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FOCUS ON STUDENT SUCCESS

Dr. Doug McAbee and Dr. Jeffrey Cohlberg

Dr. Doug McAbee and Dr. Jeffrey Cohlberg



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Dr. Chris Brazier

Greetings to all alumni and friends of the Department of Chemistry and Biochemistry.

The Department of Chemistry and Biochemistry is pleased to announce that we have received a significant amount of funding from the National Science Foundation (NSF) for our research programs. This funding will support our ongoing research and allow us to expand our research capabilities. We are grateful for the support of the NSF and look forward to continuing our research in the future.

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Chemistry & Biochemistry is published annually for past and present students and friends of the Department of Chemistry and Biochemistry. The opinions expressed on these pages do not necessarily reflect the official policies of the CSULB administration or those of the California State University Board of Trustees.

Fall 2015

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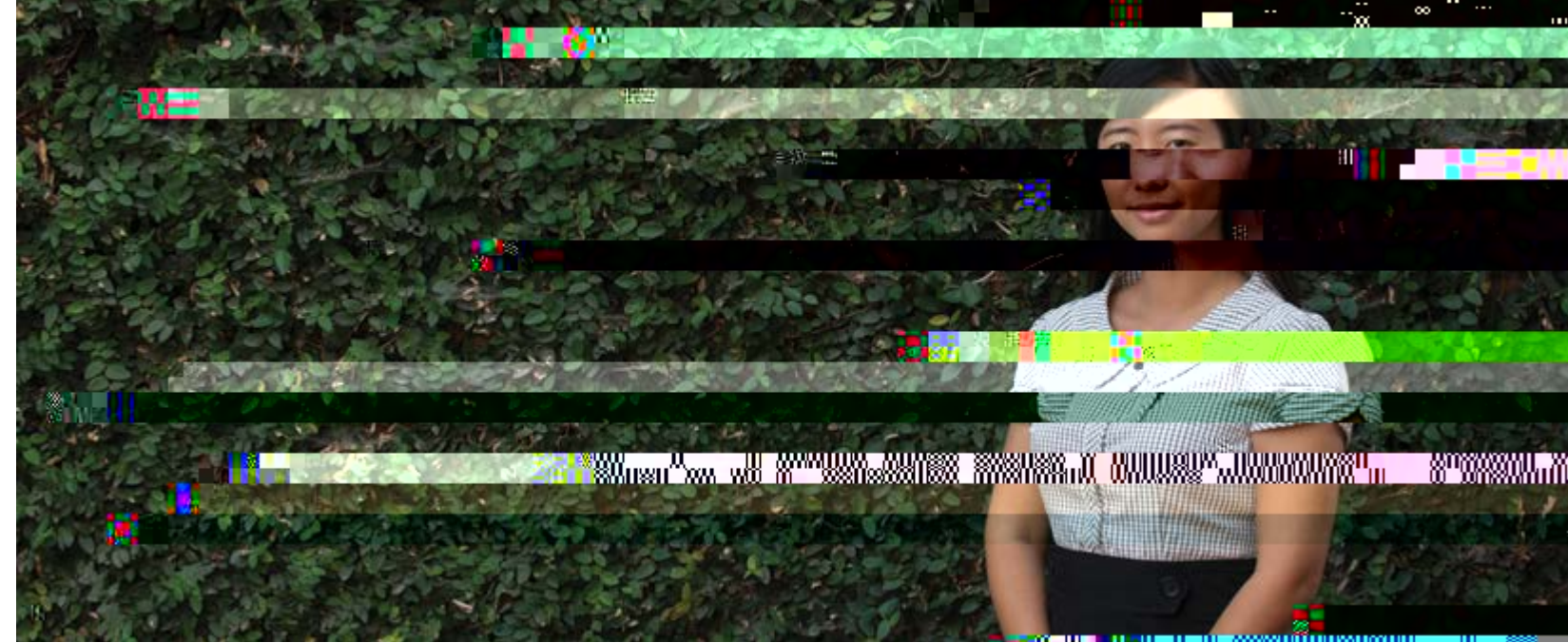
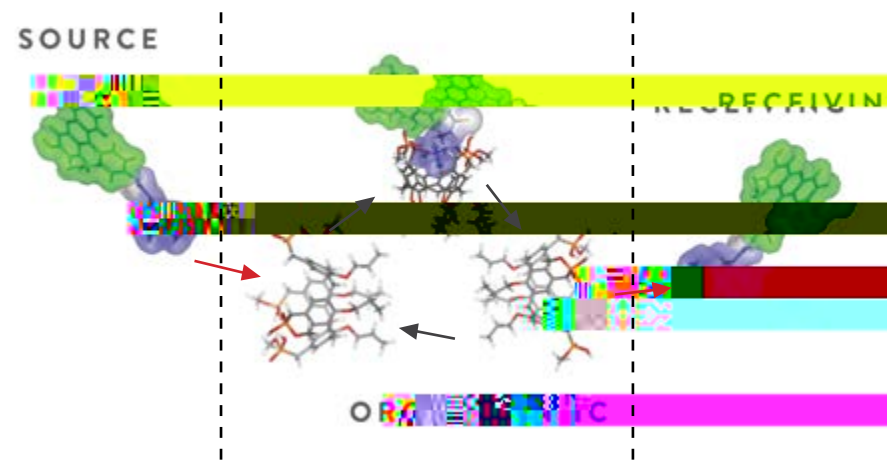
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The diagram illustrates the process of drug metabolism, showing the conversion of a drug into its metabolites. The process is divided into two main stages: Phase I and Phase II. Phase I involves the oxidation, reduction, or hydrolysis of the drug, often mediated by enzymes like cytochrome P450. Phase II involves the conjugation of the drug or its Phase I metabolite with a polar molecule, such as glucuronic acid, sulfate, or a glucosamine, to form a water-soluble metabolite for excretion. The diagram also shows the chemical structures of the drug and its metabolites, highlighting the sites of metabolic modification.



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For the first part of the problem, we are given a function $f(x) = x^2 + 2x + 1$. We need to find the derivative of $f(x)$ with respect to x . Using the power rule, we have $f'(x) = 2x + 2$. Therefore, the derivative of $f(x)$ is $2x + 2$.

Next, we are asked to find the maximum value of the function $f(x) = x^2 + 2x + 1$ on the interval $[-1, 1]$. To do this, we first find the critical points by setting the derivative equal to zero: $2x + 2 = 0$, which gives $x = -1$. We then evaluate the function at the endpoints and the critical point: $f(-1) = 0$, $f(1) = 4$, and $f(-1) = 0$. The maximum value of the function on the interval $[-1, 1]$ is 4 .

Finally, we are asked to find the area under the curve $y = x^2 + 2x + 1$ from $x = -1$ to $x = 1$. We can do this by integrating the function: $\int_{-1}^1 (x^2 + 2x + 1) dx = \left[\frac{x^3}{3} + x^2 + x \right]_{-1}^1 = \left(\frac{1}{3} + 1 + 1 \right) - \left(-\frac{1}{3} + 1 - 1 \right) = \frac{4}{3} + \frac{2}{3} = 2$. Therefore, the area under the curve is 2 .

For the second part of the problem, we are given a function $f(x) = x^3 - 3x^2 + 2x$. We need to find the derivative of $f(x)$ with respect to x . Using the power rule, we have $f'(x) = 3x^2 - 6x + 2$. Therefore, the derivative of $f(x)$ is $3x^2 - 6x + 2$.

Next, we are asked to find the maximum value of the function $f(x) = x^3 - 3x^2 + 2x$ on the interval $[0, 2]$. To do this, we first find the critical points by setting the derivative equal to zero: $3x^2 - 6x + 2 = 0$. Solving this quadratic equation, we get $x = 1 \pm \frac{\sqrt{2}}$. We then evaluate the function at the endpoints and the critical points: $f(0) = 0$, $f(2) = 0$, $f(1 + \frac{\sqrt{2}}{2}) \approx 1.5$, and $f(1 - \frac{\sqrt{2}}{2}) \approx -0.5$. The maximum value of the function on the interval $[0, 2]$ is 1.5 .

Finally, we are asked to find the area under the curve $y = x^3 - 3x^2 + 2x$ from $x = 0$ to $x = 2$. We can do this by integrating the function: $\int_0^2 (x^3 - 3x^2 + 2x) dx = \left[\frac{x^4}{4} - x^3 + x^2 \right]_0^2 = \left(\frac{16}{4} - 8 + 4 \right) - 0 = 0$. Therefore, the area under the curve is 0 .

A. B. A. A.
For the first part of the problem, we are given a function $f(x) = x^2 + 2x + 1$. We need to find the derivative of $f(x)$ with respect to x . Using the power rule, we have $f'(x) = 2x + 2$. Therefore, the derivative of $f(x)$ is $2x + 2$.





XIANHUI BU

... *Cryst. Growth Des.*

... *Dalton Trans.*

... *J. Am. Chem. Soc.*

... *J. Am. Chem. Soc.*

... *Inorg. Chem.*

... *Chem. Commun.*

... *J. Alloys Compounds*

... *J. Am. Chem. Soc.*

... *Angew. Chem. Int. Ed.*

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... *Electrochem. Acta*

... *Inorg. Chem.*

... *Dalton Trans.*

STEPHEN MEZYK

... *Chemosphere*

...

...





A A D & CHOLA HIP

Chemistry and Biochemistry Students 2015

ANN ALANDEDO ED A A D



Akil Ali



Kylie Reuter

Robert B. Henderson Award

This award is given to the student who has demonstrated exceptional achievement in the field of chemistry. The award is named in honor of Robert B. Henderson, a distinguished chemist and educator. The recipients of this award are Akil Ali, Kylie Couch, and Trevor Reutershan.



Trevor Reutershan



Kenneth L. Marsi Scholarship

This scholarship is awarded to the student who has demonstrated exceptional achievement in the field of chemistry. The scholarship is named in honor of Kenneth L. Marsi, a distinguished chemist and educator. The recipient of this scholarship is Sean McCoy.

McAbee-Overstreet Fellowship

This fellowship is awarded to the student who has demonstrated exceptional achievement in the field of chemistry. The fellowship is named in honor of McAbee-Overstreet, a distinguished chemist and educator. The recipient of this fellowship is Skylar Chuang.



Skylar Chuang



Michael Monahan Research Fellowship

This research fellowship is awarded to the student who has demonstrated exceptional achievement in the field of chemistry. The fellowship is named in honor of Michael Monahan, a distinguished chemist and educator. The recipients of this fellowship are Brittany Daws and Alexandra Donovan.



NHK Laboratories, Inc. Scholarship

This scholarship is awarded to the student who has demonstrated exceptional achievement in the field of chemistry. The scholarship is named in honor of NHK Laboratories, Inc., a distinguished chemist and educator. The recipient of this scholarship is Analisa Garcia.

