

Massachusetts Institute of Technology

3.155J/6.152J

Micro/Nano Processing Technology

Fall Term 2005

Instructions for the Microfluidics Lab Report

Your lab report should follow the format of the *IEEE Electron Device Letters*, although only the experiment section and results/discussion (most important) will be graded.

Contents: Your Letter should include the following sections:

1. Title
2. By-line (Author, affiliation, and submission date)
3. Abstract (50–200 words)
4. Introduction
5. Experiment (the fabrication portion can be very brief and reference the lab handout, just report departures from the standard practice)
6. Results and Discussion (this is the most important part)
7. Conclusion
8. References

Although Letters do not usually have appendices, you should attach the following two appendices so the professors can better evaluate your work:

Appendix A: Data

Appendix B: Calculations

Length: This report need not be as long as the IC and MEMS Lab Report. You need only include 1 table in the report. This table should summarize two things; i) the measured flow velocity and it's comparison to theory, ii) the extracted diffusion coefficient. The discussion should explain departures from expectations.

Purpose: The purpose of your Letter is to evaluate the microfluidic mixer fabricated and tested in the lab, and to discuss any differences between the mixer characteristics (flow velocity, diffusion constant) and that which is expected. **YOU SHOULD FOLLOW THE GUIDANCE FROM THE November 22nd LECTURE TO DETERMINE THE TECHNICAL CONTENT TO BE INCLUDED.**

Audience: You may assume that your audience is familiar with microfabrication and fluidics.

Grading: For the Microfluidics Lab, you will receive a technical grade based on your Letter. *The technical grade will be based on your critical evaluation of the measured flow rate and diffusion constant as compared to the expected.*

Deadline: Submit your lab report to the course site by 2:00PM on Wednesday, December 7th.