

What is enzyme kinetics?

- **Kinetics** is the study of the rate at which compounds react
- Rate of enzymatic reaction is affected by:
 - enzyme
 - substrate
 - effectors
 - temperature

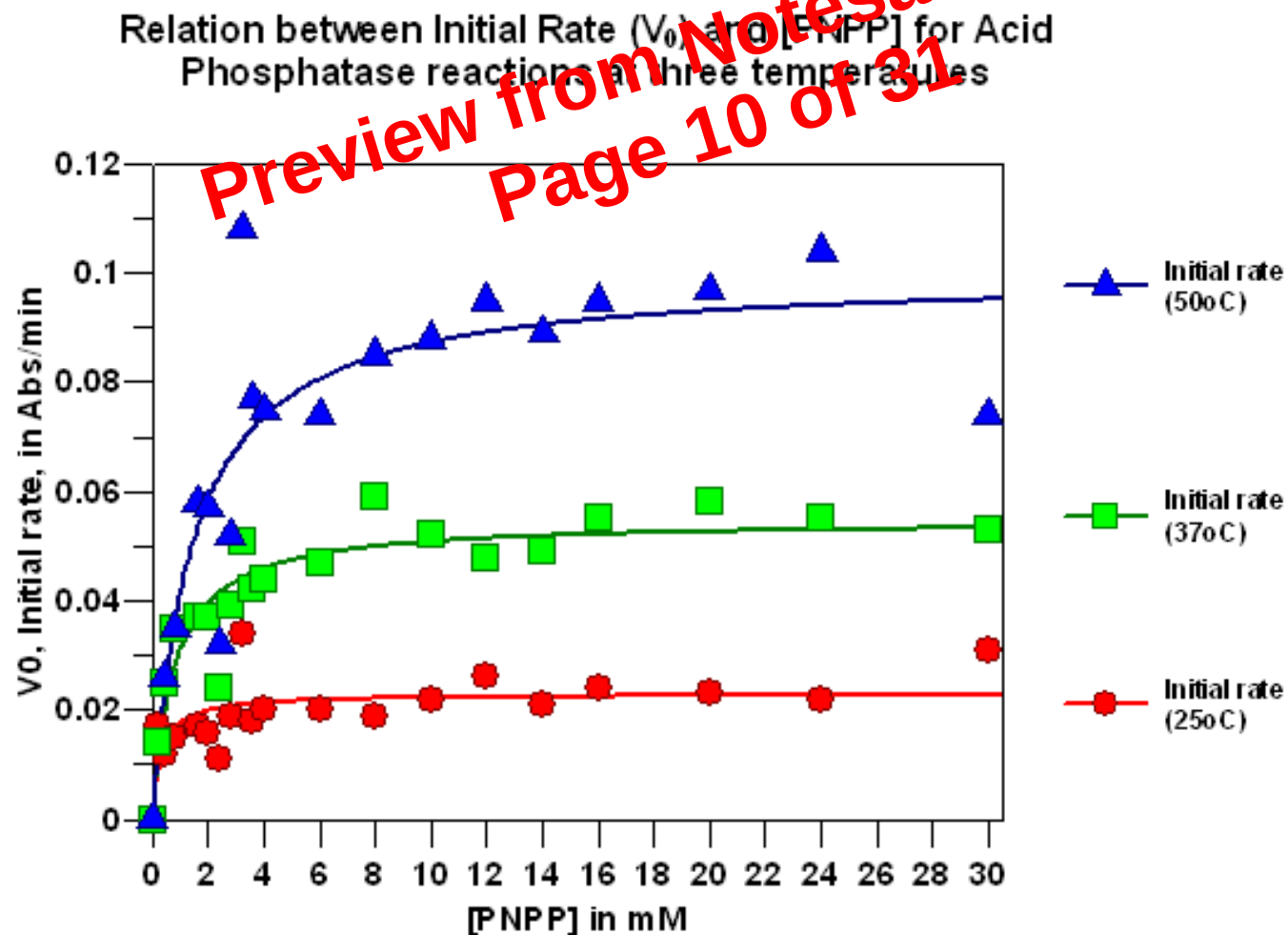


Leonor Michaelis
1875–1949



Maud Menten
1879–1960

Practical I data (from previous experiments)



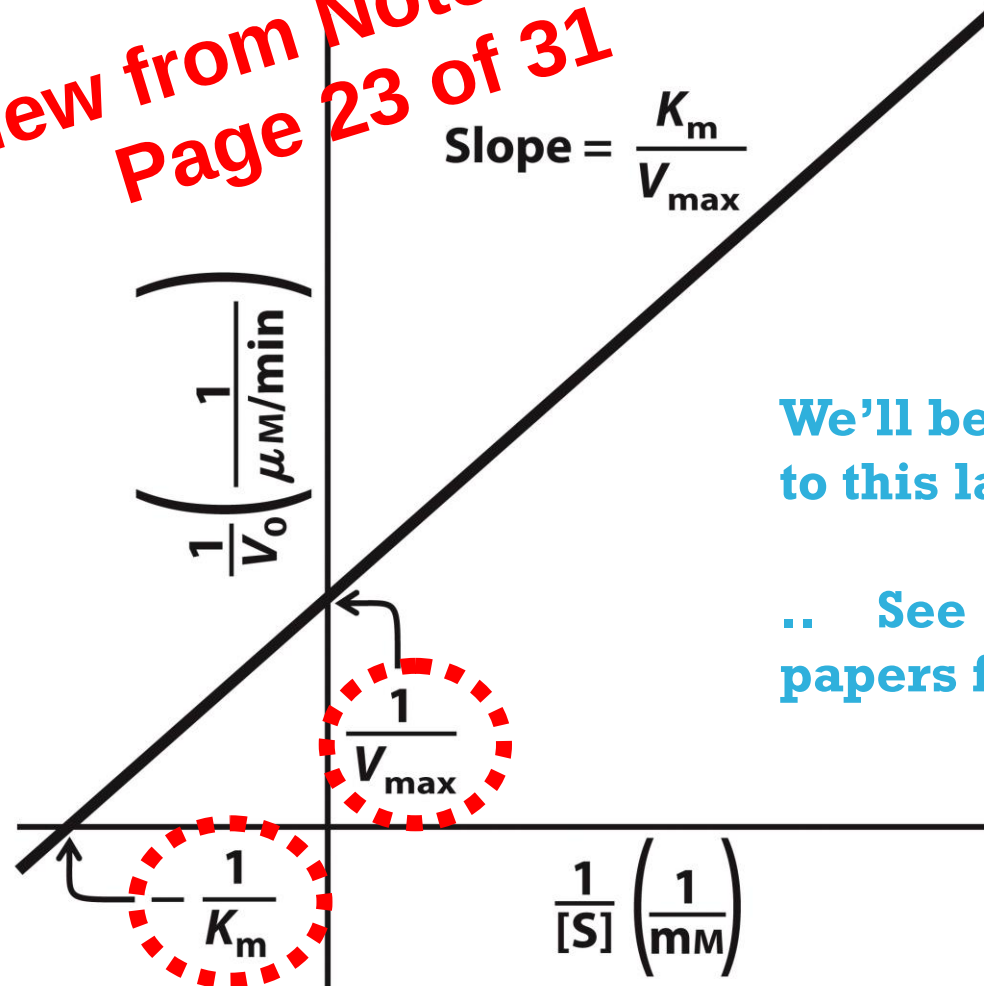
Parameter	Value	Std. Error
V_{max}	0.0996	0.0070
K_m	1.4018	0.4360

Parameter	Value	Std. Error
V_{max}	0.0547	0.0024
K_m	0.7524	0.1934

Parameter	Value	Std. Error
V_{max}	0.0229	0.0017
K_m	0.2931	0.1795

Lineweaver-Burk (LB) Plot: Linearised, Double-Reciprocal

Preview from Notesale.co.uk
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We'll be coming back to this later..

.. See past exam papers for why!

Enzyme kinetics – useful parameter #1

Turnover number, k_{cat}

This is a rate (so is written with a lower case k). It is the number of substrate molecules that a single enzyme molecule converts to product per second.

$$k_{cat} = V_{max} / [E_T]$$

Where $[E_T]$ is the total enzyme concentration.

So how does the turnover number fit in?