Name_____ Chem 1194: Determination of Caffeine by HPLC

Date_____Section _____ 59

Other members of your group

Mass of solid Caffeine_____g Weighed by _____
Last name only

Calculation of Stock Caffeine Molarity

Calculation of Molarity of
a caffeine working standard

HPLC Data

Nominal [caffeine] of standards /M	Actual [caffeine] /M	Retention Time /min	Peak Area / μV.min
0.00100 M	_____	_____	_____
0.00060	_____	_____	_____
0.00020	_____	_____	_____
0.00040	_____	_____	_____
0.00080	_____	_____	_____
0.00010	_____	_____	_____
Blank	0.0	_____	_____

Samples	Sample Identification	Retention Time /min	Peak Area / μV.min
Quality Control	_____	_____	_____
Student supplied	_____	_____	_____

Calculation of the concentration (in M) of the caffeine-containing beverage as injected into the instrument using the calculated trendline with full units.

Calculation of the molarity in the original student-supplied sample.

Student Sample Serving Size (& unit) _____ converted to metric units _____

Calculation of the mass of caffeine (mg) per serving

Manufacture reported value_____mg/serving

Source of this information _____

Calculate the percent relative error (see page 74.) in your caffeine determination assuming that the reported manufacturer's value is correct.

Calculation of the concentration (in M) of caffeine in the quality control sample using the calculated trendline with full units.