

## NETWORK FORMATION IV

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lack of steric hindrance. However, hydrogen abstraction from the methyl group would not be expected to be important in this case since the polystyryl radical has a low general reactivity.

We are at present endeavouring to distinguish between steric control and a possible specific influence of methyl substituents by investigating the behaviour of radicals of high reactivity with two unreactive substituents.

We have assumed that combination and disproportionation involve different transition states. Indeed this must be so, since the ratio  $k_{tc}/k_{td}$  for methyl methacrylate has a (negative) temperature coefficient; all published data are consistent in this respect, although absolute values differ.

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*Department of Inorganic, Physical and Industrial Chemistry,  
Donnan Laboratories,  
University of Liverpool.*

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### REFERENCES

- <sup>1</sup> BAMFORD, C. H., DYSON, R. W. and EASTMOND, G. C. *J. Polym. Sci. (C)*, 1967, **16**, 2425
- <sup>2</sup> BAMFORD, C. H., DYSON, R. W., EASTMOND, G. C. and WHITTLE, D. *Polymer, Lond.* 1969, **9**, 759
- <sup>3</sup> BAMFORD, C. H., EASTMOND, G. C. and WHITTLE, D. *Polymer, Lond.* 1969, **9**, 771
- <sup>4</sup> BAMFORD, C. H., CROWE, P. A. and WAYNE, R. P. *Proc. Roy. Soc.* 1965, **284A**, 455
- <sup>5</sup> MAYO, F. R., GREGG, R. A. and MATHESON, M. S. *J. Amer. Chem. Soc.* 1951, **73**, 1691; JOHNSON, D. H. and TOBOLSKY, A. V. *J. Amer. Chem. Soc.* 1952, **74**, 938; BAKER, C. A. and WILLIAMS, R. J. P. *J. Chem. Soc.* 1956, p. 2351
- <sup>6</sup> BEVINGTON, J. C., MELVILLE, H. W. and TAYLOR, R. P. *J. Polym. Sci. (a)*, 1954, **12**, 449; (**b**) 1954, **14**, 463
- <sup>7</sup> AYREY, G. and MOORE, C. G. *J. Polym. Sci.* 1959, **36**, 41
- <sup>8</sup> BAMFORD, C. H. and JENKINS, A. D. *Nature* 1955, **176**, 78
- <sup>9</sup> BRANDRUP J. and IMMERMUT, E. H. (editors) *Polymer Handbook*, Interscience, New York, 1966
- <sup>10</sup> BAMFORD, C. H., JENKINS, A. D. and JOHNSTON, R. *Trans. Faraday Soc.* 1962, **58**, 1212
- <sup>11</sup> BURNETT, G. M. and DUNCAN, G. L. *Makromol. Chem.* 1962, **51**, 177; MANGARAJ, D. and PATRA, S. K. *Makromol. Chem.* 1967, **104**, 125
- <sup>12</sup> BEVINGTON, J. C. and EAVES, D. E. *Trans. Faraday Soc.* 1959, **55**, 1777
- <sup>13</sup> BAMFORD, C. H., JENKINS, A. D. and JOHNSTON, R. *Trans. Faraday Soc.* 1959, **55**, 179
- <sup>14</sup> WHITE, E. F. T. and ZISSELL, M. J. *Polym. Sci. (A)*. 1963 **1**, 2189
- <sup>15</sup> GRASSIE, N. and VANCE, E. *Trans. Faraday Soc.* 1956, **52**, 727
- <sup>16</sup> BAMFORD, C. H., JENKINS, A. D. and JOHNSTON, R. *Trans. Faraday Soc.* 1959, **55**, 418
- <sup>17</sup> SCHULZ, G. V., HENRICI-OLIVÉ, G. and OLIVÉ, S. *Makromol. Chem.* 1959, **31**, 88
- <sup>18</sup> BAMFORD, C. H. and WHITE, E. F. T. *Trans. Faraday Soc.* 1958, **54**, 268

### ERRATUM

Equation (7) on page 762 (September 1969) of the article by C. H. Bamford, R. W. Dyson, G. C. Eastmond and D. Whittle ('Network formation II') should read as follows.

$$\frac{d[X]}{dt} = k_{tc} R_a^2 = \frac{k_{tc}}{k_t} \cdot \frac{\mathcal{J}}{\left[ 1 + \frac{k_p}{(\mathcal{J} k_t)^4} \{C_m[M] + C_s[S]\} \right]^2} \quad (7)$$