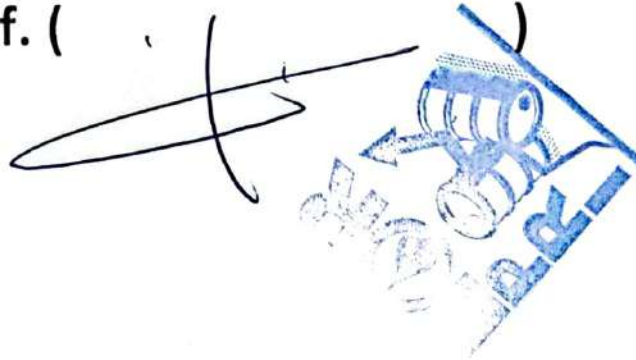


Results of Surface Tension and Interfacial Tension of BE, BP, BPh, NE, NP & NPh surfactants of the PhD student / Ahmed Samy Mansour

President of EOR Project

Prof. (



SURFACE TENSION MEASUREMENTS OF SURFACTANT BP/ Ahmed Sayay

Sur./conc.	Conc. (gm/100ml)	Conc. x 10	(Conc. x 10)/M.wt. $\ln$ (Conc. x 10)/M.wt.)	γ mN/m (± 0.5)				
				60°C	50°C	40°C	30°C	
BP/0.625ppm	0.0000625	0.000625	8.62069E-07	-13.96393056	61	63	65	67
BP/1.25ppm	0.000125	0.00125	1.72414E-06	-13.27078338	58	61	64	66
BP/2.5ppm	0.00025	0.0025	3.44828E-06	-12.5776362	56	58	61	63
BP/5ppm	0.0005	0.005	6.89655E-06	-11.88448902	53	55	57	61
BP/10ppm	0.001	0.01	1.37931E-05	-11.19134184	50	52	54	58
BP/25ppm	0.0025	0.025	3.44828E-05	-10.27505111	45	48	51	54
BP/50ppm	0.005	0.05	6.89655E-05	-9.581903928	43	46	48	52
BP/100ppm	0.01	0.1	0.000137931	-8.888756748	40	43	46	50
BP/200ppm	0.02	0.2	0.000275862	-8.195609567	38	40	44	47
BP/300ppm	0.03	0.3	0.000413793	-7.790144459	36	39	42	45
BP/625ppm	0.0625	0.625	0.000862069	-7.056175284	34	37	40	43
BP/1250ppm	0.125	1.25	0.001724138	-6.363028104	34	35	38	41
BP/2500ppm	0.25	2.5	0.003448276	-5.669880923	34	35	36	38
BP/5000ppm	0.5	5	0.006896552	-4.976733742	34	35	36	37
BP/10000ppm	1	10	0.013793103	-4.283586562	34	35	36	37
BP/20000ppm	2	20	0.027586207	-3.590439381	34	35	36	37
BP/40000ppm	4	40	0.055172414	-2.897292201	34	35	36	37

SURFACE TENSION MEASUREMENTS OF SURFACTANT BE / Ahmed Sany

Sur./conc.	Conc. (gm/100ml)	Conc. x 10	(Conc. x 10)/M.wt.	ln (Conc. x 10)/M.wt.)	γmN/m (±0.5)			
					60°C	50°C	40°C	30°C
BE/0.625ppm	0.000625	0.000625	8.967E-07	-13.92454432	58	60	62	65
BE/1.25ppm	0.00125	0.00125	1.7934E-06	-13.23139714	54	56	58	61
BE/2.5ppm	0.0025	0.0025	3.5868E-06	-12.53824996	50	53	55	58
BE/5ppm	0.005	0.005	7.1736E-06	-11.84510278	48	50	53	55
BE/10ppm	0.01	0.01	1.43472E-05	-11.1519556	46	48	50	53
BE/25ppm	0.025	0.025	3.5868E-05	-10.23566486	43	45	47	50
BE/50ppm	0.05	0.05	7.1736E-05	-9.542517684	41	43	45	48
BE/100ppm	0.1	0.1	0.000143472	-8.849370504	39	41	43	46
BE/200ppm	0.2	0.2	0.000286944	-8.156223323	37	39	41	44
BE/300ppm	0.3	0.3	0.000430416	-7.750758215	35	37	40	42
BE/625ppm	0.625	0.625	0.0008967	-7.01678904	32	35	37	40
BE/1250ppm	1.25	1.25	0.0017934	-6.323641859	32	33	35	37
BE/2500ppm	2.5	2.5	0.003586801	-5.630494679	32	33	34	36
BE/5000ppm	5	5	0.007173601	-4.937347498	32	33	34	35
BE/10000ppm	10	10	0.014347202	-4.244200318	32	33	34	35
BE/20000ppm	20	20	0.028694405	-3.551053137	32	33	34	35
BE/40000ppm	40	40	0.057388809	-2.857905957	32	33	34	35

SURFACE TENSION MEASUREMENTS OF SURFACTANTS

Sur./conc.	Conc. (gm/100ml)	Conc. x 10	(Conc. x 10)/M.Wt. (Conc. x 10)/(M.Wt.)	γ mN/m (± 0.5)			
				60°C	50°C	40°C	30°C
BPh/0.625ppm	0.000625	0.000625	7.88146E-07	-14.05358213	62	64	66
BPh/1.25ppm	0.0013	0.00125	1.57629E-06	-13.36043495	59	61	63
BPh/2.5ppm	0.0025	0.0025	3.15259E-06	-12.66728777	56	58	60
BPh/5ppm	0.005	0.005	6.30517E-06	-11.97414059	54	56	58
BPh/10ppm	0.01	0.01	1.26103E-05	-11.28099341	51	53	55
BPh/25ppm	0.025	0.025	3.15259E-05	-10.36470268	48	50	52
BPh/50ppm	0.05	0.05	6.30517E-05	-9.671555495	45	47	50
BPh/100ppm	0.1	0.1	0.000126103	-8.978408315	43	45	47
BPh/200ppm	0.2	0.2	0.000252207	-8.285261134	40	42	45
BPh/300ppm	0.3	0.3	0.00037831	-7.879796026	39	41	43
BPh/625ppm	0.625	0.625	0.000788146	-7.145826851	36	38	40
BPh/1250ppm	1.25	1.25	0.001576293	-6.45267967	33	36	38
BPh/2500ppm	2.5	2.5	0.003152585	-5.75953249	33	35	37
BPh/5000ppm	5	5	0.00630517	-5.066385309	33	35	36
BPh/10000ppm	10	10	0.01261034	-4.373238129	33	35	36
BPh/20000ppm	20	20	0.025220681	-3.680090948	33	35	36
BPh/40000ppm	40	40	0.050441362	-2.986943768	33	35	36

SURFACE TENSION MEASUREMENTS OF SURFACTANT NE/ Ahmed Salmy

Sur./conc.	Conc. (gm/100ml)	Conc. x 10	(Conc. x 10)/M.wt. ln ((Conc. x 10)/M.wt.)	γ mN/m (± 0.5)			
				60°C	50°C	40°C	30°C
NE/0.625 ppm	0.0000625	0.000625	8.3668E-07	62	64	66	68
NE/1.25 ppm	0.000125	0.00125	1.67336E-06	60	62	64	66
NE/2.5 ppm	0.00025	0.0025	3.34672E-06	57	59	60	62
NE/5 ppm	0.0005	0.005	6.69344E-06	53	55	57	59
NE/10 ppm	0.001	0.01	1.33869E-05	49	52	54	56
NE/25 ppm	0.0025	0.025	3.34672E-05	46	48	50	52
NE/50 ppm	0.005	0.05	6.69344E-05	43	45	47	49
NE/100 ppm	0.01	0.1	0.000133869	41	42	45	47
NE/200 ppm	0.02	0.2	0.000267738	38	40	43	45
NE/300 ppm	0.03	0.3	0.000401606	37	39	42	44
NE/625 ppm	0.0625	0.625	0.00083668	35	37	40	42
NE/1250 ppm	0.125	1.25	0.00167336	35	36	38	41
NE/2500 ppm	0.25	2.5	0.00334672	35	36	37	40
NE/5000 ppm	0.5	5	0.00669344	35	36	37	39
NE/10000 ppm	1	10	0.013386881	35	36	37	39
NE/20000 PPM	2	20	0.026773762	35	36	37	39
NE/40000 PPM	4	40	0.053547523	35	36	37	39

SURFACE TENSION MEASUREMENTS OF SURFACTANT NP Ahmed Sany

Sur./conc.	Conc. (gm/100ml)	Conc. x 10	(Conc. x 10) ³ (M.Wt.) In ((Conc. x 10)/M.Wt.)	γmN/m (±0.5)			
				60°C	50°C	40°C	30°C
NP/0.625 ppm	0.0000625	0.000625	8.06452E-07	62	64	66	68
NP/1.25 ppm	0.000125	0.00125	1.6129E-06	60	62	64	66
NP/2.5 ppm	0.00025	0.0025	3.22581E-06	57	58	60	62
NP/5 ppm	0.0005	0.005	6.45161E-06	54	56	57	60
NP/10 ppm	0.001	0.01	1.29032E-05	51	53	55	58
NP/25 ppm	0.0025	0.025	3.22581E-05	48	50	52	56
NP/50 ppm	0.005	0.05	6.45161E-05	45	47	50	53
NP/100 ppm	0.01	0.1	0.000129032	42	44	48	50
NP/200 ppm	0.02	0.2	0.000258065	40	42	45	48
NP/300 ppm	0.03	0.3	0.000387097	39	41	43	46
NP/625 ppm	0.0625	0.625	0.000806452	37	39	41	44
NP/1250 ppm	0.125	1.25	0.001612903	35	37	39	42
NP/2500 ppm	0.25	2.5	0.003225806	35	36	38	40
NP/5000 ppm	0.5	5	0.006451613	35	36	37	39
NP/10000 ppm	1	10	0.012903226	35	36	37	38
NP/20000 ppm	2	20	0.025806452	35	36	37	38
NP/40000 ppm	4	40	0.051612903	35	36	37	38

SURFACE TENSION MEASUREMENTS OF SURFACTANT NPH Limited Sample

Surf./conc.	Conc. (gm/100ml)	Conc. x 10	(Conc. x 10)/M.wt. ln ((Conc. x 10)/M.wt.)	γmN/m (±0.5)			
				60°C	50°C	40°C	30°C
NPh/0.625 ppm	0.0000625	0.000625	7.414E-07	60	62	64	66
NPh/1.25 ppm	0.000125	0.00125	1.4828E-06	58	60	62	64
NPh/2.5 ppm	0.00025	0.0025	2.9656E-06	55	57	59	62
NPh/5 ppm	0.0005	0.005	5.9312E-06	52	54	56	58
NPh/10 ppm	0.001	0.01	1.18624E-05	48	50	52	54
NPh/25 ppm	0.0025	0.025	2.9656E-05	45	47	49	51
NPh/50 ppm	0.005	0.05	5.9312E-05	41	44	46	48
NPh/100 ppm	0.01	0.1	0.000118624	38	41	43	45
NPh/200 ppm	0.02	0.2	0.000237248	35	37	40	42
NPh/300 ppm	0.03	0.3	0.000355872	32	34	37	39
NPh/625 ppm	0.0625	0.625	0.0007414	30	32	34	36
NPh/1250 ppm	0.125	1.25	0.0014828	30	31	33	35
NPh/2500 ppm	0.25	2.5	0.002965599	30	31	32	34
NPh/5000 ppm	0.5	5	0.005931198	30	31	32	33
NPh/10000 ppm	1	10	0.011862396	30	31	32	33
NPh/20000 ppm	2	20	0.023724792	30	31	32	33
NPh/40000 ppm	4	40	0.047449585	30	31	32	33

INTERFACIAL TENSION MEASUREMENTS OF SURFACTANTS BE, BP, BPh, NE, NP&NPh / Ahmed Samy

Surfactant	IFT, mNm ⁻¹ (± 0.05)	
	50°C	70°C
BE	4*10 ⁻¹	8*10 ⁻²
BP	2*10 ⁻¹	6*10 ⁻²
BPh	3*10 ⁻¹	7*10 ⁻²
NE	2*10 ⁻²	< 10 ⁻²
NP	4*10 ⁻²	< 10 ⁻²
NPh	3*10 ⁻²	< 10 ⁻²

