## Sometimes even enzymes are sated and have enough!

$^{\circ}_{\bullet}$ ① Match the fitting words and phrases.							
	auf einer Achse auftragen 🚺			Bindungsstreben 1x			
	Geschwindigkeit 1x		sich trer	nnen 1x	steigern 1x		
	Sättigung 1x	umset	zen 1x			Need no	nore!
	saturation						
	to plot against						
	affinity						
	to convert						
	to enhance						
	velocity						
	to dissociate						

Below you find sentences describing a specific moment in enzyme activity which is also termed reaction rate. Put the sentences into the correct order. (1-6)

The active site catalyzes the reaction producing the product. This is the rate limiting step.

The substrate binds at the binding site of the enzyme. This rate can vary and depends on the amount of substrate. The more substrate the quicker both meet.

The enzyme-product complex dissociate to free product and enzyme.

The two molecules form the enzyme-product complex.

The enzyme is ready for the next catalysis reaction.

The two molecules form the enzyme-substrate complex.



## Michaelis Menten curve - the reaction rate of an enzyme depends on the substrate concentration, the number of enzymes stays constant

3 Match the texts with a suitable point in the graph.

( ) The reaction rate of the enzymes starts off slowly. This is caused by a small amount of substrate. The affinity between both molecules is low.

() A lower KM means a high affinity between enzyme and substrate.

() A higher KM means a low affinity between enzyme and substrate.

() The conversion rate of the enzymes present cannot be further enhanced if the substrate amount is already very high. All enzymes are located in the enzyme-substrate complex, they are saturated.

( ) The reaction rate of the enzymes increases due to a higher amount of substrate. The affinity of both molecules becomes higher. The existing enzymes now convert more substrates into products in the same time.

( ) If the substrate concentration corresponds to the KM value, half of the originally present enzymes are present in the form of enzyme-substrate complexes. The other half is free.

( ) The Michaelis-Menten constant KM indicates the substrate concentration at which half the maximum reaction rate of the enzyme is reached.

() The half-maximum rate of substrate conversion is reached.

Biologie