My awesome ‘work’

- **Protein Purification ~~ Molecular Biology**
  Goal: Prepare a ‘good’ sample of tuberculosis proteins in order to send it in the NMR and get the protein structure

- ‘good’ = pure, folded, PH <7.5, stable (does not precipitate at ~60 degrees Fahrenheit)

- How? Start from DNA strands coding for the desired protein, set the DNA In plasmids and the plasmids in the competent cell (E-coli and/or Rosetta). Multiply everything ( until 500ml E-coli culture with OD 8) and start the purification. Break cells + a lot of centrifugation + fancy machines (which usually separate proteins by size) + many things that don’t work = …
... (usually) a sample that precipitates immediately

Many tests follow to see why it precipitates, try to find a more stable medium, check if the protein is folded and has any impurities; we finally end up with a good sample or with information to start a new culture and try again with different conditions.
What I loved and learned

• Although my knowledge of biology and chemistry are very limited, by the end of the internship I could work alone with all the machines and analyze the results. Because the proteins gave so many unexpected results, I often would suggest/predict what to do next. This lab involved a lot of analysis and creative thinking which made everything very interesting and exciting.

• Learned many practical things: how to make gels, how to work with dangerous solutions, how to make stock solutions, how to work on 5 tasks at the same time, how to be organized, very fast and efficient;

• Bonus: how to avoid making future mistakes (by making many)
The Cultural aspect

- France is an amazing country. The people I worked with are amazing people. A normal day in the lab would include conversations about politics, family, movies, sports and much more. A day in the lab would be extremely fun, diverse, and academically intriguing at the same time.
I felt the people in Montpellier enjoyed their lives at its fullest. The food, the Mediterranean sea, the wine, the outgoing lifestyle, the festivals, everything was screaming ‘we love live’. Because of this I was very passionate about my work and would often stay longer just because I enjoyed being in the lab.
Our cultural experience extended way beyond Montpellier. We were 3 hours away from Barcelona and Paris; 4 hours away from Geneva and 5 from Venice.

We have become friends with many other students, musicians, researchers, professors and even farmers.
In the end, I regard this internship as an amazing experience that inspired both my future academic choices and life principles/goals. I realized that working in the lab is something I love, especially since some projects imply a lot of creativity, thinking, and a good comprehension of the subject.

I also understood once again that for me, research must be accompanied by a cultural and social lifestyle and that my passion in science must be further backed up by my passion for other things in life.