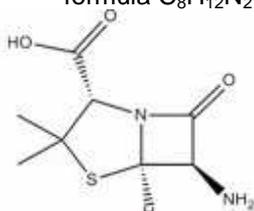
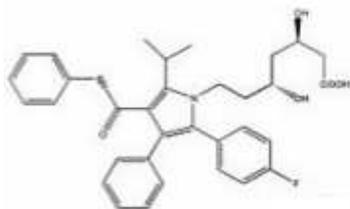


8. Quartz has the chemical formula SiO_2 . a) How many grams are present in a 2.78 mole sample?
b) Give the systematic name for quartz.

9. A broad range of affordable semisynthetic penicillins and cephalosporins has been made possible by the use of the intermediate 6-aminopenicillanic acid (6-APA), which has the chemical formula $\text{C}_8\text{H}_{12}\text{N}_2\text{O}_3\text{S}$. Calculate the percent composition by mass of 6-APA.



10. Atorvastatin, which has the chemical formula $\text{C}_{33}\text{H}_{35}\text{FN}_2\text{O}_5$, is typically used for lowering cholesterol and has been shown to be effective in preventing cardiovascular disease. Atorvastatin has also shown promise in treating Alzheimer's disease and preventing melanoma and colon cancer. Calculate the percent composition by mass of atorvastatin.



11. How many grams of potassium bromide are needed to make 500. mL of a .600 M solution?

12. In Earth's ecosphere, coronene, which has a gram formula mass of 300. g/mol, is considered a pollutant, but this hydrocarbon redeems itself as an ultraviolet phosphor for charge-coupled devices (CCDs). Coronene-coated CCDs on the Hubble Space Telescope provide valuable information about molecules in outer space. Coronene has also been observed on the surface of Saturn's moon Titan. Coronene contains 96.0% carbon and 4.00% hydrogen by mass. Determine the empirical and molecular (true) formula of coronene.

13. β -Carotene, one of several naturally occurring carotene isomers, is the most important of the A provitamins. It is widely distributed in the animal and plant kingdoms and is most abundant in yellow and orange fruits and vegetables such as mangoes, papayas, yams, and carrots. β -carotene, which has a gram formula mass of 536.85 g/mol, contains 89.49% carbon and 10.51% hydrogen by mass. Determine the empirical and molecular (true) formula of β -carotene.

14. What is the molarity of a 500. mL solution that contains 225 g of sodium hydroxide?

Signatures:

The purpose of this assignment was to:

Did I:	Circle the appropriate response:		
Explain how I did the problems?	Always	Sometimes	Rarely
Listen while my partner explained?	Always	Sometimes	Rarely
Give my partner positive support?	Always	Sometimes	Rarely
Stay on task during the assignment?	Always	Sometimes	Rarely
Use encouraging and polite words?	Always	Sometimes	Rarely
Record my work on the paper?	Always	Sometimes	Rarely
Demonstrate an understanding of the material?	Yes	No	

Comments: