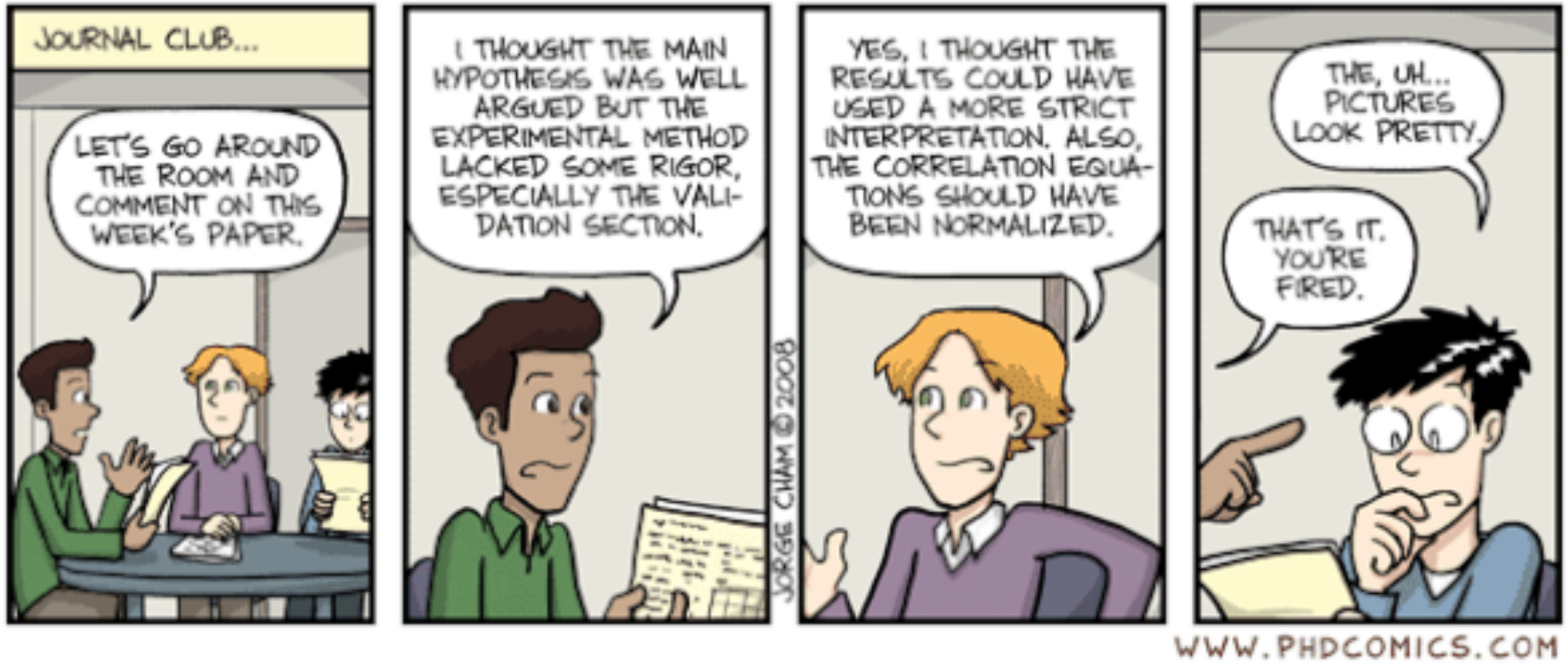
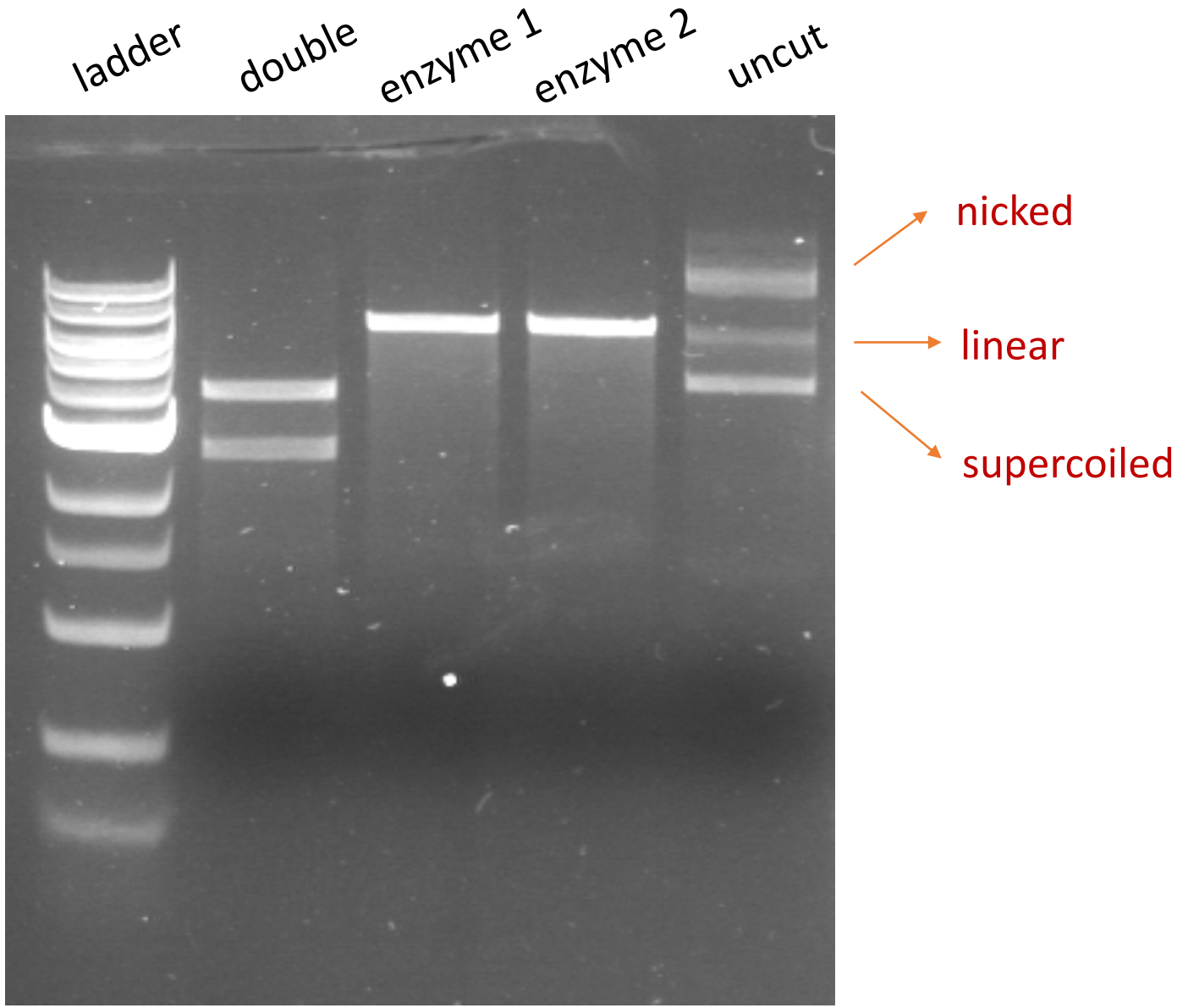
# M2D5: Scan SMM slides to identify binders

1. Comm Lab
2. Prelab discussion
3. Scan slides



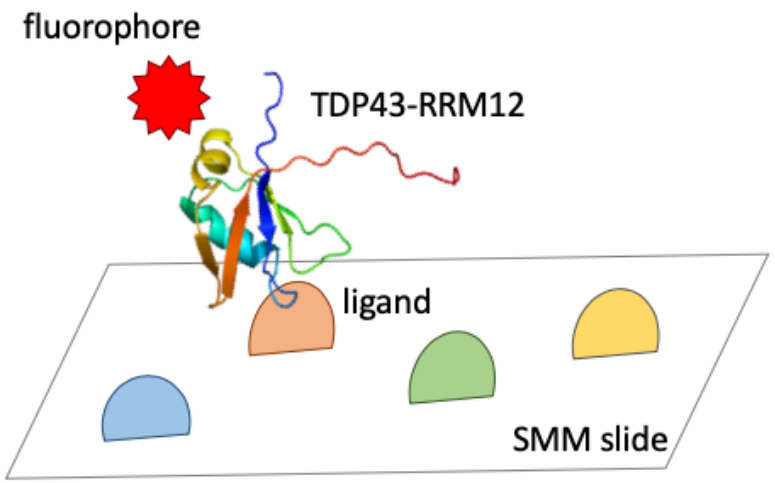
# Diagnostic Digest

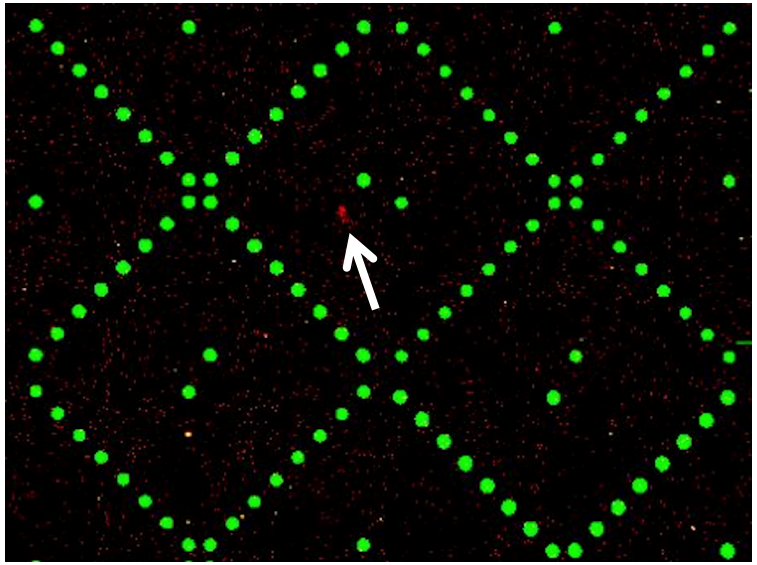
- Why are there multiple bands in the uncut lane?



# Identifying binders of PF3D7_1351100

- How were SMM slides prepared to promote ligand attachment?
- How does ligand attachment / orientation benefit protein binding?
- What are the controls?
- How are ligand binders identified?



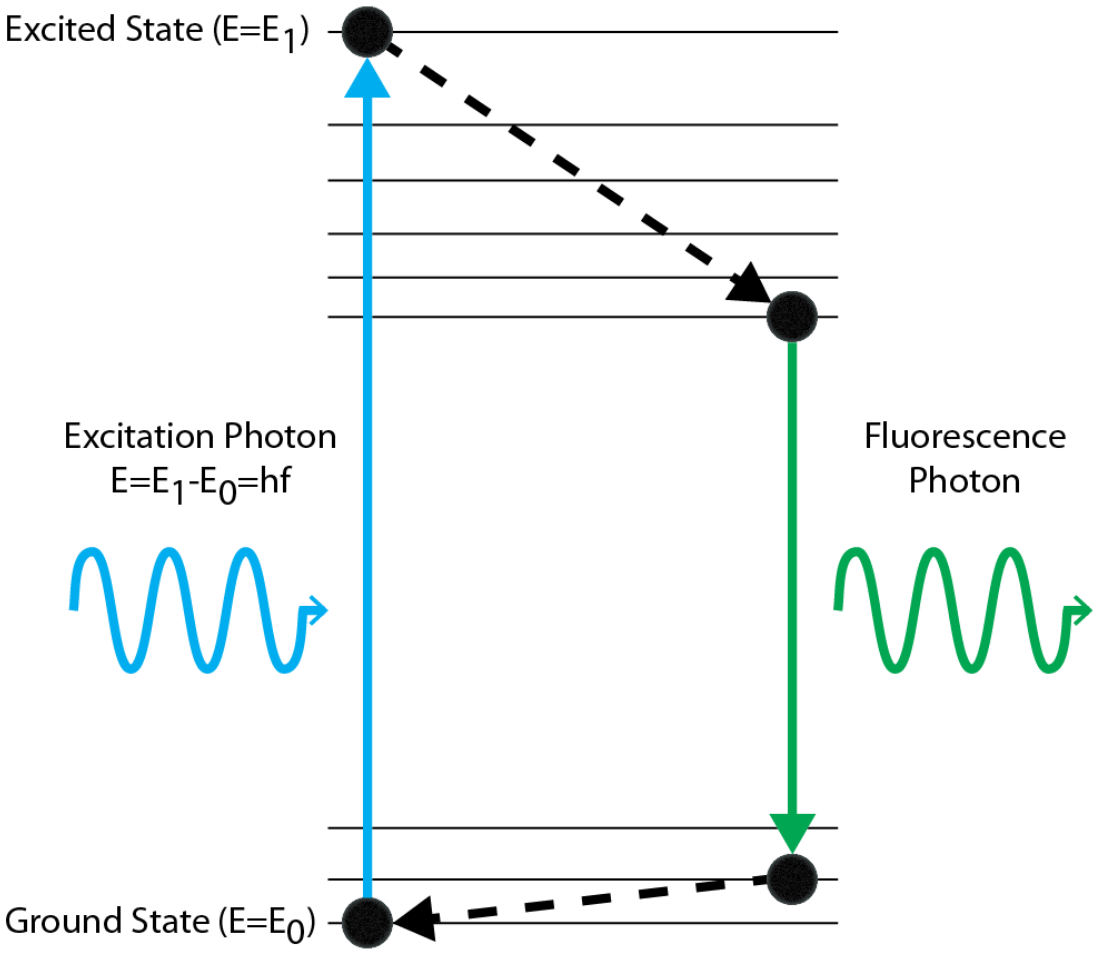
# How is fluorescent signal generated?

- Fluorescent molecules absorb light energy at a specific wavelength
- As molecule returns to ground state, photon is emitted
- Emitted photon is:

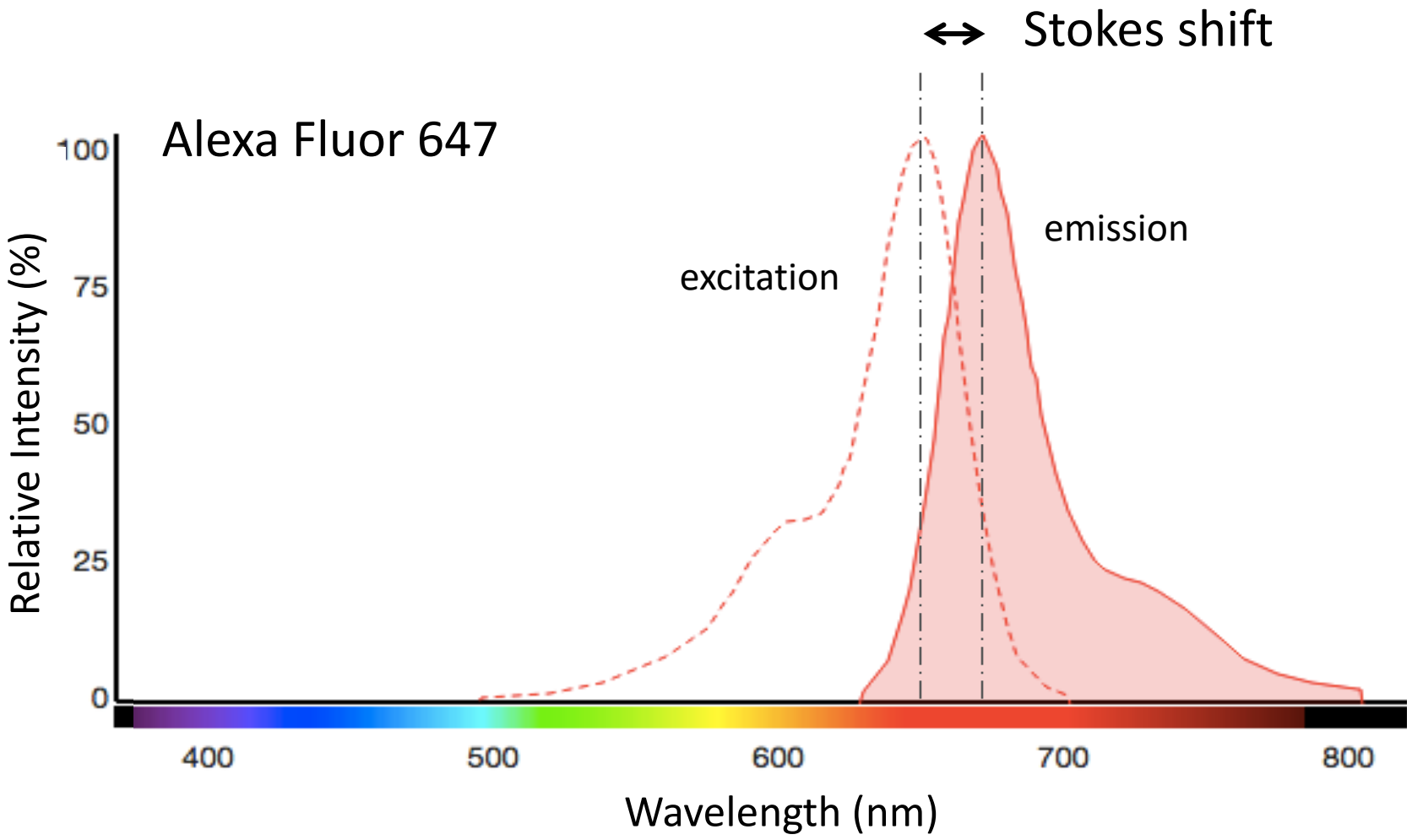
  _____ energy and

  _____ wavelength

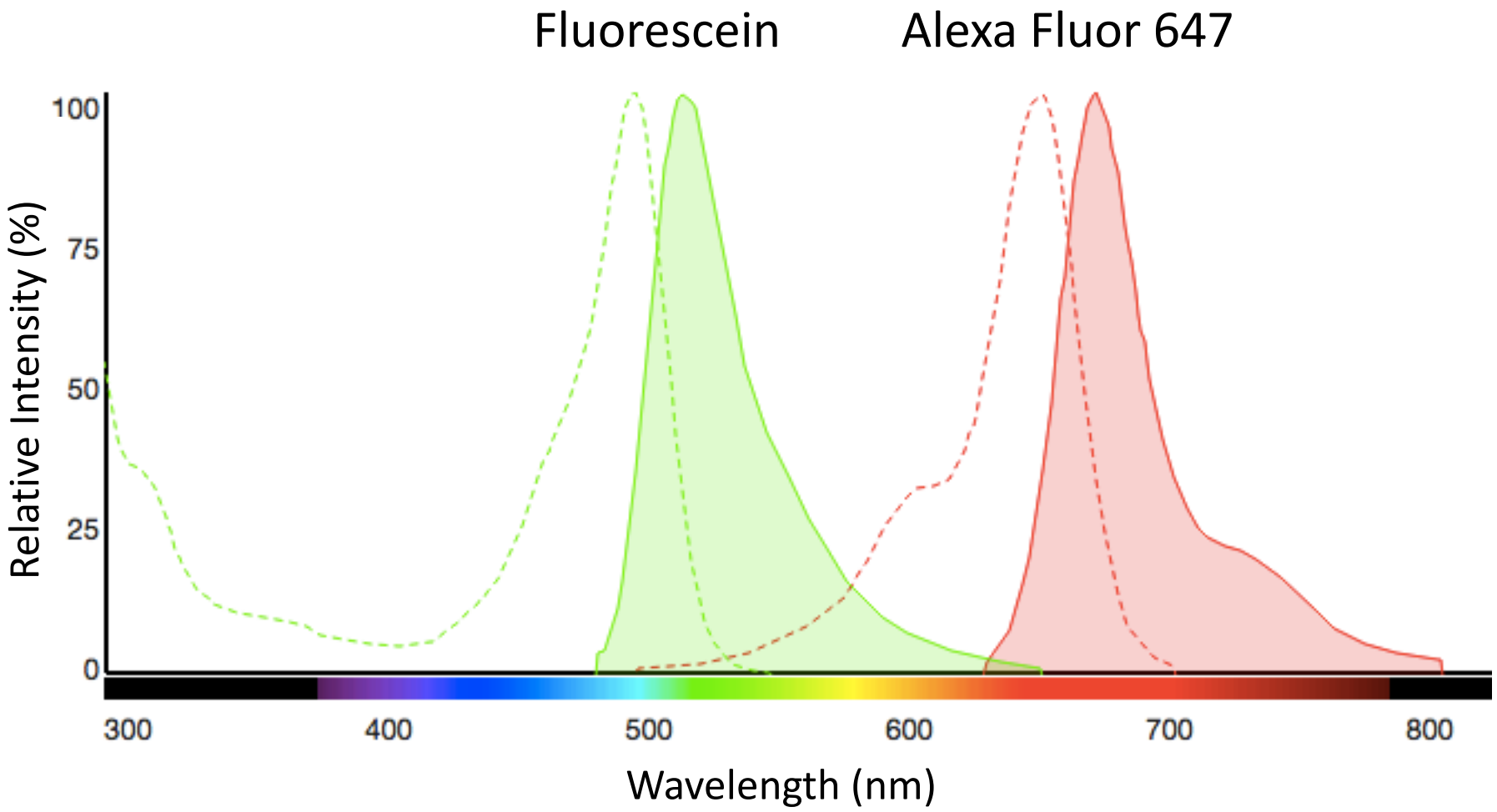
  than excitation photon



# Fluorescent molecules have unique emissions

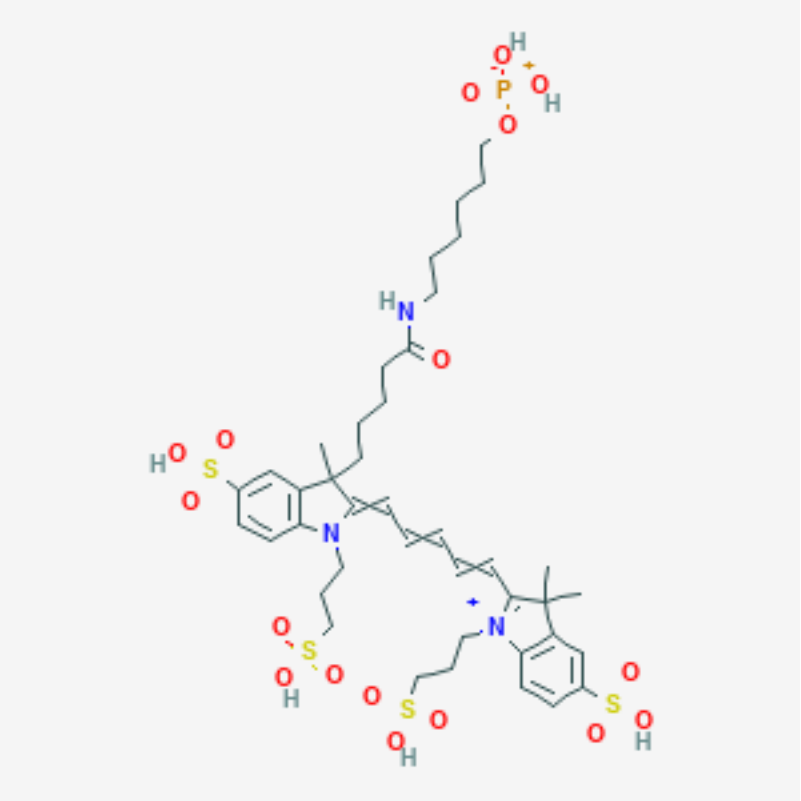


# Why do we measure in two channels?



# Why use chemically engineered Alexafluor to visualize ‘hits’?

- Associates at high molar ratios without quenching by neighboring dye molecules
  - Enables high sensitivity
- pH-insensitive over a wide molar range
- Has high fluorescence quantum yield and high photostability
  - Allows detection of low-abundance targets
- Remains active after excitation



# M2D6HW (Due 10/27)

- Create a figure of the purity and concentration data

- Figure must include a title and caption

- Write associated results and discussion **paragraphs**
  - **Mod2 results text will not include interpretation of the data shown in the figure**
  - <u>Separate</u> discussion section associated with figure with interpretation

- Review guidelines on the wiki homework tab!!

## RESULTS

1. What was the overall goal of these data?
   - State concisely as an introductory sentence.
2. If applicable, what was the result of your control?
   - Was it expected?
3. What was your result?
   - Was it expected?
4. What does this motivate you to do next?
   - Specifically, what experiment follows?

## DISCUSSION

1. What evidence do you have that your result is correct or incorrect?
   - How do your controls support your data?
2. In sum, what do your data suggest or indicate?
   - Do your data support your hypothesis? Why?
3. What does this motivate you to do next?
   - Specifically, what is the next research question?

# For today…

- Work on SMM Scan on wiki
- Work on Journal Club!
- Get a start on the homework due M2D6

# Next week…

- JOURNAL CLUB!

# For M2D6 (10/27)…

- Draft a figure, results, and discussion section of the purity and concentration data