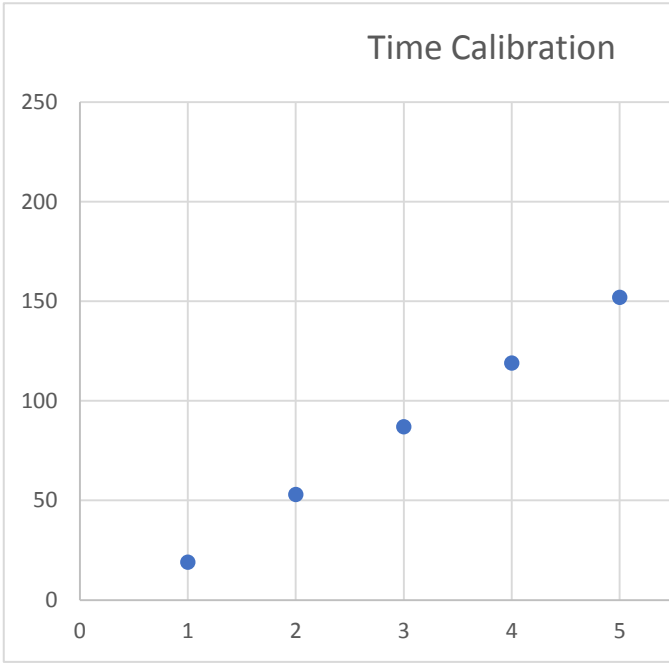
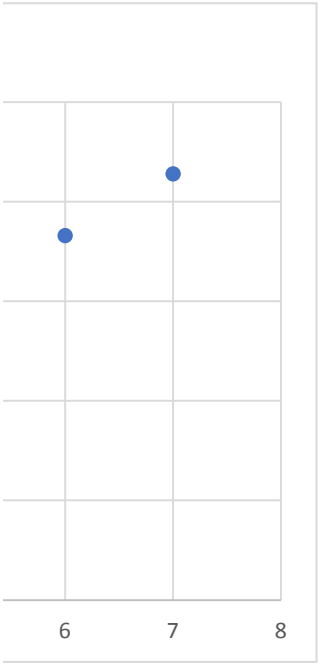
Calibrated and calculated when the system was established

Position	Reaction Time (s)
Loop01	19
Loop03	53
Loop05	87
Loop07	119
Loop09	152
Loop11	183
Loop13	214




6
7
8


THORLABS
DFM1T1

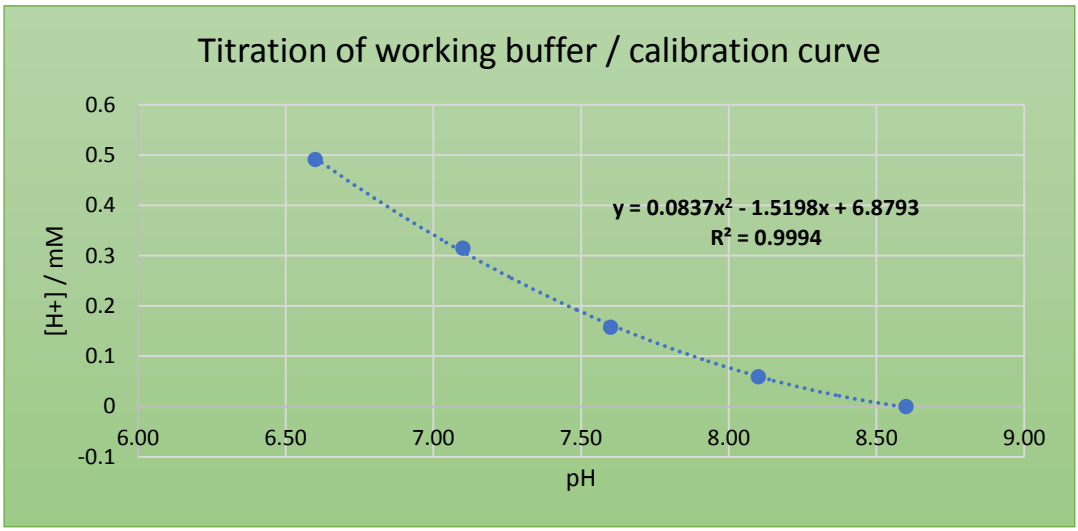
pH measured after addition of HCl into working buffer.

HCl				
uL	L	pH	umol of HCl	mmol/L
0	0	8.60	0	0
30	0.00003	8.10	2.9628	0.059220468
80	0.00008	7.60	7.9008	0.157763578
160	0.00016	7.10	15.8016	0.315023923
250	0.00025	6.60	24.69	0.491343284

Polynomial function		
a	b	c
0.083690006	-1.519786089	6.879264804

Concentration of HCl determonide by acid-base titration and using NaOH.

Concentration of HCl
0.09876 mol/L



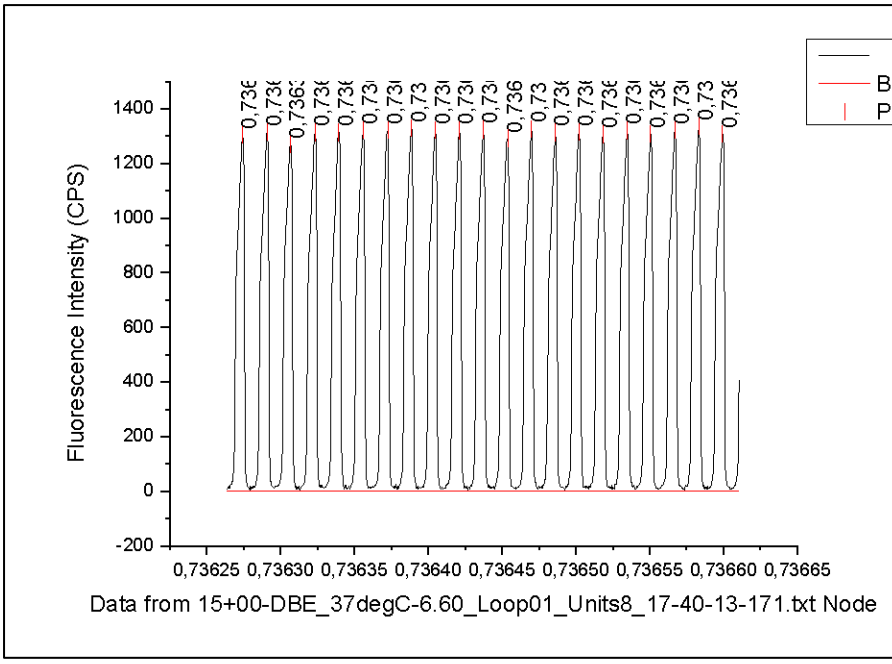
Calibration pH 6.60							
Loop01	Loop03	Loop05	Loop07	Loop09	Loop11	Loop13	Loop01
1304.8	2029.75	1930.5	2299.59	2004.28	1881.21	1985.09	890.11
1315.67	1976.22	1994.88	2262.34	2017.11	1957.67	1988.46	869.02
1268.45	1985.55	2010.89	2238.43	2022.78	1902.65	1970.28	881.21
1313.67	1997.14	1945.62	2235.3	2010.56	1871.97	1981.1	875.5
1314.11	1970.6	2002.39	2217.97	2017.83	1887.5	2009.97	877.23
1323.06	1997.74	1989.1	2229.59	2046.92	1869.8	2003.6	868.7
1322.1	1972.08	1984.7	2238.97	2020.28	1869.31	2012.19	849.1
1329.72	1990.71	1998.94	2259.79	2011.41	1887.22	2050.35	884.92
1322.09	1972.81	2007.14	2304.7	2024.89	1888.56	2028.51	854.1
1321.24	2013	1940.84	2297.55	1998.06	1912.62	2043.1	859.55
1325.29	1973.65	1971.46	2340.2	1987.99	1898.29	2018.26	871.99
1291.64	2011.1	1939.75	2245.29	1982.69	1927.86	2032.03	872.65
1326.83	2004.1	2001.94	2246.39	1977.85	1919.22	2016.44	877.26
1314.71	1994.49	1962.12	2268.49	1992.62	1937.58	1991.89	884.62
1315.79	2009.17	1949.85	2261.01	1996.35	1951.06	1989.44	869.56
1306.15	2010.99	1970.21	2256.85	1984.39	1901.1	1998.09	871.66
1320.15	2017.66	1994.75	2229.26	2019.06	1914.69	2001.31	859
1307	2045.47	1988.25	2245.66	2031.39	1867.03	2027.45	869.7
1321.67	1981.71	2004.65	2227.86	2034.84	1900.5	1978.04	874.59
1336.47	1996.06	2011.47	2215.39	2053.95	1865.28	2030.83	840.99
1307.6	1999.39			2021.09	1891.42	2003.78	839.26
							863.8
Average							

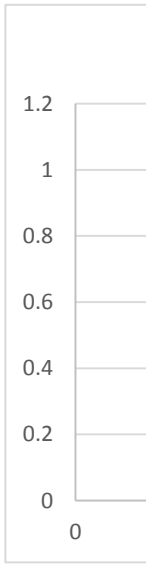
TASK:

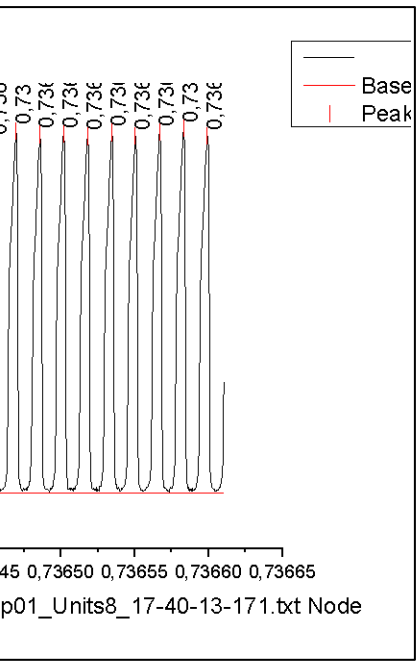
01c.1. Calculate an average for every single Loop and calibration solution

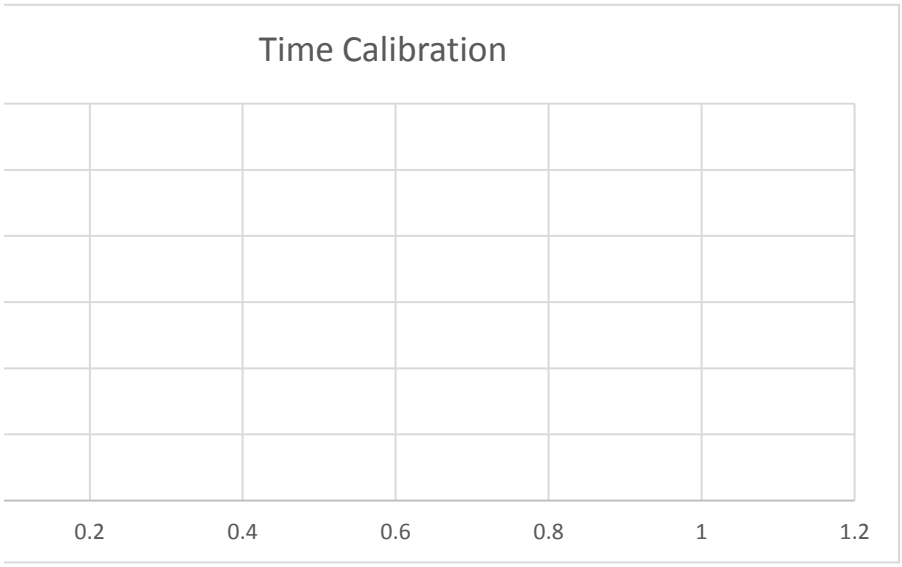
Calibration pH 7.60						Cali		
Loop03	Loop05	Loop07	Loop09	Loop11	Loop13	Loop01	Loop03	Loop05
1359.92	1328.15	1433.11	1389.79	1383.47	1496.8	486.71	777.74	781.08
1384.65	1309.39	1450.51	1385.4	1404.88	1450.58	501.65	777.46	791.46
1375.78	1325.19	1412.72	1391.55	1405.44	1466.26	501.18	775.33	781.39
1329.31	1338.4	1419.14	1395.6	1357.92	1432.62	393.68	771.23	794.39
1364.61	1336.96	1436.39	1406.31	1377.24	1437.95	495.25	785.11	783.23
1385.95	1312.86	1425.22	1394.1	1380.75	1481.04	391.31	770.99	795.69
1346.21	1313.2	1422.97	1394.11	1351.84	1477.17	502.01	777.21	778.09
1328.06	1306.95	1438.45	1390.17	1357.17	1477.34	502.65	782.09	795.23
1319.34	1326.64	1414.03	1387.7	1352.8	1479.67	389.93	770.9	782.45
1336.59	1326.12	1452.15	1363.49	1356.11	1484.95	497.65	766.86	789.12
1353.83	1298.86	1440.59	1376.16	1342.94	1496.38	498.59	780.55	793.04
1350.31	1310.75	1433.61	1385.01	1353.35	1479.59	500.55	781.69	799.9
1258.45	1231.53	1433.08	1372.96	1354.12	1487.09	498.26	752.92	789.29
1315.31	1306.2	1450.64	1363.19	1364.03	1471.35	396.65	767.02	788.23
1338.9	1283.92	1421.17	1371.42	1382.72	1453.59	495.94	777.77	790.84
1360.36	1307.08	1406.69	1400.74	1384.42	1469.56	501.18	773.74	787.74
1354.69	1262.64	1395.01	1385.35	1363.46	1434.31	496.29	779.48	780.79
1340.55	1302.97	1430.06	1400.61	1382.04	1445.65	491.8	780.15	785.8
1314.36	1280.78	1429.45	1406.66	1387.04	1442.64	490.12	775.42	786.86
1359.51	1280.86	1453.42	1397.33	1369.26	1458.58	502.45	788.74	763.81
1287.85	1264.67	1461.94	1403.78	1370.24	1468.76	497.51	765.7	778.45
	1280.17	1482.19		1369.59		503.48		
						496.24		
						496.04		
						493.51		

bration pH 8.60			
Loop07	Loop09	Loop11	Loop13
912.94	799.62	773.6	820.81
910.59	805.1	780.65	819.62
894.69	816.4	768.02	820.29
902.25	817.91	773.05	821.05
885.44	805.05	777.74	825.34
877.95	828.66	777.65	819.75
886.29	812.52	775.46	808.94
903.91	816.71	791.11	810.77
894.41	810.83	790.26	820.21
900.46	812.17	795.51	818.71
898.24	796.42	787.33	818.16
902.95	798.01	779.7	805.14
908.12	791.75	788.15	807.16
896.51	792.51	795.05	810.25
892.35	782.83	773.06	819.14
898.51	794.21	776	824.75
887.79	771.5	766.7	837.77
885.6	797.24	763.56	824.95
886.92	808.99	771.42	817.5
874.4	811.09	765.71	818.83
890.99	803.6	785.27	807.23






Base
Peak
45 0,73650 0,73655 0,73660 0,73665
p01_Units8_17-40-13-171.txt Node


Time Calibration
0.2
0.4
0.6
0.8
1
1.2

				Fluorescence Intensity (CPS) - Averages				
Time	Cal 6.60	Cal 7.60	Cal 8.60	0.05	0.10	0.16	0.21	0.26
19				482.14	498.60	531.58	523.49	533.98
53				868.51	956.66	1066.28	1122.21	1184.69
87				986.20	1134.94	1284.50	1391.88	1506.03
119				1219.45	1424.53	1638.93	1817.49	1981.12
152				1111.94	1397.54	1580.45	1781.37	1921.61
183				1090.47	1458.84	1657.76	1864.68	1978.21
214				1138.64	1635.42	1843.19	2060.15	2187.99

TASK:

02.1. Transpose the calculated averages

0.31	0.37	0.42	<= Concentration of the substrate in the Aq. droplets
554.93	557.30	563.66	
1273.12	1319.24	1374.04	
1610.35	1673.53	1739.73	
2090.93	2168.71	2280.38	
2011.26	2105.67	2200.49	
2062.93	2172.83	2248.23	
2293.12	2394.23	2473.24	

FLUORESCENCE	Time [s]	19	53	87	119	152	183
	0.49	0.00	0.00	0.00	0.00	0.00	0.00
pH	0.16	0.00	0.00	0.00	0.00	0.00	0.00
	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Substrate conc. in aq. plugs							
Flowrate ratio	mM						
Rxn 14+01	0.05	0.00	0.00	0.00	0.00	0.00	0.00
Rxn 13+02	0.10	0.00	0.00	0.00	0.00	0.00	0.00
Rxn 12+03	0.16	0.00	0.00	0.00	0.00	0.00	0.00
Rxn 11+04	0.21	0.00	0.00	0.00	0.00	0.00	0.00
Rxn 10+05	0.26	0.00	0.00	0.00	0.00	0.00	0.00
Rxn 09+06	0.31	0.00	0.00	0.00	0.00	0.00	0.00
Rxn 08+07	0.37	0.00	0.00	0.00	0.00	0.00	0.00
Rxn 07+08	0.42	0.00	0.00	0.00	0.00	0.00	0.00

Calibration curves			
Polynomial	a	b	c
19	0.00	0.00	0.22
53			
87			
119			
152			
183			
214			

214	pH	Time [s]	19	53	87	119	152
0.00		0.49	0.00	0.00	0.00	0.00	0.00
0.00	pH	0.16	0.00	0.00	0.00	0.00	0.00
0.00		0.00	0.00	0.00	0.00	0.00	0.00

	Substrate conc. in aq. plugs	
	Flowrate ratio	mM
0.00	Rxn 14+01	0.05
0.00	Rxn 13+02	0.10
0.00	Rxn 12+03	0.16
0.00	Rxn 11+04	0.21
0.00	Rxn 10+05	0.26
0.00	Rxn 09+06	0.31
0.00	Rxn 08+07	0.37
0.00	Rxn 07+08	0.42

0.22

TASK:

03.1a. Transpose the averages of calibrations

03.1b. Transpose the averages of products

03.2. Calculate Linregrese of calibration curves

03.3. Calculate Substrate conc. in aq. plugs

03.4. Plot progress curves (product vs. time)

183	214
0.00	0.00
0.00	0.00
0.00	0.00