

**Appendix – A1**

**Corrosion rates and IE obtained for various concentrations of Chitosan Schiff bases at various immersion periods**

S.No.	Concentration (ppm)	1 hour		3 hours		6 hours		12hours		24 hours	
		CR (mpy)	IE (%)	CR (mpy)	IE (%)	CR (mpy)	IE (%)	CR (mpy)	IE (%)	CR (mpy)	IE (%)
<b>ChVSB</b>											
1	<b>Blank</b>	780.44		1027.11		1859.18		1984.9		1672.15	
2	<b>100</b>	302.26	61.27	277.83	72.95	285.01	84.67	378.72	80.92	298.81	82.13
3	<b>300</b>	295.32	62.16	261.30	74.56	242.99	86.93	376.73	81.02	239.45	85.68
4	<b>600</b>	273.78	64.92	191.45	81.36	218.45	88.25	352.52	82.24	224.74	86.56
5	<b>900</b>	253.49	67.52	135.17	86.84	138.51	92.55	310.04	84.38	149.99	91.03
6	<b>1200</b>	242.56	68.92	118.32	88.48	121.78	93.45	280.47	85.87	114.54	93.15
7	<b>1500</b>	230.00	70.53	103.84	89.89	114.15	93.86	253.87	87.21	101.33	93.94
<b>ChTSB</b>											
1	<b>Blank</b>	780.44		1027.11		1859.189		1984.9		1672.15	
2	<b>100</b>	342.30	56.14	193.56	81.15	343.32	81.53	434.14	78.13	351.67	78.96
3	<b>300</b>	268.32	65.62	188.91	81.6	314.55	83.08	329.35	83.41	328.75	80.33
4	<b>600</b>	262.31	66.39	174.96	82.96	247.19	86.7	297.39	85.02	255.53	84.71
5	<b>900</b>	240.53	69.18	165.08	83.92	216.46	88.35	261.53	86.82	241.85	85.53
6	<b>1200</b>	236.71	69.67	148.81	85.51	205.99	88.92	207.62	89.54	197.42	88.19
7	<b>1500</b>	236.71	69.67	115.67	86.64	183.76	90.11	155.26	92.15	181.08	89.17
<b>ChPSB</b>											
1	<b>Blank</b>	780.44		1027.11		1859.189		1984.9		1672.15	
2	<b>100</b>	307.06	60.66	261.54	74.54	353.62	81.23	462.38	76.7	201.64	87.74
3	<b>300</b>	255.88	67.21	233.01	77.31	248.06	86.83	329.30	83.41	169.82	89.84
4	<b>600</b>	247.35	68.31	204.47	80.09	234.87	87.53	310.28	84.37	125.56	92.49
5	<b>900</b>	243.09	68.85	197.34	80.79	190.01	89.91	252.49	87.28	112.83	93.25
6	<b>1200</b>	213.23	72.68	166.43	83.8	180.77	90.4	199.25	89.96	95.18	94.31
7	<b>1500</b>	187.65	75.96	161.68	84.26	155.7	91.74	179.48	90.96	90.26	94.6

Appendix – A2

Corrosion rates and IE obtained for various concentrations of Chitosan Schiff bases at various immersion temperatures

S.No.	Concentration (ppm)	303 K		313 K		323 K		333 K		343 K	
		CR (mpy)	IE (%)	CR (mpy)	IE (%)	CR (mpy)	CR (mpy)	IE (%)	CR (mpy)	IE (%)	CR (mpy)
<b>ChVSB</b>											
1	<b>Blank</b>	503.24		2217.67		4230.632	503.24		2217.67		4230.632
2	<b>100</b>	204.71	59.32	707.95	68.08	1231.39	204.71	59.32	707.95	68.08	1231.39
3	<b>300</b>	196.18	61.02	631.18	71.54	1070.94	196.18	61.02	631.18	71.54	1070.94
4	<b>600</b>	145.00	71.19	554.42	75.00	941.34	145.00	71.19	554.42	75.00	941.34
5	<b>900</b>	127.94	74.58	537.36	75.77	922.83	127.94	74.58	537.36	75.77	922.83
6	<b>1200</b>	119.41	76.27	503.24	77.31	879.63	119.41	76.27	503.24	77.31	879.63
7	<b>1500</b>	93.82	81.36	486.18	78.08	737.69	93.82	81.36	486.18	78.08	737.69
<b>ChTSB</b>											
1	<b>Blank</b>	503.24		2217.67		4230.632	503.24		2217.67		4230.632
2	<b>100</b>	264.87	47.36	735.79	66.82	862.09	264.87	47.36	735.79	66.82	862.09
3	<b>300</b>	247.21	50.87	545.89	75.38	822.18	247.21	50.87	545.89	75.38	822.18
4	<b>600</b>	220.72	56.13	522.31	76.45	726.39	220.72	56.13	522.31	76.45	726.39
5	<b>900</b>	203.07	59.64	486.18	78.08	662.53	203.07	59.64	486.18	78.08	662.53
6	<b>1200</b>	194.24	61.4	445.25	79.92	654.55	194.24	61.4	445.25	79.92	654.55
7	<b>1500</b>	185.41	63.15	411.00	81.47	622.62	185.41	63.15	411.00	81.47	622.62
<b>ChPSB</b>											
1	<b>Blank</b>	503.24		2217.67		4230.632	503.24		2217.67		4230.632
2	<b>100</b>	187.65	62.71	707.95	68.07	1296.48	187.65	62.71	707.95	68.07	1296.48
3	<b>300</b>	170.6	66.09	665.30	70.00	1160.01	170.6	66.09	665.30	70.00	1160.01
4	<b>600</b>	153.53	69.49	614.12	72.30	1032.07	153.53	69.49	614.12	72.30	1032.07
5	<b>900</b>	145	71.18	554.42	75.00	1006.48	145	71.18	554.42	75.00	1006.48
6	<b>1200</b>	136.5	72.87	477.65	78.46	878.54	136.5	72.87	477.65	78.46	878.54
7	<b>1500</b>	128	74.56	469.12	78.84	826.51	128	74.56	469.12	78.84	826.51

Appendix – A3

Polarization parameters of the MS in 1 M HCl containing various concentrations other Chitosan Schiff bases at room temperature calculated from extrapolation of the Tafel lines

Conc (ppm)	ba (mV decade <sup>-1</sup> )	bc (mV decade <sup>-1</sup> )	I <sub>corr</sub> (mA/cm <sup>2</sup> )	IE I <sub>corr</sub> (%)	Rp Ωcm <sup>2</sup>	IE Rp (%)	E <sub>corr</sub> (mV/SCE)
Blank	163.92	132.2	4.17	-	6.51	-	-495.5
<b>ChSSB</b>							
100	150.84	109.89	2.35	43.78	9.05	28.04	-477.5
300	123.39	102.66	1.38	67.05	15.31	57.47	-476.5
600	131.21	100.84	1.23	70.59	16.63	60.86	-477.2
900	129.67	101.63	1.08	74.06	20.03	67.49	-478.2
1200	118.55	95.33	0.85	79.68	19.70	66.96	-498.4
1500	101.78	88.83	0.40	90.50	26.41	75.35	-464.2
<b>ChVSB</b>							
100	119.95	86.90	1.16	72.14	11.83	44.98	-475.8
300	120.14	91.14	1.06	74.73	13.68	52.42	-476.3
600	123.9	103.71	1.05	74.87	20.06	67.54	-475.2
900	121.47	98.03	0.72	82.78	28.49	77.18	-477.6
1200	101.58	83.98	0.42	89.83	28.27	76.99	-469.1
1500	101.73	78.21	0.37	91.11	30.79	78.86	-476.2
<b>ChTSB</b>							
100	151.05	115.58	3.09	25.94	7.87	17.34	-495.3
300	144.05	169.15	2.68	35.75	13.96	53.38	-485.5
600	148.43	166.22	2.15	48.47	17.45	62.68	-486.5
900	145.2	163.93	1.52	63.64	25.70	74.67	-487.5
1200	133.63	157.61	1.32	68.31	25.81	74.77	-485.4
1500	135.87	152.23	1.10	73.60	30.21	78.45	-487.0

Appendix – A4

Polarization parameters of the MS in 1 M HCl containing various concentrations ChSSB at 313 to 343 K calculated from extrapolation of the Tafel lines

Conc (ppm)	ba (mV decade <sup>-1</sup> )	bc (mV decade <sup>-1</sup> )	I <sub>corr</sub> (mA/cm <sup>2</sup> )	IE I <sub>corr</sub> (%)	Rp Ωcm <sup>2</sup>	IE Rp (%)	E <sub>corr</sub> (mV/SCE)
<b>313K</b>							
Blank	214.56	151.62	7.92	-	4.31	-	-491.91
100	162.88	112.57	3.30	58.28	7.73	44.19	-485.95
300	185.38	176.99	2.73	65.53	16.42	73.73	-491.62
600	176.95	159.89	1.85	76.62	22.51	80.84	-488.27
900	151.48	132.56	0.96	87.93	33.30	87.05	-483.87
1200	163.23	135.25	0.92	88.42	36.00	88.02	-483.86
1500	151.9	126.22	0.72	90.86	35.93	87.99	-486.92
<b>323K</b>							
Blank	245.28	158.39	12.08	-	3.12	-	-478.7
100	197.68	168.6	2.68	77.79	17.42	82.07	-487.14
300	217.29	164.56	2.51	79.24	16.83	81.44	-485.29
600	130.58	164.29	1.89	84.40	16.47	81.03	-496.59
900	122.18	165.83	1.58	86.94	17.20	81.84	-477.49
1200	109.23	151.91	1.17	90.31	19.40	83.90	-478.51
1500	120.1	127.31	0.64	94.75	26.82	88.35	-478.13
<b>333K</b>							
Blank	205.51	143.72	12.38	-	2.09	-	-472.24
100	192.94	131.96	6.69	46.00	3.39	38.24	-470.22
300	163.1	119.03	3.93	68.29	6.72	68.87	-486.49
600	160.83	126.91	3.95	68.06	7.16	70.79	-492.7
900	143.35	113.12	2.71	78.12	8.24	74.62	-494.34
1200	116.95	208.81	2.35	81.05	14.36	85.43	-487.63
1500	102.13	163.32	1.41	88.62	15.36	86.38	-478.69
<b>343K</b>							
Blank	267.55	161.38	21.09	-	1.41	-	-469.91
100	224.75	151.99	11.25	46.68	2.95	52.14	-464.64
300	201.48	132.7	9.39	55.48	3.25	56.46	-476.12
600	224.22	140.07	8.66	58.96	3.70	61.78	-471.15
900	169.8	142.14	6.85	67.52	4.56	69.00	-489.26
1200	151.07	121.55	5.25	75.11	4.44	68.15	-482.99
1500	156.3	116.3	4.61	78.13	5.49	74.24	-485.27

Appendix – A5

Polarization parameters of the MS in 1 M HCl containing various concentrations ChVSB at 313 to 343 K calculated from extrapolation of the Tafel lines

Conc (ppm)	ba (mV decade <sup>-1</sup> )	bc (mV decade <sup>-1</sup> )	I <sub>corr</sub> (mA/cm <sup>2</sup> )	IE I <sub>corr</sub> (%)	Rp Ωcm <sup>2</sup>	IE Rp (%)	E <sub>corr</sub> (mV/SCE)
<b>313K</b>							
Blank	214.56	151.62	7.92	-	4.31	-	-491.9
0.1	150.77	110.76	3.00	62.15	8.35	48.37	-486.0
0.3	120.99	98.576	1.38	82.59	14.77	70.80	-485.0
0.6	109.28	128.02	0.85	89.23	21.11	79.57	-478.5
0.9	101.74	106.41	0.66	91.68	25.64	83.18	-478.6
1.2	81.966	85.028	0.32	95.97	26.49	83.72	-487.2
1.5	109.37	89.726	0.10	98.69	29.70	85.48	-477.3
<b>323K</b>							
Blank	245.28	158.39	12.08	-	3.12	-	-478.7
100	193.14	200.47	4.65	73.19	10.06	68.93	-493.9
300	190.46	161.68	2.46	85.79	17.97	82.62	-493.1
600	203.24	149.06	1.77	89.80	22.37	86.03	-491.3
900	203.86	150.57	1.70	90.20	22.65	86.21	-491.1
1200	204.57	154.22	1.69	90.25	23.44	86.67	-487.4
1500	196.53	150.58	1.50	91.34	25.24	87.62	-488.8
<b>333K</b>							
Blank	205.51	143.72	12.38	-	2.09	-	-472.2
100	149.64	114.41	1.96	84.20	4.71	55.57	-470.2
300	158.84	111.4	2.01	83.80	5.17	59.51	-478.2
600	112.03	86.92	1.88	84.78	5.22	59.95	-470.5
900	121.84	94.47	2.02	83.71	5.79	63.89	-479.2
1200	114.86	115.66	1.74	85.92	10.20	79.48	-492.3
1500	110.5	128.55	1.66	86.57	14.13	85.19	-491.8
<b>343K</b>							
Blank	267.55	161.38	21.09	-	1.41	-	-469.9
100	263.45	141.65	11.46	45.67	2.86	50.57	-463.5
300	224.75	151.99	11.25	46.68	2.95	52.14	-464.6
600	226.39	144.96	10.22	51.55	3.39	58.26	-471.8
900	195.19	132.43	8.10	61.62	3.67	61.45	-472.9
1200	171.45	128.95	6.41	69.59	4.31	67.23	-479.0
1500	158.75	162.16	3.74	82.28	4.55	68.92	-483.3

Appendix – A6

Polarization parameters of the MS in 1 M HCl containing various concentrations ChTSB at 313 to 343 K calculated from extrapolation of the Tafel lines

Conc (ppm)	ba (mV decade <sup>-1</sup> )	bc (mV decade <sup>-1</sup> )	I <sub>corr</sub> (mA/cm <sup>2</sup> )	IE I <sub>corr</sub> (%)	Rp Ωcm <sup>2</sup>	IE Rp (%)	E <sub>corr</sub> (mV/SCE)
<b>313K</b>							
Blank	214.56	151.62	7.92	-	4.31	-	-491.9
100	138.66	100.79	3.17	59.97	5.88	26.68	-477.3
300	134.58	108.06	2.35	70.37	10.1	57.29	-479.9
600	136.13	105.93	1.71	78.39	13.68	68.48	-487.2
900	117.93	97.015	1.26	84.06	14.41	70.08	-494.0
1200	118.57	94.535	1.22	84.56	14.66	70.59	-487.5
1500	124.36	98.193	1.23	84.50	16.80	74.33	-488.1
<b>323K</b>							
Blank	245.28	158.39	12.08	-	3.12	-	-478.7
100	122.57	90.991	2.02	83.32	7.64	59.13	-484.5
300	120.9	93.932	1.41	88.37	12.92	75.81	-480.1
600	105.31	92.94	0.72	94.07	20.89	85.04	-485.1
900	105.81	112.29	0.65	94.59	21.62	85.55	-493.4
1200	96.789	112.35	0.57	95.25	24.61	87.30	-477.8
1500	78.109	85.728	0.28	97.69	25.14	87.57	-477.8
<b>333K</b>							
Blank	205.51	143.72	12.38	-	2.0	-	-472.2
100	140.29	103.5	3.22	74.01	7.34	71.51	-480.2
300	109.54	116.85	1.87	84.87	9.84	78.75	-485.9
600	108.45	158.07	1.83	85.26	11.88	82.39	-486.5
900	99.796	148.32	1.40	88.68	12.24	82.91	-485.9
1200	115.18	94.826	1.12	91.00	14.94	86.00	-493.1
1500	129.75	143.94	1.04	91.62	15.53	86.53	-484.8
<b>343K</b>							
Blank	267.55	161.38	21.09	-	1.41	-	-469.9
100	227.37	141.53	12.98	38.48	2.50	43.57	-467.9
300	171.49	122.91	8.00	62.07	2.63	46.36	-463.3
600	170.59	115.1	7.64	63.79	2.59	45.60	-468.3
900	171.27	126.67	6.63	68.56	3.41	58.57	-485.1
1200	132.47	101.09	4.08	80.66	3.71	61.98	-478.6
1500	128.52	125.77	1.75	91.70	3.91	63.92	-470.6

Appendix – A7

Polarization parameters of the MS in 1 M HCl containing various concentrations ChPSB at 313 to 343 K calculated from extrapolation of the Tafel lines

Conc (ppm)	ba (mV decade <sup>-1</sup> )	bc (mV decade <sup>-1</sup> )	I <sub>corr</sub> (mA/cm <sup>2</sup> )	IE I <sub>corr</sub> (%)	Rp Ωcm <sup>2</sup>	IE Rp (%)	E <sub>corr</sub> (mV/SCE)
<b>313K</b>							
Blank	214.56	151.62	7.92		4.31		
100	202.42	178.78	2.82	64.42	15.48	72.13	-485.68
300	177.06	153.14	1.68	78.72	22.45	80.79	-481.56
600	178.01	141.35	1.27	83.95	25.58	83.14	-488.02
900	126.44	150.13	1.02	87.12	33.55	87.14	-479.83
1200	139.78	159.3	0.95	88.06	35.82	87.96	-479.10
1500	125.18	150.96	0.75	90.53	41.69	89.65	-479.43
<b>323K</b>							
Blank	245.28	158.39	12.08		3.12		-478.70
100	173.78	161.47	3.20	73.48	9.32	66.49	-485.26
300	179.76	142.99	2.91	75.91	9.72	67.89	-478.02
600	140.88	116.69	2.17	82.07	11.46	72.74	-487.04
900	102.19	104.81	0.33	97.23	19.12	83.67	-485.12
1200	102.3	106.99	0.33	97.30	24.78	87.39	-478.92
1500	90.066	105.12	0.46	96.21	26.36	88.15	-478.07
<b>333K</b>							
Blank	205.51	143.72	12.38		2.09		-472.24
100	134.19	101.53	3.08	75.16	5.02	58.36	-471.75
300	127.22	99.303	2.42	80.47	6.19	66.22	-477.15
600	129.46	100.63	2.35	80.99	6.40	67.36	-486.11
900	107.43	92.767	1.60	87.07	6.90	69.68	-486.73
1200	106.86	107.91	1.38	88.83	11.25	81.40	-491.14
1500	119.99	124.93	0.83	93.27	14.45	85.53	-485.19
<b>343K</b>							
Blank	267.55	161.38	21.09		1.41		-469.91
100	221.16	148.76	13.68	35.14	1.92	26.73	-471.45
300	192.32	150.89	6.52	69.07	2.91	51.57	-462.12
600	168.42	123.87	6.21	70.54	4.21	66.47	-476.85
900	165.05	119.61	4.99	76.35	4.21	66.46	-485.69
1200	153.15	117.93	4.71	77.67	4.91	71.28	-476.79
1500	158.84	111.4	2.01	90.49	5.16	72.66	-478.19

## Appendix – A8

## Impedance parameters of the MS in 1 M HCl containing various concentrations of Chitosan Schiff bases at room temperature

Concentration (ppm)	Rs ( $\Omega\text{cm}^2$ )	Yo $\times 10^{-6}$	n	R <sub>p</sub> ( $\Omega\text{cm}^2$ )	IE <sub>RP</sub> %	CPE (F)
Blank	1.37	416.60	0.76	63.44	-	9.68
<b>ChSSB</b>						
100	1.20	307.90	0.80	122.7	48.30	
300	1.54	577.79	0.84	133.9	52.62	
600	1.55	462.60	0.90	156.1	59.36	
900	1.33	628.35	0.82	169.9	62.66	
1200	1.59	586.58	0.83	172	63.12	
1500	1.33	382.23	0.84	212	70.08	
<b>ChVSB</b>						
100	1.60	434.51	0.77	120.2	47.22	10.63
300	1.29	476.5	0.89	137.6	53.90	1.91
600	1.21	558.78	0.86	149.3	57.51	3.80
900	1.37	726.34	0.87	153.7	58.72	4.13
1200	1.29	427.47	0.83	188.3	66.31	4.28
1500	1.36	331.7	0.84	263.1	75.89	2.68
<b>ChTSB</b>						
100	1.26	321.5	0.79	101.30	37.37	4.88
300	1.37	402.2	0.80	131.00	51.57	5.74
600	1.27	407.7	0.88	152.00	58.26	1.94
900	1.50	187.1	0.83	204.00	68.90	1.62
1200	1.72	333.7	0.85	241.00	73.68	2.44
1500	1.55	357.3	0.84	256.00	75.22	3.19
<b>ChPSB</b>						
100	1.36	407.2	0.80	132.8	52.23	6.03
300	1.26	507	0.85	159.9	60.33	3.52
600	1.74	488.65	0.82	227.8	72.15	6.08
900	1.73	320.52	0.86	240.9	73.67	2.10
1200	1.55	357.42	0.84	256.1	75.23	3.20
1500	1.65	390.78	0.84	268.2	76.35	3.74

## Appendix – A9

Impedance parameters of the MS in 1 M HCl containing various concentrations of ChSSB at 313 to 343 K calculated

Concentration (ppm)	Rs ( $\Omega\text{cm}^2$ )	Yo $\times 10^{-6}$	n	R <sub>p</sub> ( $\Omega\text{cm}^2$ )	IE <sub>RP</sub> %	CPE (F)
<b>313K</b>						
Blank	1.36	418.15	0.81	26.42	-	3.64
100	1.39	513.95	0.89	72.1	63.36	1.79
300	1.35	504.76	0.90	79.16	66.62	1.73
600	1.34	520.9	0.88	84.22	68.63	2.38
900	1.31	552.58	0.86	87.23	69.71	3.22
1200	1.36	557.71	0.86	99.66	73.49	3.16
1500	1.32	604.32	0.85	102.4	74.20	4.11
<b>323K</b>						
Blank	1.24	245.73	0.86	24.02	-	0.99
100	1.26	387.9	0.91	47.3	49.21	1.08
300	1.29	681.35	0.86	48.97	50.94	3.59
600	1.44	701.65	0.87	51.99	53.79	3.58
900	1.18	222.39	0.84	62.74	62.74	1.31
1200	1.28	462.89	0.87	66.23	63.73	2.25
1500	1.32	728.37	0.86	67.81	64.57	4.13
<b>333K</b>						
Blank	1.08	246.43	0.84	18.51	-	1.21
100	1.07	498.5	0.88	30.89	40.08	1.39
300	1.06	791.11	0.90	33.4	44.58	3.09
600	1.16	916	0.88	37.58	50.75	4.49
900	1.23	712.78	0.87	45.66	59.46	2.94
1200	1.26	674.83	0.88	53.3	65.27	3.61
1500	1.26	195.45	0.86	54.64	66.12	1.12
<b>343K</b>						
Blank	0.99	513.2	0.90	13.99	-	1.42
100	1.05	800.49	0.89	25.34	44.79	2.79
300	0.98	251.46	0.82	28.87	51.54	1.81
600	1.25	865.88	0.88	30.31	53.84	3.43
900	0.96	738.18	0.86	32.93	57.52	3.80
1200	0.97	521.72	0.86	35.91	61.04	2.56
1500	1.39	671.88	0.89	40.89	65.79	2.38

## Appendix – A10

Impedance parameters of the MS in 1 M HCl containing various concentrations of ChVSB at 313 to 343 K calculated

Concentration (ppm)	Rs ( $\Omega\text{cm}^2$ )	Yo $\times 10^{-6}$	n	R <sub>p</sub> ( $\Omega\text{cm}^2$ )	IE <sub>Rp</sub> %	CPE (F)
<b>313K</b>						
Blank	1.36	418.15	0.81	26.42	-	3.64
100	1.37	508.07	0.82	56.38	53.14	5.20
300	1.28	527.15	0.90	67.38	60.79	1.78
600	1.33	590.95	0.87	91.12	71.01	2.91
900	1.14	368.88	0.89	97.42	72.88	1.32
1200	1.21	495.35	0.88	103.2	74.40	2.11
1500	1.53	506.26	0.84	147.7	82.11	4.06
<b>323K</b>						
Blank	1.24	245.73	0.86	24.02	-	0.99
100	1.61	835.45	0.82	56.54	57.52	9.41
300	1.38	526.95	0.90	59.58	59.68	1.72
600	1.50	534.07	0.86	66.18	63.71	3.11
900	1.49	523.36	0.88	68.41	64.89	2.27
1200	1.52	600.66	0.84	76.32	68.53	4.39
1500	1.67	618.5	0.84	78.6	69.44	5.08
<b>333K</b>						
Blank	1.08		0.84	18.51	-	1.21
100	1.17	524.28	0.90	37.93	51.20	1.57
300	1.37	698.33	0.86	39.51	53.15	3.52
600	1.32	479.64	0.87	41.33	55.21	2.07
900	1.37	654.19	0.86	43.26	57.21	3.37
1200	1.35	246.03	0.83	46.26	59.99	1.69
1500	1.14	422.93	0.89	51.69	64.19	1.45
<b>343K</b>						
Blank	0.99	513.2	0.90	13.99	-	1.42
100	1.03	740.79	0.87	26.42	47.05	3.41
300	1.01	226.67	0.84	27.05	48.28	1.13
600	1.00	485.17	0.90	28.52	50.95	1.43
900	1.05	644.57	0.88	28.74	51.32	2.57
1200	1.42	320.94	0.83	35.8	60.92	2.30
1500	1.38	839.56	0.83	39.39	64.48	7.32

Appendix – A11

Impedance parameters of the MS in 1 M HCl containing various concentrations of ChTSB at 313 to 343 K calculated

Concentration (ppm)	Rs ( $\Omega\text{cm}^2$ )	Yo $\times 10^{-6}$	n	R <sub>p</sub> ( $\Omega\text{cm}^2$ )	IE <sub>RP</sub> %	CPE (F)
<b>313K</b>						
Blank	1.36	418.15	0.81	26.42	-	3.64
100	1.20	379.74	0.79	54.75	51.74	5.49
300	1.13	465.02	0.89	71.25	62.92	1.71
600	1.29	249.79	0.84	84.36	68.68	1.65
900	1.28	312.21	0.88	95.88	72.44	1.21
1200	1.08	463.25	0.87	104.8	74.79	2.32
1500	1.33	401.8	0.85	114.6	76.95	2.51
<b>323K</b>						
Blank	1.24	245.73	0.86	24.02	-	0.99
100	1.25	592.65	0.89	45.4	47.09	1.98
300	1.30	511.01	0.90	46.63	48.49	1.51
600	1.10	205.17	0.84	61.93	61.21	1.17
900	1.49	765.55	0.86	67.91	64.63	4.47
1200	1.49	552.02	0.86	71.33	66.33	3.19
1500	1.35	733.81	0.85	77.09	68.84	5.21
<b>333K</b>						
Blank	1.08		0.84	18.51	-	1.21
100	1.06	533.54	0.87	44.78	46.36	2.47
300	1.14	256.14	0.84	50.82	52.74	1.54
600	1.10	211.65	0.85	52.94	54.63	1.17
900	1.03	231.63	0.83	55.13	56.43	1.57
1200	1.06	511.68	0.87	56.57	57.54	2.30
1500	1.00	482.65	0.88	57.47	58.20	2.02
<b>343K</b>						
Blank	0.99	513.2	0.90	13.99	-	1.42
100	1.03	1003.7	0.85	20.75	32.58	5.96
300	0.89	761.85	0.89	21.48	34.87	2.68
600	1.00	645.83	0.90	22.1	36.70	1.79
900	1.05	800.49	0.89	25.34	44.79	2.79
1200	1.24	921.14	0.87	28.52	50.95	4.28
1500	1.15	701.56	0.89	30.25	53.75	2.28

## Appendix – A12

Impedance parameters of the MS in 1 M HCl containing various concentrations of ChPSB at 313 to 343 K calculated

Concentration (ppm)	Rs ( $\Omega\text{cm}^2$ )	Yo $\times 10^{-6}$	n	R <sub>p</sub> ( $\Omega\text{cm}^2$ )	IE <sub>RP</sub> %	CPE (F)
<b>313K</b>						
Blank	1.36	418.15	0.81	26.42	-	3.64
100	1.30	604.11	0.89	67.83	61.05	2.34
300	1.47	732.5	0.86	71.96	63.29	4.57
600	1.32	671.64	0.87	76.24	65.35	3.21
900	1.60	736.03	0.83	84.37	68.69	6.94
1200	1.26	321.54	0.79	101.3	73.92	4.88
1500	1.46	249.93	0.88	109.6	75.89	1.07
<b>323K</b>						
Blank	1.24	245.73	0.86	24.02	-	0.99
100	1.24	606.55	0.88	55.87	57.01	2.38
300	1.32	532.9	0.89	63.75	62.32	2.03
600	1.35	452.78	0.89	65.49	63.32	1.71
900	1.29	436.5	0.88	69.91	65.64	1.88
1200	1.34	533.09	0.88	74.6	67.80	2.39
1500	1.29	245.09	0.83	77.72	69.09	1.96
<b>333K</b>						
Blank	1.08		0.84	18.51	-	1.21
100	1.22	275.71	0.83	38.39	51.78	1.89
300	1.19	675.37	0.88	39.55	53.20	2.66
600	1.33	688.96	0.87	40.85	54.69	3.19
900	1.24	470.82	0.89	43.46	57.41	1.55
1200	1.31	817.86	0.86	48.43	61.78	4.60
1500	1.38	849.94	0.85	48.95	62.19	5.61
<b>343K</b>						
Blank	0.99	513.2	0.90	13.99	-	1.42
100	0.92	940.58	0.86	20.73	32.51	4.64
300	0.92	785.41	0.86	21.08	33.63	3.90
600	1.13	543.97	0.86	23.92	41.51	2.43
900	1.16	733.22	0.87	26.51	47.23	3.05
1200	1.25	865.88	0.88	30.31	53.84	3.43
1500	1.23	656.51	0.87	34.02	58.88	2.83