

George Pappas  
CHM. 121.004  
Inst. Mark Novak  
Lab Report – Experiment 1  
9/5/17

100

### **Experiment Objective**

The objective of this experiment is to teach us how to use the FTIR and GC systems. We are given a sample of an unknown compound and, with the use of both systems, are required to find what compound it is.

### **Conclusion**

After reviewing the data collected from both the FTIR and the GC, unknown 19 was discovered to be 1 – Propanol. The GC system's data sheet matched perfectly with the data sheet example labeled 1 – Propanol. The FTIR's search system also pointed to 1 – Propanol as the main compound. This is what leads me to believe that unknown 19 is undoubtedly 1 – Propanol.



CHM121 E1:

Name George Pappas

UNKNOWN IDENTIFICATION BY IR AND GC

### REPORT SHEET

My unknown number # 19 has been identified as 1-Propanol ✓.

Your report must include the chromatogram and the spectrum along with this sheet and a separate sheet with your outline and hazard numbers on it. Staple it all together. Be sure to put your name in the upper right-hand corner of each sheet and on your FTIR and GC sheets as well.



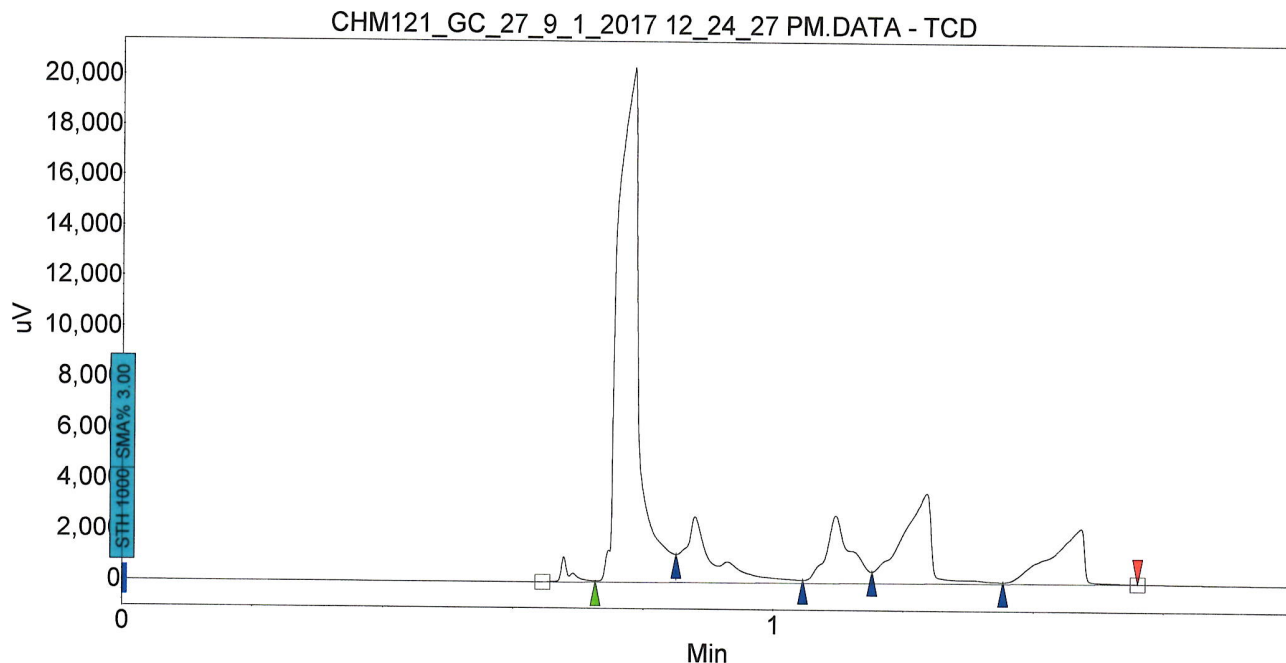
George  
Pappas

Chromatogram : CHM121\_GC\_27\_9\_1\_2017  
12\_24\_27 PM\_channel1

Unknown  
number: 17

System : 3900 GC  
Method : 121 ID 3900  
User : User1

Acquired : 9/1/2017 12:28:50 PM  
Processed : 9/1/2017 12:30:41 PM  
Printed : 9/1/2017 12:30:42 PM



Peak results :

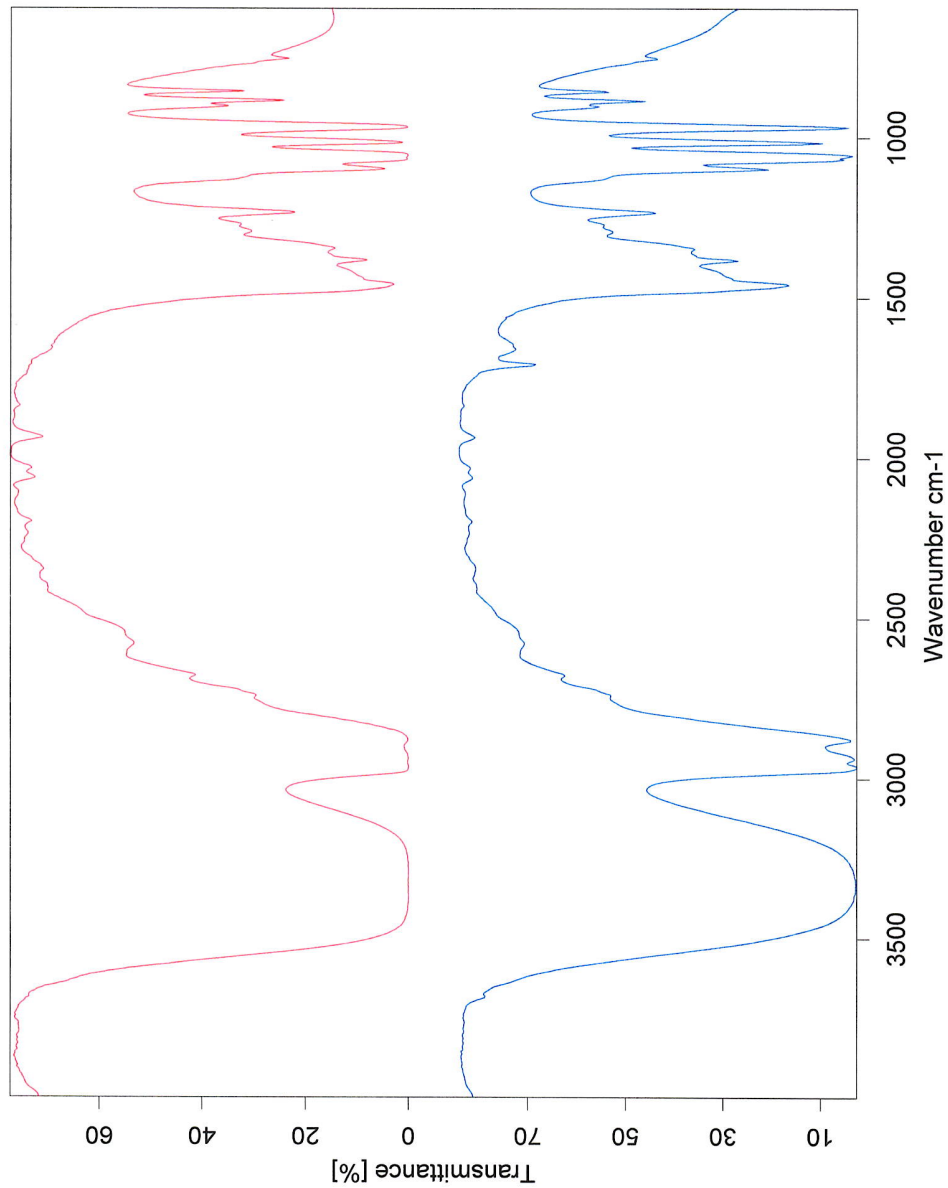
Index	Name	Time [Min]	Quantity [% Area]	Height [uV]	Area [uV.Min]	Area % [%]
→ 1	UNKNOWN	0.79	57.87	20381.2	785.2	57.865
2	UNKNOWN	0.88	10.16	2619.0	137.9	10.158
3	UNKNOWN	1.10	8.60	2681.8	116.7	8.598
4	UNKNOWN	1.24	13.91	3569.0	188.7	13.909
5	UNKNOWN	1.47	9.47	2176.8	128.5	9.470
Total			100.00	31427.8	1357.0	100.000

← Peak #1

Mixture Spiked with 1-Propanol



C:\OPUS\_7.2.139.1294\MEAS\I - Propanol George Pappas N-Butyl Acetate



Compound information  
 Compound Name 1-Propanol  
 Molecular Formula C3H8O1  
 Molecular Weight 60.095  
 CAS Registry Number 71-23-8  
 Melting Point -124.39  
 Boiling Point 97.04

1-Propanol

Hit No.	Hit Quality	Compound Name	Entry No.	Lib. Index	Molecular formula	Molecular weight	CAS number
1	380	1-Propanol	1	1	C3H8O1	60.095	71-23-8

George Pappas

