as xanthydryl-thiourea.

II. Analysis of a mixture of thiourea and ammonium thiocyanate.

Thiourea is determined by the exactly same procedure as described in 1.

For the determination of ammonium thiocyanate, 5 cc HNO_3(1 : 7) and 5 drops of ferric alum solution are added to the filtrate obtained at the determination of thiourea and titrated with N/10 $AgNO_3$ solution.

1) See ; Gilfillan, J. Am. Chem. Soc. 42, 2072 (1920) ;
Burrows, J. Am. Chem. Soc. 46, 1923 (1924).

10. Trial Construction of New Glass Capillary Viscosimeter

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There are various types of capillary viscosimeters but these viscosimeters have a defect that the maintenance of the constant pressure exerted in their capillary flow during each measurement is not easy. So the athors tried to construct a simple glass capillary viscosimeter in which the flow pressure is regulated automatically constant by a hydrostatic method. Employing this viscosimeter, the determination of viscosity of some pure organic solvents and 1 % aqueous solution of gelatin was carried out. The results thus obtained are given in the following tables.

Table 1. viscosity of pure organic solvents

sample	flow pressure P (dynes/cm²)	flow time T (sec.)	P.T.	viscosity at 20°C (poise)
n-propanol	13370	63.0	842310	0.022799
	9750	86.4	842400	0.022702
	6400	131.6	842240	0.022697
nitro benzene	12310	60.8	748448	0.020131
	7020	106.6	748332	0.020127
aniline	22620	72.8	164673	0.04428
	16200	101.8	1649160	0.04435
	10850	151.6	1644860	0.04423

Table 2. viscosity of 1 % aqueous solution of gelatin

flow pressure P (dynes/cm²)	flow time T (sec.)	P.T.	viscosity at 20°C (poise)
22246	10.0	222460	0.03816
8820	26.0	229320	0.04019
6370	93.0	592410	0.10939
3920	180.0	705600	0.12440

Table 1 shows that the pure organic solvents have regular viscosity, while Table 2 show that 1 % aqueous solution of gelatin has "structure viscosity." From these facts, this viscosimeter is seemed to be conveniently utilized for the study on the fluid system exhibiting structure viscosity.

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11. Determination of the Density Change of Glass by the Sink-Float Method. (III)

Density Characteristics of Rods of Glass

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In the previous paper (*this Bull.* **20,** 54, 1950) the authors have pointed out that the density of rod of soda-lime glass drawn and cooled in air decreased with the decreasing diameter and the density difference between the rod of a definite diameter and that of the glass annealed by a definite schedule was constant. It was believed that the result should be extended to some kinds of glasses having different thermal charactersitics. To this purpose, the density-diameter relations of several glasses were determined by the sink-float method (*ibid.* **19,** 52, 1949).

The results obtained are summerized in Table 1.

Table 1. Percentage Difference Between Densities of the Annealed Sample, d_A, and of the Rod as Drawn, d_R, and Thermal Expansion Characteristics of Glass.

Type of glass	Example of density value (annealed) d_A (g/cm³)	$(d_A-d_R)/d_A\times100$ (%) Diameter of rods as drawn (mm)						Deformation point	Transf. point	Cubical coefficient of thermal expansion	
		0.5	1	2	4	6	8	D.P. (°C)	T.P. (°C)	Below T.P.	Above T.P.
1. Soda-lime glass	2.4984[1]	0.54	0.47	0.40	0.35	0.32	0.30	610	530	2.7×10^{-5}/°C	$12.8\ 10^{-5}$/°C
2. Borosilicate glass	2.5167[4]	0.95	0.86	0.76	0.64	0.58	0.53	618	550	2.6 〃	15.3 〃
3. Lead-(stem) glass	3.0804[2]	0.42	0.37	0.32	0.28	0.27	0.26	499	440	2.8 〃	9.0 〃
4. Boric-oxide glass	1.8564[3]	—	—	3.09	2.74	2.59	—	298	250	5.0 〃	45.5 〃
5. Quartz glass	(2.203)[5]	—	—	−0.12	−0.06	0[5]	—	—	—	—	—

1) 2) and 3) were annealed at the constant rate of 0.5°C/min below 600°, 480° and 290°C respectively.

4) Density of the fine annealed optical glass (B. K. 7).

5) The density of the air cooled rod of quartz glass drawn decreases with the increasing diameter, which can be explained by assuming the negative coefficient of expansion in the solidifying range (c.f. Salmang and Stoesser; *Glastech. Ber.* 8, 463, 1930).