Microsoft Excel - exp13.xls

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Type a question for help

C9

Experiment 13 Report Form

Vapor Pressure and Heat of Vaporization

Known compound:

T, Vol data obtained from:

	T_R (°C)	25.9		V_R (mL)	5.0	P_B (mm Hg)	744.6

	T (°C)	T (K)	1/T (K^{-1})	V (ml)	Ps (mm Hg)	ln(P_S)
	42.0					
	67.0					
	72.5					
	81.0					
	86.0					
Boiling Point	97.4	370.6	0.002699		760.0	6.6333

Slope of "best fit" line (K)

ΔH_{vap}(kJ/mol)

Sheet1 Sheet 2 Sheet 3 Chart1 Sheet1 (2)

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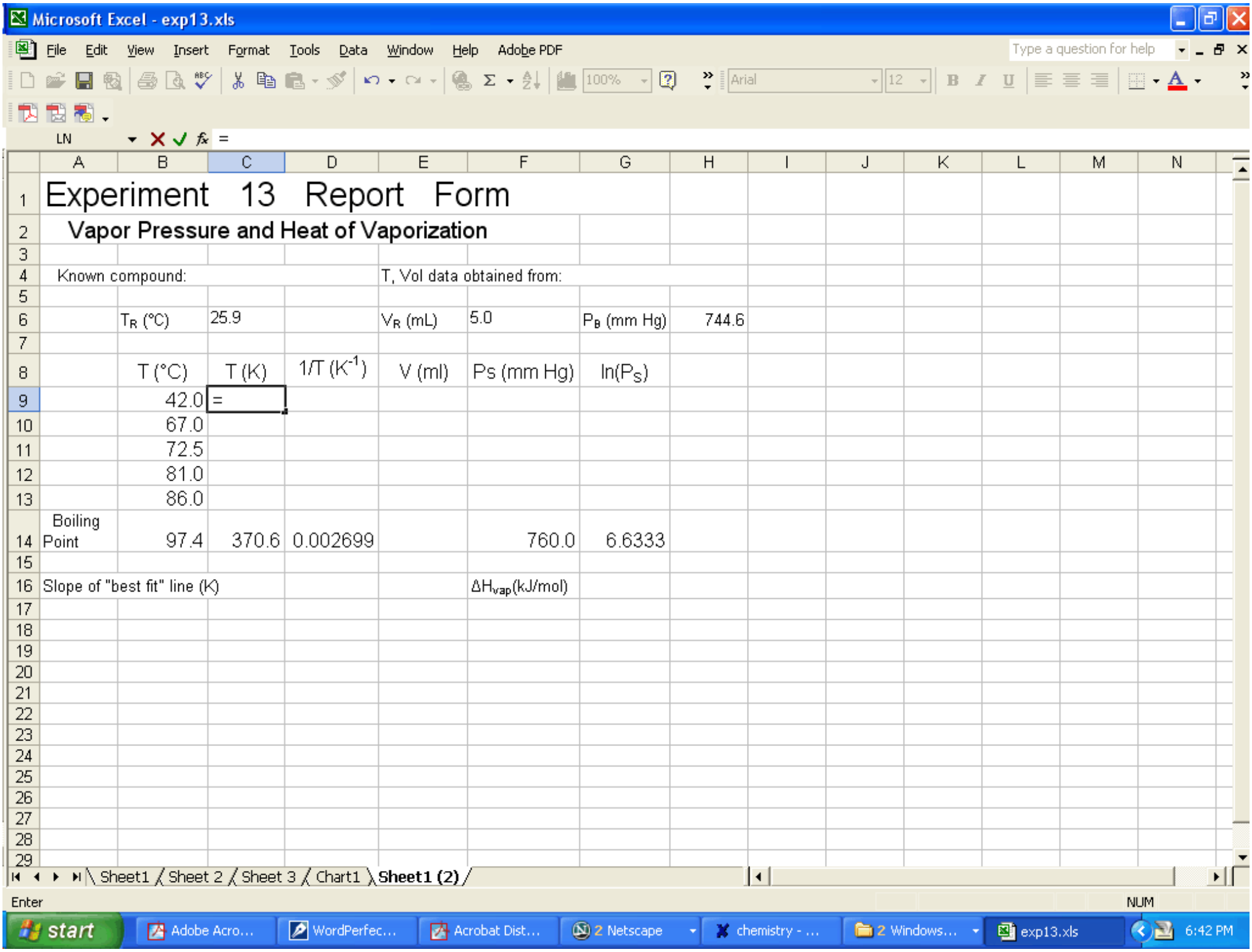
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Experiment 13 Report Form
Vapor Pressure and Heat of Vaporization
Known compound:
T, Vol data obtained from:
T_R (°C) 25.9
V_R (mL) 5.0
P_B (mm Hg) 744.6
T (°C) T (K) 1/T (K^{-1}) V (ml) Ps (mm Hg) ln(P_S)
42.0 =
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72.5
81.0
86.0
Boiling Point 97.4 370.6 0.002699 760.0 6.6333
Slope of "best fit" line (K)
ΔH_{vap}(kJ/mol)
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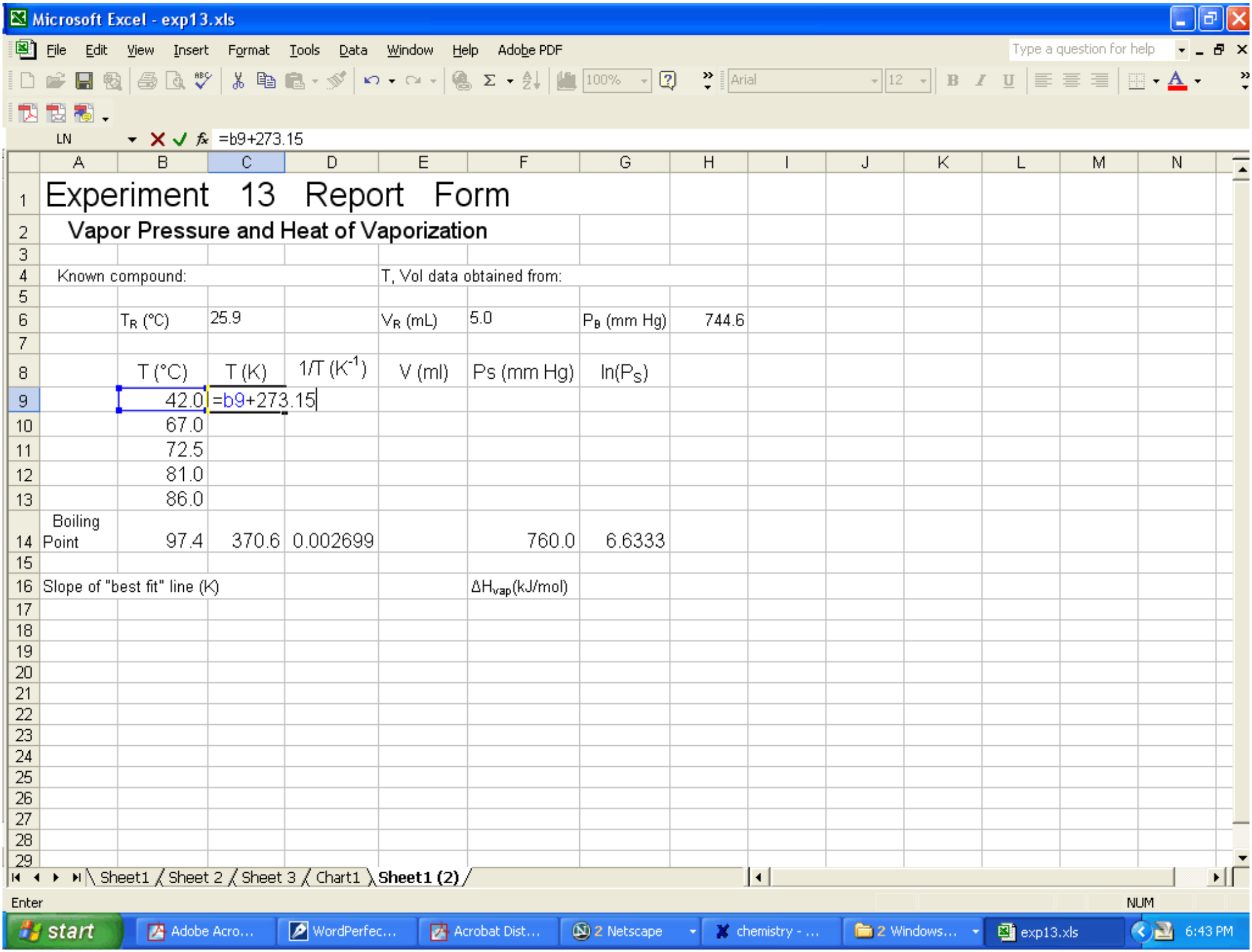
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Experiment 13 Report Form
Vapor Pressure and Heat of Vaporization
Known compound:
T, Vol data obtained from:
TR (°C) 25.9
VR (mL) 5.0
PB (mm Hg) 744.6
T (°C) T (K) 1/T (K-1) V (ml) Ps (mm Hg) ln(PS)
42.0 =b9+273.15
67.0
72.5
81.0
86.0
Boiling Point 97.4 370.6 0.002699 760.0 6.6333
Slope of "best fit" line (K)
ΔHvap(kJ/mol)
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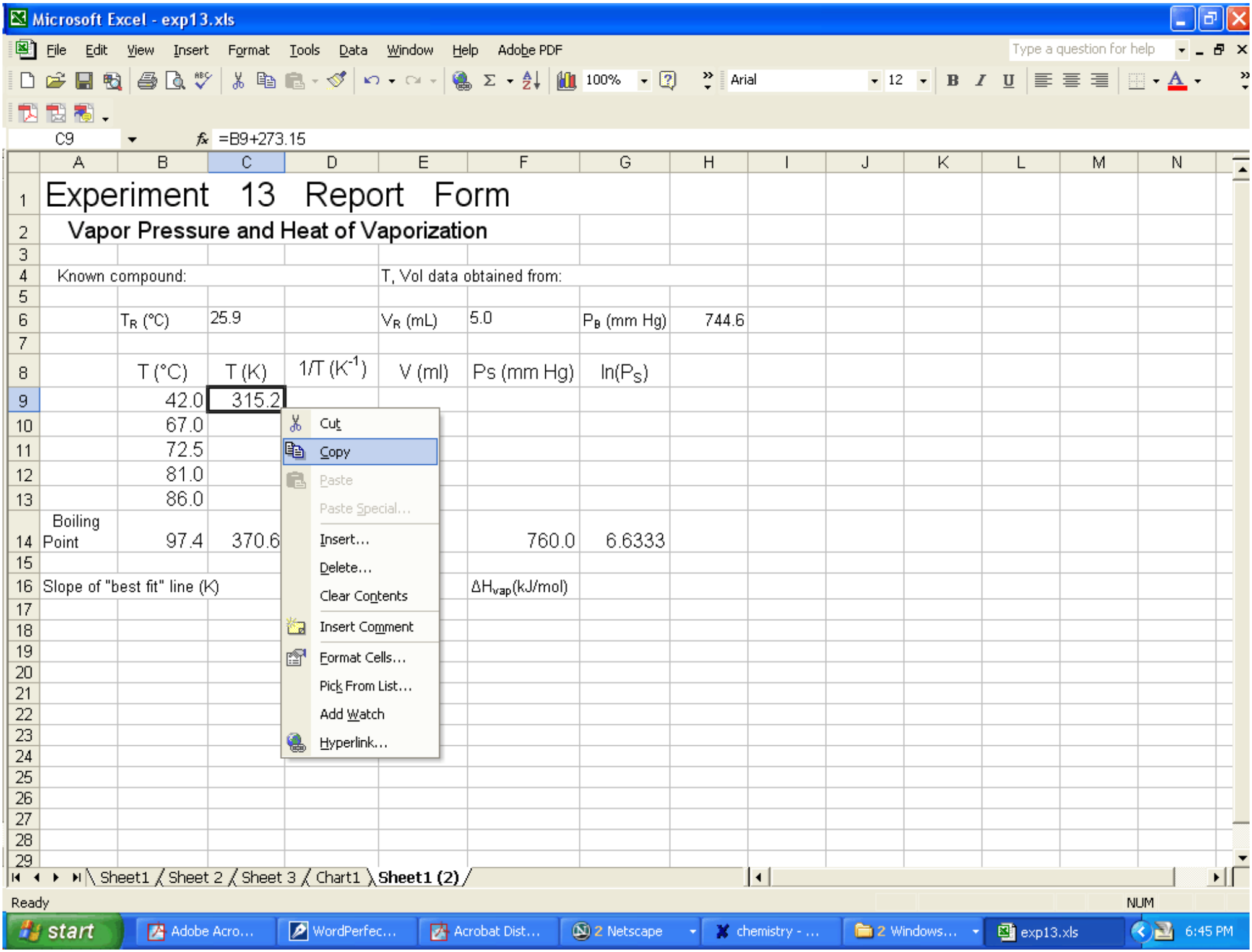
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C9 =B9+273.15
Experiment 13 Report Form
Vapor Pressure and Heat of Vaporization
Known compound:
T, Vol data obtained from:
TR (°C) 25.9
VR (mL) 5.0
PB (mm Hg) 744.6
T (°C) T (K) 1/T (K-1) V (ml) Ps (mm Hg) ln(PS)
42.0 315.2
67.0
72.5
81.0
86.0
Boiling Point 97.4 370.6 760.0 6.6333
Slope of "best fit" line (K)
ΔHvap(kJ/mol)
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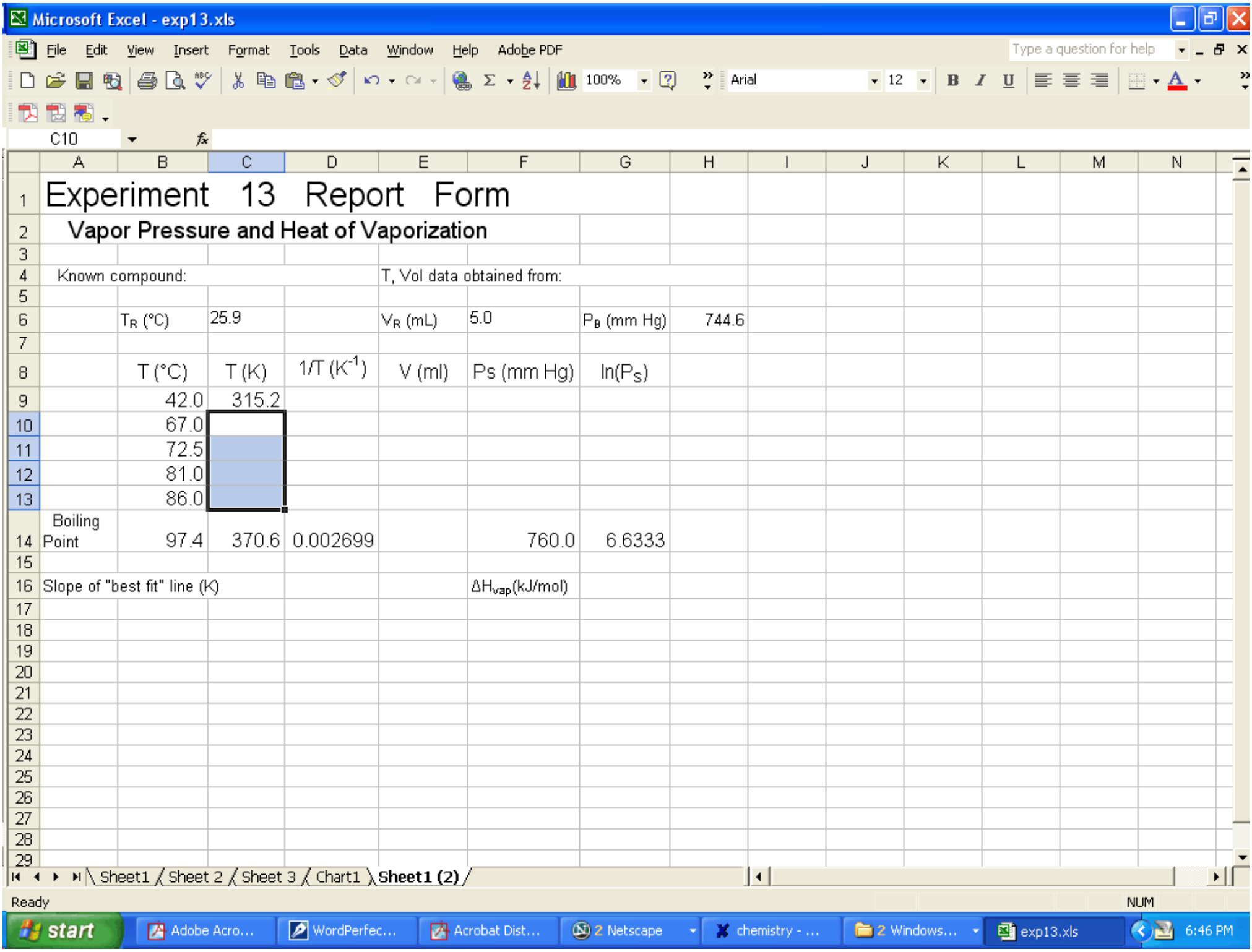
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Arial 12
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Experiment 13 Report Form
Vapor Pressure and Heat of Vaporization
Known compound:
T, Vol data obtained from:
T_R (°C) 25.9
V_R (mL) 5.0
P_B (mm Hg) 744.6
T (°C) T (K) 1/T (K^{-1}) V (ml) Ps (mm Hg) ln(P_S)
42.0 315.2
67.0
72.5
81.0
86.0
Boiling Point 97.4 370.6 0.002699 760.0 6.6333
Slope of "best fit" line (K)
ΔH_{vap}(kJ/mol)
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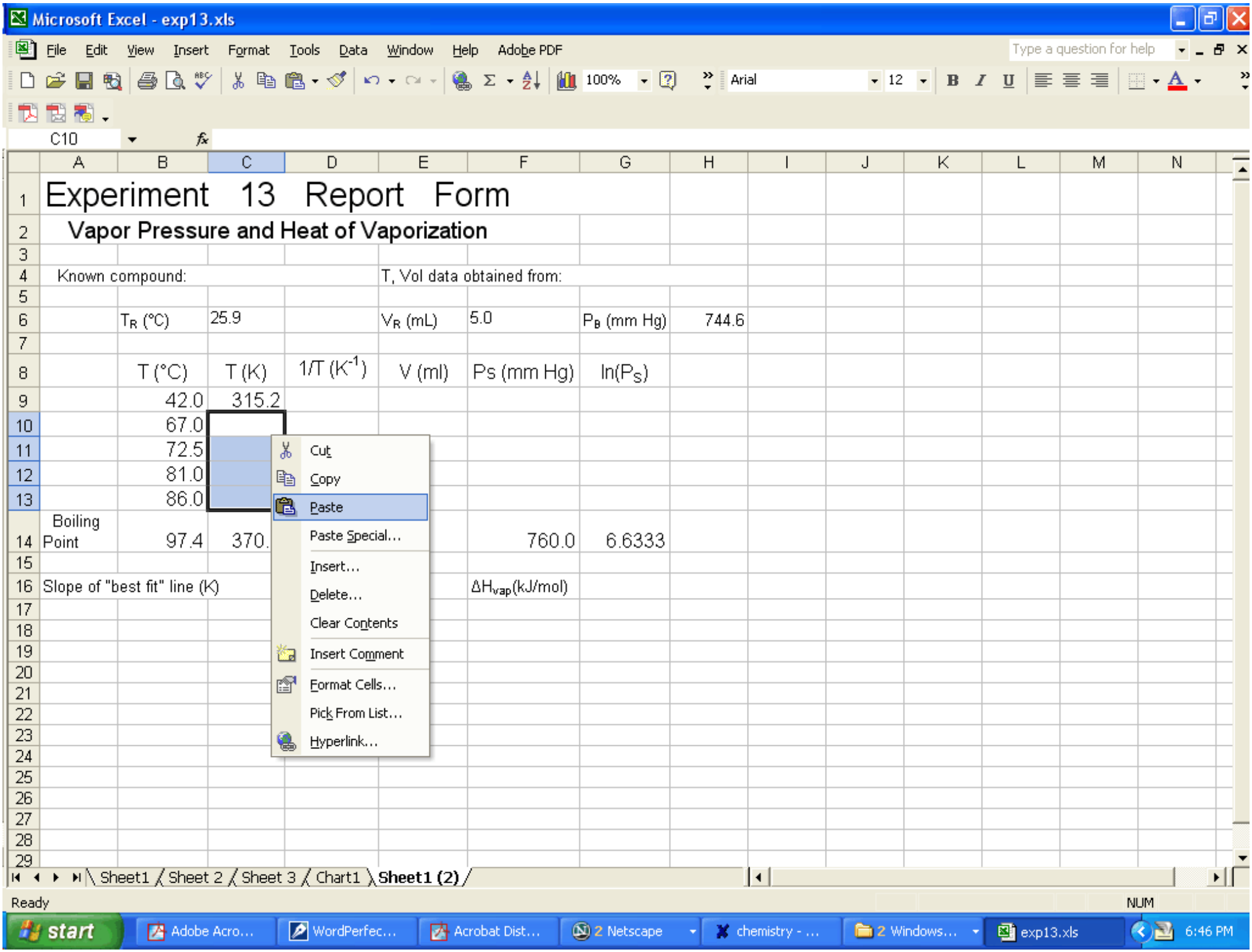
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Experiment 13 Report Form
Vapor Pressure and Heat of Vaporization
Known compound:
T, Vol data obtained from:
T_R (°C) 25.9
V_R (mL) 5.0
P_B (mm Hg) 744.6
T (°C) T (K) 1/T (K^{-1}) V (ml) Ps (mm Hg) ln(P_S)
42.0 315.2
67.0
72.5
81.0
86.0
Boiling Point 97.4 370. 760.0 6.6333
Slope of "best fit" line (K)
ΔH_{vap}(kJ/mol)
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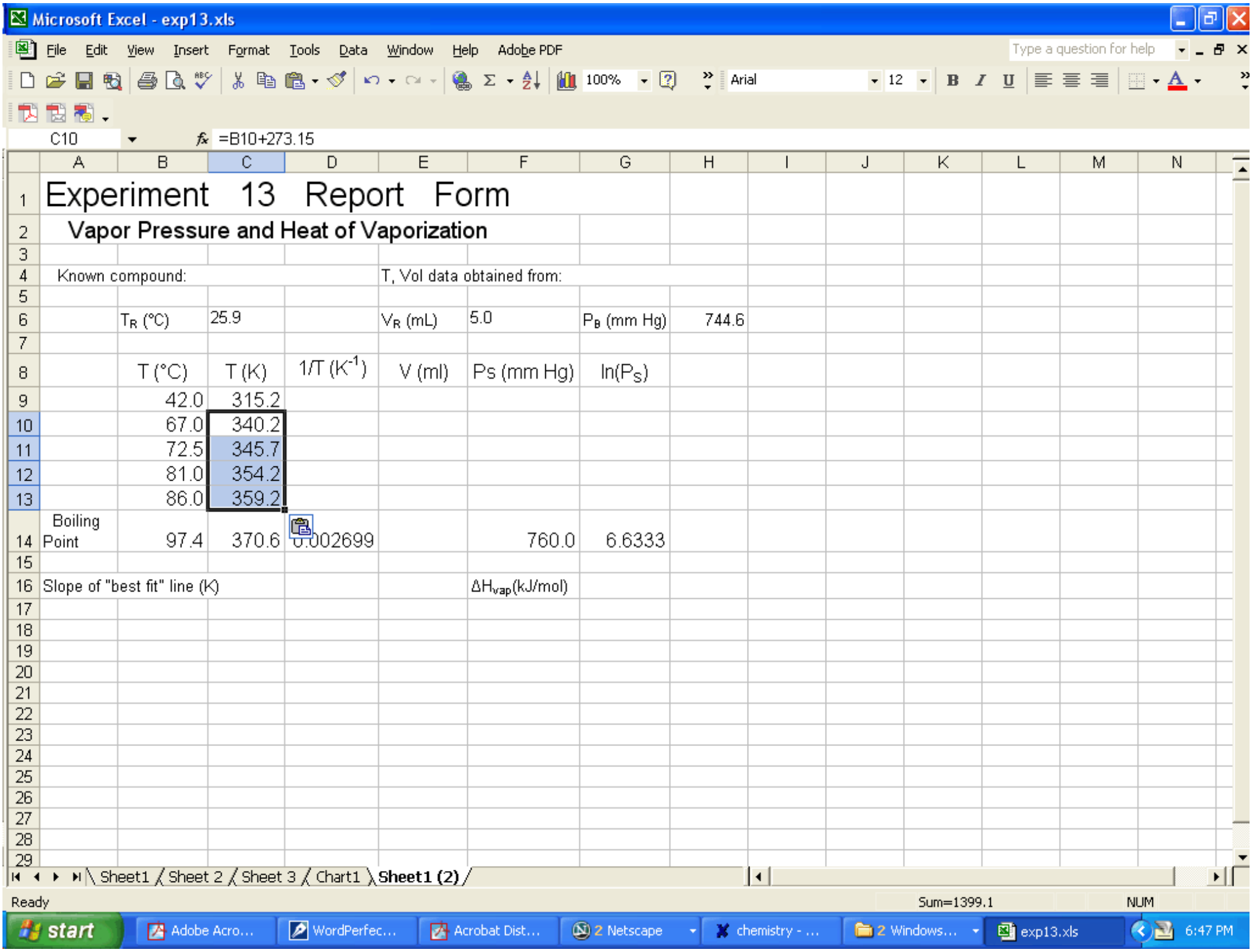
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Experiment 13 Report Form
Vapor Pressure and Heat of Vaporization
Known compound:
T, Vol data obtained from:
T_R (°C) 25.9
V_R (mL) 5.0
P_B (mm Hg) 744.6
T (°C) T (K) 1/T (K^-1) V (ml) Ps (mm Hg) ln(P_S)
42.0 315.2
67.0 340.2
72.5 345.7
81.0 354.2
86.0 359.2
Boiling Point 97.4 370.6 0.002699 760.0 6.6333
Slope of "best fit" line (K)
ΔH_vap(kJ/mol)
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C10 =B10+273.15

Experiment 13 Report Form

Vapor Pressure and Heat of Vaporization

Known compound:

T, Vol data obtained from:

	T_R (°C)	25.9		V_R (mL)	5.0	P_B (mm Hg)	744.6

	T (°C)	T (K)	1/T (K^{-1})	V (ml)	Ps (mm Hg)	ln(P_S)
	42.0	315.2				
	67.0	340.2				
	72.5	345.7				
	81.0	354.2				
	86.0	359.2				
Boiling Point	97.4	370.6	0.002699		760.0	6.6333

Slope of "best fit" line (K)

ΔH_{vap}(kJ/mol)

Sheet1 Sheet 2 Sheet 3 Chart1 Sheet1 (2)

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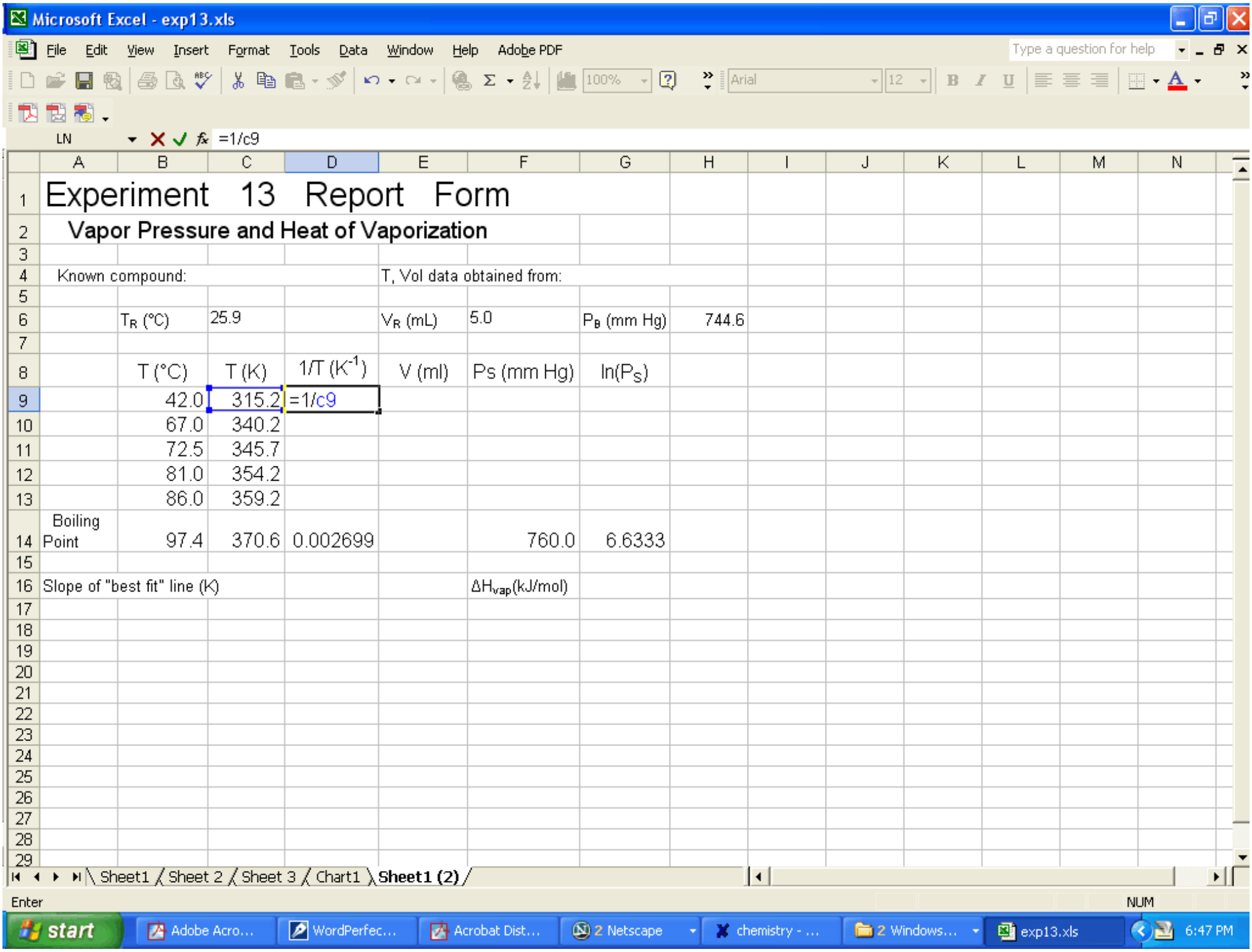
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Experiment 13 Report Form
Vapor Pressure and Heat of Vaporization
Known compound:
T, Vol data obtained from:
TR (°C) 25.9
VR (mL) 5.0
PB (mm Hg) 744.6
T (°C) T (K) 1/T (K-1) V (ml) Ps (mm Hg) ln(PS)
42.0 315.2 =1/c9
67.0 340.2
72.5 345.7
81.0 354.2
86.0 359.2
Boiling Point 97.4 370.6 0.002699 760.0 6.6333
Slope of "best fit" line (K)
ΔHvap(kJ/mol)
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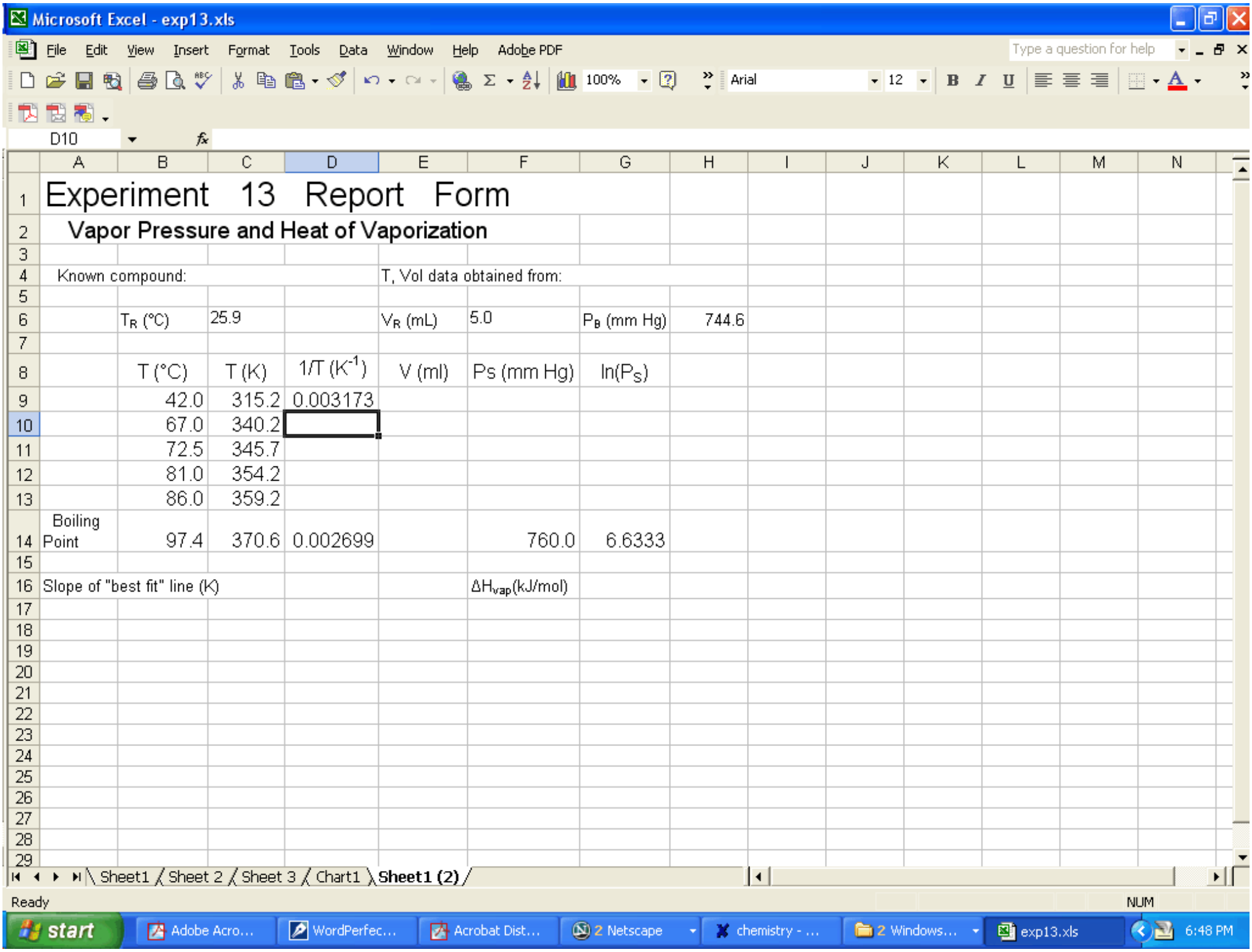
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Experiment 13 Report Form
Vapor Pressure and Heat of Vaporization
Known compound:
T, Vol data obtained from:
T_R (°C) 25.9
V_R (mL) 5.0
P_B (mm Hg) 744.6
T (°C) T (K) 1/T (K^-1) V (ml) Ps (mm Hg) ln(P_S)
42.0 315.2 0.003173
67.0 340.2
72.5 345.7
81.0 354.2
86.0 359.2
Boiling Point 97.4 370.6 0.002699 760.0 6.6333
Slope of "best fit" line (K)
ΔH_vap(kJ/mol)
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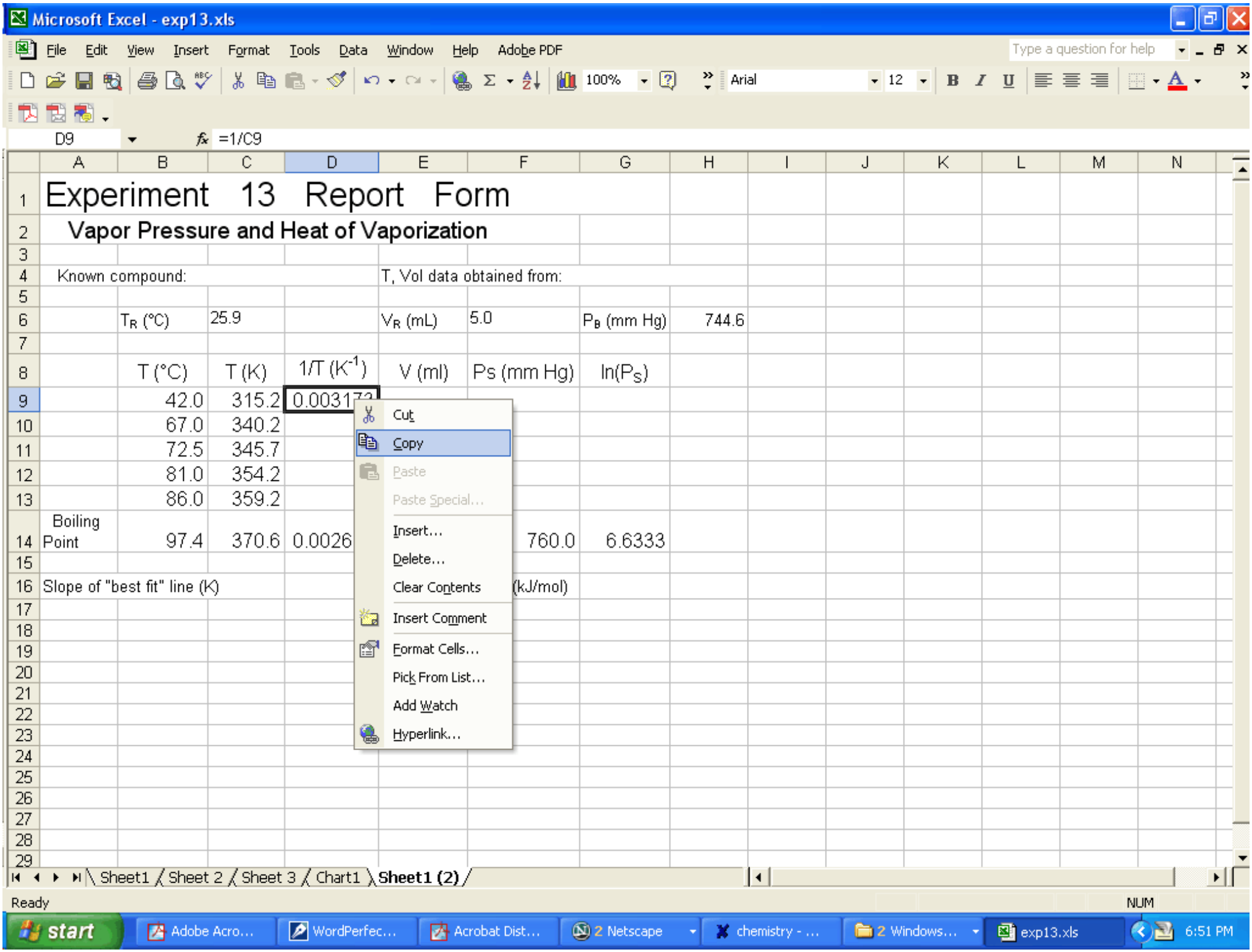
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Arial 12
D9 =1/C9
Experiment 13 Report Form
Vapor Pressure and Heat of Vaporization
Known compound:
T, Vol data obtained from:
T_R (°C) 25.9
V_R (mL) 5.0
P_B (mm Hg) 744.6
T (°C) T (K) 1/T (K^-1) V (ml) Ps (mm Hg) ln(P_S)
42.0 315.2 0.003172
67.0 340.2
72.5 345.7
81.0 354.2
86.0 359.2
Boiling Point 97.4 370.6 0.0026 760.0 6.6333
Slope of "best fit" line (K) (kJ/mol)
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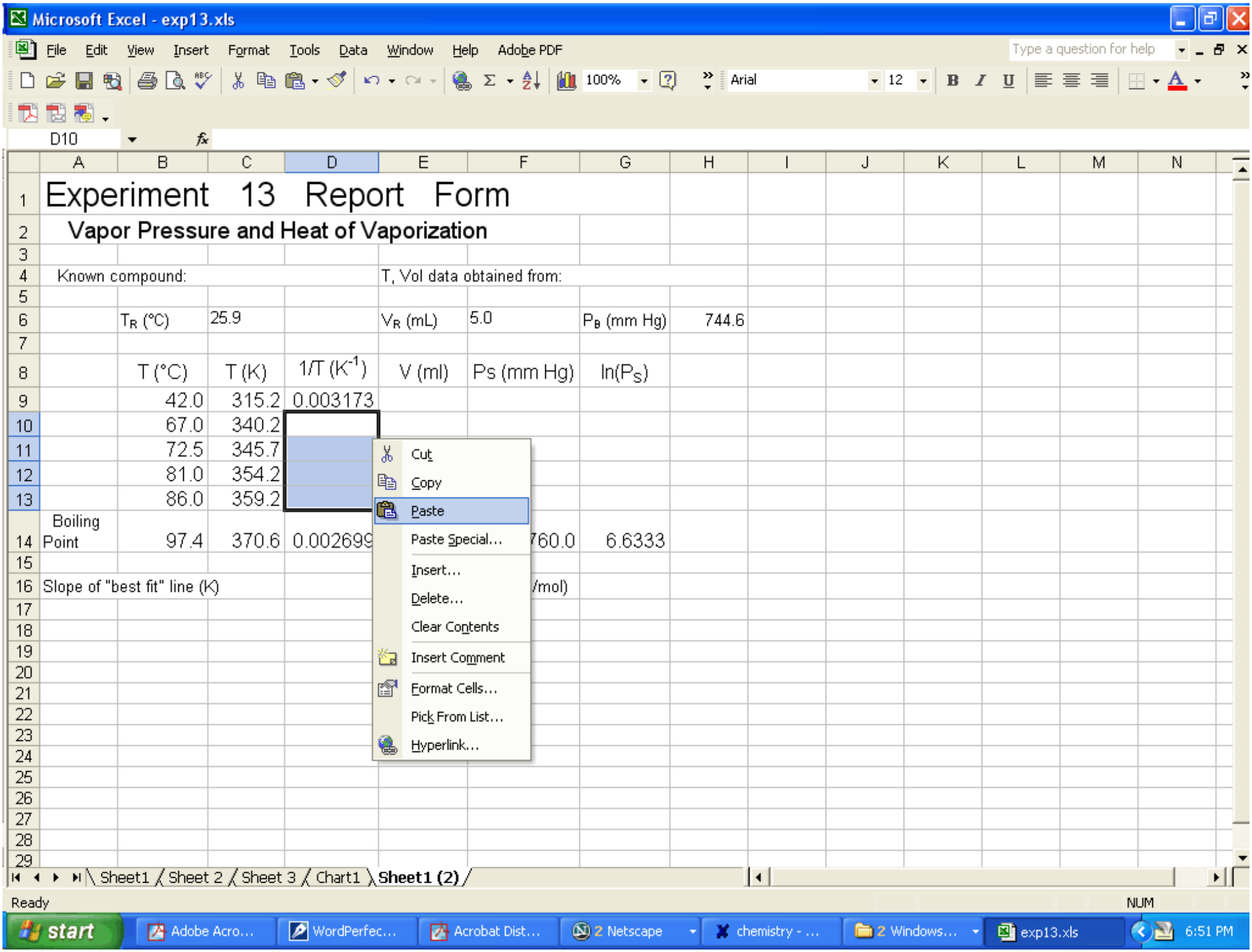
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Arial 12
D10
Experiment 13 Report Form
Vapor Pressure and Heat of Vaporization
Known compound:
T, Vol data obtained from:
TR (°C) 25.9
VR (mL) 5.0
PB (mm Hg) 744.6
T (°C) T (K) 1/T (K-1) V (ml) Ps (mm Hg) ln(PS)
42.0 315.2 0.003173
67.0 340.2
72.5 345.7
81.0 354.2
86.0 359.2
Boiling Point 97.4 370.6 0.002699 760.0 6.6333
Slope of "best fit" line (K)
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Experiment 13 Report Form

Vapor Pressure and Heat of Vaporization

Known compound:

T_R (°C) 25.9

T, Vol data obtained from:

V_R (mL) 5.0

P_B (mm Hg) 744.6

	T (°C)	T (K)	1/T (K^{-1})	V (ml)	Ps (mm Hg)	ln(P_S)
	42.0	315.2	0.003173			
	67.0	340.2	0.002940			
	72.5	345.7	0.002893			
	81.0	354.2	0.002824			
	86.0	359.2	0.002784			
Boiling Point	97.4	370.6	0.002699		760.0	6.6333

Slope of "best fit" line (K)

ΔH_{vap}(kJ/mol)

Sheet1 Sheet 2 Sheet 3 Chart1 Sheet1 (2)

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D10 =1/C10

Experiment 13 Report Form

Vapor Pressure and Heat of Vaporization

Known compound:

T, Vol data obtained from:

	T_R (°C)	25.9		V_R (mL)	5.0	P_B (mm Hg)	744.6

	T (°C)	T (K)	1/T (K^{-1})	V (ml)	Ps (mm Hg)	ln(P_S)
	42.0	315.2	0.003173			
	67.0	340.2	0.002940			
	72.5	345.7	0.002893			
	81.0	354.2	0.002824			
	86.0	359.2	0.002784			
Boiling Point	97.4	370.6	0.002699		760.0	6.6333

Slope of "best fit" line (K) ΔH_{vap}(kJ/mol)

Sheet1 Sheet 2 Sheet 3 Chart1 Sheet1 (2)

Ready NUM

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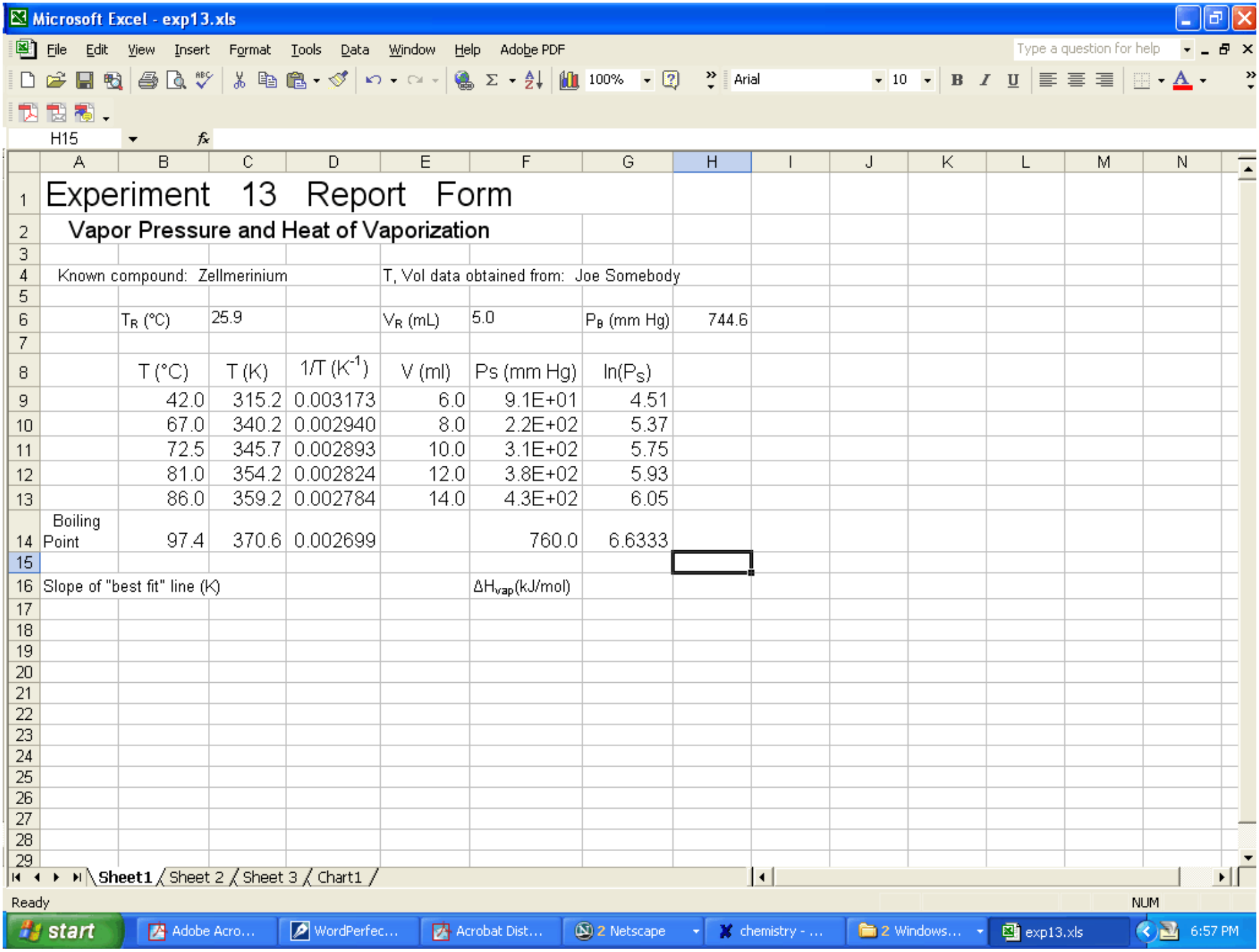
Continue in this way. Program eqn 6 from the lab manual into the column for Ps and then take ln(P) for the next column (enter "=ln(f9)") and then copy this formula into the remaining cells. The "finished" sheet for cmpd 1 is below



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H15

Experiment 13 Report Form

Vapor Pressure and Heat of Vaporization

Known compound: Zellmerinium

T, Vol data obtained from: Joe Somebody

	T_R (°C)	25.9		V_R (mL)	5.0	P_B (mm Hg)	744.6

	T (°C)	T (K)	1/T (K^{-1})	V (ml)	Ps (mm Hg)	ln(P_S)
	42.0	315.2	0.003173	6.0	9.1E+01	4.51
	67.0	340.2	0.002940	8.0	2.2E+02	5.37
	72.5	345.7	0.002893	10.0	3.1E+02	5.75
	81.0	354.2	0.002824	12.0	3.8E+02	5.93
	86.0	359.2	0.002784	14.0	4.3E+02	6.05
Boiling Point	97.4	370.6	0.002699		760.0	6.6333

Slope of "best fit" line (K) | ΔH_{vap}(kJ/mol)

Sheet1 Sheet 2 Sheet 3 Chart1

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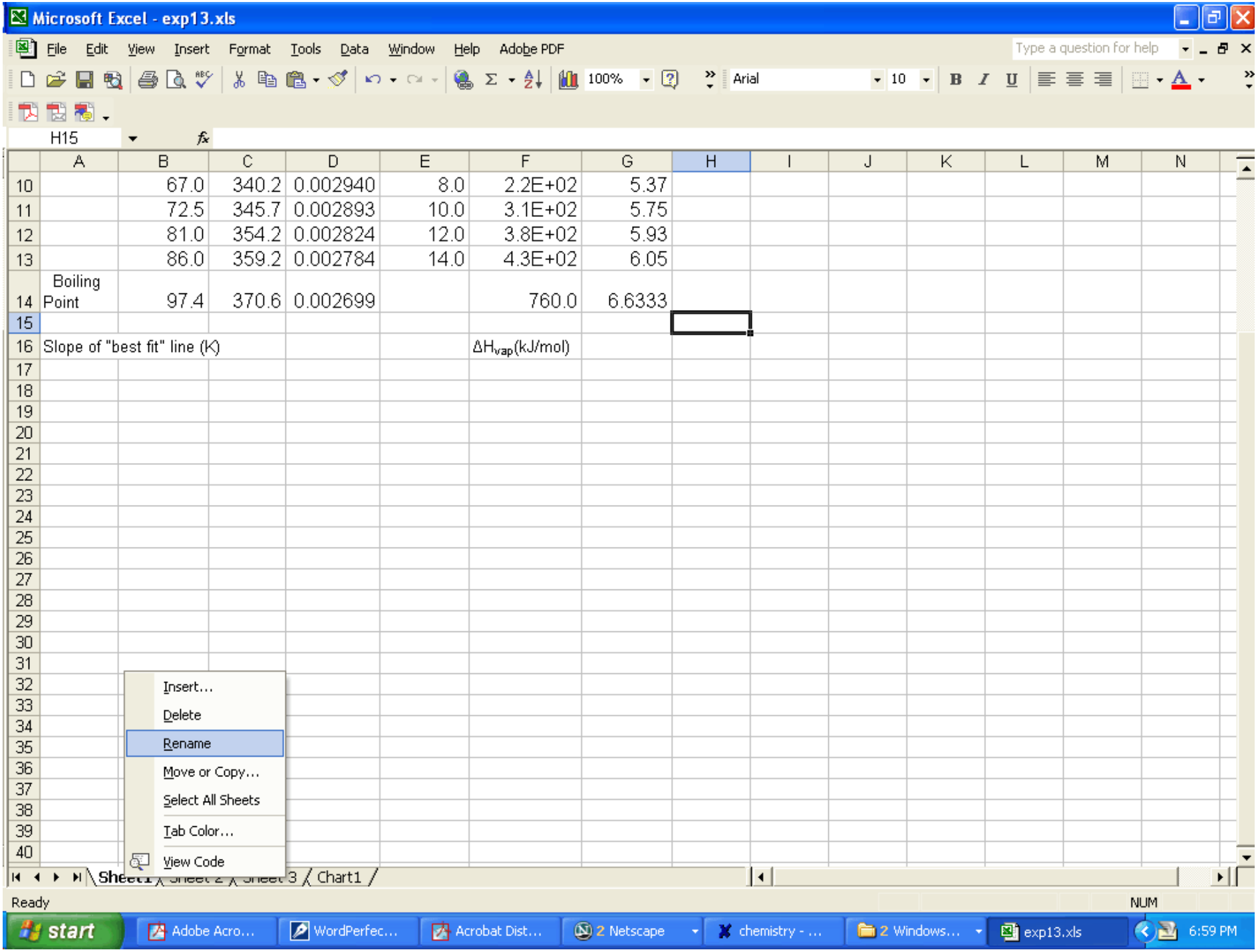
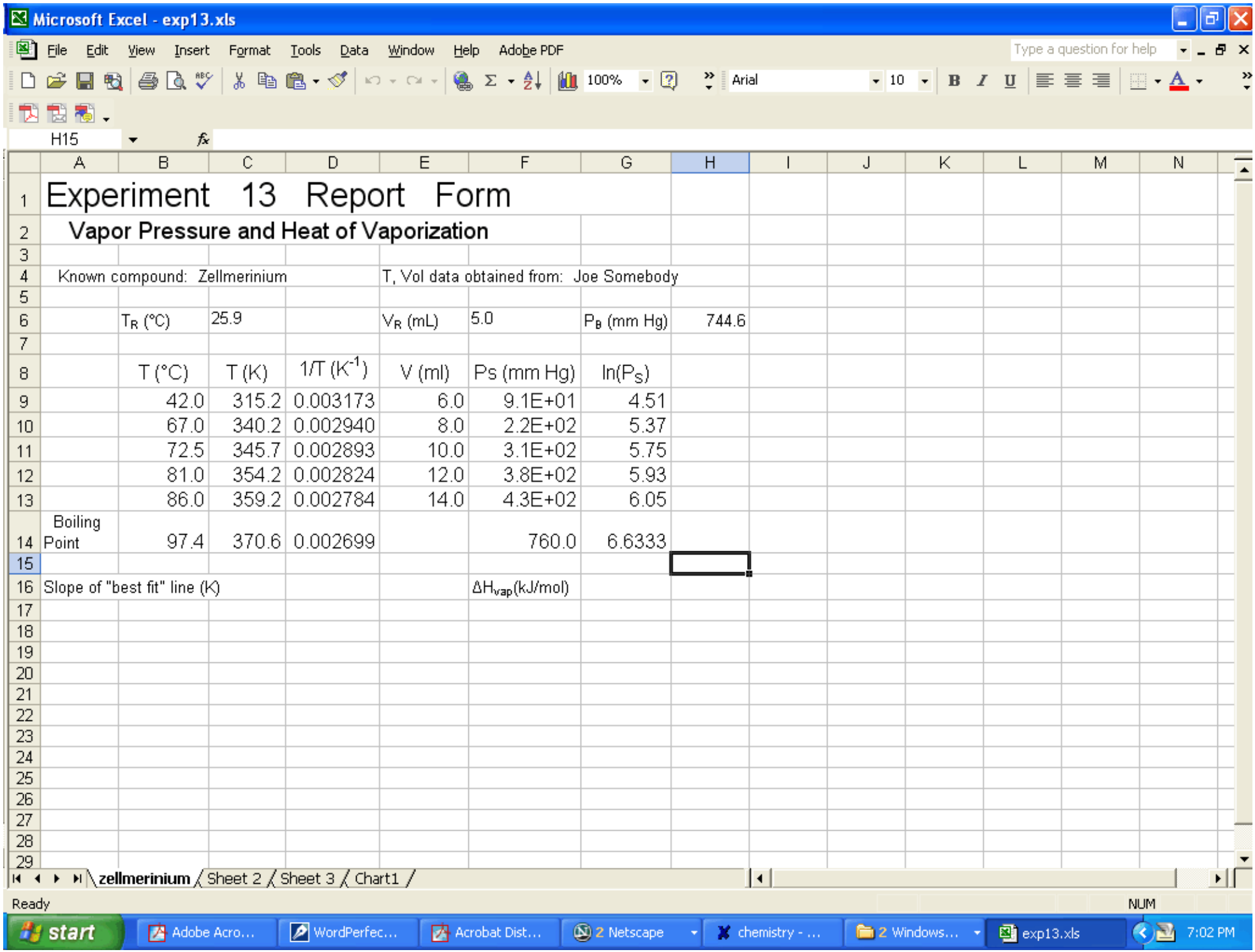
You can rename a sheet by “right clicking” on the tab at the bottom.



	A	B	C	D	E	F	G
10		67.0	340.2	0.002940	8.0	2.2E+02	5.37
11		72.5	345.7	0.002893	10.0	3.1E+02	5.75
12		81.0	354.2	0.002824	12.0	3.8E+02	5.93
13		86.0	359.2	0.002784	14.0	4.3E+02	6.05
14	Boiling Point	97.4	370.6	0.002699		760.0	6.6333
15							
16	Slope of "best fit" line (K)					ΔH_{vap}(kJ/mol)	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H15
Experiment 13 Report Form
Vapor Pressure and Heat of Vaporization
Known compound: Zellmerinium
T, Vol data obtained from: Joe Somebody
T_R (°C) 25.9
V_R (mL) 5.0
P_B (mm Hg) 744.6
T (°C) T (K) 1/T (K^-1) V (ml) Ps (mm Hg) ln(P_S)
42.0 315.2 0.003173 6.0 9.1E+01 4.51
67.0 340.2 0.002940 8.0 2.2E+02 5.37
72.5 345.7 0.002893 10.0 3.1E+02 5.75
81.0 354.2 0.002824 12.0 3.8E+02 5.93
86.0 359.2 0.002784 14.0 4.3E+02 6.05
Boiling Point 97.4 370.6 0.002699 760.0 6.6333
Slope of "best fit" line (K)
ΔH_vap(kJ/mol)
zellmerinium Sheet 2 Sheet 3 Chart1
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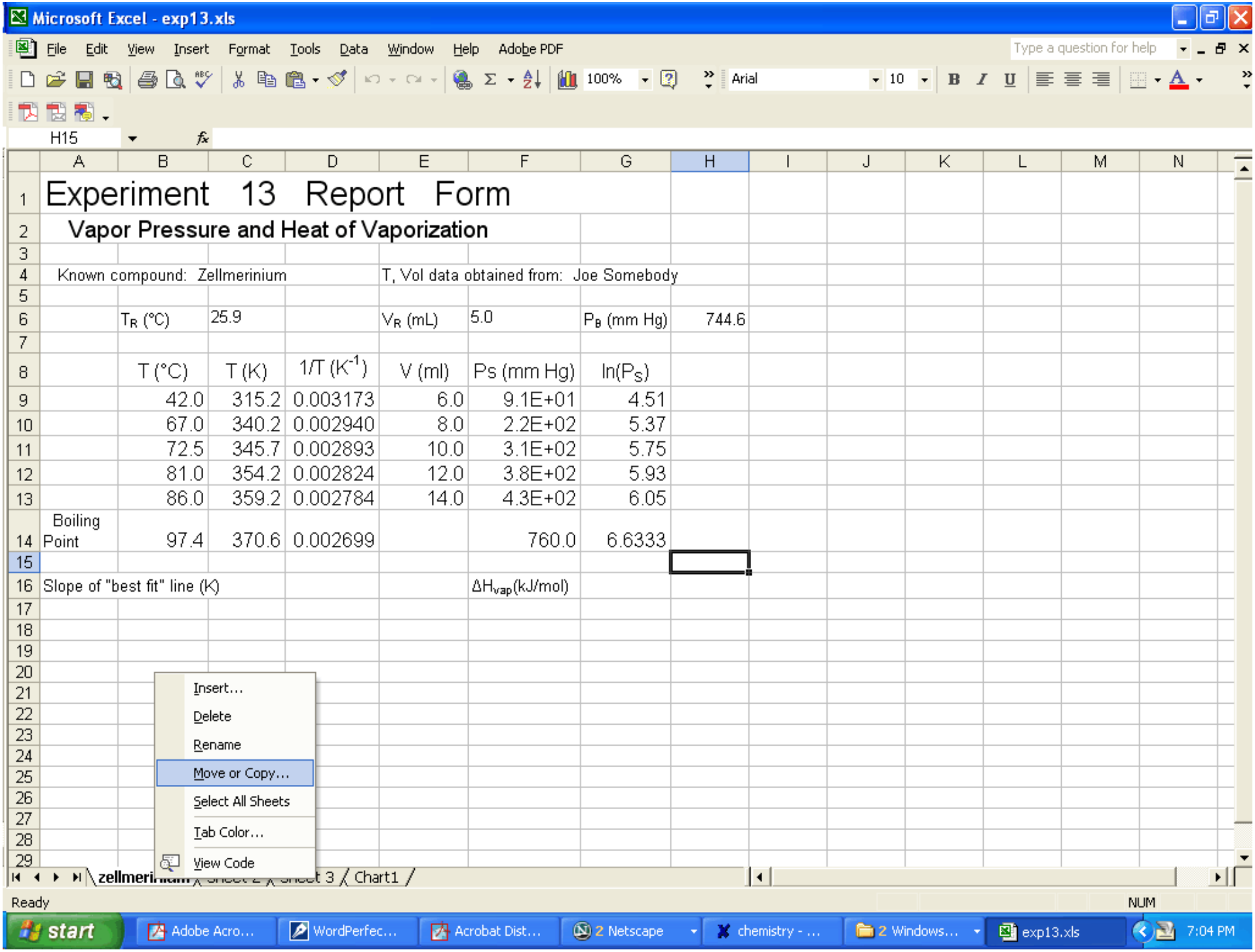
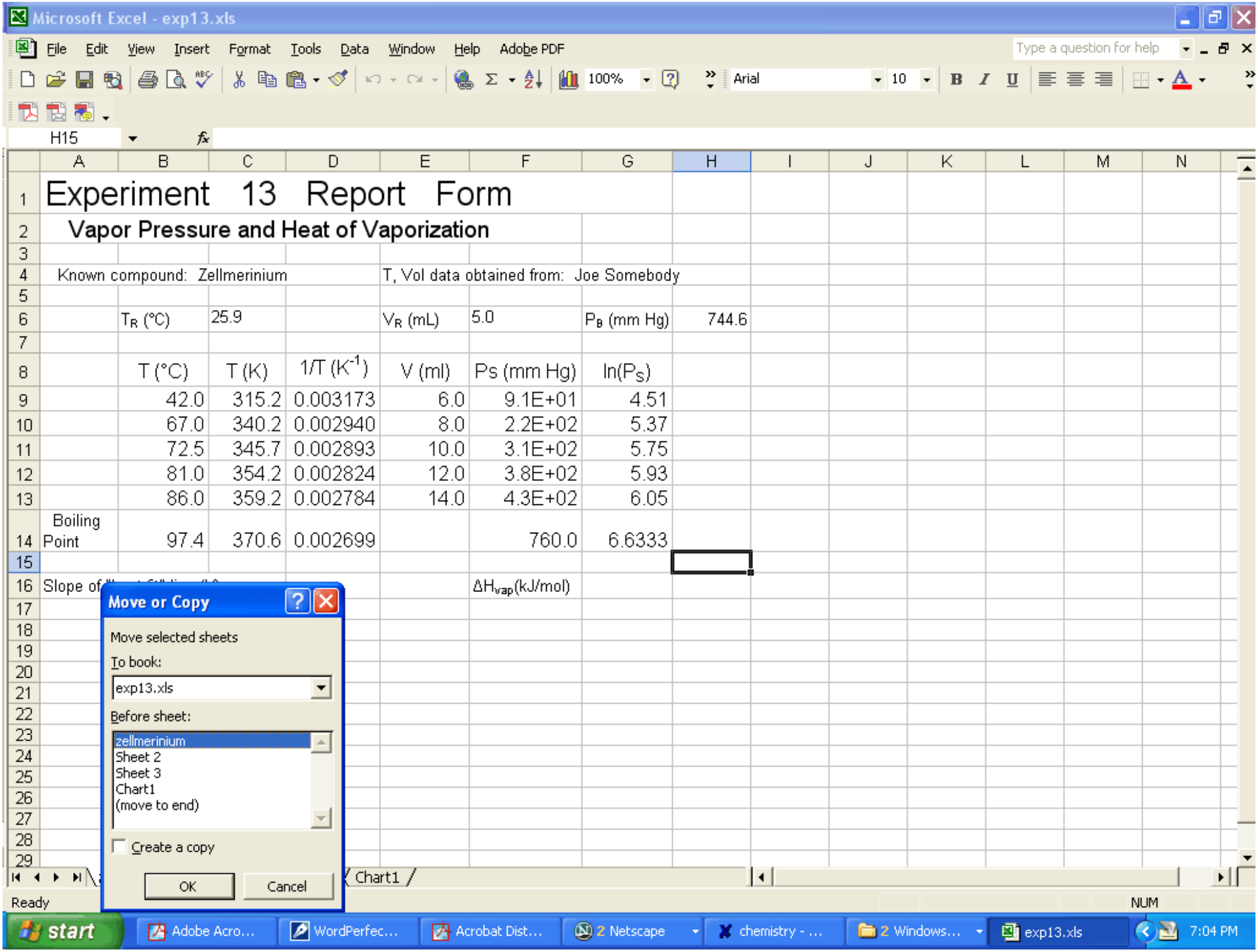
Then copy this sheet to a new sheet for the data for compound 2. "Right click" on the tab and choose "Move or Copy".




Microsoft Excel - exp13.xls
File Edit View Insert Format Tools Data Window Help Adobe PDF
Type a question for help
H15
Experiment 13 Report Form
Vapor Pressure and Heat of Vaporization
Known compound: Zellmerinium
T, Vol data obtained from: Joe Somebody
TR (°C) 25.9
VR (mL) 5.0
PB (mm Hg) 744.6
T (°C) T (K) 1/T (K-1) V (ml) Ps (mm Hg) ln(PS)
42.0 315.2 0.003173 6.0 9.1E+01 4.51
67.0 340.2 0.002940 8.0 2.2E+02 5.37
72.5 345.7 0.002893 10.0 3.1E+02 5.75
81.0 354.2 0.002824 12.0 3.8E+02 5.93
86.0 359.2 0.002784 14.0 4.3E+02 6.05
Boiling Point 97.4 370.6 0.002699 760.0 6.6333
Slope of
ΔHvap(kJ/mol)
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Before sheet:
zellmerinium
Sheet 2
Sheet 3
Chart1
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Chart1
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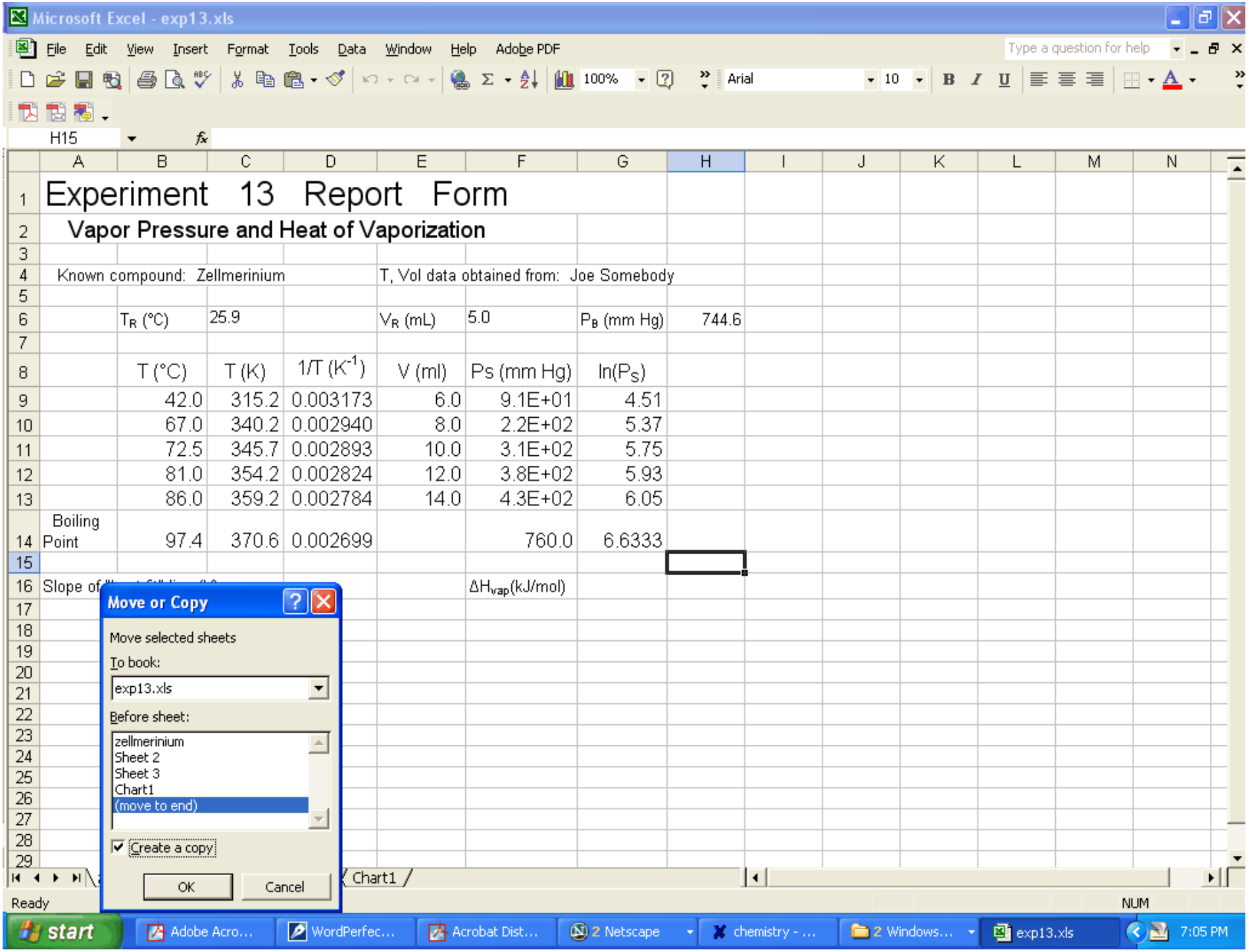
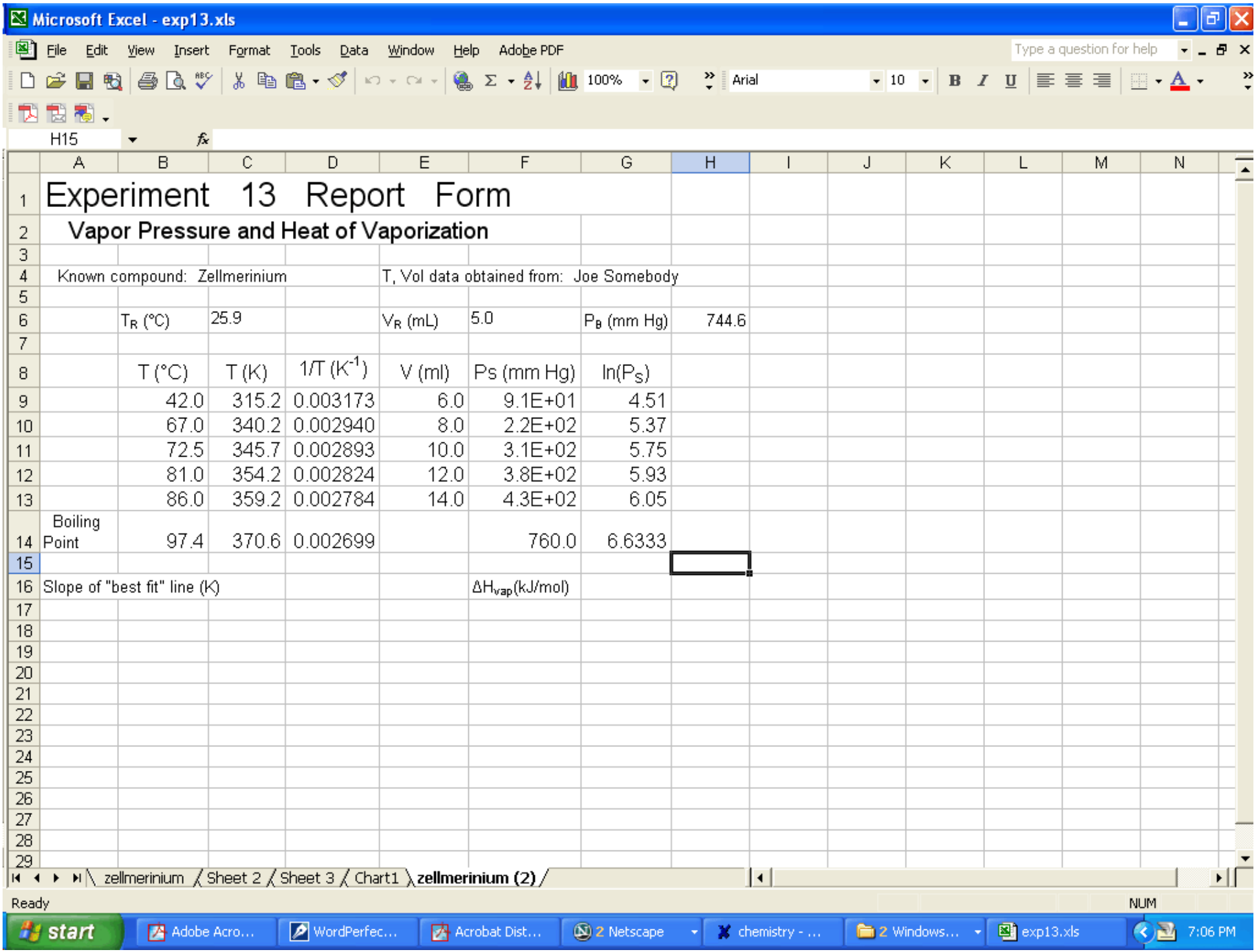
Note you want to highlight “move to end” and check the “create a copy” box.



I get a new sheet with the same name but the # 2 at the end of the name. Note the data right now is the same as for the first sheet.



Microsoft Excel - exp13.xls

File Edit View Insert Format Tools Data Window Help Adobe PDF

H15

Experiment 13 Report Form

Vapor Pressure and Heat of Vaporization

Known compound: Zellmerinium

T, Vol data obtained from: Joe Somebody

	T_R (°C)	25.9		V_R (mL)	5.0	P_B (mm Hg)	744.6

	T (°C)	T (K)	1/T (K^{-1})	V (ml)	Ps (mm Hg)	ln(P_S)
	42.0	315.2	0.003173	6.0	9.1E+01	4.51
	67.0	340.2	0.002940	8.0	2.2E+02	5.37
	72.5	345.7	0.002893	10.0	3.1E+02	5.75
	81.0	354.2	0.002824	12.0	3.8E+02	5.93
	86.0	359.2	0.002784	14.0	4.3E+02	6.05
Boiling Point	97.4	370.6	0.002699		760.0	6.6333

Slope of "best fit" line (K) | ΔH_{vap}(kJ/mol)

zellmerinium | Sheet 2 | Sheet 3 | Chart1 | zellmerinium (2)

Ready NUM

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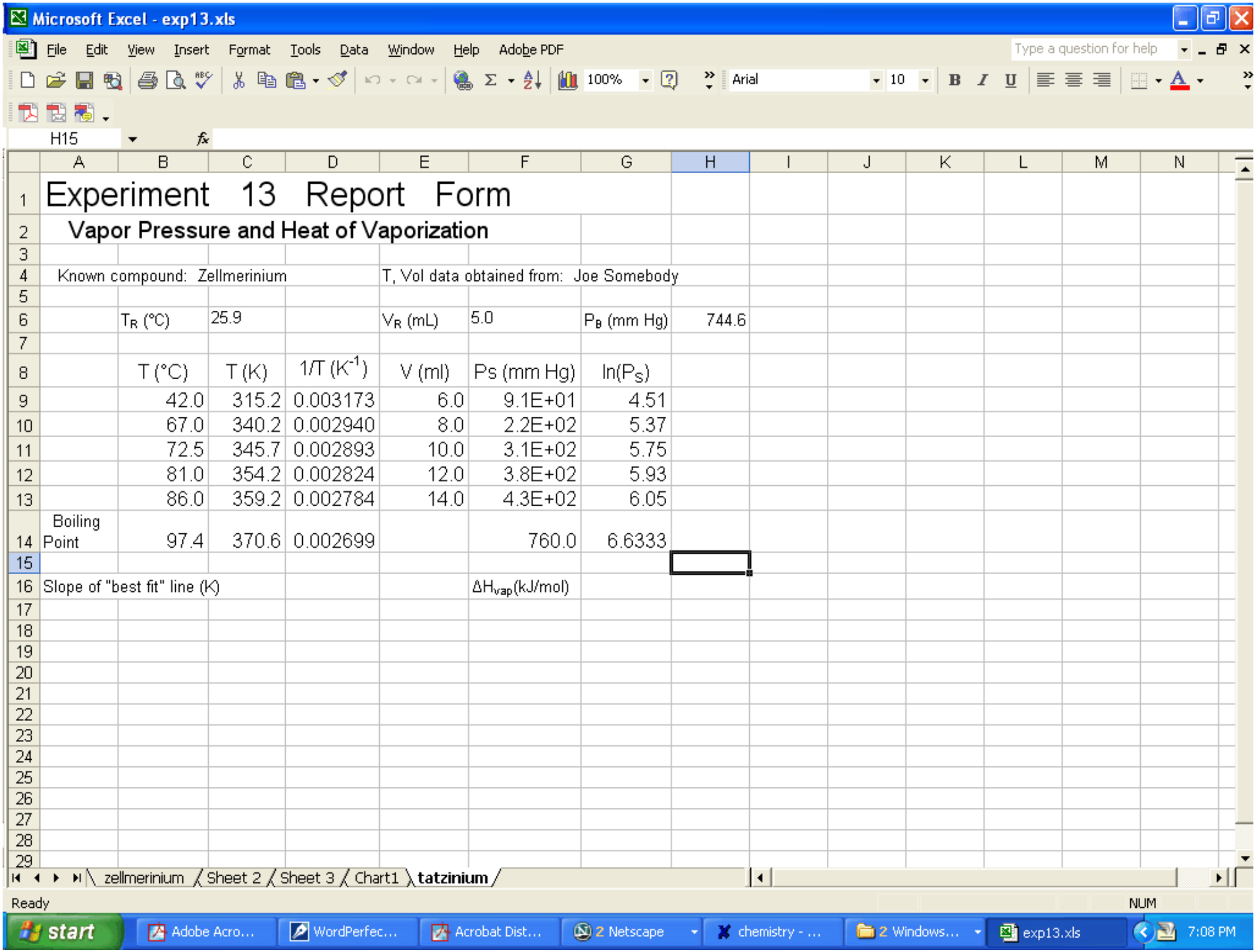
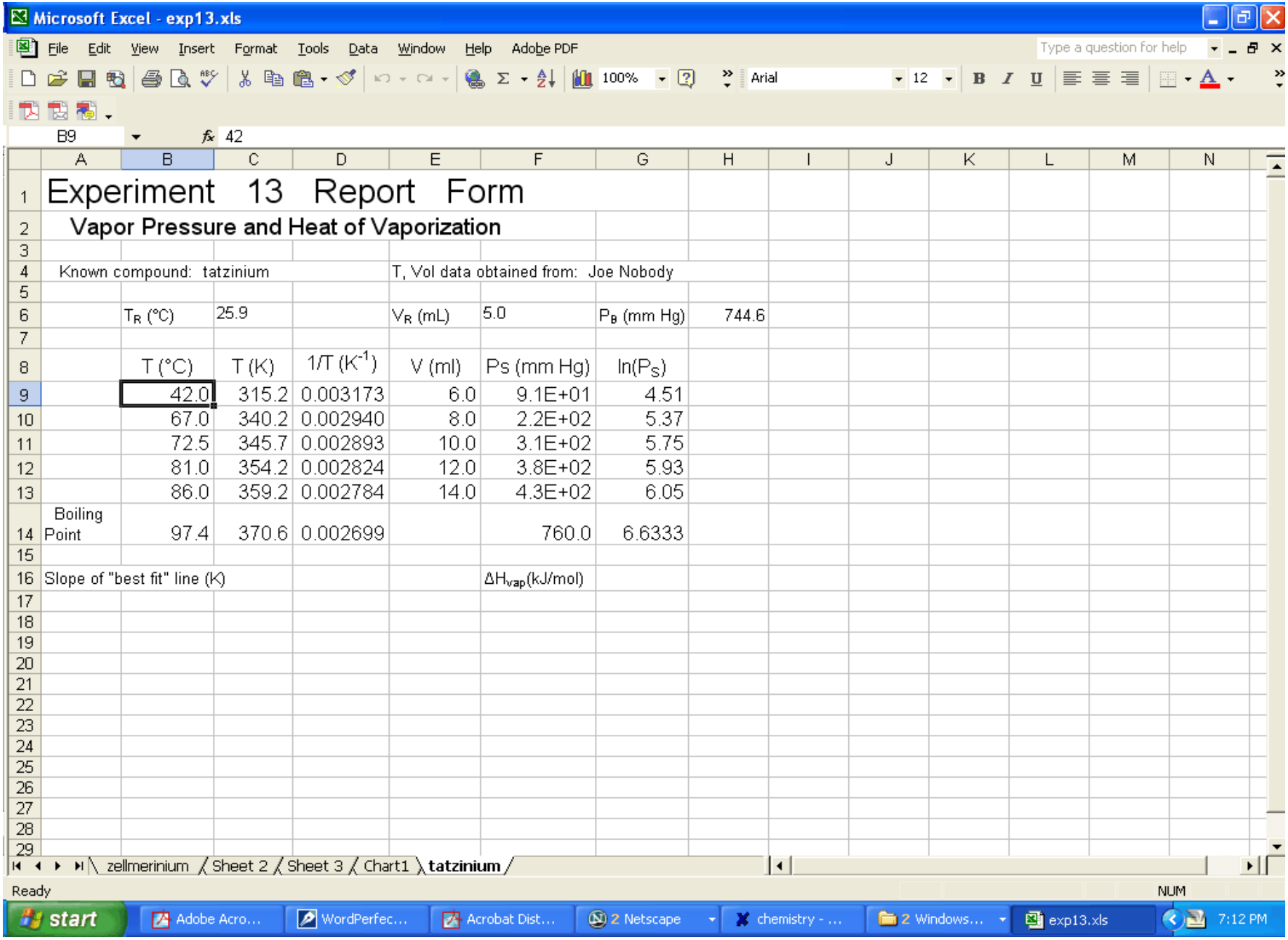
Rename the sheet with the name for compound 2.



Now go in and start changing the temp and volume. You will notice the data in the other columns starts changing automatically because the equations are the same as for the first compound (the room temp and volume and barometric pressure values may be a little different from each of you so those would have to be changed in the equation for Ps). Change 42.0 to 36.5 for the temp and change the volume from 6.0 to 6.2. Note the other changes that take place.



Do the same for the other temp and volumes for this compound. The

Microsoft Excel - exp13.xls

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Type a question for help

100% Arial 10

G17

Experiment 13 Report Form

Vapor Pressure and Heat of Vaporization

Known compound: tatzinium

T, Vol data obtained from: Joe Nobody

T_R (°C) 25.9 V_R (mL) 5.0 P_B (mm Hg) 744.6

	T (°C)	T (K)	1/T (K^{-1})	V (ml)	Ps (mm Hg)	ln(P_S)
	36.5	309.7	0.003229	6.2	1.2E+02	4.81
	67.0	340.2	0.002940	8.0	2.2E+02	5.37
	72.5	345.7	0.002893	10.0	3.1E+02	5.75
	81.0	354.2	0.002824	12.0	3.8E+02	5.93
	86.0	359.2	0.002784	14.0	4.3E+02	6.05
Boiling Point	97.4	370.6	0.002699		760.0	6.6333

Slope of "best fit" line (K) ΔH_{vap}(kJ/mol)

zellmerinium Sheet 2 Sheet 3 Chart1 tatzinium

Ready NUM

start Adobe Acro... WordPerfec... Acrobat Dist... 2 Netscape chemistry - ... 2 Windows... exp13.xls 7:16 PM

the 3rd known and your unknown.

I'm including a sample graph of the knowns for you to get an idea of what it should look like.
Your graph should be as a separate chart so it takes up a whole page. The graphs are on the next pages.

To do a graph highlight the 'x' values, 1/T. Then hold the control key and highlight the 'y' values, ln(P). Then click on the "chart wizard" icon at the top. Then choose scatter graph with no connecting lines and go through the next few screens. Save it as a 'Chart' in a new sheet. Then change the grey background to white (it's easier to see the points and won't waste a lot of your printer ink) right clicking in the chart area and then clicking on "Format Plot Area" in the pop-up box and then choose "none" for the 'area' on the right-hand side.

Then change the scale of the y-axis to get rid of the empty space at the bottom of the graph (right click on the y-axis). You can wait to do this until you've put all 3 knowns on the graph. You don't want a lot of empty useless space on your graph (i.e. your points should occupy most of the plot area).

Then right click on a data point and a new menu box opens from which you can choose 'add trendline'. Choose 'linear'. Then click on the 'options' tab and click in the boxes to print the equation and R^2 value.

Don't forget to include a title for the graph and labels for the axes (including units). The y-axis, ln(P), doesn't technically have units. However, you can put the following, "ln(P) (P in torr)", using the what ever units you used for P.

You can change the font sizes for the labels of the tick marks (grid lines) by clicking on the appropriate axis. You can do the same for the graph and axis titles by clicking on the titles.

Microsoft Excel - exp13.xls

File Edit View Insert Format Tools Data Window Help Adobe PDF

Type a question for help

G9 =LN(F9)

Experiment 13 Report Form

Vapor Pressure and Heat of Vaporization

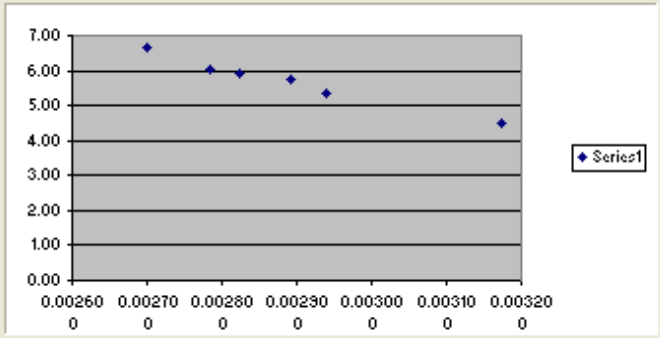
Known compound: Zellmerinium

T, Vol data obtained from: Joe Somebody

6		T_R (°C)	25.9		V_R (mL)	5.0	P_B (mm Hg)
8		T (°C)	T (K)	1/T (K^{-1})	V (ml)	Ps (mm Hg)	ln(P_S)
9		42.0	315.2	0.003173	6.0	9.1E+01	4.51
10		67.0	340.2	0.002940	8.0	2.2E+02	5.37
11		72.5	345.7	0.002893	10.0	3.1E+02	5.75
12		81.0	354.2	0.002824	12.0	3.8E+02	5.93
13		86.0	359.2	0.002784	14.0	4.3E+02	6.05
14	Boiling Point	97.4	370.6	0.002699		760.0	6.6333
16	Slope of "best fit" line (K)					ΔH_{vap}(kJ/mol)	

Chart Wizard - Step 2 of 4 - Chart Source Data

Data Range | Series



Data range: =zellmerinium!$D$9:$D$14,zellmerinium!$G$9:$G$14

Series in: Rows / Columns

Cancel < Back Next > Finish

zellmerinium / Sheet 2 / Sheet 3 / Chart1 / tatzinium

Point Sum=34.27 NUM

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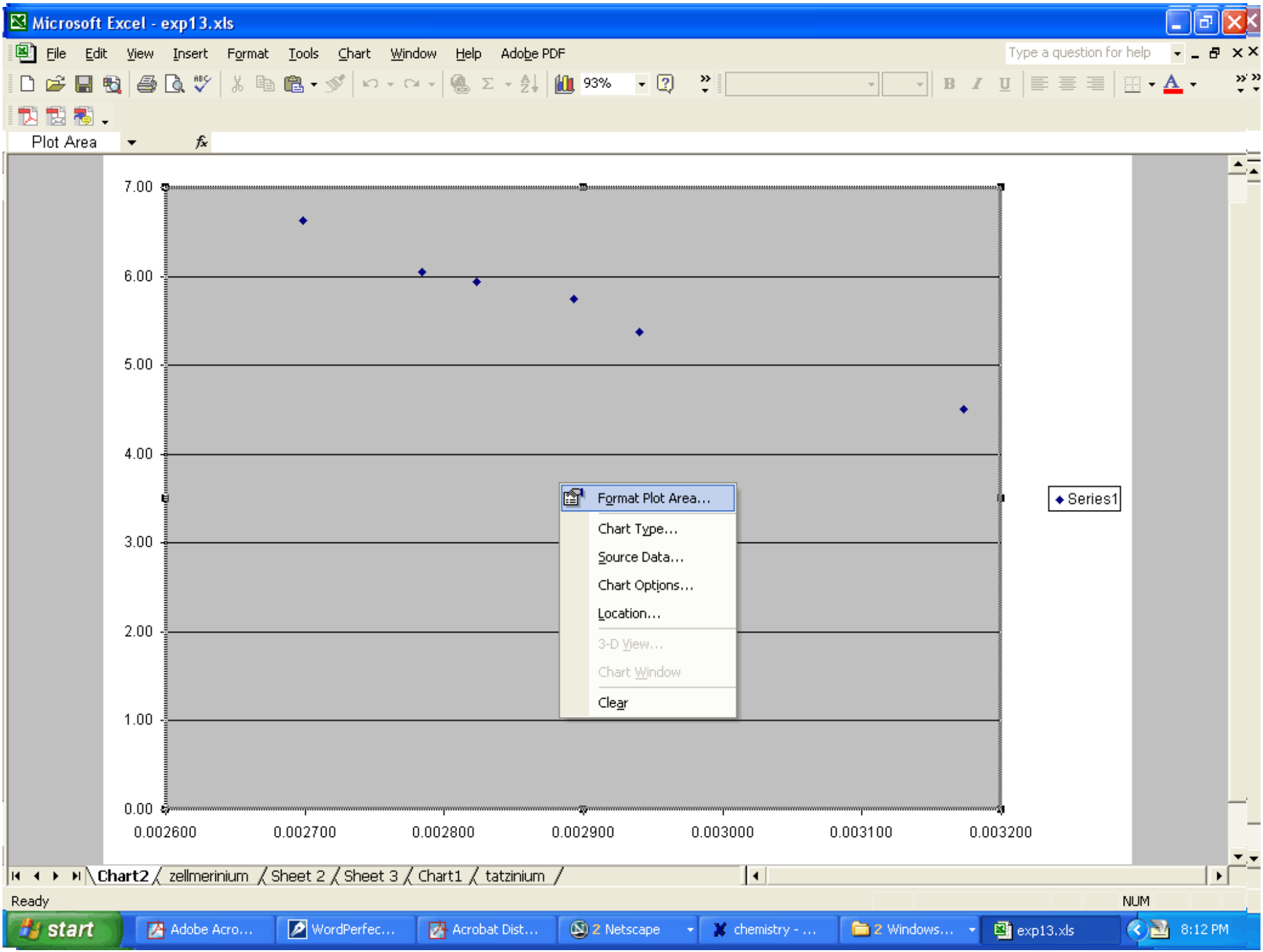
Microsoft Excel - exp13.xls
File Edit View Insert Format Tools Chart Window Help Adobe PDF
Type a question for help
93%
Plot Area
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0.003000
0.003100
0.003200
Series1
Format Plot Area...
Chart Type...
Source Data...
Chart Options...
Location...
3-D View...
Chart Window
Clear
Chart2 zellmerinium Sheet 2 Sheet 3 Chart1 tatzinium
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Adobe Acro...
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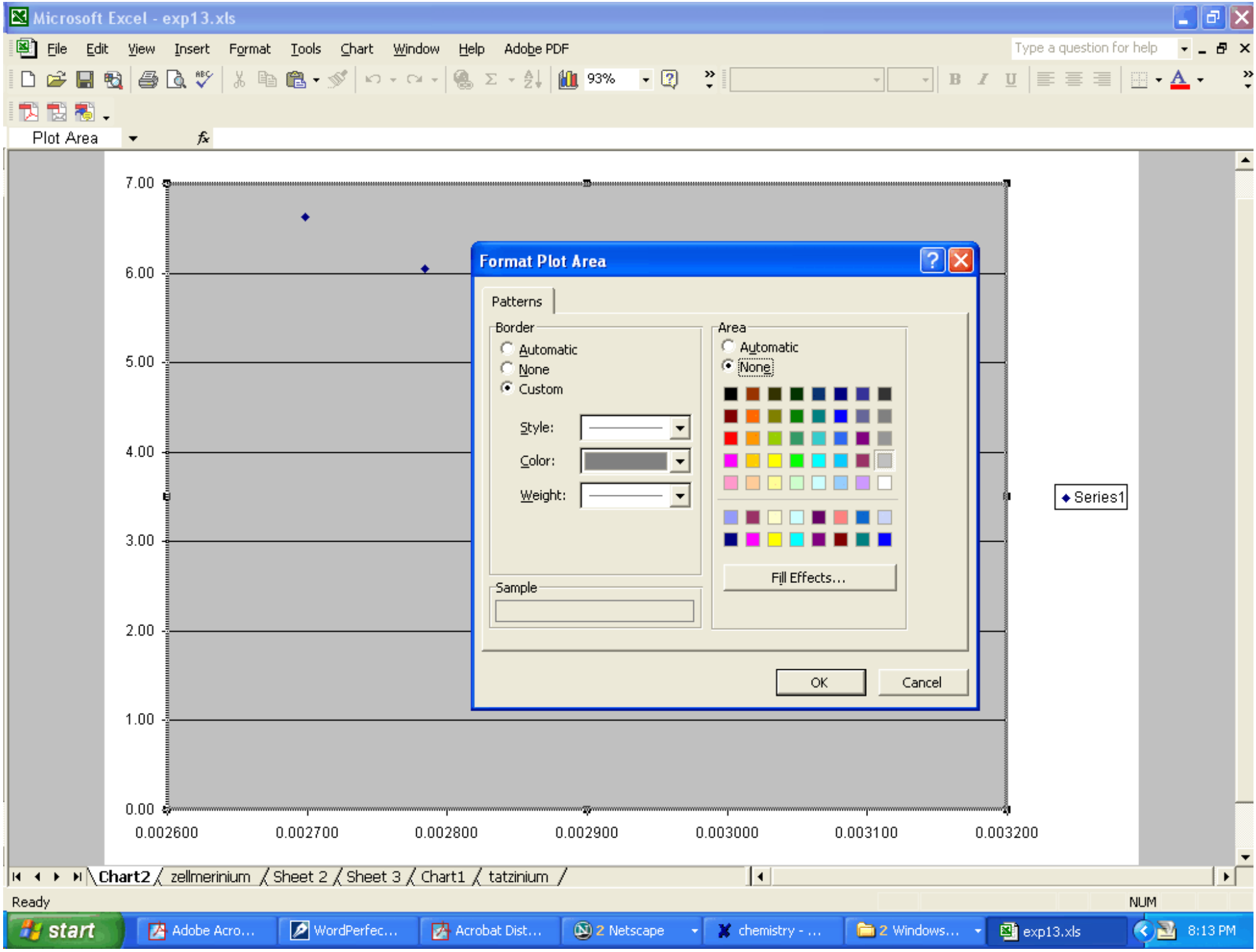
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0.002900
0.003000
0.003100
0.003200
Series1
Format Plot Area
Patterns
Border
Automatic
None
Custom
Style:
Color:
Weight:
Sample
Area
Automatic
None
Fill Effects...
OK
Cancel
Chart2
zellmerinium
Sheet 2
Sheet 3
Chart1
tatzinium
Ready
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Adobe Acro...
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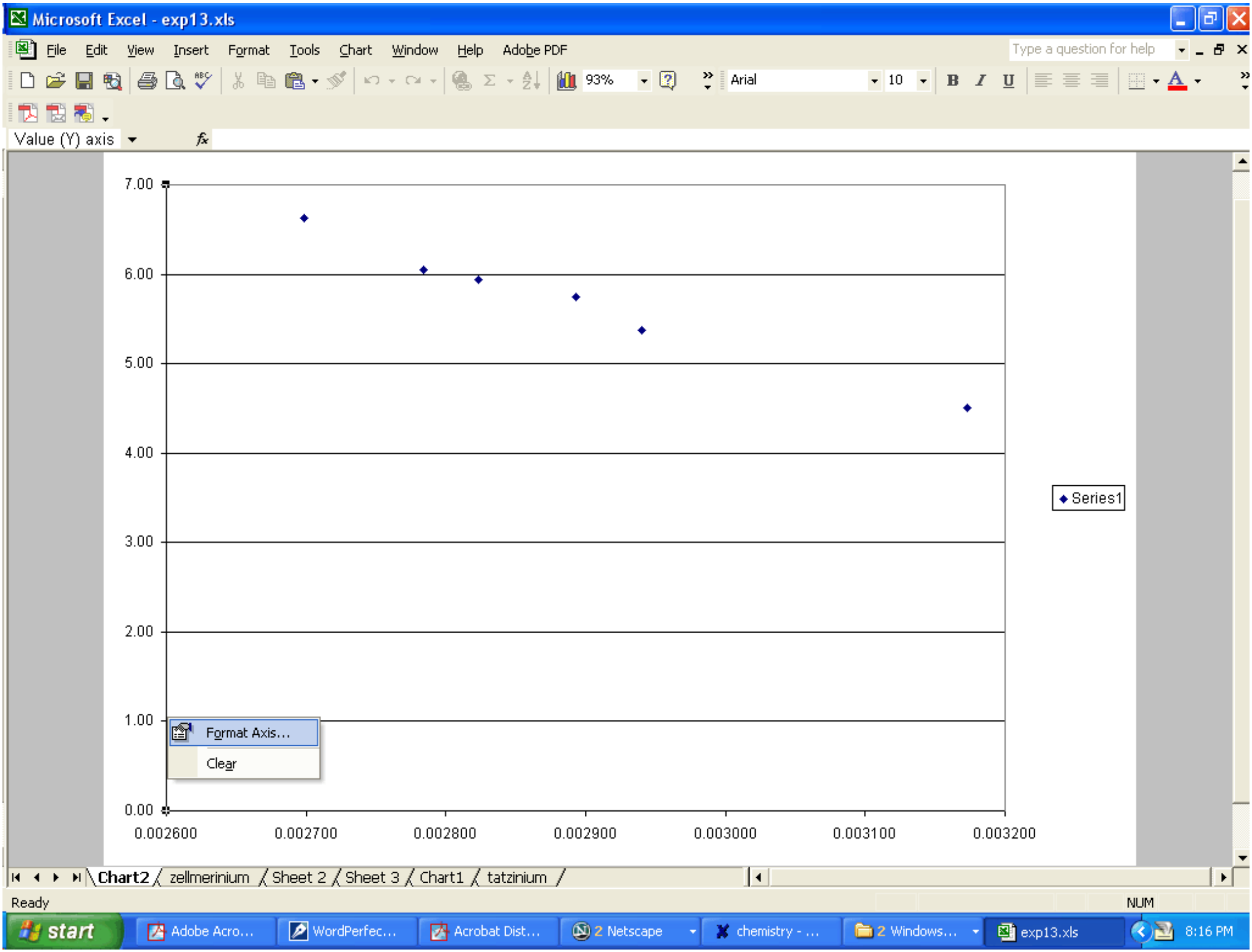
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Type a question for help
Arial
10
93%
Value (Y) axis
7.00
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0.003200
Series1
Format Axis...
Clear
Chart2 zellmerinium Sheet 2 Sheet 3 Chart1 tatzinium
Ready
NUM
start
Adobe Acro...
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chemistry - ...
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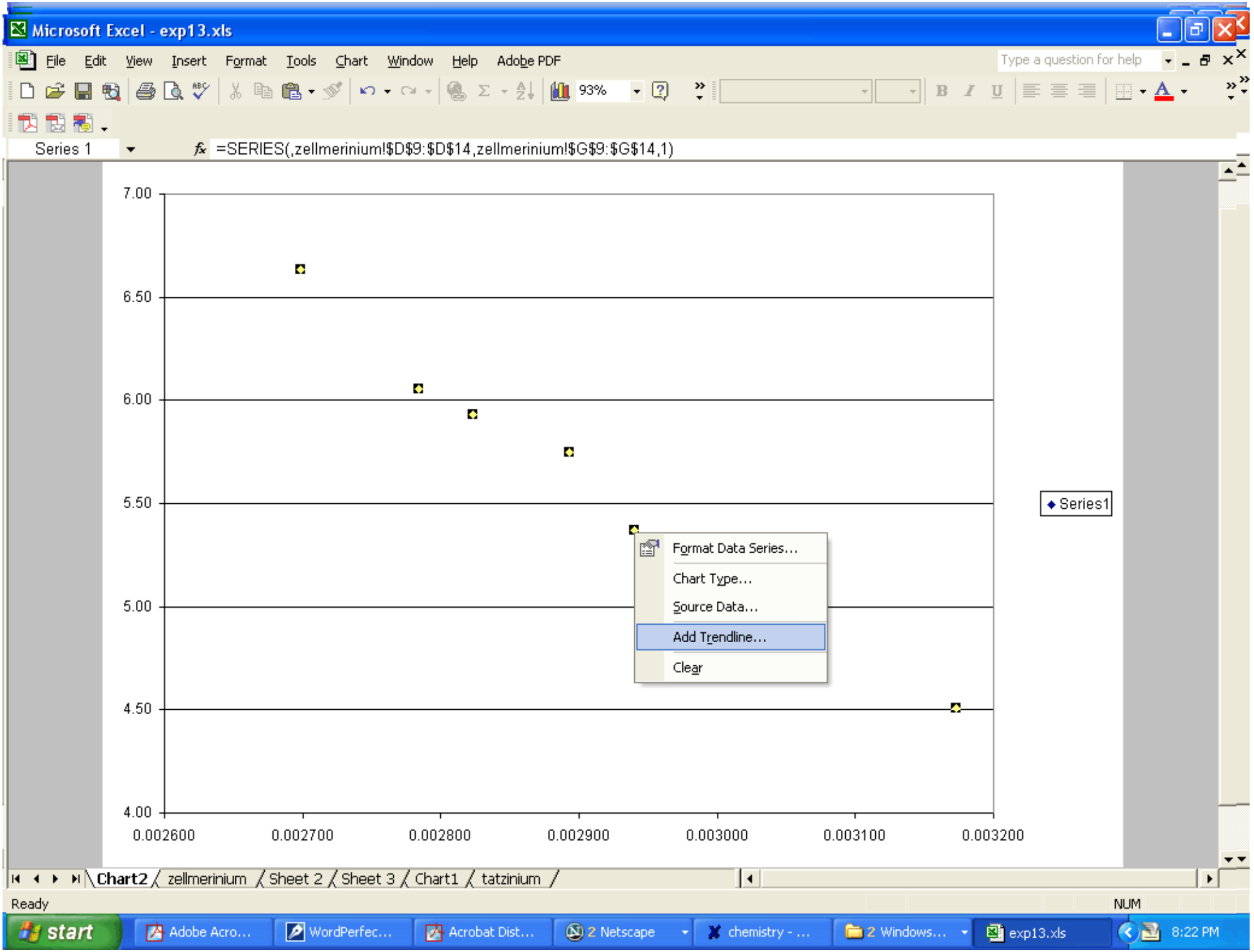
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File Edit View Insert Format Tools Chart Window Help Adobe PDF
Type a question for help
93%
Series 1
=SERIES(,zellmerinium!$D$9:$D$14,zellmerinium!$G$9:$G$14,1)
7.00
6.50
6.00
5.50
5.00
4.50
4.00
0.002600
0.002700
0.002800
0.002900
0.003000
0.003100
0.003200
Series1
Format Data Series...
Chart Type...
Source Data...
Add Trendline...
Clear
Chart2 zellmerinium Sheet 2 Sheet 3 Chart1 tatzinium
Ready
NUM
start
Adobe Acro...
WordPerfec...
Acrobat Dist...
2 Netscape
chemistry - ...
2 Windows...
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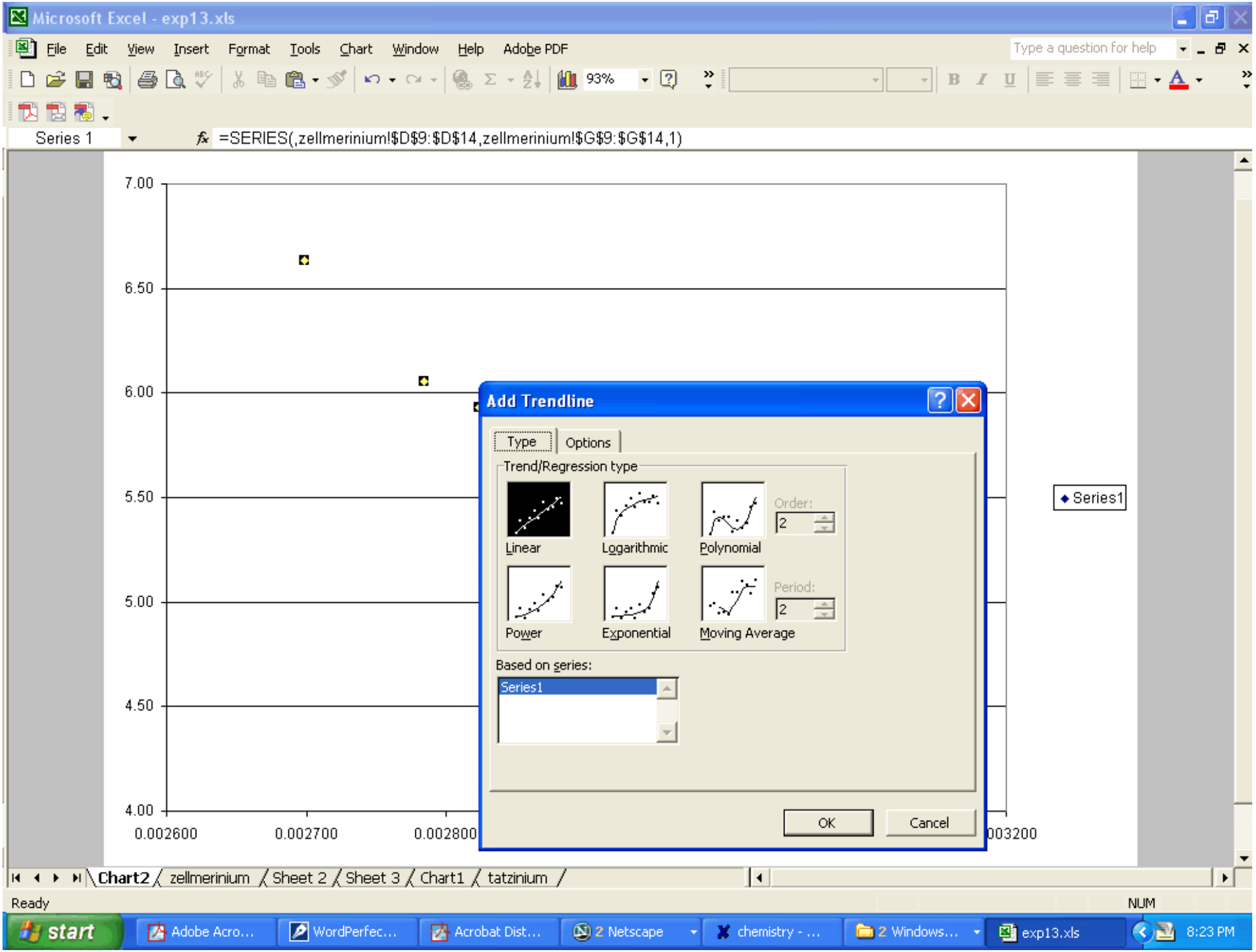
Microsoft Excel - exp13.xls
File Edit View Insert Format Tools Chart Window Help Adobe PDF
Type a question for help
93%
Series 1
=SERIES(,zellmerinium!$D$9:$D$14,zellmerinium!$G$9:$G$14,1)
7.00
6.50
6.00
5.50
5.00
4.50
4.00
0.002600
0.002700
0.002800
003200
Series1
Add Trendline
Type
Options
Trend/Regression type
Linear
Logarithmic
Polynomial
Order:
2
Power
Exponential
Moving Average
Period:
2
Based on series:
Series1
OK
Cancel
Chart2
zellmerinium
Sheet 2
Sheet 3
Chart1
tatzinium
Ready
NUM
start
Adobe Acro...
WordPerfec...
Acrobat Dist...
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chemistry - ...
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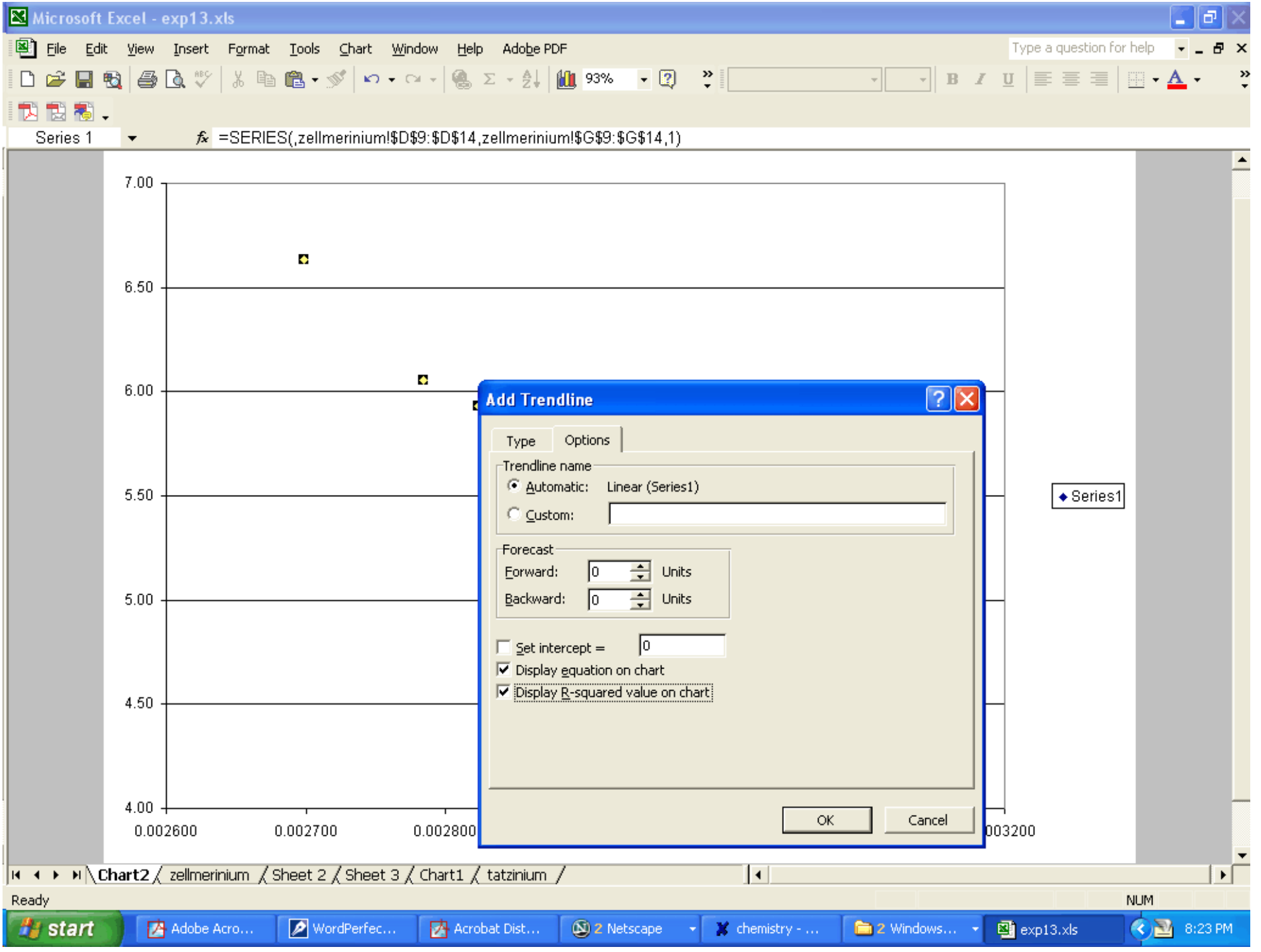
Microsoft Excel - exp13.xls
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Type a question for help
93%
Series 1
=SERIES(,zellmerinium!$D$9:$D$14,zellmerinium!$G$9:$G$14,1)
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0.002600
0.002700
0.002800
003200
Series1
Add Trendline
Type
Options
Trendline name
Automatic: Linear (Series1)
Custom:
Forecast
Forward: 0 Units
Backward: 0 Units
Set intercept = 0
Display equation on chart
Display R-squared value on chart
OK
Cancel
Chart2 zellmerinium Sheet 2 Sheet 3 Chart1 tatzinium
Ready
NUM
start
Adobe Acro...
WordPerfec...
Acrobat Dist...
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chemistry - ...
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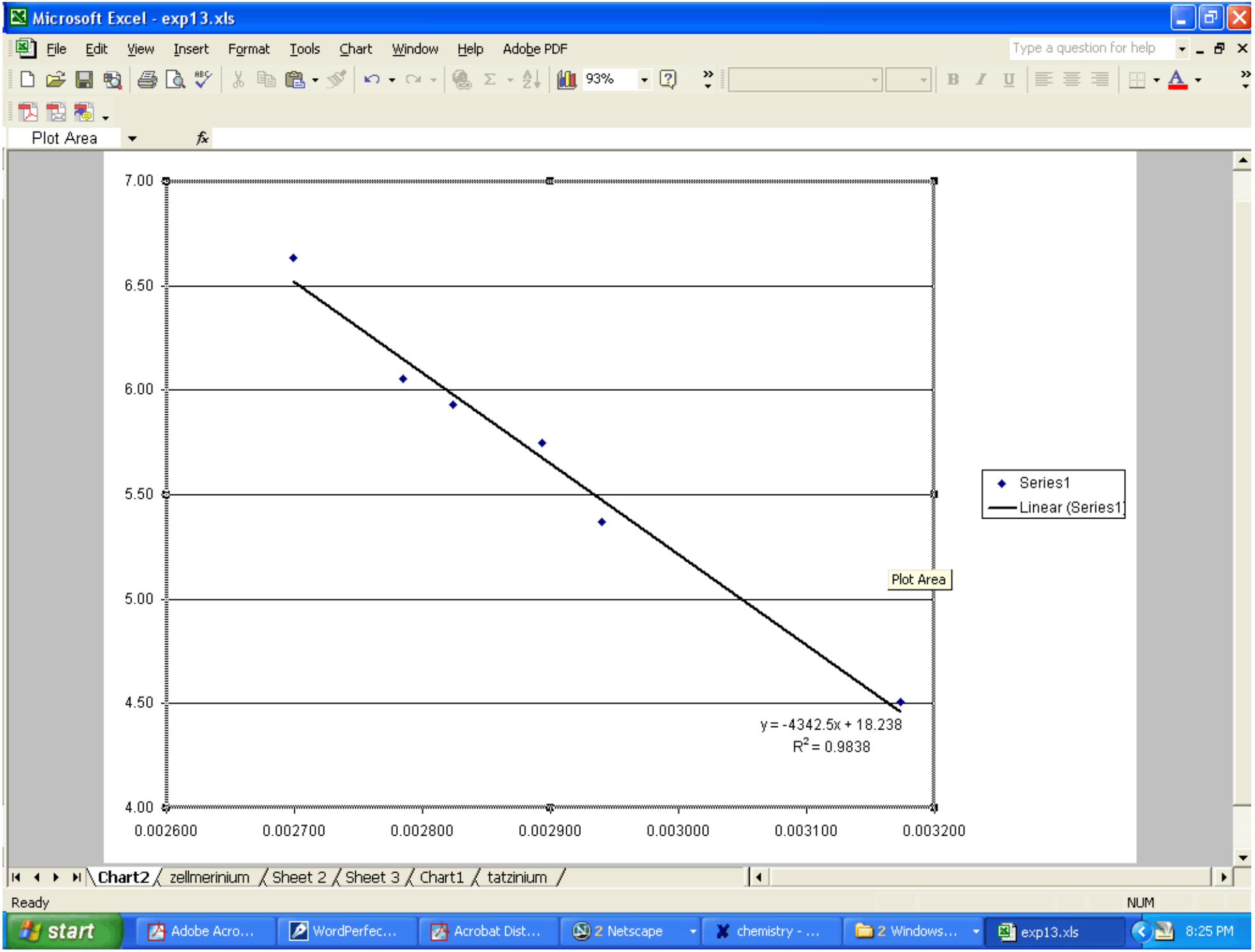
Microsoft Excel - exp13.xls
File Edit View Insert Format Tools Chart Window Help Adobe PDF
Type a question for help
93%
Plot Area
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0.002800
0.002900
0.003000
0.003100
0.003200
Series1
Linear (Series1)
Plot Area
y = -4342.5x + 18.238
R2 = 0.9838
Chart2 zellmerinium Sheet 2 Sheet 3 Chart1 tatzinium
Ready
NUM
start
Adobe Acro...
WordPerfec...
Acrobat Dist...
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chemistry - ...
2 Windows...
exp13.xls
8:25 PM

How do you add other data? The next few slides show this.

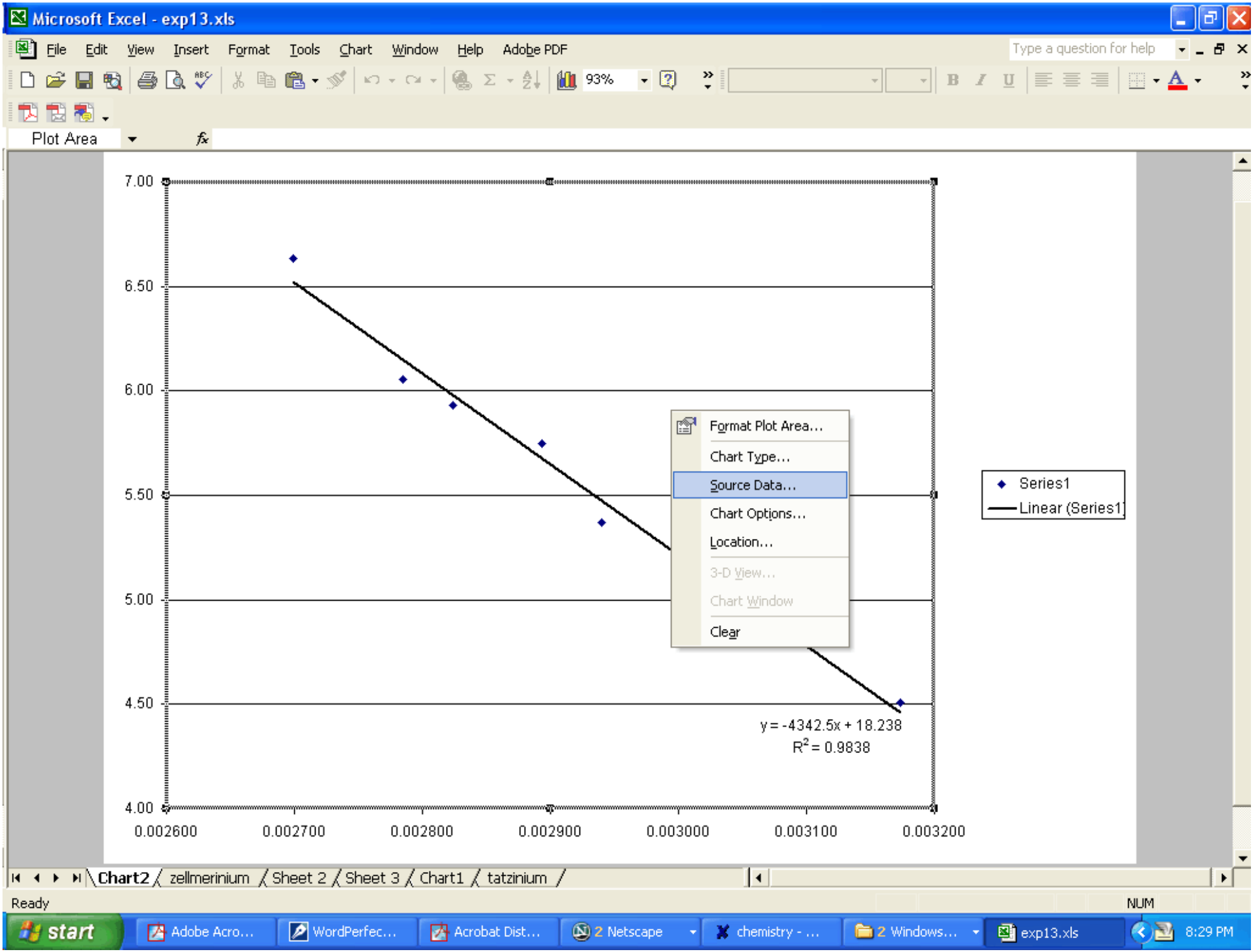
Right click in the plot area. Then click on “Source Data”. Click on the “Series” tab. Click on “Add” at the bottom. You can change the title of your series by typing a name in the “Name” box. Then click on the little “spreadsheet” icon for “X Values”. Then go to the “sheet” which contains the data you want to plot and highlight the x values (1/T) and hit ‘enter’. Do the same for the “Y Values”.

You can get rid of the part of the legend that shows the line by highlighting it in the legend and pushing the ‘delete’ key. It’s not needed if the points used for each set of data use different symbols (which is the default).

Then do the trend line for the new data.

Repeat for the 3rd set of data.

Do not attempt to change the 1/T axis (x-axis) to 1/T * 1000 (as was on the overhead in class). This will cause a problem with the slope reported by Excel. Just leave the numbers on the x-axis as I’ve shown them.


Microsoft Excel - exp13.xls
File Edit View Insert Format Tools Chart Window Help Adobe PDF
Type a question for help
93%
Plot Area
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0.002600
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0.002800
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0.003000
0.003100
0.003200
Format Plot Area...
Chart Type...
Source Data...
Chart Options...
Location...
3-D View...
Chart Window
Clear
Series1
Linear (Series1)
y = -4342.5x + 18.238
R2 = 0.9838
Chart2 zellmerinium Sheet 2 Sheet 3 Chart1 tatzinium
Ready
NUM
start
Adobe Acro...
WordPerfec...
Acrobat Dist...
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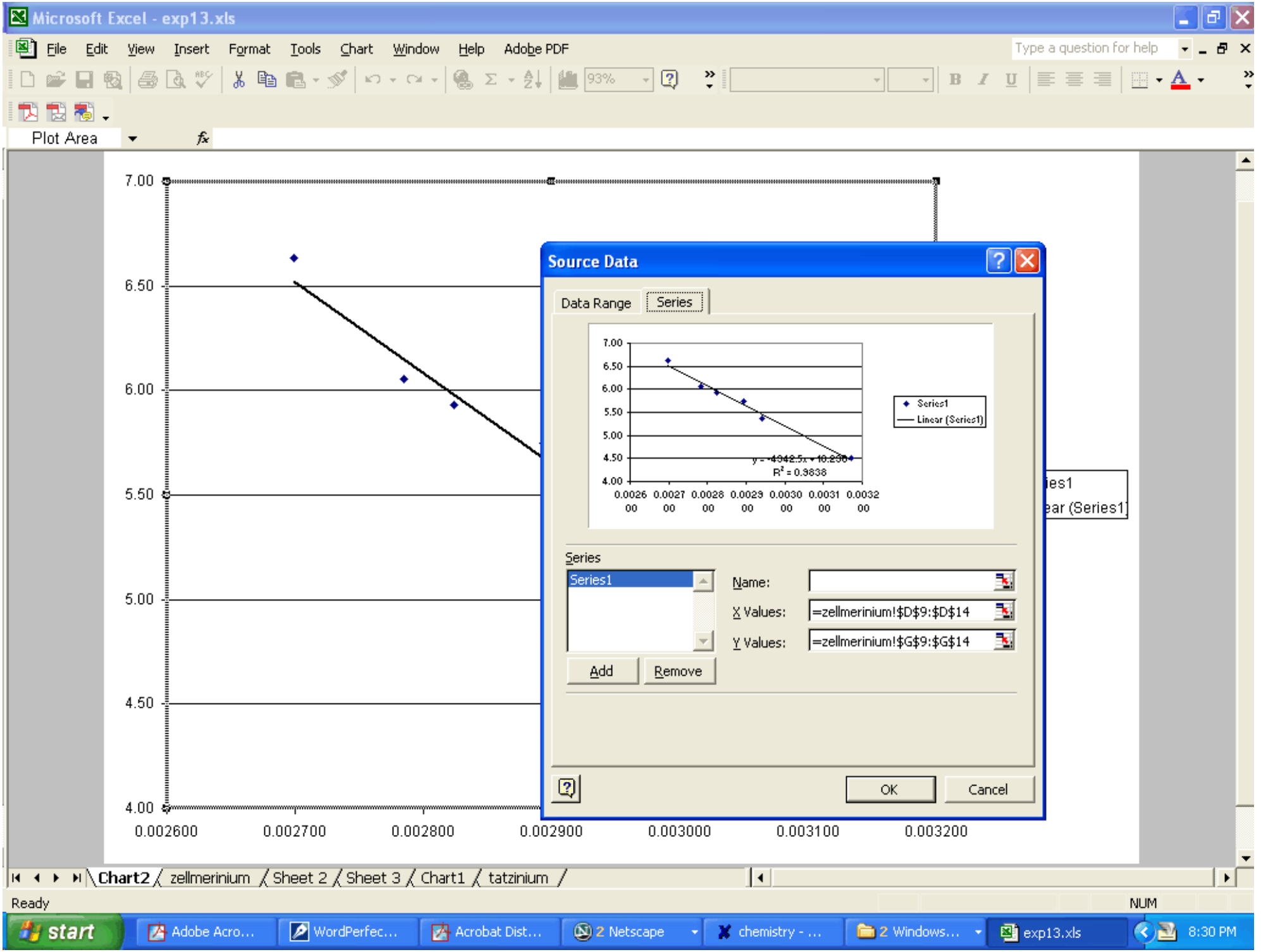
chemistry - ...
2 Windows...
exp13.xls
8:29 PM


Microsoft Excel - exp13.xls
File Edit View Insert Format Tools Chart Window Help Adobe PDF
Type a question for help
Plot Area
7.00
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0.002900
0.003000
0.003100
0.003200
Source Data
Data Range
Series
Series1
Linear (Series1)
y = -4942.5x + 18.236
R² = 0.9838
Series
Series1
Name:
X Values:
=zellmerinium!$D$9:$D$14
Y Values:
=zellmerinium!$G$9:$G$14
Add
Remove
OK
Cancel
Chart2
zellmerinium
Sheet 2
Sheet 3
Chart1
tatzinium
Ready
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start
Adobe Acro...
WordPerfec...
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2 Netscape
chemistry - ...
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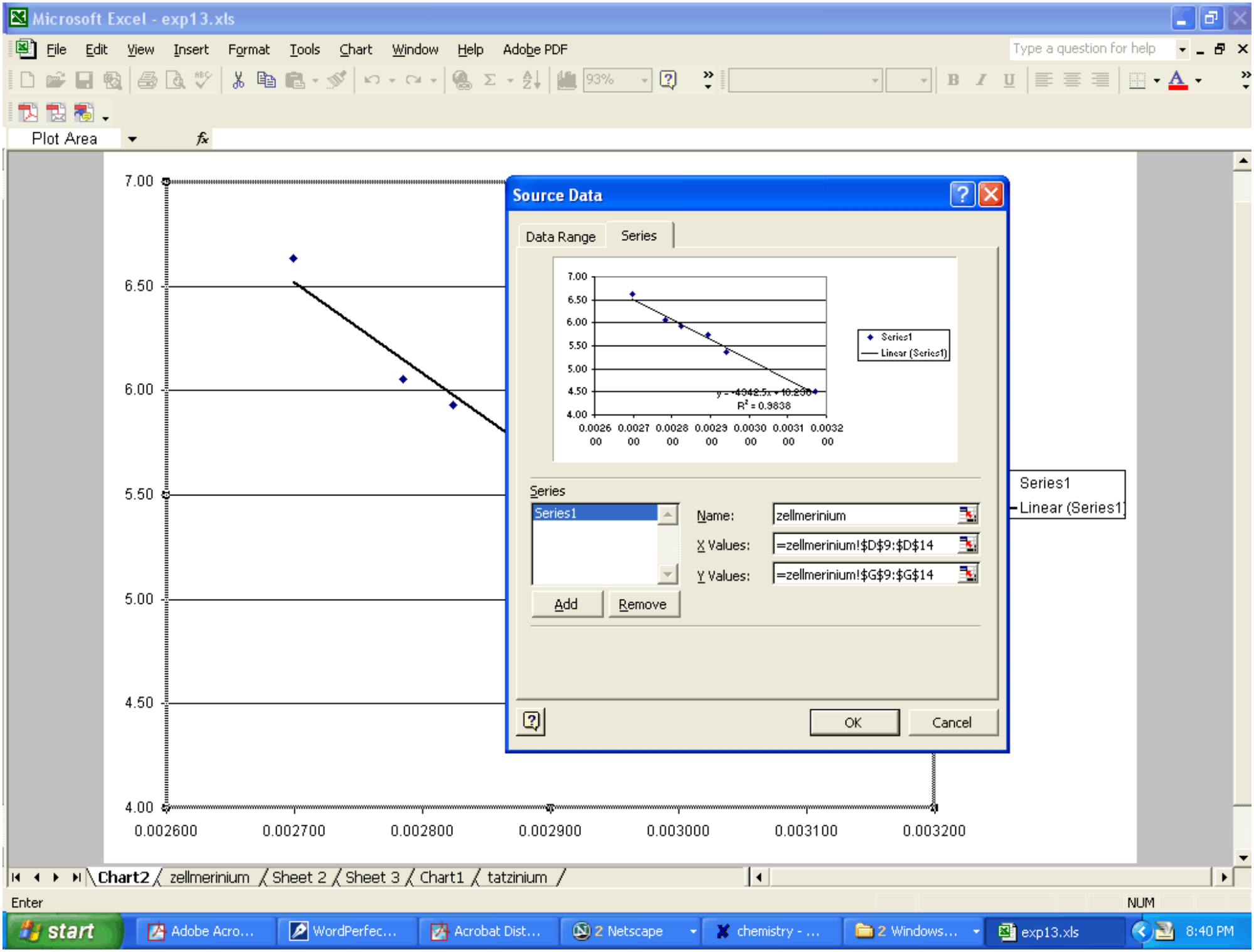
Microsoft Excel - exp13.xls
File Edit View Insert Format Tools Chart Window Help Adobe PDF
Type a question for help
Plot Area
7.00
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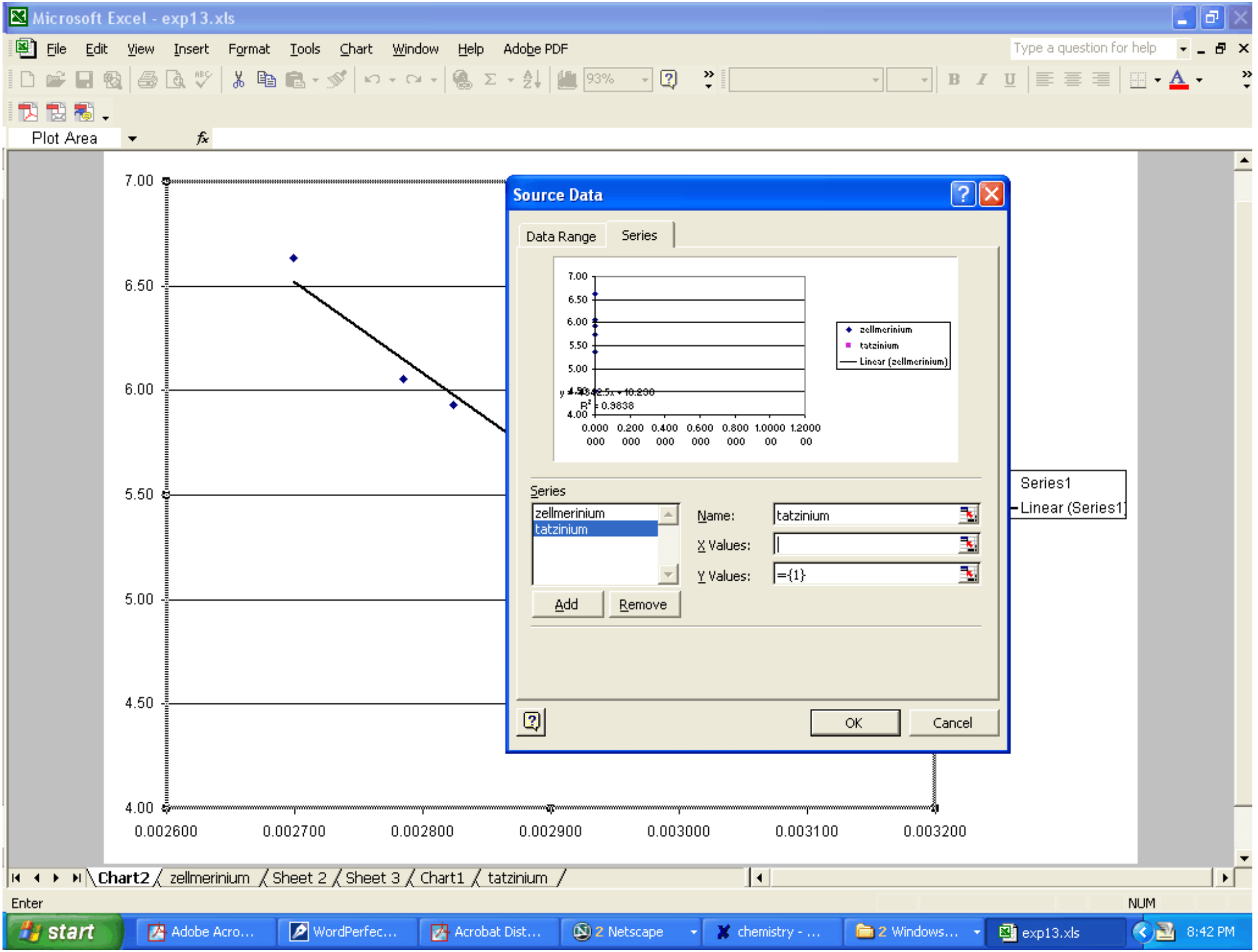
5.50
5.00
4.50
4.00
0.002600
0.002700
0.002800
0.002900
0.003000
0.003100
0.003200
Source Data
Data Range
Series
Series1
Linear (Series1)
y = -4942.5x + 16.256
R² = 0.9838
Series
Series1
Name:
zellmerinium
X Values:
=zellmerinium!$D$9:$D$14
Y Values:
=zellmerinium!$G$9:$G$14
Add
Remove
OK
Cancel
Chart2
zellmerinium
Sheet 2
Sheet 3
Chart1
tatzinium
Enter
NUM
start
Adobe Acro...
WordPerfec...
Acrobat Dist...
2 Netscape
chemistry - ...
2 Windows...
exp13.xls
8:40 PM


Microsoft Excel - exp13.xls
File Edit View Insert Format Tools Chart Window Help Adobe PDF
Type a question for help
Plot Area
7.00
6.50
6.00
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4.50
4.00
0.002600
0.002700
0.002800
0.002900
0.003000
0.003100
0.003200
Source Data
Data Range
Series
zellmerinium
tatzinium
Linear (zellmerinium)
Series
zellmerinium
tatzinium
Name:
tatzinium
X Values:
Y Values:
={1}
Add
Remove
OK
Cancel
Series1
Linear (Series1)
Chart2
zellmerinium
Sheet 2
Sheet 3
Chart1
tatzinium
Enter
NUM
start
Adobe Acro...
WordPerfec...
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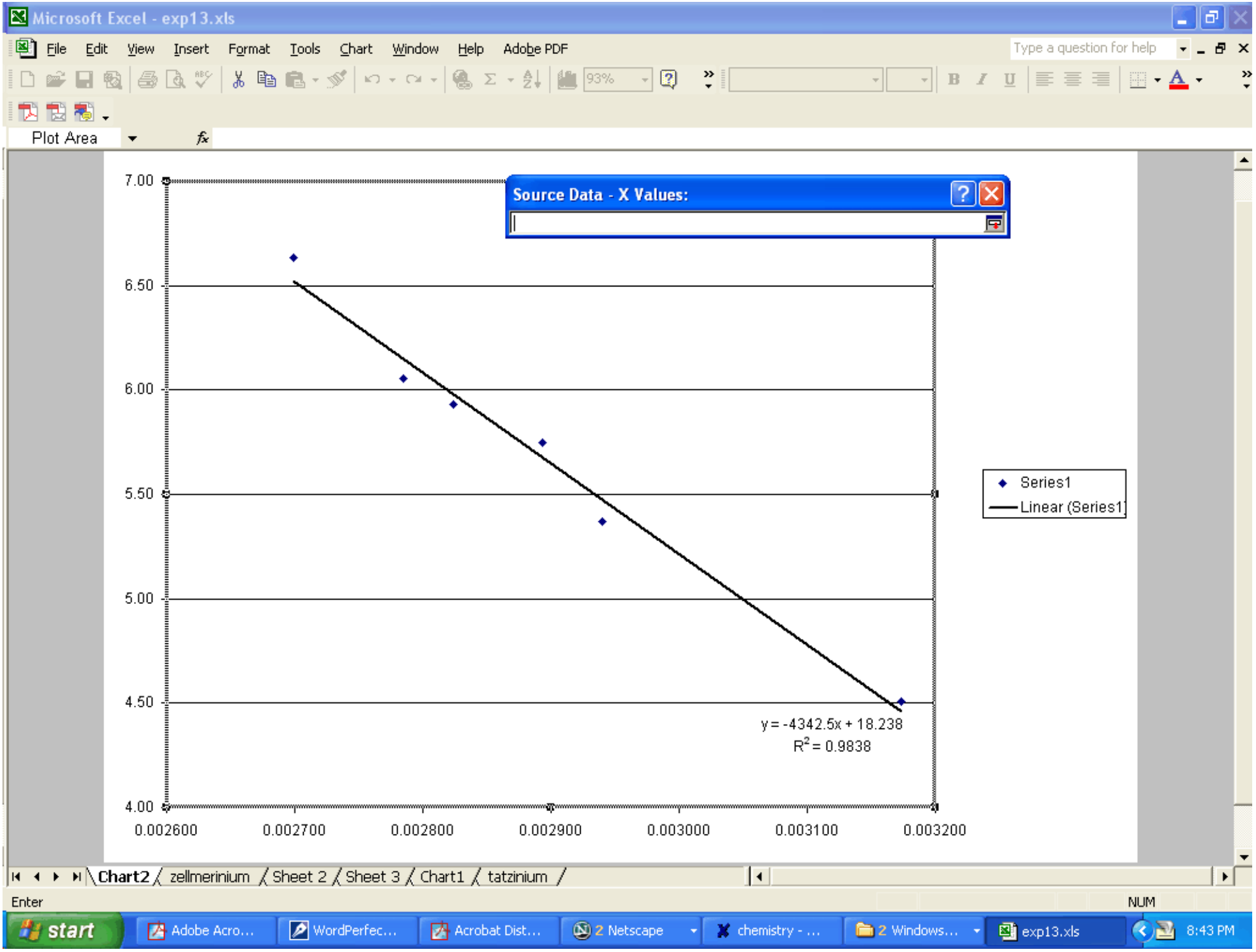
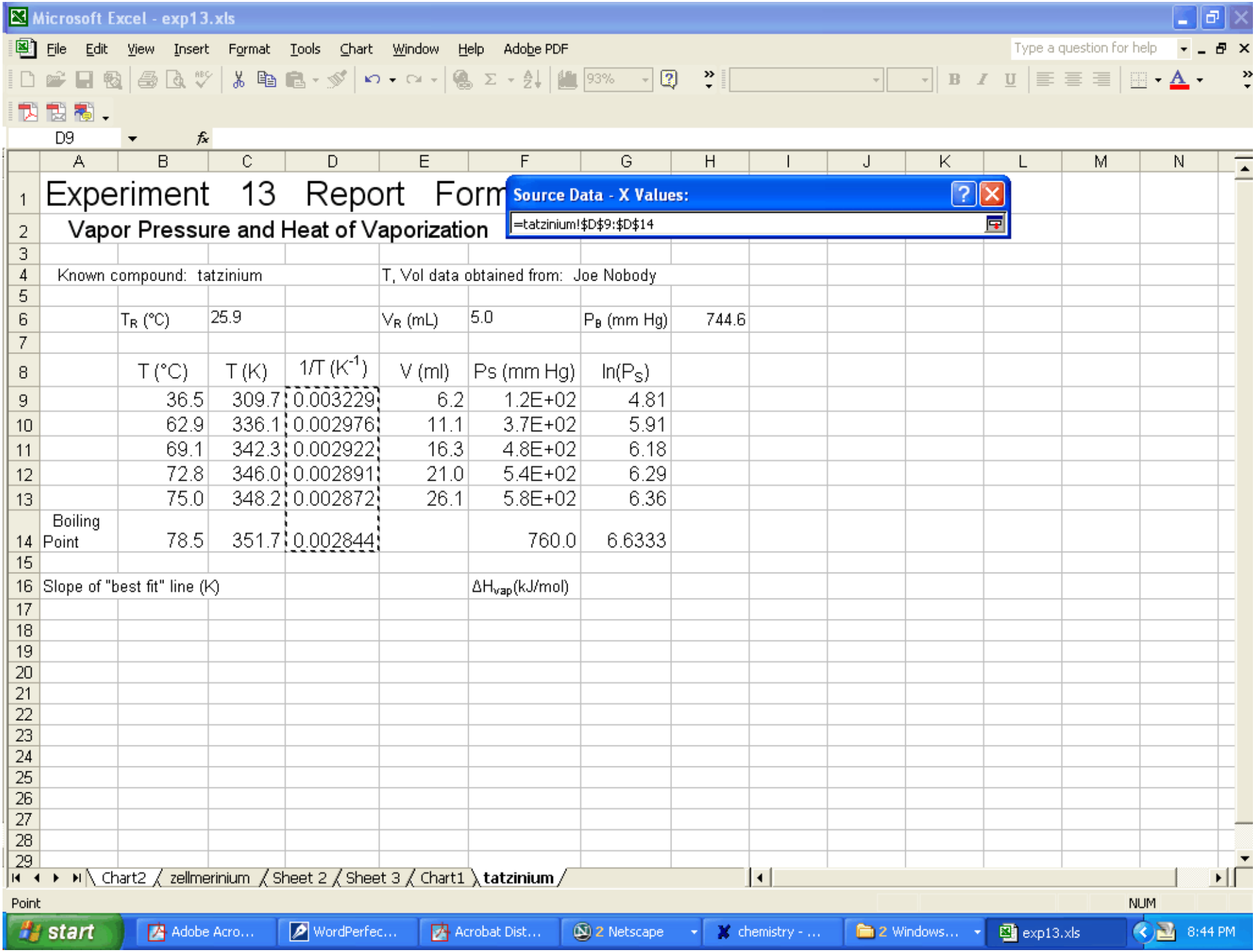
2 Netscape
chemistry - ...
2 Windows...
exp13.xls
8:42 PM


Microsoft Excel - exp13.xls
File Edit View Insert Format Tools Chart Window Help Adobe PDF
Type a question for help
Plot Area
Source Data - X Values:
7.00
6.50
6.00
5.50
5.00
4.50
4.00
0.002600
0.002700
0.002800
0.002900
0.003000
0.003100
0.003200
Series1
Linear (Series1)
y = -4342.5x + 18.238
R2 = 0.9838
Chart2 zellmerinium Sheet 2 Sheet 3 Chart1 tatzinium
Enter
NUM
start
Adobe Acro...
WordPerfec...
Acrobat Dist...
2 Netscape
chemistry - ...
2 Windows...
exp13.xls
8:43 PM


Microsoft Excel - exp13.xls
File Edit View Insert Format Tools Chart Window Help Adobe PDF
Type a question for help
D9
Source Data - X Values:
=tatzinium!$D$9:$D$14
Experiment 13 Report Form
Vapor Pressure and Heat of Vaporization
Known compound: tatzinium
T, Vol data obtained from: Joe Nobody
TR (°C) 25.9
VR (mL) 5.0
PB (mm Hg) 744.6
T (°C) T (K) 1/T (K-1) V (ml) Ps (mm Hg) ln(PS)
36.5 309.7 0.003229 6.2 1.2E+02 4.81
62.9 336.1 0.002976 11.1 3.7E+02 5.91
69.1 342.3 0.002922 16.3 4.8E+02 6.18
72.8 346.0 0.002891 21.0 5.4E+02 6.29
75.0 348.2 0.002872 26.1 5.8E+02 6.36
Boiling Point 78.5 351.7 0.002844 760.0 6.6333
Slope of "best fit" line (K)
ΔHvap(kJ/mol)
Chart2 zellmerinium Sheet 2 Sheet 3 Chart1 tatzinium
Point
NUM
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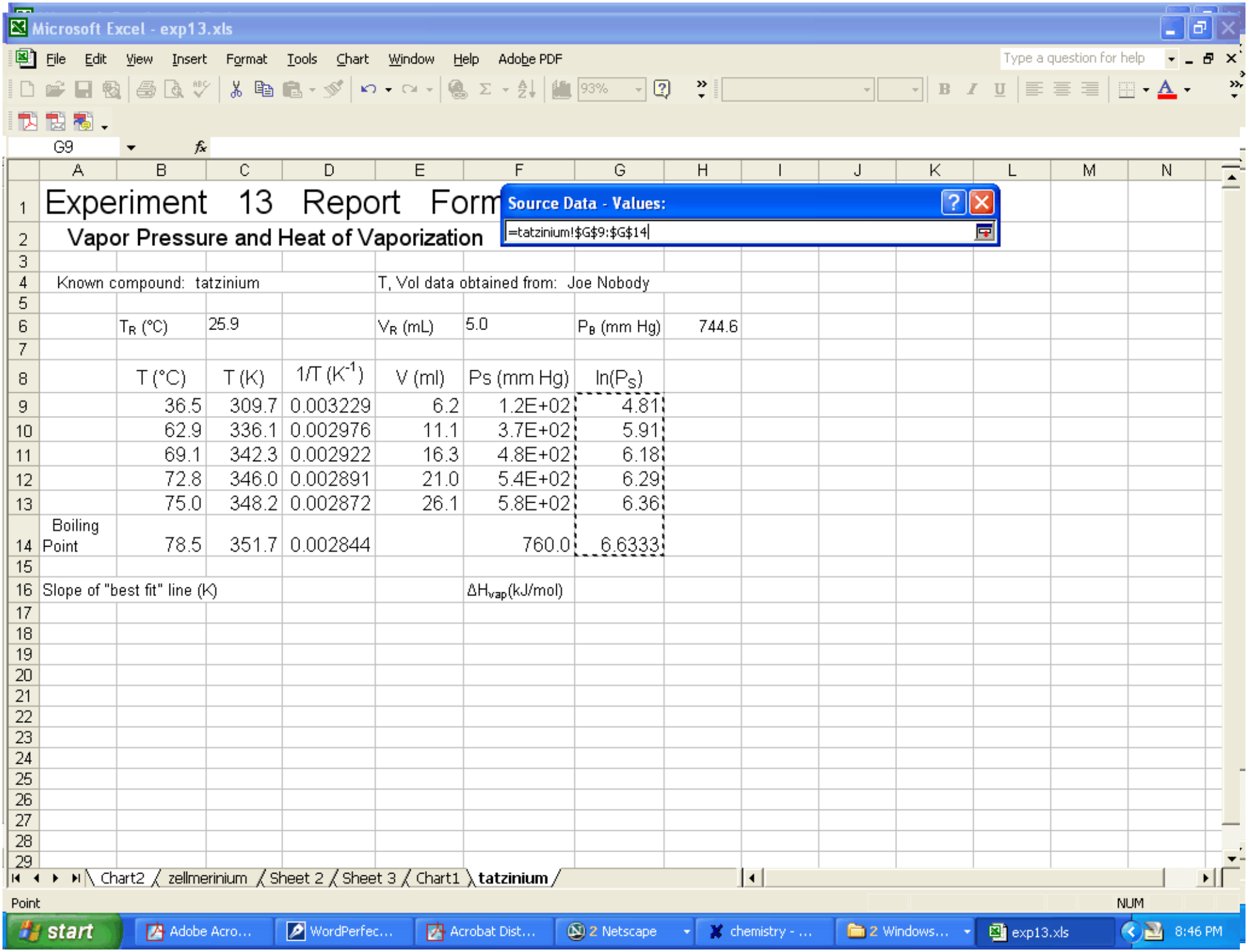
Microsoft Excel - exp13.xls
File Edit View Insert Format Tools Chart Window Help Adobe PDF
Type a question for help
G9
Source Data - Values:
=tatzinium!$G$9:$G$14
Experiment 13 Report Form
Vapor Pressure and Heat of Vaporization
Known compound: tatzinium
T, Vol data obtained from: Joe Nobody
T_R (°C) 25.9
V_R (mL) 5.0
P_B (mm Hg) 744.6
T (°C) T (K) 1/T (K^-1) V (ml) Ps (mm Hg) ln(Ps)
36.5 309.7 0.003229 6.2 1.2E+02 4.81
62.9 336.1 0.002976 11.1 3.7E+02 5.91
69.1 342.3 0.002922 16.3 4.8E+02 6.18
72.8 346.0 0.002891 21.0 5.4E+02 6.29
75.0 348.2 0.002872 26.1 5.8E+02 6.36
Boiling Point 78.5 351.7 0.002844 760.0 6.6333
Slope of "best fit" line (K)
ΔH_vap(kJ/mol)
Chart2 zellmerinium Sheet 2 Sheet 3 Chart1 tatzinium
Point
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Microsoft Excel - exp13.xls

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Type a question for help

G9

Experiment 13 Report Form

Vapor Pressure and Heat of Vaporization

Known compound: tatzinium

T, Vol data obtain

T_R (°C) 25.9

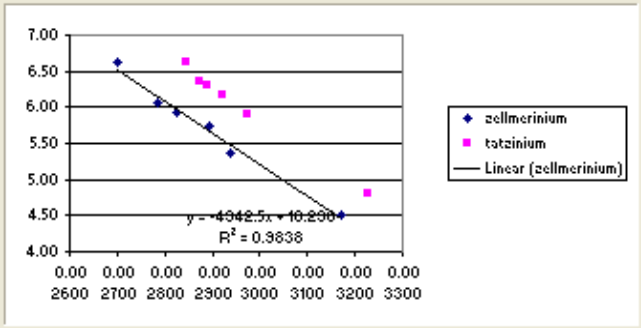
V_R (mL) 5.0

	T (°C)	T (K)	1/T (K^{-1})	V (ml)	Ps
	36.5	309.7	0.003229	6.2	
	62.9	336.1	0.002976	11.1	
	69.1	342.3	0.002922	16.3	
	72.8	346.0	0.002891	21.0	
	75.0	348.2	0.002872	26.1	
Boiling Point	78.5	351.7	0.002844		

Slope of "best fit" line (K) ΔH_{va}

Source Data

Data Range | Series



Series

zellmerinium
tatzinium

Add Remove

Name: tatzinium

X Values: =tatzinium!$D$9:$D$14

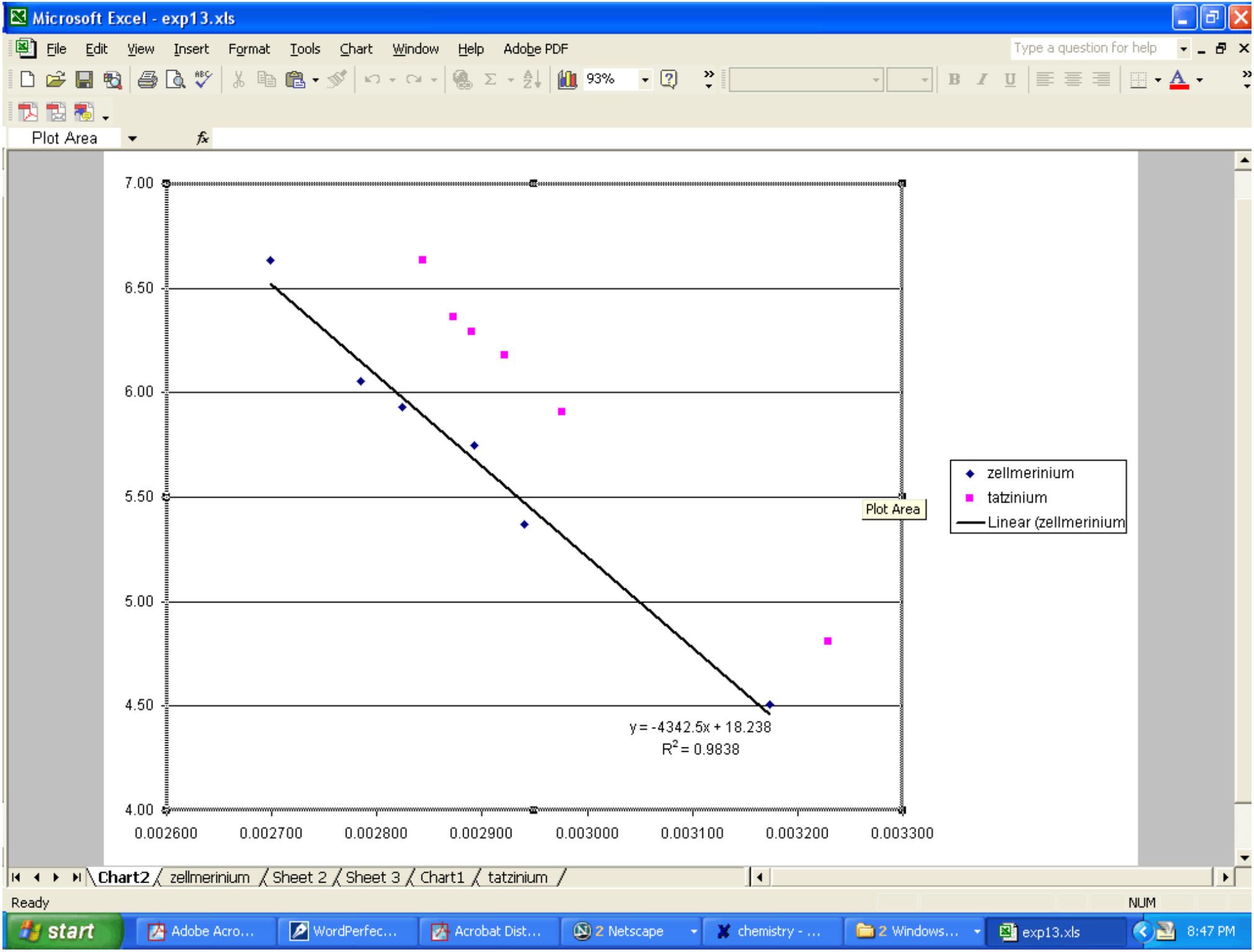
Y Values: =tatzinium!$G$9:$G$14

OK Cancel

Chart2 | zellmerinium | Sheet 2 | Sheet 3 | Chart1 | tatzinium

Point NUM

start | Adobe Acro... | WordPerfec... | Acrobat Dist... | 2 Netscape | chemistry - ... | 2 Windows... | exp13.xls | 8:46 PM


Microsoft Excel - exp13.xls
File Edit View Insert Format Tools Chart Window Help Adobe PDF
Type a question for help
93%
Plot Area
7.00
6.50
6.00
5.50
5.00
4.50
4.00
0.002600
0.002700
0.002800
0.002900
0.003000
0.003100
0.003200
0.003300
zellmerinium
tatzinium
Linear (zellmerinium
Plot Area
y = -4342.5x + 18.238
R2 = 0.9838
Chart2 zellmerinium Sheet 2 Sheet 3 Chart1 tatzinium
Ready
NUM
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Adobe Acro...
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chemistry - ...
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exp13.xls
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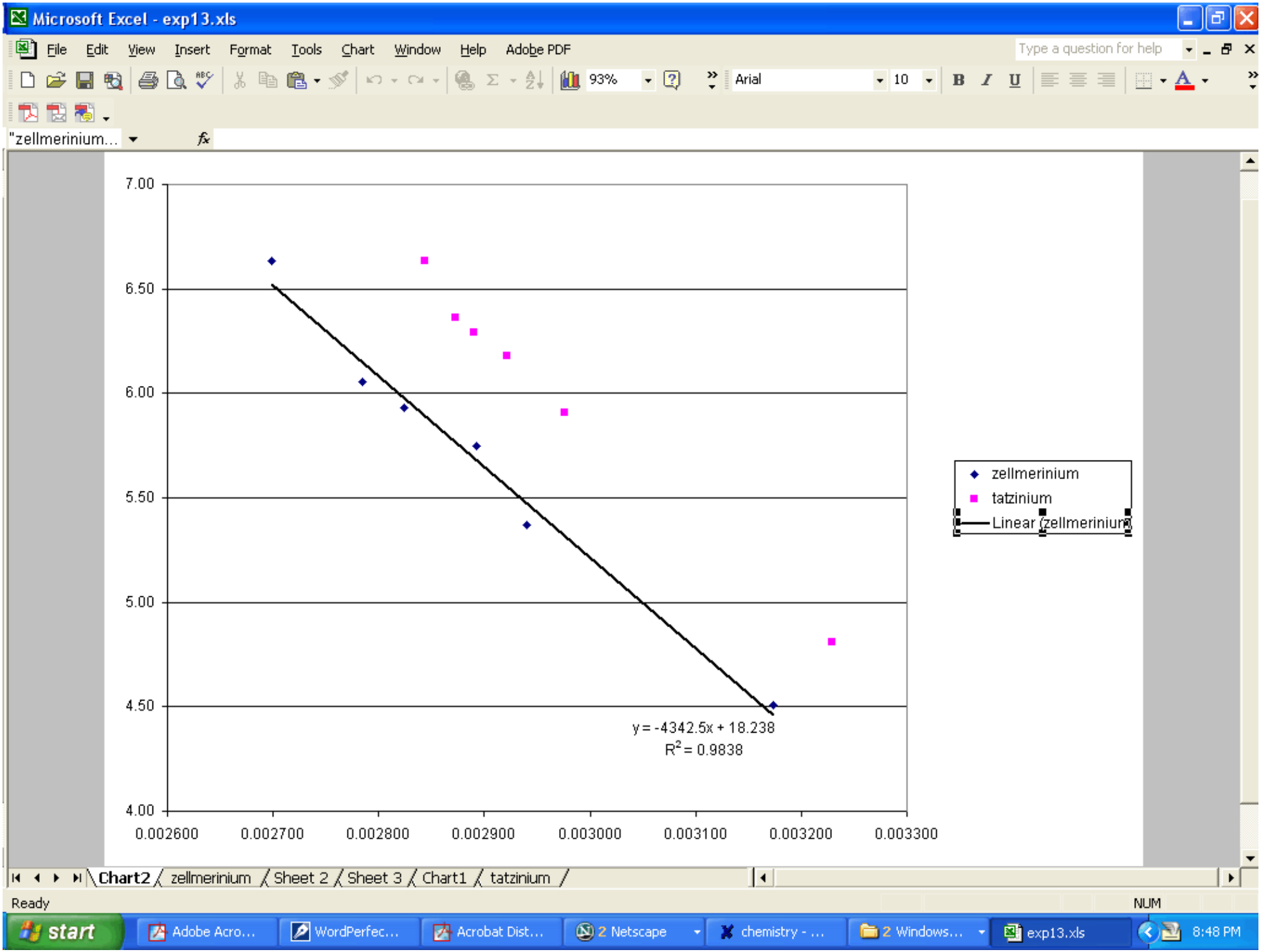
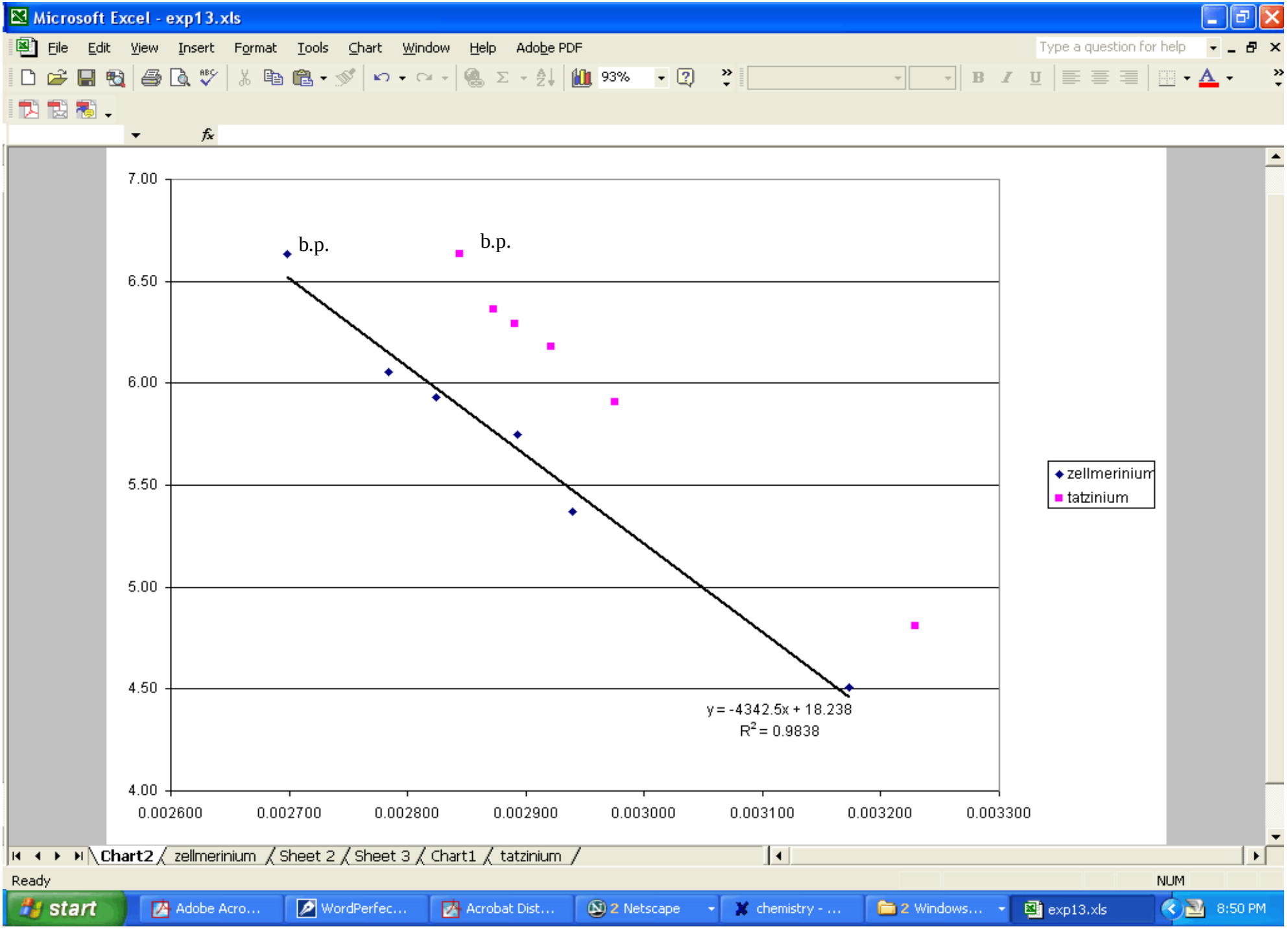
Delete the part of the legend for the line. Click on the legend and then on the line description and press the delete key.



Add labels for the boiling points. You MUST include the b.p. and have these points labeled as such. You can write them in by hand if you can't figure out how to get them in Excel.



The following is a finished graph with all three knowns (using a different set of data then in the previous examples). This gives an idea of what it should look like. It would take up more of the page w/o this paragraph. Print directly from Excel and set page margins to 0.10 inches.