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Authors: Vincent S. Joseph, Jong-Dal Hong



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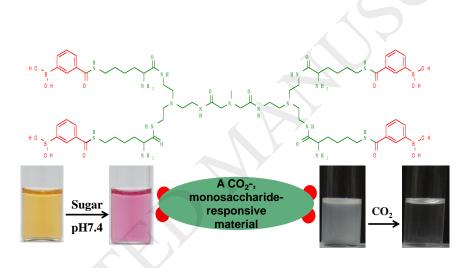
#### Phenylboronic Acid-Modified Oligoamine Sensitive to Monosaccharides and Carbon Dioxide under Physiological Conditions

Vincent S. Joseph , Jong-Dal Hong\*

Department of Chemistry, Research Institute of Basic Sciences, Incheon National University, 119 Academy-roYeonsu-gu, Incheon 22012, Republic of Korea.

\* Corresponding author. Tel.: 82-32-835-8234; Fax: 82-32-835-0762. *E-mail address*: hong5506@inu.ac.kr

#### **Graphical abstract**



Dual stimuli-responsive receptor OAB showed excellent responsiveness to major endogenous metabolites, specifically carbon dioxide (CO<sub>2</sub>) and monosaccharides glucose and fructose. The reversible complexation of the receptor with was controlled over time through slow bubbling of CO<sub>2</sub> and then nitrogen (N<sub>2</sub>) into the solution. The receptor displayed strong binding to glucose (binding constant  $K_{eq} = 5.8 M^{-1}$ ) and fructose ( $K_{eq} = 73.4 M^{-1}$ ) at the physiological pH 7.4, respectively.

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