

Viscosity and Excess Viscosity for Associated Binary Systems at T= (298.15, 308.15 and 318.15)

Naveen Awasthi, Vikas.S.Gangwar, Sandeep.K.Singh Gyan Prakash and R. K. Shukla*

Department of Chemistry, V.S.S.D.College, Kanpur-208002- India.
*email- rajeevshukla47@rediffmail.com

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Table 4. Experimental Density, Experimental Viscosity, Theoretical Viscosity from Flory Model, Ramaswami and Anbananthan Model (RS), Model Devised by Glinski, McAllister 3 body (McA-3) and McAllister 4 body (McA-4) models and their Percent deviations for Binary Liquid Systems at various temperatures.

2-Propenol+Benzyl alcohol												
X1	ρ_{mix} g/cc	η_{exp} /mPa.s	η_{Flory} /mPa.s	η_{RS} /mPa.s	$\eta_{Glinski}$ /mPa.s	McA- 3body /mPa.s	McA- 4body /mPa.s	% Δ_{Flory} /mPa.s	% Δ_{RS} /mPa.s	% $\Delta_{Glinski}$ /mPa.s	% Δ_{McA-3} body/ mPa.s	% Δ_{McA-4} body/ mPa.s
T=298.15K												
0.05	1.0328	5.30	5.24	5.30	5.36	5.14	5.13	1.09	0.03	-1.07	2.94	3.16
0.10	1.0237	5.05	4.95	5.05	5.15	4.95	4.93	2.01	0.11	-1.93	2.00	2.36
0.15	1.0143	4.80	4.68	4.81	4.94	4.76	4.74	2.43	-0.13	-2.97	0.77	1.20
0.20	1.0044	4.56	4.43	4.57	4.73	4.58	4.56	2.76	-0.26	-3.76	-0.36	0.09
0.25	0.9942	4.33	4.20	4.35	4.52	4.39	4.37	3.02	-0.31	-4.32	-1.41	-0.98
0.30	0.9836	4.12	3.99	4.13	4.31	4.22	4.20	3.17	-0.32	-4.70	-2.44	-2.04
0.35	0.9726	3.91	3.78	3.92	4.10	4.05	4.03	3.23	-0.27	-4.91	-3.46	-3.10
0.40	0.9612	3.71	3.60	3.72	3.90	3.88	3.87	3.15	-0.26	-5.04	-4.57	-4.24
0.45	0.9494	3.52	3.42	3.54	3.70	3.73	3.72	2.87	-0.36	-5.16	-5.85	-5.55
0.50	0.9370	3.34	3.26	3.36	3.52	3.58	3.57	2.30	-0.66	-5.42	-7.44	-7.15
0.55	0.9242	3.17	3.11	3.19	3.33	3.45	3.44	2.02	-0.61	-5.21	-8.75	-8.45
0.60	0.9108	3.01	2.96	3.03	3.16	3.32	3.31	1.61	-0.64	-5.00	-10.27	-9.93
0.65	0.8969	2.86	2.83	2.88	3.00	3.20	3.19	1.10	-0.76	-4.82	-12.02	-11.63
0.70	0.8824	2.72	2.70	2.74	2.84	3.09	3.08	0.55	-0.91	-4.59	-13.95	-13.51
0.75	0.8673	2.58	2.58	2.61	2.69	3.00	2.98	-0.04	-1.12	-4.35	-16.13	-15.63
0.80	0.8515	2.46	2.47	2.49	2.55	2.91	2.90	-0.37	-1.10	-3.81	-18.24	-17.71
0.85	0.8351	2.35	2.36	2.37	2.42	2.83	2.82	-0.76	-1.19	-3.32	-20.70	-20.18
0.90	0.8180	2.25	2.26	2.27	2.30	2.77	2.75	-0.59	-0.80	-2.27	-22.84	-22.39
0.95	0.8000	2.15	2.17	2.17	2.19	2.71	2.70	-1.05	-1.11	-1.88	-26.15	-25.85
T=308.15K												
0.05	1.0250	3.91	3.86	3.91	3.94	3.83	3.84	1.18	-0.04	-0.84	2.16	1.87
0.10	1.0159	3.73	3.65	3.74	3.79	3.69	3.71	2.09	-0.15	-1.59	1.05	0.59
0.15	1.0064	3.56	3.46	3.56	3.63	3.56	3.58	2.88	-0.18	-2.12	0.04	-0.51
0.20	0.9965	3.39	3.27	3.40	3.48	3.42	3.44	3.42	-0.28	-2.60	-1.03	-1.61
0.25	0.9863	3.23	3.10	3.24	3.32	3.29	3.31	3.91	-0.25	-2.84	-1.98	-2.54
0.30	0.9756	3.08	2.95	3.08	3.17	3.17	3.18	4.23	-0.25	-2.98	-2.98	-3.49
0.35	0.9646	2.92	2.80	2.94	3.02	3.05	3.06	4.19	-0.48	-3.28	-4.26	-4.72
0.40	0.9531	2.77	2.66	2.79	2.87	2.93	2.94	3.99	-0.74	-3.53	-5.63	-6.04
0.45	0.9412	2.63	2.53	2.66	2.73	2.82	2.83	3.71	-0.96	-3.66	-7.02	-7.41
0.50	0.9288	2.49	2.41	2.53	2.59	2.71	2.72	3.08	-1.44	-4.02	-8.81	-9.19
0.55	0.9159	2.37	2.30	2.40	2.46	2.61	2.62	2.91	-1.34	-3.74	-10.08	-10.48
0.60	0.9025	2.26	2.20	2.28	2.33	2.51	2.52	2.67	-1.24	-3.42	-11.46	-11.90
0.65	0.8885	2.15	2.10	2.17	2.21	2.43	2.44	2.24	-1.27	-3.21	-13.14	-13.64
0.70	0.8740	2.04	2.00	2.07	2.10	2.35	2.36	1.86	-1.20	-2.88	-14.87	-15.44
0.75	0.8589	1.95	1.92	1.97	1.99	2.27	2.28	1.50	-1.06	-2.47	-16.72	-17.36

0.80	0.8431	1.85	1.83	1.87	1.89	2.20	2.22	0.89	-1.17	-2.30	-19.07	-19.75
0.85	0.8266	1.76	1.76	1.78	1.80	2.14	2.16	0.22	-1.31	-2.17	-21.73	-22.40
0.90	0.8094	1.68	1.68	1.70	1.71	2.09	2.10	-0.54	-1.55	-2.13	-24.81	-25.39
0.95	0.7915	1.60	1.62	1.62	1.63	2.04	2.05	-0.82	-1.31	-1.60	-27.63	-28.01

T=318.15K

0.05	1.0171	2.99	2.95	2.99	3.00	2.95	2.96	1.44	0.01	-0.34	1.15	1.00
0.10	1.0080	2.86	2.78	2.86	2.88	2.86	2.87	2.77	0.13	-0.45	-0.02	-0.26
0.15	0.9984	2.75	2.64	2.74	2.75	2.77	2.78	4.00	0.35	-0.34	-1.00	-1.29
0.20	0.9884	2.63	2.50	2.61	2.63	2.68	2.69	5.01	0.53	-0.16	-1.97	-2.26
0.25	0.9781	2.51	2.37	2.50	2.51	2.59	2.59	5.80	0.67	0.04	-2.94	-3.22
0.30	0.9674	2.40	2.25	2.38	2.39	2.49	2.50	6.38	0.75	0.25	-3.95	-4.21
0.35	0.9563	2.29	2.13	2.27	2.28	2.40	2.41	6.57	0.58	0.27	-5.21	-5.45
0.40	0.9448	2.17	2.03	2.17	2.17	2.32	2.32	6.53	0.32	0.21	-6.61	-6.82
0.45	0.9328	2.06	1.93	2.06	2.06	2.23	2.23	6.15	-0.16	-0.05	-8.28	-8.48
0.50	0.9203	1.95	1.84	1.96	1.96	2.15	2.15	5.74	-0.53	-0.21	-9.91	-10.11
0.55	0.9074	1.86	1.76	1.87	1.86	2.07	2.07	5.54	-0.56	-0.03	-11.25	-11.46
0.60	0.8939	1.77	1.67	1.78	1.76	1.99	2.00	5.33	-0.47	0.23	-12.57	-12.80
0.65	0.8798	1.68	1.60	1.69	1.68	1.92	1.92	4.81	-0.59	0.24	-14.27	-14.52
0.70	0.8653	1.59	1.53	1.61	1.59	1.85	1.86	4.12	-0.78	0.14	-16.20	-16.50
0.75	0.8502	1.51	1.46	1.53	1.51	1.79	1.79	3.27	-1.04	-0.09	-18.42	-18.75
0.80	0.8343	1.43	1.40	1.45	1.44	1.73	1.74	2.46	-1.16	-0.25	-20.71	-21.06
0.85	0.8178	1.36	1.34	1.38	1.37	1.68	1.68	1.44	-1.41	-0.60	-23.44	-23.78
0.90	0.8005	1.30	1.28	1.31	1.30	1.63	1.63	0.88	-1.09	-0.47	-25.78	-26.08
0.95	0.7825	1.23	1.23	1.24	1.24	1.59	1.59	-0.23	-1.26	-0.90	-29.09	-29.29

2-Propenol+2-Phenylethnol

T=298.15K

0.05	1.0094	10.67	10.37	10.68	9.50	10.60	10.55	2.73	-0.14	10.90	0.60	1.08
0.10	1.0021	9.93	9.45	9.98	8.13	10.00	9.92	4.88	-0.44	18.13	-0.64	0.14
0.15	0.9944	9.26	8.61	9.30	7.10	9.41	9.33	6.93	-0.45	23.32	-1.67	-0.75
0.20	0.9864	8.62	7.86	8.64	6.29	8.84	8.76	8.74	-0.30	27.03	-2.63	-1.67
0.25	0.9780	8.00	7.19	8.02	5.64	8.30	8.22	10.16	-0.20	29.52	-3.73	-2.80
0.30	0.9691	7.41	6.58	7.42	5.10	7.77	7.71	11.22	-0.12	31.09	-4.94	-4.08
0.35	0.9599	6.86	6.02	6.84	4.66	7.27	7.22	12.18	0.19	32.08	-5.98	-5.21
0.40	0.9502	6.35	5.52	6.30	4.28	6.79	6.74	13.05	0.75	32.62	-6.86	-6.16
0.45	0.9400	5.86	5.07	5.79	3.95	6.32	6.29	13.56	1.22	32.57	-7.89	-7.25
0.50	0.9293	5.41	4.65	5.31	3.67	5.89	5.85	14.00	1.90	32.19	-8.75	-8.12
0.55	0.9180	4.98	4.28	4.86	3.42	5.47	5.44	14.05	2.40	31.26	-9.86	-9.20
0.60	0.9062	4.57	3.94	4.44	3.20	5.07	5.04	13.86	2.91	29.94	-11.00	-10.28
0.65	0.8936	4.17	3.63	4.05	3.01	4.70	4.67	13.11	3.00	27.93	-12.65	-11.83
0.70	0.8804	3.79	3.34	3.69	2.83	4.35	4.31	11.89	2.80	25.30	-14.66	-13.73
0.75	0.8663	3.44	3.08	3.35	2.68	4.02	3.98	10.33	2.42	22.16	-16.89	-15.84
0.80	0.8513	3.10	2.85	3.05	2.53	3.71	3.67	8.22	1.64	18.28	-19.60	-18.48
0.85	0.8355	2.81	2.63	2.77	2.41	3.42	3.39	6.36	1.29	14.34	-21.76	-20.66
0.90	0.8186	2.54	2.43	2.52	2.29	3.15	3.12	4.34	0.88	9.96	-23.93	-22.97
0.95	0.8005	2.28	2.25	2.29	2.18	2.90	2.88	1.41	-0.36	4.40	-27.05	-26.43

T=308.15K

0.05	1.0023	7.05	6.88	7.06	6.47	7.05	7.00	2.45	-0.16	8.44	0.01	0.76
0.10	0.9949	6.59	6.30	6.62	5.66	6.66	6.58	4.46	-0.38	14.40	-0.93	0.26
0.15	0.9868	6.15	5.78	6.19	5.02	6.27	6.19	6.02	-0.71	18.57	-2.04	-0.62
0.20	0.9787	5.73	5.31	5.78	4.51	5.90	5.82	7.34	-0.93	21.57	-3.12	-1.65
0.25	0.9702	5.34	4.88	5.38	4.08	5.55	5.47	8.67	-0.79	23.89	-3.90	-2.49
0.30	0.9613	4.97	4.49	5.00	3.72	5.21	5.14	9.65	-0.71	25.39	-4.83	-3.53
0.35	0.9520	4.62	4.14	4.64	3.42	4.88	4.83	10.49	-0.46	26.35	-5.68	-4.51
0.40	0.9423	4.29	3.82	4.30	3.16	4.57	4.53	10.98	-0.29	26.72	-6.71	-5.65
0.45	0.9321	3.96	3.52	3.97	2.93	4.28	4.24	11.14	-0.22	26.53	-7.94	-6.95
0.50	0.9213	3.67	3.26	3.66	2.72	4.00	3.96	11.30	0.14	26.11	-8.98	-8.01
0.55	0.9100	3.39	3.01	3.38	2.54	3.74	3.70	11.15	0.39	25.22	-10.23	-9.23
0.60	0.8981	3.12	2.79	3.10	2.38	3.49	3.45	10.76	0.61	23.93	-11.63	-10.52

0.65	0.8855	2.88	2.58	2.85	2.24	3.25	3.22	10.17	0.83	22.30	-13.13	-11.88
0.70	0.8721	2.63	2.40	2.62	2.11	3.03	3.00	9.03	0.64	20.00	-15.22	-13.79
0.75	0.8580	2.41	2.22	2.40	2.00	2.83	2.79	7.60	0.32	17.25	-17.59	-15.99
0.80	0.8430	2.20	2.07	2.20	1.89	2.64	2.60	6.13	0.11	14.27	-19.93	-18.22
0.85	0.8270	2.01	1.92	2.01	1.79	2.46	2.43	4.39	-0.25	10.83	-22.57	-20.88
0.90	0.8101	1.86	1.79	1.84	1.71	2.30	2.27	3.87	0.77	8.34	-23.62	-22.16
0.95	0.7920	1.69	1.66	1.69	1.62	2.15	2.13	1.73	0.15	4.09	-26.78	-25.83

T=318.15K

0.05	0.9942	4.95	4.81	4.95	6.45	4.97	4.93	2.94	0.01	4.46	-0.40	0.48
0.10	0.9868	4.65	4.42	4.68	5.64	4.72	4.66	4.78	-0.75	7.48	-1.69	-0.28
0.15	0.9790	4.37	4.07	4.41	5.01	4.48	4.41	6.68	-1.11	10.26	-2.61	-0.94
0.20	0.9708	4.10	3.76	4.16	4.49	4.24	4.17	8.41	-1.31	12.65	-3.40	-1.67
0.25	0.9623	3.85	3.47	3.91	4.06	4.01	3.95	9.86	-1.48	14.59	-4.21	-2.55
0.30	0.9534	3.60	3.21	3.67	3.71	3.79	3.73	10.88	-1.82	15.96	-5.25	-3.72
0.35	0.9440	3.36	2.97	3.43	3.40	3.57	3.53	11.68	-2.09	16.99	-6.30	-4.91
0.40	0.9342	3.13	2.75	3.21	3.14	3.37	3.33	12.16	-2.42	17.61	-7.49	-6.24
0.45	0.9239	2.91	2.55	2.99	2.91	3.17	3.13	12.37	-2.75	17.88	-8.78	-7.62
0.50	0.9131	2.71	2.37	2.78	2.71	2.98	2.95	12.68	-2.65	18.13	-9.74	-8.60
0.55	0.9017	2.52	2.20	2.59	2.53	2.80	2.77	12.79	-2.49	18.09	-10.76	-9.58
0.60	0.8897	2.34	2.05	2.40	2.38	2.62	2.59	12.58	-2.37	17.68	-11.98	-10.68
0.65	0.8770	2.16	1.91	2.22	2.23	2.46	2.43	11.84	-2.54	16.66	-13.71	-12.23
0.70	0.8636	1.99	1.78	2.04	2.11	2.30	2.27	10.72	-2.81	15.19	-15.78	-14.09
0.75	0.8494	1.82	1.66	1.88	1.99	2.16	2.12	9.16	-3.20	13.19	-18.27	-16.38
0.80	0.8343	1.67	1.55	1.73	1.89	2.02	1.98	7.18	-3.66	10.68	-21.19	-19.16
0.85	0.8183	1.53	1.44	1.58	1.79	1.89	1.86	5.42	-3.45	8.24	-23.71	-21.70
0.90	0.8013	1.42	1.35	1.44	1.70	1.77	1.74	4.66	-1.68	6.66	-24.82	-23.09
0.95	0.7831	1.30	1.26	1.31	1.62	1.65	1.64	2.79	-0.65	3.86	-27.31	-26.20

Benzylalcohol+2-henylethanol

T=298.15K

0.05	1.01811	11.07	11.00	11.07	11.00	10.86	10.89	0.60	0.01	0.58	1.87	1.60
0.10	1.02014	10.73	10.61	10.73	10.61	10.51	10.55	1.13	0.00	1.13	2.12	1.70
0.15	1.02233	10.41	10.24	10.41	10.23	10.16	10.21	1.61	0.01	1.66	2.38	1.88
0.20	1.02445	10.08	9.88	10.08	9.87	9.82	9.87	2.04	0.01	2.15	2.62	2.11
0.25	1.02656	9.76	9.53	9.76	9.51	9.48	9.53	2.37	-0.04	2.55	2.82	2.33
0.30	1.02852	9.44	9.19	9.45	9.17	9.16	9.20	2.64	-0.09	2.90	2.99	2.55
0.35	1.03034	9.13	8.87	9.14	8.84	8.84	8.87	2.84	-0.15	3.17	3.14	2.75
0.40	1.03211	8.82	8.55	8.83	8.52	8.53	8.56	2.99	-0.21	3.40	3.29	2.94
0.45	1.0338	8.51	8.25	8.53	8.21	8.22	8.25	3.00	-0.33	3.49	3.35	3.03
0.50	1.03525	8.20	7.96	8.24	7.91	7.92	7.95	2.97	-0.45	3.52	3.42	3.10
0.55	1.03633	7.91	7.68	7.95	7.63	7.63	7.66	2.97	-0.46	3.56	3.55	3.23
0.60	1.03732	7.63	7.41	7.66	7.36	7.35	7.38	2.90	-0.47	3.53	3.66	3.31
0.65	1.03801	7.35	7.15	7.38	7.10	7.07	7.10	2.80	-0.45	3.44	3.79	3.40
0.70	1.03862	7.08	6.89	7.11	6.85	6.80	6.83	2.66	-0.38	3.29	3.93	3.49
0.75	1.03906	6.81	6.65	6.84	6.61	6.54	6.57	2.40	-0.36	3.00	4.00	3.52
0.80	1.03943	6.55	6.41	6.57	6.38	6.29	6.32	2.13	-0.27	2.67	4.10	3.59
0.85	1.03972	6.30	6.19	6.31	6.16	6.04	6.07	1.72	-0.23	2.17	4.11	3.62
0.90	1.04	6.04	5.97	6.05	5.95	5.80	5.82	1.11	-0.30	1.44	3.97	3.56
0.95	1.04059	5.79	5.76	5.80	5.75	5.56	5.58	0.49	-0.26	0.68	3.89	3.63

T=308.15K

0.05	1.01083	7.32	7.29	7.32	7.26	7.24	7.26	0.40	0.01	0.82	1.12	0.91
0.10	1.01311	7.13	7.07	7.13	7.02	7.03	7.05	0.81	0.06	1.59	1.44	1.11
0.15	1.01532	6.94	6.86	6.94	6.79	6.82	6.85	1.12	0.06	2.21	1.70	1.31
0.20	1.01742	6.75	6.66	6.75	6.57	6.62	6.65	1.41	0.07	2.77	1.98	1.58
0.25	1.01952	6.56	6.46	6.56	6.35	6.42	6.44	1.63	0.04	3.19	2.22	1.84
0.30	1.02144	6.37	6.26	6.38	6.15	6.22	6.24	1.70	-0.10	3.44	2.35	2.01
0.35	1.02325	6.19	6.08	6.20	5.96	6.03	6.05	1.78	-0.19	3.64	2.52	2.21
0.40	1.02495	6.00	5.89	6.02	5.78	5.84	5.86	1.75	-0.34	3.70	2.61	2.33
0.45	1.02661	5.82	5.72	5.84	5.60	5.66	5.67	1.67	-0.51	3.67	2.67	2.42
0.50	1.02806	5.64	5.55	5.67	5.43	5.48	5.50	1.59	-0.64	3.59	2.75	2.50

0.55	1.02916	5.47	5.38	5.50	5.27	5.31	5.32	1.58	-0.64	3.55	2.92	2.66
0.60	1.03012	5.30	5.22	5.33	5.12	5.14	5.15	1.56	-0.62	3.45	3.08	2.81
0.65	1.03089	5.14	5.06	5.17	4.97	4.97	4.99	1.50	-0.59	3.28	3.22	2.92
0.70	1.03156	4.98	4.91	5.01	4.83	4.81	4.83	1.36	-0.59	2.99	3.29	2.95
0.75	1.0319	4.82	4.76	4.85	4.69	4.66	4.68	1.17	-0.58	2.63	3.33	2.95
0.80	1.03223	4.67	4.62	4.69	4.56	4.51	4.53	0.95	-0.57	2.18	3.33	2.93
0.85	1.03244	4.52	4.48	4.54	4.44	4.37	4.38	0.78	-0.43	1.77	3.39	3.00
0.90	1.03265	4.37	4.35	4.39	4.32	4.23	4.24	0.56	-0.31	1.25	3.39	3.06
0.95	1.03306	4.23	4.22	4.24	4.20	4.09	4.10	0.30	-0.16	0.66	3.34	3.14
T=318.15K												
0.05	1.00342	5.12	5.10	5.12	5.08	5.09	5.10	0.35	0.00	0.68	0.44	0.28
0.10	1.00598	5.00	4.97	5.00	4.94	4.96	4.98	0.64	-0.03	1.27	0.75	0.48
0.15	1.00823	4.88	4.84	4.89	4.80	4.83	4.85	0.86	-0.10	1.74	0.98	0.68
0.20	1.01036	4.77	4.72	4.78	4.67	4.71	4.73	1.10	-0.11	2.20	1.25	0.94
0.25	1.01241	4.66	4.60	4.66	4.54	4.59	4.60	1.25	-0.19	2.51	1.44	1.13
0.30	1.01425	4.54	4.48	4.55	4.42	4.47	4.48	1.38	-0.25	2.78	1.61	1.34
0.35	1.01599	4.43	4.37	4.44	4.30	4.35	4.36	1.46	-0.32	2.97	1.76	1.52
0.40	1.01765	4.32	4.25	4.34	4.19	4.24	4.25	1.53	-0.37	3.10	1.90	1.68
0.45	1.01928	4.21	4.15	4.23	4.08	4.13	4.13	1.54	-0.44	3.14	1.99	1.79
0.50	1.02074	4.10	4.04	4.12	3.97	4.02	4.02	1.50	-0.53	3.11	2.06	1.86
0.55	1.02187	4.00	3.94	4.02	3.87	3.91	3.92	1.52	-0.51	3.10	2.19	1.99
0.60	1.02284	3.90	3.84	3.91	3.78	3.80	3.81	1.57	-0.42	3.08	2.36	2.15
0.65	1.02363	3.80	3.74	3.81	3.68	3.70	3.71	1.55	-0.36	2.98	2.50	2.25
0.70	1.02426	3.70	3.64	3.71	3.59	3.60	3.61	1.47	-0.32	2.78	2.57	2.30
0.75	1.02463	3.60	3.55	3.61	3.51	3.50	3.51	1.37	-0.25	2.53	2.65	2.35
0.80	1.02486	3.50	3.46	3.51	3.42	3.41	3.42	1.16	-0.23	2.15	2.65	2.34
0.85	1.02499	3.40	3.37	3.41	3.34	3.31	3.32	0.91	-0.22	1.69	2.62	2.31
0.90	1.02518	3.31	3.29	3.31	3.27	3.22	3.23	0.63	-0.18	1.18	2.58	2.32
0.95	1.02543	3.21	3.20	3.22	3.19	3.13	3.14	0.36	-0.08	0.64	2.57	2.41