

Appendix 1: Solution Conditions

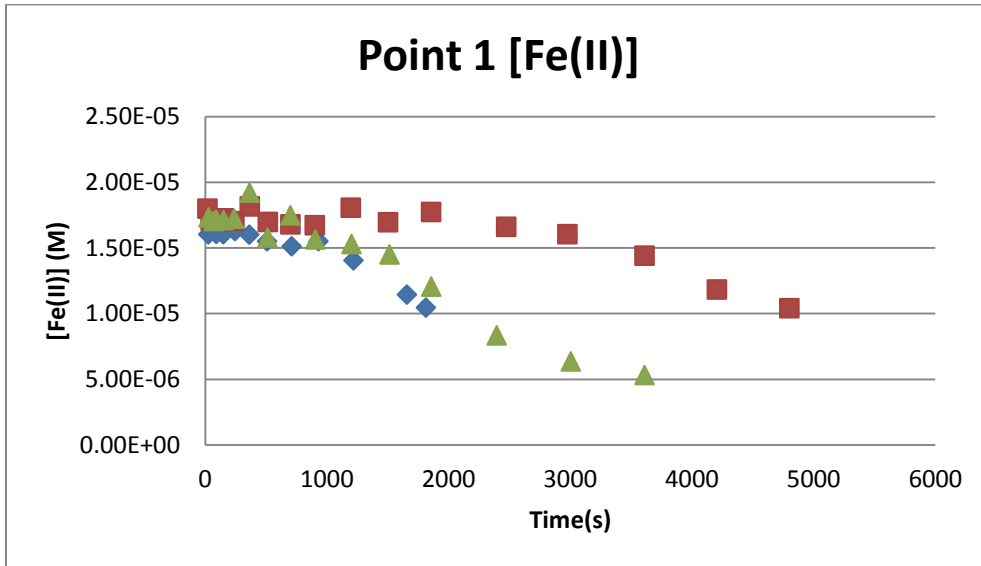
Std	Run	Iron (μM)	Sulfide (μM)	Phosphate (mM)	Carbonate (mM)
66	1	42.5	510	20	25
74	2	42.5	510	10	25
21	3	28.75	755	15	12.5
44	4	28.75	755	15	37.5
17	5	56.25	265	15	12.5
10	6	56.25	755	5	12.5
54	7	70	510	10	25
59	8	42.5	1000	10	25
29	9	56.25	265	5	37.5
63	10	42.5	510	0	25
14	11	28.75	265	15	12.5
68	12	42.5	510	10	0
42	13	56.25	265	15	37.5
25	14	28.75	265	5	37.5
73	15	42.5	510	10	25
56	16	42.5	20	10	25
77	17	42.5	510	10	25
39	18	28.75	265	15	37.5
18	19	56.25	265	15	12.5
7	20	28.75	755	5	12.5
4	21	56.25	265	5	12.5
31	22	28.75	755	5	37.5
67	23	42.5	510	10	0
57	24	42.5	20	10	25
19	25	28.75	755	15	12.5
16	26	56.25	265	15	12.5
51	27	15	510	10	25
6	28	56.25	265	5	12.5
2	29	28.75	265	5	12.5
36	30	56.25	755	5	37.5
28	31	56.25	265	5	37.5

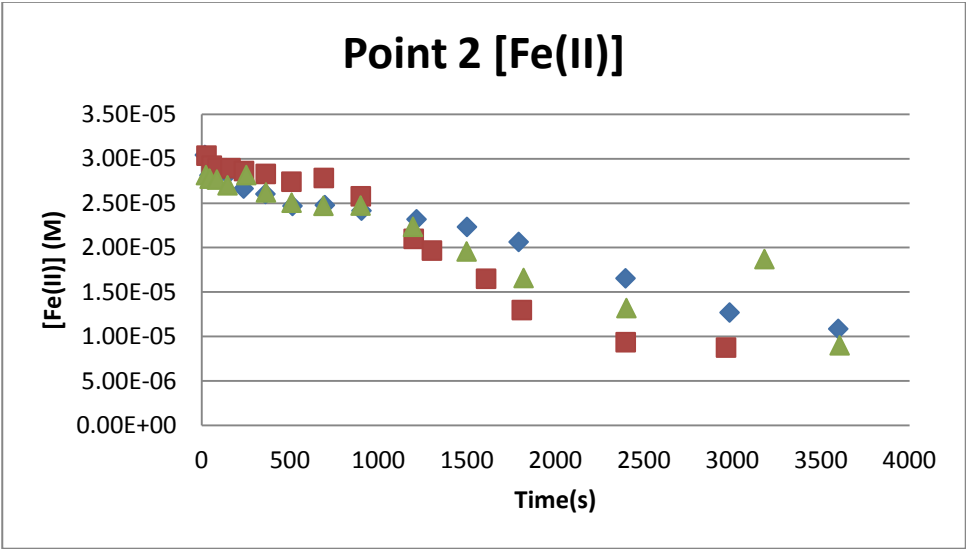
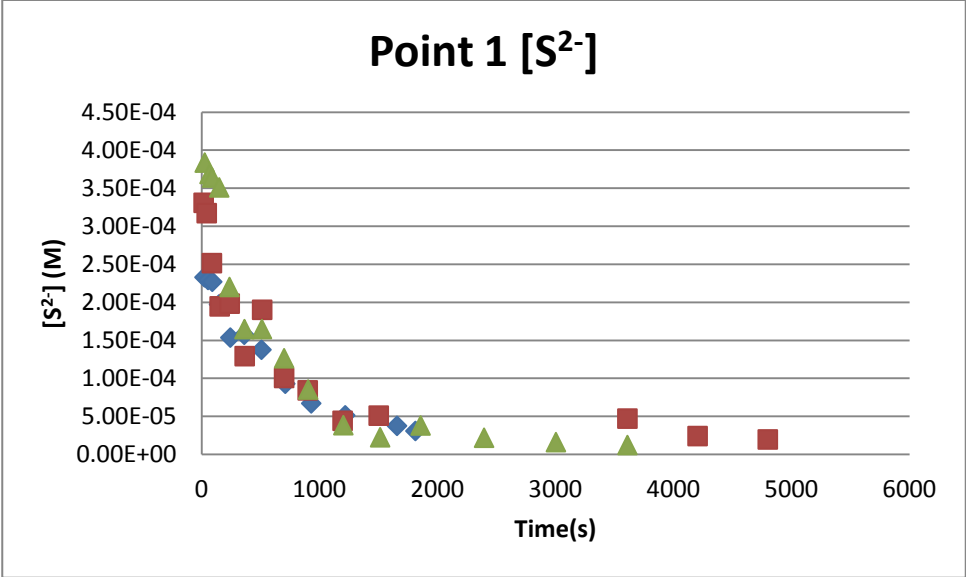
41	32	56.25	265	15	37.5
12	33	56.25	755	5	12.5
11	34	56.25	755	5	12.5
52	35	70	510	10	25
75	36	42.5	510	10	25
62	37	42.5	510	0	25
33	38	28.75	755	5	37.5
20	39	28.75	755	15	12.5
40	40	56.25	265	15	37.5
71	41	42.5	510	10	50
13	42	28.75	265	15	12.5
45	43	28.75	755	15	37.5
30	44	56.25	265	5	37.5
76	45	42.5	510	10	25
53	46	70	510	10	25
50	47	15	510	10	25
55	48	42.5	20	10	25
38	49	28.75	265	15	37.5
61	50	42.5	510	0	25
46	51	56.25	755	15	37.5
3	52	28.75	265	5	12.5
78	53	42.5	510	10	25
26	54	28.75	265	5	37.5
27	55	28.75	265	5	37.5
64	56	42.5	510	20	25
8	57	28.75	755	5	12.5
5	58	56.25	265	5	12.5
72	59	42.5	510	10	50
49	60	15	510	10	25
22	61	56.25	755	15	12.5
43	62	28.75	755	15	37.5
24	63	56.25	755	15	12.5
70	64	42.5	510	10	50
48	65	56.25	755	15	37.5
9	66	28.75	755	5	12.5
1	67	28.75	265	5	12.5
23	68	56.25	755	15	12.5
37	69	28.75	265	15	37.5
34	70	56.25	755	5	37.5
15	71	28.75	265	15	12.5
32	72	28.75	755	5	37.5

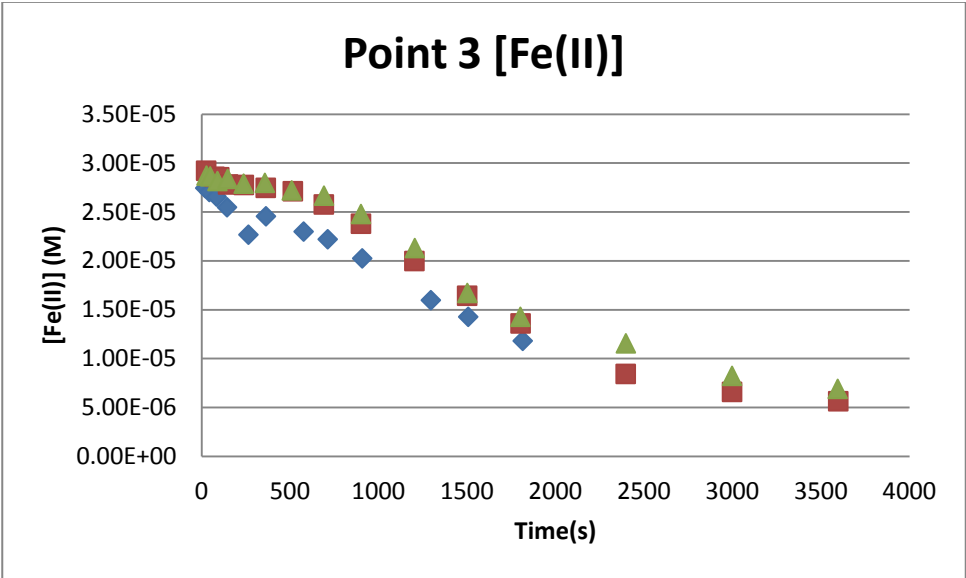
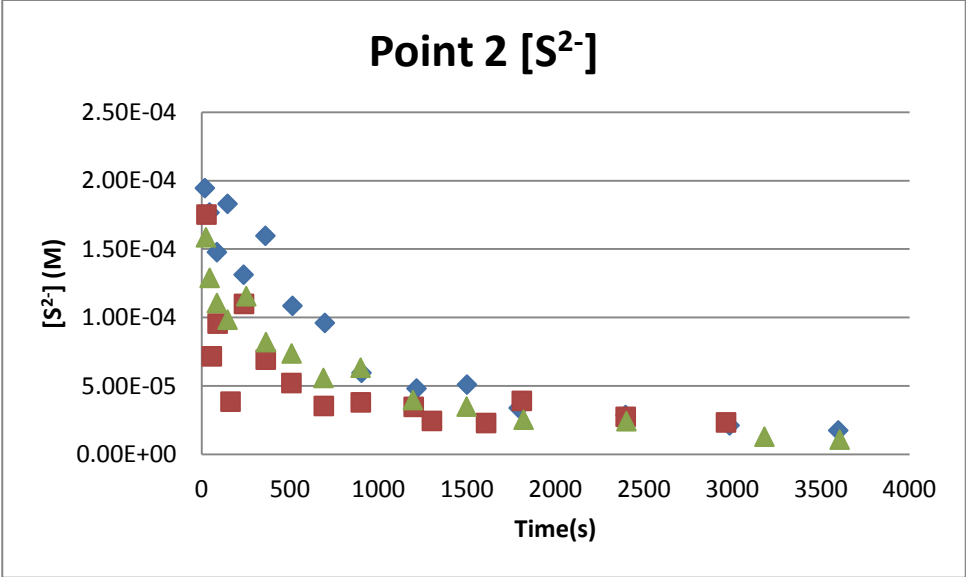
60	73	42.5	1000	10	25
35	74	56.25	755	5	37.5
47	75	56.25	755	15	37.5
65	76	42.5	510	20	25
58	77	42.5	1000	10	25
69	78	42.5	510	10	0

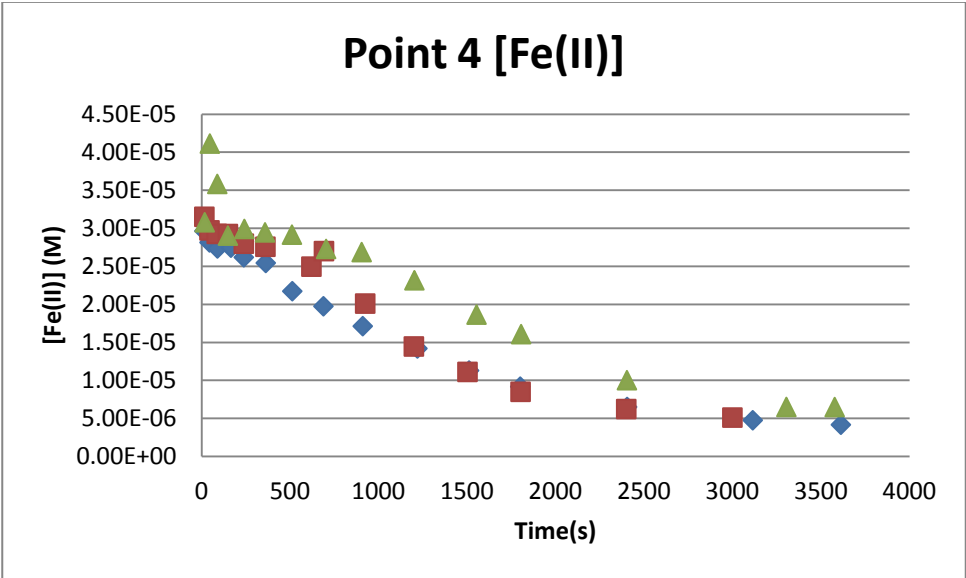
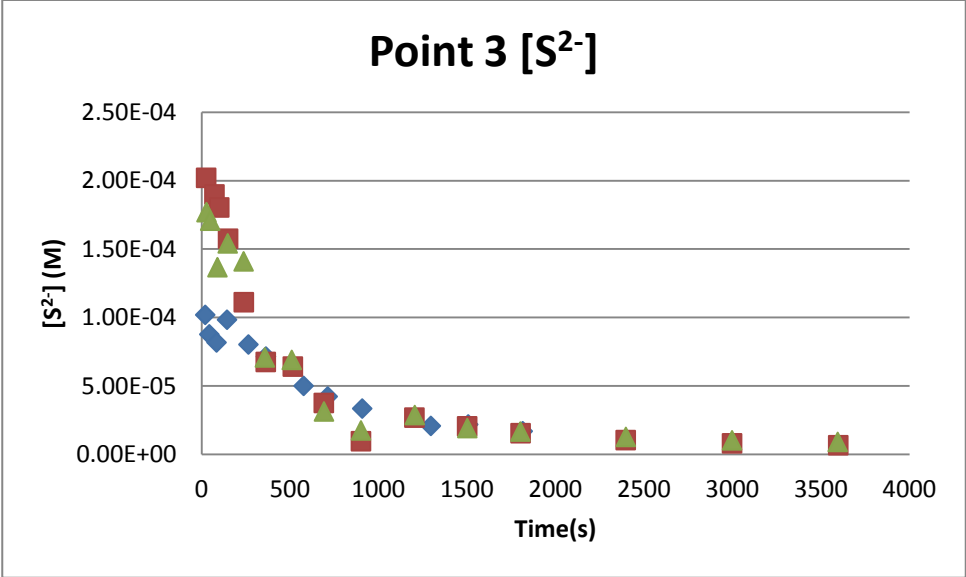
Appendix 2: Data

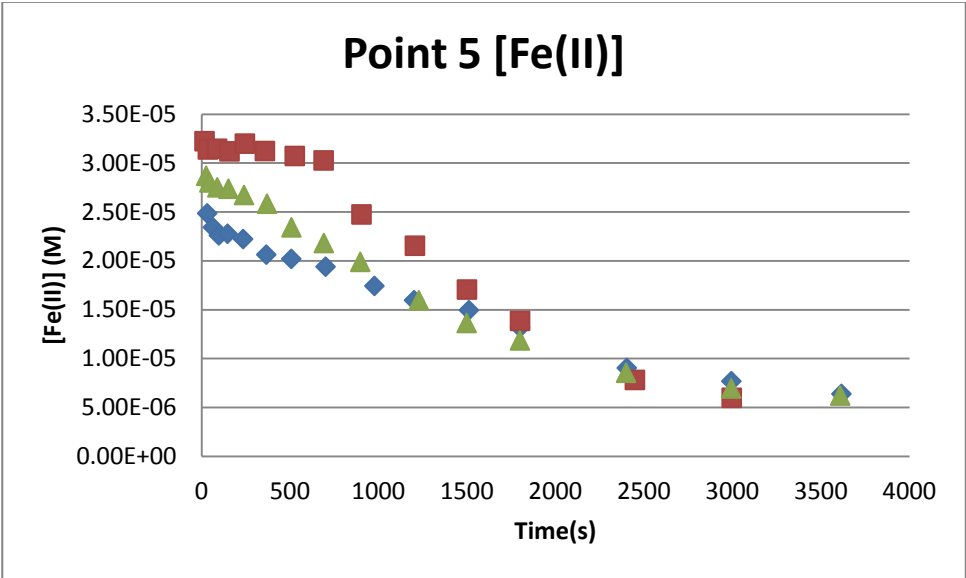
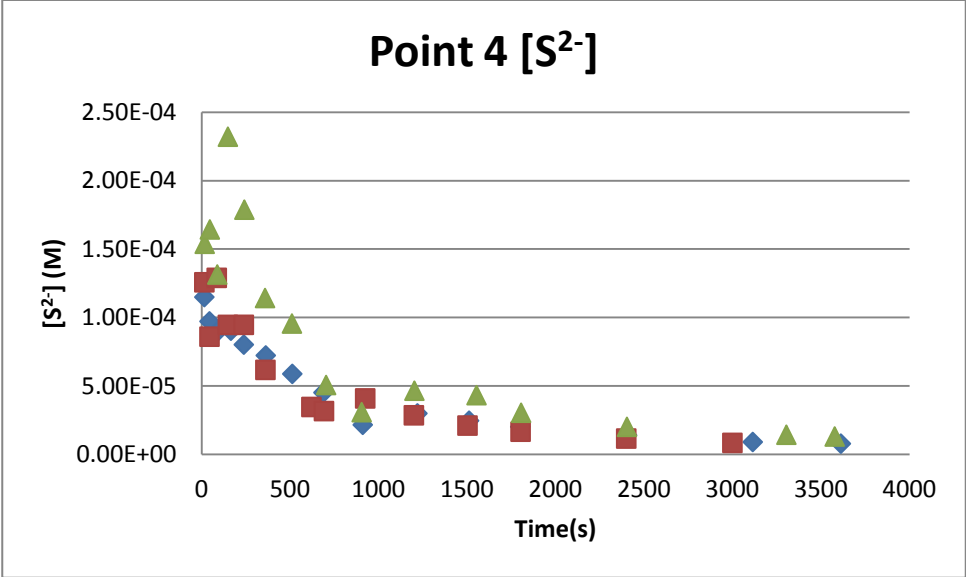
Each “Point” refers to the similarly numbered experimental condition as shown in Table 2.2.1. Each graph depicts all replicates for each sampled point. The data for concentration v. time of Fe(II) and HS⁻ are shown.

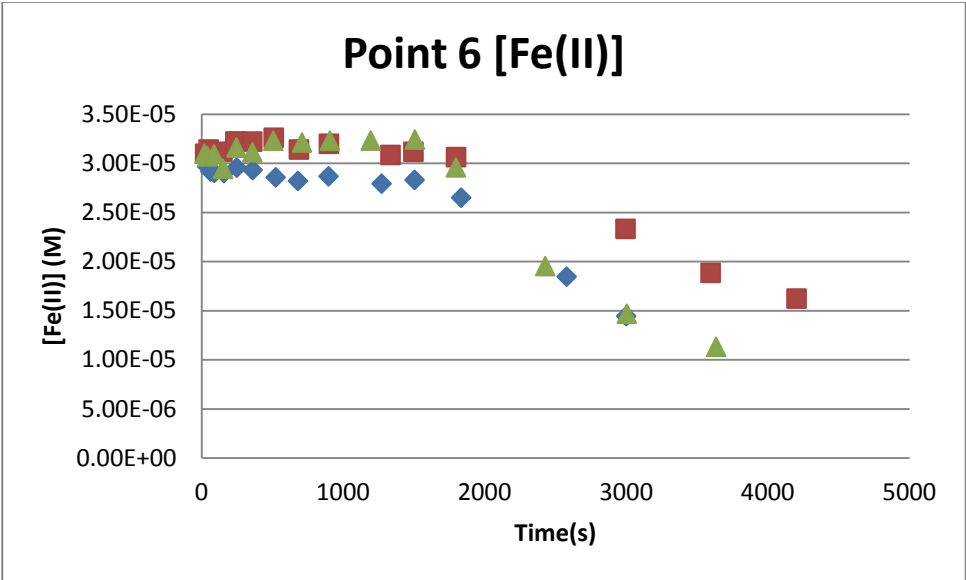
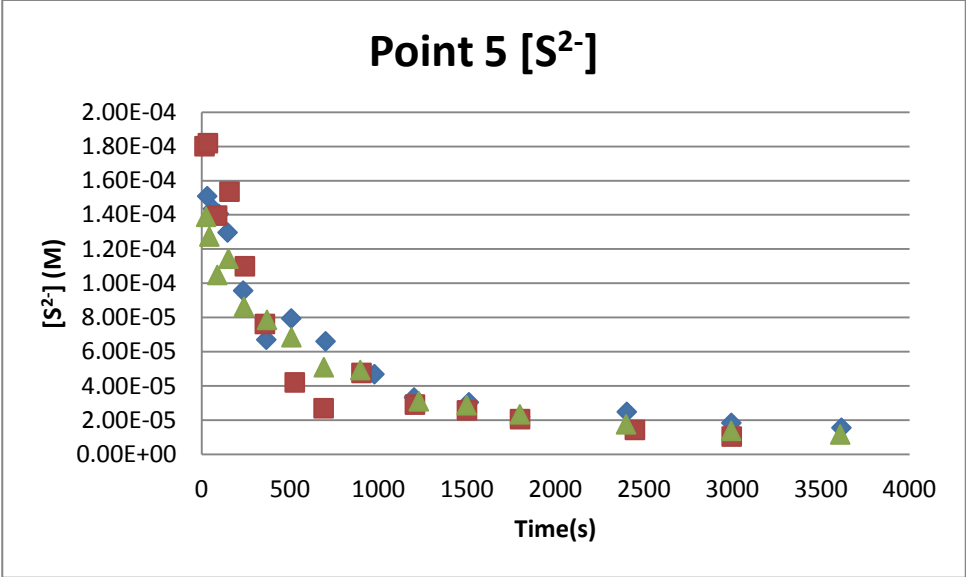


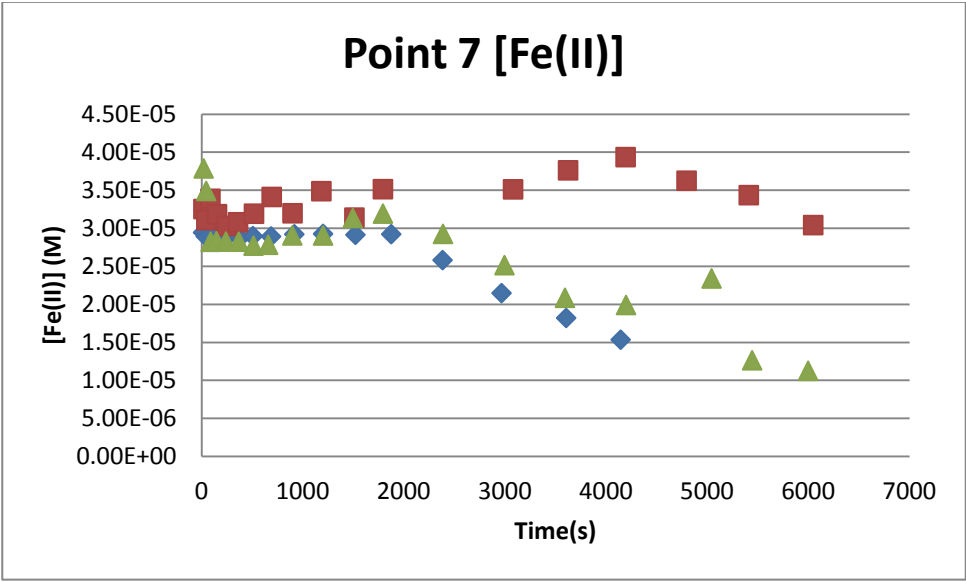
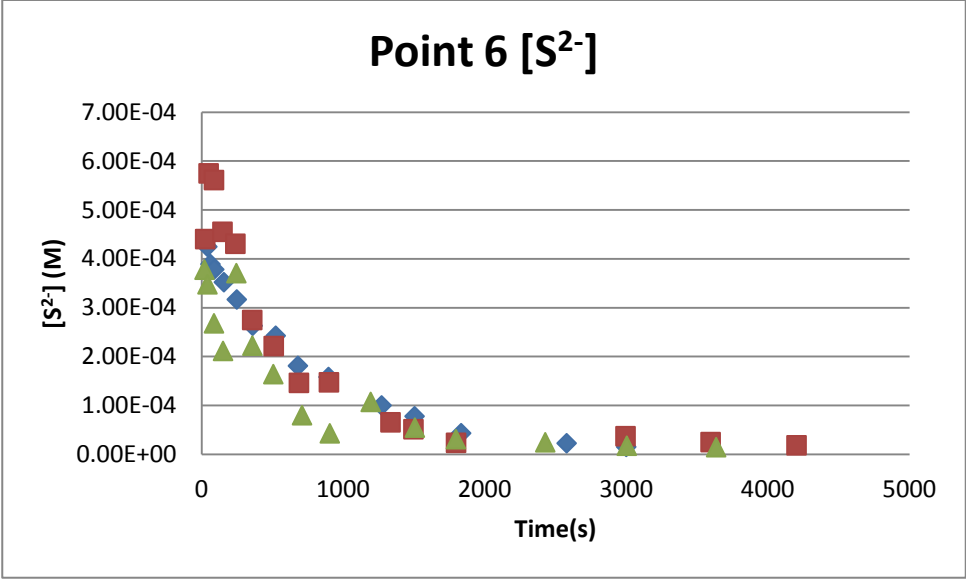


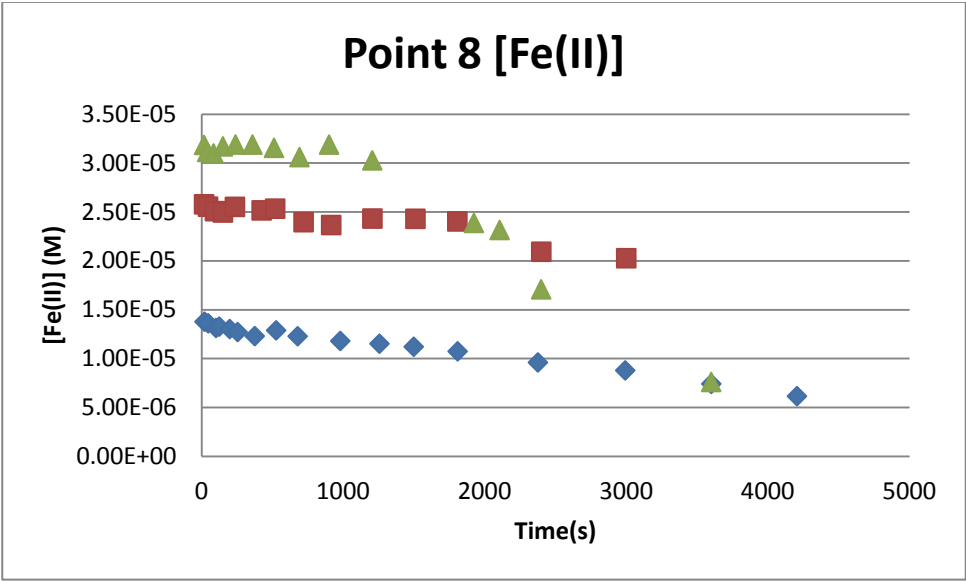
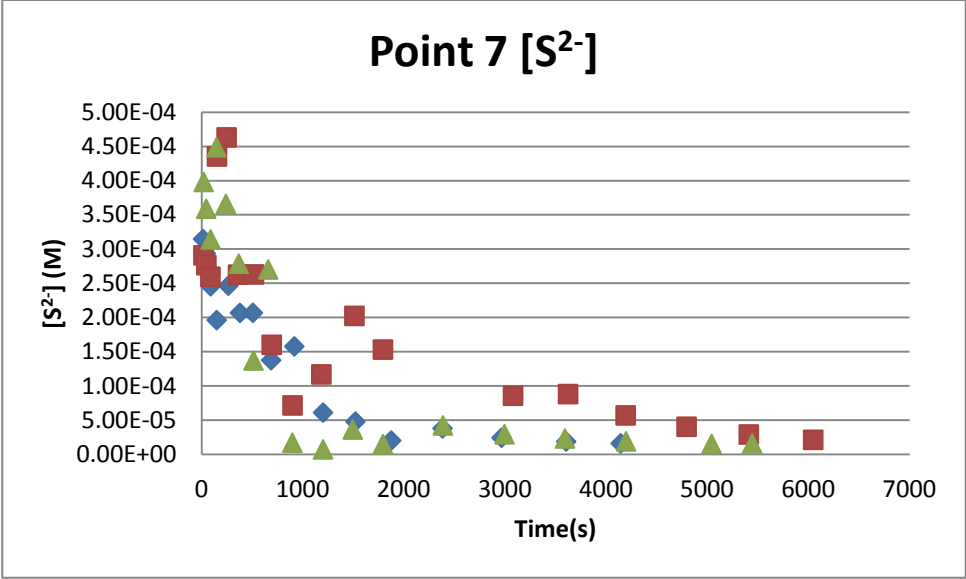


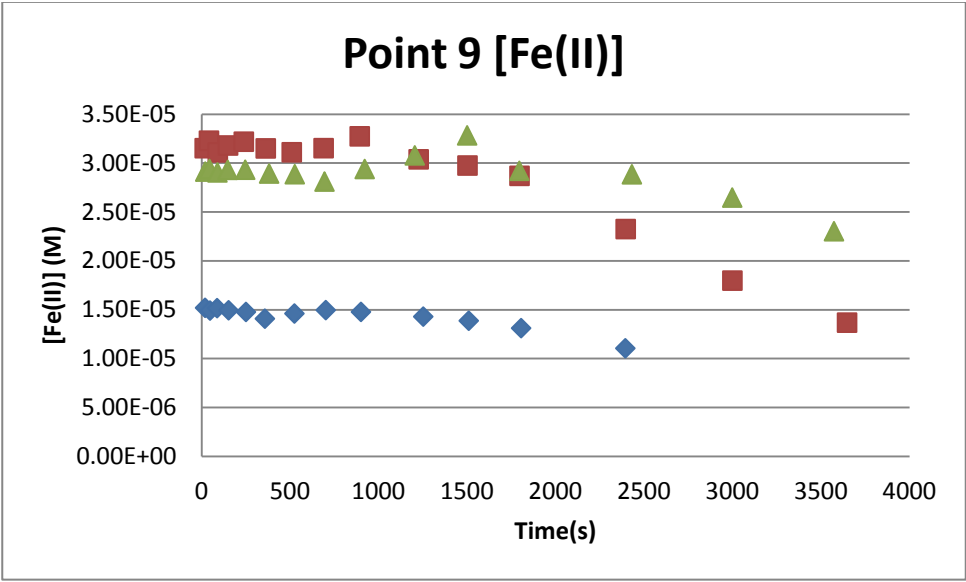
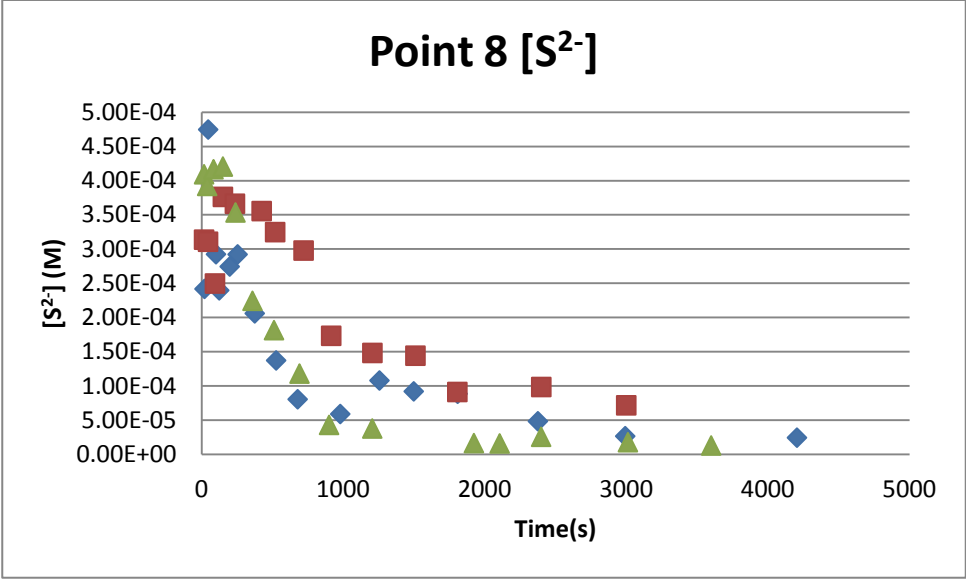


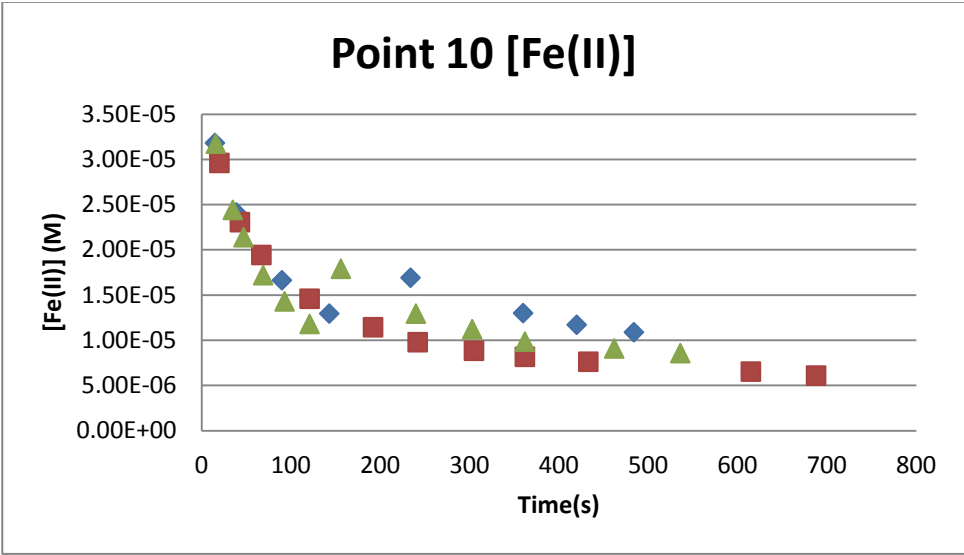
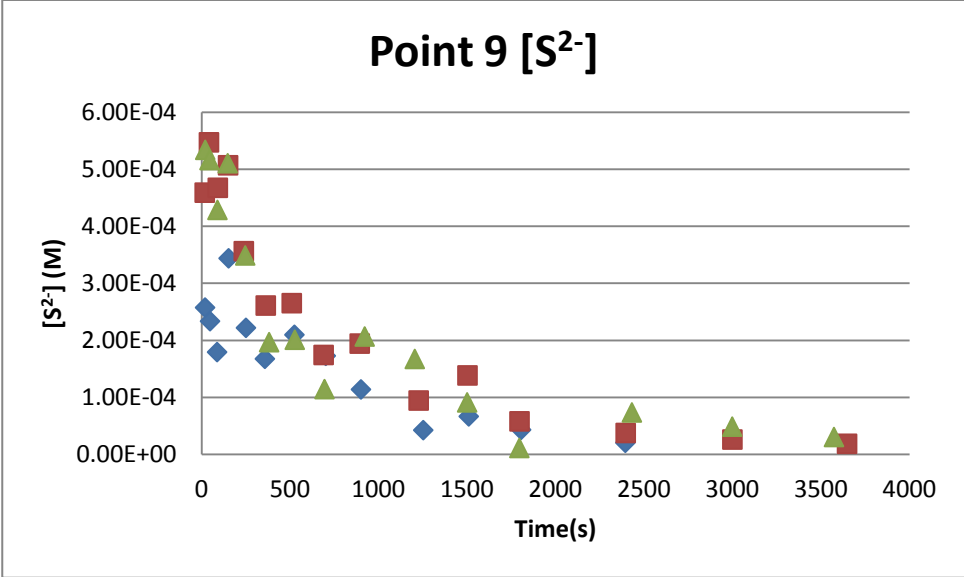


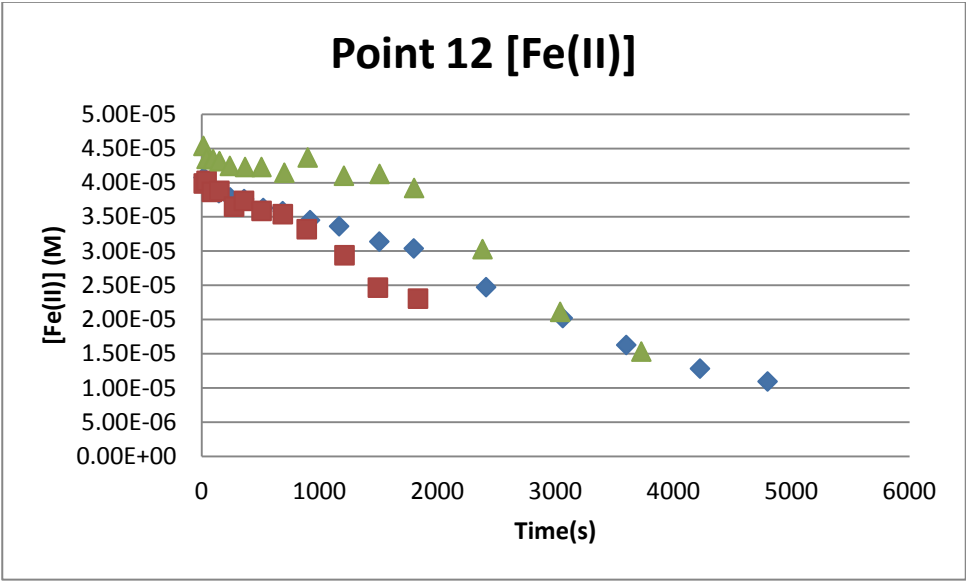
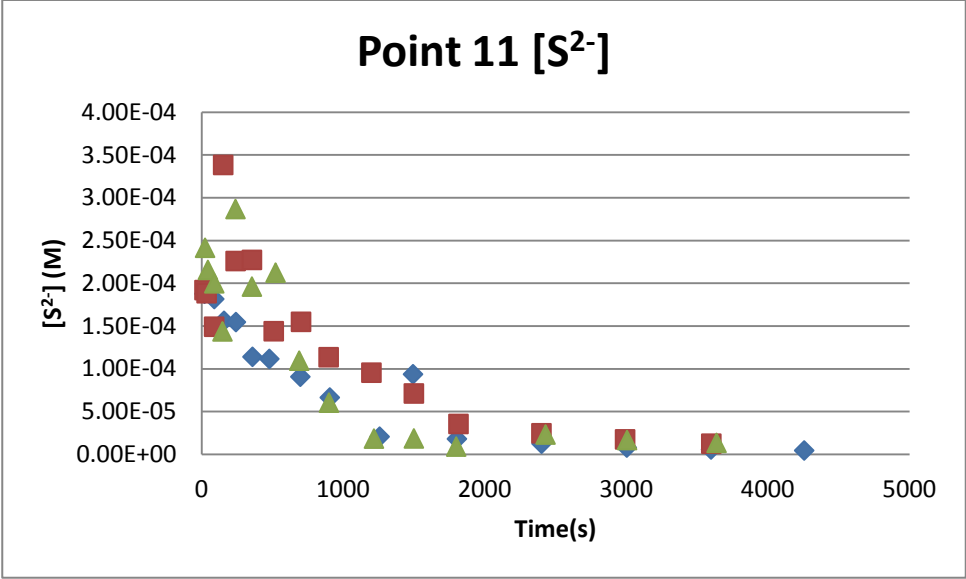


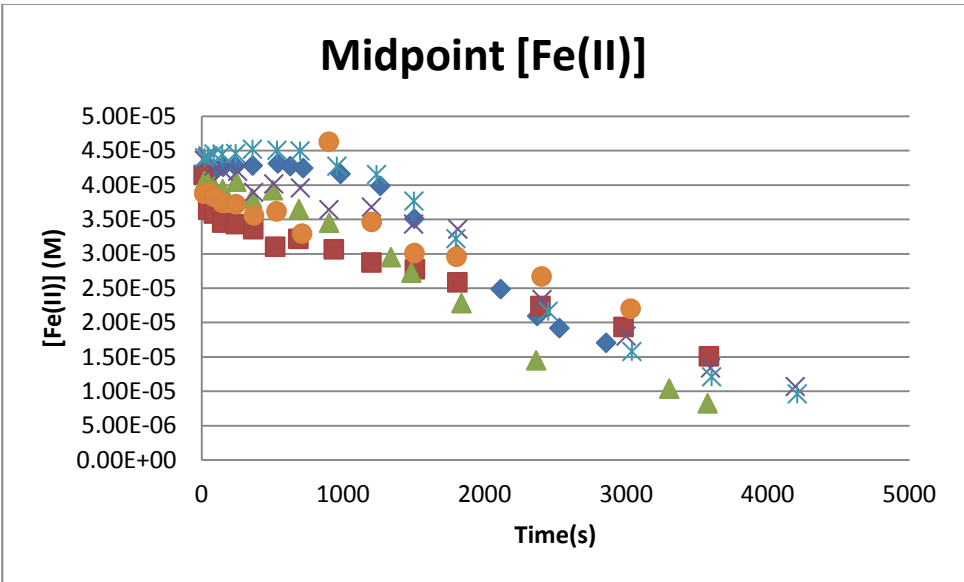
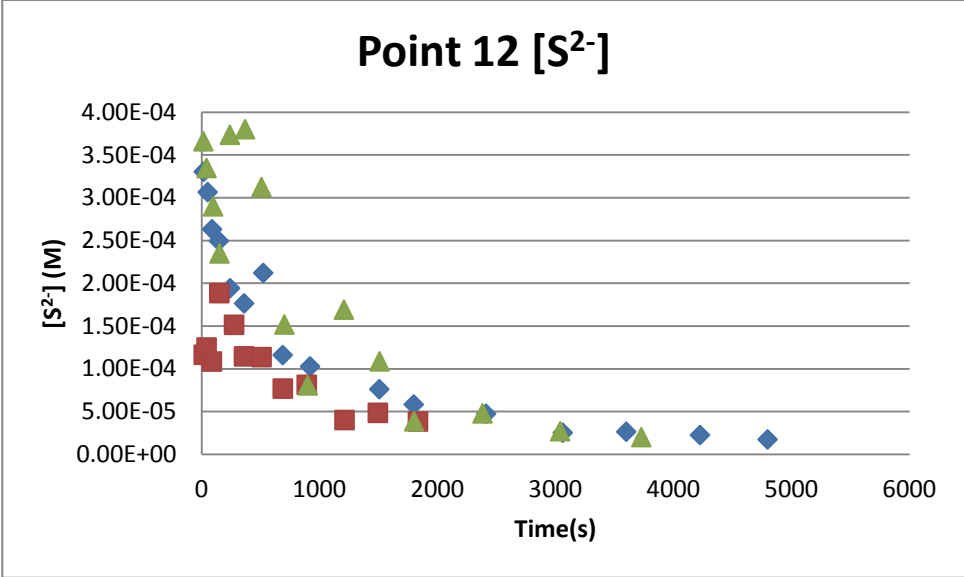


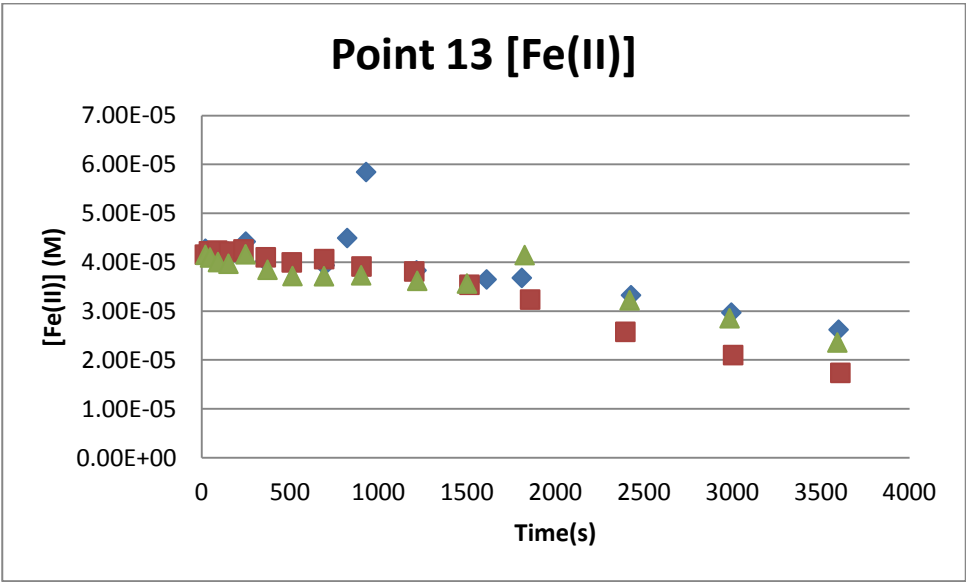
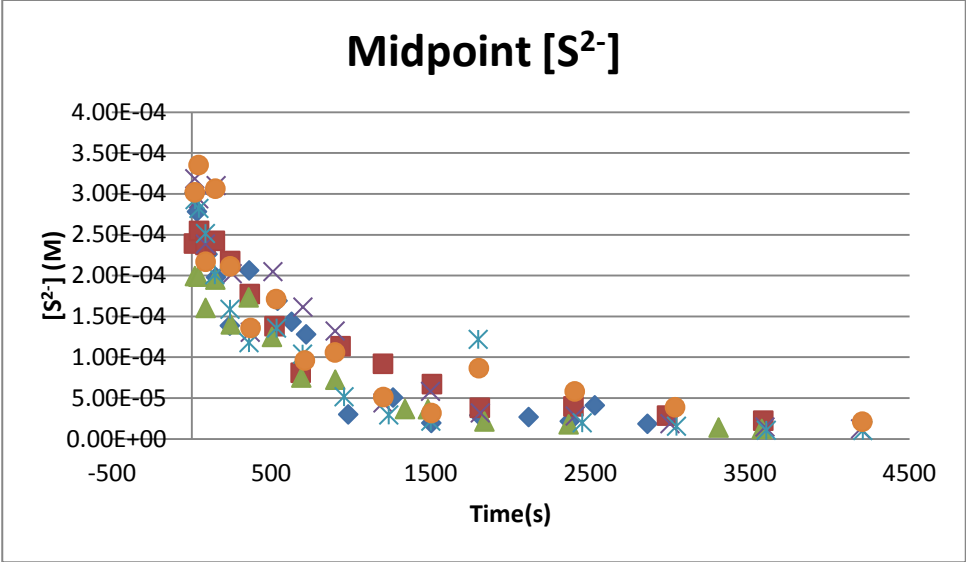


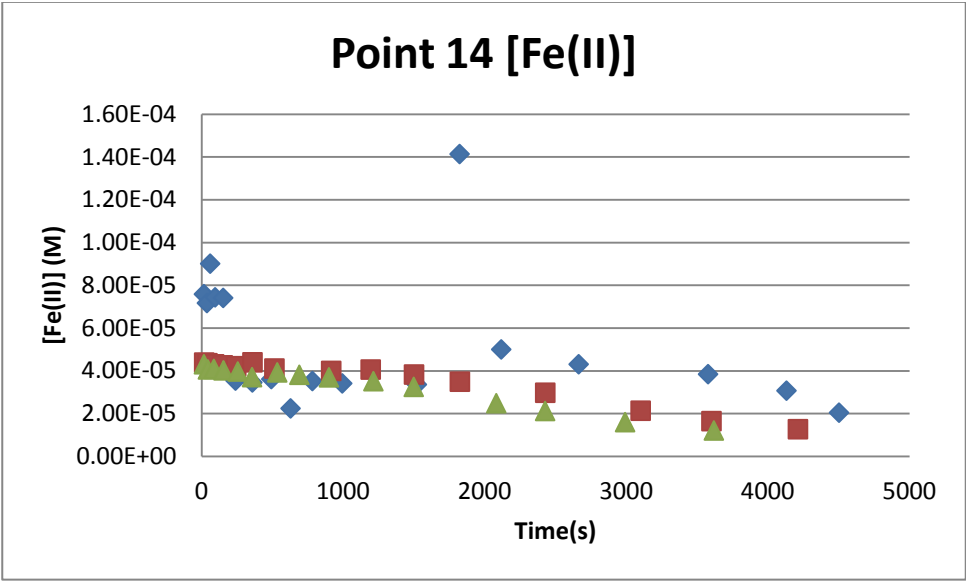
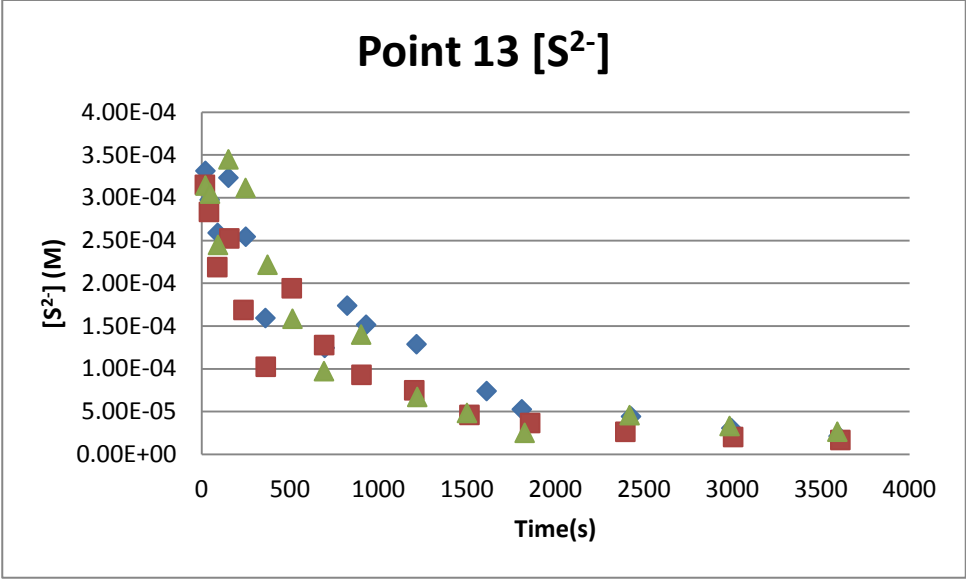


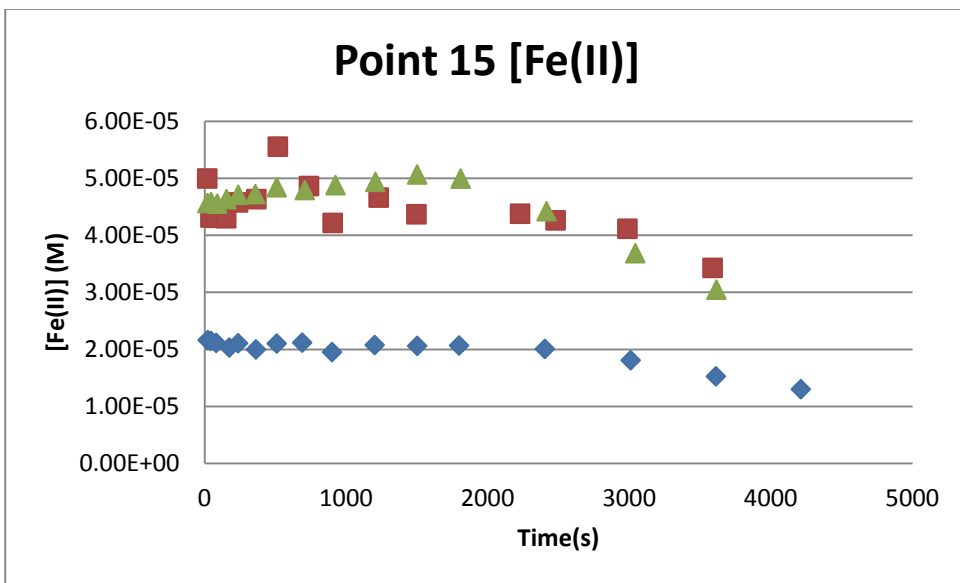
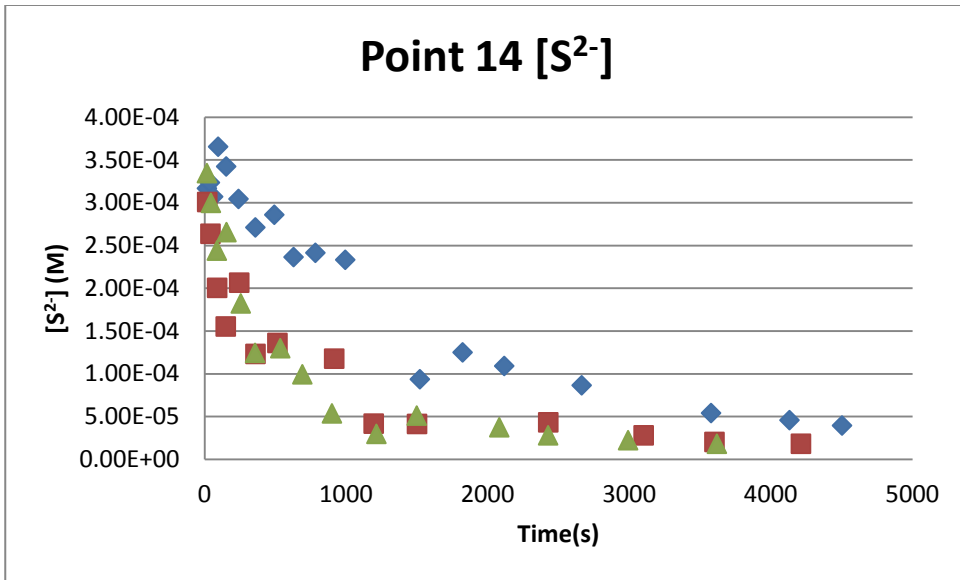


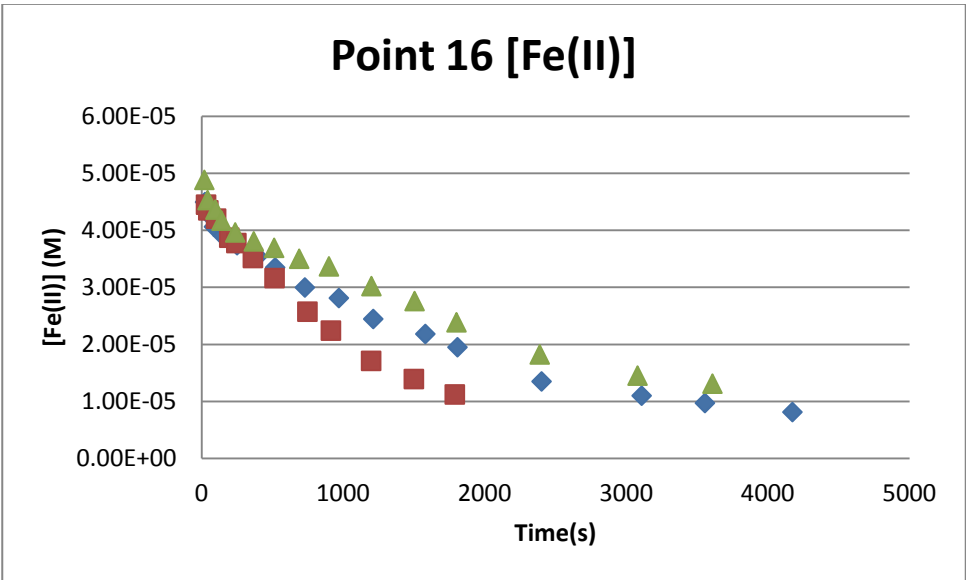
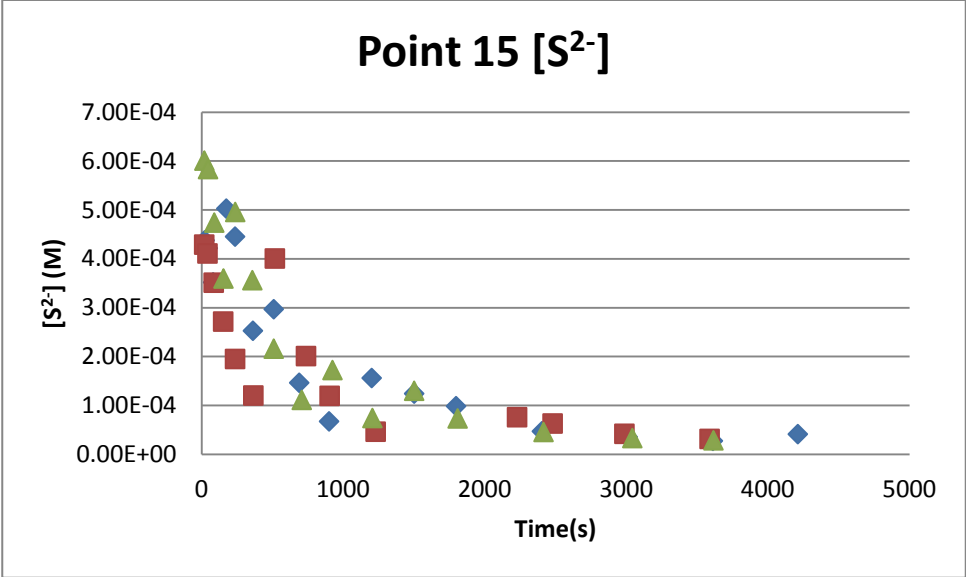


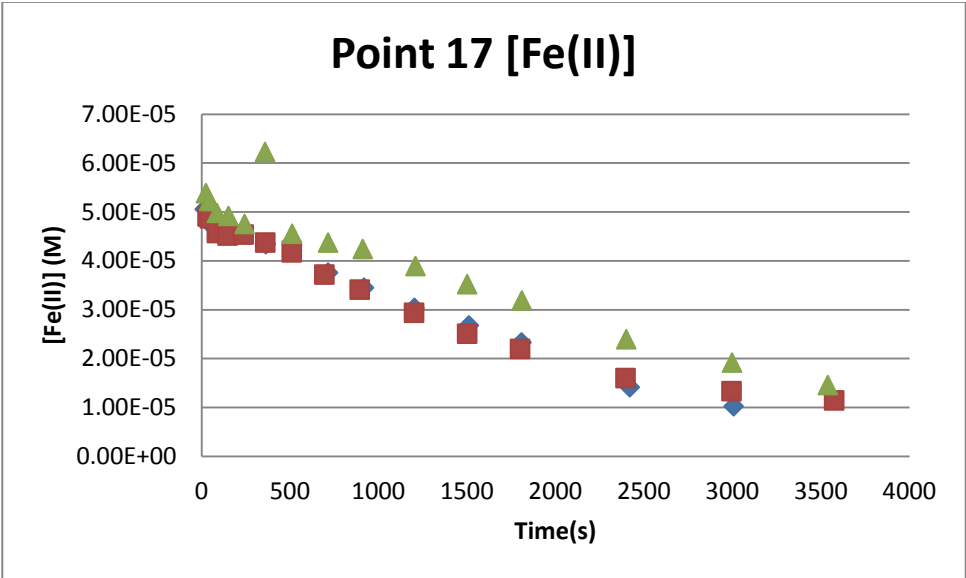
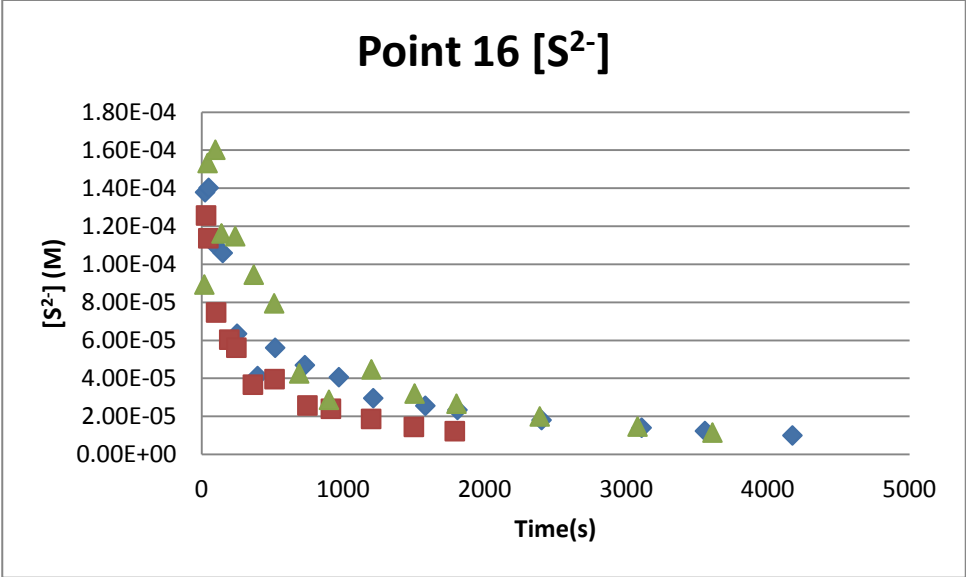


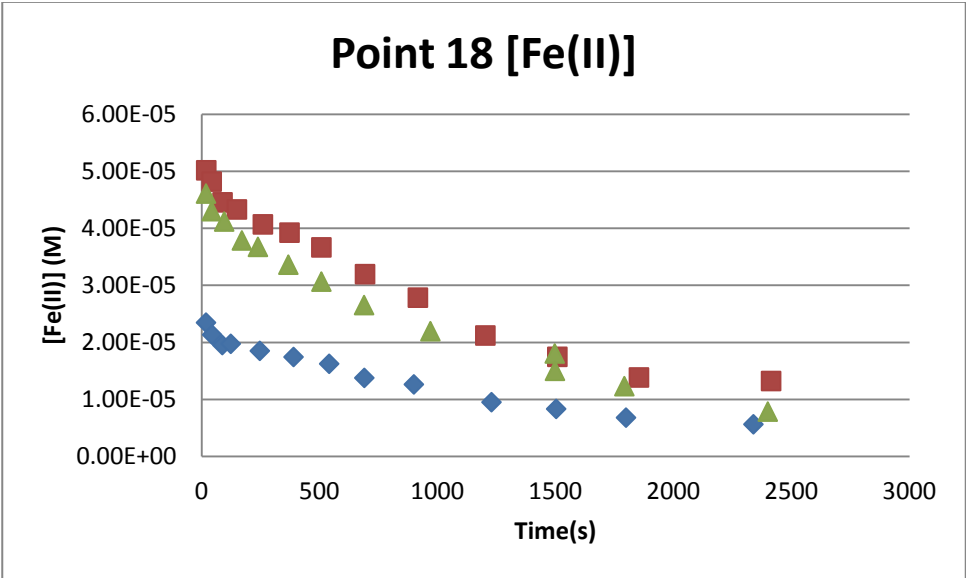
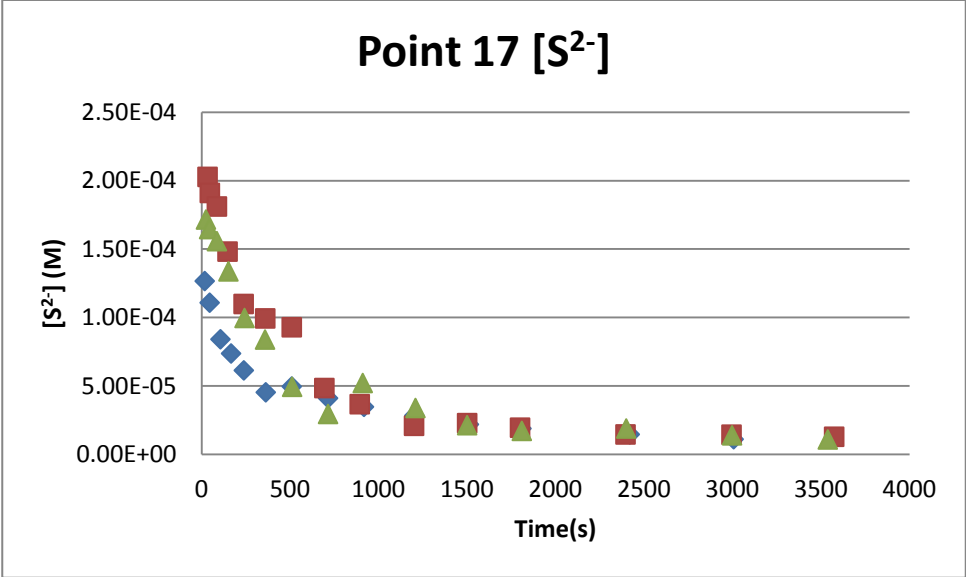


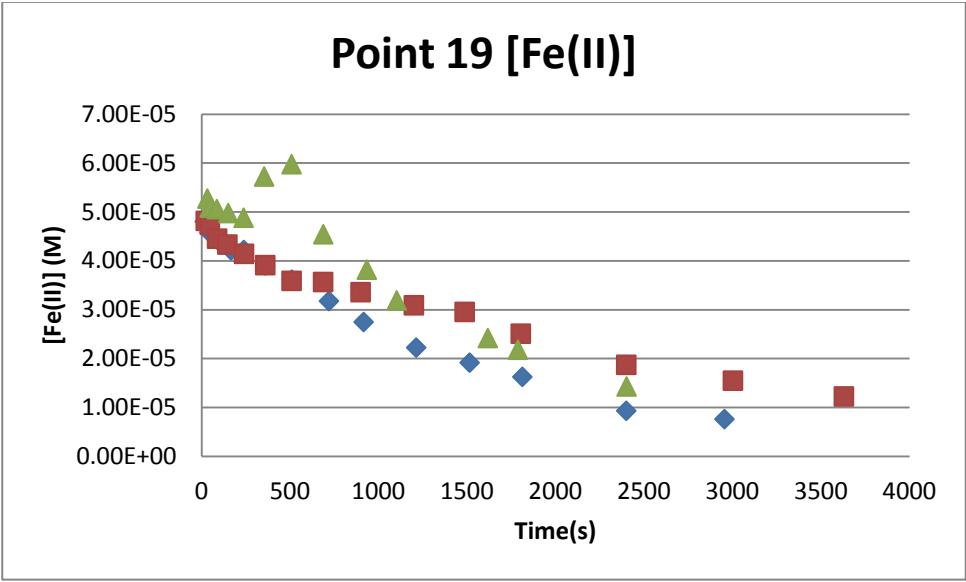
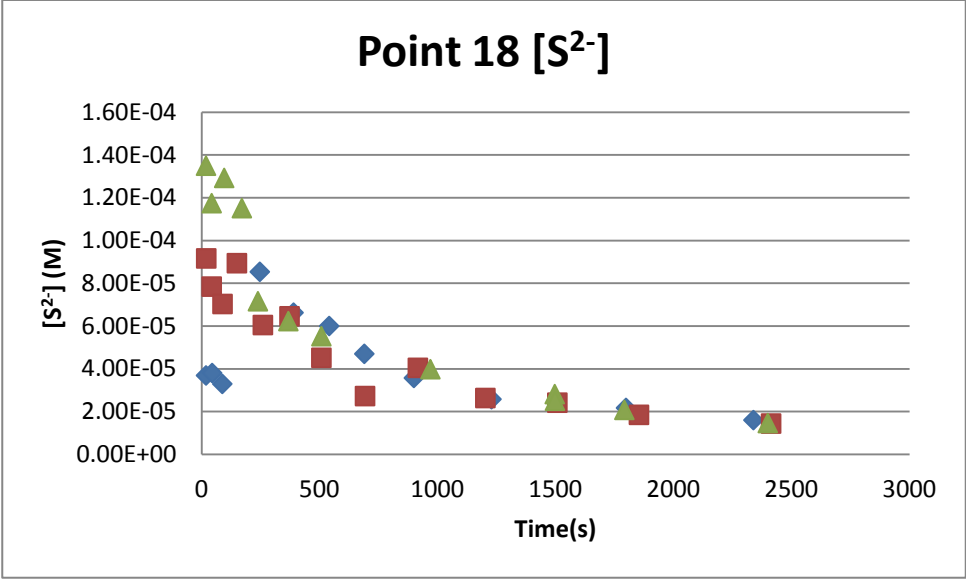


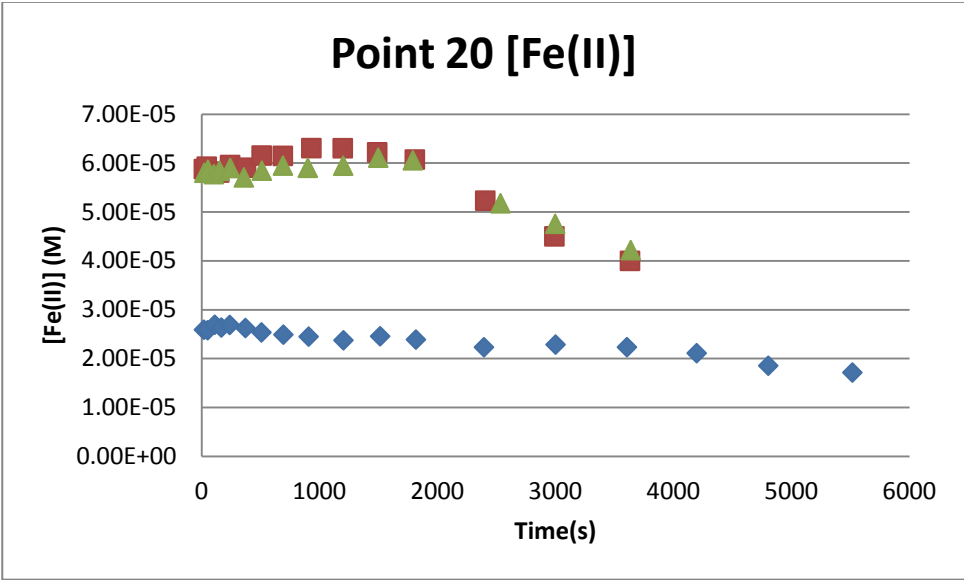
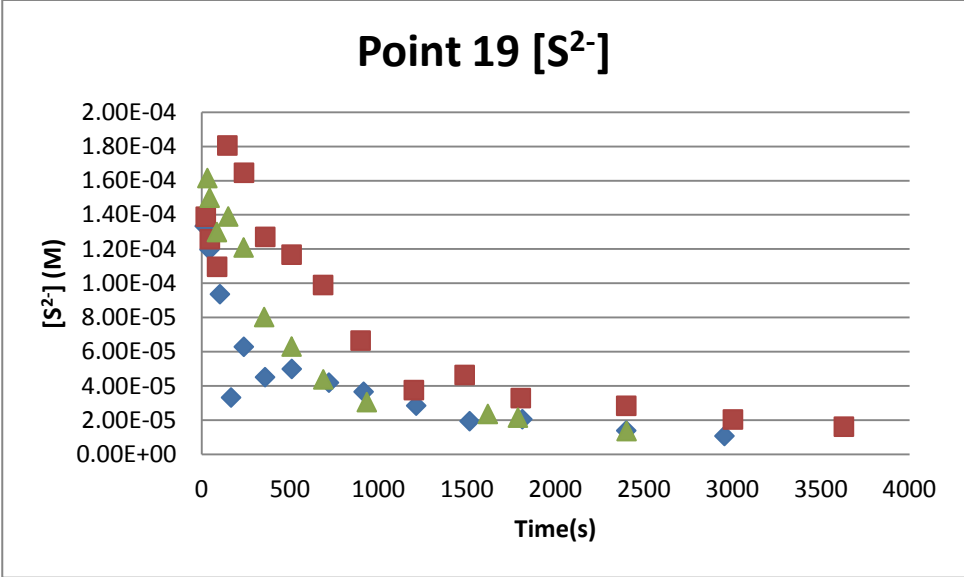


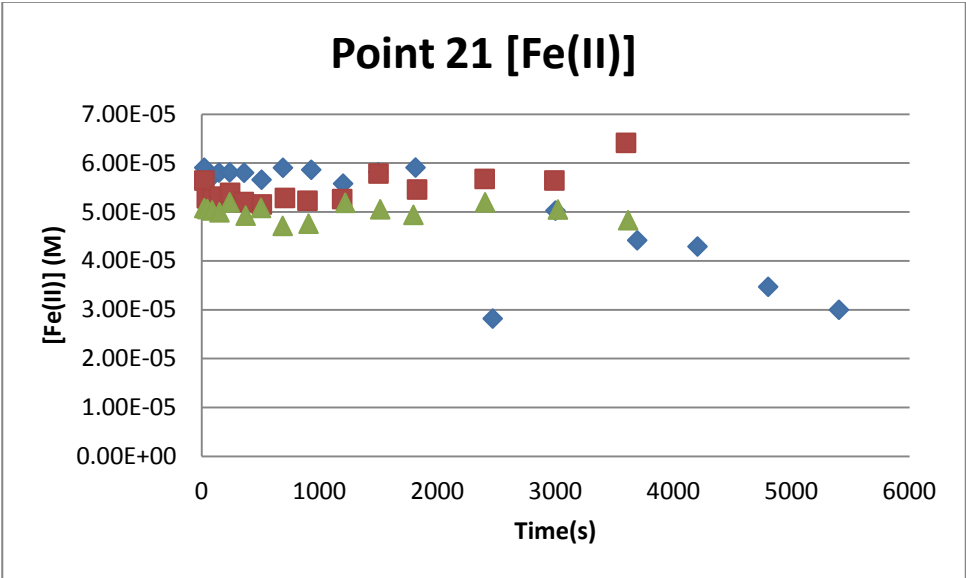
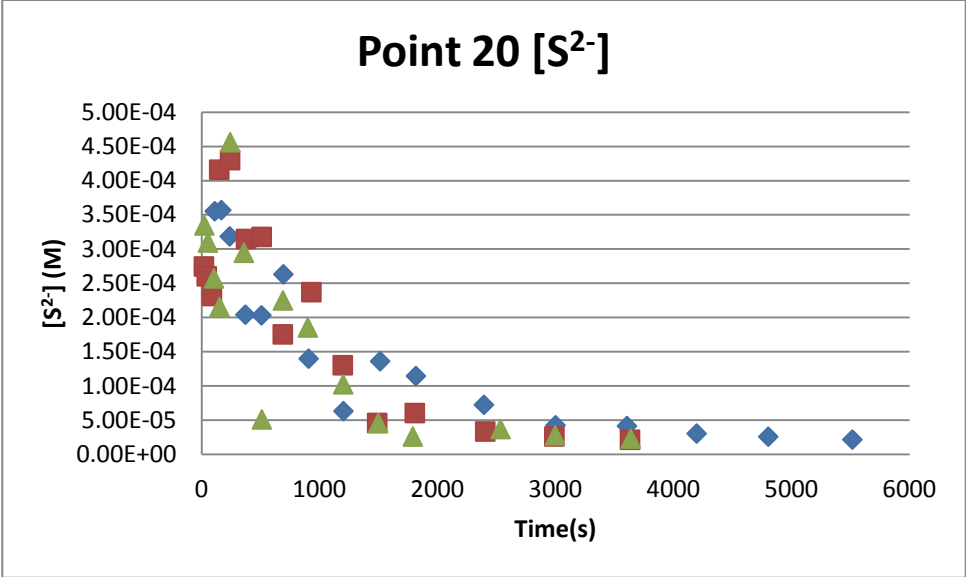


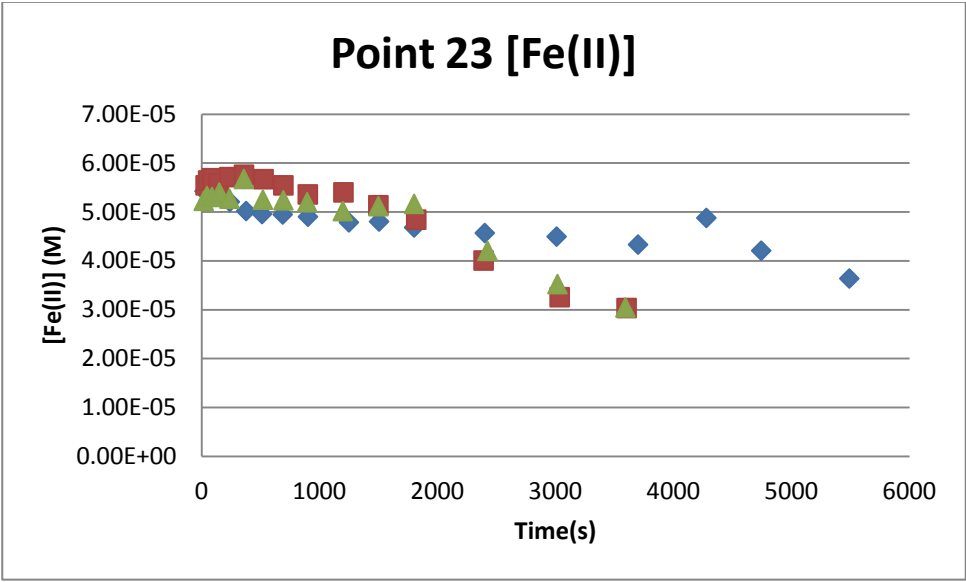
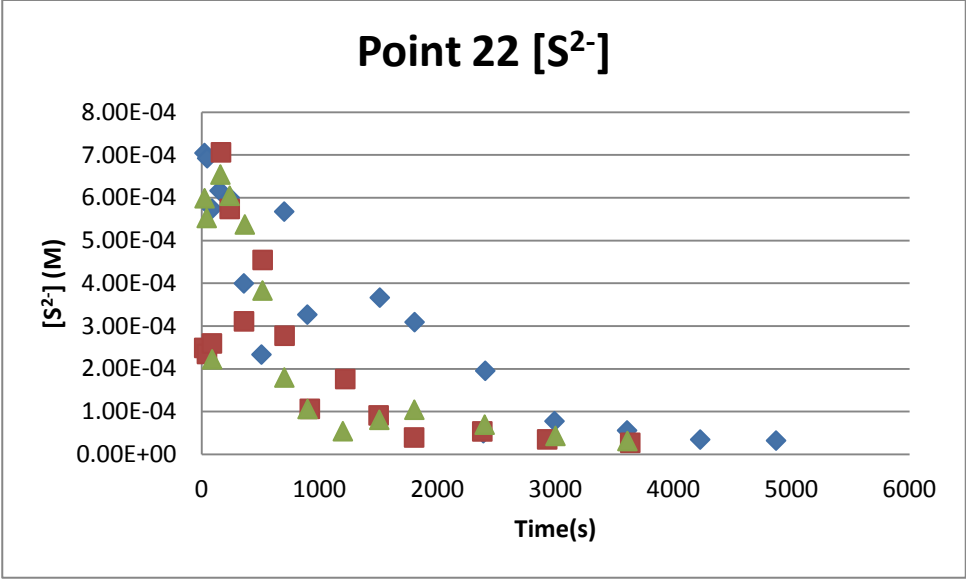


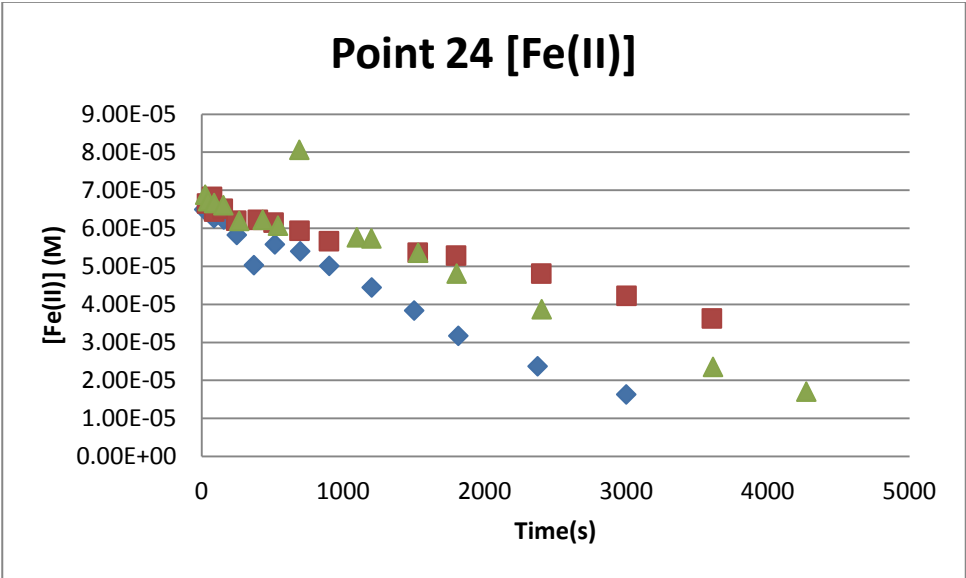
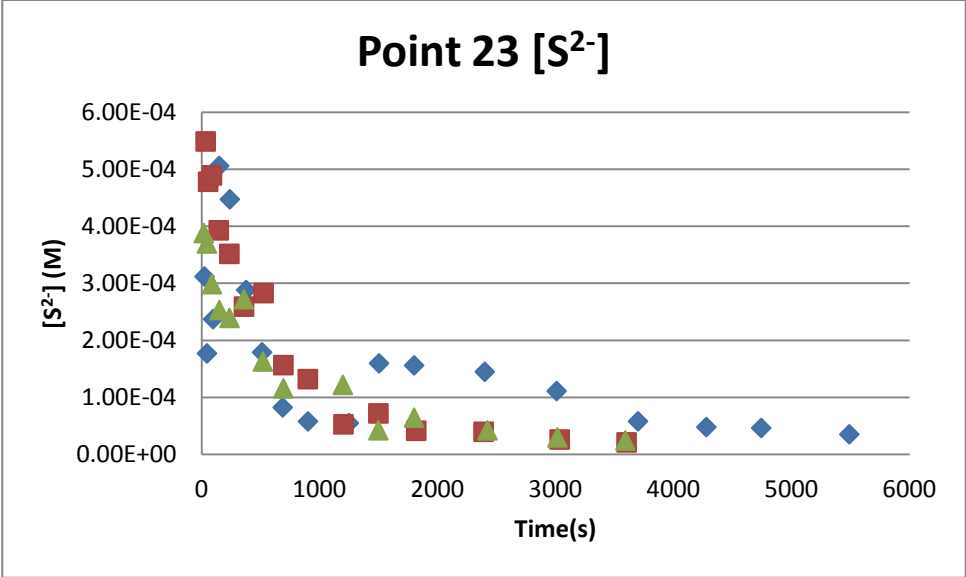


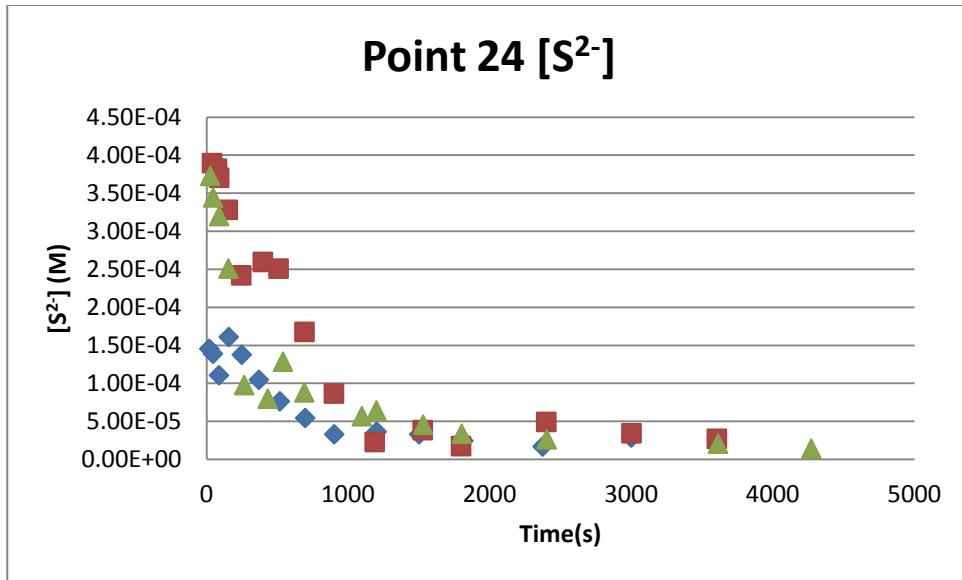






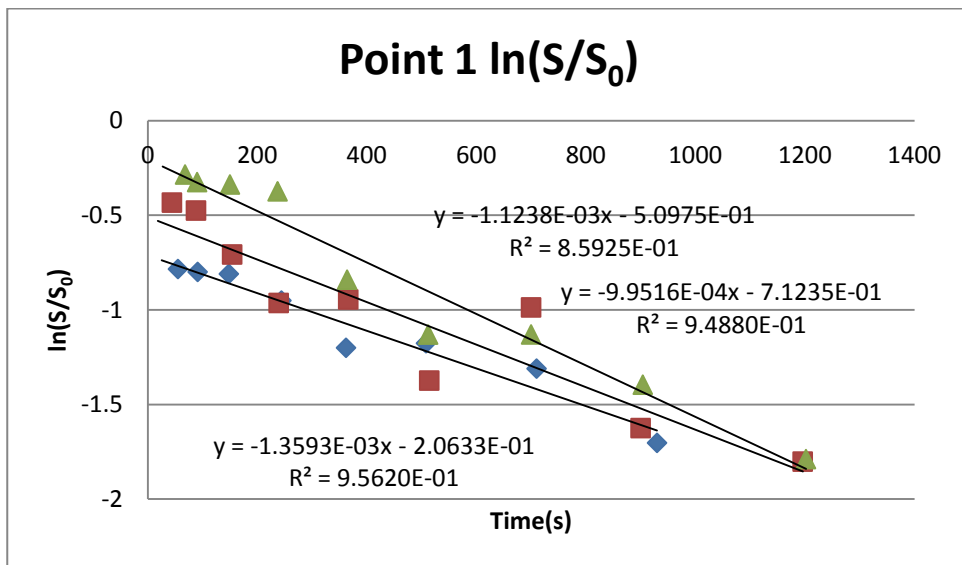
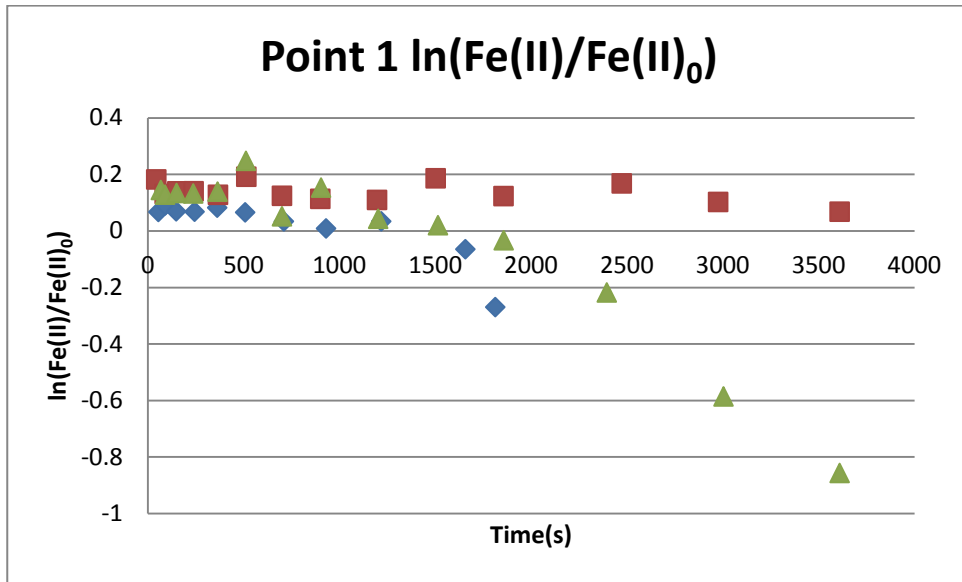


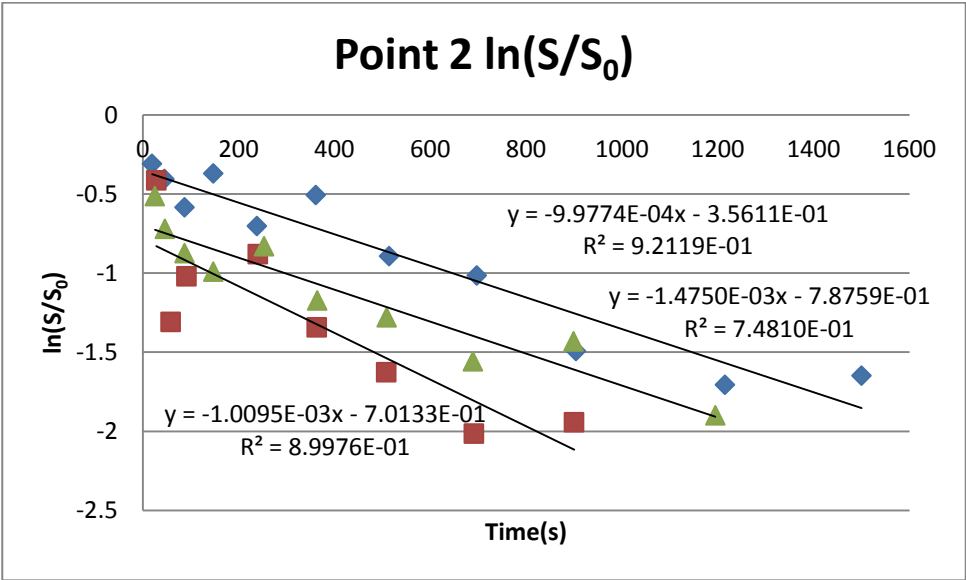
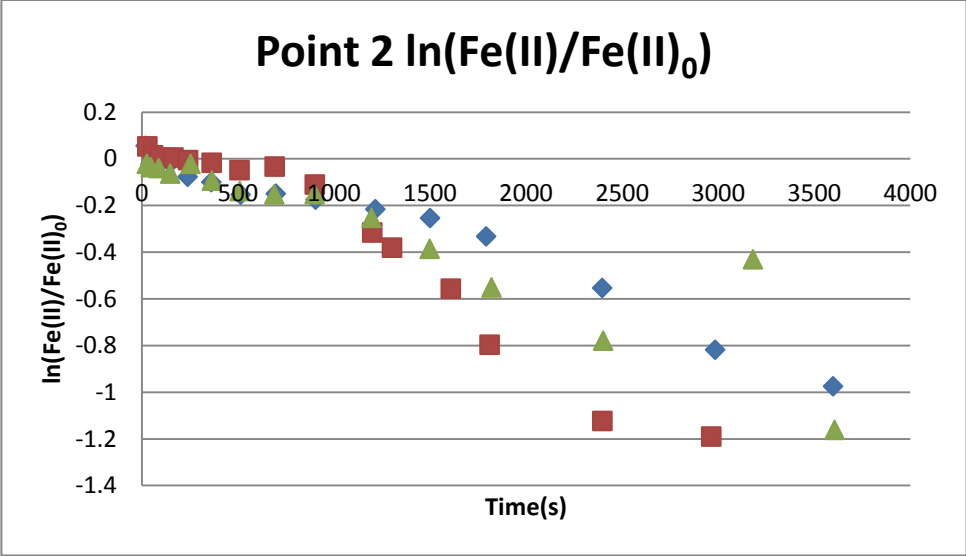


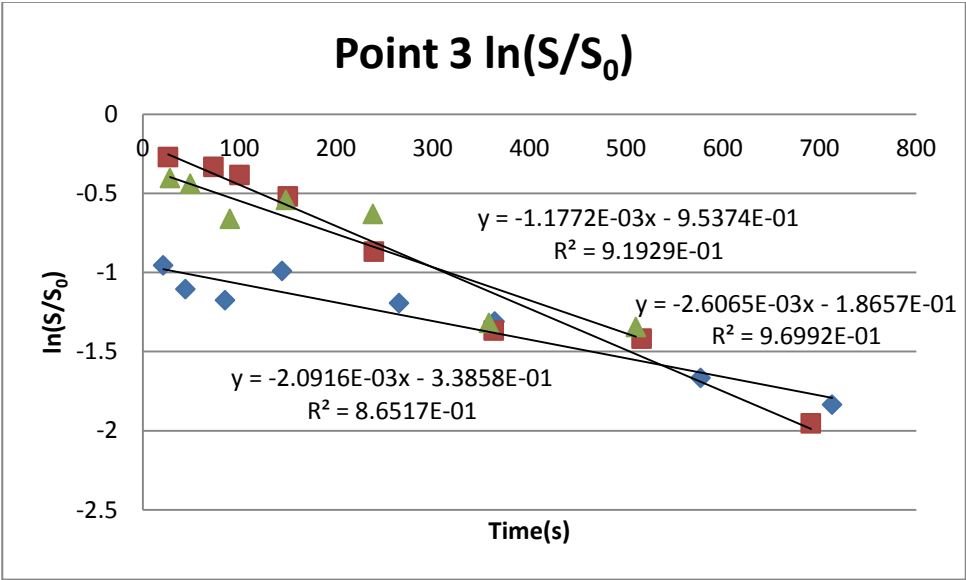
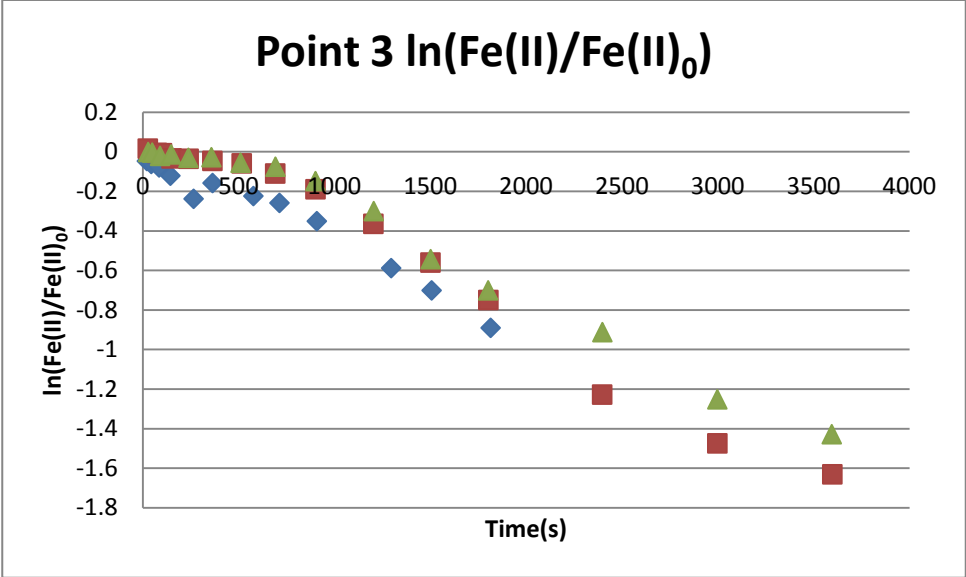


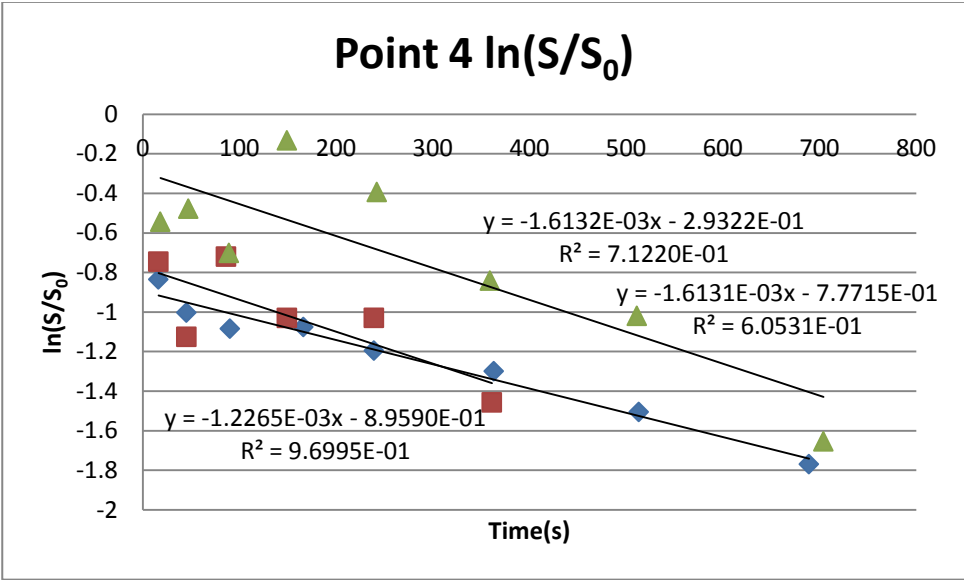
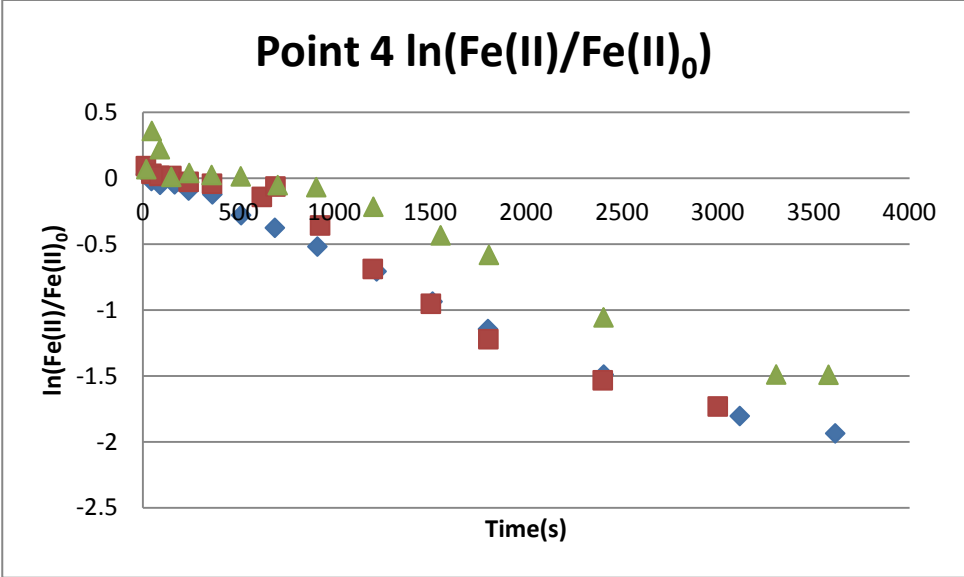
Appendix 3: Plots of $\ln(A/A_0)$

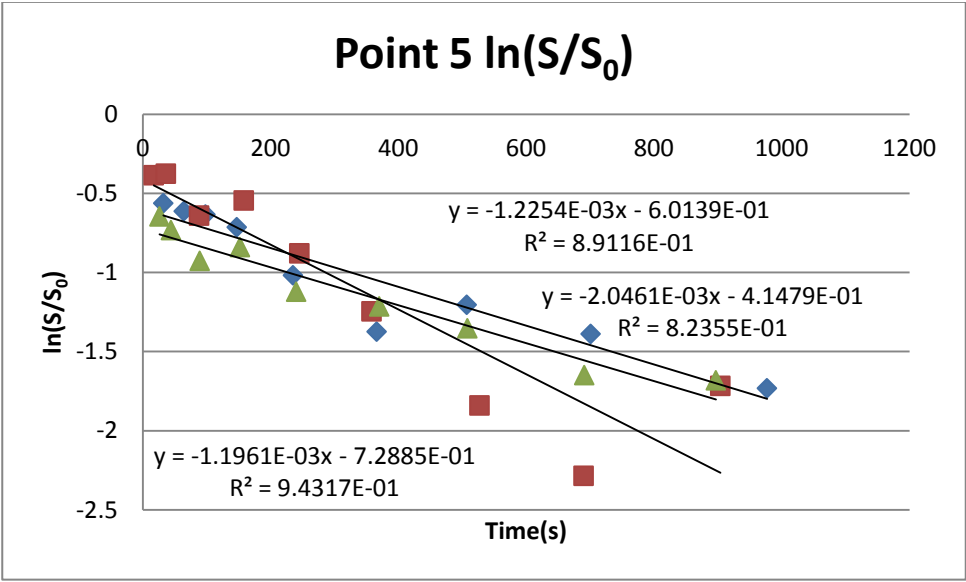
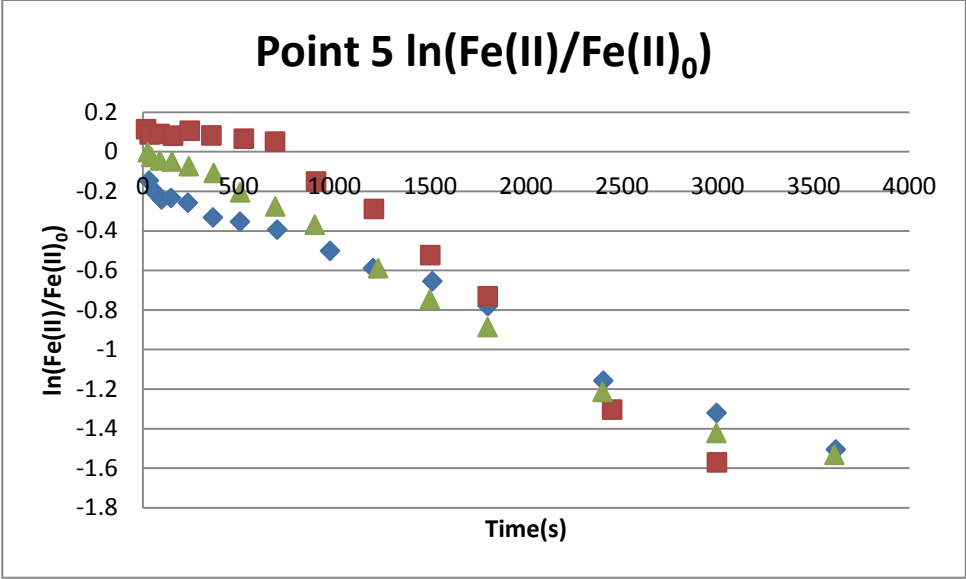
Each “Point” refers to the similarly numbered experimental condition as shown in Table 2.2.1. Each graph depicts all replicates for each sampled point. The data for $\ln(A/A_0)$ v time for both Fe(II) and HS^- are shown.

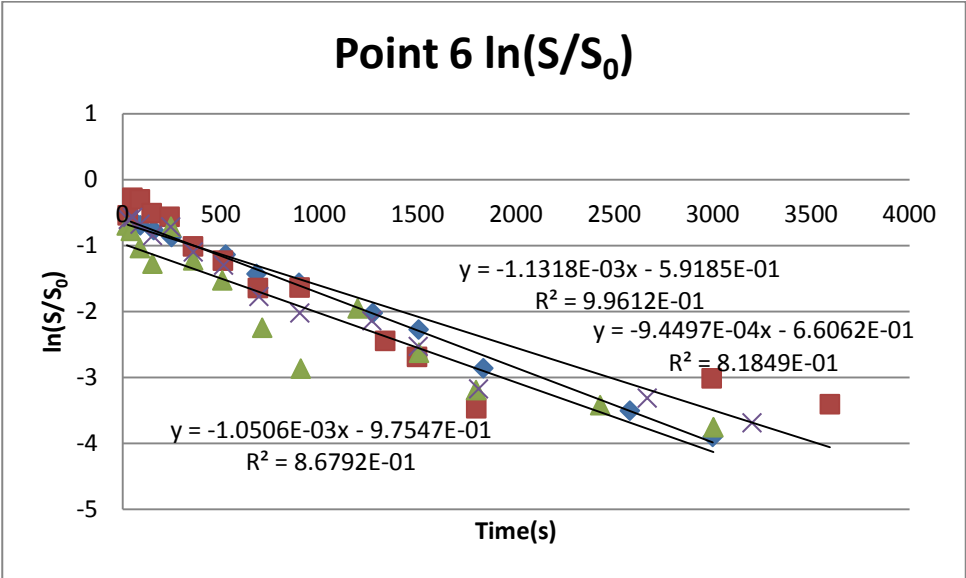
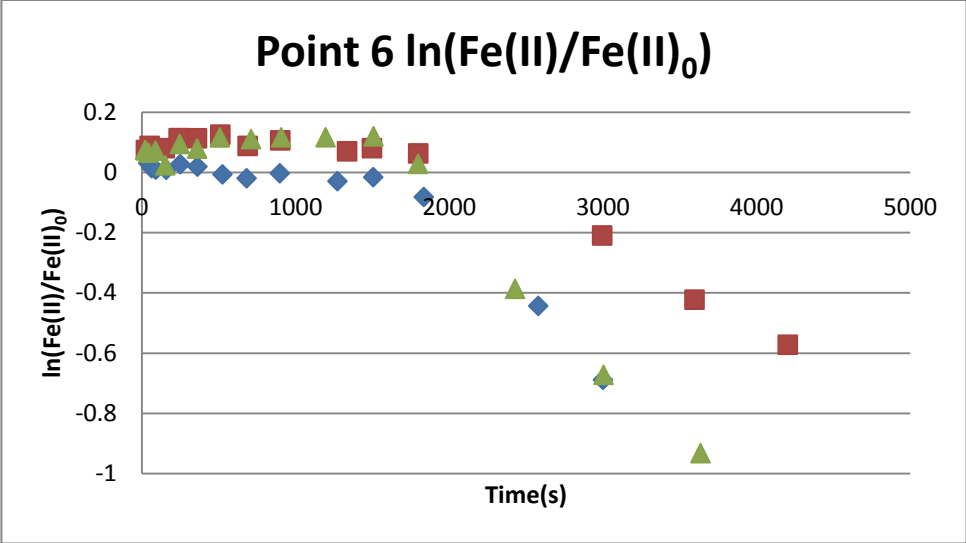


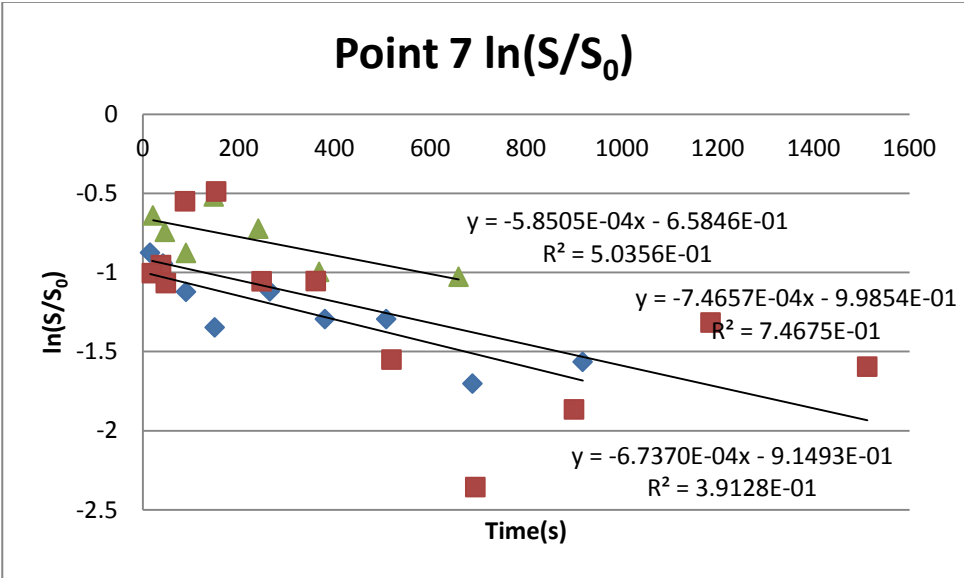
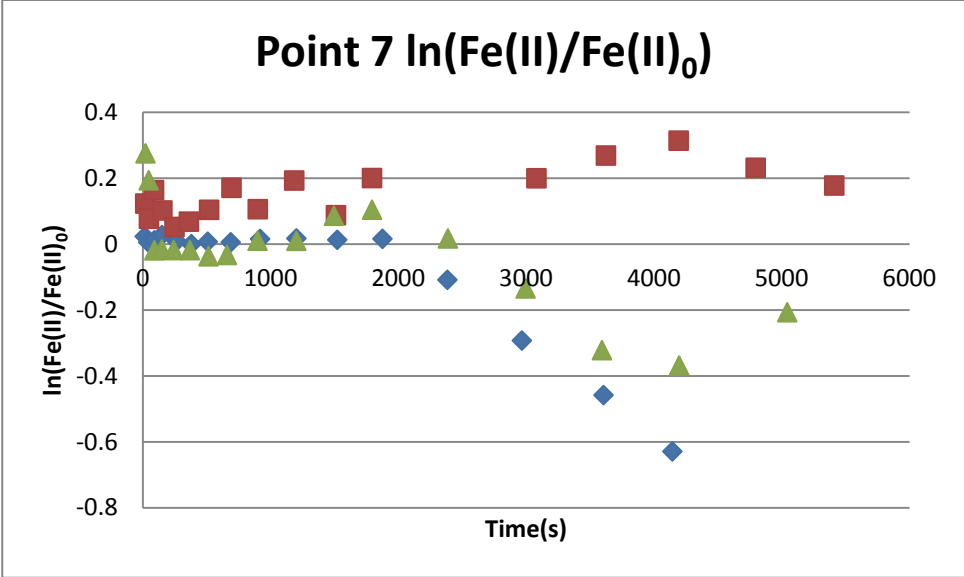


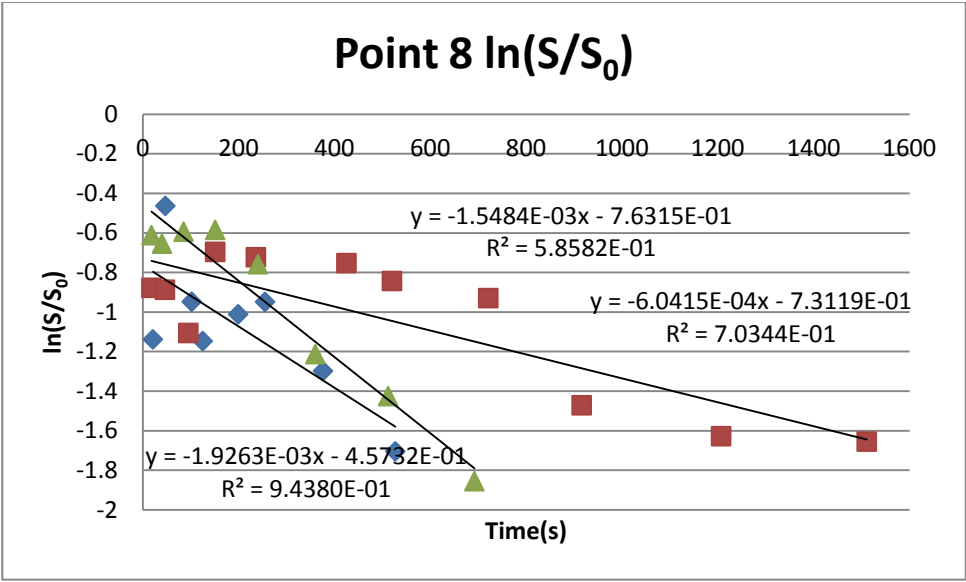
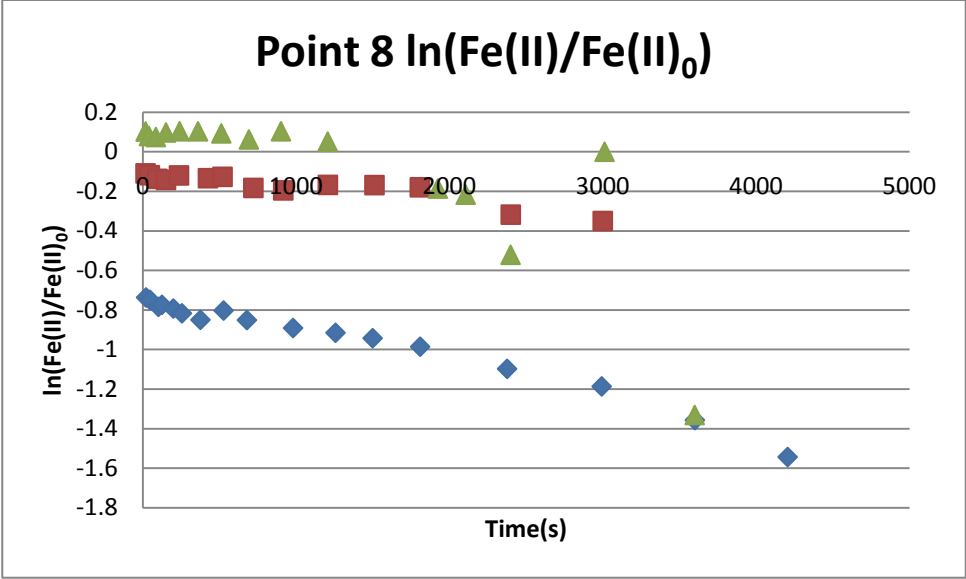


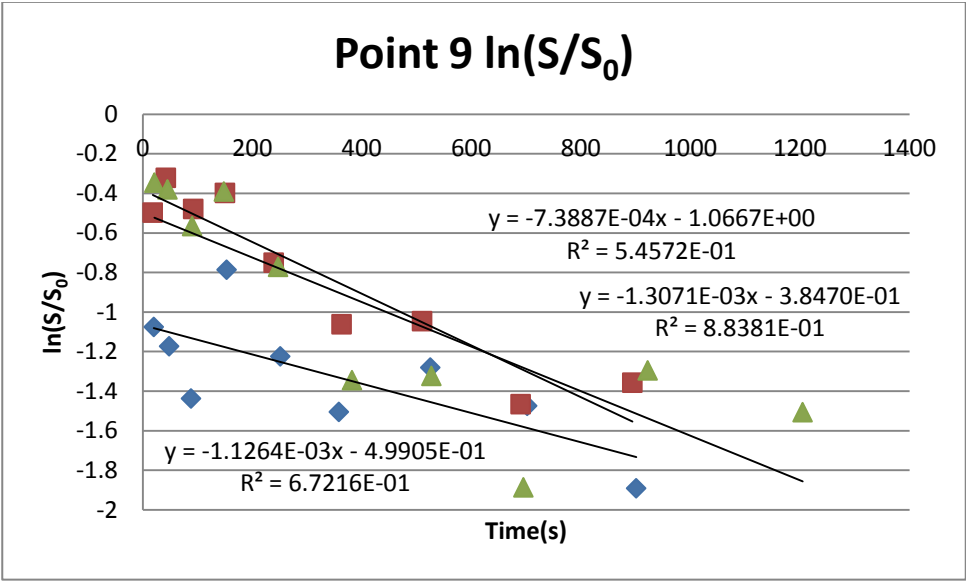
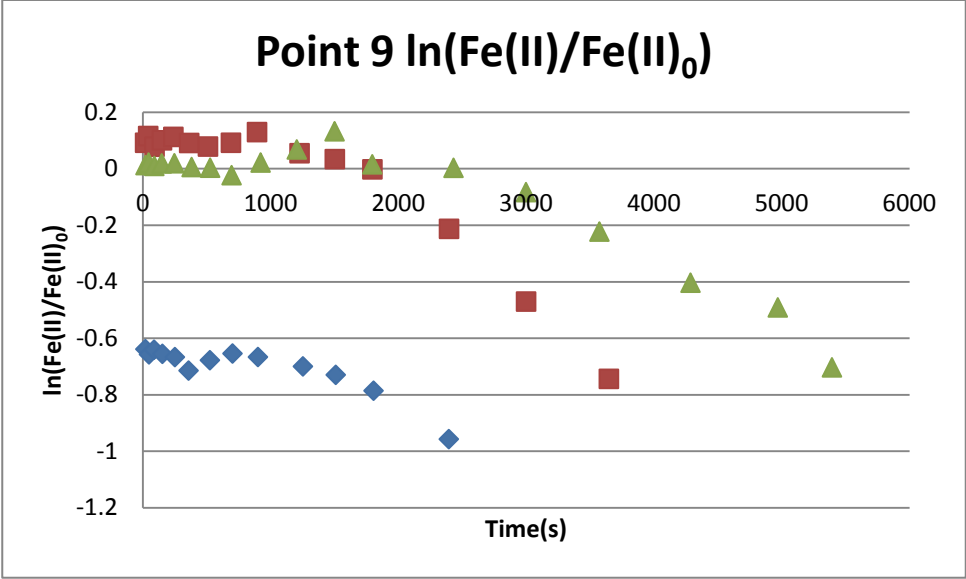


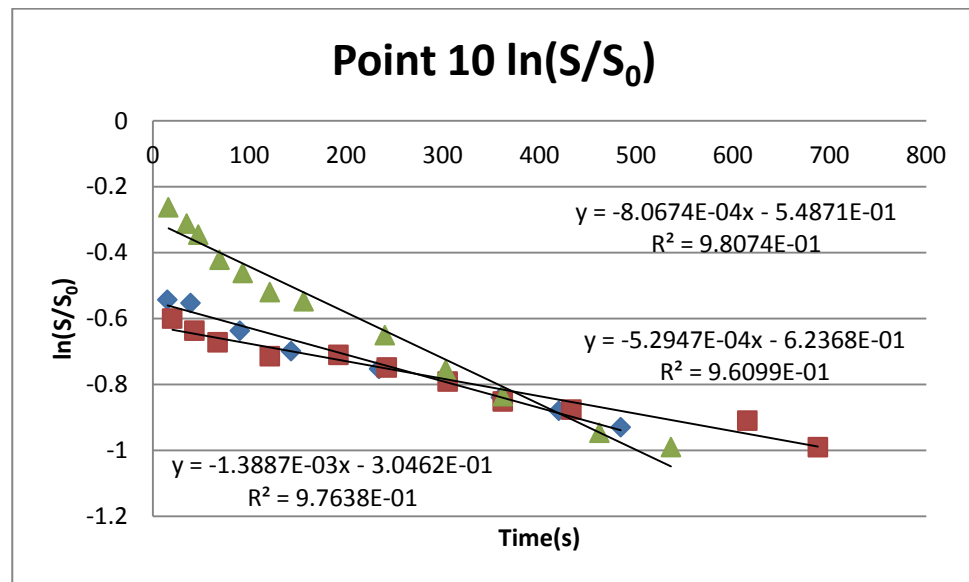
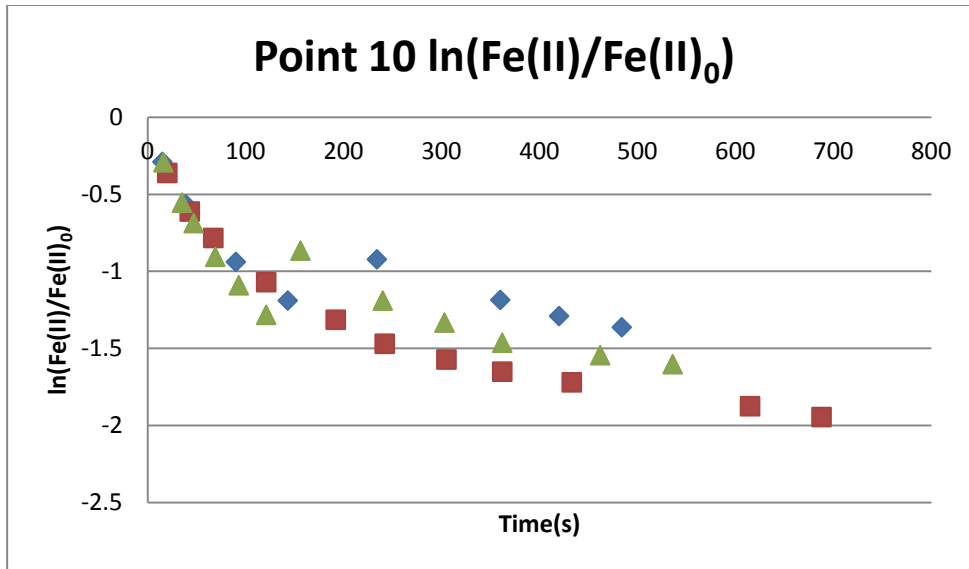


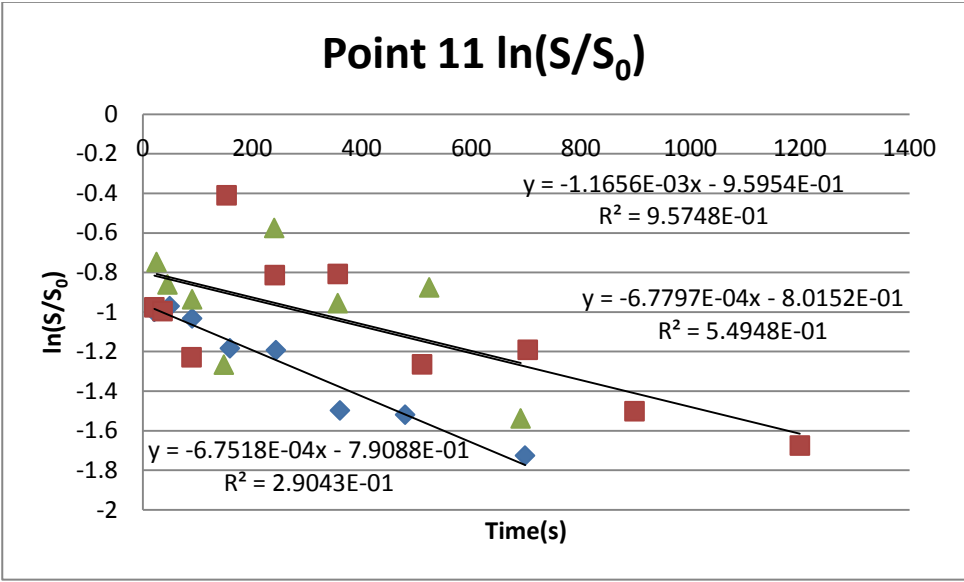
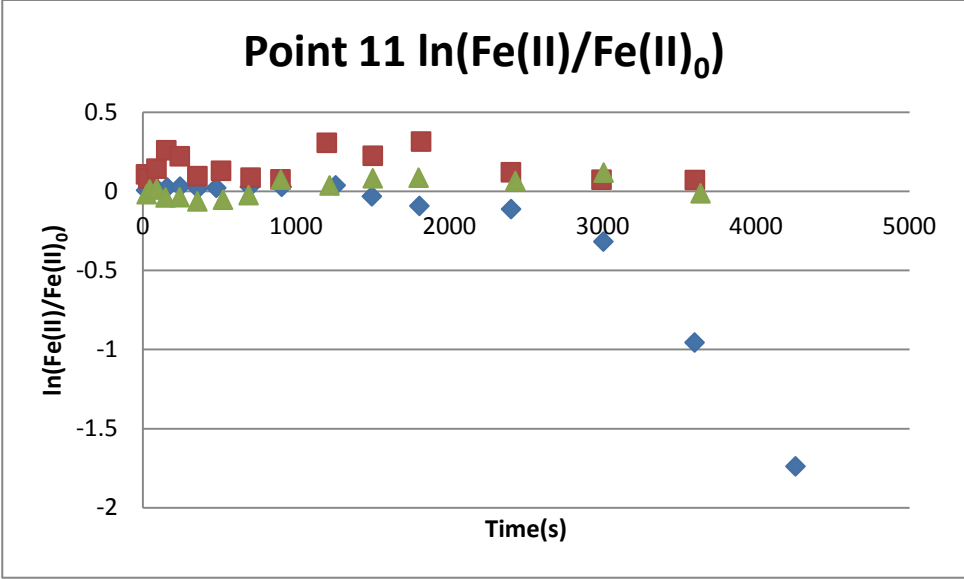




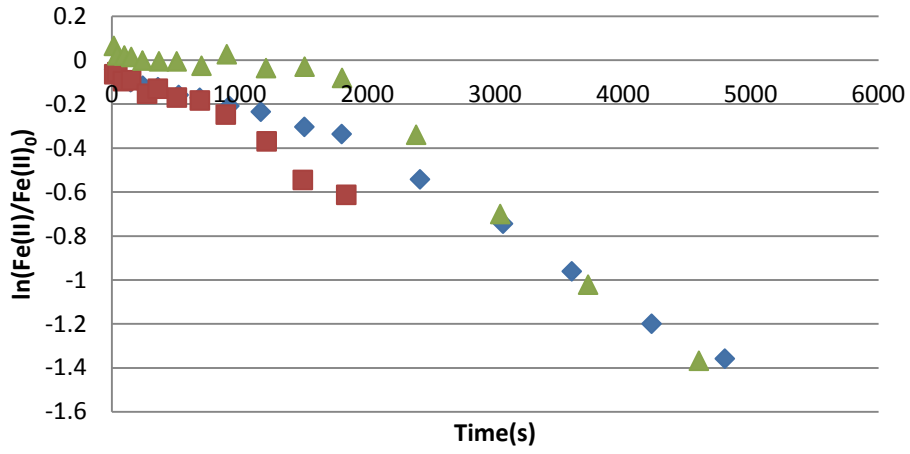




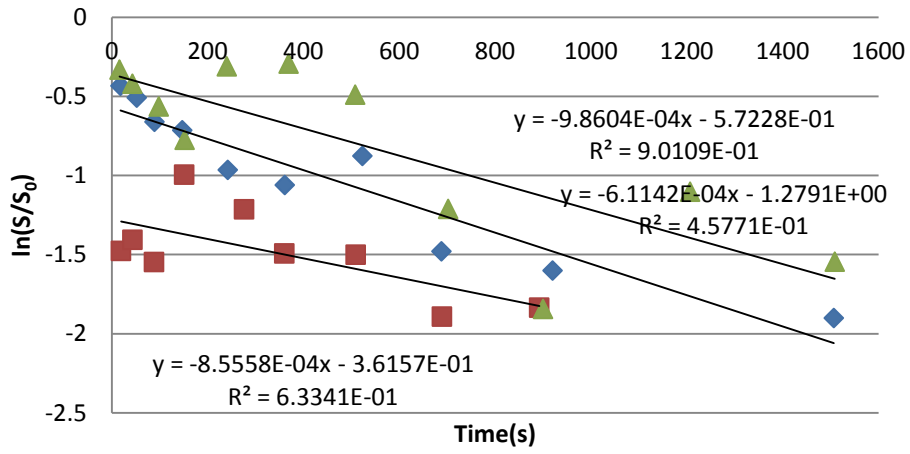


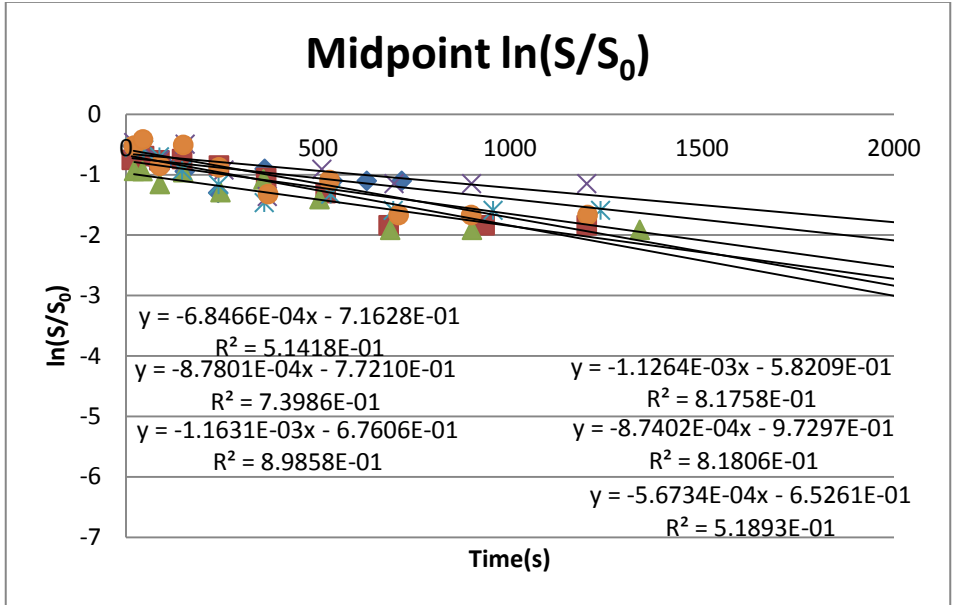
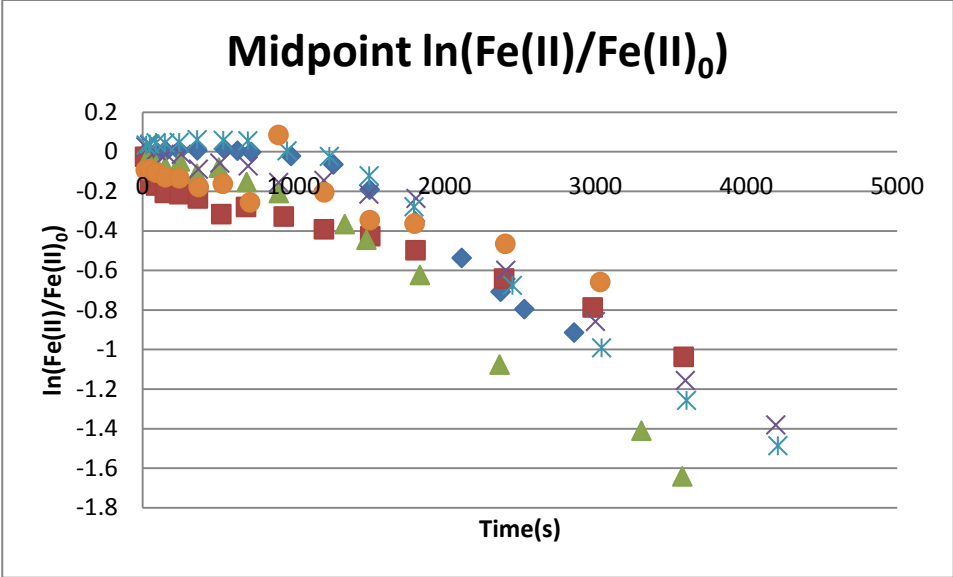


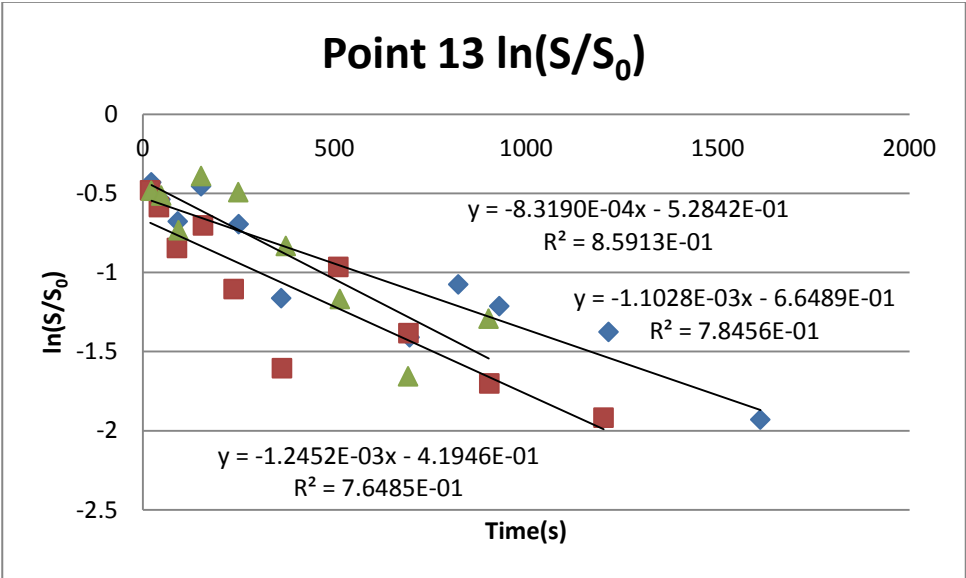
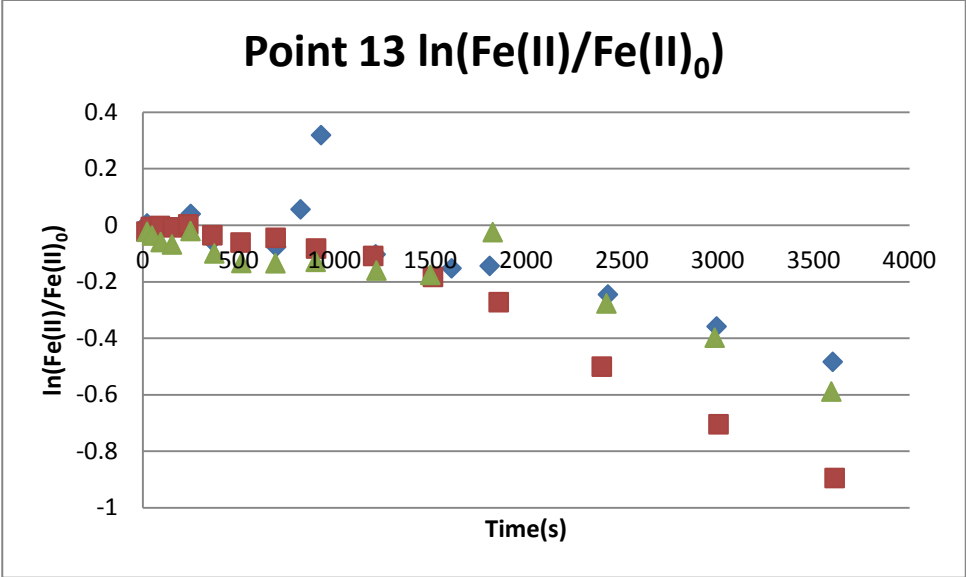
Point 12 $\ln(\text{Fe(II)}/\text{Fe(II)}_0)$

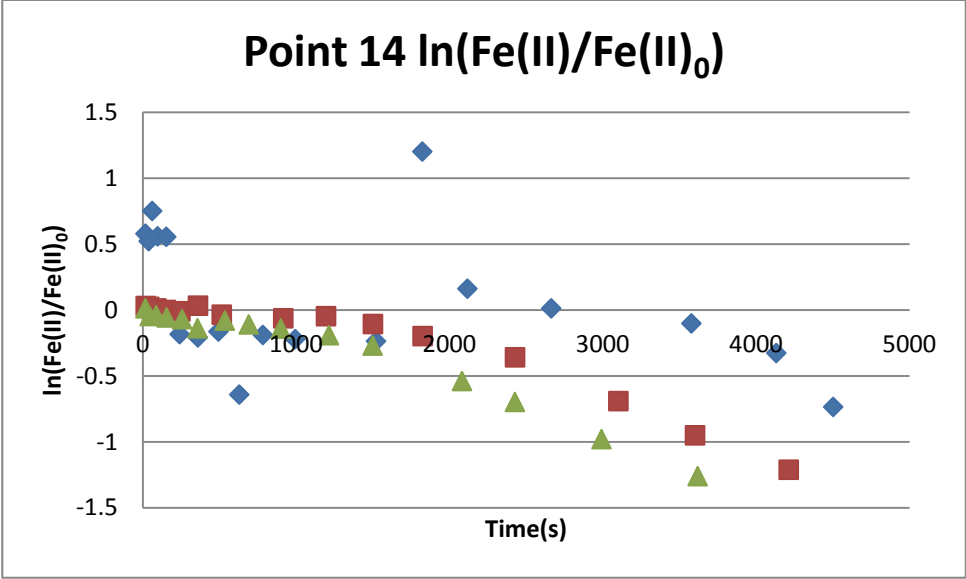


Point 12 $\ln(S/S_0)$

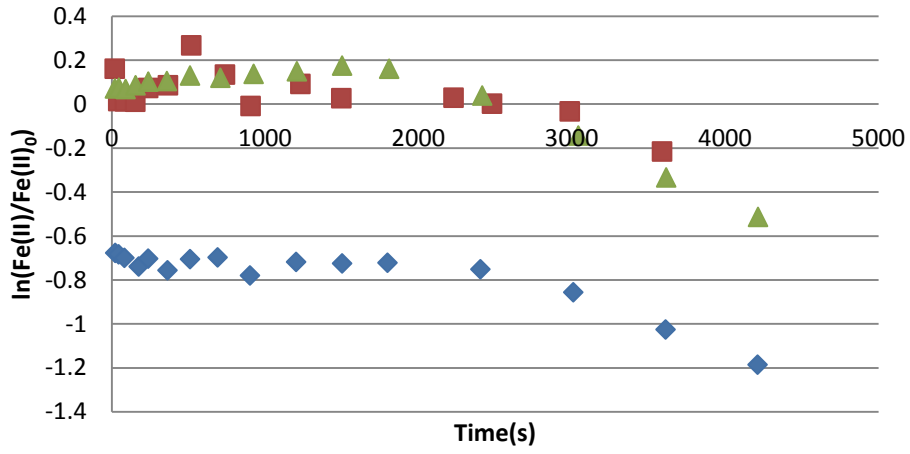




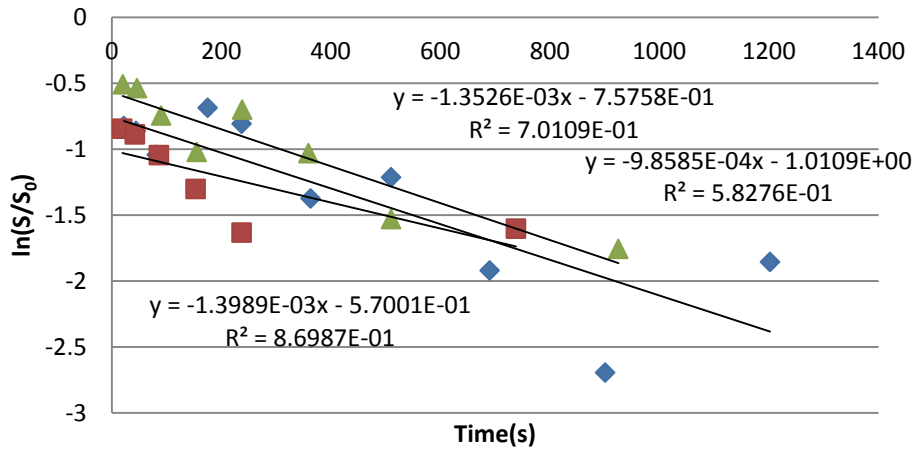


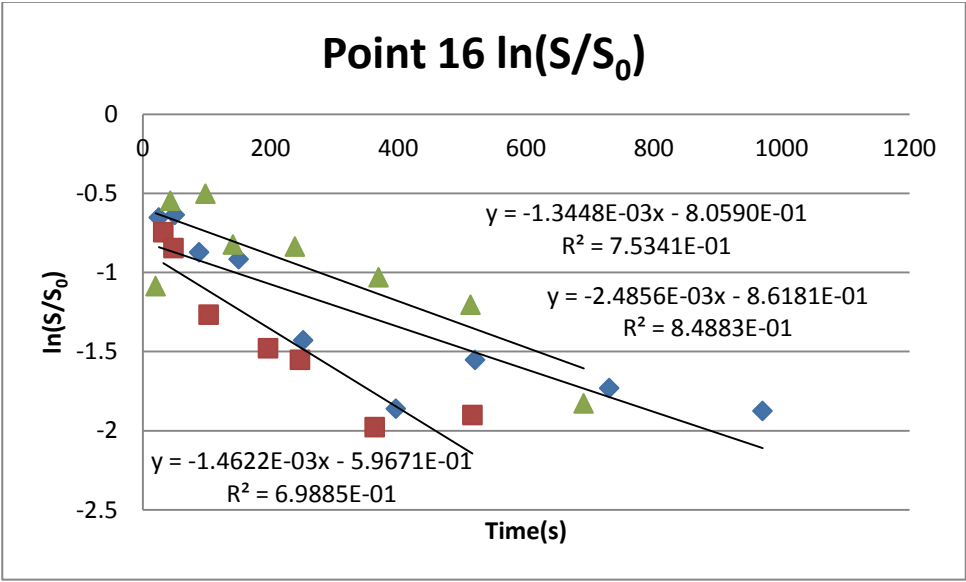
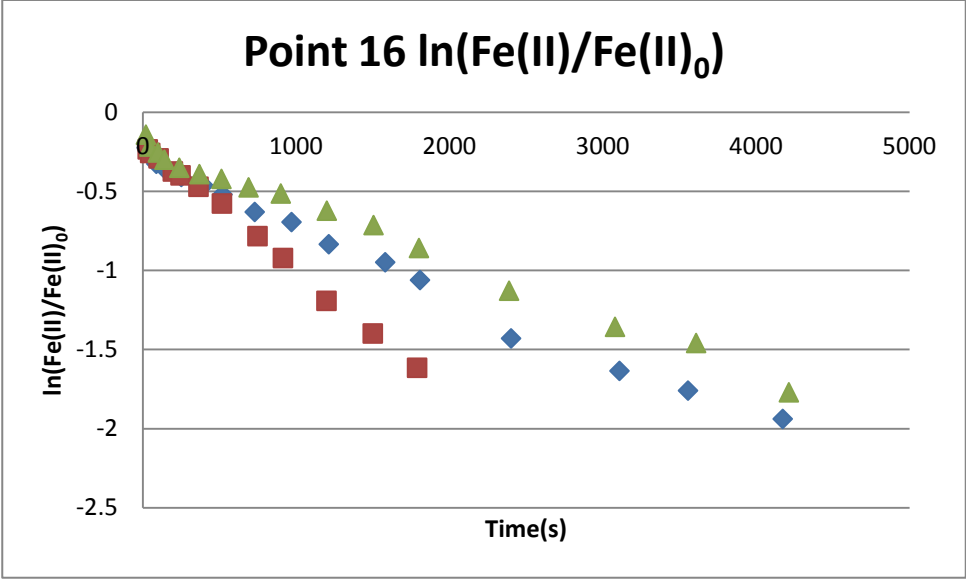


Point 15 $\ln(\text{Fe(II)}/\text{Fe(II)}_0)$

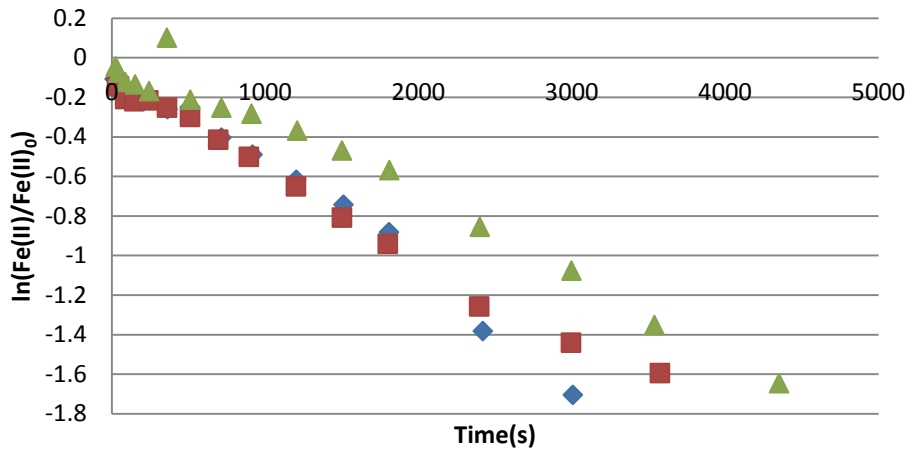


Point 15 $\ln(S/S_0)$

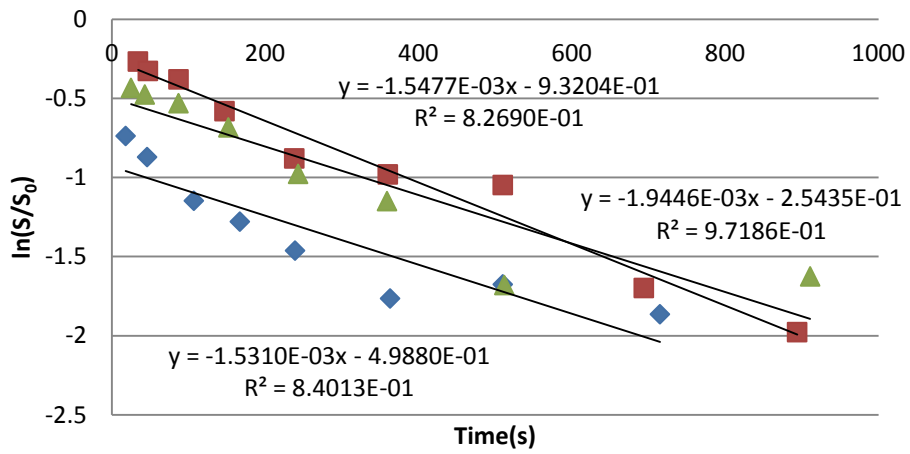


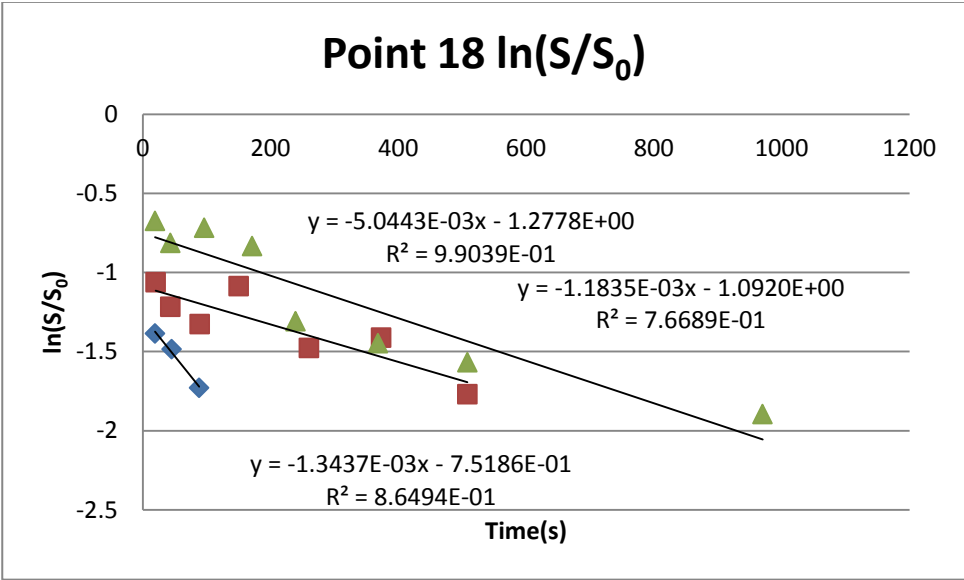
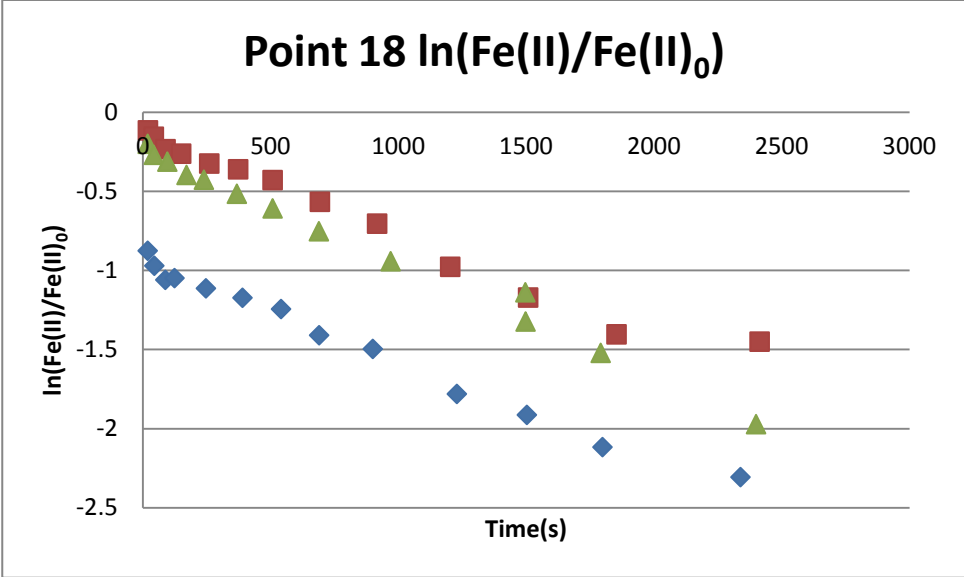


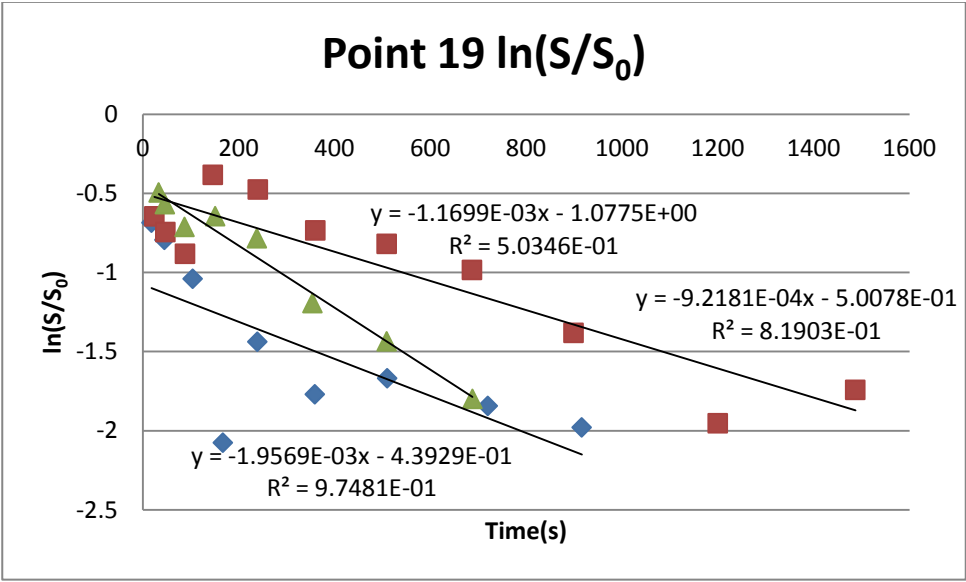
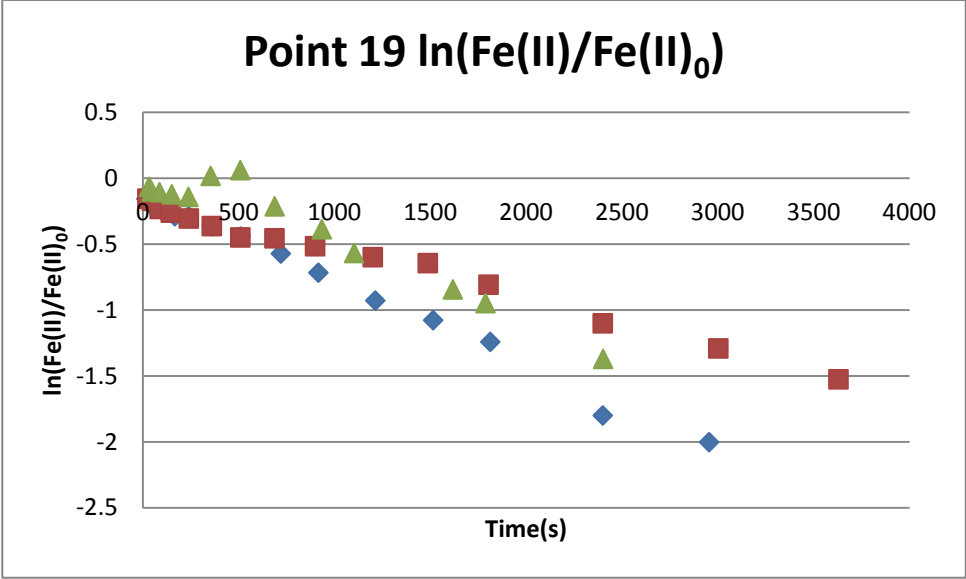
Point 17 $\ln(\text{Fe(II)}/\text{Fe(II)}_0)$

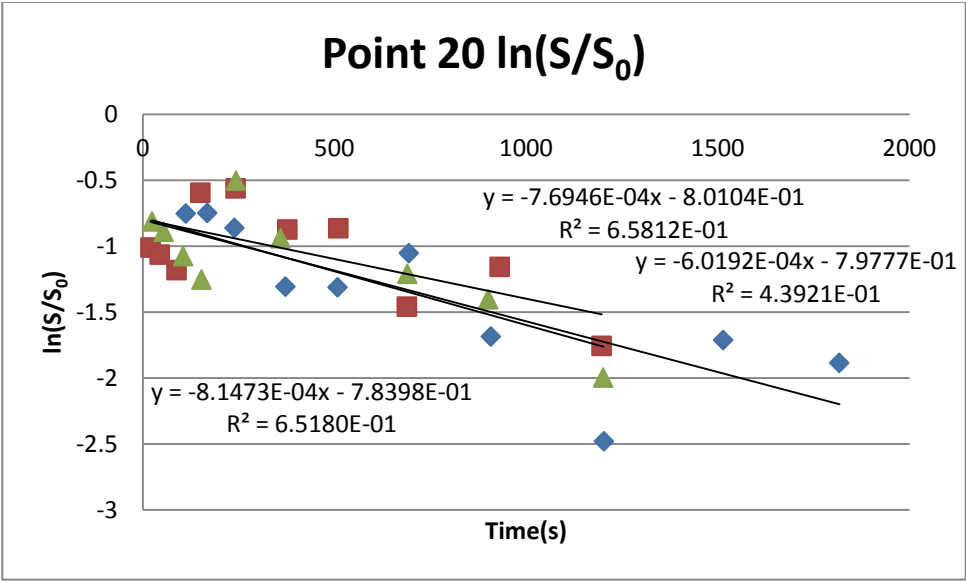
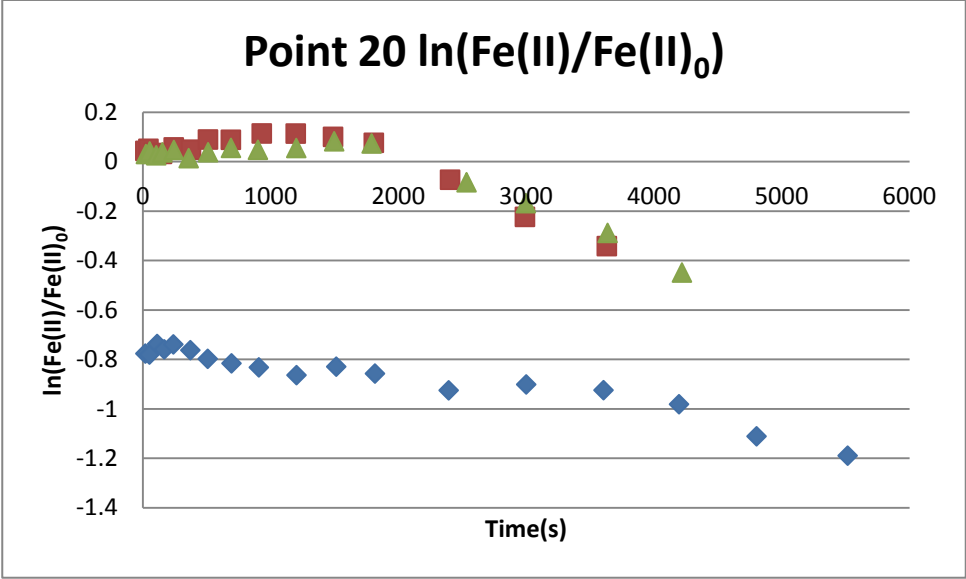


Point 17 $\ln(S/S_0)$

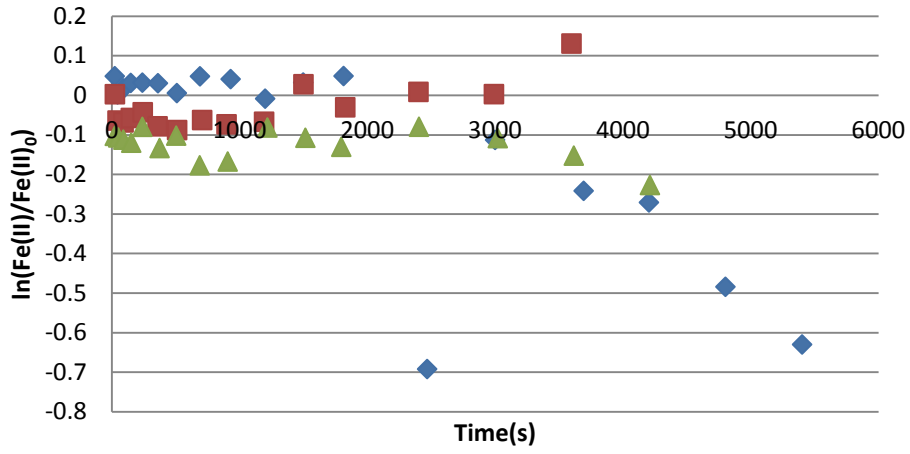




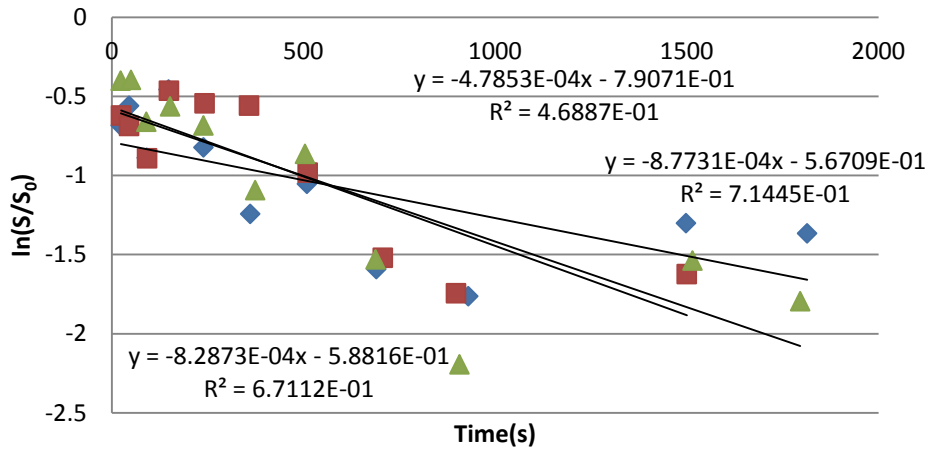




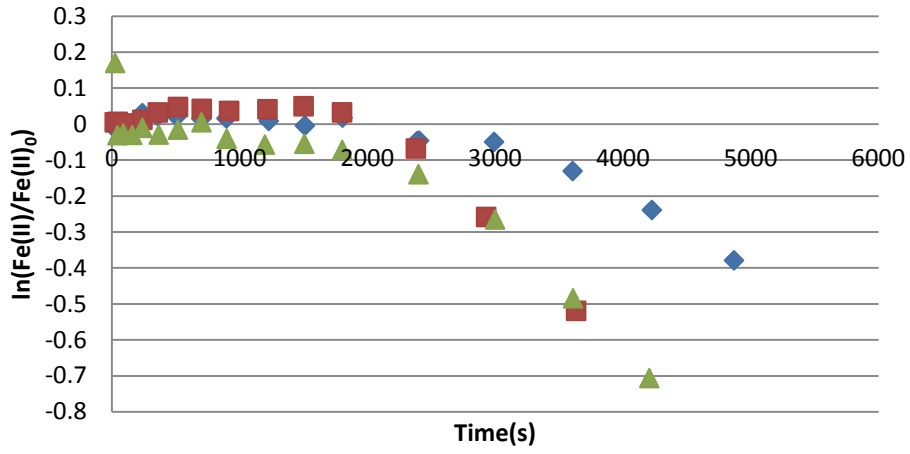
Point 21 $\ln(\text{Fe(II)}/\text{Fe(II)}_0)$



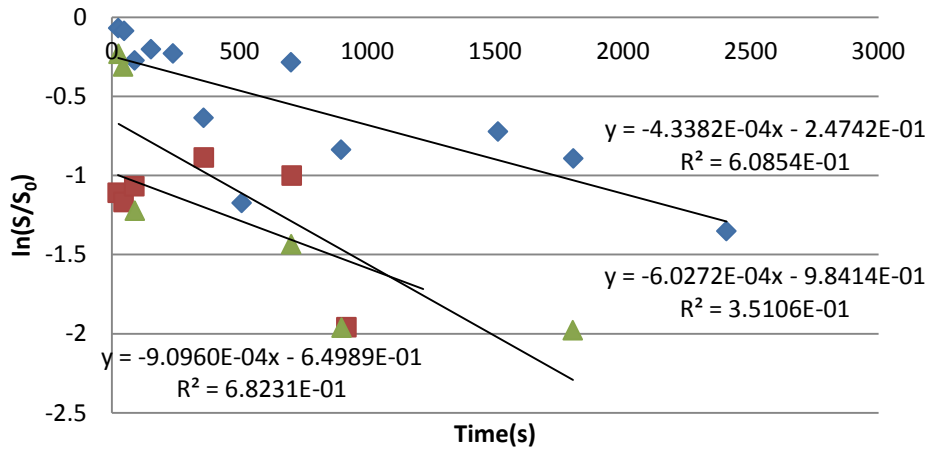
Point 21 $\ln(S/S_0)$



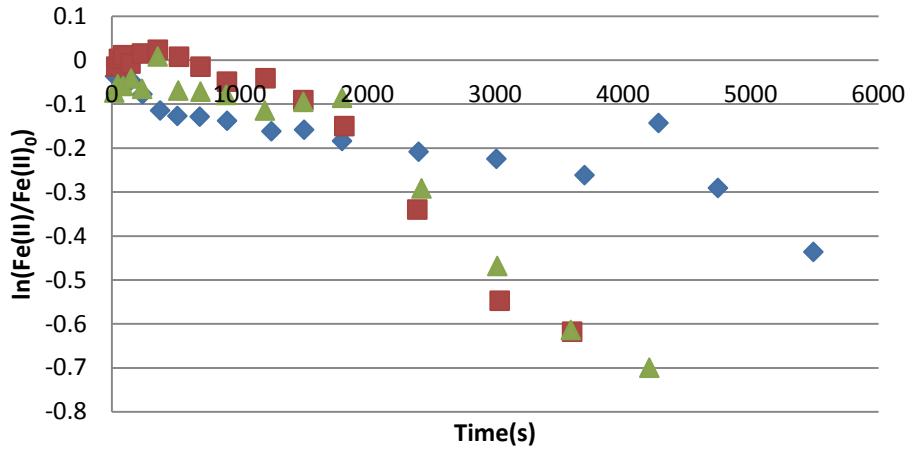
Point 22 $\ln(\text{Fe(II)}/\text{Fe(II)}_0)$



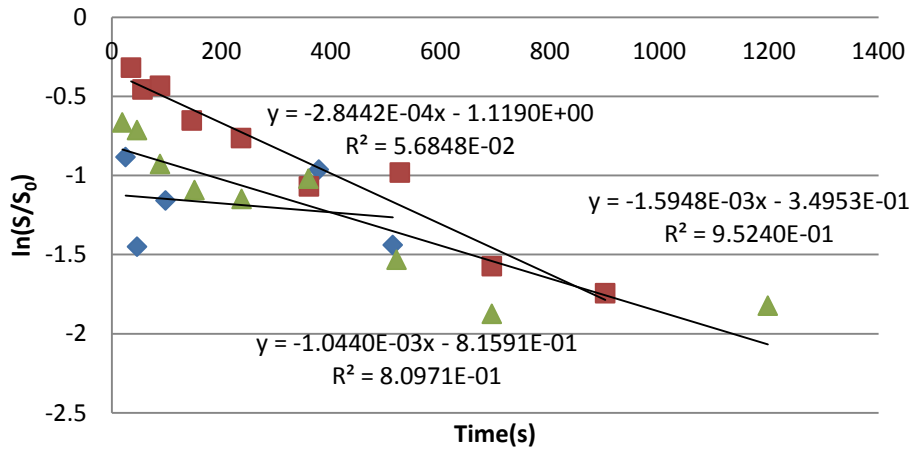
Point 22 $\ln(\text{S}/\text{S}_0)$



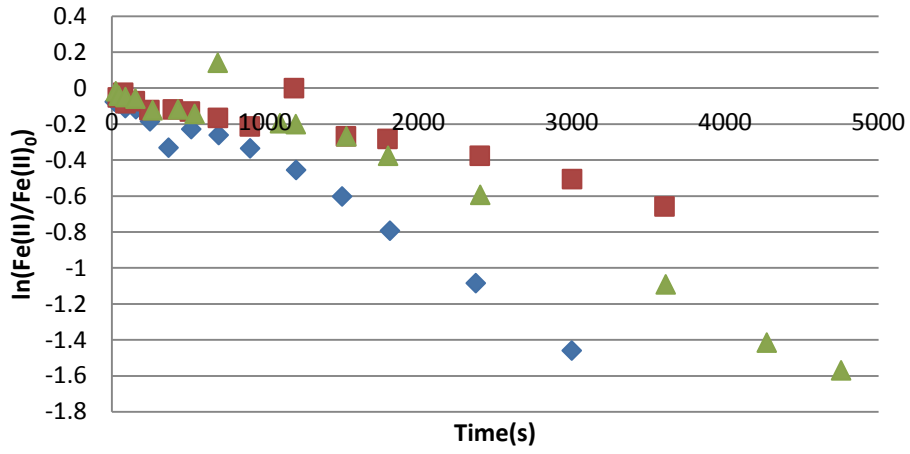
Point 23 $\ln(\text{Fe(II)}/\text{Fe(II)}_0)$



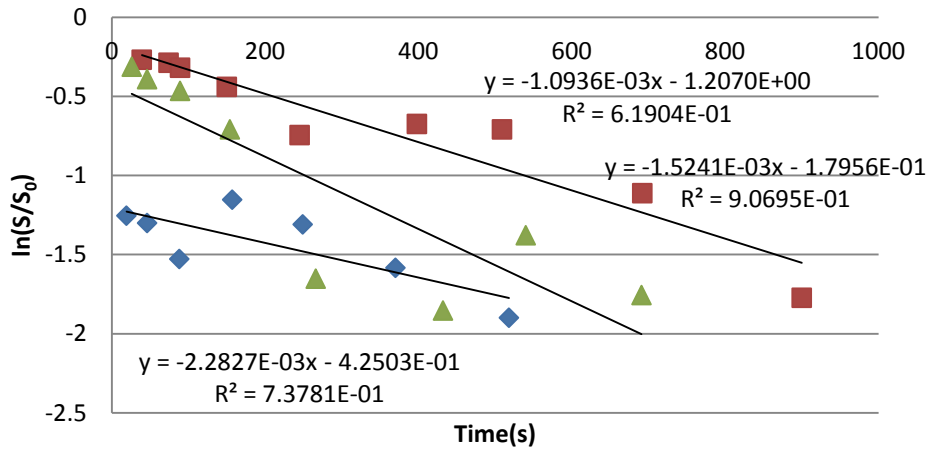
Point 23 $\ln(S/S_0)$



Point 24 $\ln(\text{Fe(II)}/\text{Fe(II)}_0)$



Point 24 $\ln(S/S_0)$



Appendix 4: Design Expert© Input

Run	ln(Fe(II)/Fe(II)0) = -1			ln(Fe(II)/Fe(II)0) = -0.5		
	Time	Moles of S oxidized	% S oxidized	Time	Moles of S oxidized	% S oxidized
1	5437	0.00051	100	4290	0.000467	91.5
2	3098	0.000508	99.6	2052	0.000483	94.7
3	1883	0.000672	89.0	21	0.000513	68.0
4	2544	0.00074	98.1	20	0.000498	65.9
5	59	0.000229	86.3	19	0.000228	86.1
6	4286	0.000725	96.1	20	0.000708	93.8
7	2212	0.000491	96.3	1293	0.000475	93.1
8	3522	0.000971	97.1	22	0.000562	56.2
9	1953	0.000247	93.2	942	0.000231	87.1
10	3637	0.000504	98.9	3174	0.000503	98.6
11	1601	0.000242	91.2	881	0.00024	90.7
12	3703	0.000484	94.9	2287	0.00046	90.3
13	1358	0.000241	90.9	603	0.000219	82.5
14	1994	0.000251	94.7	1152	0.000239	90.4
15	3496	0.000487	95.4	1816	0.000472	92.5
16	103	9.57E-06	47.9	33	8.46E-06	42.3
17	2276	0.000492	96.4	1592	0.000478	93.8
18	2151	0.000241	91.1	975	0.000218	82.3
19	1239	0.000239	90.2	604	0.000229	86.5
20	4871	0.000742	98.2	2200	0.000659	87.2
21	1685	0.00024	90.7	477	0.000214	80.8
22	5316	0.000745	98.6	3739	0.000737	97.6
23	3783	0.00051	100	1422	0.000464	90.9
24	108	1.01E-05	50.5	33	9.24E-06	46.2
25	1859	0.000697	92.3	1200	0.000622	82.3
26	1126	0.000229	86.3	346	0.000201	75.9
27	2918	0.00051	100	2054	0.00049	96.0
28	997	0.000243	91.5	405	0.000228	85.9
29	3698	0.000248	93.6	2251	0.000235	88.7
30	7058	0.000755	100	4869	0.000736	97.5
31	1912	0.000246	93.0	893	0.000228	86.1

32	2195	0.000235	88.7	842	0.00019	71.6
33	7203	0.000755	100	4492	0.00074	98.0
34	7884	0.000753	99.8	4563	0.000737	97.6
35	4798	0.000494	96.8	2975	0.000475	93.1
36	3283	0.000493	96.7	2243	0.000481	94.3
37	5179	0.000503	98.7	4795	0.000502	98.5
38	5802	0.00075	99.3	4487	0.000738	97.8
39	1835	0.000722	95.6	2379	0.00073	96.7
40	1863	0.000244	92.3	1039	0.000166	62.7
41	6102	0.00051	100	3680	0.00049	96.1
42	1556	0.000245	92.4	1043	0.000229	86.6
43	4255	0.000743	98.5	3071	0.00073	96.7
44	2793	0.000249	94.1	1599	0.000245	92.5
45	3059	0.000495	97.0	2161	0.000445	87.3
46	3392	0.000488	95.7	2145	0.00048	94.2
47	7748	0.00051	100	5428	0.000495	97.1
48	81	7.14E-06	35.7	31	5.2E-06	26.0
49	2105	0.000247	93.3	1472	0.000239	90.2
50	5489	0.000501	98.3	4551	0.000499	97.9
51	7120	0.000755	100	5676	0.000732	96.9
52	2176	0.000233	88.0	1510	0.000242	91.2
53	2941	0.000496	97.2	2515	0.000455	89.3
54	2114	0.000252	95.2	1410	0.000243	91.5
55	2554	0.000253	95.4	1450	0.000244	92.1
56	3719	0.00049	96.1	2715	0.000473	92.8
57	5895	0.000742	98.3	3910	0.000733	97.1
58	2110	0.000242	91.3	826	0.000231	87.3
59	4190	0.000497	97.4	2394	0.000484	94.8
60	3491	0.000497	97.4	2269	0.000484	95.0
61	7468	0.000755	100	5593	0.000755	100
62	5988	0.000755	100	4988	0.000737	97.7
63	4754	0.000736	97.4	3583	0.000727	96.3
64	4908	0.000498	97.6	3311	0.00048	94.2
65	4299	0.000737	97.7	2889	0.000726	96.1
66	3847	0.000741	98.1	490	0.000584	77.4
67	3512	0.000254	95.7	1721	0.000237	89.3
68	4774	0.000736	97.5	3653	0.000724	95.9
69	2007	0.000244	91.9	1094	0.000227	85.5
70	8845	0.000755	100	5795	0.000743	98.4
71	2334	0.000244	91.9	1667	0.000227	85.8
72	6288	0.000755	100	5235	0.000739	97.9
73	5146	0.000974	97.4	5053	0.00098	98.0
74	1066	0.000755	100	5524	0.000735	97.4

75	5495	0.00074	98.1	3143	0.000726	96.2
76	3039	0.000488	95.7	1999	0.000471	92.3
77	5877	0.000982	98.2	4171	0.000976	97.6
78	3587	0.0005	98.1	2675	0.000471	92.4

*Where cells are highlighted, an average of two of the replicates replaced the third due to the third being an outlier. The averaged data has only one cell in the row highlighted, whereas the replaced data has the entire row highlighted.

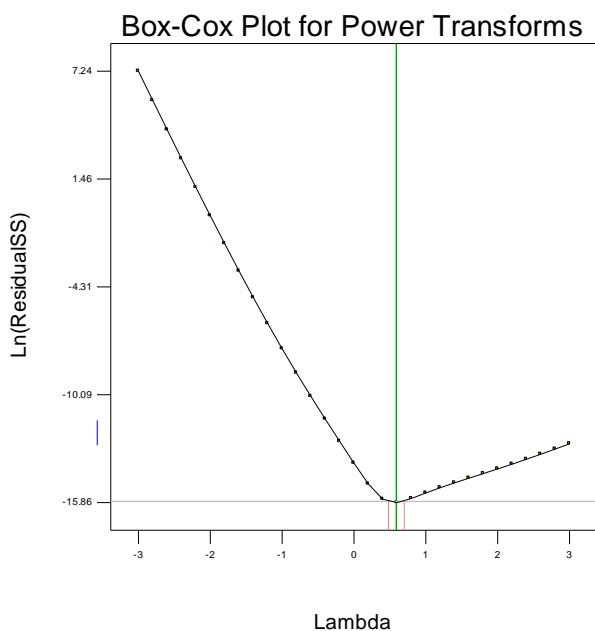
Appendix 5: Box-Cox Plots, Response Surfaces, and Model Coefficients

Square root(mole S oxidized at the time when $\ln(\text{Fe(II)}/\text{Fe(II)}_0) = -0.5$)

Design-Expert® Software
Sqrt(R1)

Lambda
Current = 0.5
Best = 0.59
Low C.I. = 0.48
High C.I. = 0.7

Recommend transform:
Square root
(Lambda = 0.5)



Square root(mole S oxidized at the time when $\ln(\text{Fe(II)}/\text{Fe(II)}_0) = -0.5$)					
Factor	Beta	F-Value	p-Value	% Contribution	Significant?
Intercept	7.87E-03	1.410E+02	< 0.0001	50.64%	yes
A-Iron	-1.14E-04	3.954E-01	0.5317	0.01%	no
B-Sulfide	4.12E-05	1.831E+03	< 0.0001	46.98%	yes
C-Phosphate	-1.50E-04	3.464E+00	0.0674	0.09%	no
D-Carbonate	2.04E-05	5.290E-01	0.4697	0.01%	no
AB	1.39E-07	7.501E+00	0.0080	0.19%	yes
AC	1.24E-06	2.493E-01	0.6193	0.01%	no
AD	-1.00E-06	1.013E+00	0.3180	0.03%	no
BC	-9.64E-09	4.781E-03	0.9451	0.00%	no
BD	5.83E-08	1.093E+00	0.2999	0.03%	no
CD	-2.85E-06	1.085E+00	0.3016	0.03%	no
A ²	7.31E-07	7.143E-01	0.4012	0.02%	no
B ²	-2.37E-08	7.545E+01	< 0.0001	1.94%	yes

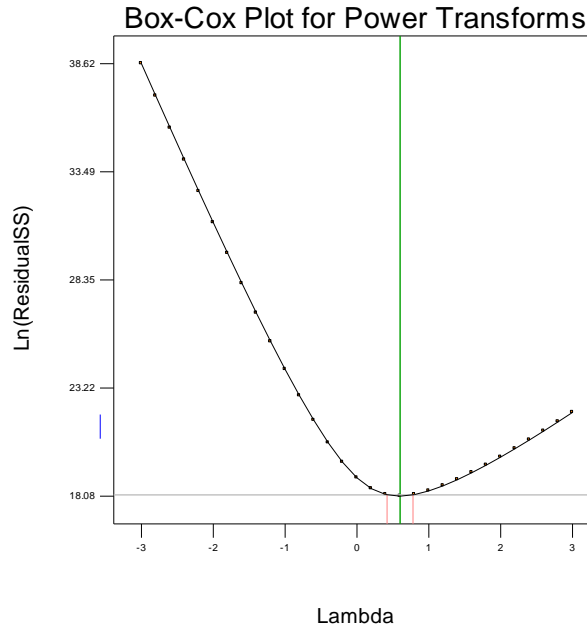
C^2	6.09E-06	8.670E-01	0.3553	0.02%	no
D^2	5.79E-07	3.057E-01	0.5823	0.01%	no
R^2	0.9691	Adjusted R^2	0.9622		

Square root(Time when $\ln(\text{Fe(II)}/\text{Fe(II)}_0) = -0.5$)

Design-Expert® Software
Sqrt(R1)

Lambda
Current = 0.5
Best = 0.6
Low C.I. = 0.42
High C.I. = 0.78

Recommend transform:
Square root
(Lambda = 0.5)



Square root(Time when $\ln(\text{Fe(II)}/\text{Fe(II)}_0) = -0.5$)					
Factor	Beta	F-Value	p-Value	% Contribution	Significant?
Intercept	8.51E+01	5.678E+00	< 0.0001	52.48%	yes
A-Iron	-1.85E+00	5.072E-03	0.9435	0.00%	no
B-Sulfide	3.30E-02	3.962E+01	< 0.0001	26.16%	yes
C-Phosphate	-3.54E+00	3.186E+00	0.0791	2.10%	no
D-Carbonate	-2.80E-01	5.433E+00	0.0230	3.59%	yes
AB	2.02E-03	1.021E+01	0.0022	6.74%	yes
AC	3.89E-02	1.574E+00	0.2142	1.04%	no
AD	5.62E-03	2.050E-01	0.6523	0.14%	no
BC	-3.88E-04	4.962E-02	0.8245	0.03%	no
BD	9.04E-04	1.685E+00	0.1990	1.11%	no
CD	-3.03E-02	7.898E-01	0.3775	0.52%	no
A^2	3.23E-03	8.966E-02	0.7656	0.06%	no
B^2	-9.12E-05	7.185E+00	0.0094	4.74%	yes
C^2	1.11E-01	1.845E+00	0.1792	1.22%	no
D^2	4.16E-03	1.014E-01	0.7512	0.07%	no
R^2	0.5579	Adjusted R^2	0.4596		

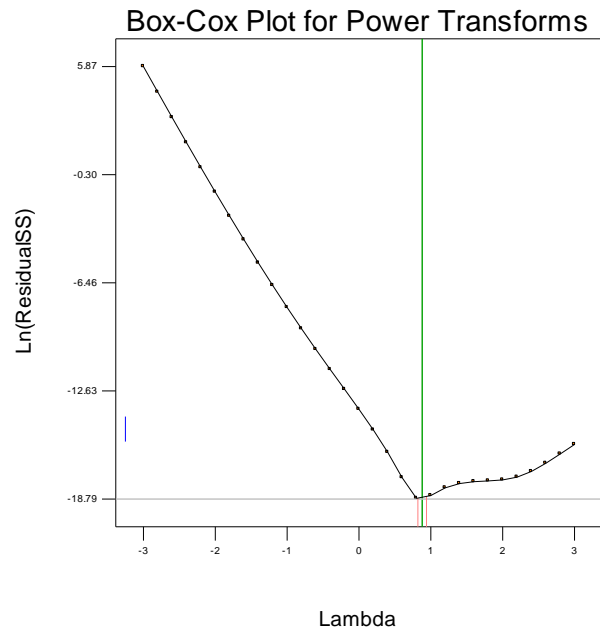
Power ($\lambda=0.88$) transform of moles of sulfide oxidized at time when

$$\ln(\text{Fe(II)}/\text{Fe(II)}_0) = -1$$

Design-Expert® Software
(R1)^{0.88}

Lambda
Current = 0.88
Best = 0.88
Low C.I. = 0.82
High C.I. = 0.94

Recommend transform:
Power
(Lambda = 0.88)



Power ($\lambda=0.88$) transform of moles of sulfide oxidized at time when $\ln(\text{Fe(II)}/\text{Fe(II)}_0) = -1$					
Factor	Beta	F-Value	p-Value	% Contribution	Significant?
Intercept	7.64E-05	2.900E+03	< 0.0001	50.02%	yes
A-Iron	-1.58E-06	3.341E-02	0.8556	0.00%	no
B-Sulfide	2.53E-06	4.046E+04	< 0.0001	49.85%	yes
C-Phosphate	-4.69E-06	1.157E+01	0.0012	0.01%	yes
D-Carbonate	-5.95E-08	1.062E+01	0.0018	0.01%	yes
AB	3.01E-09	9.203E+00	0.0035	0.01%	yes
AC	5.11E-08	1.100E+00	0.2982	0.00%	no
AD	-2.87E-08	2.179E+00	0.1449	0.00%	no
BC	-3.33E-09	1.489E+00	0.2269	0.00%	no
BD	1.93E-09	3.122E+00	0.0821	0.00%	no
CD	5.91E-08	1.217E+00	0.2741	0.00%	no
A ²	2.50E-09	2.176E-02	0.8832	0.00%	no
B ²	-4.17E-10	6.113E+01	< 0.0001	0.08%	yes
C ²	4.42E-08	1.189E-01	0.7314	0.00%	no
D ²	8.36E-09	1.661E-01	0.6850	0.00%	no

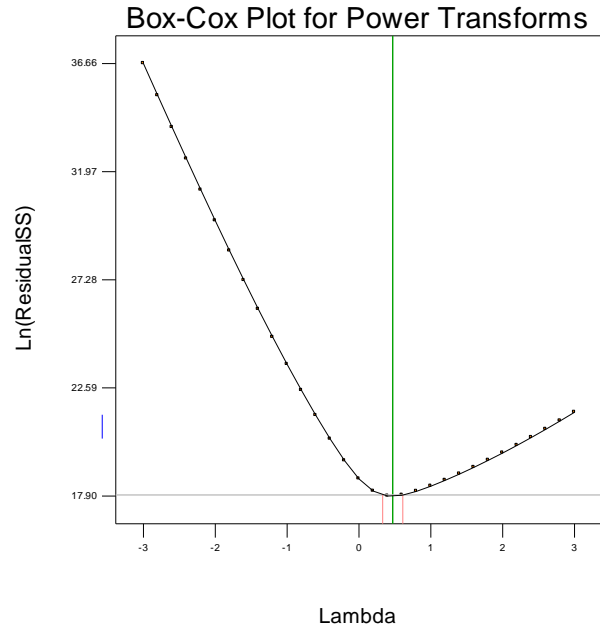
R ²	0.9985	Adjusted R ²	0.9981		
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Square root(time when ln(Fe(II)/Fe(II)₀) = -1)

Design-Expert® Software
Sqrt(R1)

Lambda
Current = 0.5
Best = 0.47
Low C.I. = 0.33
High C.I. = 0.61

Recommend transform:
Square root
(Lambda = 0.5)



Square root(time when ln(Fe(II)/Fe(II) ₀) = -1)					
Factor	Beta	F-Value	p-Value	% Contribution	Significant?
Intercept	1.02E+02	1.969E+01	< 0.0001	51.40%	yes
A-Iron	-1.99E+00	3.569E-01	0.5524	0.07%	no
B-Sulfide	4.64E-02	1.828E+02	< 0.0001	34.09%	yes
C-Phosphate	-3.15E+00	1.685E+01	0.0001	3.14%	yes
D-Carbonate	-1.25E+00	9.800E+00	0.0026	1.83%	yes
AB	1.98E-03	2.545E+01	< 0.0001	4.75%	yes
AC	9.01E-03	2.202E-01	0.6405	0.04%	no
AD	5.72E-03	5.543E-01	0.4593	0.10%	no
BC	-1.49E-03	1.905E+00	0.1724	0.36%	no
BD	4.69E-04	1.183E+00	0.2810	0.22%	no
CD	2.15E-02	1.033E+00	0.3134	0.19%	no
A ²	9.39E-03	1.972E+00	0.1651	0.37%	no
B ²	-6.65E-05	9.970E+00	0.0024	1.86%	yes
C ²	1.05E-01	4.334E+00	0.0414	0.81%	yes
D ²	1.66E-02	4.190E+00	0.0448	0.78%	yes
R ²	0.8140	Adjusted R ²	0.7727		

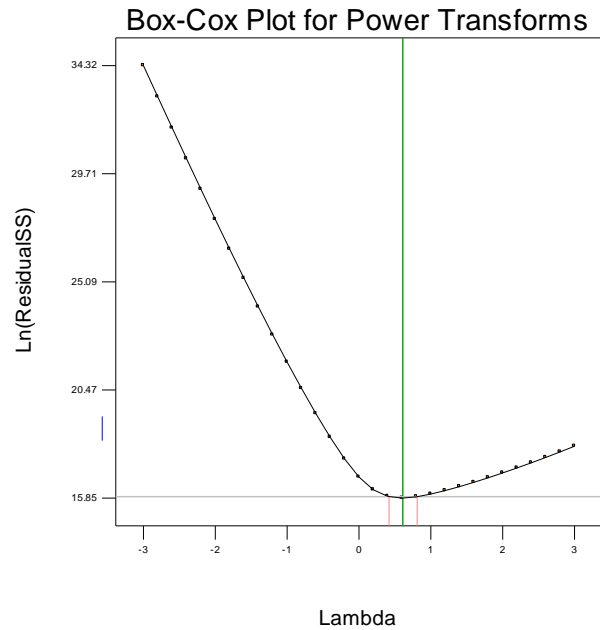
Square root([time to phase change] + 30)

Design-Expert® Software
 Sqrt(R1 + 30.00)

Lambda
 Current = 0.5
 Best = 0.61
 Low C.I. = 0.42
 High C.I. = 0.81

Recommend transform:
 Square root
 (Lambda = 0.5)

k = 30
 (used to make
 response values
 positive)



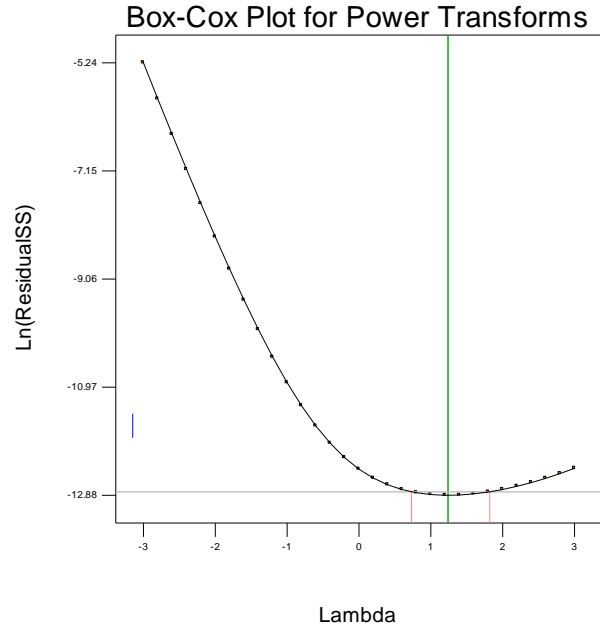
Square root([time to phase change] + 30)					
Factor	Beta	F-Value	p-Value	% Contribution	Significant?
Intercept	3.78E+01	1.888E+01	< 0.0001	51.43%	yes
A-Iron	-5.12E-01	1.194E-01	0.7309	0.02%	no
B-Sulfide	6.30E-02	1.718E+02	< 0.0001	33.42%	yes
C-Phosphate	-1.30E+00	5.923E+00	0.0178	1.15%	no
D-Carbonate	-3.68E-01	1.252E+01	0.0008	2.44%	yes
AB	5.95E-04	7.464E+00	0.0082	1.45%	yes
AC	1.05E-02	9.631E-01	0.3302	0.19%	no
AD	1.88E-02	1.944E+01	< 0.0001	3.78%	yes
BC	2.40E-04	1.600E-01	0.6905	0.03%	no
BD	4.97E-05	4.308E-02	0.8363	0.01%	no
CD	-1.65E-02	1.977E+00	0.1646	0.38%	no
A ²	-4.49E-03	1.459E+00	0.2316	0.28%	no
B ²	-5.87E-05	2.516E+01	< 0.0001	4.90%	yes
C ²	4.29E-02	2.337E+00	0.1314	0.45%	no
D ²	-2.44E-03	2.953E-01	0.5888	0.06%	no
R ²	0.8075	Adjusted R ²	0.7648		

k_{obs} HS⁻ oxidized

Design-Expert® Software
R1

Lambda
Current = 1
Best = 1.24
Low C.I. = 0.73
High C.I. = 1.82

Recommend transform:
None
(Lambda = 1)



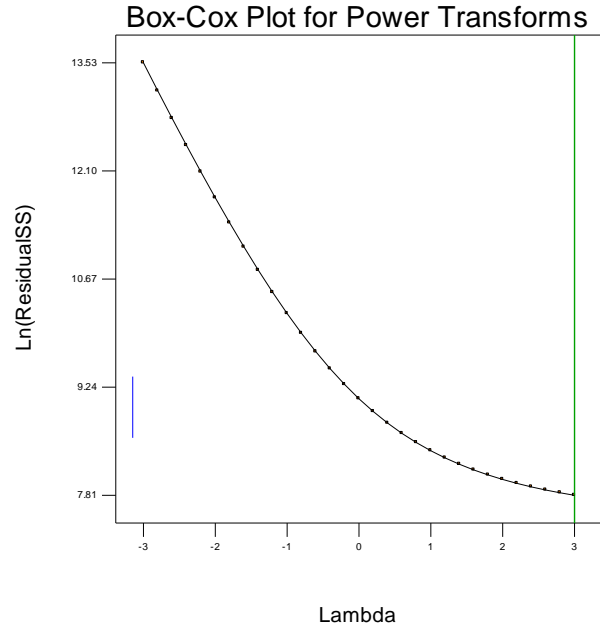
k_{obs} HS ⁻ oxidized					
Factor	Beta	F-Value	p-Value	% Contribution	Significant?
Intercept	3.30E-04	6.799E-01	0.7850	51.03%	no
A-Iron	1.40E-05	7.587E-02	0.7839	0.41%	no
B-Sulfide	3.51E-07	3.747E-01	0.5427	2.01%	no
C-Phosphate	-3.52E-06	1.354E+00	0.2489	7.26%	no
D-Carbonate	9.53E-06	1.409E+00	0.2397	7.55%	no
AB	-9.24E-09	1.131E+00	0.2916	6.07%	no
AC	2.79E-09	4.304E-05	0.9948	0.00%	no
AD	-1.60E-07	8.785E-01	0.3522	4.71%	no
BC	-2.59E-08	1.178E+00	0.2819	6.31%	no
BD	5.96E-09	3.891E-01	0.5350	2.09%	no
CD	5.07E-07	1.173E+00	0.2829	6.29%	no
A ²	-6.80E-08	2.101E-01	0.6483	1.13%	no
B ²	9.07E-11	3.775E-02	0.8466	0.20%	no
C ²	-8.11E-08	5.233E-03	0.9426	0.03%	no
D ²	-1.72E-07	9.169E-01	0.3420	4.92%	no
R ²	0.1313	Adjusted R ²	-0.0618		

%HS⁻ oxidized at time when ln(Fe(II)/Fe(II)₀) = -0.5

Design-Expert® Software
R1

Lambda
Current = 1
Best = 3
Low C.I. =
High C.I. =

Recommend transform:
None
(Lambda = 1)



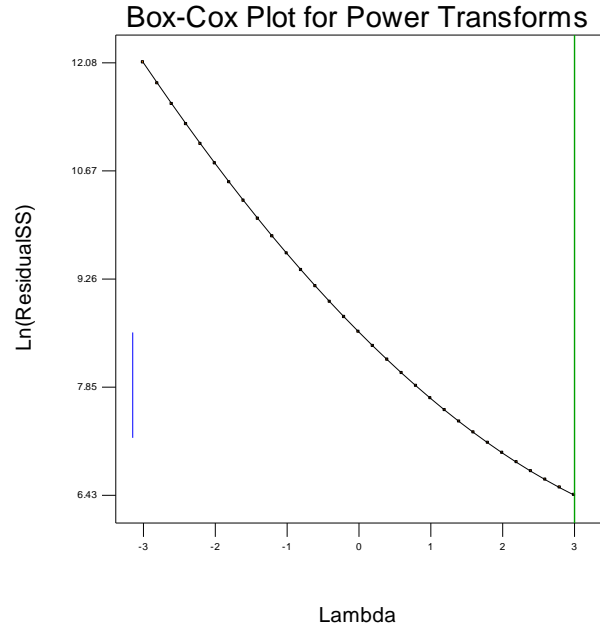
%HS ⁻ oxidized at time when ln(Fe(II)/Fe(II) ₀) = -0.5					
Factor	Beta	F-Value	p-Value	% Contribution	Significant?
Intercept	8.99E+01	9.467E+00	< 0.0001	56.55%	yes
A-Iron	-9.55E-01	1.073E-02	0.9178	0.00%	no
B-Sulfide	8.48E-02	4.026E+01	< 0.0001	17.18%	yes
C-Phosphate	-1.28E+00	5.192E+00	0.0261	2.22%	yes
D-Carbonate	1.61E-01	4.635E-01	0.4985	0.20%	no
AB	1.12E-03	9.719E+00	0.0027	4.15%	yes
AC	4.36E-03	6.123E-02	0.8054	0.03%	no
AD	-7.71E-03	1.196E+00	0.2783	0.51%	no
BC	4.70E-04	2.253E-01	0.6367	0.10%	no
BD	4.48E-04	1.280E+00	0.2621	0.55%	no
CD	-2.62E-02	1.820E+00	0.1822	0.78%	no
A ²	6.35E-03	1.071E+00	0.3046	0.46%	no
B ²	-1.20E-04	3.877E+01	< 0.0001	16.54%	yes
C ²	5.31E-02	1.308E+00	0.2570	0.56%	no
D ²	5.07E-03	4.661E-01	0.4973	0.20%	no
R ²	0.6778	Adjusted R ²	0.6062		

%HS⁻ oxidized at time when ln(Fe(II)/Fe(II)₀) = -1

Design-Expert® Software
R1

Lambda
Current = 1
Best = 3
Low C.I. =
High C.I. =

Recommend transform:
None
(Lambda = 1)



%HS ⁻ oxidized at time when ln(Fe(II)/Fe(II) ₀) = -1					
Factor	Beta	F-Value	p-Value	% Contribution	Significant?
Intercept	8.06E+01	1.324E+01	< 0.0001	55.96%	yes
A-Iron	-5.05E-01	2.105E-01	0.6480	0.06%	no
B-Sulfide	1.12E-01	8.677E+01	< 0.0001	26.19%	yes
C-Phosphate	-1.03E+00	1.567E+00	0.2153	0.47%	no
D-Carbonate	-1.95E-01	1.270E+00	0.2641	0.38%	no
AB	2.87E-04	1.287E+00	0.2609	0.39%	no
AC	1.67E-03	1.817E-02	0.8932	0.01%	no
AD	-1.29E-03	6.753E-02	0.7958	0.02%	no
BC	9.63E-05	1.914E-02	0.8904	0.01%	no
BD	2.14E-05	5.882E-03	0.9391	0.00%	no
CD	2.76E-03	4.092E-02	0.8403	0.01%	no
A ²	4.13E-03	9.147E-01	0.3425	0.28%	no
B ²	-9.77E-05	5.158E+01	< 0.0001	15.57%	yes
C ²	3.35E-02	1.052E+00	0.3090	0.32%	no
D ²	5.47E-03	1.098E+00	0.2988	0.33%	no
R ²	0.7463	Adjusted R ²	0.6900		