

Method: VPTiterNaOH **Titer 0.1 mol/L NaOH VP** **7/30/2012 11:32:59 AM**
Start time: 7/30/2012 2:27:47 PM

Sample data

No.	Comment / ID	Start time	Sample size	Corr. f	Density
1/6	Potassium hydrogen phthalate	7/30/2012 2:27:47 PM	0.08360 g	1.0	0 g/mL
2/6	Potassium hydrogen phthalate	7/30/2012 2:32:37 PM	0.08818 g	1.0	0 g/mL
3/6	Potassium hydrogen phthalate	7/30/2012 2:37:18 PM	0.08465 g	1.0	0 g/mL
4/6	Potassium hydrogen phthalate	7/30/2012 2:41:57 PM	0.08477 g	1.0	0 g/mL
5/6	Potassium hydrogen phthalate	7/30/2012 2:46:36 PM	0.08436 g	1.0	0 g/mL
6/6	Potassium hydrogen phthalate	7/30/2012 2:51:22 PM	0.08426 g	1.0	0 g/mL

Results

No.	Comment / ID	Start time	Sample size and results		
1/6	Potassium hydrogen phthalate	7/30/2012 2:27:47 PM	0.08360	g	
2/6	Potassium hydrogen phthalate	7/30/2012 2:32:37 PM	R1 = 1.00288 0.08818	g	Titer
3/6	Potassium hydrogen phthalate	7/30/2012 2:37:18 PM	R1 = 1.00148 0.08465	g	Titer
4/6	Potassium hydrogen phthalate	7/30/2012 2:41:57 PM	R1 = 1.00328 0.08477	g	Titer
5/6	Potassium hydrogen phthalate	7/30/2012 2:46:36 PM	R1 = 1.00264 0.08436	g	Titer
6/6	Potassium hydrogen phthalate	7/30/2012 2:51:22 PM	R1 = 1.00110 0.08426	g	Titer
-/-			R1 = 1.00157 R2 = 1.0022	--	Titer Mean Titer
Titer					
	Titer	1.00216			

Series comment

Method: VPTiterNaOH **Titer** 0.1 mol/L NaOH VP **7/30/2012 11:32:59 AM**
Start time: 7/30/2012 2:27:47 PM

Statistics

Rx	Name	n	Mean value	Unit	s	srel [%]
R1	Titer	6	1.00216		0.00089	0.089
R2	Mean Titer	1	1.0022	--	NaN	NaN

Raw data

Sample

No. 1/6
Standard Potassium hydrogen phthalate
Type of standard solid
Comment
Titration stand Rondolino TTL 1
Weight m = 0.08360 g
Correction factor f = 1.0
Purity p = 100.00 %
Temperature T = 25.0 oC
Sample start 7/30/2012 2:27:47 PM
Sample end 7/30/2012 2:32:37 PM

EQP titration [1]

Titrant NaOH c = 0.1 mol/L TITER = 1.02434
Sensor DG111-SC
Start potential EST = 182.1 mV
No. of EQPs and cand. nEQ = 1
Consumption EQP1 VEQ1 = 4.081660 mL
Q1 = 0.418101 mmol
EEQ1 = -62.9 mV
EHN1 = 118.9 mV
Excess VEX = 0.535840 mL
QEX = 0.054888 mmol
End VEND = 4.6175 mL
QEND = 0.472989 mmol
Termination at EQPs
Time t = 2:42 min

Calculation

Result R1 = 1.00288 Titer
Formula $R1 = m / (VEQ * c * C)$
Constant $M / (10 * p * z)$
C = 0.20423
Molar mass M[Potassium hydrogen phthalate] = 204.23 g/mol
Equivalent number z[Potassium hydrogen phthalate] = 1
Duration tUSE = 03:58 min

Measured values EQP titration [1]

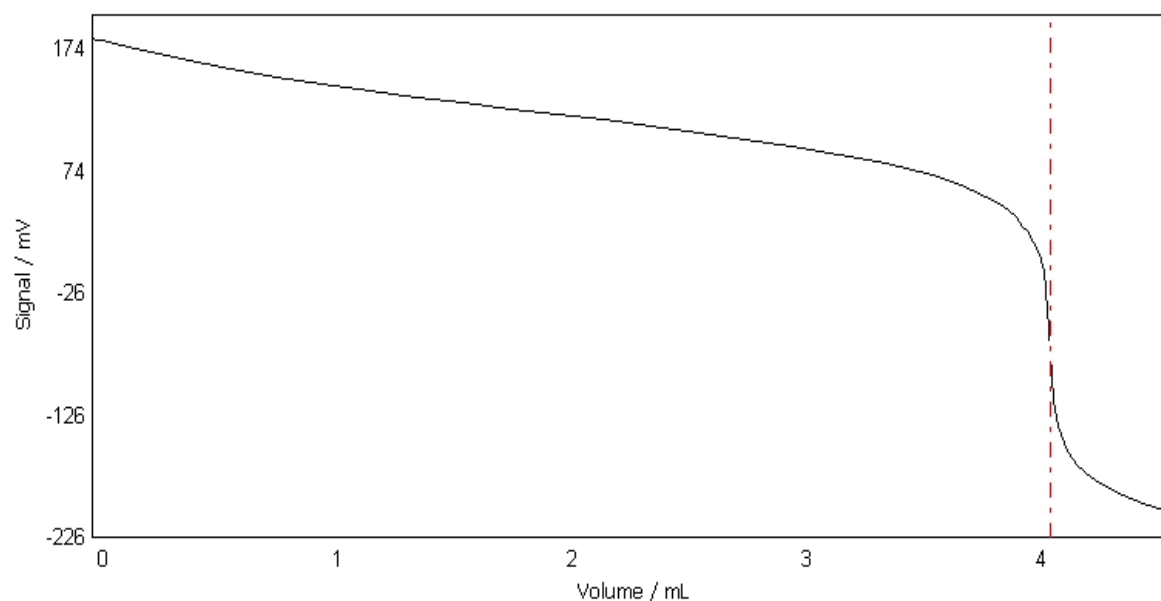
Titrant NaOH c = 0.1 mol/L TITER = 1.02434
Sensor DG111-SC
Sample 1/6

Volume mL	Increment mL	Signal mV	Change mV	1st deriv. mV/mL	Time s	Temperature oC
0.0000	NaN	182.1	NaN	NaN	0	25.0
0.0200	0.0200	181.6	-0.5	NaN	3	25.0
0.0400	0.0200	180.9	-0.7	NaN	6	25.0
0.0900	0.0500	178.7	-2.2	NaN	9	25.0
0.2150	0.1250	172.9	-5.8	NaN	12	25.0
0.3825	0.1675	166.0	-6.9	-39.53	15	25.0
0.5825	0.2000	158.2	-7.8	-35.52	18	25.0

Method: VPTiterNaOH **Titer** 0.1 mol/L NaOH VP **7/30/2012 11:32:59 AM**
Start time: 7/30/2012 2:27:47 PM

	Volume mL	Increment mL	Signal mV	Change mV	1st deriv. mV/mL	Time s	Temperature oC
	0.7825	0.2000	151.4	-6.8	-31.86	21	25.0
	0.9825	0.2000	145.6	-5.8	-28.96	24	25.0
	1.1825	0.2000	140.1	-5.5	-26.92	27	25.0
	1.3825	0.2000	134.7	-5.4	-25.28	30	25.0
	1.5825	0.2000	129.8	-4.9	-24.18	34	25.0
	1.7825	0.2000	124.9	-4.9	-23.50	36	25.0
	1.9825	0.2000	120.2	-4.7	-23.38	40	25.0
	2.1825	0.2000	115.8	-4.4	-23.53	43	25.0
	2.3825	0.2000	111.0	-4.8	-24.37	46	25.0
	2.5825	0.2000	105.7	-5.3	-25.31	49	25.0
	2.7825	0.2000	100.2	-5.5	-27.50	52	25.0
	2.9825	0.2000	94.8	-5.4	-30.53	55	25.0
	3.1825	0.2000	88.0	-6.8	-35.85	58	25.0
	3.3825	0.2000	80.5	-7.5	-45.78	61	25.0
	3.5825	0.2000	70.2	-10.3	-66.81	64	25.0
	3.7030	0.1205	62.8	-7.4	-87.84	67	25.0
	3.8115	0.1085	53.5	-9.3	-128.60	70	25.0
	3.8790	0.0675	46.2	-7.3	-178.88	73	25.0
	3.9370	0.0580	36.6	-9.6	-308.91	77	25.0
	3.9690	0.0320	28.4	-8.2	-462.14	80	25.0
	3.9890	0.0200	25.6	-2.8	-507.23	83	25.0
	4.0390	0.0500	5.4	-20.2	-910.03	89	25.0
	4.0590	0.0200	-7.9	-13.3	-1134.37	94	25.0
	4.0790	0.0200	-55.1	-47.2	-1506.88	108	25.0
EQP1	4.081660	NaN	-62.9	NaN	-1506.89	NaN	NaN
	4.0990	0.0200	-114.1	-59.0	-1478.56	119	25.0
	4.1190	0.0200	-134.6	-20.5	-1112.46	124	25.0
	4.1415	0.0225	-148.0	-13.4	-785.64	127	25.0
	4.1645	0.0230	-156.5	-8.5	-656.12	130	25.0
	4.1995	0.0350	-166.1	-9.6	-411.72	134	25.0
	4.2385	0.0390	-173.7	-7.6	NaN	137	25.0
	4.2965	0.0580	-182.1	-8.4	NaN	140	25.0
	4.3710	0.0745	-189.7	-7.6	NaN	143	25.0
	4.4815	0.1105	-198.3	-8.6	NaN	146	25.0
	4.6175	0.1360	-206.4	-8.1	NaN	149	25.0

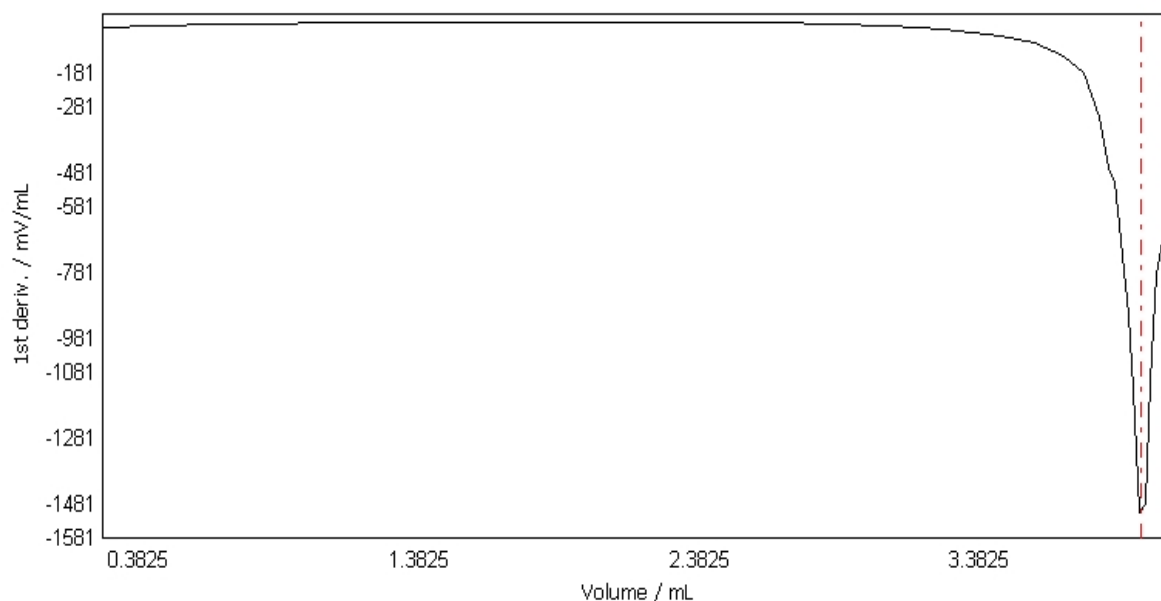
E - V curve EQP titration [1]
Sample 1/6



Method: VPTiterNaOH
Start time: 7/30/2012 2:27:47 PM
Titer 0.1 mol/L NaOH VP

7/30/2012 11:32:59 AM

dE/dV - V curve EQP titration [1]
Sample 1/6



Raw data

Sample

No. 2/6
Standard Potassium hydrogen phthalate
Type of standard solid
Comment
Titration stand Rondolino TTL 1
Weight $m = 0.08818 \text{ g}$
Correction factor $f = 1.0$
Purity $p = 100.00 \%$
Temperature $T = 25.0 \text{ }^{\circ}\text{C}$
Sample start 7/30/2012 2:32:37 PM
Sample end 7/30/2012 2:37:17 PM

EQP titration [1]

Titrant NaOH $c = 0.1 \text{ mol/L}$ TITER = 1.02434
Sensor DG111-SC
Start potential EST = 183.2 mV
No. of EQPs and cand. nEQ = 1
Consumption EQP1 VEQ1 = 4.311319 mL
Q1 = 0.441626 mmol
EEQ1 = -74.3 mV
EHN1 = 119.4 mV
Excess VEX = 0.349681 mL
QEX = 0.035819 mmol
End VEND = 4.6610 mL
QEND = 0.477445 mmol
Termination at EQPs
Time $t = 2:43 \text{ min}$

Calculation

Result $R1 = 1.00148 \text{ Titer}$
Formula $R1 = m / (VEQ \cdot c \cdot C)$
Constant $M / (10 \cdot p \cdot z)$
 $C = 0.20423$

Method: VPTiterNaOH **Titer** 0.1 mol/L NaOH VP **7/30/2012 11:32:59 AM**
Start time: 7/30/2012 2:27:47 PM

Molar mass M[Potassium hydrogen phthalate] = 204.23 g/mol
Equivalent number z[Potassium hydrogen phthalate] = 1
Duration tUSE = 03:47 min

Measured values EQP titration [1]

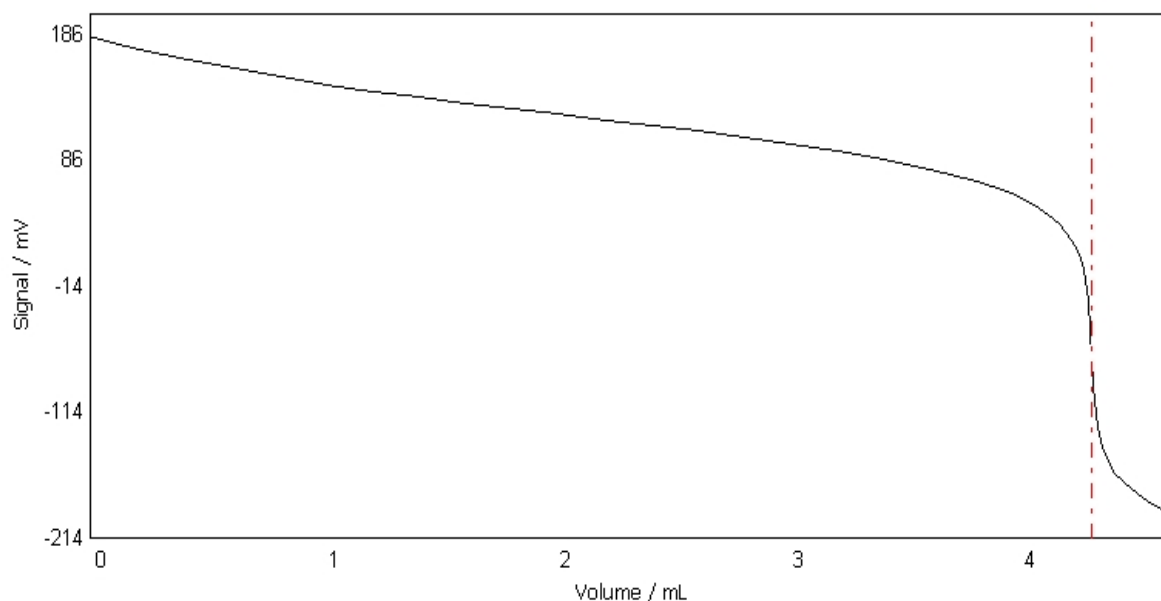
Titration NaOH c = 0.1 mol/L TITER = 1.02434
Sensor DG111-SC
Sample 2/6

	Volume mL	Increment mL	Signal mV	Change mV	1st deriv. mV/mL	Time s	Temperature oC
	0.0000	NaN	183.2	NaN	NaN	0	25.0
	0.0200	0.0200	182.6	-0.6	NaN	3	25.0
	0.0400	0.0200	181.8	-0.8	NaN	6	25.0
	0.0900	0.0500	179.5	-2.3	NaN	9	25.0
	0.2150	0.1250	174.4	-5.1	NaN	12	25.0
	0.4150	0.2000	166.3	-8.1	-38.34	15	25.0
	0.6150	0.2000	158.5	-7.8	-34.59	18	25.0
	0.8150	0.2000	152.2	-6.3	-31.09	21	25.0
	1.0150	0.2000	146.3	-5.9	-27.98	24	25.0
	1.2150	0.2000	140.9	-5.4	-25.47	27	25.0
	1.4150	0.2000	136.2	-4.7	-23.71	30	25.0
	1.6150	0.2000	131.4	-4.8	-22.82	34	25.0
	1.8150	0.2000	127.0	-4.4	-22.22	36	25.0
	2.0150	0.2000	122.4	-4.6	-22.10	40	25.0
	2.2150	0.2000	118.1	-4.3	-22.47	43	25.0
	2.4150	0.2000	113.5	-4.6	-22.89	46	25.0
	2.6150	0.2000	108.8	-4.7	-23.68	49	25.0
	2.8150	0.2000	103.9	-4.9	-25.04	52	25.0
	3.0150	0.2000	98.5	-5.4	-27.00	55	25.0
	3.2150	0.2000	93.0	-5.5	-30.01	58	25.0
	3.4150	0.2000	86.4	-6.6	-35.70	61	25.0
	3.6150	0.2000	78.4	-8.0	-45.77	64	25.0
	3.8145	0.1995	69.1	-9.3	-66.33	67	25.0
	3.9610	0.1465	59.4	-9.7	-96.85	71	25.0
	4.0475	0.0865	51.2	-8.2	-128.81	74	25.0
	4.1060	0.0585	44.7	-6.5	-167.50	77	25.0
	4.1675	0.0615	35.0	-9.7	-261.95	80	25.0
	4.2035	0.0360	27.7	-7.3	-465.50	84	25.0
	4.2335	0.0300	17.7	-10.0	-658.47	88	25.0
	4.2535	0.0200	11.0	-6.7	-779.30	92	25.0
	4.2770	0.0235	-0.7	-11.7	-1101.33	97	25.0
	4.2970	0.0200	-26.3	-25.6	-1527.75	105	25.0
EQP1	4.311319	NaN	-74.3	NaN	-1573.25	NaN	NaN
	4.3170	0.0200	-93.4	-67.1	-1573.02	119	25.0
	4.3370	0.0200	-127.4	-34.0	-1178.10	126	25.0
	4.3570	0.0200	-142.2	-14.8	-893.33	131	25.0
	4.3820	0.0250	-153.4	-11.2	-711.73	134	25.0
	4.4110	0.0290	-162.6	-9.2	NaN	137	25.0
	4.4470	0.0360	-169.9	-7.3	NaN	140	25.0
	4.5075	0.0605	-179.7	-9.8	NaN	144	25.0
	4.5705	0.0630	-187.2	-7.5	NaN	146	25.0
	4.6610	0.0905	-195.2	-8.0	NaN	150	25.0

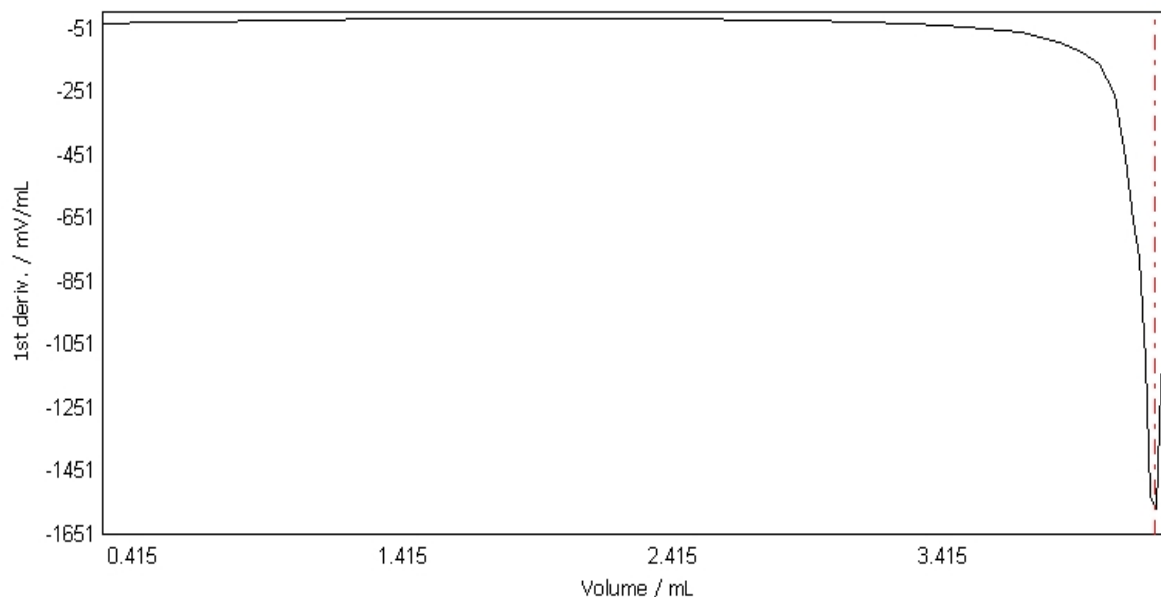
Method: VPTiterNaOH
Start time: 7/30/2012 2:27:47 PM
Titer 0.1 mol/L NaOH VP

7/30/2012 11:32:59 AM

E - V curve EQP titration [1]
Sample 2/6



dE/dV - V curve EQP titration [1]
Sample 2/6



Raw data

Sample

No.	3/6
Standard	Potassium hydrogen phthalate
Type of standard	solid
Comment	
Titration stand	Rondolino TTL 1
Weight	m = 0.08465 g
Correction factor	f = 1.0
Purity	p = 100.00 %

Method: VPTiterNaOH **Titer 0.1 mol/L NaOH VP** **7/30/2012 11:32:59 AM**

Start time: 7/30/2012 2:27:47 PM

Temperature T = 25.0 oC
Sample start 7/30/2012 2:37:18 PM
Sample end 7/30/2012 2:41:57 PM

EQP titration [1]

Titration NaOH c = 0.1 mol/L TITER = 1.02434
Sensor DG111-SC
Start potential EST = 183.1 mV
No. of EQPs and cand. nEQ = 1
Consumption EQP1 VEQ1 = 4.131269 mL
Q1 = 0.423182 mmol
EEQ1 = -69.6 mV
EHN1 = 119.4 mV
Excess VEX = 0.344731 mL
QEX = 0.035312 mmol
End VEND = 4.4760 mL
QEND = 0.458495 mmol
Termination at EQPs
Time t = 2:38 min

Calculation

Result R1 = 1.00328 Titer
Formula $R1 = m / (VEQ \cdot c \cdot C)$
Constant $M / (10 \cdot p \cdot z)$
C = 0.20423
Molar mass M[Potassium hydrogen phthalate] = 204.23 g/mol
Equivalent number z[Potassium hydrogen phthalate] = 1
Duration tUSE = 03:46 min

Measured values EQP titration [1]

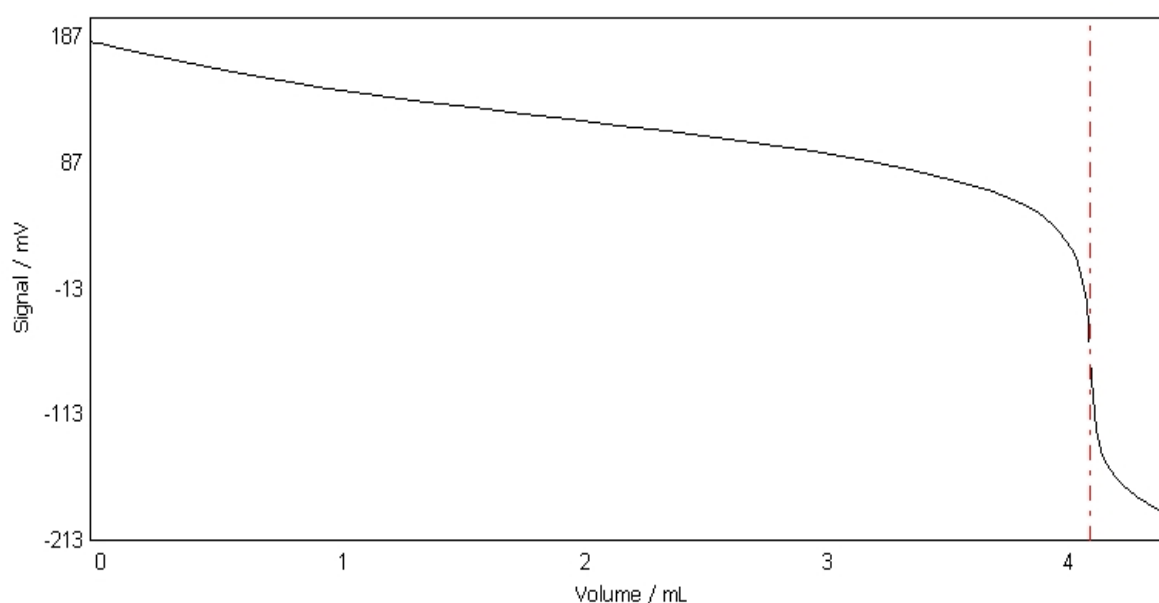
Titration NaOH c = 0.1 mol/L TITER = 1.02434
Sensor DG111-SC
Sample 3/6

Volume mL	Increment mL	Signal mV	Change mV	1st deriv. mV/mL	Time s	Temperature oC
0.0000	NaN	183.1	NaN	NaN	0	25.0
0.0200	0.0200	182.5	-0.6	NaN	3	25.0
0.0400	0.0200	181.6	-0.9	NaN	6	25.0
0.0900	0.0500	179.4	-2.2	NaN	9	25.0
0.2150	0.1250	173.8	-5.6	NaN	12	25.0
0.3835	0.1685	166.6	-7.2	-39.49	15	25.0
0.5835	0.2000	159.2	-7.4	-35.75	18	25.0
0.7835	0.2000	152.6	-6.6	-32.19	21	25.0
0.9835	0.2000	146.2	-6.4	-29.12	24	25.0
1.1835	0.2000	140.6	-5.6	-26.54	27	25.0
1.3835	0.2000	135.6	-5.0	-25.02	30	25.0
1.5835	0.2000	130.8	-4.8	-23.90	34	25.0
1.7835	0.2000	126.1	-4.7	-23.17	36	25.0
1.9835	0.2000	121.5	-4.6	-23.13	40	25.0
2.1835	0.2000	116.4	-5.1	-23.40	43	25.0
2.3835	0.2000	112.0	-4.4	-23.89	46	25.0
2.5835	0.2000	107.2	-4.8	-24.94	49	25.0
2.7835	0.2000	101.8	-5.4	-26.91	52	25.0
2.9835	0.2000	96.1	-5.7	-29.83	55	25.0
3.1835	0.2000	89.7	-6.4	-35.11	58	25.0
3.3835	0.2000	82.0	-7.7	-43.10	61	25.0
3.5835	0.2000	72.7	-9.3	-60.12	64	25.0
3.7325	0.1490	64.1	-8.6	-85.17	67	25.0
3.8420	0.1095	55.2	-8.9	-118.95	70	25.0
3.9135	0.0715	48.1	-7.1	-162.60	73	25.0
3.9785	0.0650	36.9	-11.2	-249.95	77	25.0
4.0055	0.0270	32.5	-4.4	-382.44	80	25.0
4.0565	0.0510	19.1	-13.4	-719.84	85	25.0
4.0765	0.0200	11.5	-7.6	-824.84	89	25.0
4.0965	0.0200	-1.7	-13.2	-1040.05	95	25.0

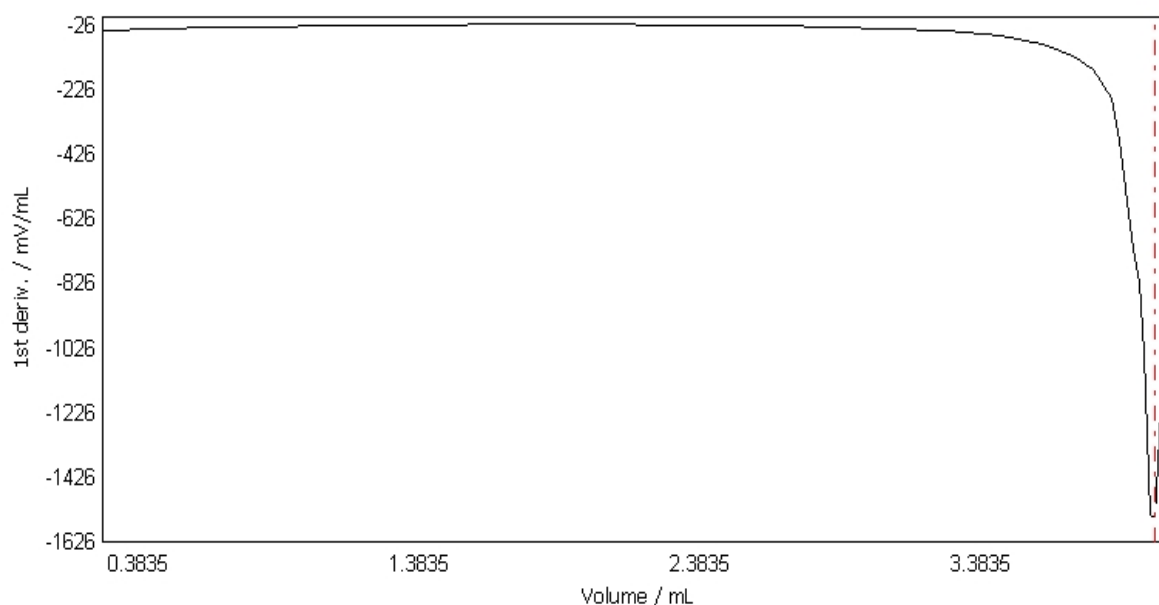
Method: VPTiterNaOH **Titer** 0.1 mol/L NaOH VP **7/30/2012 11:32:59 AM**
Start time: 7/30/2012 2:27:47 PM

	Volume mL	Increment mL	Signal mV	Change mV	1st deriv. mV/mL	Time s	Temperature oC
EQP1	4.1165	0.0200	-23.7	-22.0	-1540.74	104	25.0
	4.131269	NaN	-69.6	NaN	-1551.31	NaN	NaN
	4.1365	0.0200	-85.9	-62.2	-1550.09	117	25.0
	4.1565	0.0200	-125.0	-39.1	-1211.13	123	25.0
	4.1765	0.0200	-141.4	-16.4	-907.92	128	25.0
	4.2000	0.0235	-152.2	-10.8	-731.93	132	25.0
	4.2310	0.0310	-161.6	-9.4	NaN	134	25.0
	4.2710	0.0400	-170.2	-8.6	NaN	138	25.0
	4.3225	0.0515	-178.1	-7.9	NaN	141	25.0
	4.3965	0.0740	-187.3	-9.2	NaN	144	25.0
	4.4760	0.0795	-194.2	-6.9	NaN	147	25.0

E - V curve EQP titration [1]
Sample 3/6



dE/dV - V curve EQP titration [1]
Sample 3/6



Method: VPTiterNaOH **Titer** 0.1 mol/L NaOH VP **7/30/2012 11:32:59 AM**
Start time: 7/30/2012 2:27:47 PM

Raw data

Sample

No. 4/6
Standard Potassium hydrogen phthalate
Type of standard solid
Comment
Titration stand Rondolino TTL 1
Weight $m = 0.08477$ g
Correction factor $f = 1.0$
Purity $p = 100.00$ %
Temperature $T = 25.0$ oC
Sample start 7/30/2012 2:41:57 PM
Sample end 7/30/2012 2:46:36 PM

EQP titration [1]

Titrant NaOH $c = 0.1$ mol/L TITER = 1.02434
Sensor DG111-SC
Start potential EST = 182.7 mV
No. of EQPs and cand. nEQ = 1
Consumption EQP1 VEQ1 = 4.139765 mL
Q1 = 0.424053 mmol
EEQ1 = -55.0 mV
EHN1 = 119.1 mV
Excess VEX = 0.435735 mL
QEX = 0.044634 mmol
End VEND = 4.5755 mL
QEND = 0.468687 mmol
Termination at EQPs
Time $t = 2:37$ min

Calculation

Result $R1 = 1.00264$ Titer
Formula $R1 = m / (VEQ \cdot c \cdot C)$
Constant $M / (10 \cdot p \cdot z)$
 $C = 0.20423$
Molar mass $M[\text{Potassium hydrogen phthalate}] = 204.23$ g/mol
Equivalent number $z[\text{Potassium hydrogen phthalate}] = 1$
Duration $t_{USE} = 03:43$ min

Measured values EQP titration [1]

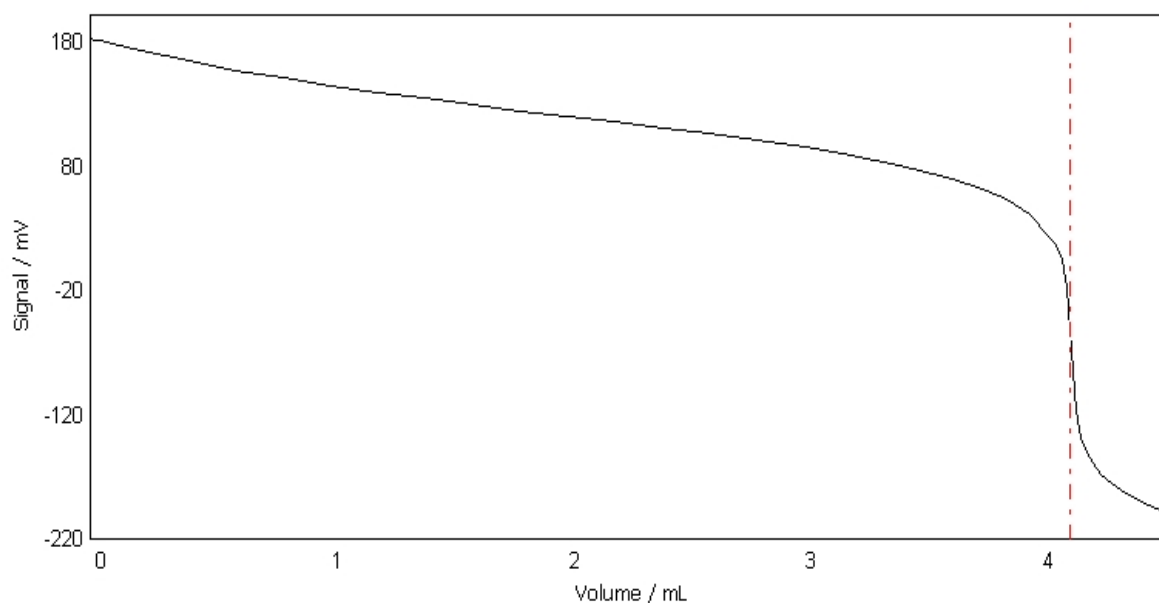
Titrant NaOH $c = 0.1$ mol/L TITER = 1.02434
Sensor DG111-SC
Sample 4/6

Volume mL	Increment mL	Signal mV	Change mV	1st deriv. mV/mL	Time s	Temperature oC
0.0000	NaN	182.7	NaN	NaN	0	25.0
0.0200	0.0200	182.2	-0.5	NaN	3	25.0
0.0400	0.0200	181.3	-0.9	NaN	6	25.0
0.0900	0.0500	178.8	-2.5	NaN	9	25.0
0.2150	0.1250	173.4	-5.4	NaN	12	25.0
0.4150	0.2000	165.2	-8.2	-38.47	15	25.0
0.6150	0.2000	157.7	-7.5	-34.55	18	25.0
0.8150	0.2000	151.3	-6.4	-31.18	21	25.0
1.0150	0.2000	145.3	-6.0	-28.53	24	25.0
1.2150	0.2000	139.9	-5.4	-26.51	27	25.0
1.4150	0.2000	134.7	-5.2	-24.95	30	25.0
1.6150	0.2000	129.8	-4.9	-24.14	34	25.0
1.8150	0.2000	125.0	-4.8	-23.29	36	25.0
2.0150	0.2000	120.3	-4.7	-23.10	40	25.0
2.2150	0.2000	115.9	-4.4	-23.14	43	25.0
2.4150	0.2000	110.9	-5.0	-23.73	46	25.0

Method: VPTiterNaOH **Titer** 0.1 mol/L NaOH VP **7/30/2012 11:32:59 AM**
Start time: 7/30/2012 2:27:47 PM

	Volume mL	Increment mL	Signal mV	Change mV	1st deriv. mV/mL	Time s	Temperature oC
	2.6150	0.2000	106.4	-4.5	-24.61	49	25.0
	2.8150	0.2000	100.8	-5.6	-26.63	52	25.0
	3.0150	0.2000	95.4	-5.4	-29.81	55	25.0
	3.2150	0.2000	88.9	-6.5	-34.51	58	25.0
	3.4150	0.2000	81.5	-7.4	-44.58	61	25.0
	3.6150	0.2000	71.6	-9.9	-63.74	64	25.0
	3.7470	0.1320	63.7	-7.9	-87.68	67	25.0
	3.8560	0.1090	55.2	-8.5	-123.14	70	25.0
	3.9345	0.0785	45.0	-10.2	-179.64	74	25.0
	3.9715	0.0370	40.9	-4.1	-262.41	77	25.0
	4.0570	0.0855	22.1	-18.8	-644.14	80	25.0
	4.0770	0.0200	17.2	-4.9	-777.59	84	25.0
	4.1050	0.0280	4.5	-12.7	-956.20	89	25.0
	4.1250	0.0200	-16.6	-21.1	-1276.94	96	25.0
EQP1	4.139765	NaN	-55.0	NaN	-1455.75	NaN	NaN
	4.1450	0.0200	-68.6	-52.0	-1443.79	110	25.0
	4.1650	0.0200	-116.8	-48.2	-1370.00	119	25.0
	4.1850	0.0200	-137.8	-21.0	-989.09	124	25.0
	4.2050	0.0200	-148.2	-10.4	-793.11	127	25.0
	4.2360	0.0310	-158.8	-10.6	-582.32	130	25.0
	4.2720	0.0360	-168.2	-9.4	NaN	133	25.0
	4.3120	0.0400	-175.7	-7.5	NaN	136	25.0
	4.3710	0.0590	-183.8	-8.1	NaN	139	25.0
	4.4520	0.0810	-191.4	-7.6	NaN	142	25.0
	4.5755	0.1235	-200.7	-9.3	NaN	145	25.0

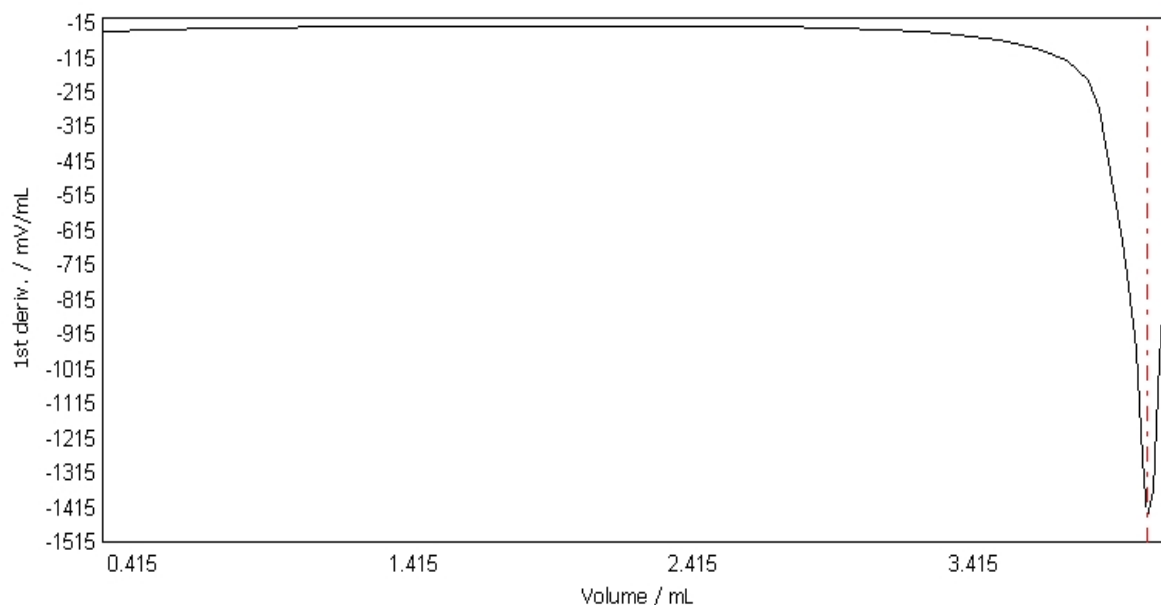
E - V curve **EQP titration [1]**
Sample 4/6



Method: VPTiterNaOH
Start time: 7/30/2012 2:27:47 PM
Titer 0.1 mol/L NaOH VP

7/30/2012 11:32:59 AM

dE/dV - V curve EQP titration [1]
Sample 4/6



Raw data

Sample

No. 5/6
Standard Potassium hydrogen phthalate
Type of standard solid
Comment
Titration stand Rondolino TTL 1
Weight $m = 0.08436$ g
Correction factor $f = 1.0$
Purity $p = 100.00$ %
Temperature $T = 25.0$ °C
Sample start 7/30/2012 2:46:36 PM
Sample end 7/30/2012 2:51:21 PM

EQP titration [1]

Titrant NaOH $c = 0.1$ mol/L TITER = 1.02434
Sensor DG111-SC
Start potential EST = 182.7 mV
No. of EQPs and cand. nEQ = 1
Consumption EQP1 VEQ1 = 4.126113 mL
Q1 = 0.422654 mmol
EEQ1 = -73.5 mV
EHN1 = 119.1 mV
Excess VEX = 0.494387 mL
QEX = 0.050642 mmol
End VEND = 4.6205 mL
QEND = 0.473296 mmol
Termination at EQPs
Time $t = 2:42$ min

Calculation

Result $R1 = 1.00110$ Titer
Formula $R1 = m / (VEQ \cdot c \cdot C)$
Constant $M / (10 \cdot p \cdot z)$
 $C = 0.20423$

Method: VPTiterNaOH **Titer 0.1 mol/L NaOH VP** **7/30/2012 11:32:59 AM**
Start time: 7/30/2012 2:27:47 PM

Molar mass M[Potassium hydrogen phthalate] = 204.23 g/mol
Equivalent number z[Potassium hydrogen phthalate] = 1
Duration tUSE = 03:47 min

Measured values EQP titration [1]

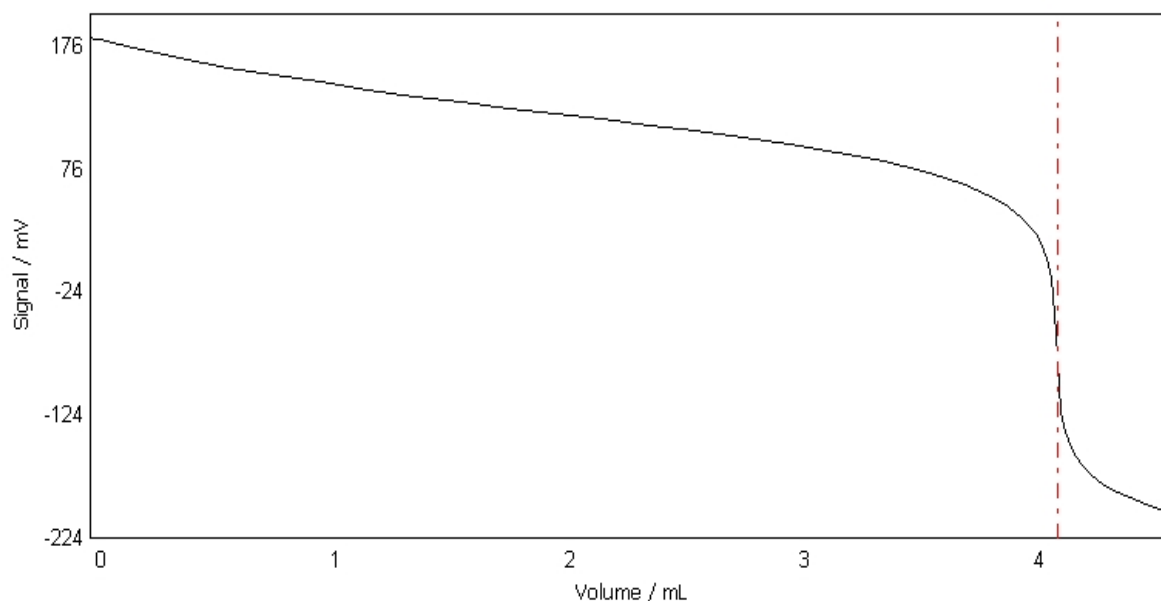
Titration NaOH c = 0.1 mol/L TITER = 1.02434
Sensor DG111-SC
Sample 5/6

	Volume mL	Increment mL	Signal mV	Change mV	1st deriv. mV/mL	Time s	Temperature oC
	0.0000	NaN	182.7	NaN	NaN	0	25.0
	0.0200	0.0200	181.9	-0.8	NaN	3	25.0
	0.0400	0.0200	181.0	-0.9	NaN	6	25.0
	0.0900	0.0500	178.9	-2.1	NaN	9	25.0
	0.2150	0.1250	173.2	-5.7	NaN	12	25.0
	0.3830	0.1680	166.2	-7.0	-38.99	15	25.0
	0.5830	0.2000	158.6	-7.6	-34.95	18	25.0
	0.7830	0.2000	152.1	-6.5	-31.60	21	25.0
	0.9830	0.2000	146.4	-5.7	-28.95	24	25.0
	1.1830	0.2000	140.5	-5.9	-26.85	27	25.0
	1.3830	0.2000	135.3	-5.2	-25.35	30	25.0
	1.5830	0.2000	130.3	-5.0	-24.45	34	25.0
	1.7830	0.2000	125.5	-4.8	-23.52	36	25.0
	1.9830	0.2000	121.0	-4.5	-23.16	40	25.0
	2.1830	0.2000	116.2	-4.8	-23.42	43	25.0
	2.3830	0.2000	111.4	-4.8	-24.00	46	25.0
	2.5830	0.2000	106.7	-4.7	-25.02	49	25.0
	2.7830	0.2000	101.1	-5.6	-26.49	52	25.0
	2.9830	0.2000	95.7	-5.4	-29.31	55	25.0
	3.1830	0.2000	89.3	-6.4	-34.62	58	25.0
	3.3830	0.2000	81.9	-7.4	-43.47	61	25.0
	3.5830	0.2000	72.7	-9.2	-61.53	64	25.0
	3.7340	0.1510	62.9	-9.8	-86.78	68	25.0
	3.8210	0.0870	55.6	-7.3	-113.05	71	25.0
	3.8945	0.0735	48.7	-6.9	-151.43	75	25.0
	3.9700	0.0755	37.5	-11.2	-233.10	79	25.0
	4.0045	0.0345	30.4	-7.1	-370.53	83	25.0
	4.0325	0.0280	23.7	-6.7	-561.89	86	25.0
	4.0610	0.0285	13.1	-10.6	-761.35	90	25.0
	4.0810	0.0200	2.8	-10.3	-974.04	95	25.0
	4.1010	0.0200	-13.0	-15.8	-1443.54	101	25.0
	4.1210	0.0200	-57.4	-44.4	-1530.87	114	25.0
EQP1	4.126113	NaN	-73.5	NaN	-1537.70	NaN	NaN
	4.1410	0.0200	-120.4	-63.0	-1226.37	123	25.0
	4.1610	0.0200	-137.9	-17.5	-977.95	128	25.0
	4.1940	0.0330	-153.3	-15.4	-720.93	131	25.0
	4.2260	0.0320	-163.2	-9.9	-540.20	134	25.0
	4.2655	0.0395	-171.4	-8.2	NaN	137	25.0
	4.3225	0.0570	-181.0	-9.6	NaN	140	25.0
	4.3815	0.0590	-187.3	-6.3	NaN	143	25.0
	4.4990	0.1175	-197.1	-9.8	NaN	146	25.0
	4.6205	0.1215	-204.2	-7.1	NaN	150	25.0

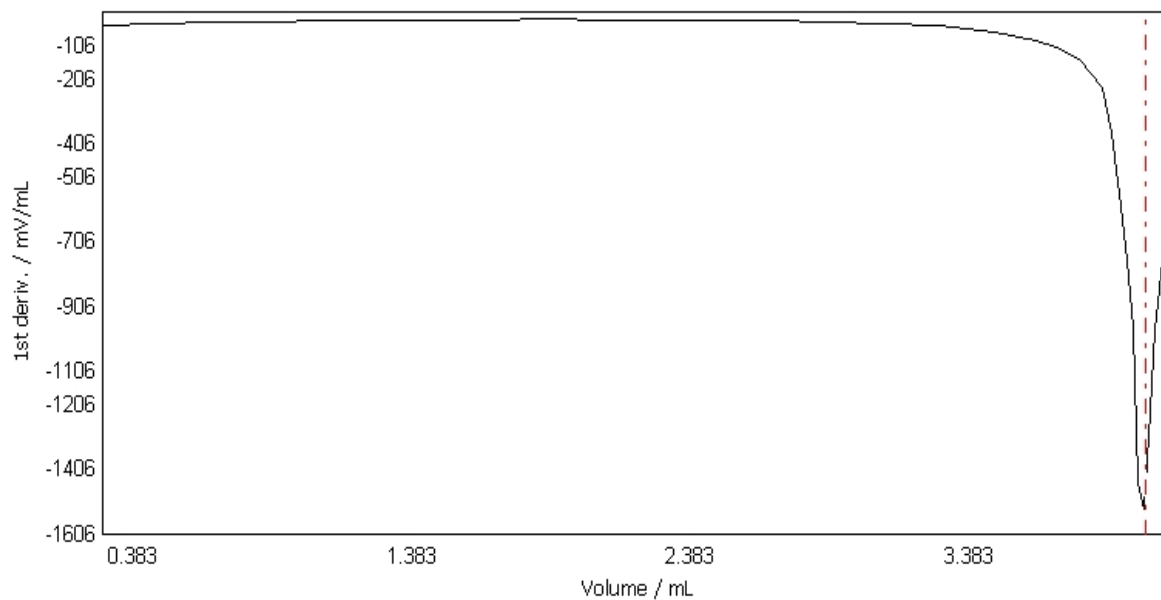
Method: VPTiterNaOH
Start time: 7/30/2012 2:27:47 PM
Titer 0.1 mol/L NaOH VP

7/30/2012 11:32:59 AM

E - V curve EQP titration [1]
Sample 5/6



dE/dV - V curve EQP titration [1]
Sample 5/6



Raw data

Sample

No.	6/6
Standard	Potassium hydrogen phthalate
Type of standard	solid
Comment	
Titration stand	Rondolino TTL 1
Weight	m = 0.08426 g
Correction factor	f = 1.0
Purity	p = 100.00 %

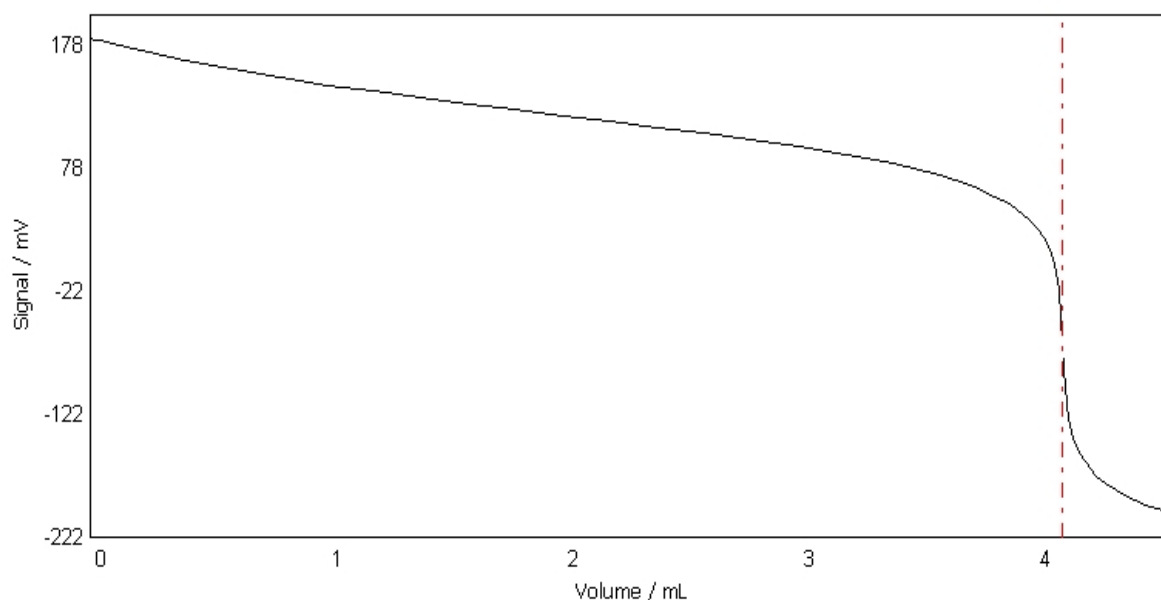
7/30/2012 3:00:29 PM

Method: VPTiterNaOH
Start time: 7/30/2012 2:27:47 PM
Titer 0.1 mol/L NaOH VP

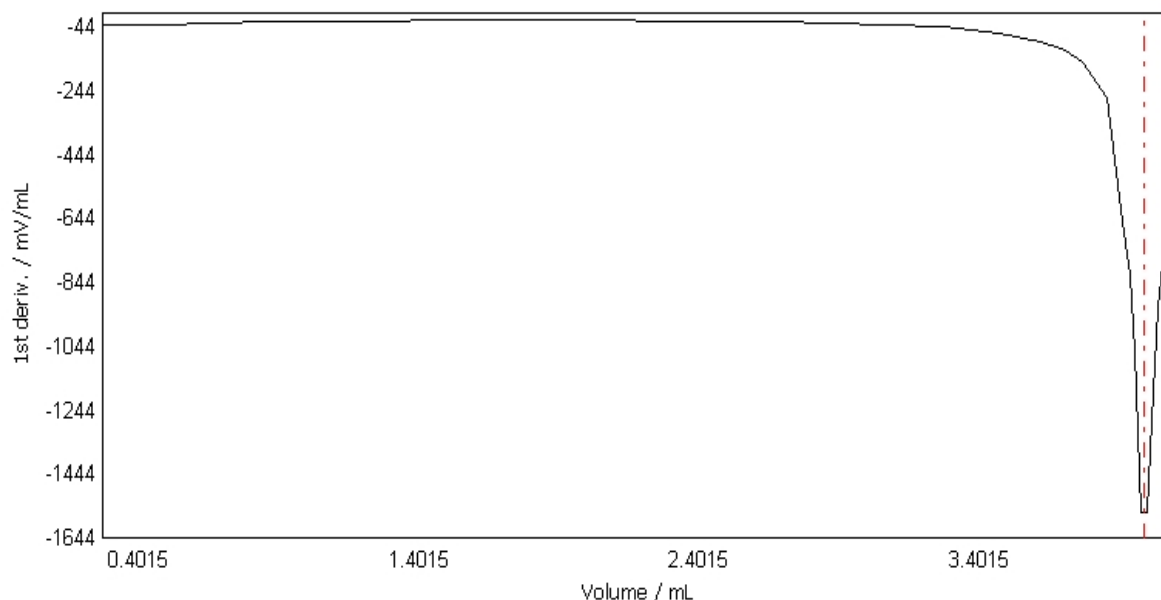
7/30/2012 11:32:59 AM

	Volume mL	Increment mL	Signal mV	Change mV	1st deriv. mV/mL	Time s	Temperature oC
EQP1	4.1070	0.0200	-20.6	-19.7	-1566.70	102	25.0
	4.119293	NaN	-61.0	NaN	-1580.60	NaN	NaN
	4.1270	0.0200	-86.4	-65.8	-1565.31	118	25.0
	4.1470	0.0200	-125.8	-39.4	-1277.09	124	25.0
	4.1670	0.0200	-140.8	-15.0	-920.55	127	25.0
	4.1950	0.0280	-153.8	-13.0	-693.70	130	25.0
	4.2230	0.0280	-162.4	-8.6	-532.38	134	25.0
	4.2620	0.0390	-172.1	-9.7	NaN	137	25.0
	4.3020	0.0400	-178.4	-6.3	NaN	140	25.0
	4.3800	0.0780	-187.5	-9.1	NaN	143	25.0
	4.4735	0.0935	-195.9	-8.4	NaN	146	25.0
	4.5910	0.1175	-203.2	-7.3	NaN	149	25.0

E - V curve EQP titration [1]
Sample 6/6



dE/dV - V curve EQP titration [1]
Sample 6/6



Method:	VPtiterNaOH	Titer 0.1 mol/L NaOH VP	7/30/2012 11:32:59 AM
Start time:	7/30/2012 2:27:47 PM		

Raw data

Calculation

Result	R2 = 1.0022 -- Mean Titer
Formula	R2=Mean[R1]
Constant	1
	C = 1
Molar mass	M[Potassium hydrogen phthalate] = 204.23 g/mol
Equivalent number	z[Potassium hydrogen phthalate] = 1

Titer

Titrant	NaOH c = 0.1 mol/L
Titer	1.00216

-
- (1) Modified
 - (2) Excluded
 - (3) Outside limits
 - (4) Resource expired
 - (5) srel above max srel
 - (6) srel above max srel for multiple determination
 - (7) Value outside limits, not saved in setup
 - (8) Sample data outside limits
 - (9) Standard evaluation used
 - (10) Result from buffer

Created: Development Administrator (admin), 7/30/2012 2:32:39 PM