

SUPPORTING INFORMATION

Highly Efficient Peroxidase-like Activity of Metal Oxide Incorporated Metal Organic Framework CeO₂-MIL(Fe) and its application for Colorimetric Detection of Melamine and Mercury ions via Induced Hydrogen and Covalent Bond

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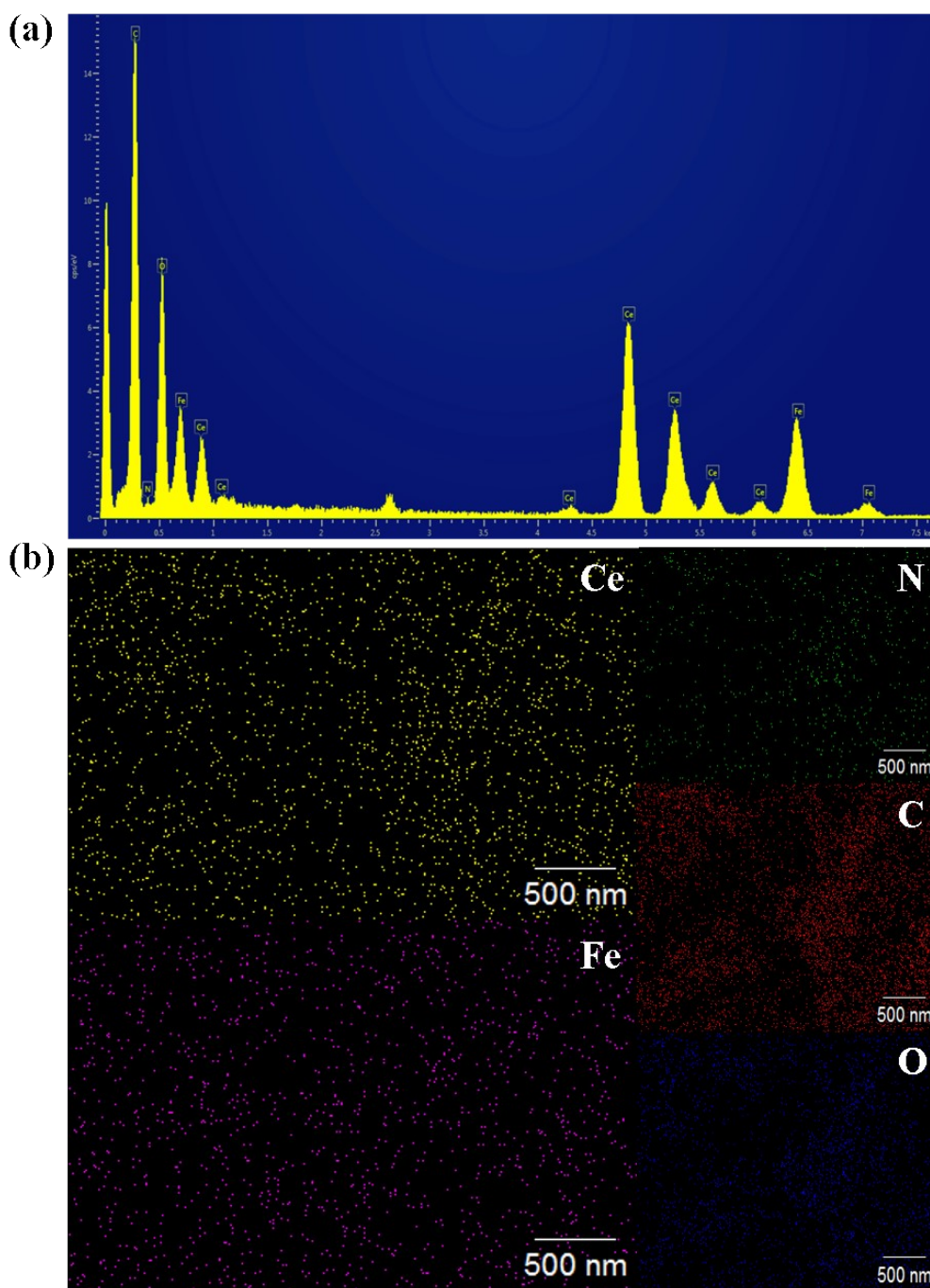


Figure S1. (a) EDXS and (b) elemental mapping for CeO₂-MIL(Fe)

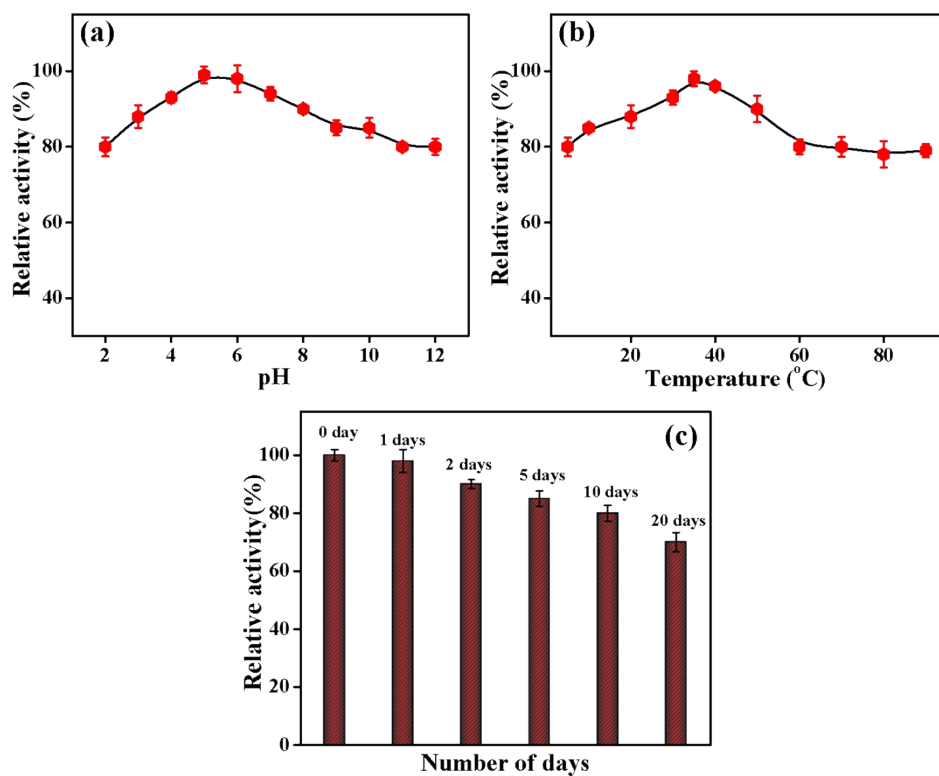


Figure S2. Stability analysis of CeO₂-MIL(Fe) in different (a) pH and (b) temperature, (c) stability test for sensor probe at various days.

Table S1. Comparison between proposed sensors with earlier reported sensors

Bio-chemical platform	Sensor	LOD (nM)	Targets	Ref.
Cu ²⁺ -H ₂ O ₂ -TMB	Colorimetry	500	melamine	[1]
Zr-MOF@Ru	Colorimetry	90	melamine	[2]
Au-nanocluster	Colorimetry	72	melamine	[3]
AuNps-Aptamer	Colorimetry	14.9	melamine	[4]
TMB+H ₂ O ₂ +CeO ₂ -MIL(Fe)	Colorimetry	8	melamine	This work
4DBS	Colorimetry	451	Hg ²⁺	[5]
AuNps-DNA	Fluorescence	60	Hg ²⁺	[6]
H ₂ TCPP/ZnS/CoS	Colorimetry	17.4	Hg ²⁺	[7]
MoS ₂ -Au composite	Colorimetry	5	Hg ²⁺	[8]
TMB+H ₂ O ₂ +CeO ₂ -MIL(Fe)+melamine	Colorimetry	2	Hg ²⁺	This work

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