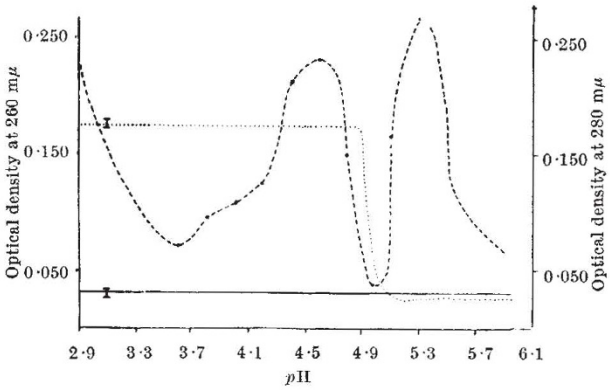

Fig. 1. Amounts of deoxyribonucleic and ribonucleic acids and bovine albumin remaining unprecipitated by indium at various pH levels and expressed as optical densities of the supernatant solutions as described in the text. Ribonucleic acid was dialysed against 0·14 *M* sodium chloride and used immediately after dialysis. ——, Deoxyribonucleic acid; – – – –, ribonucleic acid; . . . ., albumin

the ribonucleic acid in solution has been precipitated even at *p*H 5·3.

It was found that, by increasing the sodium chloride concentration to 4 *M* (other conditions remaining as described above), deoxyribonucleic acid remained in solution whereas ribonucleic acid under the same conditions was precipitated. Thus, after precipitation of ribonucleic acid at a final concentration of sodium chloride of 4 *M*, deoxyribonucleic acid remains in solution and, in turn, can be isolated by dialysis against buffered 0·14 *M* sodium chloride followed by addition of indium chloride to the dialysed solution. The two nucleic acids can be separated from a mixture quantitatively by this procedure.

This investigation, which was supported in part by a grant from the U.S. Atomic Energy Committee, will be reported elsewhere in detail, together with data on the isolation of pure nucleic acids from tissues.

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5-Hydroxytryptamine in Cerebrospinal Fluid

Although the 5-hydroxytryptamine content of human cerebrospinal fluid has been reported by Sachs[1] to increase after various head injuries or cerebral tumours, there appears to be no other reference in the literature to conditions resulting in an alteration in the content. While studying tuberculous meningitis in children, the opportunity arose for the cerebrospinal fluid to be tested for various amines including 5-hydroxytryptamine.

The cerebrospinal fluid was withdrawn from the patients using conventional methods, taking special care not to contaminate the samples with blood. The fluid was then tested either directly or after acetone extraction on the rat fundus preparation according to the method of Vane[2]. In 20 cases of tuberculous meningitis, the range of 5-hydroxytryptamine values was 0·2–3·0 μgm./ml., whereas in control children it was 0·03–0·1 μgm./ml. The more severe cases always showed high 5-hydroxytryptamine activity. Further, the clinical course of the disease closely followed the 5-hydroxytryptamine content of the cerebrospinal fluid. The significance of these findings is not yet clear.

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Viscosity of Concentrated Urea–Lithium Bromide Solutions

In the course of studies involving the physicochemical characterization of a proteolytic enzyme from a strain of *B. subtilis* (*NOVO* enzyme), viscosity measurements of the protein in concentrated urea and lithium bromide solutions were undertaken. For these studies, a 1 per cent solution of the protein was employed, and outflow times were measured at 20·0° in a modified Ostwald viscometer.

The results obtained in simple aqueous solution, 8 *M* urea and 7 *M* lithium bromide, are presented in Table 1. The significance of these results, in so far as characterization of the specific protein is concerned, will be discussed elsewhere (Geschwind and Ottoson, to be published). Of interest here are the outflow times found for the solvent, which is both 8 *M* with respect to urea and 7 *M* with respect to lithium bromide. Even in the absence of protein the outflow time for this solution is very great, as is shown in Table 1; the actual increment in outflow time above that found for water is approximately nine times greater than the sum of the individual increments for 8 *M* urea and 7 *M* lithium bromide. The outflow time is strikingly dependent upon the concentration of the two solutes, for as shown in the last line of Table 1, dilution of the solution by a factor of less than 8 per cent diminishes the outflow time by more than one-third. At the higher concentrations of urea and lithium bromide, the addition of protein to 1 per cent further increases the outflow time by approximately 150 sec.

Table 1

Solvent	Protein present	Outflow time (sec.)
Water	–	67·4
	+	69·0
8 *M* urea	–	99·2
	+	102·5
7 *M* lithium bromide	–	111·0
	+	122·5
8 *M* urea + 7 *M* lithium bromide	–	726
	+	874
7·4 *M* urea + 6·5 *M* lithium bromide	–	469