

Erratum: Heats of Dissociation of the N2 Molecule and the NH Radical

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Heats of Dissociation of the N2 Molecule and the NH Radical

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the opposite direction, it follows that at least two parameters must be assigned even to alkyl substituents in order to account for the changes in the three benzene-like bands. The same conclusion might have been reached from inspection of intensities alone in the earlier xylene curves, where the 1900A benzene-toluene-o-xylene sequence was in the same order as in the 2600A bands, but the meta-para order of intensities was reversed. Since the differences seem to be considerably larger than experimental error, it follows that no one-parameter interpretation of the changes in the alkylbenzene 2600A bands can be extended even approximately to the shorter wave-length bands. The need for more than one parameter in the 2600A bands has been remarked on by various authors.3,5

In the meta sequence from benzene to mesity-lene in Fig. 1, the red shifts with alkyl substitution are seen to be quite regular, about $1200-1500 \text{ cm}^{-1}$ for each additional methyl group. These are several times as large as the shifts in the 2600A bands. The f value for mesitylene is low as it is for p-xylene, almost as low as for benzene itself. Symmetrical substitution with permanent dipole moment zero, seems to lead to low oscillator strength in these bands. In the 2600A bands, mesitylene has lower intensity than m-xylene, but p-xylene has higher.

The spectra of N-trimethyl and B-trimethyl borazole have been obtained in this laboratory and will be compared in a subsequent paper with the spectrum of mesitylene, which they resemble.

We are indebted to Mr. Charles Rector for his able assistance in taking and in reducing the plates.

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The Figs. 1 and 2 should be interchanged leaving the legend as printed.

⁵ Theodore Förster, Zeits. f. Naturforschung 2a, 149 (1947).