

## Aptamer-based detection of melamine in milk using an evanescent wave fiber sensor

Yong Qiu<sup>1</sup>, Yunfei Tang<sup>1,2\*</sup>, Bing Li<sup>3</sup>, Chunmei Gu<sup>4</sup>, Miao He<sup>1\*</sup>

<sup>1</sup> State Key Joint Laboratory of Environment Simulation and Pollution Control, School of Environment, Tsinghua University, Beijing 100084, China

<sup>2</sup> Ecological Environmental Protection Investments Company, China Communications Construction Corporation, Beijing, 100013, China

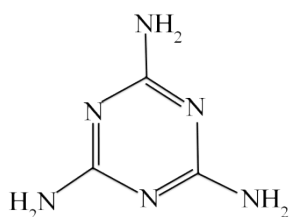
<sup>3</sup> School of Energy and Environmental Engineering, University of Beijing Science and Technology, Beijing, 100083, China

<sup>4</sup> School of Chemistry, Tsinghua University, Beijing 100084, China

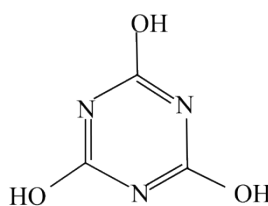
\*Corresponding authors:

(Y. Tang) yunfeitang@yeah.net; (M. He) hemiao@tsinghua.edu.cn

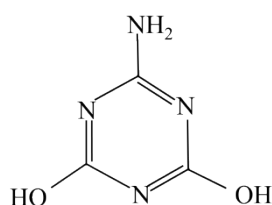
Figure S1. Structures of the chemicals for selectivity analysis



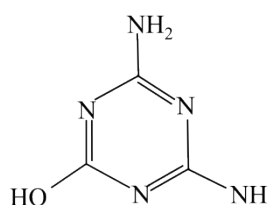
Melamine



cyanuric acid



ammelide



ammeline

Table S1 Information of the chemicals for selectivity analysis

Name	CAS number	Molecular formula	Molecular weight g/mol
melamine	CAS 108-78-1	C <sub>3</sub> H <sub>6</sub> N <sub>6</sub>	126.12
cyanuric acid	CAS 108-80-5	C <sub>3</sub> H <sub>3</sub> N <sub>3</sub> O <sub>3</sub>	129.07
ammelide	CAS 645-93-2	C <sub>3</sub> H <sub>4</sub> N <sub>4</sub> O <sub>2</sub>	128.09
ammeline	CAS 645-92-1	C <sub>3</sub> H <sub>5</sub> N <sub>5</sub> O	127.11

Table S2 Curve fitting results of the dose-response data

	Equations	Model parameters		R <sup>2</sup>
		<i>a</i>	<i>b</i>	
Exponential	$y = a \cdot (1 - e^{-x/b})$	285	9.61	0.976
Logarithm	$\ln y = a + b \cdot \ln x$	4.70	0.314	0.992
Hyperbola	$y = a \cdot x / (b + x)$	318	6.30	0.998