Method: **TitreCericSulphate** **Titer 0.1mol/L CeSO4** **8/10/2012 10:44:00 AM**
Start time: **8/10/2012 11:11:10 AM**

Sample data

No.	Comment / ID	Start time	Sample size	Corr. f	Density
1/6	Disodium oxalat	8/10/2012 11:11:11 AM	0.03293 g	1.0	0 g/mL
2/6	Disodium oxalat	8/10/2012 11:17:04 AM	0.03222 g	1.0	0 g/mL
3/6	Disodium oxalat	8/10/2012 11:22:43 AM	0.03566 g	1.0	0 g/mL
4/6	Disodium oxalat	8/10/2012 11:29:20 AM	0.03385 g	1.0	0 g/mL
5/6	Disodium oxalat	8/10/2012 11:35:29 AM	0.03482 g	1.0	0 g/mL
6/6	Disodium oxalat	8/10/2012 11:41:53 AM	0.03653 g	1.0	0 g/mL

Results

No.	Comment / ID	Start time	Sample size and results		
1/6	Disodium oxalat	8/10/2012 11:11:11 AM	0.03293	g	
			R1 = 0.99782	--	Titer
2/6	Disodium oxalat	8/10/2012 11:17:04 AM	0.03222	g	
			R1 = 0.99949	--	Titer
3/6	Disodium oxalat	8/10/2012 11:22:43 AM	0.03566	g	
			R1 = 0.99963	--	Titer
4/6	Disodium oxalat	8/10/2012 11:29:20 AM	0.03385	g	
			R1 = 0.99755	--	Titer
5/6	Disodium oxalat	8/10/2012 11:35:29 AM	0.03482	g	
			R1 = 0.99690	--	Titer
6/6	Disodium oxalat	8/10/2012 11:41:53 AM	0.03653	g	
			R1 = 0.99707	--	Titer
-/-			R2 = 0.9981	--	Mean Titer

Titer

Titer	0.99808

Series comment

Statistics

Rx	Name	n	Mean value	Unit	s	srel [%]
R1	Titer	6	0.99808	--	0.00120	0.120
R2	Mean Titer	1	0.9981	--	NaN	NaN

Raw data

Sample

No.	1/6
Standard	Disodium oxalat
Type of standard	solid
Comment	
Titration stand	Rondo60/1A
Weight	m = 0.03293 g
Correction factor	f = 1.0

Method: **TitreCericSulphate Titer 0.1mol/L CeSO4** **8/10/2012 10:44:00 AM**
Start time: **8/10/2012 11:11:10 AM**

Purity	p = 100.00 %
Temperature	T = 25.0 oC
Sample start	8/10/2012 11:11:11 AM
Sample end	8/10/2012 11:17:04 AM

Dispense (normal) [1]

Titrant	H2SO4 cDi = 1 mol/L TITERDi = 1.0
Disp. volume	VENDDi = 5.0 mL
Disp. amount	QENDDi = 5.00 mmol
Time	0:13 min

Measure (normal) [1]

Sensor	DH 100
Temperature	DH 100 241.5 oC
Measured value	
Time	tMe = 0:01 min

EQP titration [1]

Titrant	Ce(SO4)2 c = 0.1 mol/L TITER = 0.99088	
Sensor	DM140-SC	
Start potential		EST = 603.2 mV
Predispense		EPD = 596.2 mV
		VPD = 4.0000 mL
No. of EQPs and cand.		nEQ = 1
Consumption	EQP1	VEQ1 = 4.925293 mL
		Q1 = 0.488037 mmol
		EEQ1 = 755.4 mV
		EHNV1 = 625.2 mV
Excess		VEX = 0.474707 mL
		QEX = 0.047038 mmol
End		VEND = 5.4000 mL
		QEND = 0.535075 mmol
Termination at	EQPs	
Time	t = 3:17 min	

Calculation

Result	R1 = 0.99782 -- Titer
Formula	R1=m/(VEQ*c*C)
Constant	M/(10*p*z)
	C = 0.067005
Molar mass	M[Disodium oxalat] = 134.01 g/mol
Equivalent number	z[Disodium oxalat] = 2
Duration	tUSE = 05:19 min

Measured values EQP titration [1]

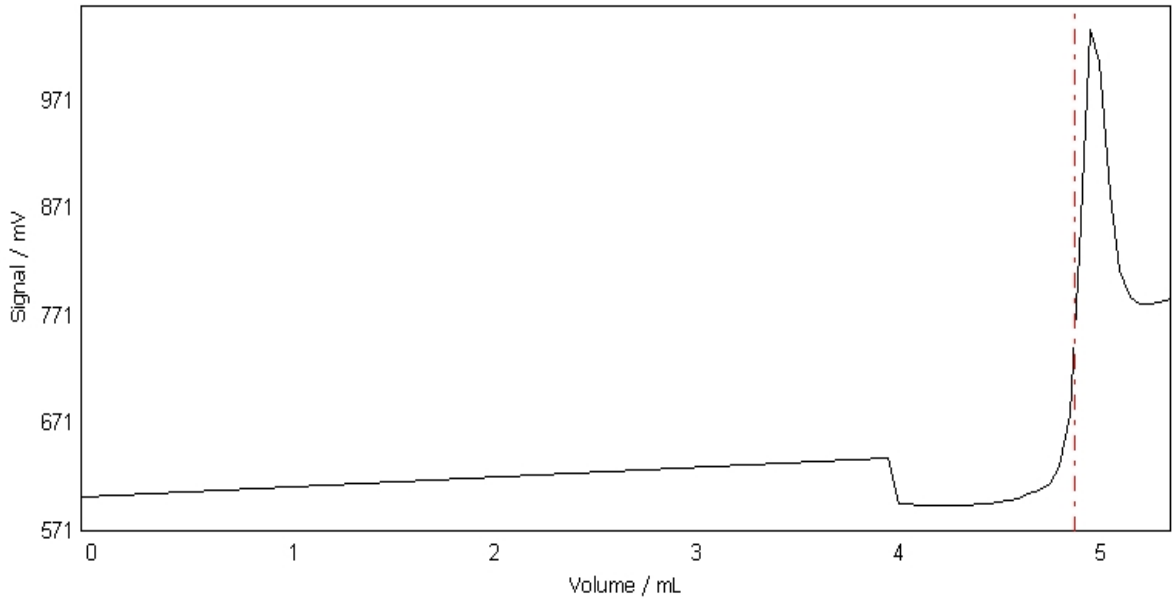
Titrant	Ce(SO4)2 c = 0.1 mol/L TITER = 0.99088
Sensor	DM140-SC
Sample	1/6

Volume mL	Increment mL	Signal mV	Change mV	1st deriv. mV/mL	Time s	Temperature oC
0.0000	NaN	603.2	NaN	NaN	0	25.0
4.0000	4.0000	639.0	35.8	NaN	12	25.0
4.0500	0.0500	596.6	-42.4	NaN	48	25.0
4.1000	0.0500	596.1	-0.5	NaN	52	25.0
4.1500	0.0500	595.4	-0.7	NaN	58	25.0
4.2000	0.0500	594.8	-0.6	-73.30	63	25.0
4.2500	0.0500	594.6	-0.2	44.63	68	25.0
4.3000	0.0500	594.4	-0.2	1.30	73	25.0
4.3500	0.0500	594.5	0.1	6.40	78	25.0
4.4000	0.0500	595.3	0.8	10.54	83	25.0
4.4500	0.0500	595.9	0.6	13.63	88	25.0

Method: **TitreCericSulphate** **Titer 0.1mol/L CeSO4** **8/10/2012 10:44:00 AM**
Start time: **8/10/2012 11:11:10 AM**

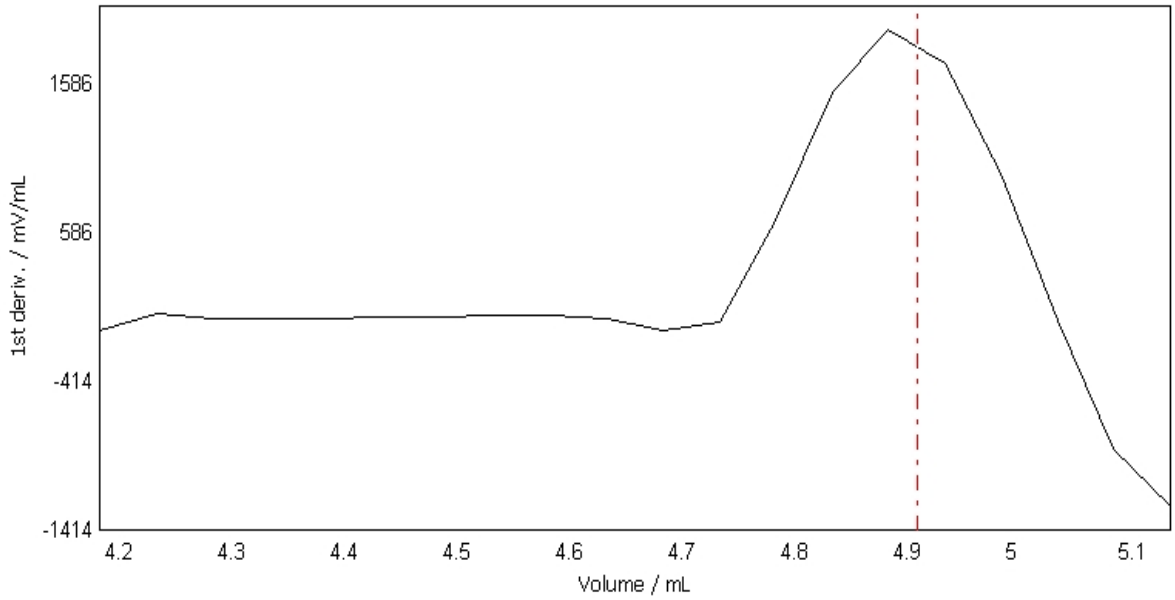
	Volume mL	Increment mL	Signal mV	Change mV	1st deriv. mV/mL	Time s	Temperature oC
	4.5000	0.0500	596.7	0.8	20.72	93	25.0
	4.5500	0.0500	597.7	1.0	26.12	98	25.0
	4.6000	0.0500	599.3	1.6	28.13	103	25.0
	4.6500	0.0500	601.5	2.2	6.71	108	25.0
	4.7000	0.0500	605.3	3.8	-69.84	113	25.0
	4.7500	0.0500	608.4	3.1	-14.44	118	25.0
	4.8000	0.0500	615.3	6.9	664.92	123	25.0
	4.8500	0.0500	630.3	15.0	1529.96	128	25.0
	4.9000	0.0500	680.1	49.8	1946.35	133	25.0
EQP1	4.925293	NaN	755.4	NaN	1951.10	NaN	NaN
	4.9500	0.0500	829.0	148.9	1723.07	138	25.0
	5.0000	0.0500	1037.2	208.2	976.40	143	25.0
	5.0500	0.0500	1006.8	-30.4	-4.61	148	25.0
	5.1000	0.0500	883.5	-123.3	-868.00	153	25.0
	5.1500	0.0500	814.1	-69.4	-1254.08	158	25.0
	5.2000	0.0500	787.7	-26.4	NaN	163	25.0
	5.2500	0.0500	782.0	-5.7	NaN	168	25.0
	5.3000	0.0500	782.1	0.1	NaN	173	25.0
	5.3500	0.0500	783.2	1.1	NaN	178	25.0
	5.4000	0.0500	787.4	4.2	NaN	183	25.0

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



Method: **TitreCericSulphate** **Titer 0.1mol/L CeSO4** **8/10/2012 10:44:00 AM**
Start time: **8/10/2012 11:11:10 AM**

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



Raw data

Sample

No.	2/6
Standard	Disodium oxalat
Type of standard	solid
Comment	
Titration stand	Rondo60/1A
Weight	m = 0.03222 g
Correction factor	f = 1.0
Purity	p = 100.00 %
Temperature	T = 25.0 oC
Sample start	8/10/2012 11:17:04 AM
Sample end	8/10/2012 11:22:43 AM

Dispense (normal) [1]

Titrant	H2SO4 cDi = 1 mol/L TITERDi = 1.0
Disp. volume	VENDDi = 5.0 mL
Disp. amount	QENDDi = 5.00 mmol
Time	0:12 min

Measure (normal) [1]

Sensor	DH 100
Temperature	DH 100 241.5 oC
Measured value	
Time	tMe = 0:01 min

EQP titration [1]

Titrant	Ce(SO4)2 c = 0.1 mol/L TITER = 0.99088	
Sensor	DM140-SC	
Start potential		EST = 598.1 mV
Predispense		EPD = 597.4 mV
		VPD = 4.0000 mL
No. of EQPs and cand.		nEQ = 1
Consumption	EQP1	VEQ1 = 4.811039 mL

Method: **TitreCericSulphate** **Titer 0.1mol/L CeSO4** **8/10/2012 10:44:00 AM**
Start time: **8/10/2012 11:11:10 AM**

	Q1 =	0.476716 mmol
	EEQ1 =	738.4 mV
	EHNV1 =	621.6 mV
Excess	VEX =	0.438961 mL
	QEX =	0.043496 mmol
End	VEND =	5.2500 mL
	QEND =	0.520212 mmol

Termination at EQPs
Time t = 3:01 min

Calculation

Result R1 = 0.99949 -- Titer
Formula R1=m/(VEQ*c*C)
Constant M/(10*p*z)
C = 0.067005
Molar mass M[Disodium oxalat] = 134.01 g/mol
Equivalent number z[Disodium oxalat] = 2
Duration tUSE = 05:04 min

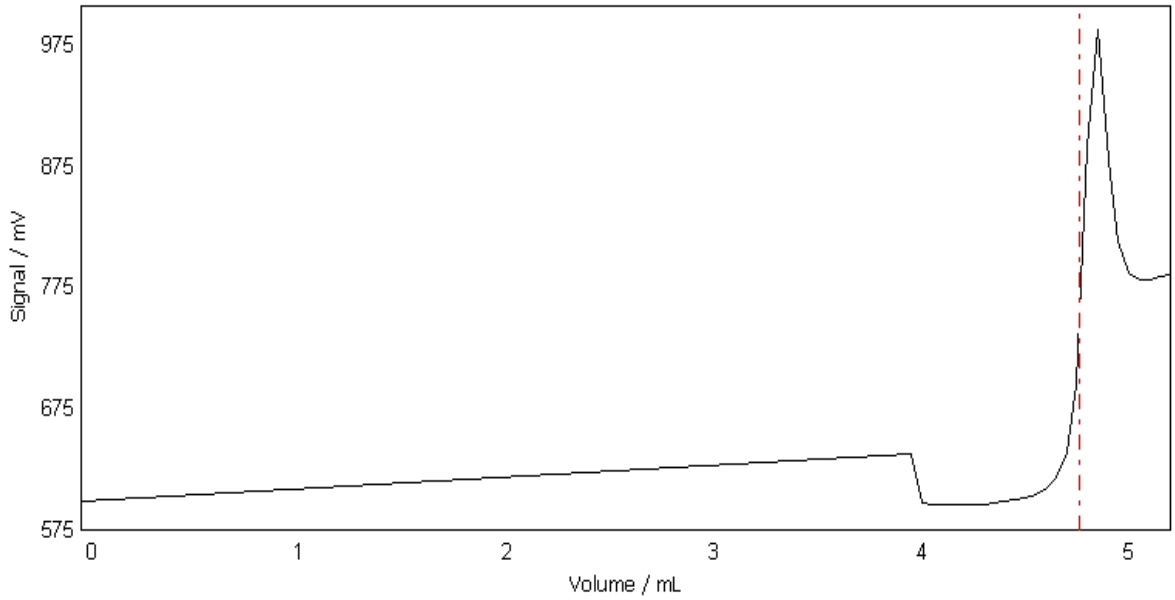
Measured values **EQP titration [1]**

Titrant Ce(SO4)2 c = 0.1 mol/L TITER = 0.99088
Sensor DM140-SC
Sample 2/6

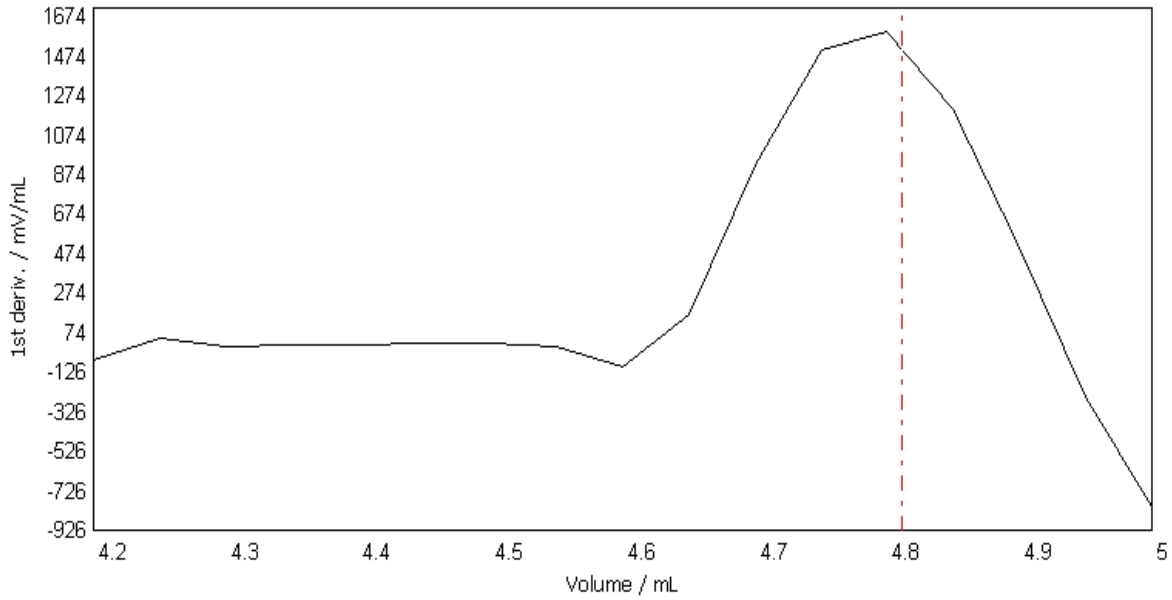
	Volume mL	Increment mL	Signal mV	Change mV	1st deriv. mV/mL	Time s	Temperature oC
	0.0000	NaN	598.1	NaN	NaN	0	25.0
	4.0000	4.0000	637.1	39.0	NaN	12	25.0
	4.0500	0.0500	597.2	-39.9	NaN	48	25.0
	4.1000	0.0500	596.3	-0.9	NaN	53	25.0
	4.1500	0.0500	595.8	-0.5	NaN	58	25.0
	4.2000	0.0500	595.6	-0.2	-65.66	63	25.0
	4.2500	0.0500	595.7	0.1	47.83	68	25.0
	4.3000	0.0500	595.8	0.1	7.08	73	25.0
	4.3500	0.0500	596.5	0.7	11.27	78	25.0
	4.4000	0.0500	596.8	0.3	15.32	83	25.0
	4.4500	0.0500	598.3	1.5	19.48	88	25.0
	4.5000	0.0500	599.4	1.1	18.29	93	25.0
	4.5500	0.0500	601.4	2.0	1.88	98	25.0
	4.6000	0.0500	604.2	2.8	-101.26	103	25.0
	4.6500	0.0500	609.0	4.8	165.00	108	25.0
	4.7000	0.0500	617.6	8.6	924.34	113	25.0
	4.7500	0.0500	639.0	21.4	1500.71	118	25.0
	4.8000	0.0500	695.4	56.4	1597.46	123	25.0
EQP1	4.811039	NaN	738.4	NaN	1618.99	NaN	NaN
	4.8500	0.0500	890.2	194.8	1209.44	128	25.0
	4.9000	0.0500	987.8	97.6	510.61	133	25.0
	4.9500	0.0500	880.5	-107.3	-256.32	138	25.0
	5.0000	0.0500	813.8	-66.7	-806.26	143	25.0
	5.0500	0.0500	786.2	-27.6	NaN	148	25.0
	5.1000	0.0500	781.5	-4.7	NaN	153	25.0
	5.1500	0.0500	781.5	0.0	NaN	158	25.0
	5.2000	0.0500	783.8	2.3	NaN	163	25.0
	5.2500	0.0500	785.7	1.9	NaN	168	25.0

Method: **TitreCericSulphate** **Titer 0.1mol/L CeSO4** **8/10/2012 10:44:00 AM**
Start time: **8/10/2012 11:11:10 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	Disodium oxalat
Type of standard	solid
Comment	
Titration stand	Rondo60/1A
Weight	m = 0.03566 g
Correction factor	f = 1.0
Purity	p = 100.00 %

Method: **TitreCericSulphate Titer 0.1mol/L CeSO4** **8/10/2012 10:44:00 AM**
Start time: **8/10/2012 11:11:10 AM**

Temperature	T = 25.0 oC
Sample start	8/10/2012 11:22:43 AM
Sample end	8/10/2012 11:29:19 AM

Dispense (normal) [1]

Titrant	H2SO4 cDi = 1 mol/L TITERDi = 1.0
Disp. volume	VENDDi = 5.0 mL
Disp. amount	QENDDi = 5.00 mmol
Time	0:12 min

Measure (normal) [1]

Sensor	DH 100
Temperature	DH 100 241.5 oC
Measured value	
Time	tMe = 0:01 min

EQP titration [1]

Titrant	Ce(SO4)2 c = 0.1 mol/L TITER = 0.99088	
Sensor	DM140-SC	
Start potential		EST = 595.2 mV
Predispense		EPD = 590.3 mV
		VPD = 4.0000 mL
No. of EQPs and cand.		nEQ = 1
Consumption	EQP1	VEQ1 = 5.323951 mL
		Q1 = 0.527540 mmol
		EEQ1 = 732.9 mV
		EHNV1 = 616.0 mV
Excess		VEX = 0.476049 mL
		QEX = 0.047171 mmol
End		VEND = 5.8000 mL
		QEND = 0.574710 mmol
Termination at	EQPs	
Time	t = 3:58 min	

Calculation

Result	R1 = 0.99963 -- Titer
Formula	R1=m/(VEQ*c*C)
Constant	M/(10*p*z)
	C = 0.067005
Molar mass	M[Disodium oxalat] = 134.01 g/mol
Equivalent number	z[Disodium oxalat] = 2
Duration	tUSE = 06:01 min

Measured values EQP titration [1]

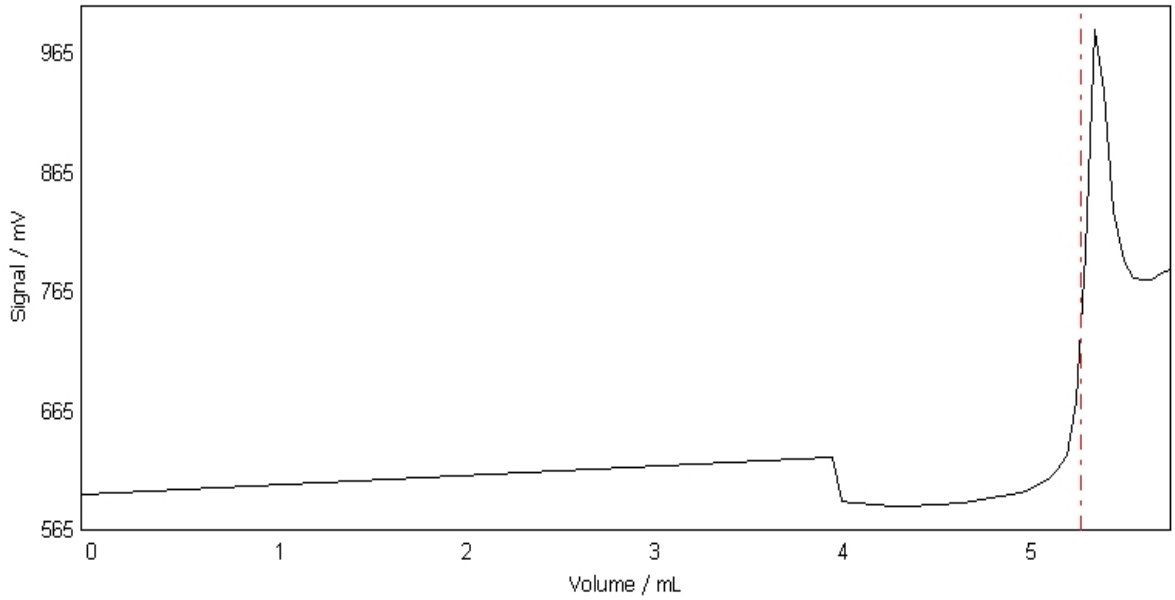
Titrant	Ce(SO4)2 c = 0.1 mol/L TITER = 0.99088
Sensor	DM140-SC
Sample	3/6

Volume mL	Increment mL	Signal mV	Change mV	1st deriv. mV/mL	Time s	Temperature oC
0.0000	NaN	595.2	NaN	NaN	0	25.0
4.0000	4.0000	626.5	31.3	NaN	12	25.0
4.0500	0.0500	589.7	-36.8	NaN	48	25.0
4.1000	0.0500	588.1	-1.6	NaN	53	25.0
4.1500	0.0500	587.2	-0.9	NaN	58	25.0
4.2000	0.0500	586.1	-1.1	-71.54	63	25.0
4.2500	0.0500	585.8	-0.3	33.49	68	25.0
4.3000	0.0500	585.5	-0.3	-3.92	73	25.0
4.3500	0.0500	585.5	0.0	-1.02	78	25.0
4.4000	0.0500	585.5	0.0	1.91	83	25.0
4.4500	0.0500	585.5	0.0	3.31	88	25.0
4.5000	0.0500	585.6	0.1	5.55	93	25.0

Method: **TitreCericSulphate** **Titer 0.1mol/L CeSO4** **8/10/2012 10:44:00 AM**
Start time: **8/10/2012 11:11:10 AM**

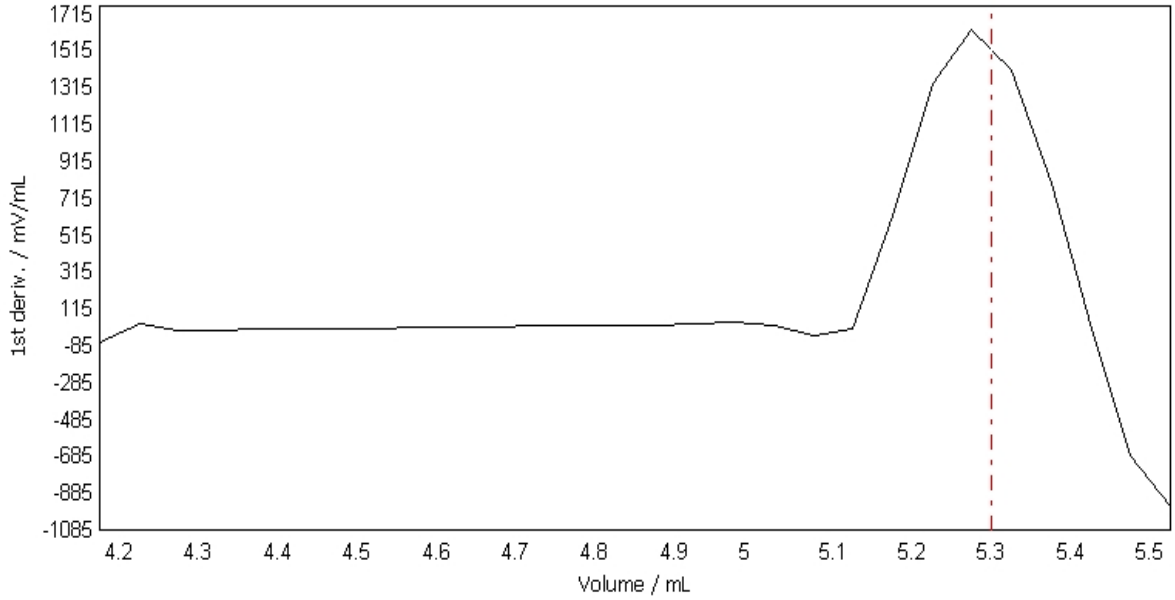
	Volume mL	Increment mL	Signal mV	Change mV	1st deriv. mV/mL	Time s	Temperature oC
	4.5500	0.0500	586.3	0.7	8.79	98	25.0
	4.6000	0.0500	586.7	0.4	12.87	103	25.0
	4.6500	0.0500	587.2	0.5	16.42	108	25.0
	4.7000	0.0500	588.2	1.0	19.36	113	25.0
	4.7500	0.0500	589.5	1.3	22.39	118	25.0
	4.8000	0.0500	590.6	1.1	25.00	123	25.0
	4.8500	0.0500	591.8	1.2	25.89	128	25.0
	4.9000	0.0500	593.3	1.5	28.86	133	25.0
	4.9500	0.0500	595.0	1.7	33.78	138	25.0
	5.0000	0.0500	596.7	1.7	42.23	143	25.0
	5.0500	0.0500	599.3	2.6	24.00	148	25.0
	5.1000	0.0500	603.3	4.0	-33.57	153	25.0
	5.1500	0.0500	608.0	4.7	3.28	158	25.0
	5.2000	0.0500	615.8	7.8	619.27	163	25.0
	5.2500	0.0500	627.7	11.9	1332.38	168	25.0
	5.3000	0.0500	673.4	45.7	1628.50	173	25.0
EQP1	5.323951	NaN	732.9	NaN	1633.83	NaN	NaN
	5.3500	0.0500	797.7	124.3	1409.34	178	25.0
	5.4000	0.0500	985.1	187.4	792.27	183	25.0
	5.4500	0.0500	933.1	-52.0	5.83	188	25.0
	5.5000	0.0500	832.6	-100.5	-681.83	193	25.0
	5.5500	0.0500	790.2	-42.4	-955.85	198	25.0
	5.6000	0.0500	776.7	-13.5	NaN	204	25.0
	5.6500	0.0500	774.6	-2.1	NaN	208	25.0
	5.7000	0.0500	774.9	0.3	NaN	214	25.0
	5.7500	0.0500	780.8	5.9	NaN	218	25.0
	5.8000	0.0500	783.3	2.5	NaN	224	25.0

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



Method: **TitreCericSulphate** **Titer 0.1mol/L CeSO4** **8/10/2012 10:44:00 AM**
Start time: **8/10/2012 11:11:10 AM**

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



Raw data

Sample

No.	4/6
Standard	Disodium oxalat
Type of standard	solid
Comment	
Titration stand	Rondo60/1A
Weight	m = 0.03385 g
Correction factor	f = 1.0
Purity	p = 100.00 %
Temperature	T = 25.0 oC
Sample start	8/10/2012 11:29:20 AM
Sample end	8/10/2012 11:35:29 AM

Dispense (normal) [1]

Titrant	H2SO4 cDi = 1 mol/L TITERDi = 1.0
Disp. volume	VENDDi = 5.0 mL
Disp. amount	QENDDi = 5.00 mmol
Time	0:12 min

Measure (normal) [1]

Sensor	DH 100
Temperature	DH 100 241.5 oC
Measured value	
Time	tMe = 0:01 min

EQP titration [1]

Titrant	Ce(SO4)2 c = 0.1 mol/L TITER = 0.99088	
Sensor	DM140-SC	
Start potential		EST = 598.6 mV
Predispense		EPD = 595.7 mV
		VPD = 4.0000 mL
No. of EQPs and cand.		nEQ = 1
Consumption	EQP1	VEQ1 = 5.064252 mL

Method: **TitreCericSulphate Titer 0.1mol/L CeSO4** **8/10/2012 10:44:00 AM**
Start time: **8/10/2012 11:11:10 AM**

	Q1 =	0.501807 mmol
	EEQ1 =	734.2 mV
	EHNV1 =	618.2 mV
Excess	VEX =	0.435748 mL
	QEX =	0.043177 mmol
End	VEND =	5.5000 mL
	QEND =	0.544984 mmol

Termination at EQPs
Time t = 3:28 min

Calculation

Result R1 = 0.99755 -- Titer
Formula R1=m/(VEQ*c*C)
Constant M/(10*p*z)
C = 0.067005
Molar mass M[Disodium oxalat] = 134.01 g/mol
Equivalent number z[Disodium oxalat] = 2
Duration tUSE = 05:32 min

Measured values **EQP titration [1]**

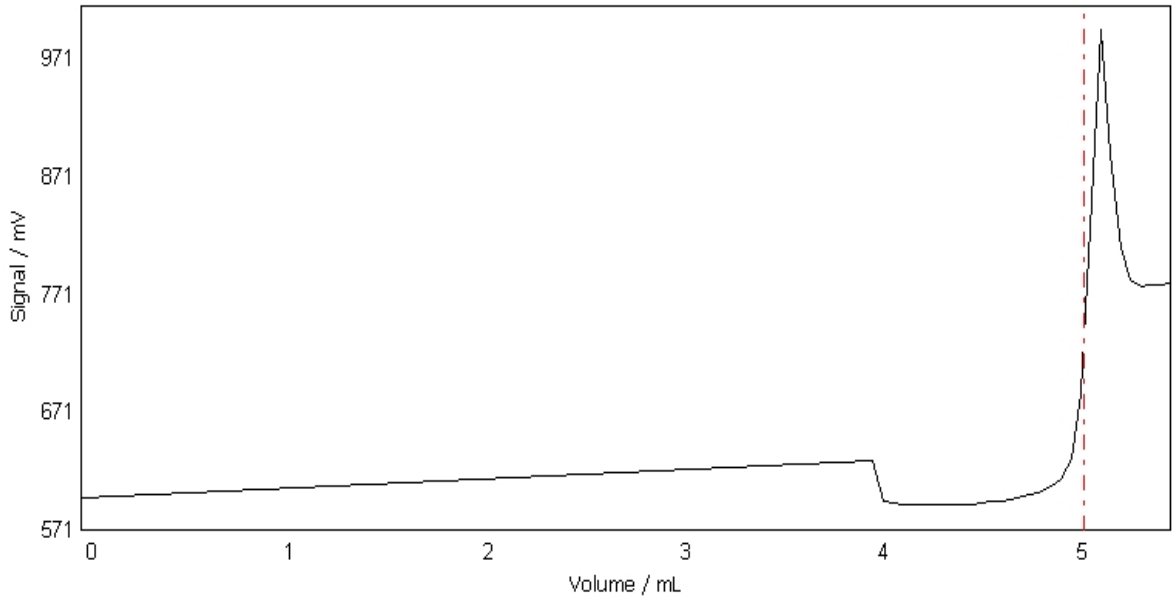
Titrant Ce(SO4)2 c = 0.1 mol/L TITER = 0.99088
Sensor DM140-SC
Sample 4/6

	Volume mL	Increment mL	Signal mV	Change mV	1st deriv. mV/mL	Time s	Temperature oC
	0.0000	NaN	598.6	NaN	NaN	0	25.0
	4.0000	4.0000	629.6	31.0	NaN	12	25.0
	4.0500	0.0500	595.0	-34.6	NaN	49	25.0
	4.1000	0.0500	594.0	-1.0	NaN	54	25.0
	4.1500	0.0500	593.2	-0.8	NaN	59	25.0
	4.2000	0.0500	592.6	-0.6	-64.06	64	25.0
	4.2500	0.0500	592.2	-0.4	32.84	69	25.0
	4.3000	0.0500	592.0	-0.2	-2.22	74	25.0
	4.3500	0.0500	592.0	0.0	2.54	79	25.0
	4.4000	0.0500	592.1	0.1	6.88	84	25.0
	4.4500	0.0500	592.7	0.6	9.87	89	25.0
	4.5000	0.0500	593.2	0.5	12.66	94	25.0
	4.5500	0.0500	594.2	1.0	15.60	99	25.0
	4.6000	0.0500	594.8	0.6	20.30	104	25.0
	4.6500	0.0500	595.7	0.9	22.62	109	25.0
	4.7000	0.0500	597.3	1.6	27.89	114	25.0
	4.7500	0.0500	599.1	1.8	27.24	119	25.0
	4.8000	0.0500	601.4	2.3	-2.57	124	25.0
	4.8500	0.0500	603.4	2.0	-86.89	129	25.0
	4.9000	0.0500	608.4	5.0	76.62	134	25.0
	4.9500	0.0500	614.4	6.0	818.91	139	25.0
	5.0000	0.0500	630.7	16.3	1451.21	144	25.0
	5.0500	0.0500	687.6	56.9	1604.78	149	25.0
EQP1	5.064252	NaN	734.2	NaN	1619.77	NaN	NaN
	5.1000	0.0500	851.2	163.6	1263.73	154	25.0
	5.1500	0.0500	995.7	144.5	589.94	159	25.0
	5.2000	0.0500	889.5	-106.2	-180.44	164	25.0
	5.2500	0.0500	811.3	-78.2	-767.82	169	25.0
	5.3000	0.0500	783.6	-27.7	NaN	174	25.0
	5.3500	0.0500	777.9	-5.7	NaN	179	25.0
	5.4000	0.0500	778.8	0.9	NaN	184	25.0
	5.4500	0.0500	779.2	0.4	NaN	189	25.0
	5.5000	0.0500	781.2	2.0	NaN	194	25.0

Method:	**TitreCericSulphate**	**Titer 0.1mol/L CeSO4**	**8/10/2012 10:44:00 AM**
Start time:	**8/10/2012 11:11:10 AM**		

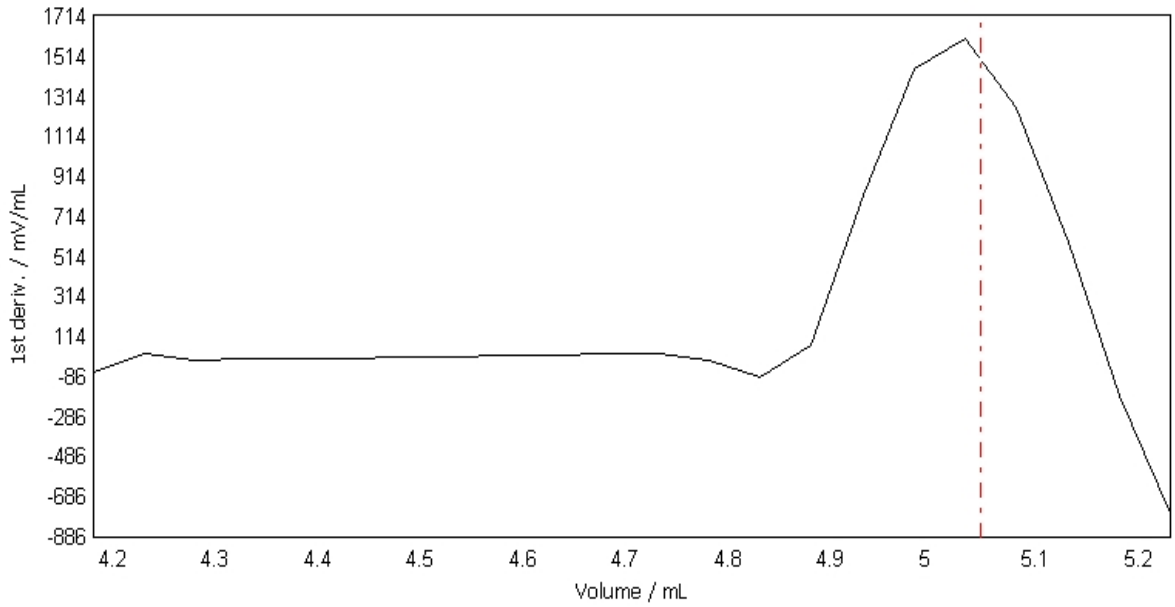
E - V curve EQP titration [1]

Sample 4/6



dE/dV - V curve EQP titration [1]

Sample 4/6



Raw data

Sample

No.	5/6
Standard	Disodium oxalat
Type of standard	solid
Comment	
Titration stand	Rondo60/1A
Weight	m = 0.03482 g
Correction factor	f = 1.0
Purity	p = 100.00 %

Method: **TitreCericSulphate Titer 0.1mol/L CeSO4** **8/10/2012 10:44:00 AM**
Start time: **8/10/2012 11:11:10 AM**

Temperature	T = 25.0 oC
Sample start	8/10/2012 11:35:29 AM
Sample end	8/10/2012 11:41:53 AM

Dispense (normal) [1]

Titrant	H2SO4 cDi = 1 mol/L TITERDi = 1.0
Disp. volume	VENDDi = 5.0 mL
Disp. amount	QENDDi = 5.00 mmol
Time	0:13 min

Measure (normal) [1]

Sensor	DH 100
Temperature	DH 100 241.5 oC
Measured value	
Time	tMe = 0:01 min

EQP titration [1]

Titrant	Ce(SO4)2 c = 0.1 mol/L TITER = 0.99088	
Sensor	DM140-SC	
Start potential		EST = 599.6 mV
Predispense		EPD = 594.8 mV
		VPD = 4.0000 mL
No. of EQPs and cand.		nEQ = 1
Consumption	EQP1	VEQ1 = 5.212798 mL
		Q1 = 0.516526 mmol
		EEQ1 = 738.7 mV
		EHNV1 = 620.1 mV
Excess		VEX = 0.437202 mL
		QEX = 0.043321 mmol
End		VEND = 5.6500 mL
		QEND = 0.559847 mmol
Termination at	EQPs	
Time	t = 3:43 min	

Calculation

Result	R1 = 0.99690 -- Titer
Formula	R1=m/(VEQ*c*C)
Constant	M/(10*p*z)
	C = 0.067005
Molar mass	M[Disodium oxalat] = 134.01 g/mol
Equivalent number	z[Disodium oxalat] = 2
Duration	tUSE = 05:45 min

Measured values EQP titration [1]

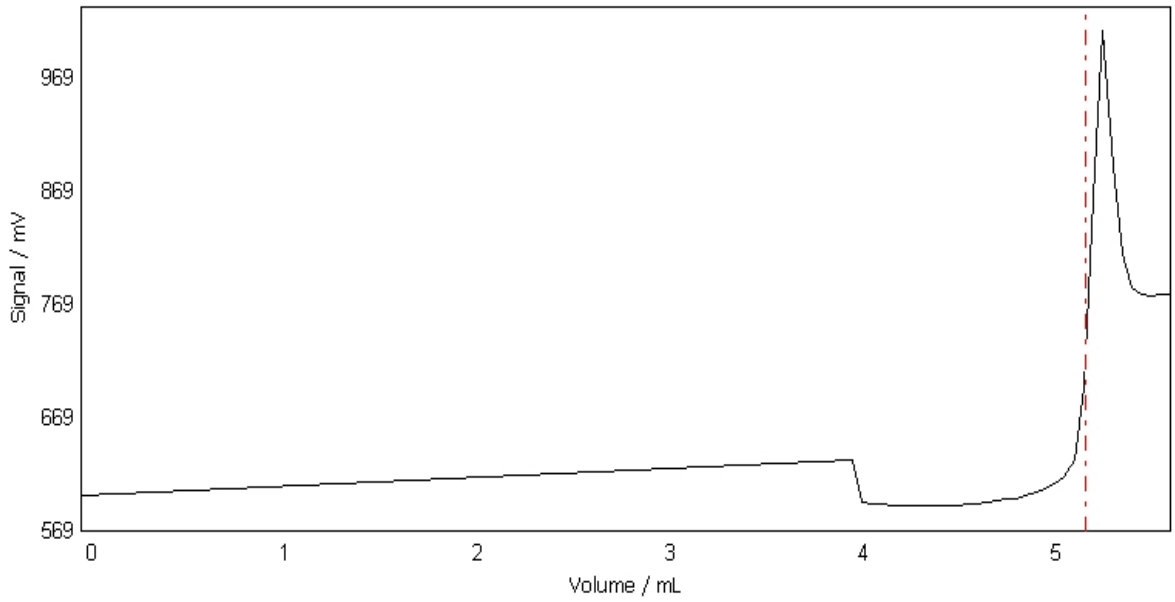
Titrant	Ce(SO4)2 c = 0.1 mol/L TITER = 0.99088
Sensor	DM140-SC
Sample	5/6

Volume mL	Increment mL	Signal mV	Change mV	1st deriv. mV/mL	Time s	Temperature oC
0.0000	NaN	599.6	NaN	NaN	0	25.0
4.0000	4.0000	631.0	31.4	NaN	12	25.0
4.0500	0.0500	594.3	-36.7	NaN	48	25.0
4.1000	0.0500	593.2	-1.1	NaN	53	25.0
4.1500	0.0500	592.2	-1.0	NaN	58	25.0
4.2000	0.0500	591.4	-0.8	-68.96	63	25.0
4.2500	0.0500	591.1	-0.3	34.84	68	25.0
4.3000	0.0500	590.9	-0.2	-2.66	73	25.0
4.3500	0.0500	590.9	0.0	0.35	78	25.0
4.4000	0.0500	591.0	0.1	3.27	83	25.0
4.4500	0.0500	591.1	0.1	5.55	88	25.0
4.5000	0.0500	591.4	0.3	8.70	93	25.0

Method: **TitreCericSulphate** **Titer 0.1mol/L CeSO4** **8/10/2012 10:44:00 AM**
Start time: **8/10/2012 11:11:10 AM**

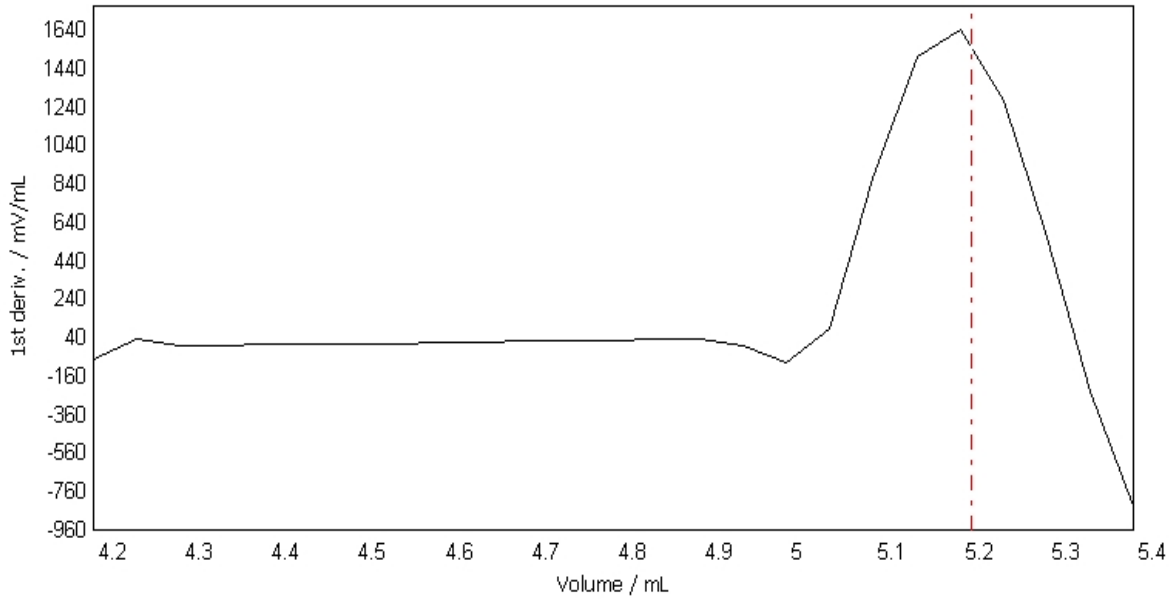
	Volume mL	Increment mL	Signal mV	Change mV	1st deriv. mV/mL	Time s	Temperature oC
	4.5500	0.0500	592.0	0.6	11.25	98	25.0
	4.6000	0.0500	592.8	0.8	15.68	103	25.0
	4.6500	0.0500	593.4	0.6	17.48	108	25.0
	4.7000	0.0500	594.5	1.1	20.20	113	25.0
	4.7500	0.0500	595.5	1.0	23.25	118	25.0
	4.8000	0.0500	597.2	1.7	26.56	123	25.0
	4.8500	0.0500	597.9	0.7	32.61	128	25.0
	4.9000	0.0500	600.5	2.6	34.06	133	25.0
	4.9500	0.0500	602.6	2.1	-6.08	138	25.0
	5.0000	0.0500	605.7	3.1	-87.83	143	25.0
	5.0500	0.0500	610.6	4.9	87.54	148	25.0
	5.1000	0.0500	616.7	6.1	864.99	153	25.0
	5.1500	0.0500	631.6	14.9	1501.56	158	25.0
	5.2000	0.0500	696.1	64.5	1641.49	163	25.0
EQP1	5.212798	NaN	738.7	NaN	1659.89	NaN	NaN
	5.2500	0.0500	862.6	166.5	1271.95	168	25.0
	5.3000	0.0500	1010.5	147.9	564.30	173	25.0
	5.3500	0.0500	890.9	-119.6	-236.01	178	25.0
	5.4000	0.0500	813.4	-77.5	-836.18	183	25.0
	5.4500	0.0500	783.0	-30.4	NaN	188	25.0
	5.5000	0.0500	777.1	-5.9	NaN	193	25.0
	5.5500	0.0500	776.7	-0.4	NaN	198	25.0
	5.6000	0.0500	777.1	0.4	NaN	203	25.0
	5.6500	0.0500	778.3	1.2	NaN	208	25.0

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



Method: **TitreCericSulphate** **Titer 0.1mol/L CeSO4** **8/10/2012 10:44:00 AM**
Start time: **8/10/2012 11:11:10 AM**

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



Raw data

Sample

No.	6/6
Standard	Disodium oxalat
Type of standard	solid
Comment	
Titration stand	Rondo60/1A
Weight	m = 0.03653 g
Correction factor	f = 1.0
Purity	p = 100.00 %
Temperature	T = 25.0 oC
Sample start	8/10/2012 11:41:53 AM
Sample end	8/10/2012 11:48:44 AM

Dispense (normal) [1]

Titrant	H2SO4 cDi = 1 mol/L TITERDi = 1.0
Disp. volume	VENDDi = 5.0 mL
Disp. amount	QENDDi = 5.00 mmol
Time	0:12 min

Measure (normal) [1]

Sensor	DH 100
Temperature	DH 100 241.5 oC
Measured value	
Time	tMe = 0:01 min

EQP titration [1]

Titrant	Ce(SO4)2 c = 0.1 mol/L TITER = 0.99088	
Sensor	DM140-SC	
Start potential		EST = 596.1 mV
Predispense		EPD = 592.2 mV
		VPD = 4.0000 mL
No. of EQPs and cand.		nEQ = 1
Consumption	EQP1	VEQ1 = 5.467850 mL

Method: **TitreCericSulphate** **Titer 0.1mol/L CeSO4** **8/10/2012 10:44:00 AM**
Start time: **8/10/2012 11:11:10 AM**

Q1 = 0.541798 mmol
EEQ1 = 727.8 mV
EHNV1 = 611.5 mV

Excess
VEX = 0.432150 mL
QEX = 0.042821 mmol

End
VEND = 5.9000 mL
QEND = 0.584619 mmol

Termination at EQPs
Time t = 4:09 min

Calculation

Result R1 = 0.99707 -- Titer
Formula R1=m/(VEQ*c*C)
Constant M/(10*p*z)
C = 0.067005
Molar mass M[Disodium oxalat] = 134.01 g/mol
Equivalent number z[Disodium oxalat] = 2
Duration tUSE = 06:12 min

Measured values **EQP titration [1]**

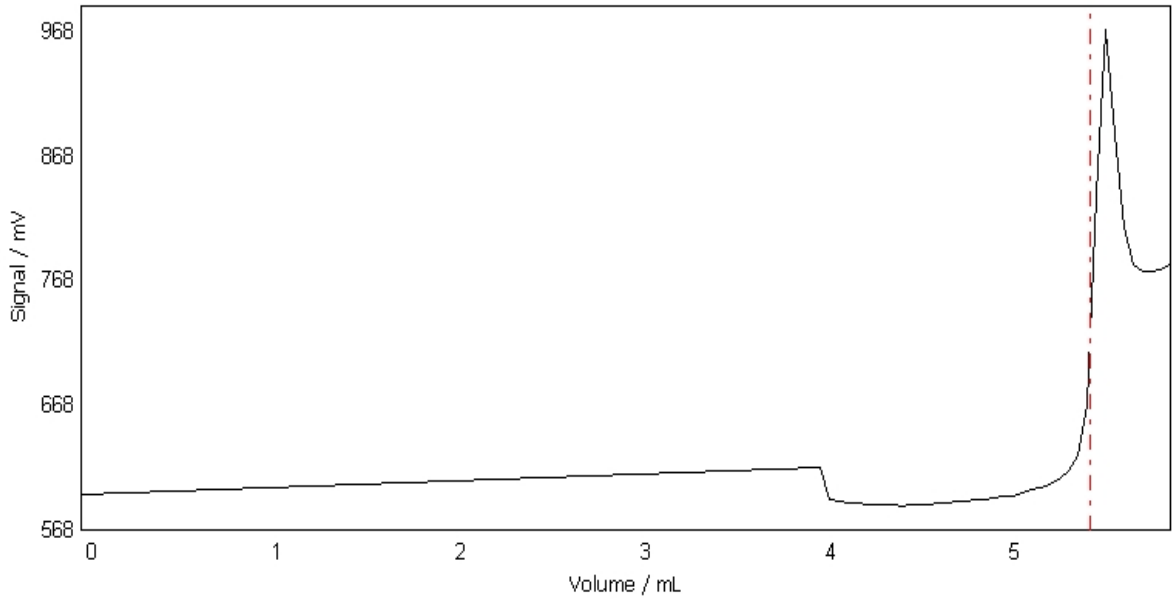
Titrant Ce(SO4)2 c = 0.1 mol/L TITER = 0.99088
Sensor DM140-SC
Sample 6/6

	Volume mL	Increment mL	Signal mV	Change mV	1st deriv. mV/mL	Time s	Temperature oC
	0.0000	NaN	596.1	NaN	NaN	0	25.0
	4.0000	4.0000	618.7	22.6	NaN	12	25.0
	4.0500	0.0500	591.8	-26.9	NaN	48	25.0
	4.1000	0.0500	590.8	-1.0	NaN	53	25.0
	4.1500	0.0500	589.9	-0.9	NaN	58	25.0
	4.2000	0.0500	589.1	-0.8	-55.05	63	25.0
	4.2500	0.0500	588.5	-0.6	19.32	68	25.0
	4.3000	0.0500	588.0	-0.5	-7.53	73	25.0
	4.3500	0.0500	587.8	-0.2	-4.20	78	25.0
	4.4000	0.0500	587.7	-0.1	-0.48	83	25.0
	4.4500	0.0500	587.6	-0.1	3.05	88	25.0
	4.5000	0.0500	587.9	0.3	6.53	93	25.0
	4.5500	0.0500	588.3	0.4	8.78	98	25.0
	4.6000	0.0500	588.9	0.6	10.14	103	25.0
	4.6500	0.0500	589.4	0.5	11.06	108	25.0
	4.7000	0.0500	590.0	0.6	11.35	113	25.0
	4.7500	0.0500	590.4	0.4	12.76	118	25.0
	4.8000	0.0500	591.1	0.7	14.73	123	25.0
	4.8500	0.0500	592.0	0.9	15.77	128	25.0
	4.9000	0.0500	592.8	0.8	16.35	133	25.0
	4.9500	0.0500	593.9	1.1	20.17	138	25.0
	5.0000	0.0500	594.8	0.9	24.62	143	25.0
	5.0500	0.0500	595.7	0.9	29.29	148	25.0
	5.1000	0.0500	597.6	1.9	31.87	153	25.0
	5.1500	0.0500	600.3	2.7	34.70	158	25.0
	5.2000	0.0500	602.1	1.8	18.55	163	25.0
	5.2500	0.0500	604.6	2.5	-100.31	168	25.0
	5.3000	0.0500	608.3	3.7	38.90	173	25.0
	5.3500	0.0500	615.6	7.3	715.05	178	25.0
	5.4000	0.0500	627.6	12.0	1337.38	183	25.0
	5.4500	0.0500	667.6	40.0	1531.13	188	25.0
EQP1	5.467850	NaN	727.8	NaN	1540.46	NaN	NaN
	5.5000	0.0500	836.3	168.7	1252.63	193	25.0
	5.5500	0.0500	969.2	132.9	641.46	198	25.0
	5.6000	0.0500	885.6	-83.6	-87.06	203	25.0
	5.6500	0.0500	810.8	-74.8	-677.98	208	25.0
	5.7000	0.0500	781.0	-29.8	NaN	213	25.0
	5.7500	0.0500	775.4	-5.6	NaN	219	25.0
	5.8000	0.0500	775.3	-0.1	NaN	224	25.0
	5.8500	0.0500	777.2	1.9	NaN	228	25.0
	5.9000	0.0500	780.4	3.2	NaN	234	25.0

Method:	**TitreCericSulphate**	**Titer 0.1mol/L CeSO4**	**8/10/2012 10:44:00 AM**
Start time:	**8/10/2012 11:11:10 AM**		

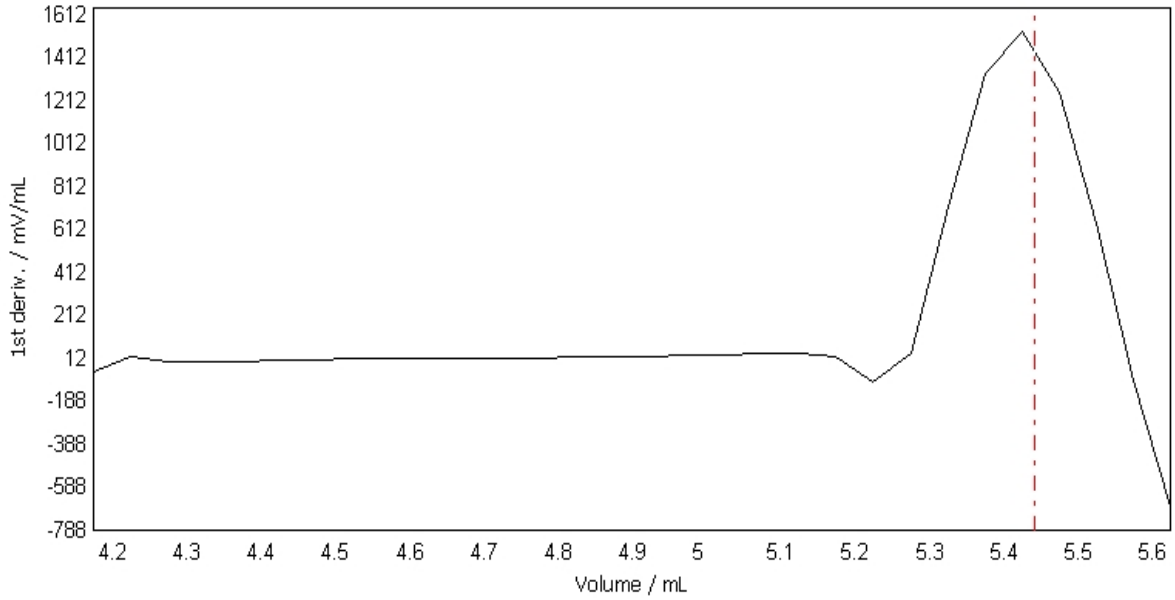
E - V curve EQP titration [1]

Sample 6/6



dE/dV - V curve EQP titration [1]

Sample 6/6



Raw data

Calculation

Result	R2 = 0.9981 -- Mean Titer
Formula	R2=Mean[R1]
Constant	1
	C = 1
Molar mass	M[None] = 1 g/mol
Equivalent number	z[None] = 1

Method:	**TitreCericSulphate**	**Titer 0.1mol/L CeSO4**	**8/10/2012 10:44:00 AM**
Start time:	**8/10/2012 11:11:10 AM**		

Titer

Titrant	Ce(SO4)2 c = 0.1 mol/L
Titer	0.99808

(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), 8/10/2012 11:17:08 AM**