
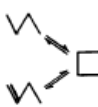


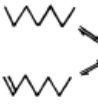
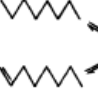
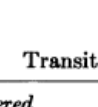
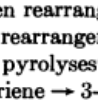
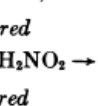
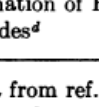
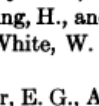
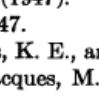


TABLE 2. Entropy changes accompanying cyclization at 298°K

System <sup>a</sup>	$-\Delta S^\circ$ (cal deg <sup>-1</sup> mol <sup>-1</sup> )	$-\Delta S^\circ$ / (no. int. rot.)	$-\Delta S^\circ_{\text{corr}}/$ (no. int. rot.)
	7.7	3.85	3.85
	7.0	7.00	
	10.9	3.63	4.90
	10.3	5.14	
	13.3	3.32	4.77
	13.1	4.37	
	21.2	4.25	4.25
	21.0	5.25	
	19.8	3.30	3.72
	19.6	3.92	
	19.0	2.71	3.91
	18.8	3.13	

Transition state	$\Delta S^\ddagger$ cal.deg <sup>-1</sup> mole <sup>-1</sup>	$-\Delta S^\ddagger/(\text{no. int. rot.})$
<i>6-membered</i>		
Claisen rearrangement <sup>b</sup>	-2 to -14	0.7 to 4.7
Cope rearrangement <sup>c</sup>	-8 to -12	2.7 to 4.0
Ester pyrolyses <sup>d</sup>	+4 to -8	-1.3 to 2.7
hexatriene → 3-cyclohexadiene <sup>e</sup> (400°K)	-4.9	2.45
<i>5-membered</i>		
CH <sub>2</sub> CH <sub>2</sub> NO <sub>2</sub> → C <sub>2</sub> H <sub>4</sub> + HNO <sub>2</sub> <sup>f</sup>	-9	4.5
<i>4-membered</i>		
Elimination of HX from alkyl halides <sup>d</sup>	+5 to -3	-5 to 3

<sup>a</sup> Data from ref. 21, 30; O'Neal, H. E., and S. W. Benson, *J. Chem. Eng. Data*, **15**, 266 (1970).

<sup>b</sup> Goering, H., and R. R. Jacobson, *J. Amer. Chem. Soc.* **80**, 3277 (1958); White, W. N., and C. D. Slater, *J. Org. Chem.*, **27**, 2908 (1962).

<sup>c</sup> Foster, E. G., A. C. Cope and F. Daniels, *J. Amer. Chem. Soc.*, **69**, 1893 (1947).

<sup>d</sup> Ref. 47.

<sup>e</sup> Lewis, K. E., and H. Steiner, *J. Chem. Soc.*, 3080 (1964).

<sup>f</sup> Fréjacques, M. C., *C. R. Hebd. Acad. Sci. (Paris)*, **231**, 1061 (1950).