



Calculating Extrapolated MNPT and ISI using Microsoft Excel:

1. Construct a simple table containing columns for INR, Log₁₀(INR), Clot Time and Log₁₀(Clot Time)

Plasma			Time	
Ref	INR	Log ₁₀	(sec)	Log ₁₀
3635-1	1.15			
3636-1	2.28			
3637-1	4.11			
3638-1	5.41			
3639-4	7.60			

2. Using the " $=\log_{10}()$ " function calculate the logarithm of the INR value and Time values

=log10(B3) will calculate the logarithm of the value of cell B3

- 3. Enter clot times
- 4. Right click on a cell, or selection of cells will bring up a drop-down menu. From here select "Format Cells". From here, selecting the "Number" category can allow us to select our preferred number of decimal places. This will not affect the value of the cell, just how it is displayed. This technique can be applied throughout the spreadsheet with the number of decimal places being selected appropriate to the value displayed.

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Number Alignment	Font	Border	Fill	Protection			
Category: General Number Currency Accounting Date Time Percentage Fraction Scientific Text Special Custom	Sample 0.06 Decimal Use 1 Negative -1234,1 -1234,1	places: 2 1000 Separa e numbers: 0 0 0	ator (,)				^
Number is used for ger formatting for monetar	eral displa y value.	y of numb	ers. Currer	ncy and Acco	unting offer spec	ialized	>

5. Next we're going to plot a scatter graph. To do this from the "Insert" tab

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- 6. Use the select data function to select data to be plotted.
- 7. Add a new series.
- 8. Select the $log_{10}(INR)$ data and the $log_{10}(Time)$ values previously calculated for the x and y values respectively

Edit Series ? ×	
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▲ Select Range	2.5
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=Sheet1!\$C\$3:\$C\$7	2
Series <u>Y</u> values:	•
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OK Cancel	
	0.5
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9. Using the "quick layouts" function select "layout 9". This will automatically add axis titles, chart titles and a line of best fit.







10. By selecting the axis or chart titles on the graph, left clicking into the formula bar allows us to change the titles.

Cł	nart 1	- : J	× 🗸	f _x Log	10(INR)									
	А	В	С	D	E	F	G	н	1	J	К	L	М	N
2	Plasma Re	INR	Log10	Time (sec	Log10									
3	3635-1	1.15	0.06	19	1.278754	0	<u>}</u>	1		0		1		O
4	3636-1	2.28	0.36	34.4	1.536558					Chart T	itle			
5	3637-1	4.11	0.61	52.2	1.717671		2.5							
6	3638-1	5.41	0.73	74.9	1.874482				y = 0.8771x ·	+ 1.2181				
7	3639-4	7.6	0.88	101	2.004321		2 -		R ² = 0.9	994				
8														
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- 11. With layout 9 select the graph will have the equation of the line of best fit and the correlation coefficient (R²) displayed. These can be now reviewed as they will be used to calculate our MNPT and ISI values
- 12. Set-up a small table for "slope", "intercept", "extrapolated MNPT" and "extrapolated ISI"





- 13. Into the intercept box, enter the value of the intercept. This can either be translated directly from what is displayed on the graph or by using the =intercept() function. If using the function, select the $log_{10}(Time)$ values first and the $log_{10}(INR)$ values second. These should be separated by a comma ",".
- 14. Into the slope box, enter the value of the slope. This can either be translated directly from what is displayed on the graph or by using the =slope() function. If using the function, select the $log_{10}(Time)$ values first and the $log_{10}(INR)$ values second. These should be separated by a comma ",".
- 15. To calculate the extrapolated MNPT, raise 10 to the power of the intercept.

* : :	×	<i>f</i> _x =10)^(C22			
В	с	D	E	F	G	Н
Intercept	1.2181	34436	Extrapola	ted MNPT	= 10^(C22	
Slope =	0.8770)55127	Extrapo	lated ISI		

16. To calculate the extrapolated ISI, take the inverse of the slope.

\bullet : \times \checkmark f_x =1/C23										
В		С	D	E	F	G	Н			
Interce	pt	1.2181	134436	Extrapolated MNPT		16.524	473243			
Slope =	Į	0.8770)55127	Extrapolated ISI		= 1/ C23				