

## CHEM425

Topics for Test 2

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1. Know the principles of infrared and Raman spectroscopy and be prepared to compare the two methods.
2. Know the principles of fluorescence spectroscopy; know the advantages (disadvantages) of the method. Compare its detection limit and applicability to UV-VIS spectroscopy.
3. Understand the Lambert-Beer's Law; know how to use it in calculation.
4. Know the conversion between absorbance and transmittance.
5. Know the sources useful in UV-VIS and infrared.
6. Know the detectors useful in UV-VIS and infrared.
7. Know the methods for measuring very low levels of light
8. Know the details of the laboratory experiments performed so far.
9. Know how to figure out the theoretical line width in emission spectroscopy, what are the causes why the width in practice increases, explain the principles.
10. Know the general relationship describing ratio of excited and ground-state atoms.
11. Understand the principles and underlying algebra for a two-component colorimetric (spectrophotometric) determination.

Bring a calculator to the class!

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