

CHEM 544 Fall 2019 - Homework 1

Due on Friday, September 20.

Answer all questions. To gain full credit you should explain your reasoning and show all working. Please write neatly and remember to include your name on the front page of your answers.

Solve the following problems in “Molecular Quantum Mechanics, 5th edition, by P. Atkins and R. Friedman”.

Chapter 0

1. Read Chapter 0.
2. Exercises 0.4 and 0.8
3. Problems 0.1, 0.2, 0.3, 0.5 and 0.9

Chapter 1

4. Exercises 1.2 and 1.3
5. Problems 1.2, 1.3, 1.4, 1.5, 1.6, 1.7, 1.11 and 1.12

Additional problems

6. When Ω and Λ are Hermitian, check if the followings are also Hermitian.
 - (a) $\Omega\Lambda + \Lambda\Omega$
 - (b) $i [\Omega, \Lambda]$