Report for Laboratory Exercise #5
Extraction of Caffeine from Tea -

Using Microsoft Word, students are to insert responses in all yellow highlighted areas. It is recommended that the report be completed without changing font size, column width, row width, margins and highlights. The completed report must be uploaded to the 101 CourseSpaces as a .pdf file by the due date posted on CourseSpaces.

Name: **Lab Section:** _B03_ **Quad:** _Q4__ **Date:** _November 5, 2018_

Abstract

(max 3 lines)

Having known that 1 cup (1 teabag with 3.320g of tea leaves) of the Tetlay tea has 0.090g of caffeine, about 1.4 cups of this tea can kill a 700g rat.

Data/Results

Table 1. Experimental data and calculated values

Extraction and isolation	
Weight of tea leaves -Tetlay tea-	3.320 g
Weight of caffeine	0.090 g
Weight % caffeine in tea	2.7%
Lethal dose for a 700 g rat	1.4 almost one and half cups of tea

Algebraic Equation

Weight % of caffeine in tea = Weight % = mass of caffeine (g) ÷ mass of tea (g) x 100%

0.090g (caffeine) ÷ 3.320g (tea leaves) x 100% =2.7 %

0.192g/kg x 0.7 kg = 0.134 g for killing a rat

0.134g ÷ 0.090g (caffeine in 1cup) = 1.4

Discussion *Respond to the following:*

Give one shortcoming of this experiment (not a personal error) that could contribute to an inaccurate value of caffeine that was in the teabag. (max 3 lines). Maybe because the final alcohol solution did not cool down well in an ice bath, an inaccurate value of caffeine was in the teabag.

Conclusions

(max 1 line)

1 cup of tea (0.090g caffeine) may kill a rat (700g weight) when it drinks about 1.4 cups.

References

Properties of Materials, *Laboratory Manual*, *Chemistry 101*, pp.43-44. (University of Victoria: Victoria, B.C.). **Fall 2018.**

Feedback Summary	max.
Pre-lab quiz: Are all responses correct?	3
Laboratory Notebook: Have all data and observations been recorded?	1
Report: Are all sections completed and accurate?	1
Participation: Did the student come prepared, was time used well in lab and was student engaged in the experiment?	1
Performance evaluation: Did student follow the safety guidelines?	1
Total mark	7