

# The essentials to become a great LCSO member in the eyes of Jerome

## 1) General

- **Be passionate about science**, a PhD is not a job, but a passion, a vocation and an education
- Do science intensively (not forcefully equivalent to being long in the lab)
- Learn to enjoy performance, but staying relaxed
- Take the responsibility for your work, don't blame others and circumstances
- Profit from the experience of seniors and give your help to juniors
- Be punctual and learn to consider deadlines as a matter of personal honor
- **As a PhD**: you should learn progressively to become **an independent researcher**, in the first 6-12 months you will probably start in tandem on a running project with a senior, then get your own project to lead
- **As a postdoc**, you should learn to become a team leader. You will have your own independent project and in addition be in charge of helping younger scientists with their own projects.

## 2) In the lab

- **Safety is first priority**: Work at the bench wearing lab coat and safety glasses, and never alone
- Keep your working place clean and ordered and your chemical bottles at the right place with the right label, take particular care of flammable solvents
- Take care of the equipment (balances, glassware, stirring plates,...), repair/replace them at once if damaged
- **Be a perfectionist** (learn to enjoy doing everything the best you can just for the sake of it)
- If a reaction did not work, purify again all starting materials, solvents and reagents and try again
- Use the time your reactions are running to plan and read: prepare the next day in the lab
- Learn to run reactions in parallel
- Choose the fastest analysis method for the desired information (TLC, NMR, isolated yield, HPLC, MS,...)
- Keep always up to date with the characterization of compounds
- Keep your lab journal complete and error-free

## 3) In reports and presentations:

- Follow a logical structure (see group guidelines)
- Present your work in the broader context with correct credit to previous reports
- Think always of smooth transitions (no "salami" reports)
- Use ACS style for references and chemdraws, all draws should be the same size, draw nice circular catalytic cycles
- Take care to have clean NMR spectra without grease and solvents
- Write experimental part according to ACS standards taking previous publications of the group as template
- Avoid any missing peaks in NMR data or wrong formula in MS, assign all  $^1\text{H}$  spectra
- Compare peak by peak your NMR data with the reported one for known compounds, report mistakes
- Use significant digits correctly

## 4) Interactions and team spirit

- **I don't read minds!** Come to me and discuss if you have any personal or scientific issue.
- If there is a problem, think about a solution, then come to me to discuss it (do not keep it secret)
- Feel free to try your own ideas, but implement quickly my suggestions
- Propose new projects/ideas for your research or the one of others
- Do your best with your group jobs, give the highest priority to common duty
- Try to take initiative for the common good (to improve work conditions/chemical knowledge of everybody)
- As a junior, listen respectfully to seniors and implement their suggestions
- As a senior, always take questions of juniors seriously and help them as much as you can
- Give your help spontaneously without expecting always payment

## 5) Theoretical knowledge

- Be always critical but open-minded: **no idea is perfect, but no idea is without value**
- Try to know more on your project than me (I am the generalist, you are the specialist!)
- Follow the scientific literature out of your own interest
- Learn to argument clearly on mechanisms using clean arrow pushing
- Take initiative to improve your weak points to avoid repeating the same mistake/missing knowledge
- Do not hesitate to come to me to discuss general chemistry questions
- Be sure to have a complete basic organic chemistry knowledge