Topic 7

Presentations

7.1 Day 1 (1-6)

3/11:

- Nate's presentation.
  - Figure out what IC_{50} means, and why nanomolar (including single-digit) is good!
  - Explain bio terms (but I'm already planning this).
    - Make sure I have oncometabolite definition right!
  - Make sure all mechanistic/synthetic details are right and explainable (but I'm already planning this).
    - "You should be able to right a mechanism for any reaction you're going to present" - Steve.
    - "If you're in a job interview, you have to be able to have some answer if someone asks how the reaction goes."
    - "Sometimes I know and sometimes I don't, and then I have to look up a bunch of papers. And then sometimes I can figure it out and sometimes I can't, but at least I have something to say then." Sweet!
- Steve to Dennis: "All of these presentations should have been downloaded ahead of time."
- Frank's (Harvard) presentation.
  - Vadadustat.
  - "Slow down, breathe, and don't read from the slide."
  - "You gonna walk us through that scheme? Because otherwise, it's useless."
    - Make sure I explain all figures, including crystal structures!! Learn the hydrogen bonds.
  - Make sure I can explain ambiguous selectivity, too!!
  - HBr works to hydrolyze *activated* (e.g., phenyl) methyl ethers (and can do nitrile hydrolysis at the same time).
    - Explain selectivity for chloro S_NAr on *s*-triazene vs. *ortho*-pyridine.
    - More activated/under more mild conditions. Look up typical conditions for pyridine S_NAr and look to differentiate temperature, acid, etc. from the used conditions.
- Minh's presentation.
  - Voydeya.
  - Appreciating structural/retrosynthetic challenges is probably a good idea!
  - Make sure I know what the biuret test is (a protein test — like the functional group tests Steve discussed that day — that does not contain biuret, but gives a positive result to the peptide-like bonds in biuret).

  - Check timing: Make sure I get everything in in 10 minutes, and don't linger on the bio!
  - Sleep well both of the next two nights!

- Alexander's presentation.

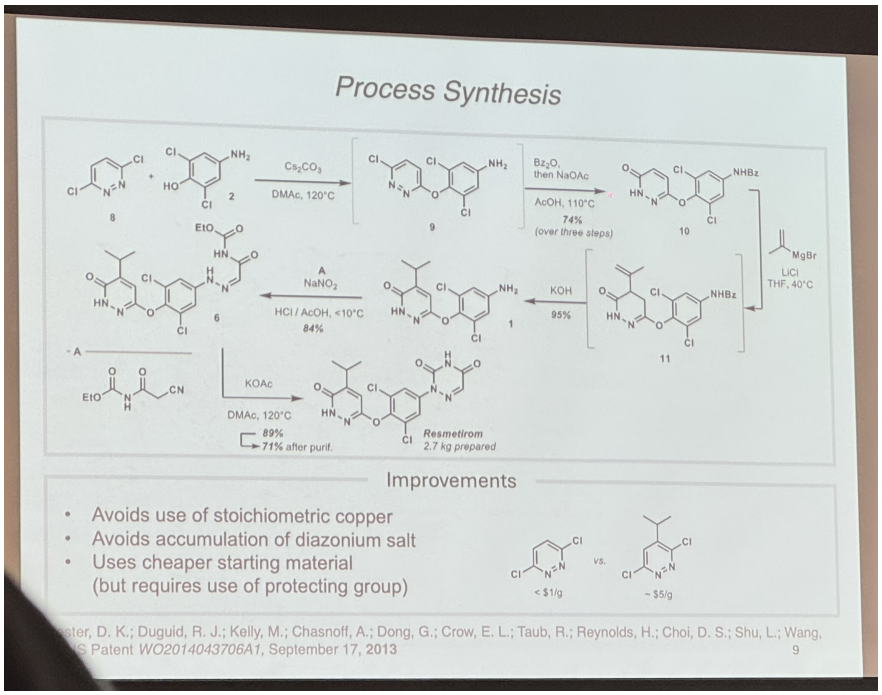

Figure 7.1: Alexander Müller's graphic design.

  - Resmetirom.
  - Electron-rich arenes easily oxidize in the body, leading to redox cycling. Causes safety/toxidity issues.
    - Good discussion of design principles; keep doing the same!
  - Good retrosynthesis, followed by synthesis.
  - Dives into mechanisms of key steps.
  - Good graphic design: Boxes. Very clean and clear. Citations in light grey at bottom left.
  - Numbering chemicals and compounds is a good idea.
  - Explaining selectivity is definitely needed!

- Angel's presentation.

  - Ceftobiprole: Staph antibiotic.
  - Starts with retrosynthetic analysis of moieties.
  - Gives a total nitrogen count; I could/should, too!
  - Gives a discovery timeline.
  - Know the mutations.
  - Drawing out arrow-pushing mechanisms is not inappropriate.
  - Make changes clear in large molecules moving from one to the next with colored bonds, as Steve does! Otherwise, you just get lost as to what's changing...

- On Thursday, we'll start at 9:00 instead of 9:05.
- Kwanwoo's presentation.

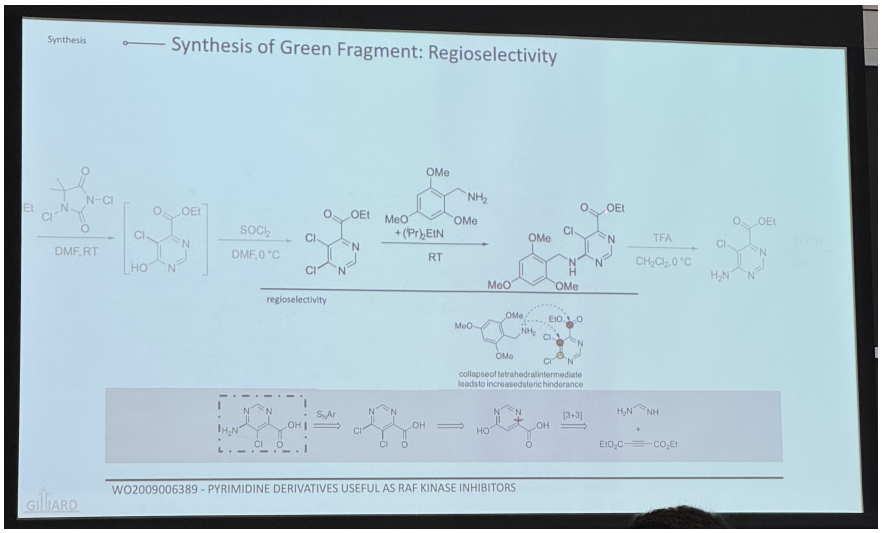

Figure 7.2: Kwanwoo Park's graphic design.

  - Ojemda.
  - Also uses MIT/Gilliard slide template!
  - Also discussing a glioma; could give him a shoutout in my presentation!
  - Slides are too cluttered and he's reading off the slides.
  - Good retrosynthetic analysis. Color-codes fragments (using pastel-colored boxes might be better, then keeping them on each slide).
  - Points out Hantzsch; I should make a fuss about names as well.
  - Know the names of functional groups! Know the carbon numbering in my molecule.
  - Graphic design.
    - Mechanism in pop-up box is a good approach.
    - Keeping the general scheme at the bottom of each slide, being progressively highlighted, as you move through bigger synthetic details up top.
    - Chemoselectivity with circles in popup box.
  - Know reagent names, and functional group names.