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**Rao et al.**

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(54) **DEVICE, ARRAY, AND METHODS FOR DISEASE DETECTION AND ANALYSIS**

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(\* ) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

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(22) Filed: **Aug. 21, 2014**

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(65) **Prior Publication Data**

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(63) Continuation of application No. 12/031,625, filed on Feb. 14, 2008, now abandoned.

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(51) **Int. Cl.**

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**C40B 60/12** (2006.01)  
**B01L 3/00** (2006.01)

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(52) **U.S. Cl.**

CPC ..... **G01N 33/543** (2013.01); **B01J 19/0046** (2013.01); **C40B 60/12** (2013.01); **B01J 2219/00385** (2013.01); **B01J 2219/00549** (2013.01); **B01J 2219/00612** (2013.01); **B01J 2219/00621** (2013.01); **B01J 2219/00626** (2013.01); **B01J 2219/00637** (2013.01); **B01J 2219/00725** (2013.01); **B01L 3/5025** (2013.01); **B01L 3/5027** (2013.01); **B01L 3/50273** (2013.01)

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(58) **Field of Classification Search**

None  
See application file for complete search history.

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(57) **ABSTRACT**

A device and array coupled to capture molecules are provided. Specifically, the device and array can be used for detecting the presence and concentration of biomarkers in a sample from a subject. The device and array can also allow the use of a method for scoring a sample for, e.g., the purpose of diagnosing a disease. The method can also be advantageous to applications where there is a need to accurately determine the disease stage of a subject for the purpose of making therapeutic decisions.

**4 Claims, 31 Drawing Sheets**