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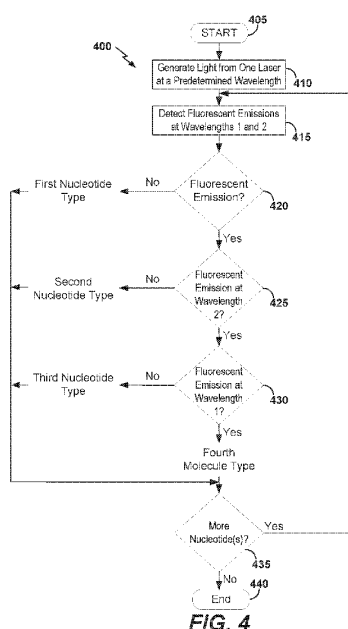
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(54) Title: SINGLE LIGHT SOURCE, TWO-OPTICAL CHANNEL SEQUENCING



(57) Abstract: Disclosed is a system for determining the nucleotide sequence of polynucleotides. The system can comprise a light source, such as a laser or a LED, configured to generate light at a predetermined wavelength. A detector of the system can detect fluorescent emissions at a first wavelength and a second wavelength. A processor of the system identify the nucleotide as a first type if no fluorescent emission is detected by the at least one detector; identify the nucleotide as a second type if a fluorescent emission at the first wavelength of light is detected by the at least one detector; identify the nucleotide as a third type if a fluorescent emission at the second wavelength of light is detected by the at least one detector; and identify the nucleotide as a fourth type if fluorescent emissions at the first wavelength and the second wavelength of light are detected by the at least one detector.

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