

Support Information

Colorimetric Sensing of Benzoyl Peroxide Based on the Emission Wavelength-Shift of CsPbBr₃ Perovskite Nanocrystals

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Table S1. The sensing applications of perovskite material

Material	Analyte	Sample	Linear Range	LOD	Analytical Properties	Reference
CsPbBr ₃ NCs	Peroxide	Oil	0-0.6g/100g	0.139mg/100g	Halogen exchange	[1]
CH ₃ NH ₃ PbBr ₃ NCs	Hg ²⁺	---	0-100nM	0.124nM	Cation exchange	[2]
CsPbBr ₃ NCs	H ₂ S	Rat brain	0-100μM	0.18μM	Structural transformation	[3]
CsPbBr ₃ NCs	NH ₃	---	25-350ppm	8.85ppm	Defect passivation	[4]
CH ₃ NH ₃ PbBr ₃ @SiO ₂	SO ₂	---	0-10ppm	155ppb	Electron transfer	[5]
CsPbCl _{1.2} Br _{1.8} NCs@ h-SiO ₂ /KSF@EVA film	Temperature	---	30-45°C	0.2 °C	Thermal quenching	[6]
CH ₃ NH ₃ PbI ₃ NCs	MicroRNA-155	---	0.01fM-20nM	0.005fM	Photoelectrochemical properties	[7]

Table S2. Comparison among the results from the present work and others found in the reference

Method	Reagent consumption	Cost	Linear range	LOD	RSD%	Time needed	Sample	Reference
Gas chromatography	Large	High	0-20µg/mL	3mg/kg	2.38-6.20	7min	Flour	[8]
High performance liquid chromatography	Large	High	0.07-15µg/g	30ng/mL	0.4-3.2	23min	Wheat flour	[9]
Capillary electrophoresis	Small	Low	2-100µg/mL	0.29µg/mL	1.3-3.9	<7min	Pharmaceutical	[10]
Amperometry	Small	Low	5.0-55µmol/L	2.5 µmol/L	2.9	4.1s	Wheat	[11]
Chemiluminescence	Small	Low	0.5ng/mL-1µg/mL	0.14ng/mL	1.5	0.46 s	Wheat flour	[12]
Ratiometric fluorescence	Small	Low	0-60µmol/L	163nmol/L	0.9-2.6	<6 min	Wheat flour	[13]
Spectrophotometry	Small	Low	0-100µmol/L	0.75µg/mL	3.2-14.5	2 min	Flour	[14]
Fluorescence method of wavelength shifting	Small	Low	0-120µmol/L	0.13µg/mL	2.8-5.5	2 min	Flour	This work

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