TABLE I

		Relative areas[a]								
		Free Ag		Free Ab		α-complex[b]			K	
pH	Buffer	App.	Cor.	App.	Cor.	App.	Corr.	AgAb[c]	× 10⁻³	log K
4.22	Lactate	50	42	5.3	5.3	26	30	17	18	4.25
3.90	Lactate	57	49	9	10	31	35	23	11	4.04
3.88	Acetate	57	49	9	10	25	30	20	9.4	3.97
3.60	Lactate	66	57	13	16	17	22	18	4.6	3.66
3.42	Lactate	68	59	19	22	12	17	15	2.8	3.45
3.31	Lactate	71	62	23	27	10	14	13	1.9	3.28
3.12	Glycine-HCl	68	59	29	34	5	10	10	1.2	3.08
2.40	Glycine-HCl	73	63[d]	27	37[d]	..	..	..	...	...

[a] Given as per cent of total area expected for total protein content of solution, 21 mg./ml. [b] Taken as constituted of AgAb and $(Ag)_2Ab$. [c] Calculated as described in text. [d] As determined by electrophoresis.[3]

with slope unity. This unit slope, together with the fact that in solutions more alkaline than *p*H 4.6 no further extensive changes occur in the sedimentation diagrams, are the two principal results of this study. Although other possibilities are not as yet eliminated, an explanation which is consistent with these results is that there is *one carboxyl* group either in each of the specific reaction sites of the antibody or the BSA molecule which must be ionized in order for the antigen-antibody bond to form in this particular system.

A more detailed description of these and other results will be presented in the near future.

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ANISOMYCIN,[1] A NEW ANTI-PROTOZOAN ANTIBIOTIC

Sir:

A new monobasic antibiotic has been isolated from two different species of *Streptomyces* and found to exhibit a high degree of activity *in vitro* against *Trichomonas vaginalis* and *Endamoeba histolytica*. The identity of the two preparations was established by a comparison of the infrared and ultraviolet spectra, elementary analyses, and mixed melting point.

Anisomycin may be recovered by adjusting the filtered culture broth to *p*H 9.0 and extracting countercurrently with methyl isobutyl ketone. The solvent phase is extracted with water at *p*H 2.0. The acid solution is adjusted to *p*H 9.0, and extracted countercurrently with chloroform. The antibiotic crystallizes on concentration of the chloroform extract. On recrystallization from hot ethyl acetate or water, Anisomycin is obtained as long white needles.

Titration data and analyses are in agreement with the formula $C_{14}H_{19}NO_4$, m.p. 140–141°, $[\alpha]^{23}D$ −30° (*c*, 1, methanol). (*Anal.* Calcd. for $C_{14}H_{19}NO_4$: C, 63.38; H, 7.22; N, 5.28. Found: C, 63.51; H, 7.21; N, 5.22). Ultraviolet light absorption in ethanol: $\lambda^{m\mu}_{max.}$ 224, ϵ 10,800; $\lambda^{m\mu}_{max.}$ 277, ϵ 1800; $\lambda^{m\mu}_{max.}$ 283, ϵ 1600. The infrared spectrum in chloroform shows a series of maxima at 3545, 3450, 3320, 2890, 2800, 1725, 1610, 1582, 1515, 1470, 1447, 1380, 1320, 1302, 1242, 1178, 1036, and 962 cm.$^{-1}$.

Crystalline anisomycin can be stored for long periods of time with no loss of potency. Aqueous solutions are quite stable over a wide *p*H range at room temperature. The compound can be distilled *in vacuo* a few degrees above its melting point.

At the present time studies are under way investigating the efficacy of anisomycin in systemic *Trichomonas* infections in mice and *Endamoeba histolytica* infestation in guinea pigs.

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(1) The trade name of Chas. Pfizer & Co. for anisomycin is flagecidin.

THE BRIDGED ACTIVATED COMPLEX FOR THE ELECTRON EXCHANGE OF CHROMIUM(II) AND MONOCHLOROCHROMIUM(III) ION

Sir:

We have found the rate of electron exchange in the system Cr^{++}–$CrCl^{++}$ to be rapid but measurable; our results are summarized in Table I.

TABLE I

EXCHANGE OF CHROMIUM IN THE SYSTEM Cr^{++}–$CrCl^{++}$ AT *ca.* 0°

Ionic Strength = 1.0, $(HClO_4)$ = 1.0 (ClO_4^- is the only anion present)

$(Cr^{++}) \times 10^4$	$(CrCl^{++}) \times 10^3$	k(l. mole^{-1} min.$^{-1}$) × 10^{-2}
7.5	2.15	4.3
3.6	1.08	5.6
1.8	1.06	5.6
0.19	0.55	4.2
0.17	0.28	5.0
		Av. 5 ± 1 × 10^2

The specific rate k (total rate of electron transfer = $k(Cr^{++})$ $(CrCl^{++})$) was calculated from the initial rate of exchange as measured by the growth of the specific activity of $CrCl^{++}$ (due to Cr^{51}). Initial rates were used since the data indicated that Cr^{++} was being consumed during the exchange reaction. Aliquots of reaction mixture were quenched with Fe^{+++} which converts Cr^{++} to Cr^{+++} without inducing any exchange. An ion