

J37016 Curve Fitting Document

```
In[1]:= << Graphics`Graphics`
```

```
In[2]:= data = Import["C:\Matlab72\work\J37016fit.txt", "TSV"];
```

```
In[3]:= trans = Transpose[data];
```

```
In[4]:= AHL = trans[[1]];
        Fluor = trans[[2]];
```

General::spell1 :

Possible spelling error: new symbol name "Fluor" is similar to existing symbol "Floor". More...

```
In[6]:= AHLFluor = Transpose[{AHL, Fluor}];
```

```
In[7]:= TempFluor = Transpose[{Temp, Fluor}];
```

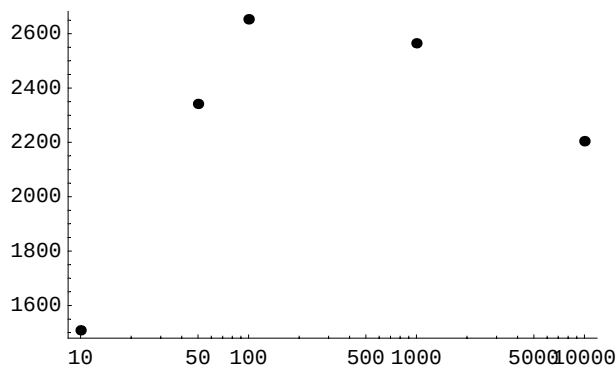
Transpose::nmtx : The first two levels of the one-

dimensional list {Temp, {2205.04, <<3>>, 1508.13}} cannot be transposed. More...

```
In[8]:= Pointgraph =
        LogLinearListPlot[AHLFluor, PlotStyle -> PointSize[0.02], DisplayFunction -> Identity]
```

```
Out[8]= - Graphics -
```

```
In[9]:= Show[Pointgraph, DisplayFunction -> $DisplayFunction]
```



```
Out[9]= - Graphics -
```

Assumptions:

```
In[27]:= dGFP = 0.015
```

```
Out[27]= 0.015
```

Best Fit Function

```
In[28]:= Func1[x_] :=  $\frac{a}{dGFP} - \frac{b}{x}$ 
```

Find Best Fit Curve with Least Squares Method

```
In[29]:= f1 = FindFit[AHLFluor, Func1[x], {a, b}, x]
```

```
Out[29]= {a → 37.6406, b → 9714.98}
```

```
FindFit::fitc : Number of coordinates (2) is not equal to the number of variables (1). More...
```

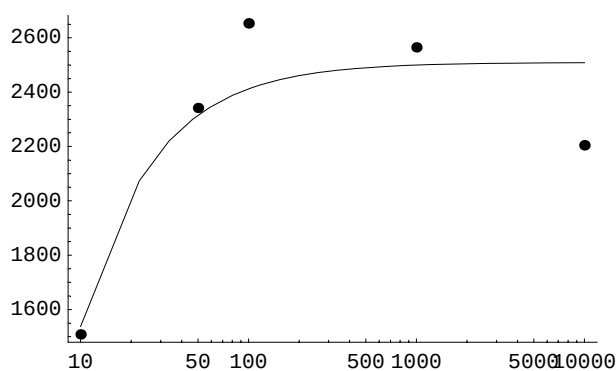
```
FindFit::fitc : Number of coordinates (2) is not equal to the number of variables (1). More...
```

```
In[30]:= BestCurve = LogLinearPlot[Func1[x] /. f1,
    {x, 10, 10000}, PlotRange → {1500, 2600}, DisplayFunction → Identity]
```

```
Out[30]= - Graphics -
```

Plot Graph with Points:

```
In[31]:= Show[{Pointgraph, BestCurve}, DisplayFunction → $DisplayFunction]
```



```
Out[31]= - Graphics -
```

```
In[59]:= BestPts = Func1[AHL] /. f1
```

```
Out[59]= {2508.4, 2499.66, 2412.22, 2315.07, 1537.87}
```

```
In[62]:= sqDiff = (Fluor - BestPts)2
```

```
Out[62]= {92026.4, 4273.69, 58329.1, 687.269, 884.763}
```

```
In[64]:= Total[sqDiff]
```

```
Out[64]= 156201.
```