

p. 29 分子の量子論的取扱い

(ページ真ん中あたり)

誤

余因子の定理を使うことによって、直線分子は

$$\begin{aligned} 0 &= \begin{vmatrix} \alpha - E & \beta & 0 \\ \beta & \alpha - E & \beta \\ 0 & \beta & \alpha - E \end{vmatrix} \\ &= (\alpha - E) \begin{vmatrix} \alpha - E & \beta \\ \beta & \alpha - E \end{vmatrix} - \beta \begin{vmatrix} \beta & \beta \\ \beta & \alpha - E \end{vmatrix} + 0 \begin{vmatrix} \beta & \alpha - E \\ \beta & \beta \end{vmatrix} \\ &= (\alpha - E)[(\alpha - E)(\alpha - E) - \beta^2] - \beta[\beta(\alpha - E) - 0 \cdot \beta] \\ &= (\alpha - E)^3 - 2\beta^2(\alpha - E) \\ &= (\alpha - E)[(\alpha - E)^2 - 2\beta^2] \\ &= (\alpha - E)[(\alpha - E) + \sqrt{2}\beta][(\alpha - E) - \sqrt{2}\beta] \end{aligned}$$



正

余因子の定理を使うことによって、直線分子は

$$\begin{aligned} 0 &= \begin{vmatrix} \alpha - E & \beta & 0 \\ \beta & \alpha - E & \beta \\ 0 & \beta & \alpha - E \end{vmatrix} \\ &= (\alpha - E) \begin{vmatrix} \alpha - E & \beta \\ \beta & \alpha - E \end{vmatrix} - \beta \begin{vmatrix} \beta & \beta \\ \mathbf{0} & \alpha - E \end{vmatrix} + 0 \begin{vmatrix} \beta & \alpha - E \\ \mathbf{0} & \beta \end{vmatrix} \\ &= (\alpha - E)[(\alpha - E)(\alpha - E) - \beta^2] - \beta[\beta(\alpha - E) - 0 \cdot \beta] \\ &= (\alpha - E)^3 - 2\beta^2(\alpha - E) \\ &= (\alpha - E)[(\alpha - E)^2 - 2\beta^2] \\ &= (\alpha - E)[(\alpha - E) + \sqrt{2}\beta][(\alpha - E) - \sqrt{2}\beta] \end{aligned}$$