Notes

COMMENT ON THE REPLY BY T. OZAWA,

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In reply to the comments of Ozawa it appears that we have misunderstood his original criticism [1]. The problem originates from the paper by Coats and Redfern [2]; their equation (7) is printed incorrectly.

$$\log_{10}\left[-\ln\frac{(1-\alpha)}{T^2}\right] \neq \log_{10}\left[\frac{-\ln(1-\alpha)}{T^2}\right]$$

and it is here where the confusion lies.

Therefore, taking our previous reply [3], the first paragraph would appear to be in error. But the second and third paragraphs are correct; our previous data do not need to be re-calculated because we did not use the value of $n = 1$.

Ozawa also made a comment regarding the units of the slope of the activation-energy plot. The slope should have the unit of temperature (and not be dimensionless) in order that the activation energy should have the required units of $J \cdot mol^{-1}$.

References

1. T. OZAWA, J. Thermal Anal., 5 (1973) 499.
2. A. W. COATS and J. P. REDFERN, Nature, 201 (1964) 68.
3. M. D. JUDD and M. I. POPE, J. Thermal Anal., 5 (1973) 501.