

from λ^0 values determined under the same conditions. From the limiting conductance one can in turn calculate Stokes radii for the ions. The $\lambda^0(I^-)$ value was adjusted to 303°K by assuming the transport number to remain constant, and the limiting ionic conductances for mmpI in acetone at 303°K found by this method are $\lambda^0(\text{mmp}^+) = 95.7$ and $\lambda^0(I^-) = 113.9 \text{ cm}^2 \Omega^{-1} \text{ mol}^{-1}$. The Stokes radii calculated

TABLE 5
COMPARISON OF CONDUCTANCE AND ACTIVATION PARAMETERS OF
Pr⁴NI AND mmpI IN ACETONE
 K in l. mol⁻¹; ΔV in cm³ mol⁻¹; ΔH in kJ mol⁻¹

Parameter	Pr ⁴ NI	mmpI
λ^0 (1 bar)	190.6	224.4
λ^0 (1 kbar)	119.6	142.5
K (1 bar)	156 ^a	200 ^a
K (1 kbar)	94 ^a	134 ^a
ΔV (1-500 bar)	+15	+16
ΔV^\ddagger (1-500 bar)	+9.3	+9.1
ΔH^\ddagger (1 bar)	6.3	11.3
ΔH^\ddagger (1 kbar)	6.3	12.6

^a From equation (1).

^b From equation (2).

from these are 2.32×10^{-10} m for I⁻ and 2.84×10^{-10} m for mmp⁺. The Stokes radius of I⁻ is in good agreement with the value of Hughes and Hartley¹⁸ and of Savodoff¹⁹ and agrees with that of Adams and Laidler⁵ when the latter is corrected for the difference in η_0 values.

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¹⁸ Hughes, O. L., and Hartley, G. S., *Phil. Mag.*, 1933, 15, 610.

¹⁹ Savodoff, L. G., *J. Am. chem. Soc.*, 1966, 88, 664.