

A decorative purple L-shaped frame is positioned around the text. It consists of a horizontal bar at the top left, a vertical bar on the left side, and another L-shaped piece at the bottom right.

NANOCELLULOSE FILMS & FIBERS

Jayme Slotkin

3 Projects

1. Nanofibrillated Cellulose (NFC) Films –
Transparent Paper



2. NFC + Graphene Films



3. NFC + Graphene Fibers



Making Transparent Paper (NFC Film)

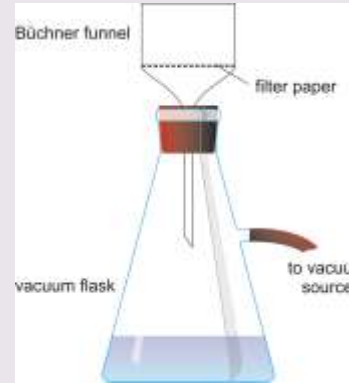
1



2



3



4



5



6



7



8



Making NFC + Graphene films

1



+



2



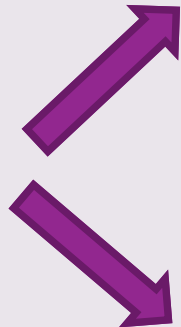
3



4



5



6



Making NFC + Graphene Fibers

1



2



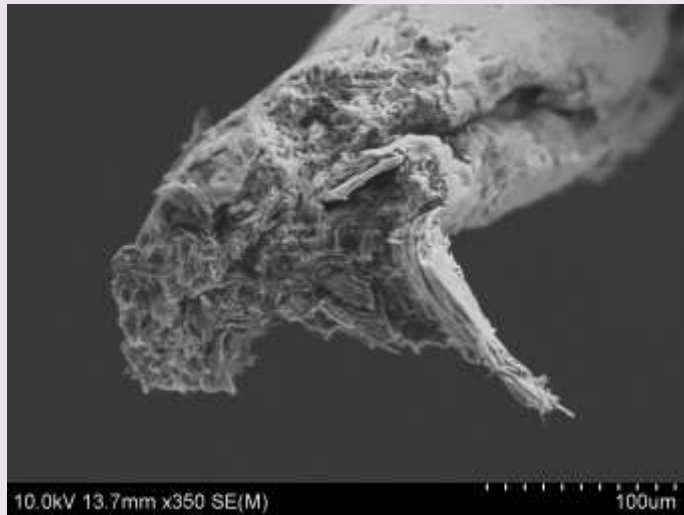
+



3



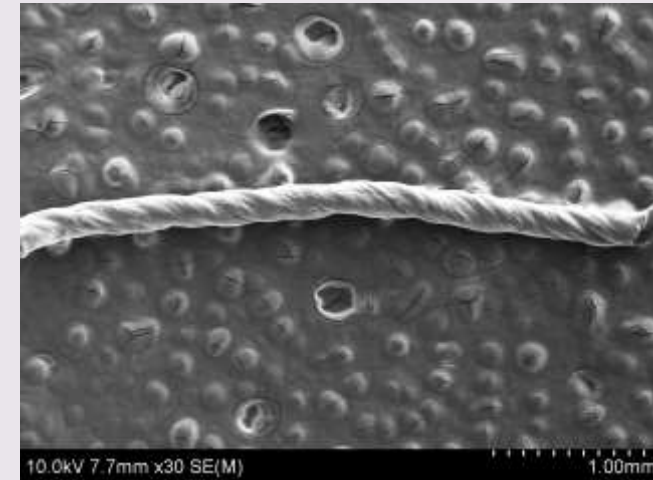
Scanning Electron Microscope (SEM) Images of NFC + Graphene Fibers



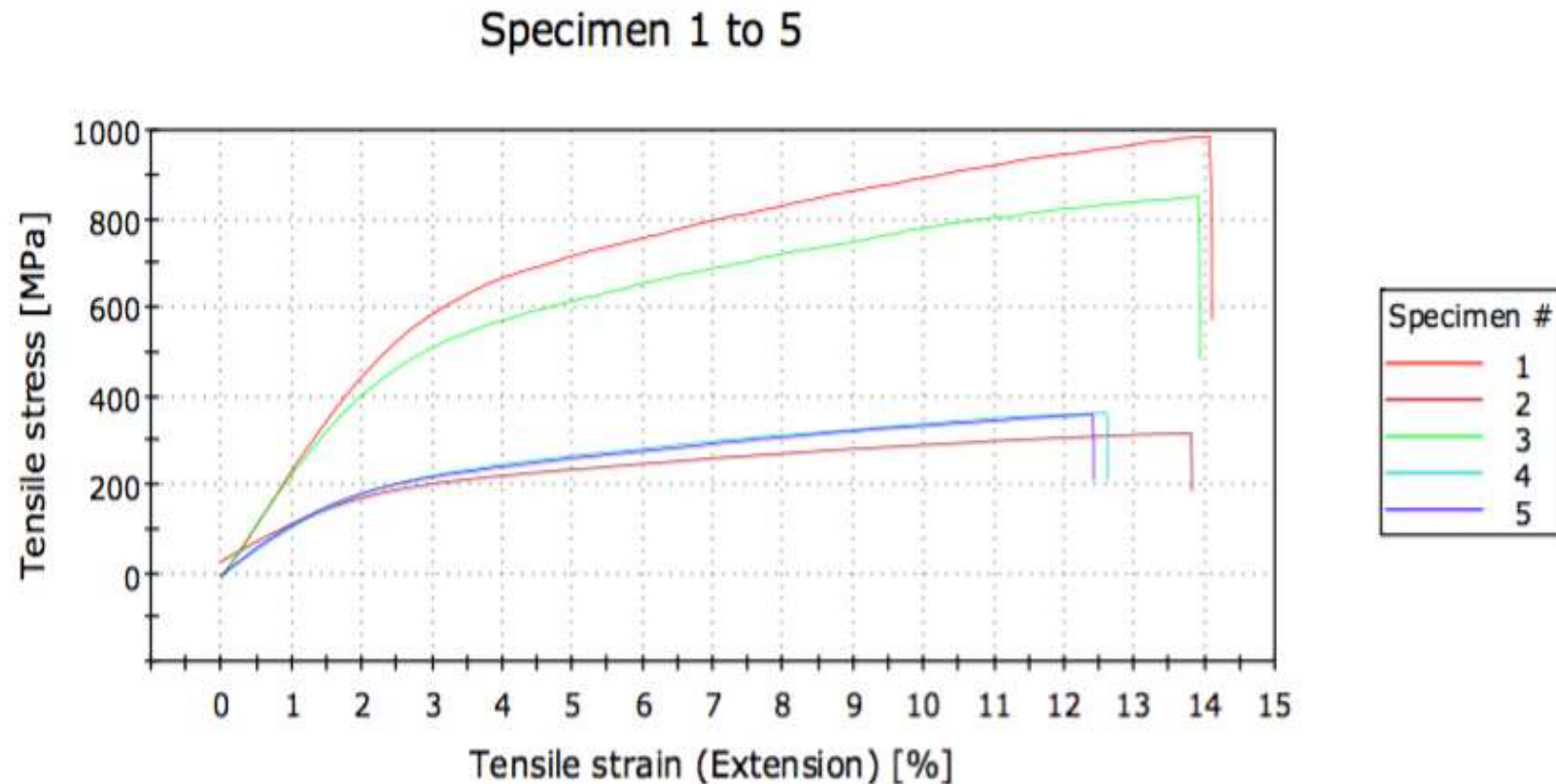
Not Twisted



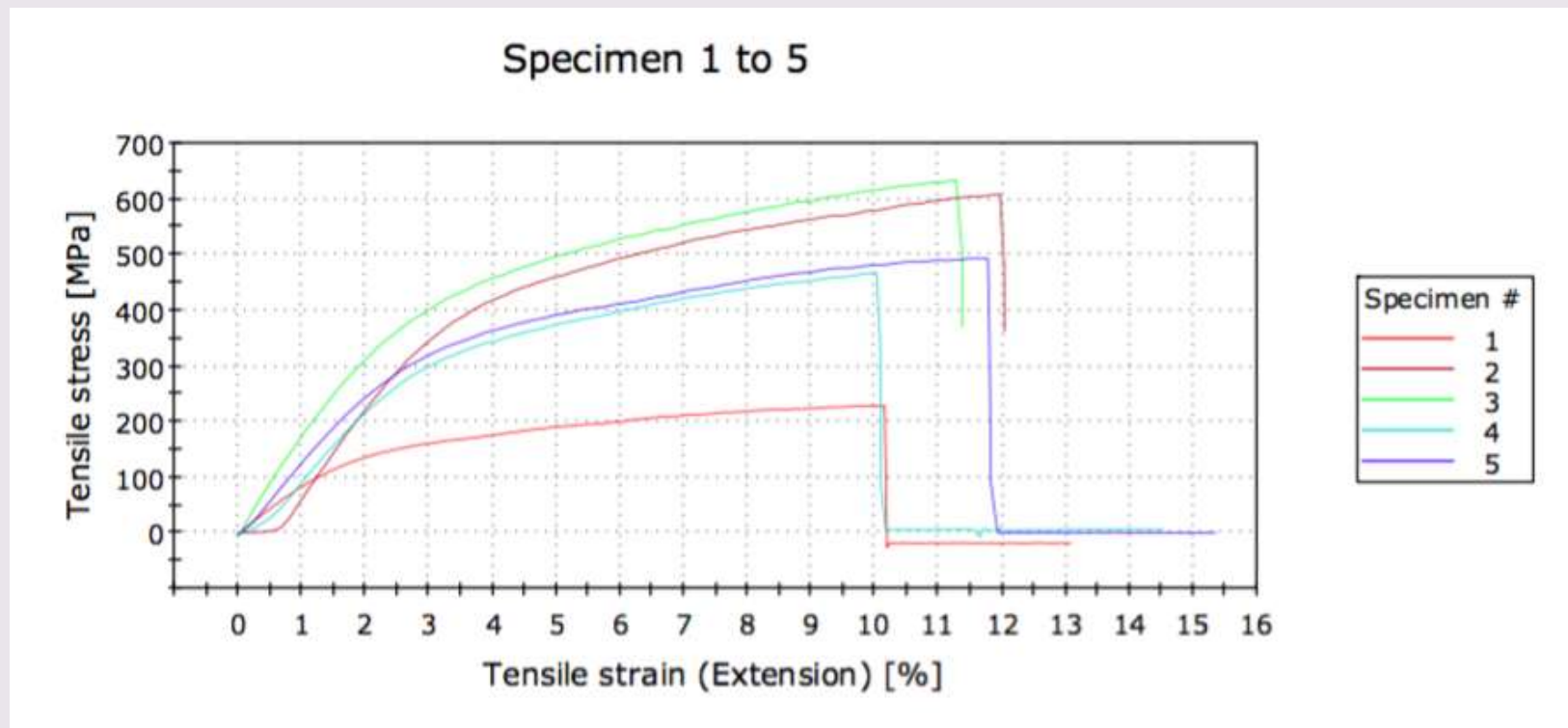
Twisted



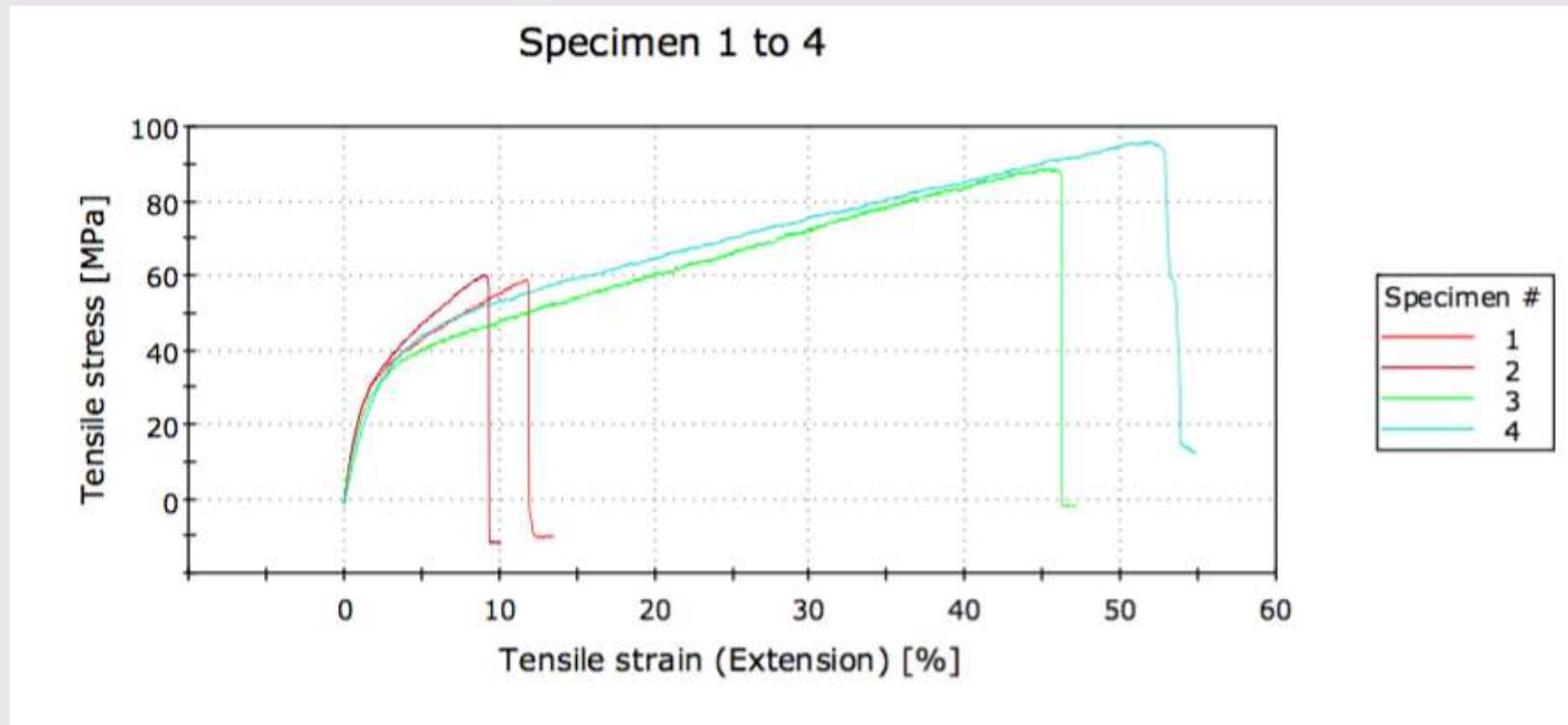
Mechanical Testing – NFC Film (Transparent Paper)



Mechanical Testing – NFC + Graphene Films

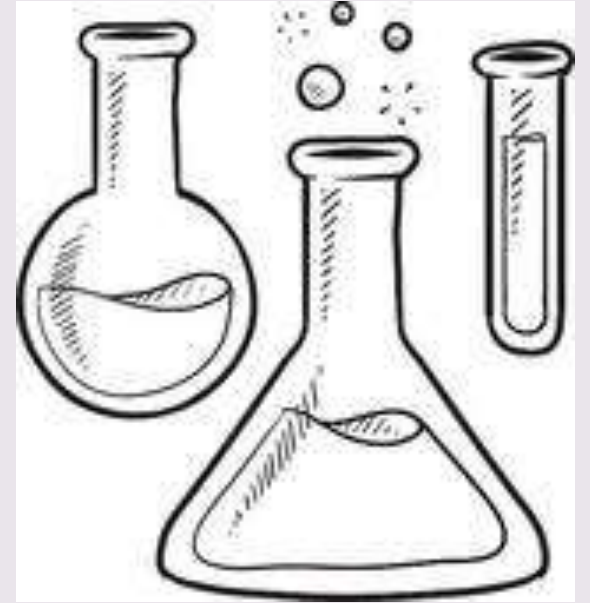


Mechanical Testing – NFC + Graphene Fibers



Some Lessons I Learned

- Lab work requires A LOT of cleaning up
- It's okay not to understand everything
- Mastering lab techniques takes time
- You don't always get the results you want
- Science is creative!



Acknowledgments

- Dr. Liangbing Hu (nanomaterials group leader, Materials Science professor at UMD)
- Dr. Yubing Zhou (my supervisor)

References

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