

Advanced Physical Chemistry II

HW

王石嵘
161240065

September 23, 2019

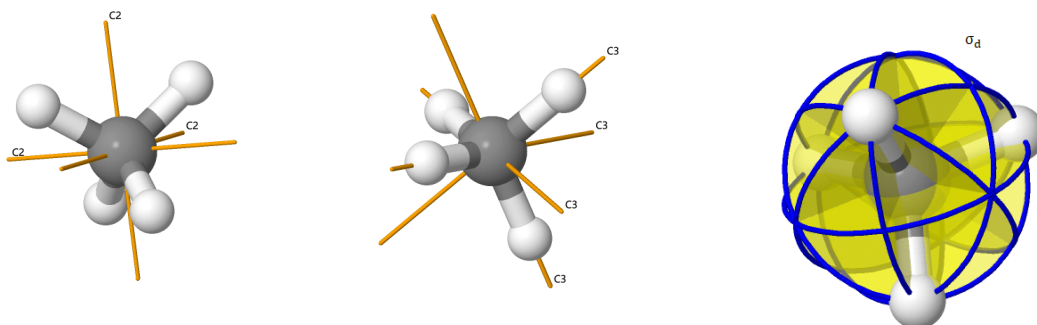
Contents

12 Group Theory: the Exploitation of Symmetry	2
12-4	2
12-12	2

12 Group Theory: the Exploitation of Symmetry

4, 12, 18, 24, 26, 31, 33, 34, 37, 40

12-4 The symmetry elements of CH_4 is as follows. (each S_4 axis is coincident with C_2 axis)



12-12

$$C_3\sigma_v = \sigma'_v \quad (12.1)$$

$$C_3\sigma''_v = \sigma_v \quad (12.2)$$

12-18 For the irreducible representation of C_{3v} ,

$$\hat{E} \begin{pmatrix} u_x \\ u_y \end{pmatrix} = \begin{pmatrix} u_x \\ u_y \end{pmatrix} \quad (12.3)$$

$$\hat{C}_3 \quad (12.4)$$