High throughput detection method of Quorum Sensing molecule by colorimetric assay and its applications

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Abstract

Quorum sensing (QS) molecules and QS quenching enzymes in bacteria has been one of the main topics of study recently. Despite many interests on QS, there wereas not easy were not enough high-throughput tools to detect QS molecules and lactonase activity. easily and fast. Here, we report a simple and rapid the successful introduction of colorimetric assay method with nano-molar detection limit. , which has low detection limit at nmol and can be realized by common chemicals and small quantity of lactone compounds. This method could be used for the quantitation of QS molecules, monitoring of hydrolysis by pH and assay of enzyme activity in a few minutes, and thThe results are were quite comparable with HPLC. As a simple application, using this method, human liquids, saliva and blood, were simply examined and found to have some activities on QS moleculeshydrolyzing activity.