
EE/CprE/SE 491 WEEKLY REPORT 4

Start Date 03/02/2019 – End Date 03/10/2019

Group number: sddec19-07

Project title: Rapid detection of Fentanyl using a multifunction nanostructured

Client & Advisor: Meng Lu

Team Members/Role:

Yifu Zhang - Stationary phase fabrication group
Zheyuan Tang - Stationary phase fabrication group
Hao Wang - Testing group
Ugerah Abalu - Testing group
Kossi Eglu - Instrumentation group
Olouwole Eteka - Instrumentation group

o Weekly Summary

We continued on researching chromatography resolution improvement. We also had a meeting with our client/advisor where we discussed our current progress and project goals leading up to the end of the semester.

o Past week accomplishments

Yifu Zhang

1. Working on the project plan.
2. Think about how to improve the chromatography test according to paper and online information.

Hao Wang

1. Working on improve paper chromatography paper to see if there's better solvent.
2. Researched polarity of the solvent
3. Saw the fabrication process

Zheyuan Tang

1. Processing on improve paper chromatography resolution by change different solvent.
2. Research the solvent choice in paper chromatography through the characteristic of chemical.
3. Research how the chemical sample may affect the solvent choice on UTLC

Ugerah Abalu

1. Carried out more chromatography experiment testing
2. Researched potential new solvents to use in chromatography testing

Kossi Egla

1. Did the chromatography experiment
2. Tried to get the best result from the chromatography by using new techniques
3. Met with Dr Meng to talk about the next step of the project

Olouwole Eteka

1. Worked on the sample chromatography paper
2. Making decision on the microcontroller to buy

o **Pending issues**

We are going to work on figuring out the software algorithm to analyze a picture taken by the camera, which will be attached to an arduino

o **Individual contributions**

NAME	Individual Contributions	Hours this week	Hours cumulative
Hao Wang	1. Researched the better solvents to use for chromatography process 2. Observe and realized how the fabrication process works	6	24
Zheyuan Tang	1. Research the solvent choice through their property 2. Improve the resolution and get better result 3. Researched how the chemical sample may affect the solvent choice on UTLC	6	24
Ugerah Abalu	1. Researched better solvents to use during chromatography process 2. Communicated with research assistant regarding production of	6	24

	ultra thin layer chromatography plates samples to use in experiment		
Yifu Zhang	<ol style="list-style-type: none"> 1. Try to figure out the which type of high polarity chemical can mix with water 2. Improve the resolution and try to get the better result 3. Try to understand how the Glacial-angle deposition work 	6	24
Kossi Eglá	<ol style="list-style-type: none"> 1. Looked into getting an arduino board needed for the project 2. Searching for better way to connect a camera to the arduino 	6	24
Olouwole Eteka	<ol style="list-style-type: none"> 1. I worked on the graph summarizing the steps in the implementation part of our project 2. I went to check out an arduino and a breadboard from the ETG and get cameras from our advisor. 	6	24

o **Plans for the upcoming week**

Group 1 Fabrication: Zheyuan Tang, Yifu Zhang:

After we almost approach the chromatography part, we will focus more on the UTLC plate fabrication and GLAD technical.

Group 2 Sample Test: Hao Wang, Ugerah Abalu:

We will test the die on the Ultra thin layer chromatography plate

Group 3 Instrumentation: Kossi Eglu, Olouwole Eteka:

We will be working on building the schematic for the arduino and camera. We need to figure out if the format of the image from the camera will be supported by the arduino.