

falling-weight viscometer data,^{7, 10-12} are made in fig. 6-10. Most of the existing viscosity data in liquids under pressure were obtained by Bridgman, whose results at 30°C for benzene, cyclohexane and carbon tetrachloride agree well with the present data in the lower pressure range but are 2-4 % higher at the upper limit. The highest pressures for which Bridgman reported the viscosities of these liquids at 30°C are in excess of the published melting pressures^{7, 13} and are probably extrapolated.

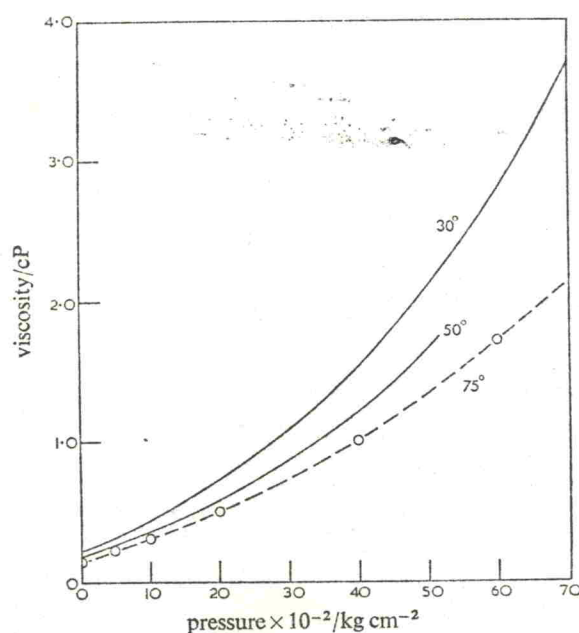


Fig. 10.—The viscosity of n-pentane. O, Bridgman; —, this work. (Data of Bridgman⁷ and Capi and Bett¹² at 30°C are given in table 3, but are not shown in this figure.)

The present data appear to be in better agreement with those of Jobling and Lawrence for benzene¹⁰ and Van Wijk *et al.* for carbon tetrachloride¹¹ than are the results of Bridgman,⁷ and the overall consistency of $(\partial\eta/\partial p)_T$ at different temperatures is good. Good agreement was observed between the present data and those of Bridgman⁷ for isopentane at 30°C. In table 3, viscosities of n-pentane at pressures up to 7 000 kg cm⁻² from this work have been compared with measurements by Bridgman⁷

TABLE 3.—COMPARISON OF PRESENT AND LITERATURE VALUES^{7, 12} FOR THE RELATIVE VISCOSITY OF n-PENTANE AS A FUNCTION OF PRESSURE

pressure kg cm ⁻²	T/°C	this work		ratio η_p/η_1		Capi and Bett ¹² 30
		30	50	30	75	
1	1.000	1.000	1.000	1.000	1.000	1.000
500	1.544	1.536	1.517	1.594	1.560	1.560
1000	2.092	2.073	2.065	2.246	2.128	2.128
2000	3.372	3.229	3.432	3.705	3.428	3.428
3000	5.001	4.737			5.041	5.041
4000	7.047	6.682	7.031	7.330	7.115	7.115
5000	9.674	9.196			9.741	9.741
6000	12.95		12.94	12.50	13.06	13.06
7000	17.12				17.31	17.31