Colorimetric Sensing Of Amines.
Tech ID: 29067 / UC Case 2017-144-0

BRIEF DESCRIPTION
An affordable and easily synthesized indicator that can be applied to monitor reaction progress in a system using only one inexpensive and non-toxic agent.

BACKGROUND
Colorimetric indicators are a family of compounds that change color upon exposure to different stimuli. This technology has been used in a large number of biological and environmental fields to detect important stimuli such as metal ions, volatile amines, cyanotoxins, pesticides and pharmaceuticals. Current techniques used to detect these stimuli are costly and rely on sophisticated instrumentation and skilled manpower, making them impractical for regular use. The ability to prepare low cost sensors that can be interpreted without the use of advanced machinery would extend the potential of colorimetric indicators into various fields.

DESCRIPTION
Researchers at the University of California, Santa Barbara have developed an affordable and easily synthesized indicator that can be applied to monitor reaction progress in a system using only one inexpensive and non-toxic agent. This adaptable colorimetric sensor provides easy access to highly sensitive and selective detecting of amines for a wide range of applications. The technology offers sensors that can be seen by the naked eye, by portable spectrophotometers, or even with the digital cameras in smart phones. Due to the low cost and ease of using this sensor, the technology could be used in a much broader range of fields than current market amine detectors, including use in commercial products.

ADVANTAGES
▶ Inexpensive and easy to produce on a commercial scale
▶ Transportable sensor
▶ High selectivity of amines
▶ Simple interpretation of sensor

APPLICATIONS
▶ Determining freshness of meat and seafood
▶ Detect amines present in explosives and their residues
▶ Testing water for pharmaceutical byproducts
▶ Signaling the beginning stages of infection in a wound

PATENT STATUS
Patent Pending

RELATED CASES
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OTHER INFORMATION
KEYWORDS
Amines, Colorimetric Sensor, Bioamines, Photochromic, Bacteria, indadvmat, indansens, indpharma

CATEGORIZED AS
▶ Biotechnology
▶ Food
▶ Health
▶ Materials & Chemicals
▶ Biological
▶ Pesticides and Insecticides
▶ Medical
▶ Other
▶ Security and Defense
▶ Food and Environment
▶ Sensors & Instrumentation
▶ Biosensors
▶ Environmental Sensors
▶ Medical

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ADDITIONAL TECHNOLOGIES BY THESE INVENTORS
▶ Negative Photochromic Material With Tunable Properties
▶ Hybrid Growth Method for Improved III-Nitride Tunnel Junction Devices
▶ Mussel-Inspired Underwater Adhesives/Coatings From Renewable Resources
• III-Nitride Tunnel Junction with Modified Interface
• Enhanced Block Copolymer Self-Assembly
• Diels-Alder Chemistry for Bioconjugation and Incorporation into Non-Natural Amino Acids
• High Energy-Density Polymer Electrolytes for Batteries and Energy Storage
• Controlling Liquid Motion using Donor Acceptor Stenhouse Adduct Photochromic Dyes