

Author Contributions

*Travis S. Schlappi, *Stephanie E. McCalla, Nathan G. Schoepp, and Rustem F. Ismagilov. **2016** "Flow-through Capture and in Situ Amplification Can Enable Rapid Detection of a Few Single Molecules of Nucleic Acids from Several Milliliters of Solution." *Analytical Chemistry*. 88 (15): 7647–765.

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Author Contributions

‡ T.S.S. and S.E.M. contributed equally. T.S.S., S.E.M., N.G.S., and R.F.I. designed the study and wrote the manuscript. T.S.S. and S.E.M. performed theoretical analysis. T.S.S., S.E.M., and N.G.S. performed experiments and data analysis.

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S-X. Author Contributions

Contributions of non-corresponding authors:

Travis S. Schlappi

1. Contributor to method/protocol development for capture experiments and in situ amplification experiments.
2. Major contributor to simulation and theory development.
3. Performed all simulations for Figures 1 and 2.
4. Developed protocol for DNA capacity measurements and performed all experiments for Figure 3.
5. Contributed to experiments and data accumulation for Figure 5.
6. Major contributor to outline, manuscript, and supporting information writing.
7. Major contributor to figure and manuscript revisions.
8. Made all figures and tables in the manuscript and supporting information.

Stephanie E. McCalla

1. Major contributor to concept of chitosan-based flow-through capture and in situ amplification for low concentration detection.
2. Major contributor to method/protocol development for chitosan functionalization (hydrogel and monolayer), capture experiments, and in situ amplification experiments.
3. Major contributor to simulation and theory development.
4. Performed preliminary experimental work on in situ amplification and flow-through capture.
5. Performed preliminary simulations for Figure 1c.
6. Contributed to outline writing.
7. Contributed to manuscript revisions.

Nathan G. Schoepp

1. Major contributor to method/protocol development for chitosan hydrogel synthesis.
2. Contributor to method/protocol development for capture experiments, and in-situ amplification.
3. Contributor to experiments and data accumulation for Figure 5.
4. Minor contributor to manuscript writing.
5. Minor contributor to manuscript revisions.