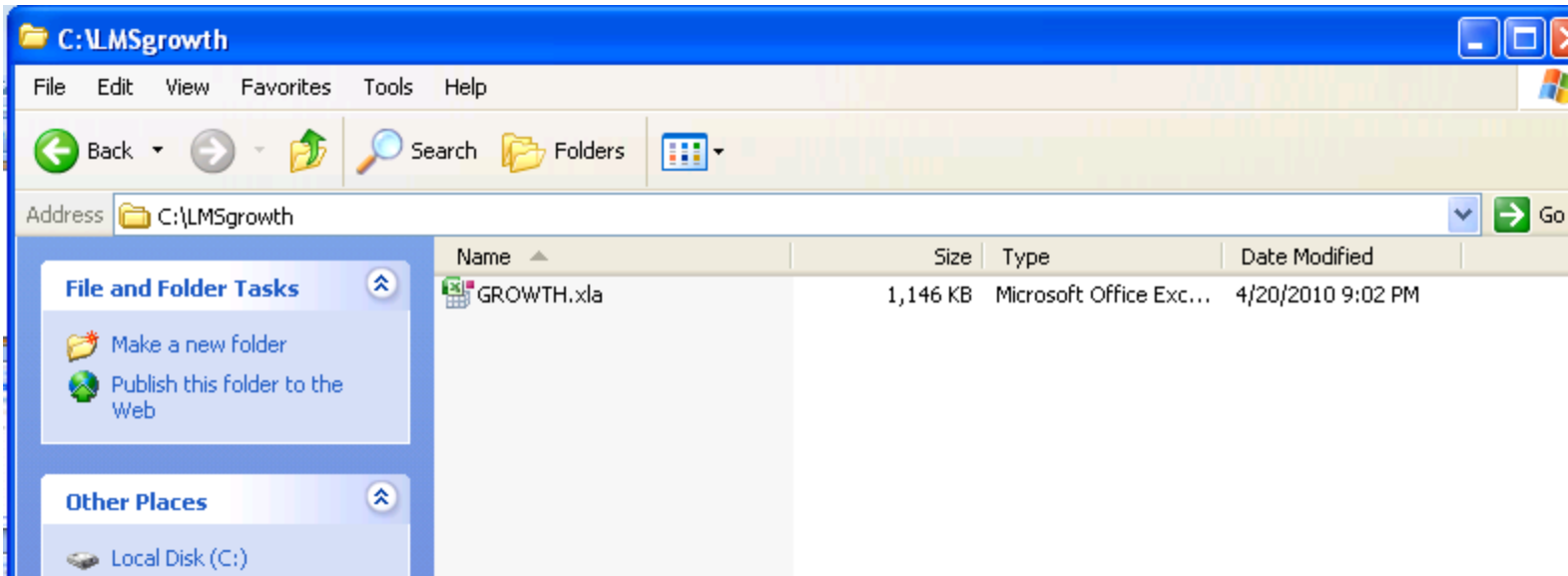


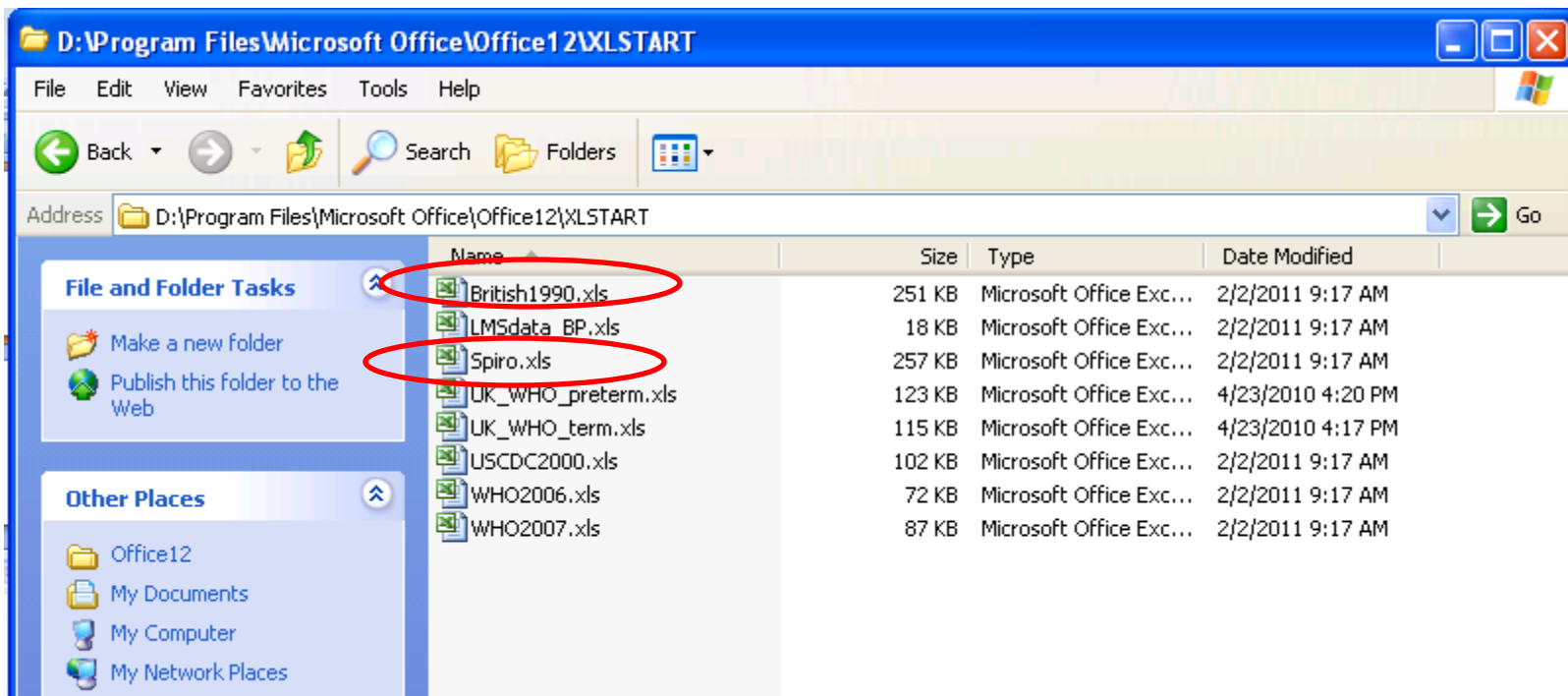
Growth.xla

1. Create a new folder on your C Drive called “LMSgrowth”
2. Copy the “Growth.xla” file to this folder



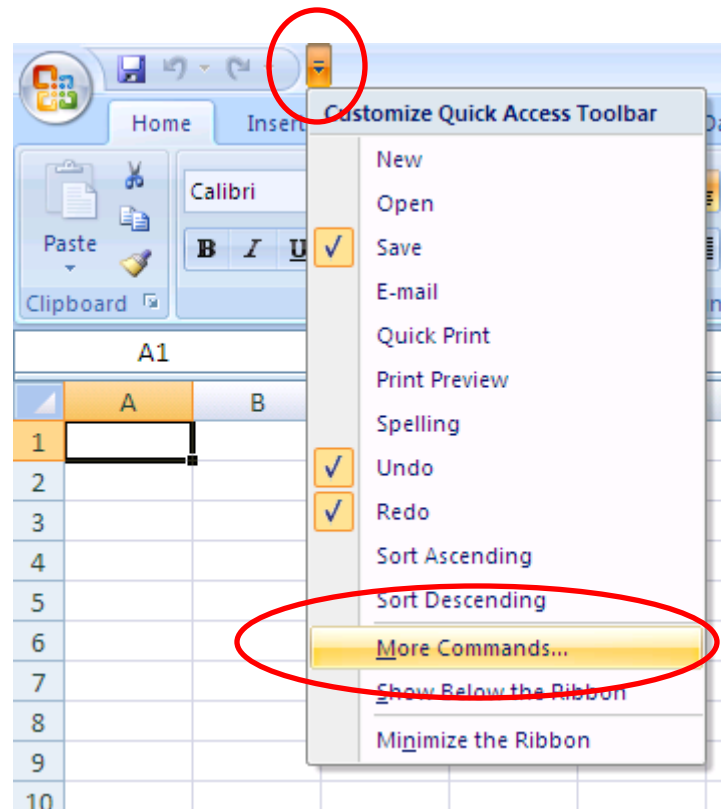
XLSTART

1. Find the XLSTART folder on your computer
2. Copy “British1990.xls” AND “Spiro.xls” to this folder
3. You may also wish to copy the other reference tables available (i.e. WHO growth charts)



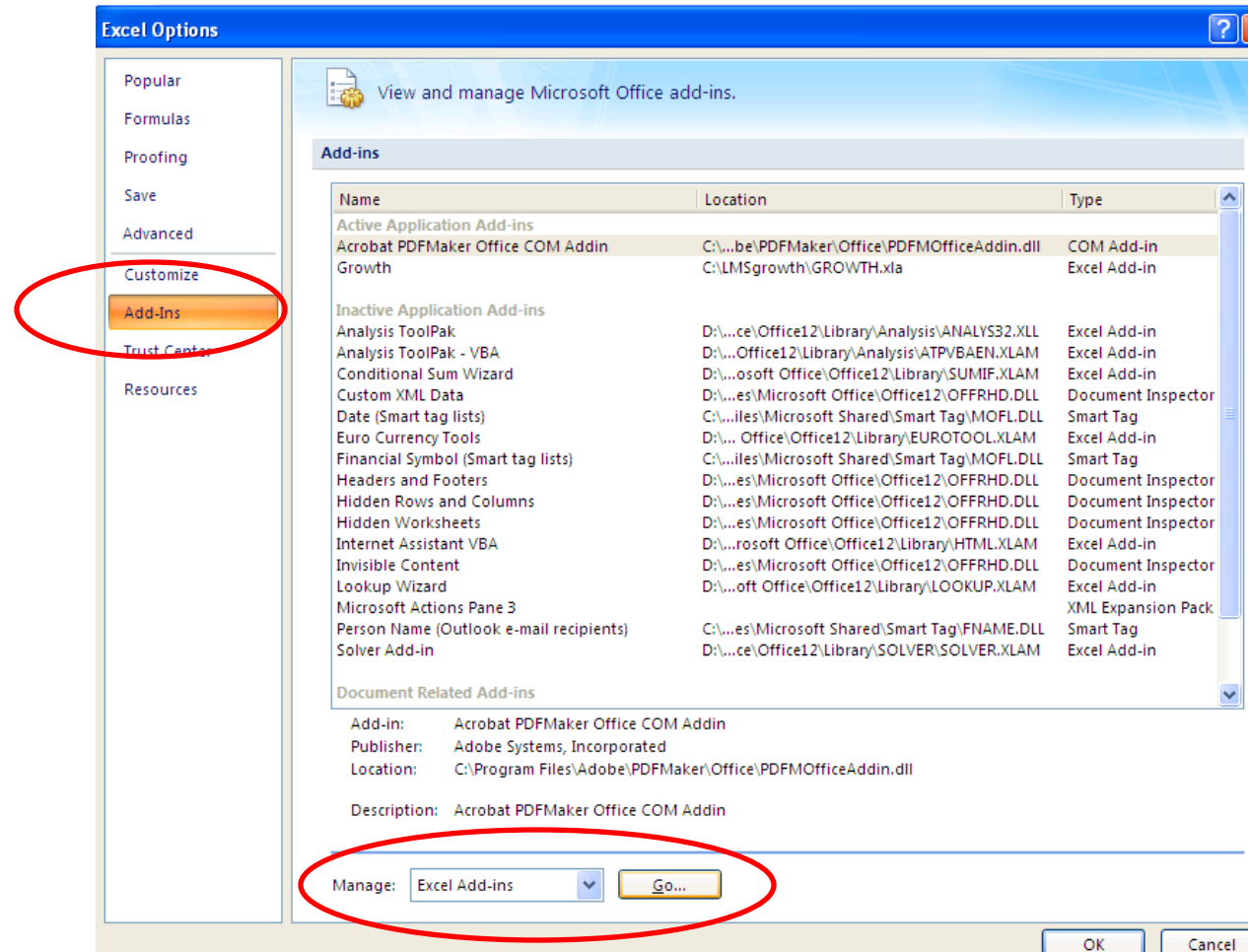
Install the Excel Addin

1. Open Excel and open a blank worksheet
2. Click on the arrow and More Commands as demonstrated



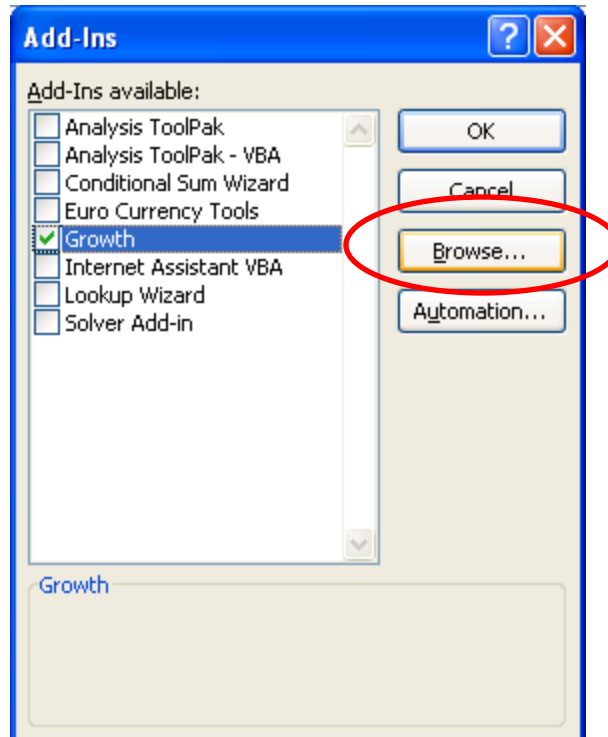
Install the Excel Add-in

1. Click on Add-Ins
2. Click on Manage Excel Add-ins



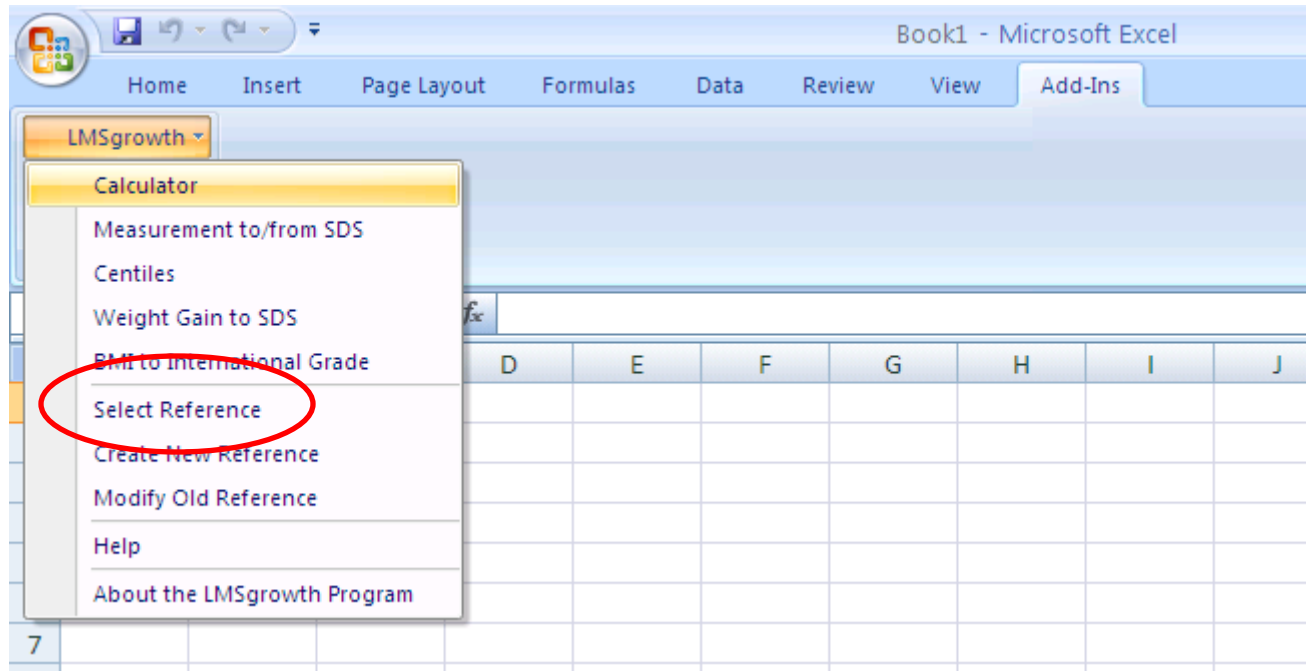
Search for Growth.xla

1. Click on Browse
2. Go to C:/LMSgrowth/
3. Select Growth.xla



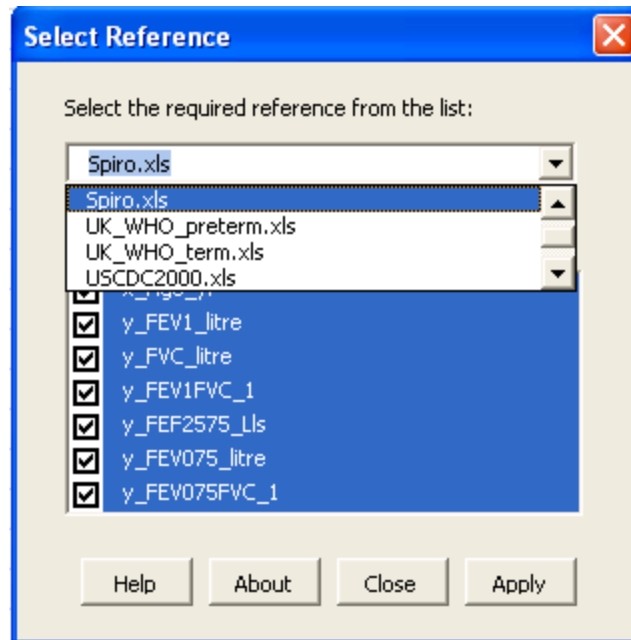
Instal Spiro.xls

1. On the right hand side click “Add-Ins”
2. Select LMSgrowth
3. Select Reference



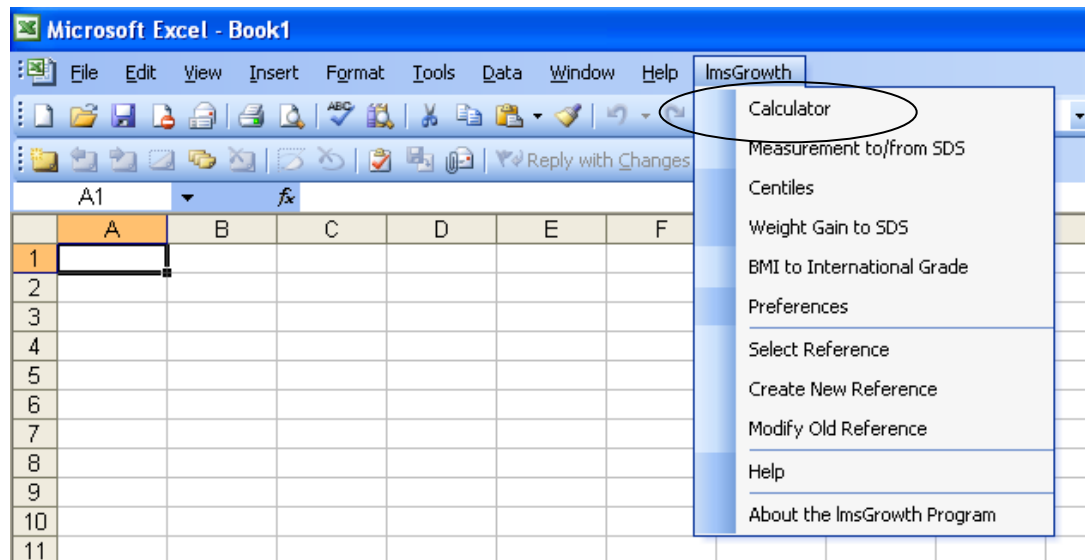
Instal Spiro.xls

1. Select “Spiro.xls”
2. Ensure all the outcomes you want are checked



To Compare an Individual Result

- Click ImsGrowth
- Click Calculator



The Calculator

Calculator with Spiro

Male Female Adjust for gestation

Age

Dates

Age

years months weeks days years

Covariates

Height cm

Measurements

	FEV1 litre	FVC litre	FEV1/FVC 1	FEF2575 L/s	-	-
Value						
SDS						
Centile						

Help Reset Close

Note: Age can be entered as 14.3 in the years box

Note: FEV₁/FVC is a ratio NOT a percentage

In this program SDS and z-score are interchangeable terms

The Calculator: An Example

- Enter

Sex (F)

Age (6.33 yrs)

Height (118 cm)

FEV₁ (1.45 L)

FVC (1.60 L)

Calculator with Spiro

Male Female Adjust for gestation

Age

Dates

Age

years months weeks days years

6.3 6.30

Covariates

Height cm 118

Measurements

	FEV1 litre	FVC litre	FEV1/FVC 1	FEF2575 L/s	FEV075 litre	FEV075/FVC 1
Value	1.45	1.6	0.91	2.1		
SDS	1.10	1.20	-0.33	0.93		
%Predicted	115.3	117.2	98.0	124.1		

Help Reset Close

Click on the pink text to toggle between:

- **SDS**
- **Centile**
- **Predicted**
- **% Predicted**
- *% CV*
- *Skewness*

Calculator with Spiro

Male Female Adjust for gestation

Age

Dates

years months weeks days **years**

Age

Covariates

Height cm

Measurements

	FEV1 litre	FVC litre	FEV1/FVC 1	FEF2575 L/s	FEV075 litre	FEV075/FVC 1
Value	<input type="text" value="1.45"/>	<input type="text" value="1.6"/>	<input type="text" value="0.91"/>	<input type="text" value="2.1"/>	<input type="text"/>	<input type="text"/>
SDS	<input type="text" value="1.10"/>	<input type="text" value="1.20"/>	<input type="text" value="-0.33"/>	<input type="text" value="0.93"/>	<input type="text"/>	<input type="text"/>
%Predicted	<input type="text" value="115.3"/>	<input type="text" value="117.2"/>	<input type="text" value="98.0"/>	<input type="text" value="124.1"/>	<input type="text"/>	<input type="text"/>

Help Reset Close

Conversion to SDS for an Entire Dataset (must be in Excel format)

Type in the column letters relating to:
Sex (1=M, 2=F), Age (years), Height (cm), FEV₁ (L) etc.

Click on the pink label to change SDS to % predicted

The output is entered in the first free column or you can select an output column

The screenshot shows an Excel spreadsheet with a table titled 'Subject Demographics' and a dialog box titled 'Measurement->SDS with Spiro'. The spreadsheet has columns A through K. The dialog box has the following fields:

- Sex: Male
- Gestation (weeks): Ignore
- Specify Rows: From 1 to 154, With Header checkbox
- Specify Age Columns: Age (selected), Dates, years label, G (selected)
- Specify Covariate Columns: Height cm, K (selected)
- Specify Measurement Columns: Measurement column M, SDS column AF (selected)

Arrows indicate the following actions:

- A blue arrow points from the 'years' label in the dialog to column G in the spreadsheet.
- A pink arrow points from the 'years' label in the dialog to the 'AF' dropdown in the SDS column of the dialog.
- A blue arrow points from the 'AF' dropdown in the dialog to the first free column (L) in the spreadsheet.

Centre ID	Study ID	Collaboration ID	Test Occasion	Date of Birth (MM/DD/YY)	Date of Test (MM/DD/YY)	Age	Sex (1=M 2=F)	Weight (kg)	Weight Z score	Height (cm)
20	5					5.38	1	18.3	-0.5	102.4
20	10					4.99	1	19.5	0.38	110
20	17					5.07	1	22.8	1.51	117.2
20	20					4.91	1	19.3	0.38	111.4
20	23					5.08	1	17.9	-0.4	108.2
20	38					4.99	1	20	0.58	113.8
20	41					5.08	1	20	0.5	113.2
20	43					5.09	1	19.4	0.24	104
20	55					4.97	1	18.1	-0.2	105.8
20	58					4.92	1	17.3	-0.6	108
20	?					?	1?	N/A		107
20	66					4.92	1	22.5	1.55	115.2
20	67					5.39	1	21.2	0.67	113.8
20	69					4.91	1	17.6	-0.4	106
20	70					5.04	1	22.1	1.3	115.4
20	89					5.79	1	17.7	-1.2	114.7
20	92					4.97	1	16.8	-0.9	105.8
20	101					4.94	1	25.2	2.35	116.7
20	102					4.94	1	21.2	1.09	111.1
20	105					5	1	17.6	-0.5	105.6