

### Erratum: On the Theory of Chemiluminescent Electron-Transfer Reactions

[J. Chem. Phys. 43, 2654 (1965)]

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(Received 24 November 1969)

The curve drawn in Fig. 1(c) of the above article indicates the "reaction path" leading to formation of ground state products in a highly exothermic electron transfer. The adiabatic curves are given instead<sup>1,2</sup> by Fig. 1. Thereby, the transition from the lower segment

of the R (reactants') curve to that of this electronically unexcited P (products') curve is nonadiabatic. Thus, the argument that the rate constant for the case of Fig. 1(c) for formation of the electronic ground state of products is small, made there on energetic grounds, is now further strengthened: That rate constant is decreased by a transition probability factor<sup>3</sup> for non-adiabatic reactions. The remaining discussion is unchanged.

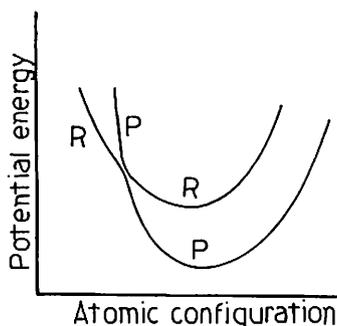


FIG. 1. Profile of potential-energy surface of reactants (R) and that of products (P) plotted versus configuration of all the atoms in the system, for the case of very negative  $\Delta F^\circ$ .

<sup>1</sup> In comparison, see, R. A. Marcus, *Discussions Faraday Soc.* 45, 7 (1968), Footnote 1. I am indebted to Dr. W. D. Weir for his helpful remarks.

<sup>2</sup> A similar remark applies to the corresponding curves in G. Hoytink, *Discussions Faraday Soc.* 45, 14 (1968), and D. M. Hercules, *Accounts Chem. Res.* 2, 301 (1969).

<sup>3</sup> For example, see, S. Glasstone, K. J. Laidler, and H. Eyring, *The Theory of Rate Processes* (McGraw-Hill Book Co., Inc., New York, 1941), p. 149; E. E. Nikitin, in *Chemische Elementarprozesse*, H. Hartmann, Ed. (Springer-Verlag, New York, 1968), pp. 43-77.