Recent Publications (2015-2016): Analytical Sciences

Analytical Sciences

“Mechanism of Dissolution-Induced Nanoparticle Formation from a Copovidone-Based Amorphous Solid Dispersion”

“An canine biorelevant dissolution method for predicting in vivo performance of orally administered sustained release matrix tablets”

Mol. Pharm. 2016, ASAP.

Merck Analytical Chemistry: Recent Notable Publications


- Homodecoupled 1,1 and 1,n-ADEQUATE: Pivotal NMR Experiments for the Structure Revision of Cryptospirolepine, ACIE, 2015, EarlyView.


Recent Publications (2015-2016): Process Chemistry

**Process Chemistry**

“Nanomole-scale high-throughput chemistry for the synthesis of complex molecules”

**“Enantioselective Synthesis of α-Methyl-β-cyclopropyl-dihydrocinnamates”**

Science. 2015, 347, 49

**“Chemistry informer libraries: a chemoinformatics enabled approach to evaluate and advance synthetic methods†”**

J. Org. Chem. 2016, 81, 824

Chem. Sci., 2016, 7, 2604
Merck Process Chemistry: Recent Notable Publications

- “Nanomolar-scale high-throughput chemistry for the synthesis of complex molecules,” *Science* 2015, 347, 49.
Living in NJ (it’s actually really nice)

- Both work at the same site in Rahway, NJ
- Rahway has an amazing train system. Amtrak and NJ Transit can bring you to NYC (40 min), Newark Airport, Boston, DC, and Philadelphia (and more!)
- Coworkers live across the state. Many people use train and Merck provides shuttles.
- A lot of new hires live close to work or close to the city.
- We live ~20 min away (with several new hires) in a group of towns with train access to NYC.
Why Industry…and Merck Specifically

- Strong scientific reputation
  - Merck is a leader in publishing
- Top-notch scientists, there is always an expert a few doors away
- Location, especially when you have a “two-body problem”
- Resources of being a top-5 pharmaceutical company: infinite resources
- Lots of new hires across all departments make it fun!
Job Prep for Industry at Umich: Pros/Cons

Jameson
- Research focus did not reflect “typical” skills for an analytical chemist **con → pro**
  - As a result primarily focused/assumed an academic path. Lab did not have alumni in industry.
- Applied for national awards. Lost all. **pro**
  - Was diligent and later received an NIH postdoctoral fellowship
- Independently wrote internal research grant. **pro**
- Did not have opportunity to collaborate much externally. **con**
- Presented at external conferences (ENC 2X, Biophysical Society). **pro**
- Participated in Umich career events (like CALCIUM). **pro**

Dani
- Gave talks/presented posters at several national conferences (NOS (2x), ACS-GRS, Roche Excellence in Chemistry). **pro**
- Did not supervise an undergraduate. **con**
- Applied for national awards. You win some you lose some – take the chance. **pro**
- Gave research seminar at Glen Oaks Community College (outreach). **pro**
- Did not stay up on top of literature. **con**
- Presented at internal conferences at U-Mich. **neutral**
- Participated in onsite recruiting even though postdoc (be transparent!). **pro**
Job Prep for Industry at Postdoc: Pros/Cons

Jameson

- Postdoc in a lab that had very active collaborative network. **pro**
- Postdoc lab was a national facility (administrative, meetings, etc) **pro**
- Had to quickly adapt to new environment and be successful **pro**
  - Helped build confidence to apply for industry jobs
- Applied for *national* awards. **pro**

Dani

- Read a lot of current literature. **pro**
- Read “The Portable Chemist’s Consultant” by Y. Ishihara and Phil Baran, $40. **pro**
- Read C&E news to stay up on current events and good “cocktail party” stories. **pro**
- Was a mentor but not a supervisor (artifact of lab?). **con**
- Attended national conference to network. **pro**
- Applied for *national* awards. **pro**
Applying and Interviewing: Step 1

- Began applying for jobs in 2013-2014.

Step 1: Finding a job to apply for (in order of impact).

- Direct contact with company recruiter via advisor (Dani) or department (Jameson)
- Your network! Contact alumni (Dani), friends, scientists you’ve met at conferences, internal symposia, or on campus recruiting.
- Targeted company searches: visit company websites to see open positions. Jobs are being posted both on and off (Jameson & Dani) cycle.
- Online job searches (ie Indeed)
- Other: Linkedin, ACS jobs, Science and Nature (Jameson) magazine job listings.
Applying and Interviewing: Step 2

Step 2: Applying for jobs

- Be prepared to apply for several positions, *do not take anything personal.*
- Tailor your application (CV/resume, research summary, cover letter etc) for the job description (next slide).
  - CV: well formatted, clean and concise, 2 page max (highest impact)
    - Avoid “*manuscript in preparation*”
    - Separate publications from presentations
    - Remove teaching experience...unless you received a teaching award.
    - Try to avoid excessive typos, be consistent
  - Cover letter: succinct, 1 page max
  - Research summary: variable, 2 pages (Process Chemistry like ACS format)
  - References: Choose wisely
- Get feedback! Very important to ask coworkers their advice, a second opinion is always worth while.
- Follow-up, shows that you are serious about the position
Applying and Interviewing: Step 3

Step 3: Interviewing

- **On campus:**
  - Great opportunity even if not ready to defend, new postdoc, postdoc lined up, or unsure. Just ask and be clear of your intent. (Dani)
  - Look nice, have slides printed, come with questions (missed opportunity)
  - Merck’s interviews are ~45 minutes
    - 5-10 minutes of introductions
    - 20-30 minutes of research (w/ questions throughout)
    - 10 minutes, wrap up and chance to ask questions about company.

- **Merck:** Decide if candidate is should be brought onsite, warranted “future talent” for tracking (typically after postdoc), or does not meet criteria.
  - Complete “Merck Ambassador Form”; rate candidate on ability to communicate science, demonstrate leadership and whether he/she is someone with whom you would like to worth with at Merck.
Applying and Interviewing: Step 3

Step 3: Interviewing

- **Phone Interview:**
  - Prepare
    - Practice 30 second elevator “Tell me about yourself”
    - Research common interview questions
    - Reflect and think of personal situations to answer “HR Type” questions
  - Keep calm and speak clearly and succinctly
  - *Do not use cell phone*, try to use a land line.
    - Have a room in mind ahead of time. Scrambling last minute will stress you out.
  - It can help to stand or hold a “power pose” to sound more confident
  - Ask Questions
    - Pre-prepared or as a result of the discussion
Applying and Interviewing: Step 3

Step 3: Interviewing

- **On Site Interview:**
  - Research seminar (**majority of decisions made here**)
    - Demonstrate how you go about solving problems
    - If possible, show how you collaborate
    - Stay on time!! (several attendees may have a meeting after the seminar and WILL leave)
  - Prepare
    - Practice 30 second “Tell me about yourself”. **Practice out loud and to another person.**
    - Research common interview questions
    - Reflect and think of personal situations to answer “HR Type” questions
  - Keep calm (even if mini “interview crisis”, just recover on the next meeting)
  - Be professional but **be yourself**
  - It’s ok to pause/think before response to questions
  - Ask Questions:
    - Have at least 5 questions you can ask everyone you meet.
    - Helps to show your interest in the company and future co-workers
  - Dress well, take bathroom breaks, bring a water bottle