

TABLE II.—Continued.

Pressure (bars) <sup>a</sup>	Specific volume cc/g					Pressure (bars) <sup>a</sup>	Specific volume cc/g					
	37.8°C	60.0°	79.4°	98.9°	115.0°		135.0°	37.8°C	60.0°	79.4°	98.9°	115.0°
PSU 175, 1-alpha-decalylpentadecane						PSU, 175 1-alpha-decalylpentadecane						
atmos- pheric						3101.0				1.0755	1.0818	1.0908
344.6	1.1864	1.2039	1.2219	1.2384	1.2587	3445.5				1.0672	1.0729	1.0815
689.1	1.1617	1.1758	1.1907	1.2051	1.2213	3790.0					1.0646	1.0726
1033.6	1.1413	1.1537	1.1671	1.1789	1.1936	4134.6					1.0570	1.0646
1378.2	1.1245	1.1355	1.1479	1.1581	1.1718	4479.2				1.0495		1.0571
1722.8		1.1206	1.1319	1.1407	1.1531	4823.7						1.0501
		1.1074	1.1177	1.1260	1.1377	5168.2						1.0436
2067.3		1.0955	1.1055	1.1132	1.1243							
2411.8			1.0943	1.1017	1.1120	5512.8						1.0375
2756.4			1.0844	1.0913	1.1010	5857.4						1.0317

<sup>a</sup> The 345-bar pressure interval used in presentation of these data corresponds to 5000 psi. Corrections for the compressibility of the brass piezometer were originally worked out for 5000 psi

<sup>b</sup> The pressure should be rounded off to the nearest bar.

intervals. The temperatures 37.8°C, 60°C, 79.4°C, 98.9°C, 115°C, and 135°C correspond to 100°F, 140°F, 175°F, 210°F, 239°F, and 275°F, respectively.

varies from compound to compound. The worst effects these uncertainties had on the density ranged from approximately  $\pm 0.10\%$  at 345 bars to  $\pm 0.14\%$  at 10 000 bars.

Checks on sample mass, index of refraction, and

where necessary, density, were performed before and after obtaining pressure data to make certain that contamination of the sample did not occur.

An indication of the validity of the data reported here can be obtained by comparison with similar data

TABLE III. Comparison of relative volumes for "chemical" and physical mixtures as a function of pressure.

Pressure (bars)	60°C			135°C			Relative volume			Relative volume			
	Relative volume			Relative volume			Pressure (bars)	Mixture 111	Ratio 25 <sub>1</sub> +113 <sub>2</sub> c/p	Mixture 111	Ratio 25 <sub>1</sub> +113 <sub>2</sub> c/p	Ratio c/p	
	19	Mixture 25 <sub>1</sub> +90 <sub>2</sub>	Ratio c/p	19	Mixture 25 <sub>1</sub> +90 <sub>2</sub>	Ratio c/o							
atmos	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	
344.6	0.9786	0.9790	0.9996	0.9686	0.9670	1.0017	344.6	0.9754	0.9753	1.0001	0.9676	0.9672	1.0004
689.1	0.9606	0.9616	0.9990	0.9457	0.9434	1.0024	689.1	0.9577	0.9574	1.0003	0.9442	0.9432	1.0011
1033.6	0.9462	0.9466	0.9996	0.9283	0.9257	1.0028	1033.6	0.9431	0.9426	1.0005	0.9255	0.9245	1.0011
1378.2	0.9336	0.9342	0.9994	0.9142	0.9108	1.0037	1378.2	0.9308	0.9299	1.0009	0.9109	0.9095	1.0015
1722.8	0.9227	0.9232	0.9995	0.9014	0.8978	1.0040	1722.8	0.9198	0.9185	1.0014	0.8980	0.8965	1.0017
2067.3	0.9130	0.9136	0.9993	0.8899	0.8869	1.0034	2067.3	0.9101	0.9084	1.0019	0.8867	0.8851	1.0018
2411.8	0.9038	0.9053	0.9983	0.8796	0.8769	1.0031	2411.8	0.9011	0.8992	1.0021	0.8766	0.8752	1.0016
2756.4	0.8959	0.8973	0.9984	0.8705	0.8684	1.0024	2756.4	0.8927	0.8910	1.0019	0.8675	0.8664	1.0013
3101.0				0.8622	0.8601	1.0024	3101.0	0.8849	0.8834	1.0017	0.8590	0.8580	1.0012
3445.5				0.8547	0.8525	1.0026	3445.5	0.8778	0.8762	1.0018	0.8512	0.8504	1.0009
3790.0				0.8476	0.8456	1.0024	3790.0	0.8710	0.8692	1.0021	0.8443	0.8433	1.0012
4134.6				0.8411	0.8388	1.0027	4134.6	0.8642	0.8627	1.0017	0.8375	0.8367	1.0010
4479.2				0.8348	0.8327	1.0025	4479.2	0.8585	0.8567	1.0021	0.8315	0.8305	1.0012
4823.7				0.8292	0.8271	1.0025	4823.7				0.8256	0.8246	1.0012
5168.2				0.8237	0.8216	1.0026	5168.2				0.8203	0.8189	1.0017
5512.8				0.8182	0.8161	1.0026	5512.8				0.8149	0.8136	1.0016
5857.4				0.8132	0.8112	1.0025	5857.4				0.8102	0.8086	1.0020
6201.9				0.8087	0.8069	1.0022	6201.9				0.8059	0.8037	1.0027
6546.4				0.8043	0.8028	1.0019	6546.4				0.8016	0.7991	1.0031
6891.0				0.7998	0.7986	1.0015	6891.0				0.7971	0.7947	1.0030
7235.6				0.7958	0.7950	1.0010	7235.6				0.7893	0.7868	1.0032
7580.1				0.7919	0.7914	1.0006	7580.1				0.7820	0.7795	1.0032
							8269.2				0.7752	0.7731	1.0027
							8958.3				0.7692	0.7668	1.0031
							9647.4				0.7634	0.7610	1.0032
							10336.5						