

Docket #: S21-290

MANifold: Systematic characterization of nucleic acid thermodynamics via high-throughput fluorescence melt experiments

MANifold is a novel method developed for systematic, high throughput measurements of nucleic acid secondary structure. The method includes a platform that is capable of massively parallel fluorescent measurements yielding quantitative data on the thermodynamics of the nucleic acid secondary structure. Numerous algorithms have previously been developed to predict the DNA/RNA secondary structure thermodynamics; however a major hurdle limiting such efforts has been the throughput available to methods that characterize DNA and RNA one-by-one.

Stage of Research

- Proof of concept

Applications

- Predictive models of DNA and RNA structure including secondary structure and base-pairing

Advantages

- Structure prediction in various buffer conditions
- Simultaneous measurement of ~45,000 nucleic acid melt curves (DNA and RNA)

Patents

- Published Application: [WO2023028618](#)
- Published Application: [20240352450](#)

Innovators

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