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(54) **SIGNAL ENCODING AND DECODING IN MULTIPLEXED BIOCHEMICAL ASSAYS**

(71) Applicant: **California Institute of Technology, Pasadena, CA (US)**

(72) Inventors: **Emil Kartalov, Pasadena, CA (US); Aditya Rajagopal, Irvine, CA (US); Axel Scherer, Barnard, VT (US)**

(73) Assignee: **California Institute of Technology, Pasadena, CA (US)**

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USPC ..... **702/19; 702/22; 703/2**

(58) **Field of Classification Search**

None

See application file for complete search history.

(56)

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*Primary Examiner* — Russell S Negin

(74) *Attorney, Agent, or Firm* — Wilson Sonsini Goodrich & Rosati

(57)

**ABSTRACT**

This disclosure provides methods, systems, compositions, and kits for the multiplexed detection of a plurality of analytes in a sample. In some examples, this disclosure provides methods, systems, compositions, and kits wherein multiple analytes may be detected in a single sample volume by acquiring a cumulative measurement or measurements of at least one quantifiable component of a signal. In some cases, additional components of a signal, or additional signals (or components thereof) are also quantified. Each signal or component of a signal may be used to construct a coding scheme which can then be used to determine the presence or absence of any analyte.

**26 Claims, 8 Drawing Sheets**

