

Supplemental Information—Resource graphs for students' conceptions of competitive, noncompetitive, and uncompetitive enzyme inhibition.

	Competitive Inhibition	Noncompetitive Inhibition	Uncompetitive Inhibition
Sarah			
Ellie			
Kelly			
Alan			
Amanda			

Cathy			
Lex			
Malcolm			
Zara			
Vivian			
Karen			

Supplemental Information—continued

Tim	<p>Competitive Inhibition diagram for Tim. The central node is 'Competitive Inhibition' (red). It branches into 'reaction scheme with inhibitor' (red), 'interaction with enzyme' (red), and 'kinetic parameters' (red). 'interaction with enzyme' branches into 'does not influence V_{max}' (red) and 'binds active site of enzyme' (red). 'kinetic parameters' branches into 'increases K_m' (red) and 'unsure how K_m changes' (red).</p>	<p>Noncompetitive Inhibition diagram for Tim. The central node is 'Noncompetitive Inhibition' (green). It branches into 'reaction scheme with inhibitor' (green), 'interaction with enzyme' (green), and 'kinetic parameters' (green). 'interaction with enzyme' branches into 'decreases V_{max}' (green) and 'binds allosteric site of enzyme' (green). 'kinetic parameters' branches into 'does not influence K_m' (green).</p>	<p>Uncompetitive Inhibition diagram for Tim. The central node is 'Uncompetitive Inhibition' (purple). It branches into 'reaction scheme with inhibitor' (purple), 'interaction with enzyme' (purple), and 'kinetic parameters' (purple). 'interaction with enzyme' branches into 'decreases V_{max}' (purple) and 'binds enzyme-substrate complex' (purple). 'kinetic parameters' branches into 'decreases K_m' (purple) and 'influences K_m' (purple).</p>
Claire	<p>Competitive Inhibition diagram for Claire. The central node is 'Competitive Inhibition' (red). It branches into 'reaction scheme with inhibitor' (red), 'interaction with enzyme' (red), and 'kinetic parameters' (red). 'interaction with enzyme' branches into 'does not influence V_{max}' (red) and 'binds active site of enzyme' (red). 'kinetic parameters' branches into 'increases K_m' (red) and 'unsure how K_m changes' (red).</p>	<p>Noncompetitive Inhibition diagram for Claire. The central node is 'Noncompetitive Inhibition' (green). It branches into 'reaction scheme with inhibitor' (green), 'interaction with enzyme' (green), and 'kinetic parameters' (green). 'interaction with enzyme' branches into 'decreases V_{max}' (green) and 'binds allosteric site of enzyme' (green). 'kinetic parameters' branches into 'does not influence K_m' (green).</p>	<p>Uncompetitive Inhibition diagram for Claire. The central node is 'Uncompetitive Inhibition' (purple). It branches into 'reaction scheme with inhibitor' (purple), 'interaction with enzyme' (purple), and 'kinetic parameters' (purple). 'interaction with enzyme' branches into 'decreases V_{max}' (purple) and 'binds enzyme-substrate complex' (purple). 'kinetic parameters' branches into 'decreases K_m' (purple) and 'influences K_m' (purple).</p>
Carrie	<p>Competitive Inhibition diagram for Carrie. The central node is 'Competitive Inhibition' (red). It branches into 'reaction scheme with inhibitor' (red), 'interaction with enzyme' (red), and 'kinetic parameters' (red). 'interaction with enzyme' branches into 'does not influence V_{max}' (red) and 'binds active site of enzyme' (red). 'kinetic parameters' branches into 'increases K_m' (red) and 'unsure how K_m changes' (red).</p>	<p>Noncompetitive Inhibition diagram for Carrie. The central node is 'Noncompetitive Inhibition' (green). It branches into 'reaction scheme with inhibitor' (green), 'interaction with enzyme' (green), and 'kinetic parameters' (green). 'interaction with enzyme' branches into 'decreases V_{max}' (green) and 'binds allosteric site of enzyme' (green). 'kinetic parameters' branches into 'does not influence K_m' (green).</p>	<p>Uncompetitive Inhibition diagram for Carrie. The central node is 'Uncompetitive Inhibition' (purple). It branches into 'reaction scheme with inhibitor' (purple), 'interaction with enzyme' (purple), and 'kinetic parameters' (purple). 'interaction with enzyme' branches into 'decreases V_{max}' (purple) and 'binds enzyme-substrate complex' (purple). 'kinetic parameters' branches into 'decreases K_m' (purple) and 'influences K_m' (purple).</p>
Summary for each inhibitor	<p>Summary diagram for Competitive Inhibition. The central node is 'Competitive Inhibition' (red). It branches into 'reaction scheme with inhibitor' (red), 'interaction with enzyme' (red), and 'kinetic parameters' (red). 'interaction with enzyme' branches into 'does not influence V_{max}' (red) and 'binds active site of enzyme' (red). 'kinetic parameters' branches into 'increases K_m' (red) and 'unsure how K_m changes' (red).</p>	<p>Summary diagram for Noncompetitive Inhibition. The central node is 'Noncompetitive Inhibition' (green). It branches into 'reaction scheme with inhibitor' (green), 'interaction with enzyme' (green), and 'kinetic parameters' (green). 'interaction with enzyme' branches into 'decreases V_{max}' (green) and 'binds allosteric site of enzyme' (green). 'kinetic parameters' branches into 'does not influence K_m' (green).</p>	<p>Summary diagram for Uncompetitive Inhibition. The central node is 'Uncompetitive Inhibition' (purple). It branches into 'reaction scheme with inhibitor' (purple), 'interaction with enzyme' (purple), and 'kinetic parameters' (purple). 'interaction with enzyme' branches into 'decreases V_{max}' (purple) and 'binds enzyme-substrate complex' (purple). 'kinetic parameters' branches into 'decreases K_m' (purple) and 'influences K_m' (purple).</p>
Summary for all inhibitors	<p>Summary diagram for all inhibitors. The central node is 'ENZYME INHIBITION' (grey). It branches into 'Competitive Inhibition' (red), 'Noncompetitive Inhibition' (green), and 'Uncompetitive Inhibition' (purple). 'Competitive Inhibition' branches into 'reaction scheme with inhibitor' (red), 'interaction with enzyme' (red), and 'kinetic parameters' (red). 'Noncompetitive Inhibition' branches into 'reaction scheme with inhibitor' (green), 'interaction with enzyme' (green), and 'kinetic parameters' (green). 'Uncompetitive Inhibition' branches into 'reaction scheme with inhibitor' (purple), 'interaction with enzyme' (purple), and 'kinetic parameters' (purple). A dashed line labeled 'Distinct Mechanism' connects the three inhibition types.</p>		