ion-exchange membranes. Similar transitions are also expected in other ionomeric systems as well.

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References and Notes

(1) Registered trademark of E. I. du Pont de Nemours & Co. for its perfluorosulfonic acid products.

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(19) The equivalent weight is the mass of the dry polymer in the sulfonic acid form required to neutralize 1 equiv of base.

(20) Normally, R increases slowly for frequencies below f_0 and at ~10 Hz its value is about 30% larger than that at or above f_0. For very conductive samples, however, R may increase by as much as a factor of 2 or 3 (see also ref 21).

(21) The dc conductivity of a pure solution of sodium hydroxide has also been measured by the same method, using a porous poly(tetrafluoroethylene) membrane. At room temperature and for $f \geq f_0 \simeq 1$ kHz, it is 0.32 Ω^{-1} cm^{-1} for a 15% (by weight) solution which agrees well with the literature value of 0.35 Ω^{-1} cm^{-1} [see, for example, "Handbook of Chemistry", 10th ed., compiled and edited by N. A. Lange, McGraw-Hill, New York, 1967, p 1219]. The same interfacial polarization phenomenon discussed in the text and in ref 20 was also observed such that at 60 Hz the apparent conductivity decreased to 0.11 Ω^{-1} cm^{-1}.

(22) Experimental uncertainty for ln σ_0 is ±0.62. Variation in the conductivity σ_s of pure solution of sodium hydroxide is within this limit; otherwise, the measured conductivity σ for wet membranes of Nafion should be properly normalized.

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CORRECTION

Elliot Charney: Dependence of the Electric Field-Induced Orientation of Poly(riboadenylic acid) on Its Polyelectrolyte Properties. Volume 11, Number 5, September–October 1978, page 1059.

The expression in this communication for the fractional charge density is in error. The correct expression is $i = (1 - \kappa - \xi^{-1})$. Figure 1 should therefore be replaced by the accompanying figure. The slope and intercept of the linear plot thus differs slightly from the original, but the essential conclusion of the communication that the orientation in an applied electric field of a high charge density linear polyelectrolyte is linearly proportional to the charge density remains valid.

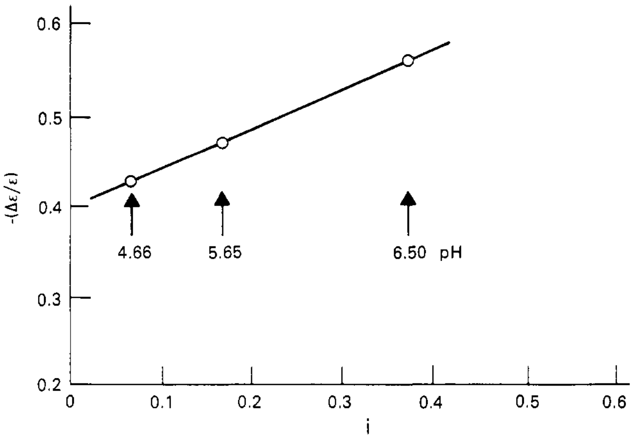

Figure 1.