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Cullen's colorimetric method for the determination of the pH of blood plasma.

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In experiments on hemorrhage, Cullen's¹ colorimetric method for the determination of the pH of plasma was found unreliable even for comparative studies. The correction of 0.35 for dogs' plasma, necessary to convert the colorimetric readings of pH at 20°, to the electrometric pH at 38°, varied especially after hemorrhage, from 0.42 to 0.19.

Hastings and Sendroy² stated that Cullen's correction disappears if the colorimetric determinations are made at 38° instead of 20°. In a single experiment where this procedure was also used, the corrections became less, but did not disappear, and the variations noted above persisted.

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Comparison of the pH of serum and plasma.

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While the experiments reported above were being carried out, Hirsch¹ stated that serum is more acid than plasma. In a later paper², however he reported data throwing doubt on the accuracy of his previous conclusion. In order to determine whether there was any difference between the pH of serum and of plasma of dog's blood, electrometric and colorimetric pH determinations were done on both, Cullen's³ colorimetric method was used. We

¹ Cullen, Glenn E., *J. Biol. Chem.*, 1922, lii, 501.

² Hastings, A. Baird, and Sendroy, Jr., Julius, *J. Biol. Chem.*, 1924, lxi, 695.

¹ Hirsch, E. F., *J. Biol. Chem.*, 1924, lxi, 795.

² Hirsch, E. F., *J. Biol. Chem.*, 1925, lxiii, 55.

³ Cullen, Glenn E., *J. Biol. Chem.*, 1922, lii, 501.