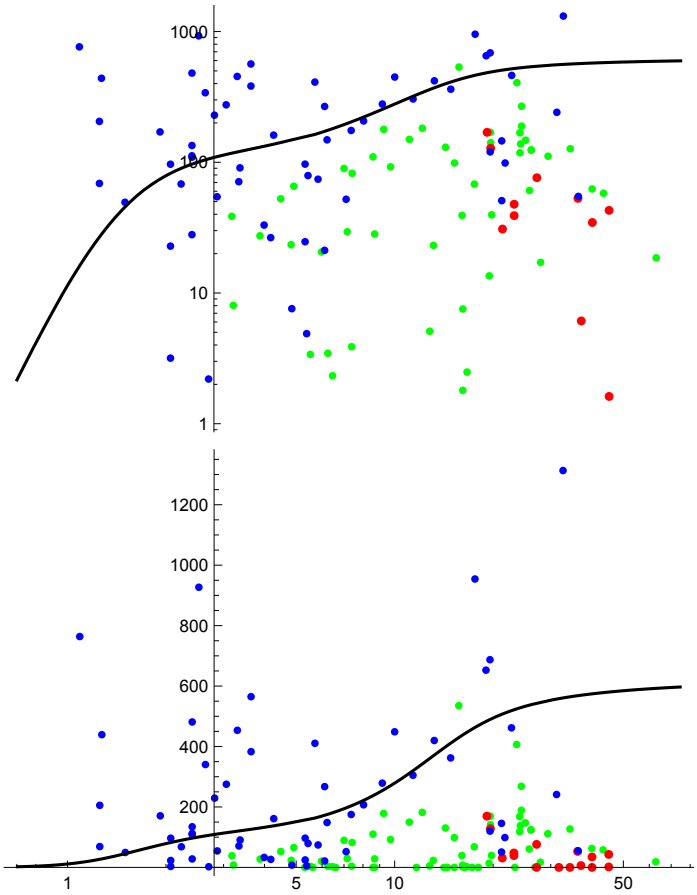



```
time for Nv (ms) = 400.
```



sustained release 10 to 100 ms

In[496]:=
```
ttt1 = Transpose[{dataT1C5Ca, (dataT1C5Nv[[6]] - dataT1C5Nv[[5]]) / 0.09}];
ttt2 = Transpose[{dataT1C10Ca, (dataT1C10Nv[[6]] - dataT1C10Nv[[5]]) / 0.09}];
ttt3 = Transpose[{dataT1DCa, (dataT1DNv[[6]] - dataT1DNv[[5]]) / 0.09}];
ttt4 = Transpose[
   {caFact simCaList, rrp (simParamNv[[6, All]] - simParamNv[[5, All]]) / 0.09}];

gr1a = ListLogLogPlot[ttt1, PlotStyle → {colorA}];
gr1b = ListLogLogPlot[ttt2, PlotStyle → {colorB}];
gr1c = ListLogLogPlot[ttt3, PlotStyle → {colorC}];
gr2 = ListLogLogPlot[ttt4, PlotStyle → { Black}, Joined → True, PlotRange → All];
Show[gr1a, gr1b, gr1c, gr2, PlotRange → {All, {0, 7}} ] // Print;

gr1a = ListLogLinearPlot[ttt1, PlotStyle → {colorA}];
gr1b = ListLogLinearPlot[ttt2, PlotStyle → {colorB}];
gr1c = ListLogLinearPlot[ttt3, PlotStyle → {colorC}];
gr2 = ListLogLinearPlot[ttt4,
  PlotStyle → { Black}, Joined → True, PlotRange → All];
Show[gr1a, gr1b, gr1c, gr2, PlotRange → {All, All} ] // Print;
```



In[504]:=
```
If[exportYes == 1,
  Export["plot sustained release Cm5 data.txt", ttt1, "Table"];
  Export["plot sustained release Cm10 data.txt", ttt2, "Table"];
  Export["plot sustained release D data.txt", ttt3, "Table"];
  Export["plot sustained release sim.txt", ttt4, "Table"]
 ];
```

Nv normalize to the value at 5 ms

In[505]:=
```
timeOfNv
nromPos = 5;
1000 * timeOfNv[[nromPos]]
```

Out[505]= {0.0001, 0.0002, 0.001, 0.005, 0.01, 0.1, 0.4}

Out[507]= 10.

In[508]:=
```
dataT1DNvNorm = Transpose[Transpose[dataT1DNv] / dataT1DNv[[nromPos]]];
dataT1C10NvNorm = Transpose[Transpose[dataT1C10Nv] / dataT1C10Nv[[nromPos]]];
dataT1C5NvNorm = Transpose[Transpose[dataT1C5Nv] / dataT1C5Nv[[nromPos]]];
```

In[511]:=
```
dataT1C5NvNorm // TableForm
```

Out[511]//TableForm=

0.	0.	0.	0.	0.	0.	0.
0.	0.	0.	0.	0.	0.	0.
0.20362	0.265687	0.42823	0.550679	0.804146	0.862111	0.657036
0.719618	0.914034	0.947765	0.995367	0.999983	0.961307	0.985586
1.	1.	1.	1.	1.	1.	1.
1.97523	1.00693	1.44309	1.00001	1.	1.38099	1.17479
1.98885	1.00693	1.64647	1.00001	1.	1.52805	1.34343

In[512]:=
```
simParamNv // TableForm
simParamNvNorm = Transpose[Transpose[simParamNv] / simParamNv[[nromPos]]];
simParamNvNorm // TableForm
```

Out[512]//TableForm=

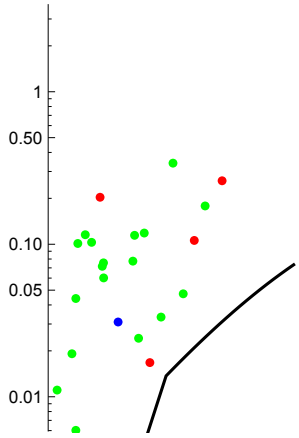
1.15831×10^{-8}	1.36732×10^{-8}	1.61758×10^{-8}	1.91754×10^{-8}	2.27794×10^{-8}	2
4.04537×10^{-7}	4.77943×10^{-7}	5.65825×10^{-7}	6.71188×10^{-7}	7.97708×10^{-7}	9
0.000100151	0.000117822	0.000138877	0.000163994	0.000193991	0
0.00143825	0.0017039	0.00202339	0.00240873	0.00287287	0
0.00304654	0.00363033	0.00433747	0.00519675	0.00623878	0
0.022522	0.0270668	0.0325994	0.0393435	0.0475345	0
0.0339701	0.0409538	0.0494628	0.0598334	0.0724116	0

Out[514]//TableForm=

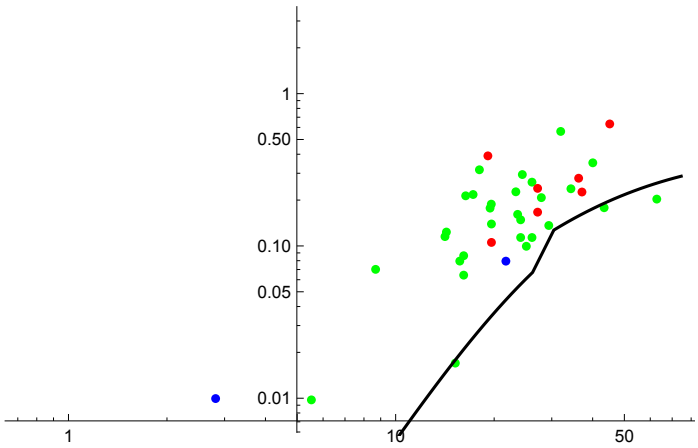
3.80206×10^{-6}	3.76636×10^{-6}	3.72931×10^{-6}	3.68988×10^{-6}	3.65125×10^{-6}	3
0.000132786	0.000131653	0.000130451	0.000129155	0.000127863	0
0.0328736	0.0324549	0.0320179	0.031557	0.0310943	0
0.472094	0.46935	0.466492	0.463507	0.460486	0
1.	1.	1.	1.	1.	1
7.39265	7.45572	7.51577	7.57079	7.6192	7
11.1504	11.281	11.4036	11.5136	11.6067	1

In[515]:=
```
For[NvCount = 1, NvCount ≤ 7, NvCount += 1,
  Print[" time for Nv (ms) = ", 1000 * timeOfNv[[NvCount]]];
  gr1a = ListLogLogPlot[
    Transpose[{dataT1C5Ca, dataT1C5NvNorm[[NvCount]]}], PlotStyle → {colorA}];
  gr1b = ListLogLogPlot[Transpose[{dataT1C10Ca, dataT1C10NvNorm[[NvCount]]}],
    PlotStyle → {colorB}];
  gr1c = ListLogLogPlot[Transpose[{dataT1DCa, dataT1DNvNorm[[NvCount]]}],
    PlotStyle → {colorC}];
  gr2 = ListLogLogPlot[Transpose[{caFact simCaList, simParamNvNorm[[NvCount,
        All]]}], PlotStyle → { Black}, Joined → True, PlotRange → All];
  Show[gr1a, gr1b, gr1c, gr2, PlotRange → {All, {-5, 1}} ] // Print;
];
```

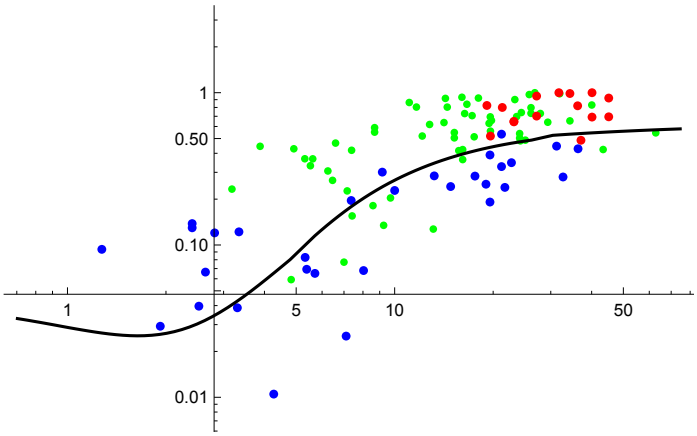
time for Nv (ms) = 0.1



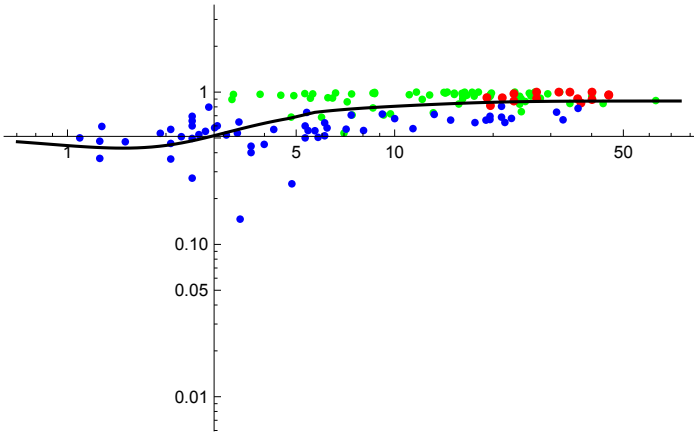
time for Nv (ms) = 0.2



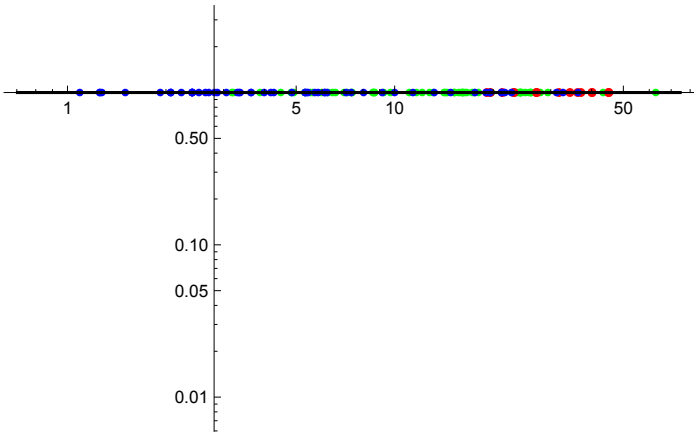
time for Nv (ms) = 1.



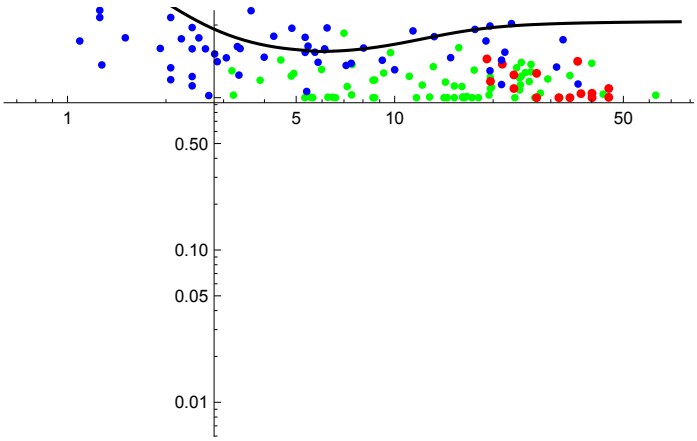
time for Nv (ms) = 5.



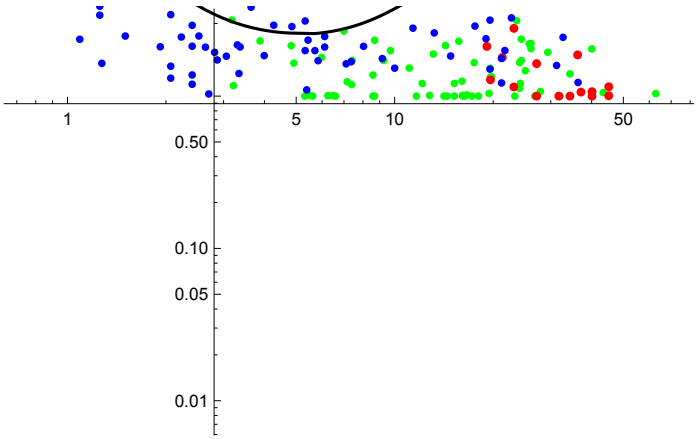
time for Nv (ms) = 10.



time for Nv (ms) = 100.




```
time for Nv (ms) = 400.
```



Export Nv

In[516]:=
```
If[exportYes == 1,
  Export["Nv export Ca,0.0001,0.0002,0.001,0.005,0.01,0.1,0.4.txt",
    Transpose[Prepend[simParamNv, caFact simCaList]], "Table"];
 ];
```

Print some values

C5

In[517]:=
```
Transpose[simParamMedianC5] // TableForm
Transpose[simParamQuantile1C5] // TableForm
Transpose[simParamQuantile2C5] // TableForm
```

Out[517]//TableForm=

0	2.66663	0.0019	0.391669	127.526	0.999844	0.0019
0	2.66391	0.0013	0.390852	105.554	1.00021	0.0016
0	2.72844	0.00138728	0.491185	102.973	1.00031	0.00119187
0	2.70572	0.0019	0.641737	110.839	1.00058	0.00142874
0	5.01268	0.000277746	1.19001	43.2835	1.00634	0.00153829
0	5.03089	0.0000927479	1.26488	43.1866	1.00629	0.00126338
0	2.82236	0.001	0.729429	120.915	1.00034	0.0012
0	5.39012	-1.08608×10^{-15}	1.41357	49.0192	1.0159	0.001
0	2.85733	0.001	0.965303	104.733	1.00034	0.00105812
0	2.60301	0.00103974	1.18829	103.65	1.00024	0.0012
0	2.49612	0.0008	1.22184	120.142	1.00114	0.00107557
0	2.80672	0.0006	1.34892	106.069	1.00078	0.000897457
0	5.10465	-0.001	1.80704	58.8173	1.03971	0.000978915
0	2.54283	0.000852458	1.20577	192.679	1.00183	0.000928717
0	2.77594	0.000787432	1.4402	146.637	1.00098	0.0008
0	2.72011	0.000610401	1.56102	152.001	1.0017	0.000775907
0	2.65688	0.000596423	1.52586	186.11	1.00175	0.000726368
0	2.8292	0.000457148	1.57252	258.233	1.00379	0.000674937
0	2.78067	0.000475082	1.64826	258.796	1.00334	0.000582413
0	2.78162	0.000468002	1.67065	266.479	1.00655	0.000561792
0	2.6089	0.0004	1.71643	271.317	1.0056	0.000498929
0	2.76657	0.000434202	1.6897	292.243	1.01205	0.000524367
0	2.62564	0.000341362	1.74992	306.219	1.01027	0.000524996
0	2.78586	0.00037069	1.82249	308.814	1.01086	0.000477887
0	2.74102	0.000202546	1.81407	317.113	1.01595	0.000456737
0	2.78521	0.000325904	1.87072	323.718	1.01063	0.000403206
0	2.80822	0.000312433	1.87645	352.559	1.02452	0.000457609
0	2.63118	0.000277402	1.95052	333.187	1.01268	0.0004
0	2.73628	0.000230307	1.99041	338.125	1.01511	0.000418641
0	2.68126	0.000205449	1.98571	352.648	1.02239	0.0004
0	2.68177	0.000205891	2.04468	362.757	1.02655	0.0004
0	2.68923	0.000182432	2.047	373.085	1.04754	0.0004
0	2.7992	0.000187417	2.05914	388.821	1.02777	0.00037456
0	2.6727	0.0000968223	2.13984	365.108	1.03353	0.000353699
0	2.96551	0.0000426171	2.11298	395.513	1.05028	0.000365006
0	2.92945	0.000038037	2.16794	393.946	1.02466	0.0002
0	2.76191	0.0000484058	2.16694	407.775	1.04187	0.000299571
0	2.89509	-0.0000389478	2.22769	383.088	1.06027	0.000246386
0	2.85839	0.0000395568	2.19836	419.445	1.06666	0.000254823
0	2.69652	-0.0000184055	2.2265	413.894	1.05592	0.000203081
0	2.81851	-0.0000289639	2.2394	434.175	1.04755	0.0002
0	2.73419	-0.0000179098	2.24457	445.682	1.07403	0.000252602
0	2.92973	-0.0000315103	2.2607	459.998	1.08456	0.00019405
0	2.93286	-0.0000723606	2.2533	463.007	1.07648	0.0002
0	2.91643	-0.0000880998	2.28053	484.271	1.0906	0.000208544
0	2.86939	-0.0000536383	2.28689	482.458	1.08598	0.0002
0	2.89721	-0.0000808303	2.28332	498.395	1.10831	0.0002
0	2.86456	-0.000118172	2.30177	471.8	1.10051	0.000199559
0	2.90106	-0.000111313	2.2838	530.956	1.09151	0.0002

0	2.99891	−0.000117308	2.29946	507.71	1.1072	0.000153243
0	3.0215	−0.00013147	2.2969	523.5	1.1213	0.000173572
0	2.92608	−0.0002	2.30749	569.194	1.09475	0.000117161
0	3.00857	−0.0002	2.31686	557.83	1.17389	0.000164731
0	3.15775	−0.0002	2.32084	588.37	1.14333	0.0000461002
0	3.18075	−0.000196738	2.30194	597.335	1.16722	0.00012661
0	3.16751	−0.000200938	2.31058	576.951	1.17952	0.000142973
0	3.14625	−0.000247646	2.32723	580.29	1.14523	0.000115452
0	3.09857	−0.0002	2.30659	611.04	1.1711	0.000109528
0	2.8904	−0.000246645	2.33563	594.979	1.15415	0.00013537
0	3.07897	−0.000216776	2.32847	611.833	1.16646	0.0000807975
0	3.0693	−0.000264099	2.32505	640.324	1.11465	0.000131086
0	3.13903	−0.00021252	2.32221	646.602	1.19447	0.000138174
0	3.23975	−0.0002669	2.34423	613.068	1.15647	0.000133855
0	3.33927	−0.000256717	2.33254	629.803	1.21916	9.89666×10^{-18}
0	3.42371	−0.000252963	2.33929	613.227	1.18488	-5.4763×10^{-19}
0	3.28318	−0.000256584	2.34739	613.259	1.14341	0.000116534
0	3.05106	−0.000250044	2.33189	642.828	1.13929	0.0000623059
0	3.21114	−0.000277527	2.33874	629.622	1.18707	0.000136304
0	3.37505	−0.000293644	2.3456	622.569	1.18069	0.000104145
0	3.14115	−0.000246169	2.346	662.272	1.21488	0.000140179
0	3.23294	−0.000239556	2.34809	670.258	1.17818	0.000109494

Out[518]//TableForm=

0	2.39032	−0.000188183	0.223866	10.1378	0.996946	-2.58042×10^{-1}
0	2.29867	0.0006	0.235415	17.6866	0.999952	0.000334423
0	2.49597	0.000229282	0.315212	4.07225	0.999197	−0.0006
0	2.44532	0.0004	0.343923	8.33019	0.999999	0.0002
0	4.61549	−0.00124966	1.09217	32.4201	1.00047	-3.67488×10^{-1}
0	4.60947	−0.00106693	1.19278	36.3898	1.00052	-3.83992×10^{-1}
0	2.5176	0.0004	0.529938	30.5631	0.999977	0.000258219
0	4.95322	−0.00157009	1.33177	38.3254	1.00089	-8.82737×10^{-1}
0	2.44035	0.000316161	0.772558	21.3462	0.999767	0.00043027
0	2.38899	0.000465896	0.738882	23.9994	0.999768	0.0006
0	2.26859	0.000403702	0.890093	40.4496	1.00004	0.0004
0	2.22149	0.0002	1.05091	27.6855	1.00003	0.0002
0	4.64444	−0.00165798	1.76406	53.0687	1.01431	0.00061887
0	2.26157	0.000475942	1.08571	114.344	1.00018	0.000515209
0	2.35584	0.000332591	1.20881	102.89	1.	0.0004
0	2.47454	0.000102076	1.27787	87.9746	1.00024	0.0002

0	2.41298	0.000341806	1.28962	116.002	1.00017	0.000345293
0	2.48353	0.0004	1.42123	206.396	1.00091	0.000402088
0	2.40495	0.000302069	1.59438	225.389	1.00022	0.000389218
0	2.45745	0.00030051	1.59396	216.735	1.00149	0.000386164
0	2.44908	0.000179856	1.63251	217.903	1.	0.000275551
0	2.45161	0.000250383	1.64023	247.006	1.00222	0.000371857
0	2.45451	0.0002	1.66069	261.191	1.0004	0.000280145
0	2.17896	0.0002	1.71638	244.71	1.00062	0.000357593
0	2.53376	0.0000876943	1.74292	270.98	1.0006	0.000229323
0	2.49951	0.000160861	1.81254	294.37	1.00019	0.000239911
0	2.45628	0.000178588	1.79881	319.512	1.00628	0.000334517
0	2.43717	0.0000735039	1.9045	289.489	1.	0.000260806
0	2.44541	0.0000760318	1.89946	293.114	1.00003	0.000238799
0	2.43524	0.0000670868	1.93899	327.878	1.00352	0.000233893
0	2.30241	0.000055267	1.98134	340.242	1.00878	0.000305905
0	2.37988	0.0000475201	1.9926	335.096	1.00896	0.000252088
0	2.39259	0.000045859	2.00457	348.429	1.00153	0.0002
0	2.30746	-0.0000327496	2.08753	326.5	1.00617	0.000185444
0	2.58965	-7.76914×10^{-17}	2.07186	367.456	1.02282	0.0002
0	2.46945	-0.0000587127	2.1201	348.866	1.00965	0.0000894273
0	2.43122	-0.0000426186	2.10703	384.89	1.00954	0.00017192
0	2.46896	-0.00016779	2.16722	338.624	1.0323	0.000184407
0	2.48463	-0.0000232024	2.15254	393.492	1.02588	0.000127938
0	2.40973	-0.000150302	2.18498	374.662	1.02226	0.000148729
0	2.4818	-0.00015772	2.19116	386.432	1.01384	0.000114227
0	2.44351	-0.00014094	2.19388	391.863	1.02725	0.000118961
0	2.50583	-0.000134587	2.21358	404.646	1.03198	0.0000803014
0	2.55013	-0.0002	2.22753	409.301	1.03118	0.0000928448
0	2.61431	-0.0002	2.23206	429.727	1.04693	0.000176674
0	2.47786	-0.0002	2.24084	427.032	1.02965	0.0000997441
0	2.53539	-0.000185238	2.24876	443.843	1.05161	0.000117446
0	2.49248	-0.000207674	2.25838	434.901	1.04744	0.0000342127
0	2.49712	-0.000190022	2.25599	483.875	1.03365	0.000130259
0	2.523	-0.0002	2.26222	470.69	1.05045	0.0000571148
0	2.76539	-0.000202829	2.25381	488.535	1.0733	0.0000166173
0	2.55076	-0.000327393	2.25519	506.703	1.0494	-7.62829×10^{-6}
0	2.67819	-0.000280054	2.28265	485.423	1.08945	-1.65526×10^{-1}
0	2.77198	-0.000284079	2.2963	532.388	1.10179	-6.61485×10^{-6}
0	2.77471	-0.000272864	2.25804	548.631	1.10378	0.0000527338
0	2.8702	-0.000317738	2.28569	531.814	1.11186	-5.68657×10^{-1}
0	2.7582	-0.000374009	2.30498	506.609	1.06365	4.24725×10^{-19}
0	2.79793	-0.000252824	2.27554	540.994	1.09719	-1.4547×10^{-19}
0	2.60904	-0.000368895	2.27172	501.635	1.0539	-0.0000210136
0	2.63959	-0.000361719	2.30203	528.078	1.09669	-0.0000432892
0	2.75814	-0.000322397	2.28352	539.558	1.03475	1.64994×10^{-17}
0	2.9708	-0.000338404	2.28618	551.998	1.05489	8.59897×10^{-6}
0	2.84454	-0.000355952	2.30774	531.501	1.03885	1.83328×10^{-19}
0	2.73616	-0.000312917	2.29296	549.125	1.12334	-0.0000362504
0	2.98075	-0.000347836	2.31832	553.885	1.10692	-0.0000258671
0	3.00153	-0.000332495	2.29932	553.488	0.886151	-8.66661×10^{-6}
0	2.66217	-0.000308591	2.30519	580.343	1.05934	-0.0000319332
0	2.82894	-0.000365338	2.30452	559.445	1.04303	-2.2872×10^{-6}
0	2.7997	-0.0004	2.32076	557.067	1.06806	-4.42706×10^{-6}
0	2.84014	-0.000328901	2.30724	605.872	0.991557	-3.37889×10^{-1}
0	2.81182	-0.0004	2.30262	563.602	0.954314	-1.78915×10^{-6}

Out[519]//TableForm=

0	2.9733	0.00379979	3.7647	329.334	1.00141	0.003473	2
0	3.04558	0.00332882	2.4298	393.213	1.00266	0.0028	1
0	3.02476	0.0027211	11.7188	186.99	1.00901	0.0022	1
0	3.05674	0.00266427	4.24791	300.27	1.00913	0.0026	1
0	5.52822	0.00169557	1.29886	51.0394	1.01848	0.00263582	3
0	5.53807	0.00129347	1.354	49.6931	1.02214	0.00260208	3
0	3.17439	0.00203133	1.97782	240.188	1.00648	0.00193419	3
0	5.75593	0.000960207	1.54027	56.3188	1.04513	0.0027371	1
0	3.10122	0.0016	4.4328	196.973	1.00553	0.0018	4
0	3.0535	0.0016	3.62153	282.205	1.00318	0.0015608	2
0	2.96759	0.00132034	2.30747	195.248	1.00585	0.0014	2
0	3.13289	0.00119819	3.56292	171.695	1.00653	0.0014	4
0	5.8217	−0.0000972382	1.87751	65.9147	1.06354	0.00172805	5
0	2.91064	0.00128552	1.54053	234.816	1.00591	0.0014	2
0	3.13083	0.001	1.77359	243.015	1.00919	0.00119969	2
0	3.17933	0.0010684	2.07335	227.461	1.00455	0.00113746	3
0	3.26328	0.000891122	1.87295	273.099	1.00636	0.001	3
0	3.22877	0.0006	1.69738	299.627	1.02226	0.000904876	4
0	3.13305	0.000719457	1.74379	304.163	1.01578	0.000764861	2
0	3.11683	0.0006	1.74511	313.19	1.01524	0.000779915	2
0	2.95178	0.0006	1.81204	309.631	1.03352	0.000686303	2
0	3.13719	0.000594083	1.80193	329.192	1.03184	0.000800026	2
0	2.97896	0.000468763	1.82907	346.629	1.04493	0.000610248	3
0	3.11834	0.000530284	1.8764	358.78	1.03673	0.000662509	4
0	2.97996	0.000475937	1.88888	368.043	1.05981	0.000715745	2
0	3.06909	0.000437842	1.92357	373.363	1.02866	0.0006	4
0	3.06575	0.000417848	1.93354	391.266	1.06116	0.0006	1
0	3.05758	0.000378006	2.03217	361.904	1.04407	0.00058826	4
0	3.00419	0.000351188	2.0468	376.334	1.04531	0.000519248	1
0	3.21665	0.000352914	2.03897	408.25	1.07646	0.000508181	2
0	3.02677	0.000311198	2.07917	402.068	1.07059	0.000545849	5
0	3.11707	0.000308854	2.11809	418.955	1.08496	0.000542544	1
0	3.11885	0.000255115	2.1164	424.176	1.07863	0.00044138	5
0	2.94979	0.0002	2.19119	412.098	1.05773	0.000493546	3
0	3.2931	0.00017034	2.17982	440.264	1.08147	0.000519679	5
0	3.24304	0.000156455	2.21596	426.569	1.08938	0.000393681	4
0	3.03565	0.000184911	2.24177	448.547	1.1031	0.0004	3
0	3.33137	0.0000643676	2.29281	432.284	1.13869	0.000383061	3
0	3.23417	0.000115667	2.239	478.943	1.12597	0.000398391	1
0	3.33074	0.0000569374	2.27451	465.604	1.11369	0.000297888	3
0	3.04738	0.0000618679	2.28038	488.829	1.11696	0.000346609	6
0	3.08301	0.000113664	2.28952	533.336	1.12714	0.0004	1
0	3.47113	0.00003784	2.31452	500.88	1.14505	0.000328342	1
0	3.20674	4.1912×10^{-17}	2.3171	511.701	1.13175	0.000295184	2
0	3.42901	-5.16699×10^{-17}	2.30648	504.813	1.14381	0.000334649	3

0	3.09582	0.0000272238	2.33046	518.546	1.16077	0.000380331	2
0	3.19895	7.11379×10^{-18}	2.33087	545.125	1.15357	0.000330961	3
0	3.38132	-5.22973×10^{-17}	2.34661	532.995	1.17422	0.000267467	3
0	3.43121	-8.24762×10^{-18}	2.34954	582.774	1.16518	0.000314743	2
0	3.21013	-0.0000460553	2.34868	577.67	1.1889	0.000210998	7
0	3.22106	-0.0000442507	2.3296	583.8	1.16067	0.000212845	2
0	3.35807	-0.0000917613	2.34998	634.419	1.15069	0.000199969	3
0	3.44577	-0.000117643	2.35397	627.658	1.24677	0.000206586	2
0	3.52626	-0.00012332	2.34932	644.376	1.2264	0.00019022	3
0	3.69204	-0.000116981	2.34236	684.695	1.23864	0.000197889	2
0	3.43643	-0.000158255	2.36257	638.367	1.2369	0.000198594	2
0	3.62833	-0.000196012	2.37594	632.777	1.26064	0.0002	3
0	3.39939	-0.000130941	2.33918	689.306	1.22632	0.000196867	3
0	3.64594	-0.000161384	2.37726	708.213	1.19981	0.000260568	2
0	3.4209	-0.000191398	2.36548	683.904	1.22223	0.00019647	2
0	3.44173	-0.0002	2.35796	700.507	1.2534	0.000256492	2
0	3.46787	-0.000193249	2.36381	736.441	1.28951	0.000230942	2
0	3.70153	-0.00018714	2.37524	702.817	1.27747	0.000295207	2
0	3.80651	-0.000171794	2.38494	695.11	1.36596	0.000179987	9
0	3.58772	-0.0002	2.37795	712.035	1.29512	0.000177231	3
0	3.72763	-0.0002	2.38108	693.676	1.27546	0.000481762	2
0	3.46794	-0.0002	2.3721	719.895	1.24986	0.000198874	2
0	3.63849	-0.000207274	2.38306	696.029	1.29865	0.00037904	2
0	3.74251	-0.0002	2.37707	672.685	1.3059	0.000238983	3
0	3.64837	-0.0002	2.39404	723.684	1.28712	0.000393755	3
0	3.7753	-0.0002	2.39317	722.901	1.27045	0.000392252	3

C10

In[520]:=
```
Transpose[simParamMedianC10] // TableForm
Transpose[simParamQuantile1C10] // TableForm
Transpose[simParamQuantile2C10] // TableForm
```

Out[520]//TableForm=

0	5.24272	0.000956386	1.09753	32.5745	1.00483	0.00202287
0	5.23923	0.000283111	1.12738	35.8991	1.00298	0.00134078
0	5.03336	-2.06845×10^{-16}	1.17569	39.5687	1.00211	0.001

0	5.01182	4.44382×10^{-15}	1.21887	46.7865	1.01202	0.002
0	8.48111	0.0014	0.72943	137.864	1.00044	0.0013
0	5.17131	0.0000295481	1.40178	48.6858	1.0143	0.002
0	5.31076	-0.0000728298	1.4898	47.4433	1.01267	0.00124303
0	5.20016	-0.000151949	1.56907	52.5862	1.02137	0.00156742
0	8.58337	0.000792296	1.20275	107.464	1.00037	0.000852389
0	8.60513	0.000742417	1.26269	116.437	1.00035	0.0008
0	8.45536	0.00062538	1.48195	106.474	1.00026	0.000833347
0	8.21004	0.0008	1.38729	146.187	1.00013	0.000899961
0	7.87408	0.000792536	1.39033	163.787	1.00034	0.000891079
0	8.43479	0.0007	1.46432	174.059	1.00084	0.000734336
0	8.46177	0.000685486	1.43375	200.294	1.00042	0.000782739
0	8.30754	0.0005	1.57279	254.819	1.00099	0.000566104
0	8.46072	0.000468109	1.6536	249.398	1.00264	0.0006
0	8.43521	0.000494937	1.63386	275.103	1.00489	0.000648744
0	8.37677	0.0004	1.67668	274.368	1.00411	0.0006
0	8.62245	0.0004	1.7235	292.014	1.00841	0.0005
0	8.18218	0.00031991	1.76837	305.511	1.00674	0.000488407
0	8.23347	0.000321955	1.76195	322.035	1.00521	0.000506345
0	8.3968	0.0003	1.84819	309.004	1.0088	0.000425368
0	8.42072	0.0003	1.88292	328.221	1.00813	0.0005
0	8.28068	0.00022337	1.90242	334.375	1.00523	0.00036675
0	8.46459	0.000265082	1.93792	338.693	1.01819	0.0004
0	8.29411	0.000209325	1.95372	349.198	1.01325	0.000375637
0	8.00037	0.00020429	1.98651	354.376	1.01028	0.000402967
0	8.42405	0.000220992	2.0372	370.745	1.01489	0.000352559
0	8.46536	0.000122088	2.05316	360.617	1.01829	0.000329948
0	8.48032	0.000131275	2.07934	385.477	1.02358	0.000304078
0	8.33971	0.0001	2.09874	378.405	1.03345	0.000319419
0	8.20759	0.0001	2.14737	381.938	1.01587	0.0003
0	8.48242	0.0000461556	2.1531	386.321	1.02612	0.000216137
0	8.22	0.0000154937	2.16008	404.715	1.02927	0.000236809
0	8.34691	0.0000148059	2.1796	410.919	1.03458	0.0003
0	8.55202	0.0000100932	2.21176	417.05	1.03255	0.0002
0	8.29402	-0.0000142758	2.21551	428.886	1.0299	0.00022259
0	8.82362	0.0000410075	2.22033	460.557	1.04224	0.000275523
0	8.5828	-4.03391×10^{-17}	2.23635	451.957	1.04647	0.000217582
0	8.78142	-0.0000152759	2.25783	450.452	1.05405	0.000209004
0	8.72695	-0.0000311116	2.26383	477.997	1.04587	0.0002
0	8.50055	-0.0000918798	2.27854	472.844	1.04785	0.000195068
0	8.68628	-0.0000939447	2.28818	472.764	1.07446	0.000194519
0	8.8263	-0.0000541353	2.27782	511.934	1.04713	0.000152637
0	8.43249	-0.0000973932	2.28577	511.693	1.0622	0.000111949
0	8.37858	-0.000100863	2.30103	503.54	1.05375	0.000156857
0	8.64125	-0.000106543	2.29213	531.144	1.08082	0.000194515
0	9.12413	-0.000141914	2.29862	533.097	1.05535	0.000102448
0	9.42282	-0.000194773	2.29324	576.396	1.11683	0.000106513
0	9.26231	-0.000220144	2.31242	553.223	1.10777	0.000150061
0	8.91592	-0.0002355	2.33256	551.596	1.10326	0.0000817555
0	9.0733	-0.000253985	2.30308	578.395	1.10489	0.0001
0	8.83196	-0.000203137	2.31743	583.292	1.10559	0.000097162
0	9.27476	-0.000212822	2.33034	581.984	1.12418	0.000098793
0	9.16215	-0.00024814	2.32201	598.949	1.13291	0.000099287
0	9.0365	-0.000234846	2.32861	604.146	1.08966	0.0001
0	9.29473	-0.000259111	2.33633	581.333	1.12245	0.0000955748
0	9.54771	-0.0002	2.31917	634.014	1.11102	0.0000747157
0	8.99406	-0.000212131	2.32252	635.34	1.10905	0.0000637847
0	8.82455	-0.000263872	2.32716	620.657	1.12364	0.0000689194
0	9.38139	-0.000268076	2.34241	602.698	1.1155	0.0000976888
0	9.32189	-0.000283752	2.34002	609.921	1.12819	0.0000768824
0	9.29437	-0.000228581	2.33791	617.787	1.10059	0.0000173859
0	9.20443	-0.0003	2.34671	600.465	1.14399	0.0001
0	9.47621	-0.000252367	2.33827	637.348	1.14326	0.0000925486
0	9.93904	-0.000260821	2.32844	672.654	1.1342	0.0000727046

0	9.07341	−0.000243245	2.34288	655.519	1.14344	0.0000216414
0	9.61835	−0.000267269	2.3289	664.283	1.12306	0.0000597329

Out[521]//TableForm=

0	4.71426	−0.002	0.95507	23.0151	1.00033	0.001
0	4.6717	−0.002	1.01672	25.8017	1.00059	−0.000349946
0	4.54635	−0.00185122	1.0921	30.0976	1.00015	−0.000152172
0	4.62554	−0.001	1.16473	37.4952	1.00194	0.000376435
0	7.67992	0.0008	0.555222	41.3804	0.999969	0.0007
0	4.60755	−0.000774287	1.32956	41.5323	1.00513	5.58461×10^{-16}
0	4.85156	−0.00175222	1.40517	39.72	1.00276	−0.000477822
0	4.81414	−0.00180507	1.51355	42.9077	1.00576	0.000433844
0	7.58683	0.0003	0.944223	62.217	1.00001	0.0003
0	7.92671	0.000419562	0.948858	54.5184	0.999984	0.0005
0	7.50122	0.0003	1.08986	76.3205	0.999998	0.000340364
0	7.43836	0.0004	1.20687	76.2583	0.999843	0.0004
0	7.45009	0.0005	1.20279	108.891	1.	0.0005
0	7.32126	0.000336656	1.32239	124.84	1.00004	0.0004
0	7.63048	0.000396232	1.29186	139.411	0.999943	0.0004
0	7.56334	0.000277012	1.45591	213.33	1.	0.0004
0	7.71461	0.000193291	1.55022	215.606	1.	0.0003
0	7.48106	0.000245052	1.56092	230.4	1.00086	0.0004
0	7.68644	0.00024281	1.62505	233.465	1.00005	0.0003
0	7.90172	0.000167615	1.63032	241.544	1.00174	0.000330884
0	7.6043	0.000207263	1.70328	256.452	1.00111	0.0003
0	7.3514	0.0002	1.71776	275.598	1.00149	0.000237744
0	7.69648	0.000188859	1.7975	272.334	1.00087	0.000265344
0	7.56374	0.000232732	1.81283	292.281	1.00003	0.0003
0	7.28497	0.0001	1.83961	297.09	1.00014	0.000228945
0	7.60141	0.000116848	1.87088	306.007	1.00208	0.0003
0	7.55083	0.0001	1.9057	313.091	1.00065	0.00022761
0	7.55993	0.0001	1.93061	312.332	1.00121	0.000190318
0	7.4745	0.0000861374	1.97743	327.118	1.00704	0.0003
0	7.61221	-4.00356×10^{-16}	2.00255	319.354	1.00408	0.0002
0	7.71848	6.32145×10^{-17}	2.02309	342.802	1.00447	0.000182482
0	7.6261	−0.0000154236	2.05637	348.184	1.01274	0.000105009
0	7.53469	1.82285×10^{-6}	2.09779	337.102	1.0057	0.000151211
0	7.79429	−0.0000986161	2.11275	348.982	1.00639	0.000174532

0	7.45172	−0.0000243612	2.12602	387.773	1.00935	0.000144412
0	7.87928	−0.0000494917	2.14644	375.87	1.01434	0.000159879
0	7.77325	−0.000137846	2.1714	378.365	1.01611	0.000108765
0	7.69042	−0.0001	2.16399	384.384	1.01645	0.0001
0	8.01286	−0.0000960685	2.15883	393.47	1.01855	0.0002
0	8.00427	−0.0000921422	2.20673	428.237	1.0269	0.000162263
0	8.12522	−0.000116297	2.20861	414.277	1.03328	0.000129755
0	7.73872	−0.000101714	2.21287	428.891	1.02758	0.0001
0	7.90589	−0.000147357	2.2455	439.681	1.02663	0.0001
0	8.3299	−0.000193606	2.24526	446.233	1.03281	0.0001
0	7.98646	−0.000133234	2.23852	478.727	1.02717	0.000085557
0	7.88443	−0.000192312	2.24979	466.063	1.03776	0.0000364362
0	7.67459	−0.0002	2.27182	444.06	1.03496	0.0000626873
0	8.13961	−0.000240644	2.26502	465.971	1.04607	0.000100217
0	8.25982	−0.000224674	2.26197	497.901	1.02919	2.72387×10^{-17}
0	8.4013	−0.000263804	2.26425	526.15	1.07273	0.0000656877
0	8.60094	−0.0003	2.27747	523.737	1.07181	0.0000525456
0	7.79122	−0.000307564	2.29739	517.683	1.06832	-7.98328×10^{-1}
0	8.5538	−0.0003	2.27762	510.353	1.0589	0.0000426115
0	8.0544	−0.0003	2.29128	542.365	1.07347	−0.0000193967
0	8.32574	−0.000299535	2.28476	541.562	1.08568	0.0000227433
0	8.40222	−0.0003	2.29112	538.724	1.10025	2.07983×10^{-17}
0	8.54924	−0.000311112	2.29251	550.709	1.05832	0.0000170814
0	8.64377	−0.000303859	2.31565	524.055	1.09817	2.29875×10^{-8}
0	8.6048	−0.0003	2.28843	578.561	1.07009	-1.2256×10^{-17}
0	8.15822	−0.000298611	2.28191	590.15	1.06856	−0.0000322961
0	8.02625	−0.000351335	2.28682	559.415	1.0759	−0.0000287538
0	8.38354	−0.000399201	2.31451	549.543	1.06554	0.000031013
0	8.30626	−0.000362778	2.30051	554.385	1.08587	-1.37113×10^{-1}
0	8.35015	−0.000345503	2.30531	575.008	1.03544	−0.0000554621
0	8.59668	−0.000394161	2.31272	537.371	1.05784	0.0000501938
0	8.59525	−0.0003	2.31609	600.077	1.07708	-8.07008×10^{-1}
0	8.97995	−0.00038978	2.3093	588.19	1.09763	-3.99954×10^{-1}
0	8.4988	−0.0003	2.30303	624.629	1.08904	−0.000033438
0	8.55752	−0.000357364	2.30278	588.446	1.07056	−0.0000520836

Out[522]//TableForm=

0	5.49693	0.00256418	1.25742	44.2744	1.01824	0.004	2.

0	5.70159	0.00151795	1.28614	50.4408	1.01166	0.003	3.
0	5.3891	0.0015881	1.37421	54.625	1.01126	0.00311058	4.
0	5.52036	0.00103957	1.30412	57.8475	1.02884	0.00369767	2.
0	8.88912	0.0022	1.7202	265.948	1.00296	0.00236431	2.
0	5.49991	0.001	1.49235	60.4419	1.02945	0.003	2.
0	5.8977	0.000657608	1.63109	59.3657	1.03322	0.00273284	2.
0	5.66732	0.000658567	1.67798	62.8473	1.04028	0.00258997	3.
0	9.12584	0.00136507	2.0618	182.065	1.00242	0.0015	2.
0	9.43232	0.0011	2.15654	225.596	1.0018	0.0013	3.
0	8.99075	0.00116358	1.88301	216.357	1.00136	0.0012	2.
0	8.73621	0.00120301	2.066	193.77	1.00217	0.00127101	3.
0	8.65817	0.001	1.68761	211.818	1.00487	0.0011	2.
0	9.03081	0.0009	1.68688	208.617	1.00176	0.001	2.
0	9.25417	0.0009	1.69085	246.759	1.00168	0.000938715	2.
0	8.87741	0.000705827	1.72196	312.909	1.00782	0.000762223	2.
0	9.29307	0.0007	1.71418	311.703	1.01244	0.00075326	2.
0	9.34734	0.0007	1.75421	323.466	1.01708	0.000858222	2.
0	9.07212	0.0006	1.80219	342.759	1.01186	0.0008	4.
0	9.38443	0.000587094	1.84537	340.189	1.02858	0.000783708	8.
0	8.68844	0.000499068	1.8369	342.965	1.02303	0.0007	3.
0	8.72626	0.00052535	1.88052	357.839	1.01424	0.000675042	9.
0	9.29993	0.0004	1.91261	337.321	1.02731	0.0006	2.
0	9.19649	0.0004	1.95578	377.575	1.02171	0.000663631	9.
0	8.80639	0.000354228	1.94938	364.982	1.01912	0.000556564	3.
0	9.51033	0.000345779	1.96877	364.964	1.03847	0.000559359	3.
0	9.4569	0.000339829	2.02517	386.61	1.03049	0.000553794	4.
0	8.56196	0.0003	2.04475	403.578	1.02768	0.000527208	3.
0	9.09504	0.000289903	2.07974	396.935	1.04551	0.0005	9.
0	9.08038	0.000231903	2.12518	412.051	1.03953	0.000476118	13
0	8.95248	0.000252689	2.12949	413.34	1.04386	0.000491139	4.
0	8.83145	0.000177633	2.16262	417.605	1.05351	0.000471105	3.
0	8.95381	0.0002	2.19411	426.046	1.03933	0.0004	6.
0	9.39177	0.000139953	2.19582	429.441	1.062	0.000373829	4.
0	9.16602	0.000101037	2.19906	440.475	1.08137	0.000398209	3.
0	9.43289	0.000113413	2.24912	464.817	1.06466	0.000410278	5.
0	9.11074	0.0001	2.2623	436.306	1.05677	0.000336228	3.
0	9.24565	0.0000421117	2.26064	470.063	1.05678	0.000301573	2.
0	9.58172	0.00012174	2.27824	501.131	1.06777	0.000395733	3.
0	9.35599	0.0000400344	2.27741	490.149	1.07713	0.000322619	3.
0	9.31309	0.0000455684	2.32199	489.414	1.08672	0.0003	2.
0	9.84472	0.0000264162	2.30448	541.456	1.07112	0.000298461	4.
0	9.71008	7.32202×10^{-18}	2.30376	510.136	1.08178	0.000282426	3.
0	9.26975	-0.0000354061	2.32857	495.151	1.09346	0.000284009	8.
0	9.61575	6.48467×10^{-17}	2.30038	546.389	1.08171	0.000269203	2.
0	9.36291	-0.0000160488	2.3246	553.683	1.08946	0.0002	3.
0	9.25802	-0.0000595284	2.34883	546.626	1.09563	0.000214612	2.
0	9.5106	-0.0000311872	2.3502	570.619	1.13734	0.000270849	2.
0	10.0608	-0.0000705932	2.32745	573.849	1.09029	0.0002	4.
0	10.112	-0.0001	2.35377	615.957	1.13922	0.000199597	2.
0	9.9315	-0.000149472	2.35762	630.794	1.16259	0.0002	2.
0	9.97071	-0.00014048	2.35749	609.216	1.13228	0.000143095	2.
0	9.89581	-0.000180732	2.35557	629.026	1.17446	0.000154385	2.
0	9.54341	-0.000142346	2.35832	628.675	1.14662	0.000178282	2.
0	10.2232	-0.00016259	2.35966	640.644	1.15432	0.000175774	2.
0	9.86105	-0.000144719	2.35663	642.442	1.16663	0.000164606	2.
0	10.3074	-0.000147045	2.36142	672.381	1.14352	0.000198417	3.
0	10.1074	-0.00017831	2.37635	660.715	1.17034	0.000187907	2.
0	10.3283	-0.000145795	2.36299	689.9	1.17397	0.000168288	2.
0	9.85622	-0.000167421	2.34531	700.795	1.159	0.000145093	2.
0	9.60318	-0.0002	2.36513	682.784	1.18507	0.0001	2.
0	10.1071	-0.000195067	2.37185	681.766	1.17277	0.000167044	2.
0	9.99685	-0.000192073	2.37748	692.245	1.18148	0.000159454	2.
0	9.96141	-0.000185311	2.3793	683.017	1.15072	0.000103197	2.
0	9.94101	-0.0002	2.38169	684.148	1.22025	0.00019548	2.

0	10.4961	-0.0002	2.38388	696.525	1.20532	0.000180345	2.
0	10.8373	-0.000169361	2.35819	750.204	1.1912	0.000127219	2.
0	9.96264	-0.0002	2.3692	706.734	1.22368	0.000135056	4.
0	10.1555	-0.0002	2.37109	712.558	1.17504	0.000101183	2.

D

In[523]:=
```
Transpose[simParamMedianD] // TableForm
Transpose[simParamQuantile1D] // TableForm
Transpose[simParamQuantile2D] // TableForm
```

Out[523]//TableForm=

0	5.11276	0.00459897	0.261543	33.094	1.0004	-3.27601×10^{-1}
0	5.14716	0.0035	0.307765	33.3303	1.00054	0.0005
0	5.17623	0.00542148	0.35095	28.9033	1.00021	0.003
0	4.90433	0.001	0.626313	11.8208	1.003	0.000499158
0	4.81617	0.00382725	0.542631	24.3136	1.00175	0.002
0	5.14483	0.0015	0.606027	23.1882	1.00204	0.003
0	5.30063	0.0005	0.83686	19.9642	1.00036	0.002
0	5.10265	3.30014×10^{-15}	0.75494	24.9146	1.00315	0.003
0	4.92984	4.94646×10^{-15}	0.895413	25.6374	1.00104	0.00110348
0	5.16229	0.00026219	0.845394	34.2546	1.00148	0.002
0	5.13733	-0.000123485	1.03333	29.3534	1.00259	0.00184919
0	5.08125	0.000875448	1.02306	37.4176	1.00373	0.00211289
0	5.18094	0.000235759	1.13011	38.0958	1.0073	0.002
0	4.91674	-0.0000251288	1.19733	42.9096	1.00861	0.0018731
0	5.10648	-0.0000377924	1.27602	43.9918	1.01494	0.00131596
0	5.02121	0.000597594	1.3224	48.5547	1.01048	0.00199829
0	4.93774	-0.000492896	1.39819	50.1482	1.01878	0.00128879
0	5.0974	-0.000659513	1.4841	48.2745	1.01966	0.000793764
0	5.20983	-0.000167552	1.55039	55.0864	1.01834	0.0014307
0	0.163049	0.000896138	1.25824	108.808	1.00151	0.000896049
0	0.169118	0.000858187	1.30758	120.134	1.00124	0.000861534
0	0.173071	0.000850899	1.31497	138.711	1.00324	0.000848805
0	0.165726	0.000788572	1.37515	145.766	1.00421	0.00077849
0	0.161018	0.000770379	1.38745	161.937	1.00471	0.00075592
0	0.170816	0.000697637	1.45919	169.49	1.00586	0.0007
0	0.161868	0.000651933	1.49728	182.537	1.00872	0.000648331
0	0.162945	0.000519704	1.58621	248.933	1.00727	0.000551285
0	0.165043	0.000488909	1.61265	261.7	1.01812	0.000542987
0	0.170047	0.000452236	1.65541	269.194	1.02439	0.000506459
0	0.169243	0.00042031	1.7007	274.247	1.03609	0.000470637
0	0.164673	0.00038153	1.74017	282.212	1.07035	0.00045619
0	0.173156	0.000366122	1.7707	291.803	1.08467	0.000435658
0	0.181241	0.00032773	1.81101	297.28	1.11383	0.000418455
0	0.178627	0.000293565	1.84874	304.621	1.16197	0.00038376
0	0.192742	0.000274314	1.88125	313.281	1.20678	0.000377744
0	0.196587	0.000257386	1.90845	326.134	1.24025	0.00036244
0	0.213463	0.000219179	1.94813	328.69	1.34069	0.000346131

0	0.226364	0.000186822	1.97725	335.752	1.38269	0.00032969
0	0.228143	0.000165089	2.01064	341.941	1.45581	0.000310421
0	0.25147	0.00014732	2.03573	352.64	1.52433	0.000298645
0	0.258464	0.000129901	2.05902	360.424	1.65283	0.000295697
0	0.268819	0.000106359	2.08519	370.134	1.70687	0.000264842
0	0.287964	0.0000851219	2.11083	376.209	1.82768	0.000257862
0	0.302452	0.0000711894	2.13247	384.178	1.96512	0.000250095
0	0.320555	0.0000510208	2.1556	390.541	2.08876	0.000243038
0	0.365956	0.0000363077	2.17067	400.798	2.27008	0.000242424
0	0.372672	0.0000200405	2.18945	408.003	2.38265	0.000223605
0	0.394646	-3.39083×10^{-18}	2.2053	416.911	2.45318	0.000205869
0	0.419762	-0.0000118	2.2198	426.835	2.51181	0.000206768
0	0.433649	-0.0000235298	2.23073	437.489	2.68741	0.000189971
0	0.455364	-0.0000412495	2.24224	444.647	2.97849	0.00018168
0	0.481425	-0.0000585609	2.25381	453.051	2.96686	0.00016915
0	0.49906	-0.0000647904	2.26147	464.439	3.0534	0.000165805
0	0.539731	-0.0000742752	2.26824	475.1	3.14243	0.000154816
0	0.548702	-0.0000839408	2.27282	487.442	3.39131	0.000158162
0	0.584968	-0.0000998805	2.2829	494.006	3.55284	0.000149232
0	0.620882	-0.000112014	2.28675	500.562	3.58415	0.000142836
0	0.652215	-0.000122231	2.29408	510.472	3.76206	0.000145923
0	0.684906	-0.000127665	2.29712	521.103	3.87832	0.000130478
0	0.716572	-0.000139734	2.30177	528.004	4.07984	0.00012662
0	0.943013	-0.000210959	2.30649	558.705	5.20743	0.000093737
0	0.96081	-0.000213506	2.3118	565.538	4.92392	0.000089838
0	0.984621	-0.00021616	2.31374	573.003	5.00784	0.0000838851
0	1.01467	-0.000216786	2.31485	582.237	5.27767	0.0000844047
0	1.02486	-0.000222924	2.31839	584.341	5.22017	0.0000857357
0	1.07091	-0.00022838	2.32024	589.669	5.32376	0.0000827353
0	1.0757	-0.000233218	2.32408	591.12	5.41282	0.000081956
0	1.08619	-0.000236116	2.32405	598.865	5.25237	0.0000791057
0	1.15527	-0.000237505	2.32689	603.05	5.42663	0.0000816126
0	1.14734	-0.000243828	2.32845	609.365	5.38303	0.0000768116
0	1.18687	-0.00025165	2.32989	609.662	5.37246	0.0000779413
0	1.2129	-0.000248574	2.33186	620.121	5.45126	0.0000745673
0	1.22855	-0.000258229	2.33405	621.78	5.22483	0.000072511
0	1.2332	-0.000253056	2.33213	630.896	5.28628	0.0000767586
0	1.26876	-0.000260647	2.33606	632.403	5.36902	0.0000739284
0	1.28914	-0.000261079	2.33469	636.867	5.57562	0.0000686279
0	1.29372	-0.00026363	2.33611	644.999	5.64225	0.0000650981
0	1.31687	-0.000268908	2.34139	643.4	5.35153	0.0000626113
0	1.32086	-0.000270073	2.33765	651.329	5.36274	0.0000613241
0	1.33647	-0.000273893	2.34154	652.963	5.39016	0.0000607851

Out[524]//TableForm=

0	4.78145	-0.003	0.175922	7.69631	0.998197	-0.01
0	4.48506	-1.76134×10^{-14}	0.218409	5.06285	0.999292	-0.007
0	4.65094	-0.002	0.257038	6.41271	0.99989	-0.00600002
0	4.6705	-0.006	0.436208	3.28111	1.00062	-0.007
0	4.4478	-0.001	0.381566	5.10992	1.	-0.00100545
0	4.69912	-0.00106703	0.470107	9.21482	0.999922	-0.001

0	4.83349	−0.005	0.560571	8.49164	0.999538	−0.00293857
0	4.66013	−0.003	0.646643	8.11148	1.0001	−0.002
0	4.55777	−0.002	0.723494	16.9716	0.99997	−0.00035539
0	4.5928	−0.002	0.748089	19.3261	0.99998	$-8.10316\times10^{-}$
0	4.57015	−0.00243761	0.902568	15.5819	1.00001	−0.001
0	4.75744	−0.00165548	0.949402	22.9287	0.99995	$-3.67308\times10^{-}$
0	4.762	−0.00179651	1.02342	26.8313	1.00032	0.00072638
0	4.62911	−0.00135927	1.08281	29.3548	1.00076	0.000511375
0	4.62413	−0.00117826	1.21219	33.8472	1.00751	0.000677968
0	4.68703	−0.00086189	1.2397	41.2473	1.00245	0.000745413
0	4.5412	−0.00138207	1.31355	40.9217	1.00058	4.91669×10^{-6}
0	4.63255	−0.00149721	1.43708	40.1401	1.00516	−0.000136778
0	4.6465	−0.00111026	1.50282	45.0686	1.00935	0.000499796
0	0.143547	0.000831664	1.20405	94.2217	1.00003	0.000834691
0	0.152978	0.000767375	1.24858	107.262	1.0002	0.000764435
0	0.156517	0.000772679	1.28213	122.945	1.00121	0.000768235
0	0.149815	0.000710691	1.32715	134.464	1.00039	0.000714231
0	0.144588	0.000695734	1.36226	152.264	1.00172	0.00068888
0	0.150854	0.000658156	1.42454	160.549	1.00144	0.000645086
0	0.149149	0.000624315	1.47274	174.249	1.0044	0.000605004
0	0.151895	0.000483492	1.5708	243.355	1.00214	0.000526479
0	0.149244	0.000467061	1.60042	254.054	1.00402	0.000503122
0	0.156452	0.000440234	1.64174	263.989	1.01074	0.000472
0	0.160444	0.000385511	1.69179	269.384	1.02094	0.000439792
0	0.155121	0.000362839	1.72497	276.789	1.04402	0.000434812
0	0.154091	0.000341475	1.76035	286.577	1.03972	0.000414298
0	0.165568	0.0003	1.79772	291.33	1.0861	0.000380923
0	0.16473	0.000281916	1.83404	298.244	1.11244	0.000369088
0	0.178575	0.000250614	1.87178	308.457	1.14516	0.000344317
0	0.173613	0.000240541	1.89603	319.085	1.17557	0.000339899
0	0.201669	0.000204063	1.93977	321.836	1.2715	0.000325061
0	0.200841	0.000176796	1.96928	329.536	1.28867	0.000307234
0	0.209054	0.000153077	2.00042	338.194	1.37386	0.000269708
0	0.229615	0.000135837	2.03047	346.07	1.43979	0.000268244
0	0.23727	0.000108749	2.05366	354.016	1.50891	0.000263456
0	0.250322	0.0000923818	2.07822	364.055	1.59654	0.000250914
0	0.269258	0.0000711731	2.10374	369.415	1.69907	0.000242668
0	0.284058	0.0000601679	2.12756	378.546	1.84617	0.00022712
0	0.299136	0.0000368547	2.14604	385.65	1.91778	0.000225094
0	0.329355	0.000023091	2.16653	398.612	2.10218	0.000218832
0	0.343019	4.52211×10^{-6}	2.18107	404.762	2.20142	0.00021212
0	0.364466	−0.0000113325	2.19812	413.996	2.28587	0.000182768
0	0.392921	−0.0000278427	2.21052	422.236	2.33464	0.000180661
0	0.420985	−0.0000403301	2.22146	433.097	2.48036	0.000167552
0	0.433528	−0.0000554879	2.23488	441.741	2.73014	0.000159976
0	0.454086	−0.0000717018	2.24563	447.99	2.70321	0.000157181
0	0.47365	−0.0000743992	2.2554	456.853	2.86476	0.000148865
0	0.50986	−0.0000835197	2.26158	468.695	2.91978	0.000146181
0	0.511635	−0.0000943501	2.26988	480.722	3.02782	0.000140405
0	0.554545	−0.000111044	2.27677	488.377	3.2492	0.000128118
0	0.573552	−0.000121689	2.2806	495.847	3.31458	0.000128758
0	0.622221	−0.000134533	2.28845	504.655	3.35094	0.000132783
0	0.648777	−0.000134635	2.29045	515.323	3.63976	0.000119105
0	0.663384	−0.000146932	2.29814	522.613	3.86561	0.0001
0	0.903636	−0.000219584	2.30305	555.381	4.52452	0.0000842607
0	0.911801	−0.000223466	2.308	558.359	4.49205	0.0000781994
0	0.933073	−0.000232963	2.30791	561.548	4.5896	0.0000747511
0	0.972633	−0.000229114	2.31023	573.94	4.76265	0.0000785894
0	0.98242	−0.000232266	2.31384	576.349	4.72995	0.0000811139
0	1.01044	−0.000236685	2.31655	582.787	5.09234	0.00007656
0	1.02628	−0.000241757	2.31849	585.516	4.78921	0.0000756547
0	1.04785	−0.000245986	2.31854	593.694	4.77811	0.000073669
0	1.08483	−0.000246933	2.32351	596.588	4.98593	0.0000741288
0	1.08032	−0.000253105	2.32617	600.161	4.77429	0.0000646348

0	1.12919	−0.000260997	2.32654	604.618	5.08983	0.0000711778
0	1.1577	−0.00025769	2.32616	609.797	4.98006	0.0000691734
0	1.16495	−0.000266061	2.33063	614.562	4.97797	0.0000643385
0	1.18346	−0.000260253	2.32933	626.308	4.84439	0.0000682824
0	1.19582	−0.000273676	2.33099	627.765	4.9744	0.0000594814
0	1.22031	−0.000275147	2.33141	628.284	5.10797	0.0000622205
0	1.23665	−0.000274994	2.33179	635.293	5.15078	0.0000551735
0	1.2629	−0.000282903	2.33458	631.432	5.00689	0.0000500198
0	1.25969	−0.000282097	2.33307	644.368	4.9056	0.0000485885
0	1.27606	−0.000282223	2.33746	644.426	5.005	0.0000506444

Out[525]//TableForm=

0	5.67078	0.0156088	0.87331	152.616	1.00449	0.005
0	5.626	0.0092167	0.996789	108.752	1.00825	0.00883575
0	5.64309	0.009	0.985924	63.7095	1.00519	0.00803652
0	5.58083	0.006	1.86472	25.8641	1.01158	0.00699231
0	5.14078	0.007	1.27372	48.8049	1.01058	0.007
0	5.56715	0.004	1.4137	44.4271	1.00968	0.00617193
0	5.73851	0.005	1.31445	41.7287	1.00641	0.005
0	5.53977	0.003	1.58144	35.761	1.01103	0.005
0	5.47051	0.003	1.21564	38.0167	1.01011	0.00458772
0	5.64842	0.00383014	1.04058	51.9215	1.00774	0.004
0	5.58167	0.00249007	1.39881	42.0382	1.01439	0.004
0	5.44112	0.003	1.28505	54.3913	1.01641	0.004
0	5.6524	0.00237393	1.26992	47.721	1.01886	0.00360055
0	5.48781	0.00121382	1.33129	53.5637	1.02406	0.00348397
0	5.56716	0.001	1.38351	50.5242	1.03032	0.00300232
0	5.64486	0.00163547	1.39129	57.7915	1.03163	0.003
0	5.3603	0.00132398	1.47362	59.2023	1.03686	0.00297403
0	5.70751	0.000392793	1.56646	56.7623	1.04345	0.0026935
0	5.7229	0.000668988	1.60249	66.2008	1.03731	0.00202038
0	0.180932	0.000992128	1.38536	120.373	1.00362	0.000991353
0	0.180466	0.000956321	1.39807	129.83	1.00321	0.000949648
0	0.186499	0.000913072	1.39399	144.566	1.00633	0.000900305
0	0.188865	0.000870071	1.42595	156.015	1.00845	0.00086051
0	0.180185	0.000843026	1.43527	172.102	1.01095	0.000827854
0	0.184835	0.000749593	1.50272	176.825	1.01386	0.000742858
0	0.175868	0.000696565	1.51978	187.77	1.01527	0.000687104
0	0.177766	0.000548039	1.59903	255.224	1.02668	0.000587869
0	0.179878	0.00051415	1.63134	268.331	1.04421	0.000569307
0	0.18115	0.000481151	1.66448	275.205	1.04428	0.000545288
0	0.17985	0.00044228	1.709	278.478	1.07236	0.000515229
0	0.177789	0.000406444	1.74839	287.859	1.12144	0.00048251
0	0.195327	0.000377102	1.78205	297.291	1.1311	0.000468392
0	0.197884	0.000354139	1.81963	303.976	1.15018	0.000432762
0	0.196758	0.000316794	1.8613	311.792	1.21467	0.000425523
0	0.203747	0.0003	1.88921	319.663	1.27099	0.000410298
0	0.208147	0.000269299	1.91812	330.846	1.31213	0.000385707
0	0.239449	0.000230138	1.95847	332.223	1.41133	0.000361414
0	0.2471	0.000209252	1.98788	341.427	1.494	0.000350286
0	0.248961	0.000180366	2.01515	348.769	1.52225	0.000338422

0	0.267066	0.000160041	2.04475	354.964	1.69398	0.000321491
0	0.280916	0.000144168	2.07165	365.993	1.8029	0.000319868
0	0.288985	0.000123211	2.09207	373.02	1.85045	0.000288619
0	0.306099	0.0001	2.11962	381.984	1.97663	0.00028285
0	0.325786	0.0000757531	2.13944	389.222	2.19158	0.000265595
0	0.339993	0.0000630512	2.16224	397.54	2.28683	0.000271337
0	0.387563	0.0000558005	2.17581	405.996	2.49269	0.000257892
0	0.390594	0.0000280605	2.1986	414.392	2.65934	0.000236325
0	0.423875	9.9954×10^{-6}	2.21171	422.822	2.59646	0.000226006
0	0.446609	-4.05674×10^{-6}	2.22566	431.575	2.86485	0.000230375
0	0.466708	-0.0000121277	2.23626	442.469	2.94629	0.000221092
0	0.500917	-0.0000273024	2.24686	450.963	3.28329	0.000207403
0	0.498627	-0.0000432126	2.26031	459.026	3.27428	0.000187539
0	0.550601	-0.0000530812	2.26874	471.409	3.444	0.000175678
0	0.559589	-0.0000613114	2.27507	479.682	3.36919	0.000166611
0	0.572208	-0.0000715796	2.27833	492.726	3.55217	0.000166232
0	0.62404	-0.0000885818	2.28764	500.206	3.74008	0.000161364
0	0.656348	-0.0001	2.29348	506.278	3.91532	0.000155265
0	0.681013	-0.000112497	2.29842	514.452	4.26475	0.00015327
0	0.705207	-0.000115152	2.30333	529.232	4.18651	0.000148661
0	0.756442	-0.000123792	2.30767	535.208	4.31807	0.000143752
0	0.982065	-0.0002	2.31062	566.069	5.65025	0.0001
0	0.987332	-0.0002	2.31728	571.615	5.39055	0.0000959373
0	1.01821	-0.000206774	2.31909	581.875	5.19999	0.0000895504
0	1.06982	-0.000205977	2.32147	590.046	5.60741	0.0000937156
0	1.0574	-0.000210568	2.3228	592.708	5.5102	0.0000922498
0	1.1137	-0.000216773	2.32558	597.687	5.79427	0.0000897793
0	1.15257	-0.000221768	2.32933	605.818	5.71931	0.0000859348
0	1.15086	-0.000220743	2.33028	610.764	5.58235	0.0000874097
0	1.18202	-0.000224815	2.33174	612.509	5.89176	0.0000866459
0	1.18635	-0.000233604	2.33397	618.287	5.88676	0.0000842886
0	1.24417	-0.000237757	2.33645	618.204	5.99603	0.0000844334
0	1.25141	-0.000241176	2.33636	629.421	5.97114	0.0000803671
0	1.28517	-0.000248346	2.33977	626.875	5.77353	0.0000795259
0	1.28384	-0.000243798	2.33811	641.451	5.75517	0.0000835063
0	1.31824	-0.000248584	2.3378	642.964	5.90303	0.0000822311
0	1.3209	-0.00025282	2.33906	641.704	6.13244	0.000073993
0	1.35506	-0.000253918	2.34007	650.572	5.96253	0.0000749765
0	1.37733	-0.000256023	2.34516	653.227	5.81978	0.0000747319
0	1.39618	-0.000259367	2.34132	660.144	5.89057	0.0000683338
0	1.39471	-0.000260771	2.34436	661.694	6.05697	0.0000699925

Nv

In[526]:=
```
Transpose[simParamNv] // TableForm
```

Out[526]//TableForm=

1.15831×10^{-8}	4.04537×10^{-7}	0.000100151	0.00143825	0.00304654	0.02252
1.36732×10^{-8}	4.77943×10^{-7}	0.000117822	0.0017039	0.00363033	0.02706
1.61758×10^{-8}	5.65825×10^{-7}	0.000138877	0.00202339	0.00433747	0.03259
1.91754×10^{-8}	6.71188×10^{-7}	0.000163994	0.00240873	0.00519675	0.03934
2.27794×10^{-8}	7.97708×10^{-7}	0.000193991	0.00287287	0.00623878	0.04753
2.71148×10^{-8}	9.4985×10^{-7}	0.000229868	0.00343416	0.00750873	0.05750
3.23393×10^{-8}	1.13306×10^{-6}	0.000272815	0.00411335	0.00905672	0.06958
3.86427×10^{-8}	1.35398×10^{-6}	0.000324287	0.00493617	0.0109455	0.08420
4.62613×10^{-8}	1.6207×10^{-6}	0.000386066	0.00593557	0.0132557	0.10181
5.54801×10^{-8}	1.94313×10^{-6}	0.000460202	0.00714711	0.0160737	0.12288
6.66514×10^{-8}	2.33336×10^{-6}	0.000549284	0.00861852	0.0195155	0.14793
8.02064×10^{-8}	2.8062×10^{-6}	0.000656407	0.0104063	0.0237177	0.17746
9.66745×10^{-8}	3.37971×10^{-6}	0.000785303	0.0125789	0.0288446	0.21197
1.16709×10^{-7}	4.07608×10^{-6}	0.000940481	0.0152193	0.035091	0.25185

1.41107×10^{-7}	4.92241×10^{-6}	0.00112738	0.0184261	0.0426859	0.29741
1.70862×10^{-7}	5.95196×10^{-6}	0.00135257	0.0223186	0.0518923	0.34875
2.07172×10^{-7}	7.20544×10^{-6}	0.0016239	0.0270318	0.0630104	0.40593
2.51539×10^{-7}	8.73281×10^{-6}	0.00195103	0.0327438	0.07638	0.46867
3.05792×10^{-7}	0.0000105951	0.00234521	0.0396291	0.0923585	0.53670
3.722×10^{-7}	0.0000128675	0.0028201	0.0479213	0.11135	0.60958
4.53563×10^{-7}	0.0000156418	0.00339231	0.0578577	0.133708	0.68670
5.53418×10^{-7}	0.0000190327	0.0040817	0.0696961	0.159797	0.76756
6.75846×10^{-7}	0.0000231753	0.00491121	0.0837725	0.189991	0.85162
8.26213×10^{-7}	0.0000282407	0.00590891	0.100384	0.224528	0.93835
1.01102×10^{-6}	0.0000344367	0.00710783	0.11985	0.26358	1.02733
1.23774×10^{-6}	0.0000420082	0.00854674	0.142492	0.307217	1.1182
1.51719×10^{-6}	0.0000512847	0.0102721	0.16858	0.35535	1.21067
1.8612×10^{-6}	0.0000626399	0.0123374	0.198363	0.407804	1.30455
2.28538×10^{-6}	0.0000765503	0.0148058	0.232031	0.464277	1.3997
2.80752×10^{-6}	0.0000935712	0.0177493	0.269655	0.524364	1.49608
3.45109×10^{-6}	0.000114409	0.0212518	0.311251	0.5876	1.59365
4.24462×10^{-6}	0.000139917	0.025409	0.35672	0.653483	1.69247
5.22335×10^{-6}	0.000171138	0.0303289	0.405863	0.721504	1.79263
6.43127×10^{-6}	0.000209359	0.0361294	0.458455	0.791177	1.89424
7.92123×10^{-6}	0.000256096	0.0429501	0.51403	0.86199	1.99748
9.76001×10^{-6}	0.000313246	0.0509399	0.572214	0.933516	2.10252
0.0000120128	0.000382793	0.0602403	0.632579	1.00538	2.20962
0.0000148113	0.000468079	0.071034	0.694678	1.07724	2.31898
0.0000182654	0.000572201	0.0834863	0.758048	1.14878	2.43093
0.0000225289	0.000699228	0.0977688	0.822265	1.21973	2.54577
0.000047581	0.00135246	0.166414	1.06648	1.4482	2.91692
0.0000567301	0.00159664	0.186466	1.11513	1.49912	3.01761
0.0000676315	0.00188383	0.2082	1.16329	1.54926	3.12167
0.0000806186	0.00222133	0.231624	1.21086	1.59855	3.22935
0.0000960855	0.00261753	0.256724	1.25774	1.64689	3.34087
0.000114498	0.00308215	0.283464	1.30386	1.69421	3.45656
0.000136468	0.00362676	0.311811	1.3491	1.7404	3.57669
0.000162548	0.00426376	0.341627	1.39343	1.78541	3.70154
0.00019355	0.00500779	0.372831	1.43677	1.82914	3.83135
0.000230395	0.00587593	0.405271	1.47903	1.87148	3.96628
0.000274166	0.00688743	0.438865	1.52022	1.91241	4.10669
0.000326203	0.00806454	0.473428	1.56017	1.95175	4.25233
0.000387584	0.00942744	0.508782	1.59891	1.98948	4.40346
0.000460416	0.0110076	0.544768	1.63637	2.02554	4.55994
0.000547101	0.0128408	0.581219	1.67249	2.05974	4.72043
0.000649326	0.0149526	0.617937	1.70722	2.09231	4.88688
0.000770326	0.017386	0.654759	1.74056	2.12289	5.05548
0.000913234	0.0201819	0.691513	1.77244	2.15161	5.22676
0.00108184	0.0233864	0.728037	1.80285	2.17847	5.39917
0.0012807	0.0270509	0.764182	1.83176	2.20346	5.57098
0.00151498	0.0312292	0.799803	1.85913	2.22672	5.74181
0.0017905	0.035978	0.834778	1.88501	2.24806	5.90691
0.00211434	0.041362	0.868968	1.90934	2.26778	6.06708
0.00249421	0.0474441	0.902291	1.93218	2.28593	6.22041
0.00293938	0.0542906	0.934648	1.9535	2.30262	6.36552
0.00345978	0.0619673	0.96596	1.97337	2.31794	6.50137
0.00406871	0.0705533	0.996169	1.9918	2.33203	6.62762
0.00477769	0.0801009	1.02523	2.00885	2.345	6.74396
0.00560475	0.0906963	1.05308	2.02457	2.35697	6.85054
0.00656452	0.102378	1.07974	2.03903	2.36802	6.94771
0.00768075	0.115237	1.10517	2.0523	2.37825	7.03607
0.00896896	0.129278	1.12938	2.06445	2.38775	7.11626
0.0104565	0.144555	1.1524	2.07558	2.39658	7.18902
0.0121758	0.161133	1.17424	2.08574	2.40481	7.25498

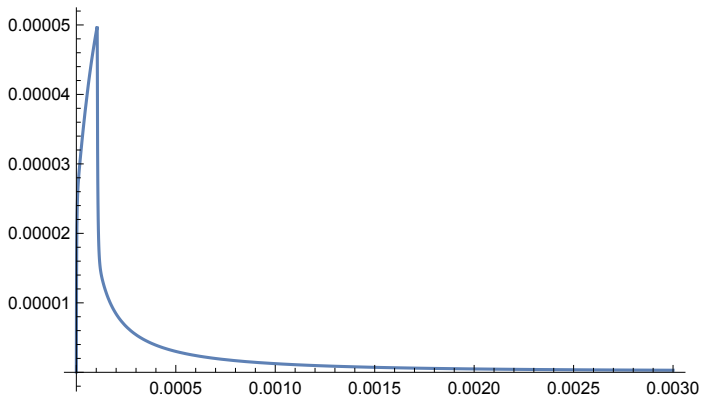
0.0332647	0.30843	1.27397	2.11265	2.42716	7.41929
0.0369651	0.328409	1.28588	2.11899	2.43293	7.46157
0.0410161	0.348919	1.29737	2.12487	2.43836	7.50041
0.0454468	0.369919	1.30845	2.13031	2.44346	7.53618
0.050268	0.391316	1.31914	2.13537	2.44826	7.56921
0.0555097	0.413063	1.32948	2.14008	2.45279	7.59979
0.0611955	0.435095	1.33947	2.14445	2.45706	7.6281
0.0673535	0.457354	1.34914	2.14853	2.4611	7.65449
0.0739991	0.479754	1.35851	2.15234	2.46491	7.67906
0.0811463	0.502218	1.36759	2.15591	2.46851	7.70197
0.0888206	0.524689	1.37638	2.15924	2.47192	7.72345
0.0970372	0.547095	1.3849	2.16236	2.47515	7.74355
0.105811	0.569373	1.39315	2.16529	2.47821	7.76243
0.115142	0.591427	1.40115	2.16805	2.4811	7.78017
0.125048	0.613219	1.40889	2.17063	2.48386	7.79689
0.135529	0.634671	1.41637	2.17308	2.48647	7.81262
0.146576	0.655731	1.42361	2.17538	2.48894	7.82748
0.158193	0.676341	1.43061	2.17755	2.4913	7.84152
0.170367	0.696449	1.43736	2.17959	2.49354	7.8548
0.183084	0.716014	1.44388	2.18153	2.49566	7.86737

EPSC with different caRest

Interpolate

In[527]:=
```
locaCa = Transpose[{dataLocalCaTime, dataLocalCa}];
locaCaWithoutdublictes = Mean /@ GatherBy[locaCa, First];
interpolFunc = Interpolation[locaCaWithoutdublictes, InterpolationOrder → 1];
caFunc[t_] := interpolFunc[t];
Plot[caFunc[t], {t, 0.00, 0.003}, PlotRange → All]
```

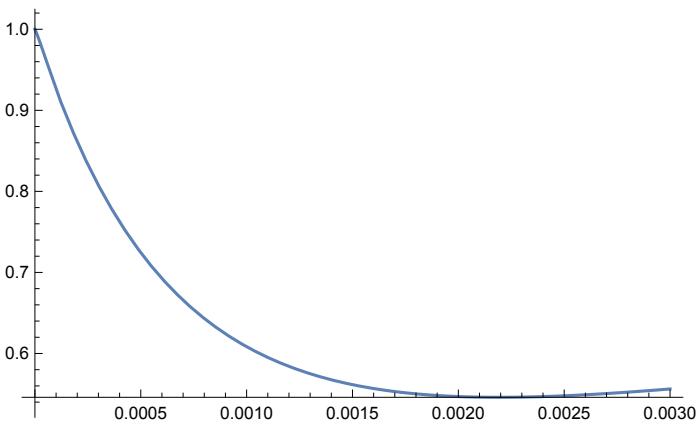
Out[531]=



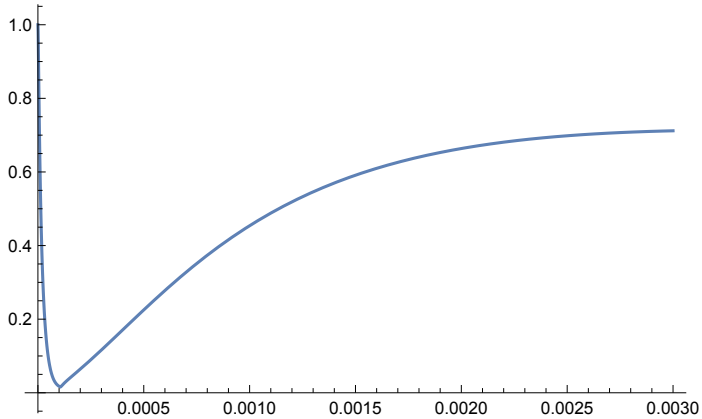
NDSolve

In[532]:=
```
timeStartForPLot = 0.0;
timeEndForPLot = 0.003;
myNDSolveResults = NDSolve[eq,
   {fillStateSS, ss1, ss2, ss3, ss4, ss5, ss6, ss7, sitePlugging}, {t, 0, 0.003}];
Plot[(fillStateSS[t] /. myNDSolveResults),
 {t, timeStartForPLot, timeEndForPLot}, PlotRange → All]
Plot[(ss1[t] /. myNDSolveResults),
 {t, timeStartForPLot, timeEndForPLot}, PlotRange → All]
Plot[(ss2[t] /. myNDSolveResults),
 {t, timeStartForPLot, timeEndForPLot}, PlotRange → All]
Plot[(ss3[t] /. myNDSolveResults),
 {t, timeStartForPLot, timeEndForPLot}, PlotRange → All]
Plot[(ss4[t] /. myNDSolveResults),
 {t, timeStartForPLot, timeEndForPLot}, PlotRange → All]
Plot[(ss5[t] /. myNDSolveResults),
 {t, timeStartForPLot, timeEndForPLot}, PlotRange → All]
Plot[(ss6[t] /. myNDSolveResults),
 {t, timeStartForPLot, timeEndForPLot}, PlotRange → All]
Plot[(ss7[t] /. myNDSolveResults),
 {t, timeStartForPLot, timeEndForPLot}, PlotRange → All]
Plot[(sitePlugging[t] /. myNDSolveResults),
 {t, timeStartForPLot, timeEndForPLot}, PlotRange → All]
```

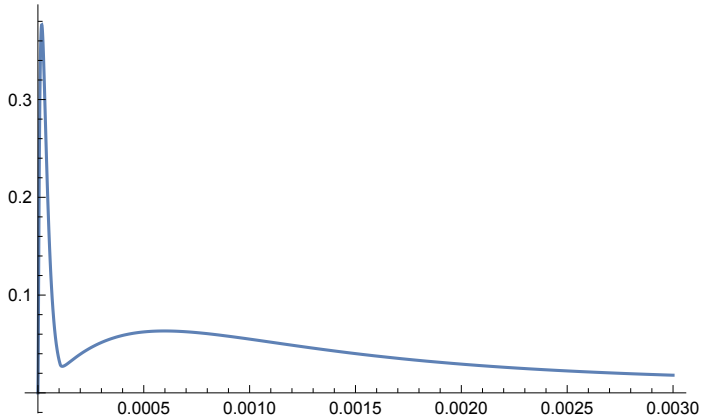
Out[535]=



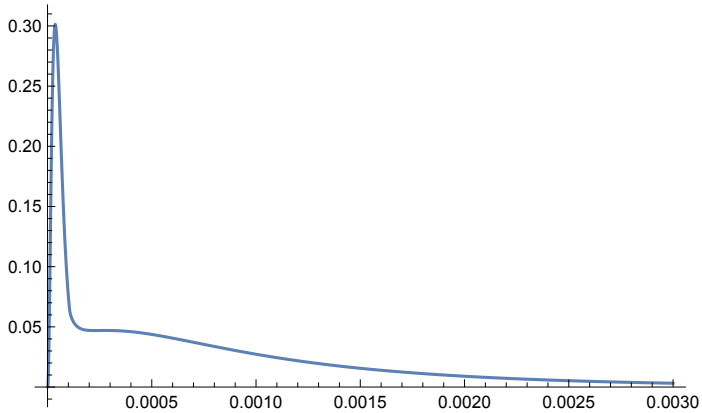
Out[536]=



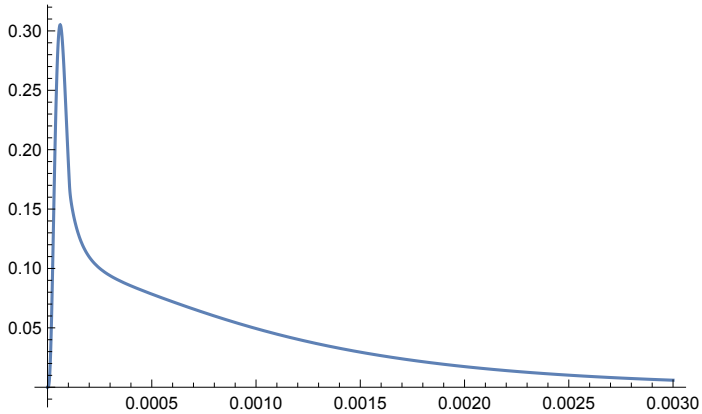
Out[537]=



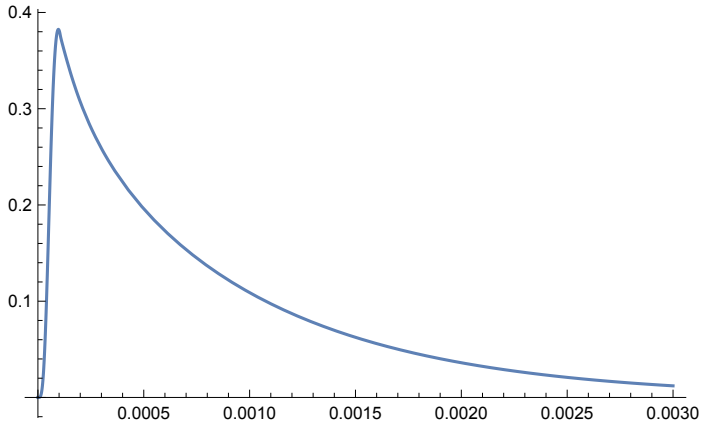
Out[538]=



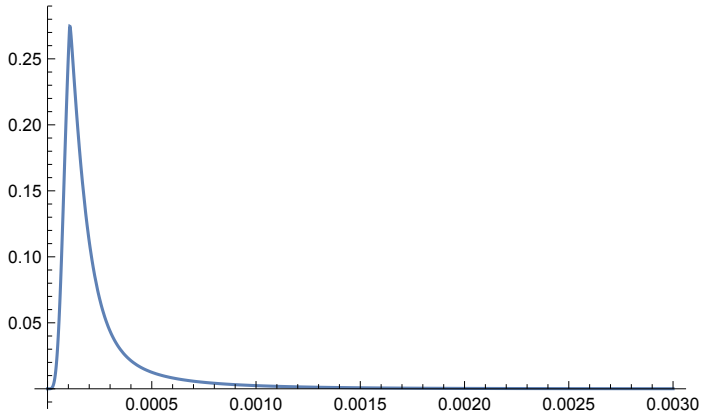
Out[539]=



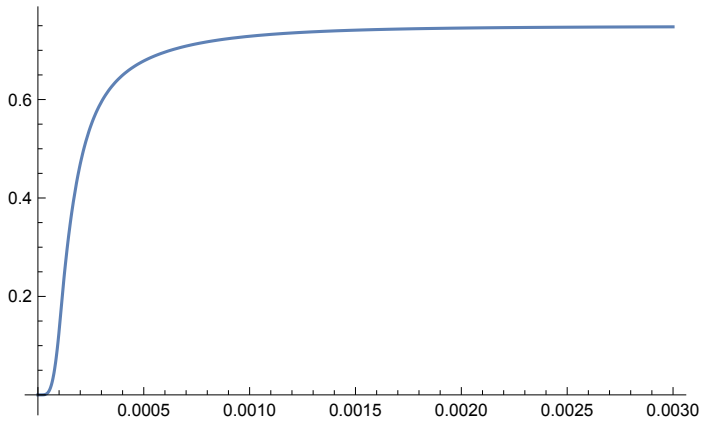
Out[540]=



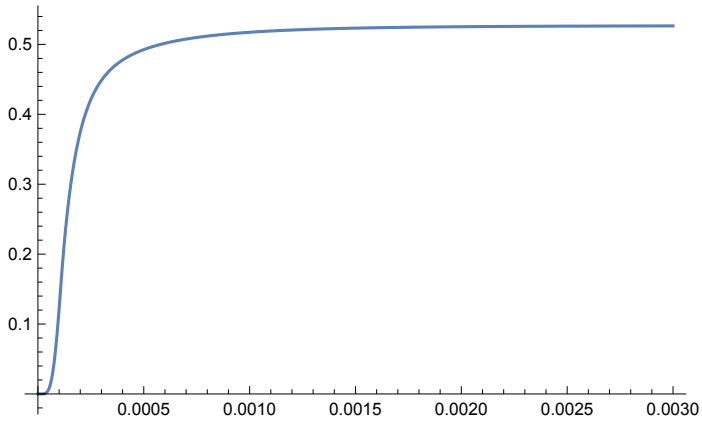
Out[541]=



Out[542]=



Out[543]=



different caRest

In[544]:=
```
caRestLow = 30*^-9;
caRestHigh = 180*^-9;
```

Low Ca

Initial occupancy

In[546]:=
```
(*calualte initial equilibrium occupancy*)
caFunc[t_] := caRestLow;
kprimScheme
kunprimScheme
fillStateSSInitial = kprimScheme / kunprimScheme
kfillScheme
kunfillScheme
ss0Initial = fillStateSSInitial * kfillScheme / kunfillScheme
```

Out[547]= 3.3867

Out[548]= 8.61585

Out[549]= 0.393078

Out[550]= 111.823

Out[551]= 181.545

Out[552]= 0.242117

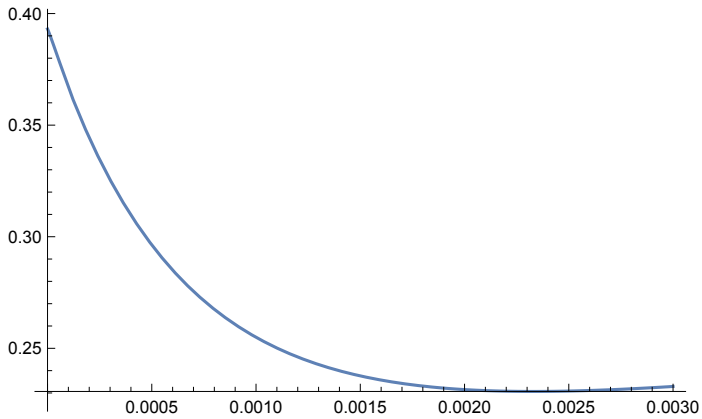
Diff eq.

In[553]:=
```
Clear[caFunc, eq];(*Clear is needed if the cell is exectued for a 2nd time
 when caFunc is already set to a value or an Interpolationfunction*)
caFunc[t_] := interpolFunc[t];
ss[t_] = {ss1[t], ss2[t], ss3[t], ss4[t], ss5[t], ss6[t], ss7[t]};
eq = {ss'[t] == (mat /. repl).ss[t],
   ss[0] == {ss0Initial, 0., 0., 0., 0., 0., 0.},
   (fillStateSS'[t] == kprim - kunprim fillStateSS[t] -
       kfill fillStateSS[t] + kunfill ss1[t]) /. repl,
   fillStateSS[0] == fillStateSSInitial,
   sitePlugging'[t] ==
    (1 - sitePlugging[t]) ss7'[t] - siteClearanceTau sitePlugging[t],
   sitePlugging[0] == 0
  };
```

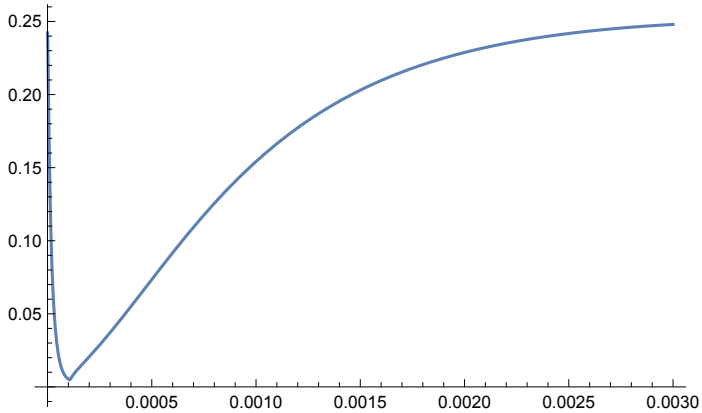
NDSolve

In[557]:=
```
myNDSolveResults = NDSolve[eq,
   {fillStateSS, ss1, ss2, ss3, ss4, ss5, ss6, ss7, sitePlugging}, {t, 0, 0.003}];
Plot[(fillStateSS[t] /. myNDSolveResults),
 {t, timeStartForPLot, timeEndForPLot}, PlotRange → All]
Plot[(ss1[t] /. myNDSolveResults),
 {t, timeStartForPLot, timeEndForPLot}, PlotRange → All]
Plot[(ss2[t] /. myNDSolveResults),
 {t, timeStartForPLot, timeEndForPLot}, PlotRange → All]
Plot[(ss3[t] /. myNDSolveResults),
 {t, timeStartForPLot, timeEndForPLot}, PlotRange → All]
Plot[(ss4[t] /. myNDSolveResults),
 {t, timeStartForPLot, timeEndForPLot}, PlotRange → All]
Plot[(ss5[t] /. myNDSolveResults),
 {t, timeStartForPLot, timeEndForPLot}, PlotRange → All]
Plot[(ss6[t] /. myNDSolveResults),
 {t, timeStartForPLot, timeEndForPLot}, PlotRange → All]
Plot[(ss7[t] /. myNDSolveResults),
 {t, timeStartForPLot, timeEndForPLot}, PlotRange → All]
Plot[(sitePlugging[t] /. myNDSolveResults),
 {t, timeStartForPLot, timeEndForPLot}, PlotRange → All]
```

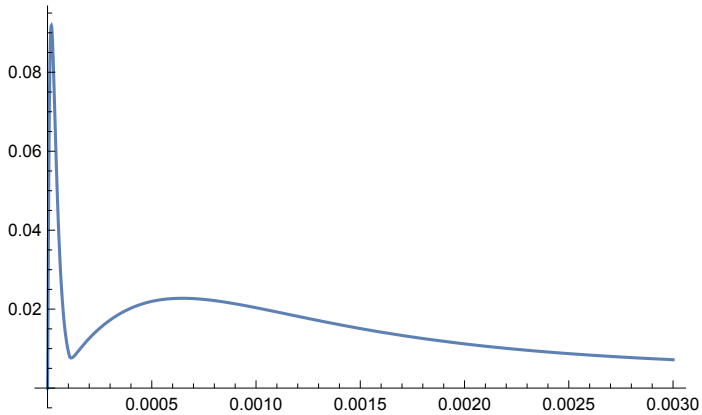
Out[558]=



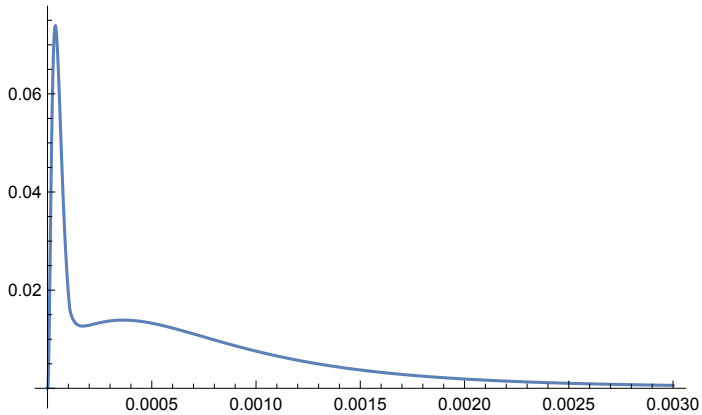
Out[559]=



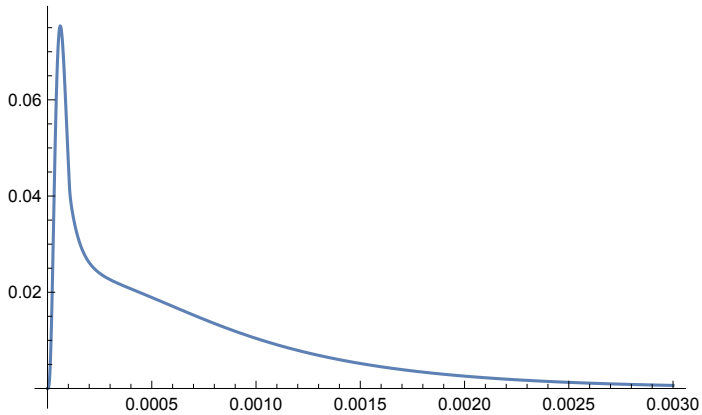
Out[560]=



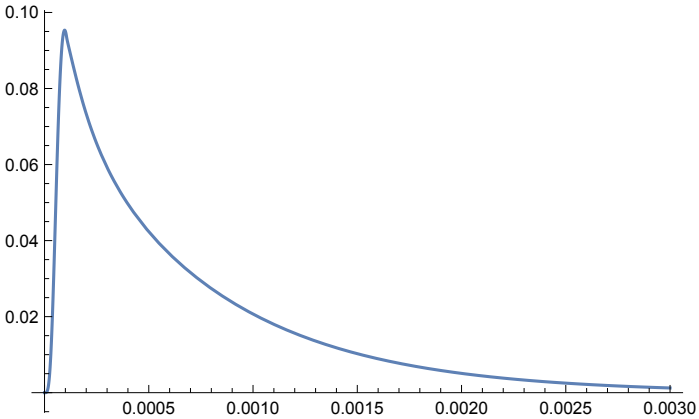
Out[561]=



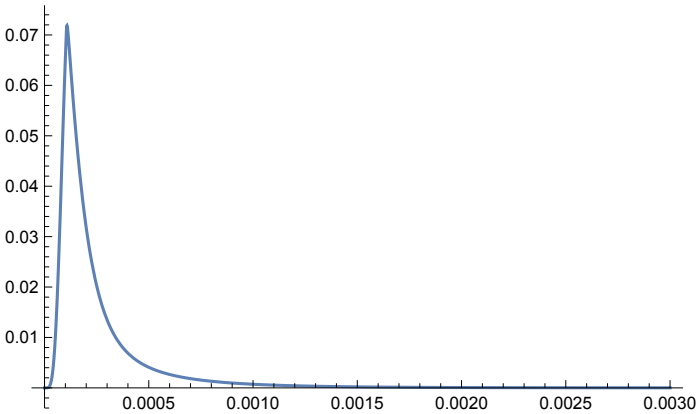
Out[562]=



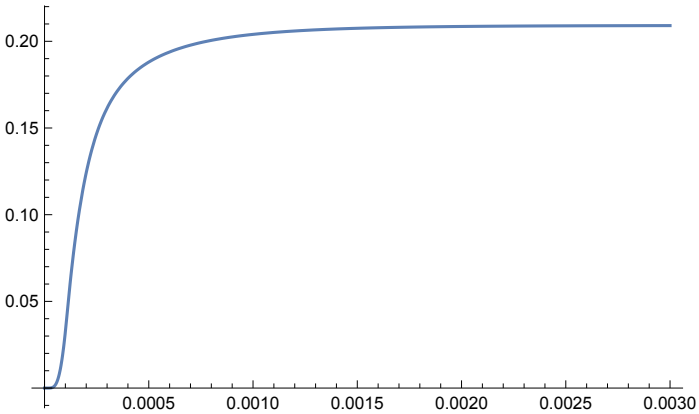
Out[563]=



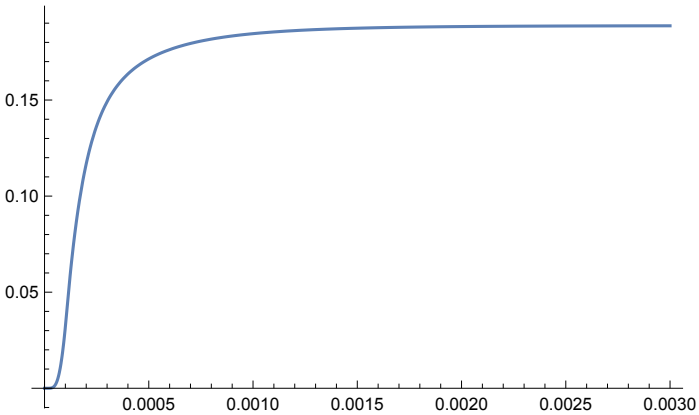
Out[564]=



Out[565]=



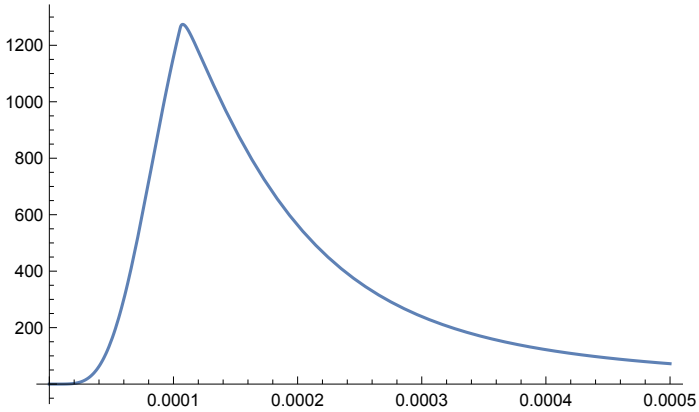
Out[566]=



Plot EPSC

In[567]:=
```
epscLowCa = D[(ss7[t] /. myNDSolveResults), t];
Plot[(ss7[t] /. myNDSolveResults), {t, 0, 2*^-3}, PlotRange → All];
Plot[epscLowCa, {t, 0, 0.5*^-3}, PlotRange → All]
```

Out[569]=



High Ca

Initial occupancy

In[570]:=
```
(*calualte initial equilibrium occupancy*)
caFunc[t_] := caRestHigh;
kprimScheme
kunprimScheme
fillStateSSInitial = kprimScheme / kunprimScheme
kfillScheme
kunfillScheme
ss0Initial = fillStateSSInitial * kfillScheme / kunfillScheme
```

Out[571]= 7.45413

Out[572]= 8.61585

Out[573]= 0.865165

Out[574]= 166.055

Out[575]= 181.545

Out[576]= 0.791348

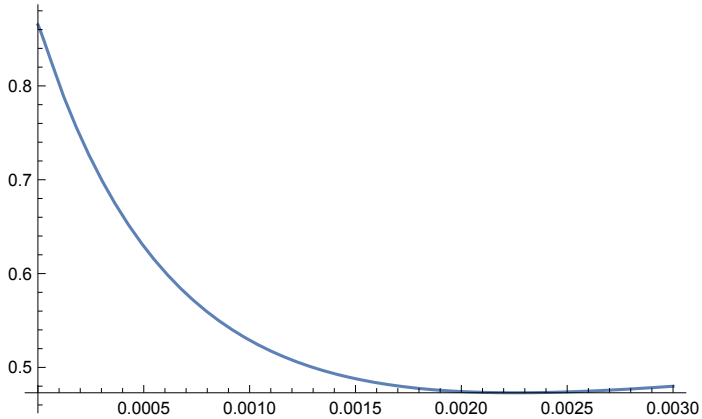
Diff eq.

In[577]:=
```
Clear[caFunc, eq];(*Clear is needed if the cell is exectued for a 2nd time
 when caFunc is already set to a value or an Interpolationfunction*)
caFunc[t_] := interpolFunc[t];
ss[t_] = {ss1[t], ss2[t], ss3[t], ss4[t], ss5[t], ss6[t], ss7[t]};
eq = {ss'[t] == (mat /. repl).ss[t],
   ss[0] == {ss0Initial, 0., 0., 0., 0., 0., 0.},
   (fillStateSS'[t] == kprim - kunprim fillStateSS[t] -
       kfill fillStateSS[t] + kunfill ss1[t]) /. repl,
   fillStateSS[0] == fillStateSSInitial,
   sitePlugging'[t] ==
    (1 - sitePlugging[t]) ss7'[t] - siteClearanceTau sitePlugging[t],
   sitePlugging[0] == 0
  };
```

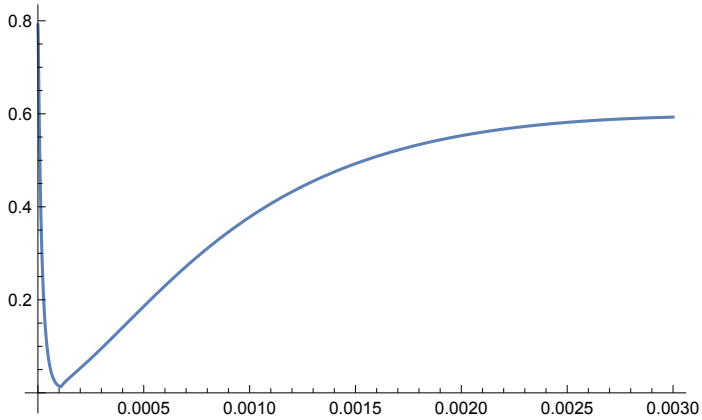
NDSolve

In[581]:=
```
myNDSolveResults = NDSolve[eq,
   {fillStateSS, ss1, ss2, ss3, ss4, ss5, ss6, ss7, sitePlugging}, {t, 0, 0.003}];
Plot[(fillStateSS[t] /. myNDSolveResults),
 {t, timeStartForPLot, timeEndForPLot}, PlotRange → All]
Plot[(ss1[t] /. myNDSolveResults),
 {t, timeStartForPLot, timeEndForPLot}, PlotRange → All]
Plot[(ss2[t] /. myNDSolveResults),
 {t, timeStartForPLot, timeEndForPLot}, PlotRange → All]
Plot[(ss3[t] /. myNDSolveResults),
 {t, timeStartForPLot, timeEndForPLot}, PlotRange → All]
Plot[(ss4[t] /. myNDSolveResults),
 {t, timeStartForPLot, timeEndForPLot}, PlotRange → All]
Plot[(ss5[t] /. myNDSolveResults),
 {t, timeStartForPLot, timeEndForPLot}, PlotRange → All]
Plot[(ss6[t] /. myNDSolveResults),
 {t, timeStartForPLot, timeEndForPLot}, PlotRange → All]
Plot[(ss7[t] /. myNDSolveResults),
 {t, timeStartForPLot, timeEndForPLot}, PlotRange → All]
Plot[(sitePlugging[t] /. myNDSolveResults),
 {t, timeStartForPLot, timeEndForPLot}, PlotRange → All]
```

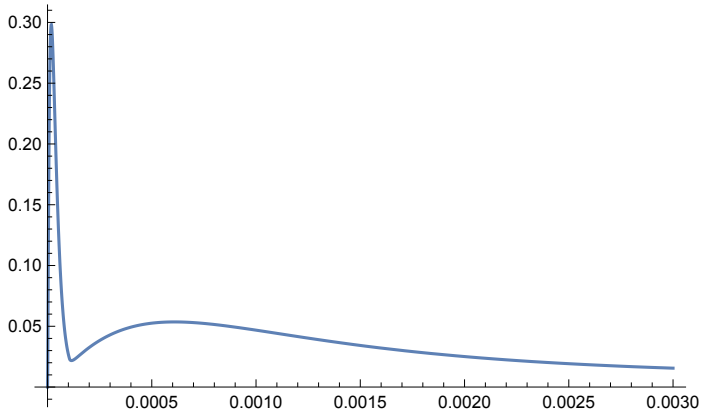
Out[582]=



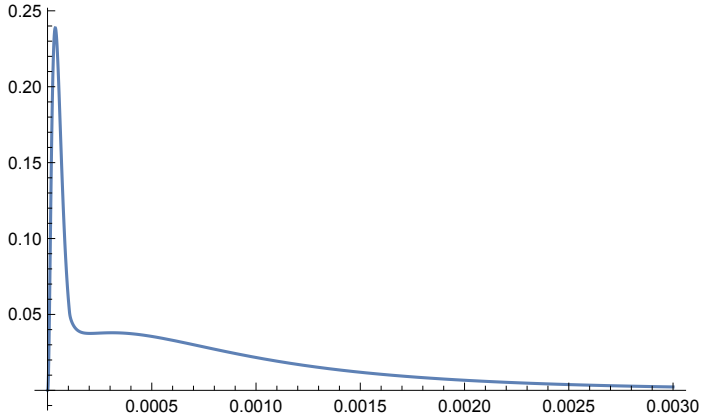
Out[583]=



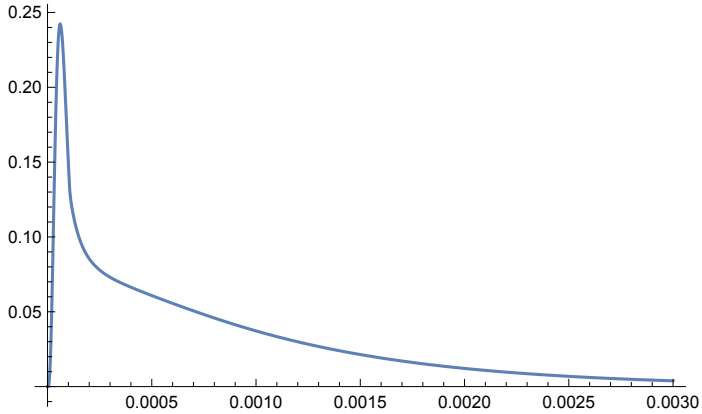
Out[584]=



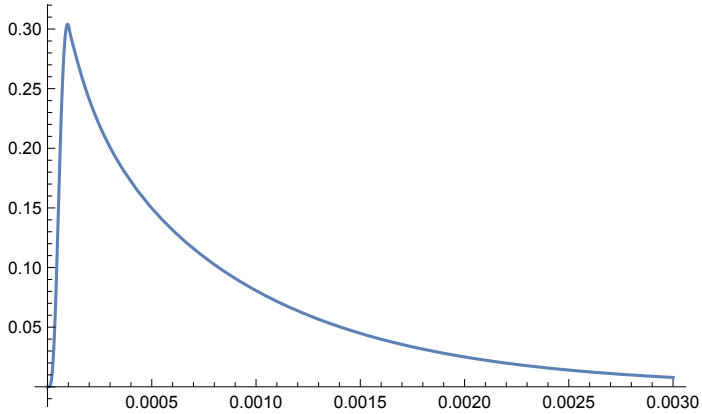
Out[585]=



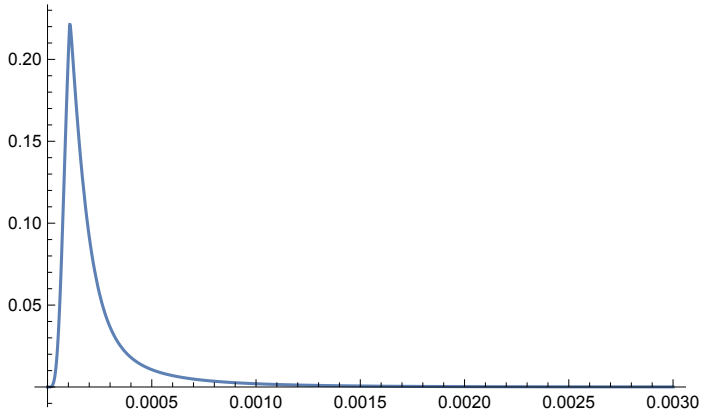
Out[586]=



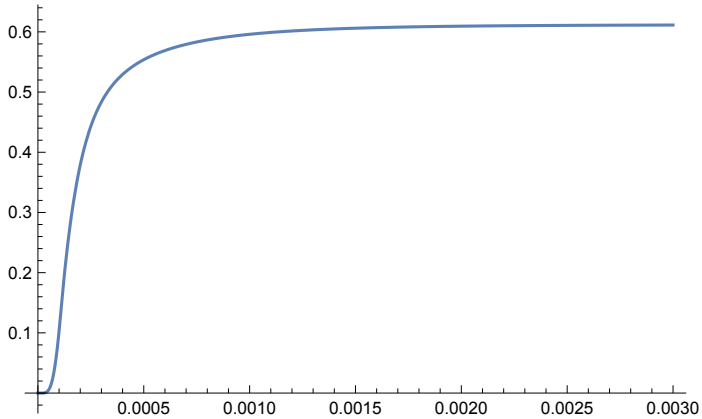
Out[587]=



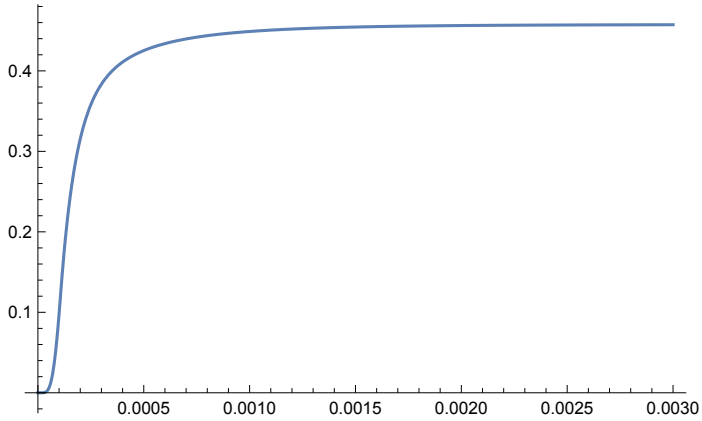
Out[588]=



Out[589]=



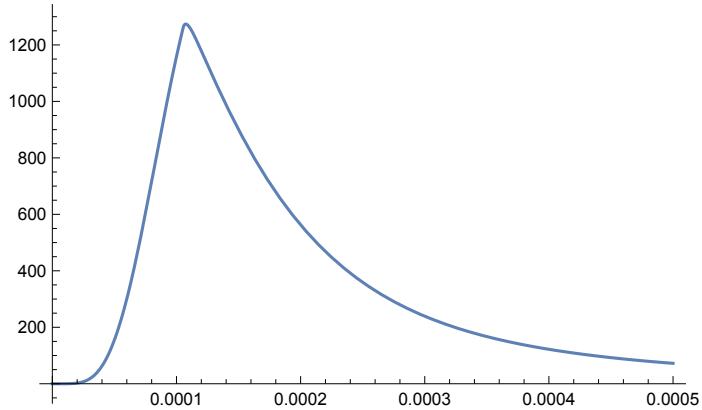
Out[590]=



Plot EPSC

In[591]:=
```
epscHighCa = D[(ss7[t] /. myNDSolveResults), t];
Plot[(ss7[t] /. myNDSolveResults), {t, 0, 2*^-3}, PlotRange → All];
Plot[epscLowCa, {t, 0, 0.5*^-3}, PlotRange → All]
```

Out[593]=

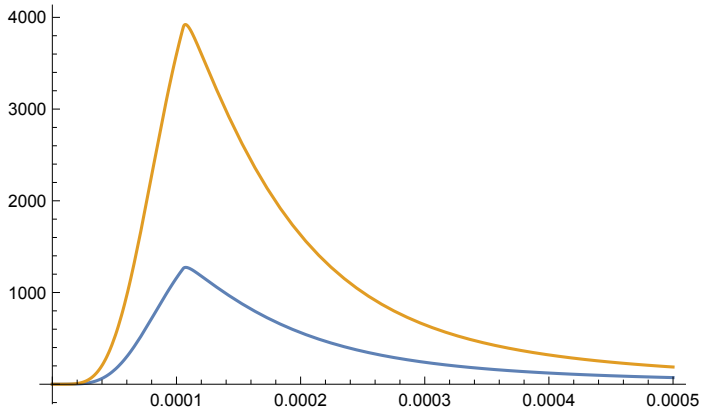


Compare

Plot both release rates

In[594]:=
```
Plot[{epscLowCa, epscHighCa}, {t, 0, 0.5*^-3}, PlotRange → All]
```

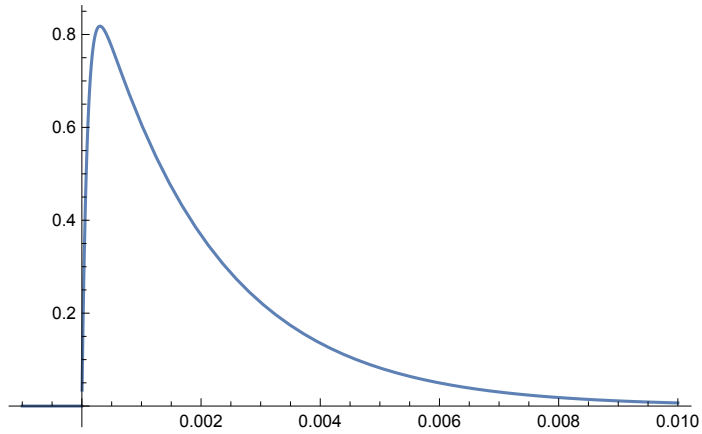
Out[594]=



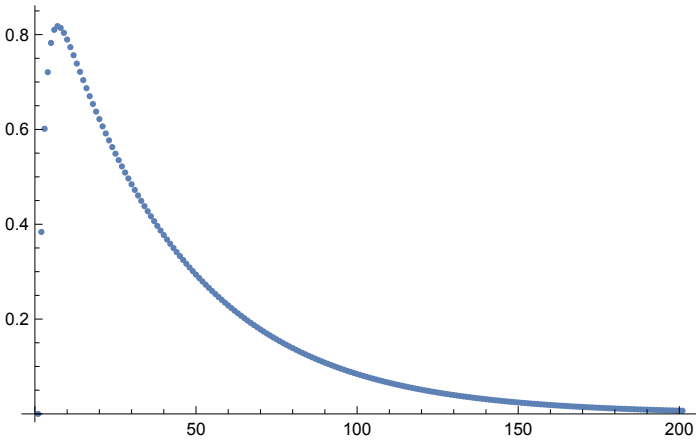
Convolution RelRate => EPSC

In[595]:=
```
miniKernel[t_] := If[t ≤ 0, 0, (1 - Exp[-t / 0.0001]) * Exp[-t / 0.002]];
Plot[miniKernel[t], {t, -.001, .01}]
dtForConvolve = 0.00005;
tEndConv = 0.01;
miniKernelList = Table[miniKernel[t], {t, 0.0, tEndConv, dtForConvolve}];
epscHighCaList = {Table[0, {t, 0, tEndConv, dtForConvolve}],
   Table[epscHighCa, {t, 0.0, 0.0025, dtForConvolve}],
   Table[0, {t, 0, tEndConv, dtForConvolve}]} // Flatten;
epscLowCaList = {Table[0, {t, 0, tEndConv, dtForConvolve}],
   Table[epscLowCa, {t, 0.0, 0.0025, dtForConvolve}],
   Table[0, {t, 0, tEndConv, dtForConvolve}]} // Flatten;
ListPlot[miniKernelList]
ListPlot[epscLowCaList, PlotRange → All]
```

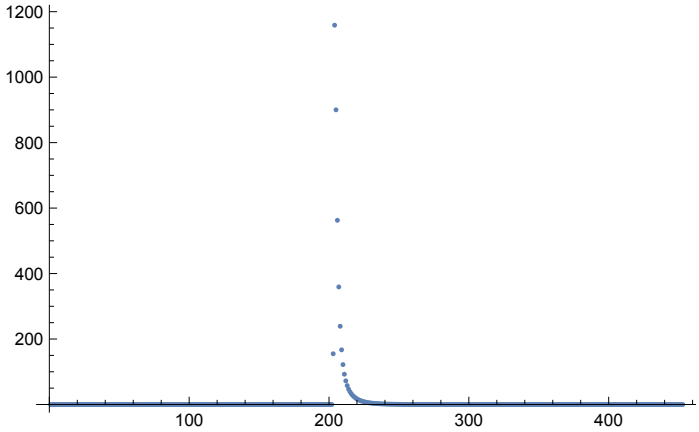
Out[596]=



Out[601]=

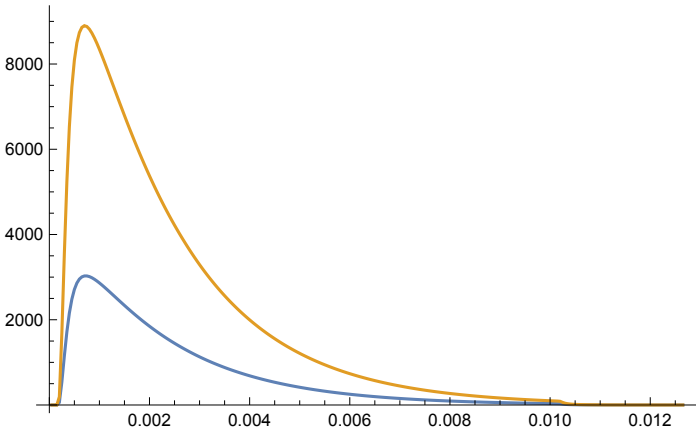


Out[602]=

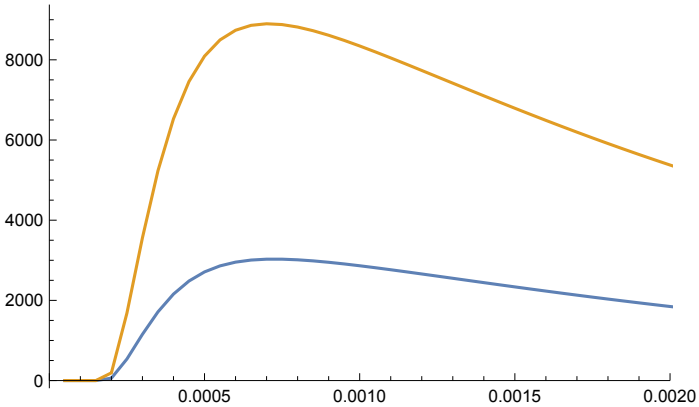


In[603]:=
```
epscLowCaCurrentList = ListConvolve[miniKernelList, epscLowCaList];
epscHighCaCurrentList = ListConvolve[miniKernelList, epscHighCaList];
timeConv = Table[t * dtForConvolve, {t, Length[epscLowCaCurrentList]}];
ListPlot[{Transpose[{timeConv, epscLowCaCurrentList}],
  Transpose[{timeConv, epscHighCaCurrentList}]}, Joined → True, PlotRange → All]
ListPlot[{Transpose[{timeConv, epscLowCaCurrentList}],
  Transpose[{timeConv, epscHighCaCurrentList}]},
 Joined → True, PlotRange → {{0, 0.002}, All}]
maxLow = Max[epscLowCaCurrentList]
maxHigh = Max[epscHighCaCurrentList]
Print["maxHigh/maxLow = ", maxHigh / maxLow];
ListPlot[{Transpose[{timeConv, (1 / maxLow) * epscLowCaCurrentList}],
  Transpose[{timeConv, (1 / maxHigh) * epscHighCaCurrentList}]},
 Joined → True, PlotRange → All]
ListPlot[{Transpose[{timeConv, (1 / maxLow) * epscLowCaCurrentList}],
  Transpose[{timeConv, (1 / maxHigh) * epscHighCaCurrentList}]},
 Joined → True, PlotRange → {{0, 0.002}, All}]
If[exportYes == 1,
  toExport = Transpose[{timeConv, epscLowCaCurrentList, epscHighCaCurrentList,
      (1 / maxLow) * epscLowCaCurrentList, (1 / maxHigh) * epscHighCaCurrentList}];
  Export["plot EPSC - low and high - abs and norm.txt", toExport, "Table"];
 ];
```

Out[606]=



Out[607]=

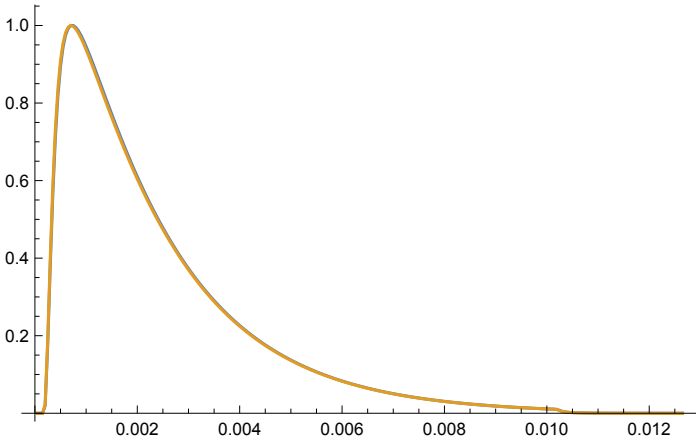


Out[608]= 3027.59

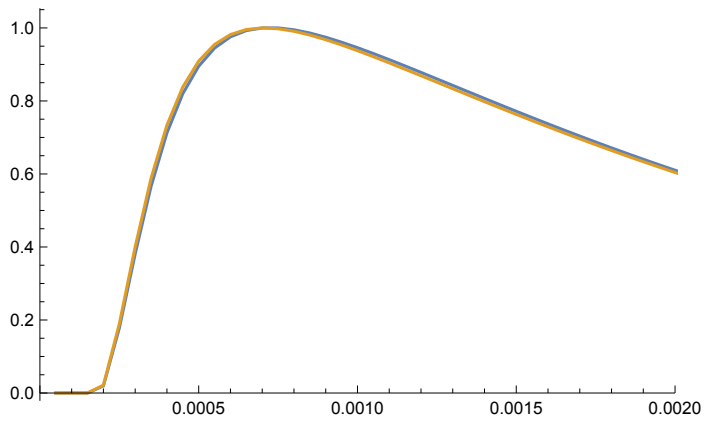
Out[609]= 8899.31

```
maxHigh/maxLow = 2.9394
```

Out[611]=



Out[612]=



Timing

In[614]:=
```
timeEnd = AbsoluteTime[];
(timeEnd - timeStart) / 60. (*time of calculation in min*)
```

Out[615]= 20.511