

Electronic Spectra of I₂: Lab Reports and Notebooks

Lab Reports:

Lab reports for the I₂ lab should be written in the form of a communication. See the course website for details on writing a communication or letter. I expect the following to be a part of your results/discussion section(s):

1. Spectra of I₂ with the peaks marked and labeled with the appropriate $v'' \rightarrow v'$ transitions.
2. Deslandres table of experimental data (see my example on the course website).
3. Birge-Sponer plot and other information necessary to calculate the molecular constants of I₂. Include a discussion of how each constant was obtained.
4. Results table with the molecular constants of I₂.
5. Comparison of your molecular constants with literature values.
6. Discussion: Compare and contrast the dissociation energy, bond strength, and anharmonicity for the *X* and *B* states. Explain how the assigned spectrum directly indicates that the average interatomic bond length is greater in the *B* state than in the *X* state.

Notebooks:

In addition, I'll be collecting your lab notebooks on the 30th of March. Due to the problems in lab, I won't examine the HCl/DCI lab. You should, however, have been able to take notes on the other three labs. I expect to see sections: Title, purpose, results (including a summary of calculations done to obtain constants) and conclusions. I'll be lax on the grading as I haven't stressed notebooks, but I want to give you incentive to keep up your notebooks.