

Question: *One atom too many.*

We know a bit now about atoms. Let's go to the next more complicated system, a diatomic molecule. What can you figure out about its level structure, selection rules, etc.? A good start would be sketching its excitations, which include electronic excitations, but also others.

What about more complicated molecules? We won't pursue this very far, because, paraphrasing Arthur Schawlow, a diatomic molecule is a molecule with one atom too many.