Copy of a printed diagram referenced as "Heryberg figure 50" [possibly variation on Herzberg]

Contributors

Price, William Charles, 1909-1993

Publication/Creation

March 1952

Persistent URL

https://wellcomecollection.org/works/sdz4pvdv

License and attribution

wellcome collection

Wellcome Collection
183 Euston Road
London NW1 2BE UK
T +44 (0)20 7611 8722
E library@wellcomecollection.org
https://wellcomecollection.org

and $''$ but by a subscript g or u depending on whether they are symmetric or antisymmetric with respect to the center of symmetry. Table 23 gives the symmetry types and characters of D_{4h} and D_{6h} as obtained from those of D_4 and D_6 of Tables 18 and 19. Again the characters for i, σ_v, σ_d, S_4, S_6, S_3 are obtained in a way anal-

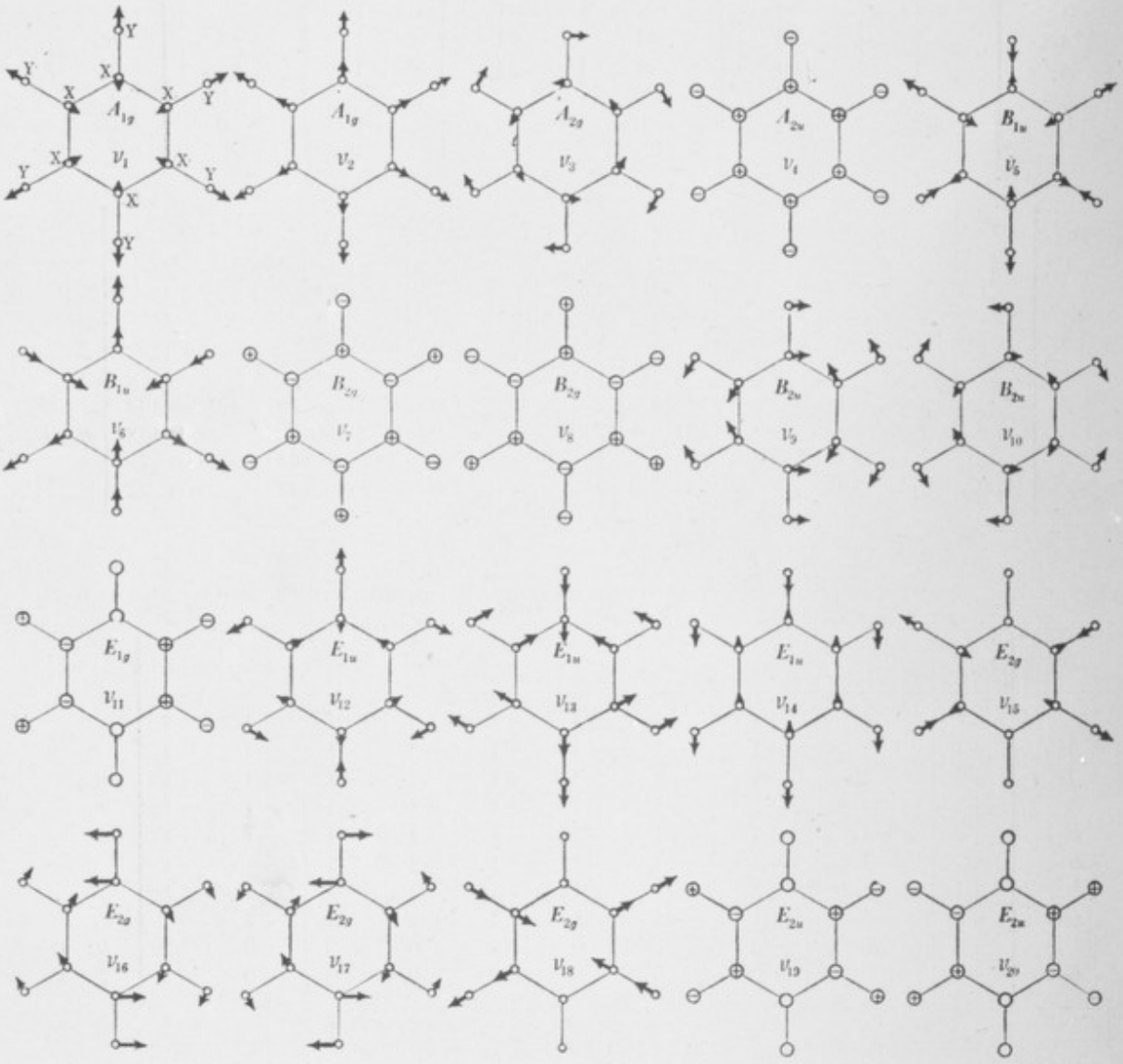

FIG. 50. **Normal vibrations of an X_6Y_6 molecule (point group D_{6h}).**—Only one component of each degenerate vibration is given. For the other components compare Fig. 40 and 38c.

ogous to the one indicated above for D_{3h} and D_{5h}. The normal vibrations of X_4 and X_6 given in Fig. 37 and Fig. 40 are examples for the symmetry types of D_{4h} and D_{6h} respectively. As a more complicated example, Fig. 50 gives the normal vibrations of a plane X_6Y_6 molecule (see C_6H_6, Chapter III, p. 362).

Point group $D_{\infty h}$. *Linear symmetric molecules* belong to point group $D_{\infty h}$. The symmetry types of $D_{\infty h}$ are quite analogous to those of D_{ph} with odd p except that now an infinite number of degenerate species corresponding to $l = 1, 2$