

Table S1. The experimental data collected from the literature and obtained prediction by TSM results for non-polar liquids

compound	T/K	P/MPa	exp values/kg m <sup>-3</sup>	calc values/kg m <sup>-3</sup>	error/%	Reference
pentane	273.15	0.1	644.98	644.98	0.00	Bridgman 1931
	273.15	50	687.39	684.78	0.38	Bridgman 1931
	273.15	100	714.42	711.52	0.41	Bridgman 1931
	273.15	150	735.02	732.39	0.36	Bridgman 1931
	273.15	200	752.51	749.64	0.38	Bridgman 1931
	273.15	300	780.47	777.32	0.40	Bridgman 1931
	273.15	400	803.71	799.24	0.56	Bridgman 1931
	273.15	500	823.73	817.47	0.76	Bridgman 1931
	273.15	600	840.91	833.13	0.93	Bridgman 1931
	273.15	700	856.09	846.9	1.07	Bridgman 1931
	323.15	0.1	594.83	595.24	0.07	Bridgman 1931
	323.15	50	652.61	651.93	0.10	Bridgman 1931
	323.15	100	685.05	684.33	0.11	Bridgman 1931
	323.15	150	710.02	707.6	0.34	Bridgman 1931
	323.15	200	729.2	726.57	0.36	Bridgman 1931
	323.15	300	759.69	756.8	0.38	Bridgman 1931
	323.15	400	784.45	780.6	0.49	Bridgman 1931
	323.15	500	804.81	800.35	0.55	Bridgman 1931
	323.15	600	821.63	817.29	0.53	Bridgman 1931
	323.15	700	834.49	832.16	0.28	Bridgman 1931
	323.15	800	849.55	845.44	0.48	Bridgman 1931
	323.15	900	862.96	857.45	0.64	Bridgman 1931
	368.15	0.1	549.34	543.87	1.00	Bridgman 1931
	368.15	100	657.54	663.45	0.90	Bridgman 1931
	368.15	150	685.78	689.12	0.49	Bridgman 1931
	368.15	200	707.29	709.08	0.25	Bridgman 1931

	368.15	300	740.33	741.01	0.09	Bridgman 1931
	368.15	400	767.56	766.31	0.16	Bridgman 1931
	368.15	500	788.67	787.39	0.16	Bridgman 1931
	368.15	600	806.02	805.53	0.06	Bridgman 1931
	368.15	700	820.27	821.49	0.15	Bridgman 1931
	368.15	800	836.98	835.78	0.14	Bridgman 1931
hexane	273	0.1	677.47	677.47	0.00	Bridgman 1931
	273	100	737.1	740.78	0.50	Bridgman 1931
	273	200	773.1	776.49	0.44	Bridgman 1931
	273	300	799.66	802.92	0.41	Bridgman 1931
	273	400	820.28	824.21	0.48	Bridgman 1931
	273	500	839.7	842.11	0.29	Bridgman 1931
	273	600	857.02	857.59	0.07	Bridgman 1931
	323	0.1	632.44	631.39	0.17	Bridgman 1931
	323	100	708.13	713.78	0.80	Bridgman 1931
	323	200	748.75	754.07	0.71	Bridgman 1931
	323	300	776.92	781.9	0.64	Bridgman 1931
	323	400	799.66	804.31	0.58	Bridgman 1931
	323	500	819.99	823.19	0.39	Bridgman 1931
	323	600	837.32	839.54	0.27	Bridgman 1931
	323	700	852.92	854.01	0.13	Bridgman 1931
	323	800	866.66	867	0.04	Bridgman 1931
	323	900	879.03	878.8	0.03	Bridgman 1931
	323	1000	889.65	889.63	0.00	Bridgman 1931
	323	1100	899.82	899.64	0.02	Bridgman 1931
	368	0.1	587.32	586.26	0.18	Bridgman 1931
	368	200	728.15	736.72	1.18	Bridgman 1931
	368	300	760.01	765.61	0.74	Bridgman 1931
	368	400	785.11	788.42	0.42	Bridgman 1931
	368	500	806.13	807.78	0.20	Bridgman 1931
	368	600	823.67	824.63	0.12	Bridgman 1931

	368	700	839.39	839.6	0.03	Bridgman 1931
	368	800	853.02	853.09	0.01	Bridgman 1931
	368	900	865.89	865.37	0.06	Bridgman 1931
	368	1000	877.21	876.67	0.06	Bridgman 1931
	368	1100	887.67	887.14	0.06	Bridgman 1931
hexane	303.15	0.1	650.5	650.07	0.07	Melikhov
	303.15	10	661.2	661.21	0.00	Melikhov
	303.15	20	670.5	671.11	0.09	Melikhov
	303.15	30	678.7	679.95	0.18	Melikhov
	303.15	40	686.1	687.92	0.27	Melikhov
	303.15	50	692.9	695.18	0.33	Melikhov
	303.15	60	699.2	701.86	0.38	Melikhov
	303.15	70	705	708.03	0.43	Melikhov
	303.15	80	710.4	713.77	0.47	Melikhov
	303.15	90	715.5	719.13	0.51	Melikhov
	303.15	100	720.4	724.16	0.52	Melikhov
	303.15	125	731.5	735.54	0.55	Melikhov
	303.15	150	741.5	745.53	0.54	Melikhov
	303.15	175	750.5	754.43	0.52	Melikhov
	303.15	200	758.9	762.46	0.47	Melikhov
	303.15	225	766.6	769.77	0.41	Melikhov
	303.15	250	773.9	776.57	0.35	Melikhov
	303.15	275	780.7	782.96	0.29	Melikhov
	303.15	300	787.2	789.01	0.23	Melikhov
	303.15	325	793.3	794.75	0.18	Melikhov
	303.15	350	799.1	800.22	0.14	Melikhov
	303.15	375	804.7	805.44	0.09	Melikhov
	303.15	400	810	810.43	0.05	Melikhov
	303.15	425	815.2	815.23	0.00	Melikhov
	303.15	450	820.1	819.83	0.03	Melikhov
	303.15	475	824.9	824.26	0.08	Melikhov

303.15	500	829.5	828.53	0.12 Melikhov
303.15	525	833.9	832.66	0.15 Melikhov
303.15	550	838.3	836.64	0.20 Melikhov
303.15	575	842.5	840.5	0.24 Melikhov
303.15	600	846.5	844.24	0.27 Melikhov
313.15	0.1	640.9	640.74	0.02 Melikhov
313.15	10	652.3	652.76	0.07 Melikhov
313.15	20	662.1	663.34	0.19 Melikhov
313.15	30	670.7	672.71	0.30 Melikhov
313.15	40	678.4	681.12	0.40 Melikhov
313.15	50	685.5	688.75	0.47 Melikhov
313.15	60	691.9	695.72	0.55 Melikhov
313.15	70	697.9	702.15	0.61 Melikhov
313.15	80	703.5	708.12	0.66 Melikhov
313.15	90	708.8	713.67	0.69 Melikhov
313.15	100	713.7	718.88	0.73 Melikhov
313.15	125	725.1	730.6	0.76 Melikhov
313.15	150	735.3	740.86	0.76 Melikhov
313.15	175	744.6	749.98	0.72 Melikhov
313.15	200	753.1	758.18	0.67 Melikhov
313.15	225	760.9	765.63	0.62 Melikhov
313.15	250	768.3	772.5	0.55 Melikhov
313.15	275	775.2	778.93	0.48 Melikhov
313.15	300	781.8	785.01	0.41 Melikhov
313.15	325	788	790.78	0.35 Melikhov
313.15	350	793.9	796.29	0.30 Melikhov
313.15	375	799.5	801.54	0.26 Melikhov
313.15	400	804.9	806.57	0.21 Melikhov
313.15	425	810.1	811.39	0.16 Melikhov
313.15	450	815.1	816.03	0.11 Melikhov
313.15	475	819.9	820.49	0.07 Melikhov

313.15	500	824.6	824.8	0.02	Melikhov
313.15	525	829.1	828.95	0.02	Melikhov
313.15	550	833.5	832.97	0.06	Melikhov
313.15	575	837.7	836.86	0.10	Melikhov
313.15	600	841.8	840.63	0.14	Melikhov
323.15	0.1	631.5	631.25	0.04	Melikhov
323.15	10	643.9	644.25	0.05	Melikhov
323.15	20	654.4	655.57	0.18	Melikhov
323.15	30	663.5	665.52	0.30	Melikhov
323.15	40	671.6	674.39	0.42	Melikhov
323.15	50	678.9	682.4	0.52	Melikhov
323.15	60	685.6	689.69	0.60	Melikhov
323.15	70	691.8	696.38	0.66	Melikhov
323.15	80	697.6	702.57	0.71	Melikhov
323.15	90	703.1	708.33	0.74	Melikhov
323.15	100	708.2	713.71	0.78	Melikhov
323.15	125	719.9	725.78	0.82	Melikhov
323.15	150	730.3	736.31	0.82	Melikhov
323.15	175	739.8	745.64	0.79	Melikhov
323.15	200	748.4	754.01	0.75	Melikhov
323.15	225	756.5	761.61	0.68	Melikhov
323.15	250	764	768.56	0.60	Melikhov
323.15	275	771	775.03	0.52	Melikhov
323.15	300	777.7	781.14	0.44	Melikhov
323.15	325	784	786.94	0.38	Melikhov
323.15	350	789.9	792.47	0.33	Melikhov
323.15	375	795.7	797.75	0.26	Melikhov
323.15	400	801.2	802.8	0.20	Melikhov
323.15	425	806.4	807.65	0.16	Melikhov
323.15	450	811.5	812.32	0.10	Melikhov
323.15	475	816.4	816.81	0.05	Melikhov

323.15	500	821.1	821.14	0.00	Melikhov
323.15	525	825.6	825.32	0.03	Melikhov
323.15	550	830	829.37	0.08	Melikhov
323.15	575	834.3	833.29	0.12	Melikhov
323.15	600	838.5	837.09	0.17	Melikhov
333.15	0.1	621.8	621.59	0.03	Melikhov
333.15	10	635.2	635.68	0.08	Melikhov
333.15	20	646.3	647.81	0.23	Melikhov
333.15	30	655.9	658.38	0.38	Melikhov
333.15	40	664.4	667.73	0.50	Melikhov
333.15	50	672	676.13	0.61	Melikhov
333.15	60	679	683.75	0.70	Melikhov
333.15	70	685.5	690.72	0.76	Melikhov
333.15	80	691.4	697.14	0.83	Melikhov
333.15	90	697	703.1	0.88	Melikhov
333.15	100	702.3	708.65	0.90	Melikhov
333.15	125	714.3	721.08	0.95	Melikhov
333.15	150	725	731.88	0.95	Melikhov
333.15	175	734.7	741.41	0.91	Melikhov
333.15	200	743.5	749.95	0.87	Melikhov
333.15	225	751.7	757.68	0.80	Melikhov
333.15	250	759.3	764.75	0.72	Melikhov
333.15	275	766.5	771.29	0.62	Melikhov
333.15	300	773.3	777.4	0.53	Melikhov
333.15	325	779.7	783.22	0.45	Melikhov
333.15	350	785.7	788.76	0.39	Melikhov
333.15	375	791.5	794.06	0.32	Melikhov
333.15	400	797.1	799.14	0.26	Melikhov
333.15	425	802.4	804.01	0.20	Melikhov
333.15	450	807.6	808.7	0.14	Melikhov
333.15	475	812.5	813.21	0.09	Melikhov

	333.15	500	817.3	817.57	0.03	Melikhov
	333.15	525	821.9	821.77	0.02	Melikhov
	333.15	550	826.3	825.84	0.06	Melikhov
	333.15	575	830.7	829.79	0.11	Melikhov
	333.15	600	834.9	833.61	0.15	Melikhov
hexane	243.15	100	754.2	758.25	0.54	Randzio
	243.15	120	761.67	765.8	0.54	Randzio
	243.15	140	768.64	772.7	0.53	Randzio
	243.15	160	775.07	779.1	0.52	Randzio
	243.15	180	781.13	785.07	0.50	Randzio
	243.15	200	786.84	790.71	0.49	Randzio
	243.15	250	799.87	803.59	0.47	Randzio
	243.15	300	811.49	815.05	0.44	Randzio
	243.15	350	822.03	825.38	0.41	Randzio
	243.15	400	831.67	834.8	0.38	Randzio
	243.15	500	848.9	851.49	0.31	Randzio
	243.15	600	864.01	865.97	0.23	Randzio
	243.15	700	877.58	878.8	0.14	Randzio
	283.15	100	731.1	735.07	0.54	Randzio
	283.15	120	739.59	743.72	0.56	Randzio
	283.15	140	747.38	751.55	0.56	Randzio
	283.15	160	754.66	758.69	0.53	Randzio
	283.15	180	761.38	765.26	0.51	Randzio
	283.15	200	767.7	771.34	0.47	Randzio
	283.15	250	781.98	784.94	0.38	Randzio
	283.15	300	794.6	796.99	0.30	Randzio
	283.15	350	805.93	807.85	0.24	Randzio
	283.15	400	816.26	817.76	0.18	Randzio
	283.15	500	834.59	835.32	0.09	Randzio
	283.15	600	850.56	850.57	0.00	Randzio
	283.15	700	864.83	864.08	0.09	Randzio

303.15	100	719.84	724.16	0.60	Randzio	
303.15	120	728.86	733.39	0.62	Randzio	
303.15	140	737.19	741.68	0.61	Randzio	
303.15	160	744.77	749.2	0.59	Randzio	
303.15	180	751.88	756.1	0.56	Randzio	
303.15	200	758.5	762.46	0.52	Randzio	
303.15	250	773.46	776.51	0.39	Randzio	
303.15	300	786.53	788.71	0.28	Randzio	
303.15	350	798.28	799.73	0.18	Randzio	
303.15	400	809	809.79	0.10	Randzio	
303.15	500	827.81	827.64	0.02	Randzio	
303.15	600	844.24	843.16	0.13	Randzio	
303.15	700	858.89	856.92	0.23	Randzio	
343.15	100	697.98	703.72	0.82	Randzio	
343.15	120	708.27	714.1	0.82	Randzio	
343.15	140	717.51	723.32	0.81	Randzio	
343.15	160	725.95	731.6	0.78	Randzio	
343.15	180	733.78	739.12	0.73	Randzio	
343.15	200	741.02	746.01	0.67	Randzio	
343.15	250	757.23	761.05	0.50	Randzio	
343.15	300	771.31	773.76	0.32	Randzio	
343.15	350	783.88	784.91	0.13	Randzio	
343.15	400	795.23	795.1	0.02	Randzio	
343.15	500	815.1	813.25	0.23	Randzio	
343.15	600	832.36	829.1	0.39	Randzio	
343.15	700	847.6	843.21	0.52	Randzio	
heptane	273.15	0.1	700.45	700.45	0.00	Bridgman 1931
	273.15	50	734.61	734.13	0.07	Bridgman 1931
	273.15	100	759.46	758.57	0.12	Bridgman 1931
	273.15	200	794.79	794.49	0.04	Bridgman 1931
	273.15	300	821.07	821.06	0.00	Bridgman 1931



	273.15	400	842.4	842.3	0.01	Bridgman 1931
	273.15	500	859.98	860.07	0.01	Bridgman 1931
	323.15	0.1	658.75	658.08	0.10	Bridgman 1931
	323.15	50	702.42	702.7	0.04	Bridgman 1931
	323.15	100	730.86	731.41	0.08	Bridgman 1931
	323.15	200	771.17	771.38	0.03	Bridgman 1931
	323.15	300	800.24	800.47	0.03	Bridgman 1931
	323.15	400	823.29	823.55	0.03	Bridgman 1931
	323.15	500	842.7	842.77	0.01	Bridgman 1931
	323.15	600	859.87	859.3	0.07	Bridgman 1931
	323.15	700	875.46	873.83	0.19	Bridgman 1931
	323.15	800	889.46	886.82	0.30	Bridgman 1931
	323.15	900	902.3	898.58	0.41	Bridgman 1931
	323.15	1000	914.55	909.34	0.57	Bridgman 1931
	368.15	0.1	617.14	617.43	0.05	Bridgman 1931
	368.15	100	706.17	709.8	0.51	Bridgman 1931
	368.15	200	750.19	752.72	0.34	Bridgman 1931
	368.15	300	782.28	783.41	0.14	Bridgman 1931
	368.15	400	807.35	807.72	0.05	Bridgman 1931
	368.15	500	828.25	827.96	0.04	Bridgman 1931
	368.15	600	846.37	845.36	0.12	Bridgman 1931
	368.15	700	862.1	860.65	0.17	Bridgman 1931
	368.15	800	876.44	874.33	0.24	Bridgman 1931
	368.15	900	890.03	886.71	0.37	Bridgman 1931
	368.15	1000	902.41	898.04	0.48	Bridgman 1931
	368.15	1100	914.43	908.49	0.65	Bridgman 1931
heptane	303.15	0.1	675.1	675.28	0.03	Melikhov
	303.15	10	684.6	684.86	0.04	Melikhov
	303.15	20	693	693.52	0.08	Melikhov
	303.15	30	700.6	701.33	0.10	Melikhov
	303.15	40	707.4	708.46	0.15	Melikhov

303.15	50	713.7	715.01	0.18 Melikhov
303.15	60	719.6	721.07	0.20 Melikhov
303.15	70	725.1	726.71	0.22 Melikhov
303.15	80	730.2	731.98	0.24 Melikhov
303.15	90	735.1	736.92	0.25 Melikhov
303.15	100	739.7	741.59	0.26 Melikhov
303.15	125	750.3	752.19	0.25 Melikhov
303.15	150	759.9	761.69	0.24 Melikhov
303.15	175	768.7	770.35	0.21 Melikhov
303.15	200	776.8	778.36	0.20 Melikhov
303.15	225	784.3	785.8	0.19 Melikhov
303.15	250	791.4	792.76	0.17 Melikhov
303.15	275	798	799.29	0.16 Melikhov
303.15	300	804.3	805.46	0.14 Melikhov
303.15	325	810.3	811.3	0.12 Melikhov
303.15	350	816	816.84	0.10 Melikhov
303.15	375	821.4	822.12	0.09 Melikhov
303.15	400	826.7	827.17	0.06 Melikhov
303.15	425	831.7	831.99	0.03 Melikhov
303.15	450	836.6	836.62	0.00 Melikhov
303.15	475	841.2	841.07	0.02 Melikhov
303.15	500	845.8	845.35	0.05 Melikhov
303.15	525	850.1	849.48	0.07 Melikhov
303.15	550	854.4	853.47	0.11 Melikhov
303.15	575	858.5	857.32	0.14 Melikhov
303.15	600	862.5	861.05	0.17 Melikhov
313.15	0.1	666.5	666.73	0.03 Melikhov
313.15	10	676.6	677	0.06 Melikhov
313.15	20	685.4	686.2	0.12 Melikhov
313.15	30	693.3	694.46	0.17 Melikhov
313.15	40	700.4	701.96	0.22 Melikhov

313.15	50	706.9	708.82	0.27 Melikhov
313.15	60	713	715.14	0.30 Melikhov
313.15	70	718.6	721.01	0.34 Melikhov
313.15	80	723.9	726.47	0.36 Melikhov
313.15	90	728.9	731.6	0.37 Melikhov
313.15	100	733.7	736.42	0.37 Melikhov
313.15	125	744.6	747.34	0.37 Melikhov
313.15	150	754.3	757.02	0.36 Melikhov
313.15	175	763.3	765.8	0.33 Melikhov
313.15	200	771.5	773.91	0.31 Melikhov
313.15	225	779.1	781.45	0.30 Melikhov
313.15	250	786.3	788.5	0.28 Melikhov
313.15	275	793	795.12	0.27 Melikhov
313.15	300	799.4	801.36	0.25 Melikhov
313.15	325	805.5	807.27	0.22 Melikhov
313.15	350	811.3	812.89	0.20 Melikhov
313.15	375	816.8	818.23	0.18 Melikhov
313.15	400	822.1	823.34	0.15 Melikhov
313.15	425	827.2	828.22	0.12 Melikhov
313.15	450	832.1	832.91	0.10 Melikhov
313.15	475	836.8	837.41	0.07 Melikhov
313.15	500	841.4	841.74	0.04 Melikhov
313.15	525	845.8	845.92	0.01 Melikhov
313.15	550	850.1	849.95	0.02 Melikhov
313.15	575	854.3	853.85	0.05 Melikhov
313.15	600	858.3	857.63	0.08 Melikhov
333.15	0.1	648.7	649.31	0.09 Melikhov
333.15	10	660.4	661.16	0.12 Melikhov
333.15	20	670.3	671.6	0.19 Melikhov
333.15	30	679	680.84	0.27 Melikhov
333.15	40	686.8	689.13	0.34 Melikhov

333.15	50	693.9	696.65	0.40	Melikhov
333.15	60	700.4	703.53	0.45	Melikhov
333.15	70	706.4	709.88	0.49	Melikhov
333.15	80	712.1	715.76	0.51	Melikhov
333.15	90	717.4	721.24	0.54	Melikhov
333.15	100	722.4	726.37	0.55	Melikhov
333.15	125	733.9	737.94	0.55	Melikhov
333.15	150	744.2	748.06	0.52	Melikhov
333.15	175	753.5	757.12	0.48	Melikhov
333.15	200	762	765.4	0.45	Melikhov
333.15	225	770	773.1	0.40	Melikhov
333.15	250	777.4	780.29	0.37	Melikhov
333.15	275	784.4	787.05	0.34	Melikhov
333.15	300	791	793.42	0.31	Melikhov
333.15	325	797.2	799.46	0.28	Melikhov
333.15	350	803.1	805.19	0.26	Melikhov
333.15	375	808.8	810.64	0.23	Melikhov
333.15	400	814.3	815.85	0.19	Melikhov
333.15	425	819.5	820.84	0.16	Melikhov
333.15	450	824.5	825.62	0.14	Melikhov
333.15	475	829.4	830.21	0.10	Melikhov
333.15	500	834	834.64	0.08	Melikhov
333.15	525	838.6	838.9	0.04	Melikhov
333.15	550	843	843.02	0.00	Melikhov
333.15	575	847.2	847	0.02	Melikhov
333.15	600	851.4	850.85	0.06	Melikhov
353.15	0.1	631.6	631.34	0.04	Melikhov
353.15	10	645.2	645.13	0.01	Melikhov
353.15	20	656.5	657.02	0.08	Melikhov
353.15	30	666.2	667.38	0.18	Melikhov
353.15	40	674.8	676.56	0.26	Melikhov

353.15	50	682.5	684.8	0.34	Melikhov	
353.15	60	689.6	692.28	0.39	Melikhov	
353.15	70	696.1	699.12	0.43	Melikhov	
353.15	80	702.1	705.43	0.47	Melikhov	
353.15	90	707.8	711.29	0.49	Melikhov	
353.15	100	713.1	716.74	0.51	Melikhov	
353.15	125	725.2	728.96	0.52	Melikhov	
353.15	150	736	739.57	0.49	Melikhov	
353.15	175	745.8	748.95	0.42	Melikhov	
353.15	200	754.7	757.41	0.36	Melikhov	
353.15	225	763	765.22	0.29	Melikhov	
353.15	250	770.7	772.52	0.24	Melikhov	
353.15	275	777.9	779.38	0.19	Melikhov	
353.15	300	784.7	785.85	0.15	Melikhov	
353.15	325	791.1	791.97	0.11	Melikhov	
353.15	350	797.3	797.79	0.06	Melikhov	
353.15	375	803.1	803.33	0.03	Melikhov	
353.15	400	808.7	808.63	0.01	Melikhov	
353.15	425	814.1	813.69	0.05	Melikhov	
353.15	450	819.2	818.55	0.08	Melikhov	
353.15	475	824.2	823.23	0.12	Melikhov	
353.15	500	829	827.72	0.15	Melikhov	
353.15	525	833.7	832.06	0.20	Melikhov	
353.15	550	838.2	836.25	0.23	Melikhov	
353.15	575	842.5	840.3	0.26	Melikhov	
353.15	600	846.8	844.22	0.30	Melikhov	
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heptane	303.15	0.1	675.31	675.28	0.00	Doolittle
	303.15	5	680.32	680.16	0.02	Doolittle
	303.15	10	684.93	684.86	0.01	Doolittle
	303.15	20	693.34	693.52	0.03	Doolittle
	303.15	30	700.97	701.33	0.05	Doolittle

	303.15	50	714.23	715.01	0.11	Doolittle
	303.15	100	740.63	741.59	0.13	Doolittle
	303.15	150	761.21	761.87	0.09	Doolittle
	303.15	200	778.33	778.77	0.06	Doolittle
	303.15	300	806.26	806.17	0.01	Doolittle
	303.15	500	847.96	846.4	0.18	Doolittle
	323.15	0.1	658.28	658.08	0.03	Doolittle
	323.15	5	664.23	663.72	0.08	Doolittle
	323.15	10	669.48	669.1	0.06	Doolittle
	323.15	20	678.98	678.89	0.01	Doolittle
	323.15	30	687.38	687.63	0.04	Doolittle
	323.15	50	701.95	702.7	0.11	Doolittle
	323.15	100	730.19	731.34	0.16	Doolittle
	323.15	150	751.94	752.55	0.08	Doolittle
	323.15	200	769.94	769.92	0.00	Doolittle
	323.15	300	798.4	798.05	0.04	Doolittle
	323.15	500	841.26	839.29	0.23	Doolittle
	373.15	0.1	612.56	612.7	0.02	Doolittle
	373.15	5	621.47	621.12	0.06	Doolittle
	373.15	10	629.68	628.89	0.13	Doolittle
	373.15	20	642.63	642.49	0.02	Doolittle
	373.15	30	653.59	654.12	0.08	Doolittle
	373.15	50	671.73	673.3	0.23	Doolittle
	373.15	100	705.02	707.55	0.36	Doolittle
	373.15	150	729.55	731.5	0.27	Doolittle
	373.15	200	749.34	749.99	0.09	Doolittle
	373.15	300	780.7	779.25	0.19	Doolittle
	373.15	500	825.76	822.29	0.42	Doolittle
octane	273.15	0.1	718.2	718.2	0.00	Bridgman 1931
	273.15	50	750.32	750.66	0.05	Bridgman 1931
	273.15	100	771.35	773.89	0.33	Bridgman 1931

	273.15	200	804.8	808.1	0.41	Bridgman 1931
	273.15	300	831.25	833.67	0.29	Bridgman 1931
	323.15	0.1	677.87	677.87	0.00	Bridgman 1931
	323.15	50	717.85	720.2	0.33	Bridgman 1931
	323.15	100	743.95	747.96	0.54	Bridgman 1931
	323.15	200	780.66	785.61	0.63	Bridgman 1931
	323.15	300	808.61	813.13	0.56	Bridgman 1931
	323.15	400	831.35	835.15	0.46	Bridgman 1931
	323.15	500	852.17	853.6	0.17	Bridgman 1931
	323.15	600	870.45	869.52	0.11	Bridgman 1931
	323.15	700	886.35	883.56	0.31	Bridgman 1931
	368.15	0.1	639.82	639.82	0.00	Bridgman 1931
	368.15	100	722.63	726.76	0.57	Bridgman 1931
	368.15	200	762.59	767.82	0.69	Bridgman 1931
	368.15	300	792.36	796.29	0.50	Bridgman 1931
	368.15	400	816.31	819.11	0.34	Bridgman 1931
	368.15	500	836.26	838.24	0.24	Bridgman 1931
	368.15	600	853.75	854.77	0.12	Bridgman 1931
	368.15	700	869.14	869.35	0.02	Bridgman 1931
	368.15	800	883.35	882.42	0.11	Bridgman 1931
	368.15	900	896.58	894.28	0.26	Bridgman 1931
	368.15	1000	907.79	905.15	0.29	Bridgman 1931
octane	303.15	0.1	694.3	694.15	0.02	Melikhov
	303.15	10	703.2	703.24	0.01	Melikhov
	303.15	20	711	711.49	0.07	Melikhov
	303.15	30	718.1	718.98	0.12	Melikhov
	303.15	40	724.6	725.84	0.17	Melikhov
	303.15	50	730.6	732.16	0.21	Melikhov
	303.15	60	736.2	738.03	0.25	Melikhov
	303.15	70	741.4	743.5	0.28	Melikhov
	303.15	80	746.4	748.63	0.30	Melikhov

303.15	90	751	753.45	0.33 Melikhov
303.15	100	755.5	758	0.33 Melikhov
303.15	110	759.8	762.31	0.33 Melikhov
303.15	120	763.8	766.41	0.34 Melikhov
303.15	130	767.8	770.31	0.33 Melikhov
303.15	140	771.5	774.02	0.33 Melikhov
303.15	150	775.2	777.58	0.31 Melikhov
303.15	160	778.7	780.99	0.29 Melikhov
303.15	170	782	784.26	0.29 Melikhov
303.15	180	785.3	787.44	0.27 Melikhov
303.15	190	788.5	790.5	0.25 Melikhov
303.15	200	791.6	793.46	0.23 Melikhov
303.15	210	794.6	796.35	0.22 Melikhov
303.15	220	797.5	799.16	0.21 Melikhov
303.15	230	800.4	801.9	0.19 Melikhov
303.15	240	803.2	804.57	0.17 Melikhov
303.15	250	805.9	807.17	0.16 Melikhov
303.15	260	808.5	809.71	0.15 Melikhov
303.15	270	811.1	812.2	0.14 Melikhov
303.15	280	813.7	814.62	0.11 Melikhov
303.15	290	816.2	817	0.10 Melikhov
303.15	300	818.6	819.32	0.09 Melikhov
313.15	0.1	686.1	686.05	0.01 Melikhov
313.15	10	695.5	695.73	0.03 Melikhov
313.15	20	703.7	704.46	0.11 Melikhov
313.15	30	711.2	712.35	0.16 Melikhov
313.15	40	717.9	719.54	0.23 Melikhov
313.15	50	724.2	726.15	0.27 Melikhov
313.15	60	730	732.26	0.31 Melikhov
313.15	70	735.4	737.94	0.35 Melikhov
313.15	80	740.5	743.25	0.37 Melikhov



313.15	90	745.4	748.24	0.38 Melikhov
313.15	100	750	752.94	0.39 Melikhov
313.15	110	754.3	757.38	0.41 Melikhov
313.15	120	758.5	761.59	0.41 Melikhov
313.15	130	762.5	765.59	0.41 Melikhov
313.15	140	766.4	769.41	0.39 Melikhov
313.15	150	770.1	773.06	0.38 Melikhov
313.15	160	773.7	776.55	0.37 Melikhov
313.15	170	777.1	779.89	0.36 Melikhov
313.15	180	780.5	783.11	0.33 Melikhov
313.15	190	783.7	786.23	0.32 Melikhov
313.15	200	786.9	789.23	0.30 Melikhov
313.15	210	789.9	792.14	0.28 Melikhov
313.15	220	792.9	794.98	0.26 Melikhov
313.15	230	795.8	797.75	0.25 Melikhov
313.15	240	798.7	800.44	0.22 Melikhov
313.15	250	801.4	803.07	0.21 Melikhov
313.15	260	804.1	805.64	0.19 Melikhov
313.15	270	806.8	808.14	0.17 Melikhov
313.15	280	809.3	810.59	0.16 Melikhov
313.15	290	811.9	812.99	0.13 Melikhov
313.15	300	814.3	815.34	0.13 Melikhov
333.15	0.1	669.4	669.61	0.03 Melikhov
333.15	10	680.2	680.65	0.07 Melikhov
333.15	20	689.5	690.46	0.14 Melikhov
333.15	30	697.8	699.22	0.20 Melikhov
333.15	40	705.2	707.13	0.27 Melikhov
333.15	50	712	714.33	0.33 Melikhov
333.15	60	718.2	720.95	0.38 Melikhov
333.15	70	724.1	727.08	0.41 Melikhov
333.15	80	729.5	732.77	0.45 Melikhov

333.15	90	734.7	738.09	0.46 Melikhov
333.15	100	739.5	743.08	0.48 Melikhov
333.15	110	744.1	747.79	0.50 Melikhov
333.15	120	748.5	752.24	0.50 Melikhov
333.15	130	752.8	756.46	0.49 Melikhov
333.15	140	756.8	760.47	0.48 Melikhov
333.15	150	760.7	764.29	0.47 Melikhov
333.15	160	764.4	767.94	0.46 Melikhov
333.15	170	768	771.44	0.45 Melikhov
333.15	180	771.5	774.79	0.43 Melikhov
333.15	190	774.9	778	0.40 Melikhov
333.15	200	778.2	781.1	0.37 Melikhov
333.15	210	781.3	784.08	0.36 Melikhov
333.15	220	784.4	786.99	0.33 Melikhov
333.15	230	787.4	789.79	0.30 Melikhov
333.15	240	790.4	792.53	0.27 Melikhov
333.15	250	793.2	795.19	0.25 Melikhov
333.15	260	796	797.8	0.23 Melikhov
333.15	270	798.7	800.34	0.21 Melikhov
333.15	280	801.4	802.83	0.18 Melikhov
333.15	290	804	805.26	0.16 Melikhov
333.15	300	806.5	807.64	0.14 Melikhov
353.15	0.1	652.5	652.77	0.04 Melikhov
353.15	10	664.8	665.45	0.10 Melikhov
353.15	20	675.2	676.52	0.20 Melikhov
353.15	30	684.3	686.26	0.29 Melikhov
353.15	40	692.4	694.96	0.37 Melikhov
353.15	50	699.7	702.81	0.44 Melikhov
353.15	60	706.5	709.98	0.49 Melikhov
353.15	70	712.7	716.56	0.54 Melikhov
353.15	80	718.5	722.65	0.58 Melikhov

353.15	90	723.9	728.31	0.61	Melikhov
353.15	100	729	733.61	0.63	Melikhov
353.15	110	733.9	738.58	0.64	Melikhov
353.15	120	738.5	743.27	0.65	Melikhov
353.15	130	742.9	747.7	0.65	Melikhov
353.15	140	747.1	751.9	0.64	Melikhov
353.15	150	751.2	755.89	0.62	Melikhov
353.15	160	755.1	759.7	0.61	Melikhov
353.15	170	758.8	763.34	0.60	Melikhov
353.15	180	762.4	766.82	0.58	Melikhov
353.15	190	765.9	770.16	0.56	Melikhov
353.15	200	769.3	773.36	0.53	Melikhov
353.15	210	772.6	776.45	0.50	Melikhov
353.15	220	775.8	779.42	0.47	Melikhov
353.15	230	778.9	782.29	0.44	Melikhov
353.15	240	781.9	785.06	0.40	Melikhov
353.15	250	784.8	787.77	0.38	Melikhov
353.15	260	787.7	790.39	0.34	Melikhov
353.15	270	790.5	792.96	0.31	Melikhov
353.15	280	793.2	795.47	0.29	Melikhov
353.15	290	795.9	797.92	0.25	Melikhov
353.15	300	798.5	800.32	0.23	Melikhov
373.15	0.1	634.9	635.42	0.08	Melikhov
373.15	10	649.1	650.09	0.15	Melikhov
373.15	20	660.8	662.62	0.28	Melikhov
373.15	30	670.8	673.47	0.40	Melikhov
373.15	40	679.7	683.04	0.49	Melikhov
373.15	50	687.6	691.6	0.58	Melikhov
373.15	60	694.8	699.34	0.65	Melikhov
373.15	70	701.4	706.41	0.71	Melikhov
373.15	80	707.5	712.9	0.76	Melikhov

373.15	90	713.3	718.92	0.79 Melikhov
373.15	100	718.7	724.52	0.81 Melikhov
373.15	110	723.7	729.76	0.84 Melikhov
373.15	120	728.6	734.68	0.83 Melikhov
373.15	130	733.2	739.32	0.83 Melikhov
373.15	140	737.6	743.7	0.83 Melikhov
373.15	150	741.8	747.87	0.82 Melikhov
373.15	160	745.8	751.83	0.81 Melikhov
373.15	170	749.7	755.6	0.79 Melikhov
373.15	180	753.5	759.21	0.76 Melikhov
373.15	190	757.1	762.66	0.73 Melikhov
373.15	200	760.6	765.97	0.71 Melikhov
373.15	210	764	769.15	0.67 Melikhov
373.15	220	767.3	772.22	0.64 Melikhov
373.15	230	770.5	775.17	0.61 Melikhov
373.15	240	773.6	778.01	0.57 Melikhov
373.15	250	776.6	780.76	0.54 Melikhov
373.15	260	779.5	783.42	0.50 Melikhov
373.15	270	782.4	786.02	0.46 Melikhov
373.15	280	785.2	788.54	0.43 Melikhov
373.15	290	788	790.99	0.38 Melikhov
373.15	300	790.6	793.4	0.35 Melikhov
393.15	0.1	616.8	617.44	0.10 Melikhov
393.15	10	633.3	634.55	0.20 Melikhov
393.15	20	646.4	648.79	0.37 Melikhov
393.15	30	657.5	660.9	0.52 Melikhov
393.15	40	667	671.42	0.66 Melikhov
393.15	50	675.6	680.73	0.76 Melikhov
393.15	60	683.2	689.08	0.86 Melikhov
393.15	70	690.3	696.64	0.92 Melikhov
393.15	80	696.8	703.56	0.97 Melikhov

	393.15	90	702.8	709.93	1.01 Melikhov
	393.15	100	708.5	715.84	1.04 Melikhov
	393.15	110	713.8	721.34	1.06 Melikhov
	393.15	120	718.8	726.49	1.07 Melikhov
	393.15	130	723.6	731.33	1.07 Melikhov
	393.15	140	728.2	735.9	1.06 Melikhov
	393.15	150	732.6	740.23	1.04 Melikhov
	393.15	160	736.8	744.33	1.02 Melikhov
	393.15	170	740.8	748.24	1.00 Melikhov
	393.15	180	744.7	751.96	0.97 Melikhov
	393.15	190	748.4	755.53	0.95 Melikhov
	393.15	200	752	758.94	0.92 Melikhov
	393.15	210	755.5	762.21	0.89 Melikhov
	393.15	220	758.9	765.36	0.85 Melikhov
	393.15	230	762.2	768.38	0.81 Melikhov
	393.15	240	765.4	771.3	0.77 Melikhov
	393.15	250	768.5	774.12	0.73 Melikhov
	393.15	260	771.5	776.84	0.69 Melikhov
	393.15	270	774.5	779.47	0.64 Melikhov
	393.15	280	777.3	782.02	0.61 Melikhov
	393.15	290	780.2	784.49	0.55 Melikhov
	393.15	300	782.9	786.92	0.51 Melikhov
nonane	303.15	0.1	710	710.06	0.01 Melikhov
	303.15	10	718.2	718.34	0.02 Melikhov
	303.15	20	725.6	725.95	0.05 Melikhov
	303.15	30	732.3	732.92	0.08 Melikhov
	303.15	40	738.5	739.35	0.12 Melikhov
	303.15	50	744.3	745.32	0.14 Melikhov
	303.15	60	749.7	750.9	0.16 Melikhov
	303.15	70	754.7	756.12	0.19 Melikhov
	303.15	80	759.5	761.04	0.20 Melikhov

303.15	90	764.1	765.72	0.21 Melikhov
303.15	100	768.4	770.15	0.23 Melikhov
303.15	125	778.4	780.45	0.26 Melikhov
303.15	150	787.8	789.81	0.26 Melikhov
303.15	175	795.9	798.41	0.32 Melikhov
303.15	200	804.7	806.37	0.21 Melikhov
303.15	225	811.8	813.78	0.24 Melikhov
303.15	250	818.7	820.71	0.25 Melikhov
303.15	275	825.1	827.23	0.26 Melikhov
303.15	300	831.2	833.38	0.26 Melikhov
303.15	325	837	839.21	0.26 Melikhov
303.15	350	842.5	844.76	0.27 Melikhov
303.15	375	847.8	850.04	0.26 Melikhov
303.15	400	853.9	855.08	0.14 Melikhov
303.15	425	858.8	859.92	0.13 Melikhov
303.15	450	863.6	864.55	0.11 Melikhov
303.15	475	868.1	869.01	0.10 Melikhov
303.15	500	872.6	873.3	0.08 Melikhov
303.15	525	876.9	877.44	0.06 Melikhov
303.15	550	881	881.44	0.05 Melikhov
303.15	575	885.1	885.3	0.02 Melikhov
303.15	600	889	889.04	0.00 Melikhov
313.15	0.1	702.5	702.15	0.05 Melikhov
313.15	10	711.2	710.94	0.04 Melikhov
313.15	20	719	718.97	0.00 Melikhov
313.15	30	726.1	726.29	0.03 Melikhov
313.15	40	732.6	733.02	0.06 Melikhov
313.15	50	738.5	739.25	0.10 Melikhov
313.15	60	744.1	745.05	0.13 Melikhov
313.15	70	749.4	750.47	0.14 Melikhov
313.15	80	754.3	755.57	0.17 Melikhov

313.15	90	759	760.37	0.18 Melikhov
313.15	100	763.5	764.95	0.19 Melikhov
313.15	125	773.8	775.44	0.21 Melikhov
313.15	150	783.1	784.98	0.24 Melikhov
313.15	175	791.6	793.73	0.27 Melikhov
313.15	200	799.5	801.82	0.29 Melikhov
313.15	225	807.8	809.35	0.19 Melikhov
313.15	250	814.8	816.39	0.20 Melikhov
313.15	275	821.3	823.01	0.21 Melikhov
313.15	300	827.5	829.26	0.21 Melikhov
313.15	325	833.4	835.18	0.21 Melikhov
313.15	350	839	840.8	0.21 Melikhov
313.15	375	844.4	846.16	0.21 Melikhov
313.15	400	850.6	851.28	0.08 Melikhov
313.15	425	855.5	856.18	0.08 Melikhov
313.15	450	860.3	860.88	0.07 Melikhov
313.15	475	864.9	865.4	0.06 Melikhov
313.15	500	869.4	869.75	0.04 Melikhov
313.15	525	873.7	873.94	0.03 Melikhov
313.15	550	877.9	877.99	0.01 Melikhov
313.15	575	882	881.91	0.01 Melikhov
313.15	600	886	885.7	0.03 Melikhov
333.15	0.1	687	686.21	0.11 Melikhov
333.15	10	696.9	696.13	0.11 Melikhov
333.15	20	705.6	705.09	0.07 Melikhov
333.15	30	713.4	713.18	0.03 Melikhov
333.15	40	720.4	720.55	0.02 Melikhov
333.15	50	726.9	727.33	0.06 Melikhov
333.15	60	732.9	733.6	0.10 Melikhov
333.15	70	738.5	739.44	0.13 Melikhov
333.15	80	743.8	744.89	0.15 Melikhov

333.15	90	748.7	750.01	0.17 Melikhov
333.15	100	753.4	754.83	0.19 Melikhov
333.15	125	764.3	765.85	0.20 Melikhov
333.15	150	774	775.68	0.22 Melikhov
333.15	175	782.9	784.7	0.23 Melikhov
333.15	200	791.2	793.02	0.23 Melikhov
333.15	225	799.6	800.76	0.15 Melikhov
333.15	250	806.9	807.99	0.14 Melikhov
333.15	275	813.7	814.79	0.13 Melikhov
333.15	300	820	821.2	0.15 Melikhov
333.15	325	826.1	827.27	0.14 Melikhov
333.15	350	831.8	833.04	0.15 Melikhov
333.15	375	837.4	838.53	0.13 Melikhov
333.15	400	843.7	843.78	0.01 Melikhov
333.15	425	848.7	848.8	0.01 Melikhov
333.15	450	853.6	853.61	0.00 Melikhov
333.15	475	858.4	858.24	0.02 Melikhov
333.15	500	862.9	862.69	0.02 Melikhov
333.15	525	867.4	866.99	0.05 Melikhov
333.15	550	871.6	871.13	0.05 Melikhov
333.15	575	875.8	875.14	0.08 Melikhov
333.15	600	879.9	879.02	0.10 Melikhov
353.15	0.1	670.2	669.99	0.03 Melikhov
353.15	10	682.1	681.26	0.12 Melikhov
353.15	20	691.8	691.29	0.07 Melikhov
353.15	30	700.3	700.24	0.01 Melikhov
353.15	40	708	708.32	0.05 Melikhov
353.15	50	715	715.69	0.10 Melikhov
353.15	60	721.4	722.47	0.15 Melikhov
353.15	70	727.4	728.73	0.18 Melikhov
353.15	80	733	734.56	0.21 Melikhov



353.15	90	738.3	740.01	0.23 Melikhov
353.15	100	743.2	745.12	0.26 Melikhov
353.15	125	754.6	756.69	0.28 Melikhov
353.15	150	764.8	766.89	0.27 Melikhov
353.15	175	774	776.11	0.27 Melikhov
353.15	200	782.5	784.62	0.27 Melikhov
353.15	225	791.3	792.52	0.15 Melikhov
353.15	250	798.8	799.91	0.14 Melikhov
353.15	275	805.7	806.85	0.14 Melikhov
353.15	300	812.3	813.4	0.14 Melikhov
353.15	325	818.5	819.59	0.13 Melikhov
353.15	350	824.4	825.48	0.13 Melikhov
353.15	375	830	831.08	0.13 Melikhov
353.15	400	836.4	836.43	0.00 Melikhov
353.15	425	841.6	841.55	0.01 Melikhov
353.15	450	846.6	846.46	0.02 Melikhov
353.15	475	851.5	851.17	0.04 Melikhov
353.15	500	856.1	855.72	0.04 Melikhov
353.15	525	860.6	860.09	0.06 Melikhov
353.15	550	865	864.32	0.08 Melikhov
353.15	575	869.3	868.41	0.10 Melikhov
353.15	600	873.4	872.36	0.12 Melikhov
373.15	0.1	654	653.41	0.09 Melikhov
373.15	10	667	666.29	0.11 Melikhov
373.15	20	677.8	677.55	0.04 Melikhov
373.15	30	687.3	687.47	0.02 Melikhov
373.15	40	695.6	696.33	0.10 Melikhov
373.15	50	703.2	704.34	0.16 Melikhov
373.15	60	710.1	711.64	0.22 Melikhov
373.15	70	716.5	718.36	0.26 Melikhov
373.15	80	722.4	724.58	0.30 Melikhov

373.15	90	728	730.36	0.32 Melikhov
373.15	100	733.9	735.77	0.25 Melikhov
373.15	125	745.2	747.93	0.37 Melikhov
373.15	150	756.8	758.53	0.23 Melikhov
373.15	175	765.4	768	0.34 Melikhov
373.15	200	775.3	776.64	0.17 Melikhov
373.15	225	783.3	784.67	0.17 Melikhov
373.15	250	791	792.17	0.15 Melikhov
373.15	275	798.2	799.21	0.13 Melikhov
373.15	300	804.9	805.86	0.12 Melikhov
373.15	325	811.3	812.15	0.10 Melikhov
373.15	350	817.3	818.12	0.10 Melikhov
373.15	375	823.1	823.81	0.09 Melikhov
373.15	400	829.7	829.25	0.05 Melikhov
373.15	425	835	834.45	0.07 Melikhov
373.15	450	840.1	839.43	0.08 Melikhov
373.15	475	845	844.22	0.09 Melikhov
373.15	500	849.8	848.84	0.11 Melikhov
373.15	525	854.4	853.28	0.13 Melikhov
373.15	550	858.9	857.58	0.15 Melikhov
373.15	575	863.2	861.73	0.17 Melikhov
373.15	600	867.4	865.75	0.19 Melikhov
393.15	0.1	636.2	636.35	0.02 Melikhov
393.15	10	652.2	651.18	0.16 Melikhov
393.15	20	664.4	663.87	0.08 Melikhov
393.15	30	674.8	674.87	0.01 Melikhov
393.15	40	683.9	684.59	0.10 Melikhov
393.15	50	692.1	693.28	0.17 Melikhov
393.15	60	699.5	701.15	0.24 Melikhov
393.15	70	706.3	708.34	0.29 Melikhov
393.15	80	712.5	714.95	0.34 Melikhov

393.15	90	718.4	721.08	0.37 Melikhov
393.15	100	723.9	726.78	0.40 Melikhov
393.15	125	736.4	739.53	0.43 Melikhov
393.15	150	747.5	750.57	0.41 Melikhov
393.15	175	757.5	760.32	0.37 Melikhov
393.15	200	766.6	769.1	0.33 Melikhov
393.15	225	775.9	777.21	0.17 Melikhov
393.15	250	783.9	784.78	0.11 Melikhov
393.15	275	791.2	791.9	0.09 Melikhov
393.15	300	798.1	798.61	0.06 Melikhov
393.15	325	804.7	804.97	0.03 Melikhov
393.15	350	810.9	811.01	0.01 Melikhov
393.15	375	816.8	816.76	0.00 Melikhov
393.15	400	823.5	822.26	0.15 Melikhov
393.15	425	828.9	827.52	0.17 Melikhov
393.15	450	834.1	832.56	0.18 Melikhov
393.15	475	839.1	837.41	0.20 Melikhov
393.15	500	844	842.08	0.23 Melikhov
393.15	525	848.7	846.59	0.25 Melikhov
393.15	550	853.2	850.93	0.27 Melikhov
393.15	575	857.6	855.14	0.29 Melikhov
393.15	600	861.9	859.21	0.31 Melikhov
413.15	0.1	618.6	618.72	0.02 Melikhov
413.15	10	636.4	635.92	0.08 Melikhov
413.15	20	650.1	650.27	0.03 Melikhov
413.15	30	661.6	662.49	0.13 Melikhov
413.15	40	671.5	673.14	0.24 Melikhov
413.15	50	680.2	682.56	0.35 Melikhov
413.15	60	688.1	691.02	0.42 Melikhov
413.15	70	695.3	698.69	0.49 Melikhov
413.15	80	702	705.71	0.53 Melikhov

	413.15	90	708.2	712.18	0.56 Melikhov
	413.15	100	713.9	718.17	0.60 Melikhov
	413.15	125	727	731.5	0.62 Melikhov
	413.15	150	738.5	742.97	0.61 Melikhov
	413.15	175	748.8	753.04	0.57 Melikhov
	413.15	200	758.3	762.01	0.49 Melikhov
	413.15	225	767.8	770.18	0.31 Melikhov
	413.15	250	776	777.79	0.23 Melikhov
	413.15	275	783.5	784.94	0.18 Melikhov
	413.15	300	790.6	791.69	0.14 Melikhov
	413.15	325	797.3	798.08	0.10 Melikhov
	413.15	350	803.6	804.16	0.07 Melikhov
	413.15	375	809.7	809.96	0.03 Melikhov
	413.15	400	817.5	815.49	0.25 Melikhov
	413.15	425	822	820.8	0.15 Melikhov
	413.15	450	827.3	825.89	0.17 Melikhov
	413.15	475	832.4	830.78	0.19 Melikhov
	413.15	500	837.4	835.49	0.23 Melikhov
	413.15	525	842.1	840.04	0.24 Melikhov
	413.15	550	846.8	844.43	0.28 Melikhov
	413.15	575	851.2	848.68	0.30 Melikhov
	413.15	600	855.6	852.79	0.33 Melikhov
nonane	303.15	0.1	709.92	710.06	0.02 Doolittle
	303.15	5	714.18	714.26	0.01 Doolittle
	303.15	10	718.34	718.34	0.00 Doolittle
	303.15	20	725.9	725.95	0.01 Doolittle
	303.15	30	732.82	732.92	0.01 Doolittle
	303.15	50	744.99	745.32	0.04 Doolittle
	303.15	100	769.53	770.08	0.07 Doolittle
	303.15	150	788.83	789.33	0.06 Doolittle
	303.15	200	805.02	805.51	0.06 Doolittle

303.15	300	831.6	832.02	0.05	Doolittle
303.15	500	871.46	871.36	0.01	Doolittle
323.15	0.1	694.4	694.21	0.03	Doolittle
323.15	5	699.11	698.96	0.02	Doolittle
323.15	10	703.73	703.54	0.03	Doolittle
323.15	20	712.2	712.02	0.03	Doolittle
323.15	30	719.84	719.71	0.02	Doolittle
323.15	50	733.08	733.26	0.02	Doolittle
323.15	100	759.24	759.82	0.08	Doolittle
323.15	150	779.54	780	0.06	Doolittle
323.15	200	796.43	796.64	0.03	Doolittle
323.15	300	823.66	823.84	0.02	Doolittle
323.15	500	865.2	864.14	0.12	Doolittle
373.15	0.1	653.59	653.41	0.03	Doolittle
373.15	5	660.63	660.03	0.09	Doolittle
373.15	10	666.53	666.29	0.04	Doolittle
373.15	20	677.87	677.55	0.05	Doolittle
373.15	30	687.66	687.47	0.03	Doolittle
373.15	50	704.08	704.34	0.04	Doolittle
373.15	100	734.81	735.77	0.13	Doolittle
373.15	150	757.86	758.53	0.09	Doolittle
373.15	200	776.58	776.4	0.02	Doolittle
373.15	300	806.52	804.67	0.23	Doolittle
373.15	500	850.41	846.54	0.46	Doolittle
423.15	0.1	609.35	609.66	0.05	Doolittle
423.15	5	620.19	619.37	0.13	Doolittle
423.15	10	629.37	628.23	0.18	Doolittle
423.15	20	643.29	643.51	0.03	Doolittle
423.15	30	655.91	656.4	0.07	Doolittle
423.15	50	676.13	677.34	0.18	Doolittle
423.15	100	712.05	714.02	0.28	Doolittle

decane	273	0.1	745.93	745.93	0.00	Bridgman 1931
	273	50	773.31	775.3	0.26	Bridgman 1931
	273	100	794.98	797.06	0.26	Bridgman 1931
	323	0.1	708.39	707.04	0.19	Bridgman 1931
	323	50	743.78	744.55	0.10	Bridgman 1931
	323	100	770.35	770.48	0.02	Bridgman 1931
	323	150	789.01	790.29	0.16	Bridgman 1931
	323	200	805.28	806.52	0.15	Bridgman 1931
	323	300	833.26	833.11	0.02	Bridgman 1931
	323	400	856.02	854.61	0.16	Bridgman 1931
	368	0.1	673.04	671.63	0.21	Bridgman 1931
	368	100	749.53	748.57	0.13	Bridgman 1931
	368	150	771.87	770.54	0.17	Bridgman 1931
	368	200	788.01	787.91	0.01	Bridgman 1931
	368	300	815.58	815.15	0.05	Bridgman 1931
	368	400	840.01	837.09	0.35	Bridgman 1931
	368	500	859.87	855.6	0.50	Bridgman 1931
	368	600	879.53	871.65	0.90	Bridgman 1931
368	700	894.3	885.86	0.94	Bridgman 1931	
368	800	908.01	898.61	1.04	Bridgman 1931	
dodecane	303.15	0.1	740.5	741.91	0.19	Melikhov
	303.15	10	747.8	749.16	0.18	Melikhov
	303.15	20	754.5	755.89	0.18	Melikhov
	303.15	30	760.6	762.1	0.20	Melikhov
	303.15	40	766.3	767.88	0.21	Melikhov
	303.15	50	771.7	773.28	0.20	Melikhov
	303.15	60	776.7	778.34	0.21	Melikhov
	303.15	70	781.4	783.11	0.22	Melikhov
	303.15	80	785.9	787.61	0.22	Melikhov
	303.15	90	790.2	791.93	0.22	Melikhov
	303.15	100	794.5	796.03	0.19	Melikhov

303.15	125	803.9	805.59	0.21 Melikhov
303.15	150	812.6	814.32	0.21 Melikhov
303.15	175	820.7	822.35	0.20 Melikhov
303.15	200	828.1	829.79	0.20 Melikhov
313.15	0.1	733.1	734.51	0.19 Melikhov
313.15	10	740.8	742.18	0.19 Melikhov
313.15	20	747.7	749.26	0.21 Melikhov
313.15	30	754.1	755.77	0.22 Melikhov
313.15	40	760	761.81	0.24 Melikhov
313.15	50	765.5	767.43	0.25 Melikhov
313.15	60	770.7	772.7	0.26 Melikhov
313.15	70	775.6	777.64	0.26 Melikhov
313.15	80	780.2	782.31	0.27 Melikhov
313.15	90	784.6	786.72	0.27 Melikhov
313.15	100	788.8	790.96	0.27 Melikhov
313.15	125	798.6	800.72	0.27 Melikhov
313.15	150	807.5	809.62	0.26 Melikhov
313.15	175	815.7	817.81	0.26 Melikhov
313.15	200	823.3	825.39	0.25 Melikhov
313.15	225	830.4	832.45	0.25 Melikhov
333.15	0.1	719.4	719.74	0.05 Melikhov
333.15	10	727.9	728.32	0.06 Melikhov
333.15	20	735.5	736.16	0.09 Melikhov
333.15	30	742.4	743.32	0.12 Melikhov
333.15	40	748.8	749.91	0.15 Melikhov
333.15	50	754.7	756.01	0.17 Melikhov
333.15	60	760.2	761.69	0.20 Melikhov
333.15	70	765.4	767	0.21 Melikhov
333.15	80	770.2	771.99	0.23 Melikhov
333.15	90	774.9	776.7	0.23 Melikhov
333.15	100	779.3	781.15	0.24 Melikhov

333.15	125	789.5	791.38	0.24 Melikhov
333.15	150	798.8	800.6	0.23 Melikhov
333.15	175	807.3	809.06	0.22 Melikhov
333.15	200	815.2	816.88	0.21 Melikhov
333.15	225	822.5	824.17	0.20 Melikhov
333.15	250	829.4	830.99	0.19 Melikhov
333.15	275	835.9	837.4	0.18 Melikhov
353.15	0.1	704.4	704.91	0.07 Melikhov
353.15	10	714	714.53	0.07 Melikhov
353.15	20	722.4	723.23	0.11 Melikhov
353.15	30	729.9	731.1	0.16 Melikhov
353.15	40	736.8	738.28	0.20 Melikhov
353.15	50	743.2	744.89	0.23 Melikhov
353.15	60	749.1	751.01	0.25 Melikhov
353.15	70	754.6	756.71	0.28 Melikhov
353.15	80	759.8	762.04	0.29 Melikhov
353.15	90	764.7	767.04	0.31 Melikhov
353.15	100	769.4	771.76	0.31 Melikhov
353.15	125	780.2	782.5	0.29 Melikhov
353.15	150	789.8	792.06	0.29 Melikhov
353.15	175	798.7	800.74	0.26 Melikhov
353.15	200	806.9	808.77	0.23 Melikhov
353.15	225	814.5	816.24	0.21 Melikhov
353.15	250	821.6	823.23	0.20 Melikhov
353.15	275	825.4	829.8	0.53 Melikhov
353.15	300	834.7	835.99	0.15 Melikhov
353.15	325	840.8	841.86	0.13 Melikhov
353.15	350	846.6	847.44	0.10 Melikhov
353.15	375	852.1	852.75	0.08 Melikhov
373.15	0.1	689.5	689.92	0.06 Melikhov
373.15	10	700.3	700.75	0.06 Melikhov



373.15	20	709.6	710.42	0.12 Melikhov
373.15	30	717.9	719.07	0.16 Melikhov
373.15	40	725.4	726.9	0.21 Melikhov
373.15	50	732.3	734.05	0.24 Melikhov
373.15	60	738.6	740.64	0.28 Melikhov
373.15	70	744.5	746.73	0.30 Melikhov
373.15	80	750	752.41	0.32 Melikhov
373.15	90	755.2	757.72	0.33 Melikhov
373.15	100	760.2	762.71	0.33 Melikhov
373.15	125	771.5	774.01	0.33 Melikhov
373.15	150	781.6	783.94	0.30 Melikhov
373.15	175	790.9	792.87	0.25 Melikhov
373.15	200	799.4	801.05	0.21 Melikhov
373.15	225	807.3	808.67	0.17 Melikhov
373.15	250	814.7	815.78	0.13 Melikhov
373.15	275	821.6	822.47	0.11 Melikhov
373.15	300	828.2	828.79	0.07 Melikhov
373.15	325	834.4	834.76	0.04 Melikhov
373.15	350	840.4	840.44	0.00 Melikhov
373.15	375	846	845.85	0.02 Melikhov
373.15	400	851.5	851.02	0.06 Melikhov
373.15	425	856.7	855.96	0.09 Melikhov
373.15	450	861.7	860.7	0.12 Melikhov
373.15	475	866.6	865.26	0.15 Melikhov
373.15	500	871.3	869.65	0.19 Melikhov
393.15	0.1	674.5	674.65	0.02 Melikhov
393.15	10	686.8	686.91	0.02 Melikhov
393.15	20	697.2	697.69	0.07 Melikhov
393.15	30	706.9	707.21	0.04 Melikhov
393.15	40	714.5	715.75	0.17 Melikhov
393.15	50	721.9	723.48	0.22 Melikhov

393.15	60	728.7	730.55	0.25	Melikhov
393.15	70	734.9	737.06	0.29	Melikhov
393.15	80	740.8	743.09	0.31	Melikhov
393.15	90	746.3	748.72	0.32	Melikhov
393.15	100	751.5	753.98	0.33	Melikhov
393.15	125	763.4	765.83	0.32	Melikhov
393.15	150	774	776.19	0.28	Melikhov
393.15	175	783.7	785.39	0.22	Melikhov
393.15	200	792.5	793.73	0.16	Melikhov
393.15	225	800.7	801.45	0.09	Melikhov
393.15	250	808.3	808.66	0.04	Melikhov
393.15	275	815.5	815.44	0.01	Melikhov
393.15	300	822.3	821.84	0.06	Melikhov
393.15	325	828.7	827.9	0.10	Melikhov
393.15	350	834.8	833.65	0.14	Melikhov
393.15	375	840.6	839.14	0.17	Melikhov
393.15	400	846.2	844.37	0.22	Melikhov
393.15	425	851.6	849.39	0.26	Melikhov
393.15	450	856.7	854.19	0.29	Melikhov
393.15	475	861.7	858.82	0.33	Melikhov
393.15	500	866.5	863.27	0.37	Melikhov
393.15	525	871.1	867.56	0.41	Melikhov
393.15	550	875.6	871.7	0.45	Melikhov
393.15	575	880	875.71	0.49	Melikhov
393.15	600	884.2	879.59	0.52	Melikhov
413.15	0.1	659	659.01	0.00	Melikhov
413.15	10	673	672.97	0.00	Melikhov
413.15	20	684.6	685.01	0.06	Melikhov
413.15	30	694.6	695.5	0.13	Melikhov
413.15	40	703.5	704.81	0.19	Melikhov
413.15	50	711.5	713.17	0.23	Melikhov

413.15	60	718.8	720.75	0.27 Melikhov
413.15	70	725.5	727.69	0.30 Melikhov
413.15	80	731.7	734.09	0.33 Melikhov
413.15	90	737.5	740.03	0.34 Melikhov
413.15	100	743	745.57	0.35 Melikhov
413.15	125	755.5	757.97	0.33 Melikhov
413.15	150	766.6	768.74	0.28 Melikhov
413.15	175	776.6	778.25	0.21 Melikhov
413.15	200	785.8	786.78	0.12 Melikhov
413.15	225	794.2	794.6	0.05 Melikhov
413.15	250	802.1	801.87	0.03 Melikhov
413.15	275	809.5	808.71	0.10 Melikhov
413.15	300	816.5	815.16	0.16 Melikhov
413.15	325	823.1	821.28	0.22 Melikhov
413.15	350	829.3	827.09	0.27 Melikhov
413.15	375	835.3	832.62	0.32 Melikhov
413.15	400	841.1	837.91	0.38 Melikhov
413.15	425	846.5	842.98	0.42 Melikhov
413.15	450	851.8	847.83	0.47 Melikhov
413.15	475	856.9	852.51	0.51 Melikhov
413.15	500	861.8	857	0.56 Melikhov
413.15	525	866.5	861.34	0.60 Melikhov
413.15	550	871.1	865.53	0.64 Melikhov
413.15	575	875.6	869.58	0.69 Melikhov
413.15	600	879.9	873.5	0.73 Melikhov
433.15	0.1	643.5	642.88	0.10 Melikhov
433.15	10	659.5	658.88	0.09 Melikhov
433.15	20	672.5	672.38	0.02 Melikhov
433.15	30	683.5	683.96	0.07 Melikhov
433.15	40	693.2	694.1	0.13 Melikhov
433.15	50	701.8	703.12	0.19 Melikhov

433.15	60	709.6	711.25	0.23 Melikhov
433.15	70	716.7	718.64	0.27 Melikhov
433.15	80	723.3	725.41	0.29 Melikhov
433.15	90	729.5	731.67	0.30 Melikhov
433.15	100	735.2	737.48	0.31 Melikhov
433.15	125	748.3	750.42	0.28 Melikhov
433.15	150	759.9	761.59	0.22 Melikhov
433.15	175	770.3	771.42	0.15 Melikhov
433.15	200	779.8	780.19	0.05 Melikhov
433.15	225	788.3	788.11	0.02 Melikhov
433.15	250	796.6	795.43	0.15 Melikhov
433.15	275	804.5	802.3	0.27 Melikhov
433.15	300	811.4	808.78	0.32 Melikhov
433.15	325	818.2	814.92	0.40 Melikhov
433.15	350	824.6	820.77	0.46 Melikhov
433.15	375	830.8	826.34	0.54 Melikhov
433.15	400	836.6	831.66	0.59 Melikhov
433.15	425	842.2	836.76	0.65 Melikhov
433.15	450	847.6	841.65	0.70 Melikhov
433.15	475	852.8	846.36	0.76 Melikhov
433.15	500	857.8	850.89	0.81 Melikhov
433.15	525	862.7	855.26	0.86 Melikhov
433.15	550	867.3	859.49	0.90 Melikhov
433.15	575	871.9	863.57	0.96 Melikhov
433.15	600	876.3	867.53	1.00 Melikhov

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Table S2. The experimental data collected from the literature and obtained prediction by TSM results for polar liquids

compound	T/K	P/MPa	exp values/kg m <sup>-3</sup>	calc values/kg m <sup>-3</sup>	error/%	Reference
methanol	203.15	0.1	877.08	877.23	0.02	Deutsche Berichte
	203.15	20	888.21	888.55	0.04	Deutsche Berichte
	203.15	40	898.33	898.87	0.06	Deutsche Berichte
	203.15	60	907.62	908.33	0.08	Deutsche Berichte
	203.15	80	916.23	917.07	0.09	Deutsche Berichte
	203.15	100	924.27	925.19	0.10	Deutsche Berichte
	203.15	120	931.82	932.78	0.10	Deutsche Berichte
	203.15	140	938.97	939.91	0.10	Deutsche Berichte
	203.15	160	945.75	946.64	0.09	Deutsche Berichte
	203.15	180	952.21	953.01	0.08	Deutsche Berichte
	203.15	200	958.39	959.05	0.07	Deutsche Berichte
	203.15	220	964.32	964.81	0.05	Deutsche Berichte
	203.15	240	970.02	970.31	0.03	Deutsche Berichte
	203.15	260	975.5	975.57	0.01	Deutsche Berichte
	203.15	280	980.8	980.61	0.02	Deutsche Berichte
	213.15	0.1	867.09	867.16	0.01	Deutsche Berichte
	213.15	20	878.79	878.96	0.02	Deutsche Berichte
	213.15	40	889.37	889.69	0.04	Deutsche Berichte
	213.15	60	899.02	899.48	0.05	Deutsche Berichte
	213.15	80	907.94	908.51	0.06	Deutsche Berichte
	213.15	100	916.24	916.88	0.07	Deutsche Berichte
	213.15	120	924.03	924.69	0.07	Deutsche Berichte
	213.15	140	931.38	932.02	0.07	Deutsche Berichte
	213.15	160	938.35	938.92	0.06	Deutsche Berichte
	213.15	180	944.98	945.44	0.05	Deutsche Berichte
	213.15	200	951.32	951.63	0.03	Deutsche Berichte

213.15	220	957.38	957.51	0.01	Deutsche Berichte
213.15	240	963.21	963.13	0.01	Deutsche Berichte
213.15	260	968.82	968.50	0.03	Deutsche Berichte
213.15	280	974.23	973.65	0.06	Deutsche Berichte
223.15	0.1	857.29	857.29	0.00	Deutsche Berichte
223.15	20	869.59	869.67	0.01	Deutsche Berichte
223.15	40	880.63	880.79	0.02	Deutsche Berichte
223.15	60	890.65	890.92	0.03	Deutsche Berichte
223.15	80	899.88	900.24	0.04	Deutsche Berichte
223.15	100	908.44	908.86	0.05	Deutsche Berichte
223.15	120	916.46	916.89	0.05	Deutsche Berichte
223.15	140	924	924.41	0.04	Deutsche Berichte
223.15	160	931.15	931.49	0.04	Deutsche Berichte
223.15	180	937.94	938.17	0.02	Deutsche Berichte
223.15	200	944.41	944.50	0.01	Deutsche Berichte
223.15	220	950.61	950.52	0.01	Deutsche Berichte
223.15	240	956.56	956.26	0.03	Deutsche Berichte
223.15	260	962.28	961.74	0.06	Deutsche Berichte
223.15	280	967.8	966.99	0.08	Deutsche Berichte
233.15	0.1	847.65	847.65	0.00	Deutsche Berichte
233.15	20	860.58	860.59	0.00	Deutsche Berichte
233.15	40	872.09	872.18	0.01	Deutsche Berichte
233.15	60	882.5	882.65	0.02	Deutsche Berichte
233.15	80	892.04	892.25	0.02	Deutsche Berichte
233.15	100	900.86	901.12	0.03	Deutsche Berichte
233.15	120	909.1	909.37	0.03	Deutsche Berichte
233.15	140	916.85	917.09	0.03	Deutsche Berichte
233.15	160	924.16	924.34	0.02	Deutsche Berichte
233.15	180	931.1	931.18	0.01	Deutsche Berichte
233.15	200	937.71	937.66	0.01	Deutsche Berichte
233.15	220	944.03	943.81	0.02	Deutsche Berichte

233.15	240	950.09	949.68	0.04	Deutsche Berichte
233.15	260	955.92	955.28	0.07	Deutsche Berichte
233.15	280	961.53	960.64	0.09	Deutsche Berichte
243.15	0.1	838.13	838.13	0.00	Deutsche Berichte
243.15	20	851.72	851.75	0.00	Deutsche Berichte
243.15	40	863.73	863.83	0.01	Deutsche Berichte
243.15	60	874.53	874.63	0.01	Deutsche Berichte
243.15	80	884.39	884.52	0.01	Deutsche Berichte
243.15	100	893.48	893.64	0.02	Deutsche Berichte
243.15	120	901.95	902.12	0.02	Deutsche Berichte
243.15	140	909.89	910.03	0.02	Deutsche Berichte
243.15	160	917.37	917.46	0.01	Deutsche Berichte
243.15	180	924.46	924.47	0.00	Deutsche Berichte
243.15	200	931.21	931.10	0.01	Deutsche Berichte
243.15	220	937.65	937.40	0.03	Deutsche Berichte
243.15	240	943.82	943.39	0.05	Deutsche Berichte
243.15	260	949.74	949.11	0.07	Deutsche Berichte
243.15	280	955.45	954.58	0.09	Deutsche Berichte
253.15	0.1	828.7	828.70	0.00	Deutsche Berichte
253.15	20	842.98	843.04	0.01	Deutsche Berichte
253.15	40	855.51	855.64	0.01	Deutsche Berichte
253.15	60	866.72	866.87	0.02	Deutsche Berichte
253.15	80	876.9	877.05	0.02	Deutsche Berichte
253.15	100	886.27	886.42	0.02	Deutsche Berichte
253.15	120	894.96	895.12	0.02	Deutsche Berichte
253.15	140	903.1	903.24	0.02	Deutsche Berichte
253.15	160	910.76	910.86	0.01	Deutsche Berichte
253.15	180	918.01	918.03	0.00	Deutsche Berichte
253.15	200	924.89	924.82	0.01	Deutsche Berichte
253.15	220	931.45	931.26	0.02	Deutsche Berichte
253.15	240	937.73	937.39	0.04	Deutsche Berichte

	253.15	260	943.75	943.24	0.05	Deutsche Berichte
	253.15	280	949.54	948.83	0.07	Deutsche Berichte
	263.15	0.1	819.33	819.33	0.00	Deutsche Berichte
	263.15	20	834.34	834.44	0.01	Deutsche Berichte
	263.15	40	847.41	847.63	0.03	Deutsche Berichte
	263.15	60	859.02	859.28	0.03	Deutsche Berichte
	263.15	80	869.54	869.81	0.03	Deutsche Berichte
	263.15	100	879.19	879.44	0.03	Deutsche Berichte
	263.15	120	888.12	888.37	0.03	Deutsche Berichte
	263.15	140	896.46	896.69	0.03	Deutsche Berichte
	263.15	160	904.3	904.50	0.02	Deutsche Berichte
	263.15	180	911.7	911.86	0.02	Deutsche Berichte
	263.15	200	918.72	918.81	0.01	Deutsche Berichte
	263.15	220	925.41	925.40	0.00	Deutsche Berichte
	263.15	240	931.8	931.68	0.01	Deutsche Berichte
	263.15	260	937.92	937.66	0.03	Deutsche Berichte
	263.15	280	943.81	943.39	0.04	Deutsche Berichte
						Sun 1988
methanol	273.15	0.1	809.99	809.99	0.00	methanol
						Sun 1988
	273.15	20	825.63	825.71	0.01	methanol
						Sun 1988
	273.15	40	839.13	839.31	0.02	methanol
						Sun 1988
	273.15	60	851.07	851.26	0.02	methanol
						Sun 1988
	273.15	80	861.83	861.90	0.01	methanol
						Sun 1988
	273.15	100	871.66	871.60	0.01	methanol
						Sun 1988
	273.15	120	880.73	880.53	0.02	methanol
						Sun 1988
	273.15	140	889.17	888.85	0.04	methanol



273.15	160	897.08	896.63	0.05	Sun 1988 methanol
273.15	180	904.53	903.96	0.06	Sun 1988 methanol
273.15	200	911.58	910.87	0.08	Sun 1988 methanol
273.15	220	918.28	917.43	0.09	Sun 1988 methanol
273.15	240	924.67	923.66	0.11	Sun 1988 methanol
273.15	260	930.77	929.59	0.13	Sun 1988 methanol
273.15	280	936.63	935.27	0.15	Sun 1988 methanol
283.15	0.1	800.7	800.70	0.00	Sun 1988 methanol
283.15	20	817.16	817.31	0.02	Sun 1988 methanol
283.15	40	831.27	831.61	0.04	Sun 1988 methanol
283.15	60	843.67	844.12	0.05	Sun 1988 methanol
283.15	80	854.8	855.23	0.05	Sun 1988 methanol
283.15	100	864.94	865.28	0.04	Sun 1988 methanol
283.15	120	874.28	874.48	0.02	Sun 1988 methanol
283.15	140	882.96	883.04	0.01	Sun 1988 methanol
283.15	160	891.08	891.06	0.00	Sun 1988 methanol
283.15	180	898.73	898.60	0.01	Sun 1988 methanol
283.15	200	905.95	905.72	0.03	Sun 1988

					methanol
					Sun 1988
283.15	220	912.81	912.46	0.04	methanol
					Sun 1988
283.15	240	919.35	918.88	0.05	methanol
					Sun 1988
283.15	260	925.59	924.99	0.06	methanol
					Sun 1988
283.15	280	931.58	930.84	0.08	methanol
					Sun 1988
293.15	0.1	791.32	791.32	0.00	methanol
					Sun 1988
293.15	20	808.67	808.87	0.02	methanol
					Sun 1988
293.15	40	823.39	823.90	0.06	methanol
					Sun 1988
293.15	60	836.26	836.99	0.09	methanol
					Sun 1988
293.15	80	847.76	848.59	0.10	methanol
					Sun 1988
293.15	100	858.22	859.00	0.09	methanol
					Sun 1988
293.15	120	867.83	868.51	0.08	methanol
					Sun 1988
293.15	140	876.74	877.31	0.06	methanol
					Sun 1988
293.15	160	885.08	885.54	0.05	methanol
					Sun 1988
293.15	180	892.91	893.28	0.04	methanol
					Sun 1988
293.15	200	900.3	900.60	0.03	methanol
					Sun 1988
293.15	220	907.32	907.53	0.02	methanol
					Sun 1988
293.15	240	914	914.12	0.01	methanol

					Sun 1988
293.15	260	920.38	920.40	0.00	methanol
					Sun 1988
293.15	280	926.49	926.41	0.01	methanol
					Sun 1988
303.15	0.1	781.86	781.86	0.00	methanol
					Sun 1988
303.15	20	800.13	800.41	0.03	methanol
					Sun 1988
303.15	40	815.49	816.20	0.09	methanol
					Sun 1988
303.15	60	828.84	829.89	0.13	methanol
					Sun 1988
303.15	80	840.72	841.98	0.15	methanol
					Sun 1988
303.15	100	851.49	852.81	0.15	methanol
					Sun 1988
303.15	120	861.37	862.60	0.14	methanol
					Sun 1988
303.15	140	870.52	871.66	0.13	methanol
					Sun 1988
303.15	160	879.05	880.10	0.12	methanol
					Sun 1988
303.15	180	887.07	888.04	0.11	methanol
					Sun 1988
303.15	200	894.63	895.53	0.10	methanol
					Sun 1988
303.15	220	901.81	902.64	0.09	methanol
					Sun 1988
303.15	240	908.63	909.40	0.08	methanol
					Sun 1988
303.15	260	915.14	915.84	0.08	methanol
					Sun 1988
303.15	280	921.37	922.00	0.07	methanol
313.15	0.1	772.32	772.32	0.00	Sun 1988

					methanol
					Sun 1988
313.15	20	791.57	791.92	0.04	methanol
					Sun 1988
313.15	40	807.58	808.51	0.11	methanol
					Sun 1988
313.15	60	821.41	822.82	0.17	methanol
					Sun 1988
313.15	80	833.68	835.41	0.21	methanol
					Sun 1988
313.15	100	844.76	846.66	0.22	methanol
					Sun 1988
313.15	120	854.9	856.81	0.22	methanol
					Sun 1988
313.15	140	864.27	866.11	0.21	methanol
					Sun 1988
313.15	160	873.01	874.74	0.20	methanol
					Sun 1988
313.15	180	881.21	882.86	0.19	methanol
					Sun 1988
313.15	200	888.94	890.53	0.18	methanol
					Sun 1988
313.15	220	896.26	897.80	0.17	methanol
					Sun 1988
313.15	240	903.22	904.71	0.16	methanol
					Sun 1988
313.15	260	909.86	911.30	0.16	methanol
					Sun 1988
313.15	280	916.21	917.60	0.15	methanol
					Sun 1988
323.15	0.1	762.7	762.70	0.00	methanol
					Sun 1988
323.15	20	782.98	783.42	0.06	methanol
					Sun 1988
323.15	40	799.66	800.83	0.15	methanol

					Sun 1988
323.15	60	813.98	815.79	0.22	methanol
					Sun 1988
323.15	80	826.63	828.89	0.27	methanol
					Sun 1988
323.15	100	838.02	840.56	0.30	methanol
					Sun 1988
323.15	120	848.42	851.06	0.31	methanol
					Sun 1988
323.15	140	858.02	860.62	0.30	methanol
					Sun 1988
323.15	160	866.95	869.48	0.29	methanol
					Sun 1988
323.15	180	875.33	877.76	0.28	methanol
					Sun 1988
323.15	200	883.21	885.59	0.27	methanol
					Sun 1988
323.15	220	890.68	893.00	0.26	methanol
					Sun 1988
323.15	240	897.77	900.06	0.26	methanol
					Sun 1988
323.15	260	904.54	906.79	0.25	methanol
					Sun 1988
323.15	280	911	913.23	0.24	methanol
					Sun 1988
333.15	0.1	753	753.00	0.00	methanol
					Sun 1988
333.15	20	774.36	774.91	0.07	methanol
					Sun 1988
333.15	40	791.74	793.18	0.18	methanol
					Sun 1988
333.15	60	806.56	808.79	0.28	methanol
					Sun 1988
333.15	80	819.58	822.42	0.35	methanol
333.15	100	831.28	834.51	0.39	Sun 1988

						methanol
						Sun 1988
	333.15	120	841.93	845.37	0.41	methanol
						Sun 1988
	333.15	140	851.75	855.24	0.41	methanol
						Sun 1988
	333.15	160	860.87	864.32	0.40	methanol
						Sun 1988
	333.15	180	869.42	872.75	0.38	methanol
						Sun 1988
	333.15	200	877.46	880.72	0.37	methanol
						Sun 1988
	333.15	220	885.06	888.27	0.36	methanol
						Sun 1988
	333.15	240	892.28	895.46	0.36	methanol
						Sun 1988
	333.15	260	899.16	902.32	0.35	methanol
						Sun 1988
	333.15	280	905.74	908.87	0.35	methanol
ethanol	273.15	0.1	806.27	806.27	0.00	Sun 1988 ethanol
	273.15	20	820.71	820.81	0.01	Sun 1988 ethanol
	273.15	40	833.2	833.44	0.03	Sun 1988 ethanol
	273.15	60	844.25	844.55	0.04	Sun 1988 ethanol
	273.15	80	854.23	854.46	0.03	Sun 1988 ethanol
	273.15	100	863.35	863.49	0.02	Sun 1988 ethanol
	273.15	120	871.78	871.79	0.00	Sun 1988 ethanol
	273.15	140	879.64	879.52	0.01	Sun 1988 ethanol
	273.15	160	887.02	886.76	0.03	Sun 1988 ethanol
	273.15	180	893.97	893.58	0.04	Sun 1988 ethanol
	273.15	200	900.56	900.01	0.06	Sun 1988 ethanol
	273.15	220	906.82	906.11	0.08	Sun 1988 ethanol
	273.15	240	912.8	911.91	0.10	Sun 1988 ethanol
	273.15	260	918.52	917.43	0.12	Sun 1988 ethanol

273.15	280	924.01	922.71	0.14	Sun 1988 ethanol
283.15	0.1	797.83	797.83	0.00	Sun 1988 ethanol
283.15	20	812.99	813.14	0.02	Sun 1988 ethanol
283.15	40	826	826.37	0.04	Sun 1988 ethanol
283.15	60	837.45	837.96	0.06	Sun 1988 ethanol
283.15	80	847.74	848.28	0.06	Sun 1988 ethanol
283.15	100	857.13	857.58	0.05	Sun 1988 ethanol
283.15	120	865.79	866.15	0.04	Sun 1988 ethanol
283.15	140	873.85	874.08	0.03	Sun 1988 ethanol
283.15	160	881.4	881.51	0.01	Sun 1988 ethanol
283.15	180	888.51	888.50	0.00	Sun 1988 ethanol
283.15	200	895.24	895.10	0.02	Sun 1988 ethanol
283.15	220	901.64	901.35	0.03	Sun 1988 ethanol
283.15	240	907.74	907.30	0.05	Sun 1988 ethanol
283.15	260	913.58	912.96	0.07	Sun 1988 ethanol
283.15	280	919.17	918.38	0.09	Sun 1988 ethanol
293.15	0.1	789.34	789.34	0.00	Sun 1988 ethanol
293.15	20	805.26	805.46	0.03	Sun 1988 ethanol
293.15	40	818.8	819.32	0.06	Sun 1988 ethanol
293.15	60	830.65	831.41	0.09	Sun 1988 ethanol
293.15	80	841.26	842.14	0.10	Sun 1988 ethanol
293.15	100	850.92	851.78	0.10	Sun 1988 ethanol
293.15	120	859.8	860.59	0.09	Sun 1988 ethanol
293.15	140	868.06	868.71	0.07	Sun 1988 ethanol
293.15	160	875.78	876.31	0.06	Sun 1988 ethanol
293.15	180	883.05	883.46	0.05	Sun 1988 ethanol
293.15	200	889.92	890.21	0.03	Sun 1988 ethanol
293.15	220	896.45	896.61	0.02	Sun 1988 ethanol
293.15	240	902.67	902.69	0.00	Sun 1988 ethanol
293.15	260	908.62	908.49	0.01	Sun 1988 ethanol
293.15	280	914.32	914.03	0.03	Sun 1988 ethanol

303.15	0.1	780.81	780.81	0.00	Sun 1988 ethanol
303.15	20	797.53	797.79	0.03	Sun 1988 ethanol
303.15	40	811.61	812.29	0.08	Sun 1988 ethanol
303.15	60	823.87	824.89	0.12	Sun 1988 ethanol
303.15	80	834.8	836.04	0.15	Sun 1988 ethanol
303.15	100	844.72	846.03	0.15	Sun 1988 ethanol
303.15	120	853.83	855.08	0.15	Sun 1988 ethanol
303.15	140	862.28	863.42	0.13	Sun 1988 ethanol
303.15	160	870.18	871.18	0.11	Sun 1988 ethanol
303.15	180	877.6	878.48	0.10	Sun 1988 ethanol
303.15	200	884.61	885.37	0.09	Sun 1988 ethanol
303.15	220	891.26	891.90	0.07	Sun 1988 ethanol
303.15	240	897.6	898.11	0.06	Sun 1988 ethanol
303.15	260	903.65	904.02	0.04	Sun 1988 ethanol
303.15	280	909.45	909.68	0.03	Sun 1988 ethanol
313.15	0.1	772.23	772.23	0.00	Sun 1988 ethanol
313.15	20	789.79	790.12	0.04	Sun 1988 ethanol
313.15	40	804.44	805.30	0.11	Sun 1988 ethanol
313.15	60	817.11	818.42	0.16	Sun 1988 ethanol
313.15	80	828.36	829.99	0.20	Sun 1988 ethanol
313.15	100	838.54	840.32	0.21	Sun 1988 ethanol
313.15	120	847.88	849.66	0.21	Sun 1988 ethanol
313.15	140	856.52	858.22	0.20	Sun 1988 ethanol
313.15	160	864.58	866.12	0.18	Sun 1988 ethanol
313.15	180	872.15	873.55	0.16	Sun 1988 ethanol
313.15	200	879.3	880.57	0.14	Sun 1988 ethanol
313.15	220	886.07	887.22	0.13	Sun 1988 ethanol
313.15	240	892.52	893.53	0.11	Sun 1988 ethanol
313.15	260	898.68	899.56	0.10	Sun 1988 ethanol
313.15	280	904.58	905.31	0.08	Sun 1988 ethanol
323.15	0.1	763.61	763.61	0.00	Sun 1988 ethanol



323.15	20	782.06	782.46	0.05	Sun 1988 ethanol	
323.15	40	797.28	798.34	0.13	Sun 1988 ethanol	
323.15	60	810.36	812.00	0.20	Sun 1988 ethanol	
323.15	80	821.94	823.98	0.25	Sun 1988 ethanol	
323.15	100	832.39	834.66	0.27	Sun 1988 ethanol	
323.15	120	841.94	844.29	0.28	Sun 1988 ethanol	
323.15	140	850.77	853.05	0.27	Sun 1988 ethanol	
323.15	160	858.99	861.15	0.25	Sun 1988 ethanol	
323.15	180	866.71	868.69	0.23	Sun 1988 ethanol	
323.15	200	873.99	875.81	0.21	Sun 1988 ethanol	
323.15	220	880.88	882.56	0.19	Sun 1988 ethanol	
323.15	240	887.44	888.98	0.17	Sun 1988 ethanol	
323.15	260	893.7	895.10	0.16	Sun 1988 ethanol	
323.15	280	899.69	900.94	0.14	Sun 1988 ethanol	
333.15	0.1	754.94	754.94	0.00	Sun 1988 ethanol	
333.15	20	774.33	774.82	0.06	Sun 1988 ethanol	
333.15	40	790.14	791.42	0.16	Sun 1988 ethanol	
333.15	60	803.65	805.63	0.25	Sun 1988 ethanol	
333.15	80	815.55	818.04	0.30	Sun 1988 ethanol	
333.15	100	826.26	829.06	0.34	Sun 1988 ethanol	
333.15	120	836.02	838.97	0.35	Sun 1988 ethanol	
333.15	140	845.04	847.97	0.35	Sun 1988 ethanol	
333.15	160	853.42	856.21	0.33	Sun 1988 ethanol	
333.15	180	861.28	863.90	0.30	Sun 1988 ethanol	
333.15	200	868.68	871.11	0.28	Sun 1988 ethanol	
333.15	220	875.69	877.95	0.26	Sun 1988 ethanol	
333.15	240	882.35	884.45	0.24	Sun 1988 ethanol	
333.15	260	888.71	890.64	0.22	Sun 1988 ethanol	
333.15	280	894.79	896.56	0.20	Sun 1988 ethanol	
butanol	273	0.1	824.68	824.68	0.00	Bridgman
	273	50	850.45	851.83	0.16	Bridgman

273	100	871.85	872.64	0.09	Bridgman
273	150	890.20	889.84	0.04	Bridgman
273	200	905.15	904.60	0.06	Bridgman
273	300	929.33	929.14	0.02	Bridgman
273	400	949.99	949.17	0.09	Bridgman
273	500	968.85	966.15	0.28	Bridgman
323	0.1	788.79	786.52	0.29	Bridgman
323	100	843.32	845.41	0.25	Bridgman
323	150	862.91	864.92	0.23	Bridgman
323	200	879.94	881.28	0.15	Bridgman
323	300	907.54	908.37	0.09	Bridgman
323	400	930.06	930.41	0.04	Bridgman
323	500	949.66	949.06	0.06	Bridgman
323	600	966.80	965.28	0.16	Bridgman
323	700	982.94	979.64	0.33	Bridgman
323	800	997.32	992.56	0.48	Bridgman
323	900	1011.51	1004.31	0.71	Bridgman
323	1000	1021.15	1015.09	0.59	Bridgman
368	0.1	756.10	747.32	1.16	Bridgman
368	150	841.43	843.38	0.23	Bridgman
368	200	859.49	861.66	0.25	Bridgman
368	300	889.05	891.13	0.23	Bridgman
368	400	912.97	915.09	0.23	Bridgman
368	500	933.53	935.39	0.20	Bridgman
368	600	951.52	953.05	0.16	Bridgman
368	700	968.05	968.71	0.07	Bridgman
368	800	983.17	982.81	0.04	Bridgman
368	900	996.36	995.63	0.07	Bridgman
368	1000	1008.91	1007.41	0.15	Bridgman
368	1100	1020.40	1018.32	0.20	Bridgman
368	1200	1030.98	1028.48	0.24	Bridgman

hexanol	273	0.1	833.24	833.24	0.00	Bridgman 1931
	273	50	857.33	860.95	0.42	Bridgman 1931
	273	100	878.21	882.41	0.48	Bridgman 1931
	273	150	894.42	899.90	0.61	Bridgman 1931
	273	200	907.37	914.79	0.82	Bridgman 1931
	273	250	918.17	927.96	1.07	Bridgman 1931
hexanol	302.6	0.1	812.41	812.41	0.00	Randzio
	302.6	5	815.86	815.88	0.00	Randzio
	302.6	10	819.27	819.31	0.00	Randzio
	302.6	15	822.57	822.61	0.01	Randzio
	302.6	20	825.70	825.81	0.01	Randzio
	302.6	40	837.38	837.67	0.03	Randzio
	302.6	60	847.74	848.26	0.06	Randzio
	302.6	80	857.12	857.82	0.08	Randzio
	302.6	100	865.73	866.54	0.09	Randzio
	302.6	120	873.59	874.55	0.11	Randzio
	302.6	140	880.90	881.96	0.12	Randzio
	302.6	160	887.78	888.86	0.12	Randzio
	302.6	180	894.21	895.30	0.12	Randzio
	302.6	200	900.33	901.35	0.11	Randzio
	302.6	220	906.13	907.06	0.10	Randzio
	302.6	240	911.58	912.47	0.10	Randzio
	302.6	260	916.84	917.62	0.09	Randzio
	302.6	280	921.83	922.57	0.08	Randzio
	302.6	300	926.70	927.34	0.07	Randzio
	302.6	320	931.27	931.93	0.07	Randzio
	302.6	340	935.72	936.37	0.07	Randzio
	302.6	360	940.03	940.66	0.07	Randzio
	302.6	380	944.20	944.81	0.07	Randzio
	302.6	400	948.14	948.84	0.07	Randzio
	303.15	0.1	812.02	812.02	0.00	Randzio

303.15	5	815.46	815.50	0.00	Randzio
303.15	10	818.87	818.93	0.01	Randzio
303.15	15	822.17	822.24	0.01	Randzio
303.15	20	825.35	825.45	0.01	Randzio
303.15	40	837.03	837.33	0.04	Randzio
303.15	60	847.46	847.93	0.06	Randzio
303.15	80	856.82	857.51	0.08	Randzio
303.15	100	865.43	866.24	0.09	Randzio
303.15	120	873.29	874.27	0.11	Randzio
303.15	140	880.67	881.69	0.12	Randzio
303.15	160	887.55	888.59	0.12	Randzio
303.15	180	893.97	895.05	0.12	Randzio
303.15	200	900.09	901.10	0.11	Randzio
303.15	220	905.88	906.81	0.10	Randzio
303.15	240	911.33	912.24	0.10	Randzio
303.15	260	916.59	917.39	0.09	Randzio
303.15	280	921.57	922.34	0.08	Randzio
303.15	300	926.44	927.11	0.07	Randzio
303.15	320	931.01	931.71	0.07	Randzio
303.15	340	935.54	936.15	0.07	Randzio
303.15	360	939.76	940.44	0.07	Randzio
303.15	380	943.93	944.60	0.07	Randzio
303.15	400	947.96	948.63	0.07	Randzio
328.15	0.1	793.59	793.60	0.00	Randzio
328.15	5	797.45	797.45	0.00	Randzio
328.15	10	801.15	801.25	0.01	Randzio
328.15	15	804.76	804.90	0.02	Randzio
328.15	20	808.21	808.43	0.03	Randzio
328.15	40	820.95	821.42	0.06	Randzio
328.15	60	832.22	832.93	0.08	Randzio
328.15	80	842.32	843.26	0.11	Randzio

328.15	100	851.50	852.63	0.13	Randzio
328.15	120	859.92	861.21	0.15	Randzio
328.15	140	867.75	869.12	0.16	Randzio
328.15	160	874.97	876.45	0.17	Randzio
328.15	180	881.83	883.29	0.16	Randzio
328.15	200	888.26	889.69	0.16	Randzio
328.15	220	894.29	895.71	0.16	Randzio
328.15	240	900.09	901.39	0.14	Randzio
328.15	260	905.55	906.77	0.13	Randzio
328.15	280	910.83	911.91	0.12	Randzio
328.15	300	915.83	916.80	0.11	Randzio
328.15	320	920.73	921.52	0.09	Randzio
328.15	340	925.33	926.08	0.08	Randzio
328.15	360	929.80	930.49	0.07	Randzio
328.15	380	934.14	934.77	0.07	Randzio
328.15	400	938.26	938.91	0.07	Randzio
353.15	0.1	774.29	774.28	0.00	Randzio
353.15	5	778.51	778.61	0.01	Randzio
353.15	10	782.72	782.84	0.02	Randzio
353.15	15	786.72	786.91	0.02	Randzio
353.15	20	790.51	790.81	0.04	Randzio
353.15	40	804.44	805.11	0.08	Randzio
353.15	60	816.66	817.64	0.12	Randzio
353.15	80	827.54	828.81	0.15	Randzio
353.15	100	837.38	838.87	0.18	Randzio
353.15	120	846.38	848.03	0.19	Randzio
353.15	140	854.70	856.44	0.20	Randzio
353.15	160	862.44	864.20	0.20	Randzio
353.15	180	869.64	871.42	0.20	Randzio
353.15	200	876.42	878.16	0.20	Randzio
353.15	220	882.77	884.48	0.19	Randzio

353.15	240	888.89	890.43	0.17	Randzio
353.15	260	894.61	896.06	0.16	Randzio
353.15	280	900.09	901.39	0.14	Randzio
353.15	300	905.39	906.46	0.12	Randzio
353.15	320	910.42	911.29	0.10	Randzio
353.15	340	915.25	915.95	0.08	Randzio
353.15	360	919.88	920.43	0.06	Randzio
353.15	380	924.39	924.77	0.04	Randzio
353.15	400	928.68	928.99	0.03	Randzio
378.15	0.1	753.92	753.92	0.00	Randzio
378.15	5	758.73	758.84	0.02	Randzio
378.15	10	763.42	763.62	0.03	Randzio
378.15	15	767.87	768.20	0.04	Randzio
378.15	20	772.14	772.57	0.06	Randzio
378.15	40	787.53	788.41	0.11	Randzio
378.15	60	800.90	802.12	0.15	Randzio
378.15	80	812.61	814.21	0.20	Randzio
378.15	100	823.25	825.02	0.21	Randzio
378.15	120	832.85	834.79	0.23	Randzio
378.15	140	841.68	843.71	0.24	Randzio
378.15	160	849.83	851.92	0.25	Randzio
378.15	180	857.49	859.51	0.24	Randzio
378.15	200	864.60	866.58	0.23	Randzio
378.15	220	871.31	873.20	0.22	Randzio
378.15	240	877.65	879.41	0.20	Randzio
378.15	260	883.70	885.26	0.18	Randzio
378.15	280	889.44	890.80	0.15	Randzio
378.15	300	894.93	896.05	0.13	Randzio
378.15	320	900.17	901.05	0.10	Randzio
378.15	340	905.22	905.82	0.07	Randzio
378.15	360	910.08	910.37	0.03	Randzio

378.15	380	914.75	914.76	0.00	Randzio
378.15	400	919.20	919.00	0.02	Randzio
403.15	0.1	732.39	732.39	0.00	Randzio
403.15	5	737.95	738.06	0.01	Randzio
403.15	10	743.27	743.54	0.04	Randzio
403.15	15	748.33	748.74	0.05	Randzio
403.15	20	753.13	753.69	0.07	Randzio
403.15	40	770.24	771.37	0.15	Randzio
403.15	60	784.81	786.43	0.21	Randzio
403.15	80	797.58	799.54	0.25	Randzio
403.15	100	808.93	811.16	0.28	Randzio
403.15	120	819.20	821.58	0.29	Randzio
403.15	140	828.64	831.04	0.29	Randzio
403.15	160	837.31	839.69	0.28	Randzio
403.15	180	845.38	847.66	0.27	Randzio
403.15	200	852.88	855.05	0.26	Randzio
403.15	220	859.92	861.94	0.24	Randzio
403.15	240	866.63	868.40	0.20	Randzio
403.15	260	872.91	874.47	0.18	Randzio
403.15	280	878.89	880.19	0.15	Randzio
403.15	300	884.64	885.62	0.11	Randzio
403.15	320	890.08	890.76	0.08	Randzio
403.15	340	895.34	895.66	0.04	Randzio
403.15	360	900.33	900.34	0.00	Randzio
403.15	380	905.14	904.80	0.04	Randzio
403.15	400	909.84	909.09	0.08	Randzio
428.15	0.1	709.52	709.52	0.00	Randzio
428.15	5	716.02	716.18	0.02	Randzio
428.15	10	722.23	722.55	0.04	Randzio
428.15	15	727.96	728.54	0.08	Randzio
428.15	20	733.41	734.20	0.11	Randzio

	428.15	40	752.56	754.09	0.20	Randzio
	428.15	60	768.58	770.70	0.28	Randzio
	428.15	80	782.41	784.95	0.32	Randzio
	428.15	100	794.66	797.43	0.35	Randzio
	428.15	120	805.61	808.53	0.36	Randzio
	428.15	140	815.66	818.53	0.35	Randzio
	428.15	160	824.81	827.63	0.34	Randzio
	428.15	180	833.33	835.97	0.32	Randzio
	428.15	200	841.18	843.67	0.30	Randzio
	428.15	220	848.61	850.83	0.26	Randzio
	428.15	240	855.58	857.51	0.23	Randzio
	428.15	260	862.22	863.77	0.18	Randzio
	428.15	280	868.43	869.67	0.14	Randzio
	428.15	300	874.43	875.24	0.09	Randzio
	428.15	320	880.13	880.52	0.04	Randzio
	428.15	340	885.50	885.54	0.00	Randzio
	428.15	360	890.71	890.32	0.04	Randzio
	428.15	380	895.74	894.88	0.10	Randzio
	428.15	400	900.58	899.24	0.15	Randzio
nonanol	291.65	0.10132	828.70	827.75	0.11	Sysoev
	291.65	5.06625	831.50	830.78	0.09	Sysoev
	291.65	10.1325	834.20	833.76	0.05	Sysoev
	291.65	20.265	839.50	839.42	0.01	Sysoev
	291.65	30.3975	844.40	844.72	0.04	Sysoev
	291.65	40.53	849.10	849.71	0.07	Sysoev
	291.65	50.6625	853.50	854.42	0.11	Sysoev
	291.65	60.795	857.70	858.88	0.14	Sysoev
	291.65	70.9275	861.70	863.11	0.16	Sysoev
	291.65	81.06	865.80	867.14	0.16	Sysoev
	291.65	91.1925	869.40	870.99	0.18	Sysoev
	291.65	101.325	873.00	874.67	0.19	Sysoev



303.15	0.10132	821.80	820.01	0.22	Sysoev
303.15	5.06625	824.80	823.20	0.19	Sysoev
303.15	10.1325	827.70	826.33	0.17	Sysoev
303.15	20.265	833.30	832.28	0.12	Sysoev
303.15	30.3975	838.40	837.84	0.07	Sysoev
303.15	40.53	843.30	843.06	0.03	Sysoev
303.15	50.6625	847.90	847.98	0.01	Sysoev
303.15	60.795	852.30	852.63	0.04	Sysoev
303.15	70.9275	856.50	857.04	0.06	Sysoev
303.15	81.06	860.50	861.24	0.09	Sysoev
303.15	91.1925	864.40	865.24	0.10	Sysoev
303.15	101.325	868.10	869.06	0.11	Sysoev
303.15	121.59	875.10	876.22	0.13	Sysoev
303.15	141.855	881.70	882.84	0.13	Sysoev
303.15	162.12	887.90	888.97	0.12	Sysoev
303.15	182.385	893.80	894.74	0.11	Sysoev
303.15	202.65	899.60	900.17	0.06	Sysoev
323.15	0.10132	809.20	806.20	0.37	Sysoev
323.15	5.06625	812.50	809.70	0.34	Sysoev
323.15	10.1325	815.70	813.14	0.31	Sysoev
323.15	20.265	821.70	819.63	0.25	Sysoev
323.15	30.3975	827.30	825.67	0.20	Sysoev
323.15	40.53	832.50	831.33	0.14	Sysoev
323.15	50.6625	837.50	836.65	0.10	Sysoev
323.15	60.795	842.20	841.66	0.06	Sysoev
323.15	70.9275	846.60	846.41	0.02	Sysoev
323.15	81.06	850.80	850.91	0.01	Sysoev
323.15	91.1925	854.90	855.19	0.03	Sysoev
323.15	101.325	858.80	859.27	0.06	Sysoev
323.15	121.59	866.20	866.91	0.08	Sysoev
323.15	141.855	873.10	873.94	0.10	Sysoev

323.15	162.12	879.70	880.45	0.09	Sysoev
323.15	182.385	885.80	886.51	0.08	Sysoev
323.15	202.65	891.80	892.21	0.05	Sysoev
323.15	222.915	897.30	897.58	0.03	Sysoev
323.15	243.18	902.70	902.70	0.00	Sysoev
323.15	263.445	907.70	907.59	0.01	Sysoev
323.15	283.71	912.70	912.28	0.05	Sysoev
323.15	303.975	917.40	916.78	0.07	Sysoev
353.15	0.10132	789.20	784.68	0.57	Sysoev
353.15	5.06625	793.00	788.74	0.54	Sysoev
353.15	10.1325	796.70	792.71	0.50	Sysoev
353.15	20.265	803.60	800.16	0.43	Sysoev
353.15	30.3975	810.00	807.05	0.36	Sysoev
353.15	40.53	815.80	813.46	0.29	Sysoev
353.15	50.6625	821.30	819.45	0.23	Sysoev
353.15	60.795	826.50	825.06	0.17	Sysoev
353.15	70.9275	831.40	830.36	0.13	Sysoev
353.15	81.06	836.00	835.36	0.08	Sysoev
353.15	91.1925	840.80	840.10	0.08	Sysoev
353.15	101.325	844.80	844.61	0.02	Sysoev
353.15	121.59	852.70	853.00	0.04	Sysoev
353.15	141.855	860.00	860.69	0.08	Sysoev
353.15	162.12	866.90	867.79	0.10	Sysoev
353.15	182.385	873.50	874.37	0.10	Sysoev
353.15	202.65	879.80	880.50	0.08	Sysoev
353.15	222.915	885.60	886.25	0.07	Sysoev
353.15	243.18	891.20	891.69	0.06	Sysoev
353.15	263.445	896.50	896.83	0.04	Sysoev
353.15	283.71	901.70	901.76	0.01	Sysoev
353.15	303.975	906.60	906.50	0.01	Sysoev
353.15	354.6375	918.10	917.57	0.06	Sysoev

353.15	405.3	928.50	927.71	0.09	Sysoev
353.15	455.9625	938.2	937.07	0.12	Sysoev
353.15	506.625	947.2	945.77	0.15	Sysoev
373.15	0.10132	775.00	769.80	0.67	Sysoev
373.15	5.06625	779.30	774.31	0.64	Sysoev
373.15	10.1325	783.40	778.70	0.60	Sysoev
373.15	20.265	791.00	786.90	0.52	Sysoev
373.15	30.3975	797.90	794.43	0.43	Sysoev
373.15	40.53	804.20	801.40	0.35	Sysoev
373.15	50.6625	810.20	807.89	0.29	Sysoev
373.15	60.795	815.70	813.95	0.21	Sysoev
373.15	70.9275	820.90	819.65	0.15	Sysoev
373.15	81.06	825.90	825.01	0.11	Sysoev
373.15	91.1925	830.60	830.08	0.06	Sysoev
373.15	101.325	835.00	834.89	0.01	Sysoev
373.15	121.59	843.40	843.83	0.05	Sysoev
373.15	141.855	851.10	851.98	0.10	Sysoev
373.15	162.12	858.20	859.48	0.15	Sysoev
373.15	182.385	865.00	866.42	0.16	Sysoev
373.15	202.65	871.50	872.87	0.16	Sysoev
373.15	222.915	877.60	878.91	0.15	Sysoev
373.15	243.18	883.40	884.58	0.13	Sysoev
373.15	263.445	888.90	889.92	0.12	Sysoev
373.15	283.71	894.00	895.02	0.11	Sysoev
373.15	303.975	899.10	899.89	0.09	Sysoev
373.15	354.6375	910.80	911.29	0.05	Sysoev
373.15	405.3	921.50	921.74	0.03	Sysoev
373.15	455.9625	931.5	931.40	0.01	Sysoev
373.15	506.625	940	940.37	0.04	Sysoev
393.15	0.10132	759.40	754.49	0.65	Sysoev
393.15	5.06625	764.20	759.52	0.61	Sysoev

393.15	10.1325	768.90	764.38	0.59	Sysoev
393.15	20.265	777.30	773.43	0.50	Sysoev
393.15	30.3975	784.90	781.69	0.41	Sysoev
393.15	40.53	791.80	789.28	0.32	Sysoev
393.15	50.6625	798.20	796.31	0.24	Sysoev
393.15	60.795	804.20	802.86	0.17	Sysoev
393.15	70.9275	809.80	808.98	0.10	Sysoev
393.15	81.06	815.00	814.73	0.03	Sysoev
393.15	91.1925	820.00	820.16	0.02	Sysoev
393.15	101.325	824.70	825.29	0.07	Sysoev
393.15	121.59	833.50	834.78	0.15	Sysoev
393.15	141.855	841.60	843.41	0.22	Sysoev
393.15	162.12	849.10	851.32	0.26	Sysoev
393.15	182.385	856.20	858.63	0.28	Sysoev
393.15	202.65	862.80	865.41	0.30	Sysoev
393.15	222.915	869.00	871.73	0.31	Sysoev
393.15	243.18	875.00	877.66	0.30	Sysoev
393.15	263.445	880.70	883.25	0.29	Sysoev
393.15	283.71	886.10	888.52	0.27	Sysoev
393.15	303.975	891.30	893.54	0.25	Sysoev
393.15	354.6375	903.40	905.24	0.20	Sysoev
393.15	405.3	914.40	915.96	0.17	Sysoev
393.15	455.9625	924.6	925.88	0.14	Sysoev
393.15	506.625	934.2	935.11	0.10	Sysoev
423.15	0.10132	734.10	730.72	0.46	Sysoev
423.15	5.06625	740.10	736.68	0.46	Sysoev
423.15	10.1325	745.70	742.40	0.44	Sysoev
423.15	20.265	755.80	752.92	0.38	Sysoev
423.15	30.3975	764.70	762.42	0.30	Sysoev
423.15	40.53	772.70	771.07	0.21	Sysoev
423.15	50.6625	780.00	779.01	0.13	Sysoev

423.15	60.795	786.70	786.35	0.04	Sysoev
423.15	70.9275	792.90	793.17	0.03	Sysoev
423.15	81.06	798.80	799.55	0.09	Sysoev
423.15	91.1925	804.30	805.53	0.15	Sysoev
423.15	101.325	809.40	811.16	0.22	Sysoev
423.15	121.59	819.00	821.54	0.31	Sysoev
423.15	141.855	827.60	830.91	0.40	Sysoev
423.15	162.12	835.70	839.46	0.45	Sysoev
423.15	182.385	843.20	847.32	0.49	Sysoev
423.15	202.65	850.20	854.58	0.52	Sysoev
423.15	222.915	856.70	861.35	0.54	Sysoev
423.15	243.18	863.00	867.67	0.54	Sysoev
423.15	263.445	868.90	873.60	0.54	Sysoev
423.15	283.71	874.60	879.19	0.53	Sysoev
423.15	303.975	880.10	884.48	0.50	Sysoev
423.15	354.6375	892.70	896.63	0.44	Sysoev
423.15	405.3	904.10	907.72	0.40	Sysoev
423.15	455.9625	914.6	917.98	0.37	Sysoev
423.15	506.625	924.6	927.55	0.32	Sysoev
453.15	0.10132	705.8	705.99	0.03	Sysoev
453.15	5.06625	713.5	713.11	0.05	Sysoev
453.15	10.1325	720.6	719.88	0.10	Sysoev
453.15	20.265	733.1	732.18	0.13	Sysoev
453.15	30.3975	743.8	743.11	0.09	Sysoev
453.15	40.53	753.2	752.96	0.03	Sysoev
453.15	50.6625	761.7	761.92	0.03	Sysoev
453.15	60.795	769.4	770.14	0.10	Sysoev
453.15	70.9275	776.7	777.72	0.13	Sysoev
453.15	81.06	783	784.77	0.23	Sysoev
453.15	91.1925	789	791.35	0.30	Sysoev
453.15	101.325	794.9	797.51	0.33	Sysoev

	453.15	121.59	805.7	808.81	0.39	Sysoev
	453.15	141.855	814.7	818.94	0.52	Sysoev
	453.15	162.12	823.5	828.14	0.56	Sysoev
	453.15	182.385	831.5	836.55	0.61	Sysoev
	453.15	202.65	838.8	844.31	0.66	Sysoev
	453.15	222.915	845.5	851.50	0.71	Sysoev
	453.15	243.18	852.3	858.20	0.69	Sysoev
	453.15	263.445	858.4	864.48	0.71	Sysoev
	453.15	283.71	864.3	870.39	0.70	Sysoev
	453.15	303.975	870.1	875.96	0.67	Sysoev
	453.15	354.6375	883.2	888.66	0.62	Sysoev
	453.15	405.3	895.1	900.06	0.55	Sysoev
	453.15	455.9625	906.2	910.61	0.49	Sysoev
	453.15	506.625	916.5	920.46	0.43	Sysoev
decanol	292.45	0.10132	830.40	830.57	0.02	Sysoev
	292.45	5.06625	833.10	833.46	0.04	Sysoev
	292.45	10.1325	835.80	836.31	0.06	Sysoev
	292.45	20.265	841.00	841.71	0.08	Sysoev
	292.45	30.3975	845.80	846.76	0.11	Sysoev
	292.45	40.53	850.40	851.51	0.13	Sysoev
	292.45	50.6625	854.80	855.98	0.14	Sysoev
	292.45	60.795	859.00	860.22	0.14	Sysoev
	292.45	70.9275	863.00	864.24	0.14	Sysoev
	303.15	0.10132	823.50	823.43	0.01	Sysoev
	303.15	5.06625	826.40	826.48	0.01	Sysoev
	303.15	10.1325	829.20	829.48	0.03	Sysoev
	303.15	20.265	834.60	835.17	0.07	Sysoev
	303.15	30.3975	839.70	840.49	0.09	Sysoev
	303.15	40.53	844.50	845.48	0.12	Sysoev
	303.15	50.6625	849.00	850.19	0.14	Sysoev
	303.15	60.795	853.30	854.64	0.16	Sysoev

303.15	70.9275	857.50	858.86	0.16	Sysoev
303.15	81.06	861.40	862.87	0.17	Sysoev
303.15	91.1925	865.20	866.69	0.17	Sysoev
303.15	101.325	868.90	870.34	0.17	Sysoev
303.15	121.59	875.80	877.19	0.16	Sysoev
303.15	141.855	882.70	883.51	0.09	Sysoev
323.15	0.10132	810.00	809.69	0.04	Sysoev
323.15	5.06625	813.20	813.06	0.02	Sysoev
323.15	10.1325	816.30	816.36	0.01	Sysoev
323.15	20.265	822.20	822.62	0.05	Sysoev
323.15	30.3975	827.70	828.46	0.09	Sysoev
323.15	40.53	832.90	833.92	0.12	Sysoev
323.15	50.6625	837.80	839.07	0.15	Sysoev
323.15	60.795	842.40	843.92	0.18	Sysoev
323.15	70.9275	846.80	848.52	0.20	Sysoev
323.15	81.06	851.00	852.89	0.22	Sysoev
323.15	91.1925	855.00	857.05	0.24	Sysoev
323.15	101.325	858.90	861.01	0.25	Sysoev
323.15	121.59	866.20	868.44	0.26	Sysoev
323.15	141.855	873.00	875.29	0.26	Sysoev
323.15	162.12	879.50	881.63	0.24	Sysoev
323.15	182.385	885.50	887.54	0.23	Sysoev
323.15	202.65	891.30	893.07	0.20	Sysoev
323.15	222.915	896.80	898.27	0.16	Sysoev
323.15	243.18	902.00	903.18	0.13	Sysoev
323.15	263.445	907.00	907.87	0.10	Sysoev
353.15	0.10132	788.00	788.08	0.01	Sysoev
353.15	5.06625	791.70	791.99	0.04	Sysoev
353.15	10.1325	795.40	795.82	0.05	Sysoev
353.15	20.265	802.10	803.03	0.12	Sysoev
353.15	30.3975	808.40	809.72	0.16	Sysoev

353.15	40.53	814.20	815.95	0.21	Sysoev
353.15	50.6625	819.60	821.78	0.27	Sysoev
353.15	60.795	824.70	827.26	0.31	Sysoev
353.15	70.9275	829.50	832.44	0.35	Sysoev
353.15	81.06	834.10	837.34	0.39	Sysoev
353.15	91.1925	838.50	841.99	0.42	Sysoev
353.15	101.325	842.70	846.42	0.44	Sysoev
353.15	121.59	850.60	854.68	0.48	Sysoev
353.15	141.855	857.90	862.26	0.51	Sysoev
353.15	162.12	864.70	869.26	0.53	Sysoev
353.15	182.385	871.10	875.76	0.54	Sysoev
353.15	202.65	877.20	881.84	0.53	Sysoev
353.15	222.915	883.00	887.53	0.51	Sysoev
353.15	243.18	888.40	892.90	0.51	Sysoev
353.15	263.445	893.70	897.96	0.48	Sysoev
353.15	283.71	898.80	902.77	0.44	Sysoev
353.15	303.975	903.60	907.36	0.42	Sysoev
353.15	354.6375	915.10	918.09	0.33	Sysoev
353.15	405.3	925.40	927.94	0.27	Sysoev
353.15	455.9625	935.1	937.06	0.21	Sysoev
353.15	506.625	944.3	945.55	0.13	Sysoev
373.15	0.10132	772.80	773.01	0.03	Sysoev
373.15	5.06625	777.00	777.35	0.05	Sysoev
373.15	10.1325	781.00	781.59	0.08	Sysoev
373.15	20.265	788.50	789.53	0.13	Sysoev
373.15	30.3975	795.20	796.85	0.21	Sysoev
373.15	40.53	801.50	803.63	0.27	Sysoev
373.15	50.6625	807.30	809.95	0.33	Sysoev
373.15	60.795	812.80	815.87	0.38	Sysoev
373.15	70.9275	817.90	821.44	0.43	Sysoev
373.15	81.06	822.80	826.69	0.47	Sysoev



373.15	91.1925	827.50	831.66	0.50	Sysoev
373.15	101.325	831.90	836.38	0.54	Sysoev
373.15	121.59	840.10	845.16	0.60	Sysoev
373.15	141.855	847.80	853.18	0.63	Sysoev
373.15	162.12	854.90	860.57	0.66	Sysoev
373.15	182.385	861.50	867.41	0.69	Sysoev
373.15	202.65	867.80	873.78	0.69	Sysoev
373.15	222.915	873.80	879.75	0.68	Sysoev
373.15	243.18	879.40	885.35	0.68	Sysoev
373.15	263.445	884.80	890.64	0.66	Sysoev
373.15	283.71	890.00	895.65	0.63	Sysoev
373.15	303.975	894.90	900.40	0.61	Sysoev
373.15	354.6375	906.50	911.40	0.54	Sysoev
373.15	405.3	917.20	921.47	0.47	Sysoev
373.15	455.9625	927.1	930.80	0.40	Sysoev
373.15	506.625	936.8	939.49	0.29	Sysoev
393.15	0.10132	757.20	757.40	0.03	Sysoev
393.15	5.06625	761.90	762.26	0.05	Sysoev
393.15	10.1325	766.40	766.98	0.08	Sysoev
393.15	20.265	774.10	775.75	0.21	Sysoev
393.15	30.3975	782.20	783.77	0.20	Sysoev
393.15	40.53	789.00	791.15	0.27	Sysoev
393.15	50.6625	795.30	797.98	0.34	Sysoev
393.15	60.795	801.10	804.35	0.41	Sysoev
393.15	70.9275	806.70	810.31	0.45	Sysoev
393.15	81.06	811.90	815.91	0.49	Sysoev
393.15	91.1925	816.80	821.19	0.54	Sysoev
393.15	101.325	821.50	826.19	0.57	Sysoev
393.15	121.59	830.20	835.44	0.63	Sysoev
393.15	141.855	838.20	843.86	0.68	Sysoev
393.15	162.12	845.60	851.58	0.71	Sysoev

393.15	182.385	852.50	858.70	0.73	Sysoev
393.15	202.65	859.00	865.32	0.74	Sysoev
393.15	222.915	865.20	871.50	0.73	Sysoev
393.15	243.18	871.10	877.29	0.71	Sysoev
393.15	263.445	876.70	882.75	0.69	Sysoev
393.15	283.71	881.90	887.90	0.68	Sysoev
393.15	303.975	887.10	892.78	0.64	Sysoev
393.15	354.6375	899.00	903.97	0.55	Sysoev
393.15	405.3	910.00	914.11	0.45	Sysoev
393.15	455.9625	920.1	923.48	0.37	Sysoev
393.15	506.625	929.6	932.23	0.28	Sysoev
423.15	0.10132	733.40	732.98	0.06	Sysoev
423.15	5.06625	739.20	738.84	0.05	Sysoev
423.15	10.1325	744.60	744.45	0.02	Sysoev
423.15	20.265	754.40	754.73	0.04	Sysoev
423.15	30.3975	763.10	763.96	0.11	Sysoev
423.15	40.53	771.00	772.33	0.17	Sysoev
423.15	50.6625	778.10	779.99	0.24	Sysoev
423.15	60.795	784.70	787.04	0.30	Sysoev
423.15	70.9275	790.90	793.59	0.34	Sysoev
423.15	81.06	796.60	799.70	0.39	Sysoev
423.15	91.1925	802.00	805.41	0.43	Sysoev
423.15	101.325	807.10	810.79	0.46	Sysoev
423.15	121.59	816.60	820.67	0.50	Sysoev
423.15	141.855	825.30	829.57	0.52	Sysoev
423.15	162.12	833.20	837.67	0.54	Sysoev
423.15	182.385	840.60	845.11	0.54	Sysoev
423.15	202.65	847.30	851.98	0.55	Sysoev
423.15	222.915	853.90	858.36	0.52	Sysoev
423.15	243.18	860.10	864.32	0.49	Sysoev
423.15	263.445	865.90	869.91	0.46	Sysoev

423.15	283.71	871.00	875.18	0.48	Sysoev
423.15	303.975	876.90	880.15	0.37	Sysoev
423.15	354.6375	889.40	891.51	0.24	Sysoev
423.15	405.3	900.80	901.60	0.09	Sysoev
423.15	455.9625	911.4	910.75	0.07	Sysoev
423.15	506.625	921.2	919.27	0.21	Sysoev
453.15	0.10132	707.2	707.35	0.02	Sysoev
453.15	5.06625	714.6	714.60	0.00	Sysoev
453.15	10.1325	721.4	721.42	0.00	Sysoev
453.15	20.265	733.4	733.61	0.03	Sysoev
453.15	30.3975	743.7	744.28	0.08	Sysoev
453.15	40.53	752.8	753.76	0.13	Sysoev
453.15	50.6625	761.1	762.29	0.16	Sysoev
453.15	60.795	768.5	770.05	0.20	Sysoev
453.15	70.9275	775.4	777.16	0.23	Sysoev
453.15	81.06	781.9	783.73	0.23	Sysoev
453.15	91.1925	787.8	789.82	0.26	Sysoev
453.15	101.325	793.5	795.51	0.25	Sysoev
453.15	121.59	803.8	805.87	0.26	Sysoev
453.15	141.855	813.2	815.10	0.23	Sysoev
453.15	162.12	821.7	823.44	0.21	Sysoev
453.15	182.385	829.6	831.03	0.17	Sysoev
453.15	202.65	836.8	838.00	0.14	Sysoev
453.15	222.915	843.8	844.45	0.08	Sysoev
453.15	243.18	850.2	850.44	0.03	Sysoev
453.15	263.445	856.5	856.04	0.05	Sysoev
453.15	283.71	862.4	861.30	0.13	Sysoev
453.15	303.975	868.5	866.25	0.26	Sysoev
453.15	354.6375	881.3	877.50	0.43	Sysoev
453.15	405.3	892.9	887.44	0.61	Sysoev
453.15	455.9625	903.9	896.34	0.84	Sysoev

453.15

506.625

914.2

904.42

1.07 Sysoev

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Table S3. The experimental data collected from the literature and obtained prediction by TSM results for benzene

compound	T/K	P/MPa	exp values/kg m <sup>-3</sup>	calc values/kg m <sup>-3</sup>	error/%	Reference
benzene	303.15	0.1	868.2	868.20	0.00	Melikhov
	303.15	10	876.7	876.51	0.02	Melikhov
	303.15	20	884.4	884.29	0.01	Melikhov
	303.15	30	891.6	891.55	0.01	Melikhov
	303.15	40	898.2	898.34	0.02	Melikhov
	303.15	50	904.5	904.73	0.02	Melikhov
	303.15	60	910.4	910.75	0.04	Melikhov
	303.15	70	916	916.45	0.05	Melikhov
	303.15	80	921.4	921.87	0.05	Melikhov
	303.15	90	926.4	927.02	0.07	Melikhov
	303.15	100	931.3	931.94	0.07	Melikhov
	313.15	0.1	857.5	857.57	0.01	Melikhov
	313.15	10	866.5	866.44	0.01	Melikhov
	313.15	20	874.7	874.69	0.00	Melikhov
	313.15	30	882.2	882.34	0.02	Melikhov
	313.15	40	889.2	889.46	0.03	Melikhov
	313.15	50	895.7	896.14	0.05	Melikhov
	313.15	60	901.9	902.41	0.06	Melikhov
	313.15	70	907.7	908.34	0.07	Melikhov
	313.15	80	913.2	913.94	0.08	Melikhov
	313.15	90	918.5	919.26	0.08	Melikhov
	313.15	100	923.5	924.32	0.09	Melikhov
	313.15	110	928.3	929.15	0.09	Melikhov
	313.15	120	932.9	933.77	0.09	Melikhov
	313.15	130	937.4	938.19	0.08	Melikhov
	323.15	0.1	846.9	846.82	0.01	Melikhov
	323.15	10	856.5	856.31	0.02	Melikhov

323.15	20	865.2	865.08	0.01	Melikhov
323.15	30	873.1	873.17	0.01	Melikhov
323.15	40	880.4	880.67	0.03	Melikhov
323.15	50	887.2	887.66	0.05	Melikhov
323.15	60	893.6	894.21	0.07	Melikhov
323.15	70	899.7	900.37	0.07	Melikhov
323.15	80	905.4	906.18	0.09	Melikhov
323.15	90	910.8	911.69	0.10	Melikhov
323.15	100	916	916.91	0.10	Melikhov
323.15	110	921	921.88	0.10	Melikhov
323.15	120	925.7	926.63	0.10	Melikhov
323.15	130	930.3	931.17	0.09	Melikhov
323.15	140	934.7	935.51	0.09	Melikhov
323.15	150	939	939.68	0.07	Melikhov
323.15	160	943.1	943.69	0.06	Melikhov
333.15	0.1	836.1	835.93	0.02	Melikhov
333.15	10	846.4	846.12	0.03	Melikhov
333.15	20	855.5	855.48	0.00	Melikhov
333.15	30	863.9	864.05	0.02	Melikhov
333.15	40	871.6	871.96	0.04	Melikhov
333.15	50	878.7	879.29	0.07	Melikhov
333.15	60	885.4	886.14	0.08	Melikhov
333.15	70	891.6	892.56	0.11	Melikhov
333.15	80	897.6	898.60	0.11	Melikhov
333.15	90	903.2	904.30	0.12	Melikhov
333.15	100	908.5	909.70	0.13	Melikhov
333.15	110	913.6	914.83	0.13	Melikhov
333.15	120	918.5	919.72	0.13	Melikhov
333.15	130	923.2	924.38	0.13	Melikhov
333.15	140	927.7	928.84	0.12	Melikhov
333.15	150	932.1	933.11	0.11	Melikhov

333.15	160	936.3	937.21	0.10	Melikhov
333.15	170	940.4	941.15	0.08	Melikhov
333.15	180	944.4	944.95	0.06	Melikhov
333.15	190	948.2	948.61	0.04	Melikhov
333.15	200	951.9	952.14	0.03	Melikhov
353.15	0.1	814.2	813.68	0.06	Melikhov
353.15	10	826	825.55	0.06	Melikhov
353.15	20	836.3	836.26	0.00	Melikhov
353.15	30	845.6	845.94	0.04	Melikhov
353.15	40	854	854.78	0.09	Melikhov
353.15	50	861.8	862.91	0.13	Melikhov
353.15	60	869	870.43	0.16	Melikhov
353.15	70	875.7	877.42	0.20	Melikhov
353.15	80	882	883.97	0.22	Melikhov
353.15	90	888	890.12	0.24	Melikhov
353.15	100	893.7	895.91	0.25	Melikhov
353.15	110	899.1	901.39	0.25	Melikhov
353.15	120	904.3	906.58	0.25	Melikhov
353.15	130	909.2	911.53	0.26	Melikhov
353.15	140	914	916.24	0.24	Melikhov
353.15	150	918.5	920.74	0.24	Melikhov
353.15	160	922.9	925.05	0.23	Melikhov
353.15	170	927.2	929.18	0.21	Melikhov
353.15	180	931.3	933.15	0.20	Melikhov
353.15	190	935.3	936.97	0.18	Melikhov
353.15	200	939.2	940.65	0.15	Melikhov
353.15	210	943	944.20	0.13	Melikhov
353.15	220	946.6	947.63	0.11	Melikhov
353.15	230	950.2	950.95	0.08	Melikhov
353.15	240	953.7	954.20	0.05	Melikhov
353.15	250	957.1	957.34	0.03	Melikhov

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benzene	298.09	0.1	873.7	873.54	0.02 Dymond
	298.09	31.4	896.9	897.18	0.03 Dymond
	298.09	42.6	903.8	904.52	0.08 Dymond
	298.09	52.8	909.9	910.80	0.10 Dymond
	298.09	61.6	915.3	915.94	0.07 Dymond
	298.09	72.3	920.8	921.87	0.12 Dymond
	323.13	0.1	846.8	846.84	0.01 Dymond
	323.13	33.2	874.7	875.65	0.11 Dymond
	323.13	69.9	898.8	900.33	0.17 Dymond
	323.13	101.2	915.9	917.53	0.18 Dymond
	323.13	150.9	939.1	940.06	0.10 Dymond
	323.13	200.3	958.8	958.70	0.01 Dymond
	348.23	0.1	819.2	819.22	0.00 Dymond
	348.23	27.2	846.8	847.84	0.12 Dymond
	348.23	49.5	864.5	866.51	0.23 Dymond
	348.23	76.1	882.7	885.05	0.27 Dymond
	348.23	108.2	901.3	903.66	0.26 Dymond
	348.23	159.1	925.9	927.56	0.18 Dymond
	348.23	201.9	943.5	944.04	0.06 Dymond
	348.23	261.3	964.5	963.67	0.09 Dymond
	348.23	316.6	982.2	979.67	0.26 Dymond
	348.23	355.3	993.7	989.86	0.39 Dymond

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Table S4. The experimental data collected from the literature and obtained prediction by FT-EoS and TSM results for Silicone Oil 9981 LTNV-70

compound	T/K	P/MPa	exp values/kg m <sup>-3</sup>	FT-EoS/kg m <sup>-3</sup>	FT-EoS error/%	TSM/kg m <sup>-3</sup>	TSM error/%	REF
Silicone Oil 9981 LTNV-70	273.15	0.101353	992.85	992.6336	0.02	992.6336	0.02	ASME Research Publication 1953
	273.15	44.29676	1031	1030.035	0.09	1030.366	0.06	ASME Research Publication 1953
	273.15	72.35844	1050	1048.512	0.14	1049.475	0.05	ASME Research Publication 1953
	273.15	147.6492	1090	1086.667	0.31	1090.183	0.02	ASME Research Publication 1953
	273.15	213.8389	1118	1111.87	0.55	1118.006	0.00	ASME Research Publication 1953
	273.15	317.2603	1152	1142.39	0.83	1152.709	0.06	ASME Research Publication 1953
	273.15	423.4396	1181.5	1166.813	1.24	1181.291	0.02	ASME Research Publication 1953
	298.15	0.101353	970	970.2105	0.02	970.2105	0.02	ASME Research Publication 1953
	298.15	37.60885	1006.5	1006.171	0.03	1006.171	0.03	ASME Research Publication 1953
	298.15	80.08057	1036	1036.478	0.05	1037.052	0.10	ASME Research Publication 1953
	298.15	119.1049	1060	1058.538	0.14	1060.229	0.02	ASME Research Publication 1953
	298.15	156.9571	1077.2	1076.44	0.07	1079.508	0.21	ASME Research Publication 1953
	298.15	236.5916	1111.2	1106.735	0.40	1113.087	0.17	ASME Research Publication 1953
	298.15	350.3552	1150	1139.373	0.92	1150.61	0.05	ASME Research Publication 1953
	298.15	457.9134	1177	1163.361	1.16	1179.087	0.18	ASME Research Publication 1953

							1953
							ASME Research Publication
298.15	563.0585	1203	1182.691	1.69	1202.592	0.03	1953
							ASME Research Publication
310.93	0.101353	958.75	958.901	0.02	958.901	0.02	1953
							ASME Research Publication
310.93	40.09096	999	998.8595	0.01	998.8595	0.01	1953
							ASME Research Publication
310.93	76.2195	1025	1025.756	0.07	1026.03	0.10	1953
							ASME Research Publication
310.93	110.6933	1047.5	1046.54	0.09	1047.608	0.01	1953
							ASME Research Publication
310.93	147.6492	1066	1065.238	0.07	1067.538	0.14	1953
							ASME Research Publication
310.93	253.139	1111.5	1106.034	0.49	1112.7	0.11	1953
							ASME Research Publication
310.93	315.1919	1133.5	1124.55	0.79	1133.955	0.04	1953
							ASME Research Publication
310.93	416.5449	1162	1149.461	1.08	1163.298	0.11	1953
							ASME Research Publication
310.93	520.311	1188.5	1170.287	1.53	1188.488	0.00	1953
							ASME Research Publication
310.93	627.5245	1211.5	1188.391	1.91	1210.878	0.05	1953
							ASME Research Publication
372.04	0.101353	906.4	906.2267	0.02	906.2267	0.02	1953
							ASME Research Publication
372.04	26.50828	944	942.0632	0.21	942.0633	0.21	1953
							ASME Research Publication
372.04	79.73583	991	991.6304	0.06	991.6305	0.06	1953
							ASME Research Publication
372.04	99.3859	1007.5	1005.596	0.19	1005.596	0.19	1953
							ASME Research Publication
372.04	143.5124	1030.7	1031.865	0.11	1032.416	0.17	1953
							ASME Research Publication
372.04	246.2443	1078.8	1076.545	0.21	1080.779	0.18	1953

372.04	327.2577	1110	1102.534	0.67	1110.524	0.05	ASME Research Publication 1953
372.04	418.6133	1137.2	1126.143	0.97	1138.548	0.12	ASME Research Publication 1953
372.04	558.9217	1173.2	1154.96	1.55	1174.033	0.07	ASME Research Publication 1953
372.04	701.2984	1203	1178.271	2.06	1203.76	0.06	ASME Research Publication 1953
491.48	0.101353	810	810.0283	0.00	810.0284	0.00	ASME Research Publication 1953
491.48	44.50361	892.2	893.8516	0.19	893.8516	0.19	ASME Research Publication 1953
491.48	84.14848	932.7	937.1453	0.48	937.1453	0.48	ASME Research Publication 1953
491.48	126.2755	965	970.0362	0.52	970.0362	0.52	ASME Research Publication 1953
491.48	239.5564	1027	1028.539	0.15	1029.112	0.21	ASME Research Publication 1953
491.48	311.9513	1058	1054.474	0.33	1057.316	0.06	ASME Research Publication 1953
491.48	415.5106	1093.5	1083.523	0.91	1090.975	0.23	ASME Research Publication 1953
491.48	550.3032	1132.2	1112.719	1.72	1126.933	0.47	ASME Research Publication 1953
491.48	691.6458	1165	1136.898	2.41	1158.281	0.58	ASME Research Publication 1953
491.48	860.2227	1198	1160.253	3.15	1189.881	0.68	ASME Research Publication 1953

Table S5. Crossing parameters Ptr and rho<sub>tr</sub> for all liquids

compound	T/K	Ptr/MPa	rho <sub>tr</sub> /kg m <sup>-3</sup>	Reference
pentane			690.0325	Bridgman 1931
	273.15	105.8497		
	323.15	167.4371		
	368.15	215.7474		
hexane			757.4749	Bridgman 1931
	273	66.7029		
	323	122.2469		
	368	166.7839		
hexane			770.1	Melikhov
	303.15	226.07		
	313.15	241		
	323.15	255.76		
	333.15	270.32		
hexane			776.4118	Randzio
	243.15	30.454		
	283.15	78.4674		
	303.15	100.8997		
	343.15	142.9597		
heptane			727.6741	Bridgman1931
	273.15	47.6105		
	323.15	102.9247		
	368.15	148.1451		
heptane			708.52	Melikhov
	303.15	82.177		
	313.15	102.5874		
	333.15	122.1603		
heptane			746.82	Doolittle

	303.15	71.663	
	323.15	92.484	
	373.15	140.72	
octane			766.0759 Bridgman1931
	273.15	29.6848	
	323.15	81.8985	
	368.15	124.8045	
octane			Melikhov
	303.15	61.67	
	313.15	71.883	
	333.15	91.73	
	353.15	110.88	
	373.15	129.357	
	393.15	147.033	
nonane			764.73 Melikhov
	303.15	47.599	
	313.15	57.99	
	333.15	78.15	
	353.15	97.596	
	373.15	116.448	
	393.15	134.75	
	413.15	152.415	
nonane			777.7 Doolittle
	303.15	47.599	
	323.15	68.168	
	373.15	116.448	
	423.15	160.924	
decane			
	273	2.819	
	323	55.5906	
	368	98.2185	

dodecane			788.59 Melikhov
	303.15	17.671	
	313.15	27.799	
	333.15	47.257	
	353.15	65.762	
	373.15	83.477	
	393.15	100.576	
	413.15	117.211	
	433.15	133.476	
methanol			863.4 Deutsche Berichte
	203.15	14.963	
	213.15	32.57	
	223.15	49.756	
	233.15	66.54	
	243.15	82.927	
	253.15	98.904	
	263.15	114.443	
methanol			863.4 Sun 1988 methanol
	273.15	132.94	
	283.15	147.24	
	293.15	161.22	
	303.15	174.88	
	313.15	188.24	
	323.15	201.33	
	333.15	214.19	
ethanol			858.1934 Sun 1988 ethanol
	273.15	106.6751	
	283.15	121.8205	
	293.15	137.1285	
	303.15	152.5952	
	313.15	168.2185	

	323.15	183.9969	
	333.15	199.9439	
butanol			848.7206 Bridgman
	273	43.2417	
	323	109.317	
	368	172.1155	
hexanol			911.5255 Bridgman1931
	273	194.4069	
hexanol			918.5373 Randzio
	302.6	236.5486	
	303.15	237.4022	
	328.15	278.1087	
	353.15	321.2064	
	378.15	365.4114	
	403.15	411.1745	
	428.15	461.276	
nonanol			891.1506 Sysoev
	291.65	13.0037	
	303.15	25.8993	
	323.15	48.2067	
	353.15	81.173	
	373.15	103.0483	
	393.15	125.246	
	423.15	160.1786	
	453.15	198.7412	
decanol			904.0655 Sysoev
	292.45	6.834	
	303.15	18.9679	
	323.15	41.5776	
	353.15	75.1727	
	373.15	97.734	

	393.15	121.2661	
	423.15	161.3876	
	453.15	214.3552	
benzene			952.1893 Melikhov
	303.15	88.4893	
	313.15	103.9636	
	323.15	119.278	
	333.15	134.3432	
	353.15	163.2482	
benzene			944.1199 Dymond
	298.09	80.6187	
	323.13	119.2475	
	348.23	156.3313	
Silicone Oil 9981 LTNV-70			1008.8 ASME Research Publication 1953
	273.15	17.0116	
	298.15	41.3058	
	310.93	53.0021	
	372.04	102.8256	
	491.48	194.9071	