TABLE I

Compressibility isotherms

(Refractive index n, at $\lambda = 5462.27$ Å, density ρ, isothermal compressibility k_T, ratio of heat capacities γ, and liquid structure factor $\mathscr{L}_0$, of liquid He^4 at even pressures for five temperatures)

P (atm)	$10^6(n-1)$	$10^3\rho$ (g cm^{-3})	$10^9 k_T$ (cm^2 dyne^{-1})	γ	$\mathscr{L}_0$
		T_{58}, 3.000° K			
SVP	27654	140.83	19.7	1.32	0.173
0.5	27792	141.52	18.7	1.27	0.165
1.0	28043	142.80	17.0	1.25	0.152
1.5	28280	144.00	15.8	1.23	0.142
2.0	28503	145.13	15.0	1.22	0.135
2.5	28716	146.20	14.2	1.21	0.129
3.0	28920	147.24	13.5	1.20	0.124
3.5	29115	148.23	12.8	1.19	0.118
4.0	29301	149.17	12.2	1.18	0.113
4.5	29480	150.07	11.6	1.17	0.108
		T_{58}, 3.500° K			
SVP	26632	135.65	25.7	1.48	0.253
0.5	26645	135.71	25.6	1.47	0.252
1.0	26980	137.41	23.2	1.44	0.231
1.5	27284	138.95	21.0	1.40	0.213
2.0	27561	140.35	19.3	1.36	0.197
2.5	27821	141.67	17.8	1.33	0.183
3.0	28067	142.92	16.6	1.31	0.172
3.5	28301	144.10	15.6	1.32	0.164
4.0	28525	145.24	15.0	1.32	0.158
		T_{58}, 4.000° K			
SVP	25223	128.50	41.4	1.92	0.442
1.0	25416	129.48	38.3	1.85	0.412
1.5	25873	131.80	32.0	1.71	0.350
2.0	26270	133.81	28.0	1.63	0.311
2.5	26626	135.61	24.8	1.57	0.280
3.0	26948	137.25	22.6	1.53	0.257
3.5	27243	138.74	20.6	1.50	0.237
4.0	27517	140.13	19.0	1.48	0.221
4.5	27774	141.43	18.0	1.47	0.212
		T_{58}, 4.500° K			
SVP	23180	118.14	81.7		0.902
1.5	23548	120.00	71.3		0.800
2.0	24289	123.76	52.7		0.610
2.5	24883	126.78	42.0		0.498
3.0	25370	129.25	35.2		0.425
3.5	25796	131.41	30.4		0.373
4.0	26168	133.29	27.0		0.336
4.5	26509	135.02	24.4		0.308
		T_{58}, 5.000° K			
SVP	19519	99.54	(650±100)		(6.72)
2.0	19951	101.74	380		4.01
2.5	21990	112.09	117		1.36
3.0	23041	117.43	73.6		0.898
3.5	23788	121.22	53.4		0.673
4.0	24391	124.28	43.9		0.567
4.5	24904	126.88	36.8		0.485

The isothermal compressibilities k_T were obtained through equation (3.3) taking values of $(\partial n/\partial P)_T$ read from large graphs of n versus P near the pressures required. For some of the k_T values second differences have been smoothed graphically. This smoothing process rarely altered any $(\partial n/\partial P)$