



2016 NOBCChE National Science Fair Abstract

Category: **Physical Science**

Title: **Motion of Planets and Keplers Laws and Other Studies of Astronomical Figures Using Theoretical Physics**

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Senior Level (High School)

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This project involved researching over the counter medications that could cause false-positive immunoassay results. Zantac, one out of the five OTC medications tested produced false-positives results. Cross-reactivity was shown in amphetamine and opiate assays. The Zantac false-positive opiate result is uncommon, but results from high concentrations (>500,000 ng/mL) and cross-reactivity from the drug. This scenario shows how easily results can be manipulated and why Mass Spectrometry (MS) is important. MS with Liquid Chromatography (LC) confirms and reduces false-positive results.

The National Organization for the Professional Advancement of Black Chemists and Chemical Engineers (NOBCChE) National Science Fair is a poster competition in which students present an independent completed research project. Each contestant in the Science Fair must demonstrate their ability to conduct a research project by:

- Submitting an abstract of 150 words or less on an individual research project in one of the following **four categories: physical science, math & engineering, consumer science, or biological science.**
- Presenting the results of the research in a poster format, including answering questions from judges; and submitting a written report during the poster presentation.
- For more information, visit www.nobccheSTEMwkd.com.