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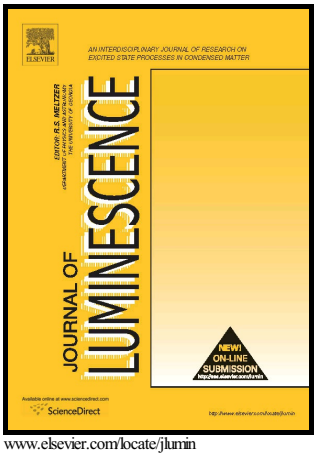

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PII: S0022-2313(18)30936-0
DOI: https://doi.org/10.1016/j.jlumin.2018.07.048
Reference: LUMIN15795

To appear in: *Journal of Luminescence*

Received date: 2 June 2018
Revised date: 7 July 2018
Accepted date: 29 July 2018

Cite this article as: Jinya Du, Na Huang, Zhouxuan Xiang, Yuzhi Dong, Qingyun Gao, Wei Yang and Changying Yang, A label-free assay for high sensitive detection of RNase based on two Near IR fluorescence probes, *Journal of Luminescence,* https://doi.org/10.1016/j.jlumin.2018.07.048

A label-free assay for high sensitive detection of RNase based on two Near IR fluorescence probes

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Abstract

RNase, whose function was cleaving RNA in ssRNA, dsRNA or DNA-RNA hybrid chain, can be analyzed directly by fluorescence probe assisted with RNA. In this paper, we constructed a none-labeled RNase assay based on fluorescence probe with high sensitivity and specificity. Two TICT characterize probes (H2 and L2) exhibited strong luminescence when bound with RNA. Then RNase hydrolysis substrate RNA exposing probe into buffer and resulted in fluorescence quench, causing "OFF-ON-OFF" fluorescence switch. We successfully applied the assay to detect two kind of RNase (RNase A and RNase H) with the detection limit of 1.67×10^{-5} U/mL