

## Supporting Information

### **A Bionic Palladium Metal-organic Framework Based on Fluorescence Sensing Enhancement Mechanism for Sensitive Detection of Phorate**

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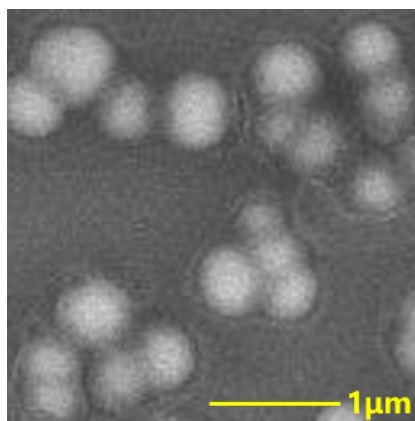
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**Supplementary Figure 1.** SEM images of Pd-MOF.

**Supplementary table 1.** Detection result of BET

Item	Result
BET Surface Area	232.5095 m <sup>2</sup> /g
t-Plot Micropore Area	152.6034 m <sup>2</sup> /g
t-Plot external surface area	79.9061 m <sup>2</sup> /g
Single point adsorption total pore volume of pores	0.115689 cm <sup>3</sup> /g
t-Plot micropore volume	0.058969 cm <sup>3</sup> /g
Adsorption average pore diameter	1.9903 nm
BJH Adsorption average pore diameter	3.8167 nm

**Supplementary table 2.** Comparison with previously reported OPPs detection methods

Probe	Range	LOD	Ref.
CBZ-BOD@ZIF-8	1-6 $\mu\text{g/mL}$	1.15 ng/mL	1
LysFP@ZIF-8	0-10 $\mu\text{g/mL}$	79 ng/mL	2
TPE-Peptide	1-100 $\mu\text{M}$	15.07 $\mu\text{g/kg}$	3
MPBOD	0-10 $\mu\text{g/mL}$	2.15 $\mu\text{g/mL}$	4
SiQDs/OPD	0.125-12.5 ng/mL	0.05 ng/mL	5
AuNP	12.44-136.22 ng/mL	12.44 ng/mL	6
Pd-MOF	100-0.001 ppb	0.001 ppb	This work

**Supplementary table 3.** Comparison of energy gap between Pd-MOFs and other

MOFs		
MOFs	Energy gap (eV)	Ref.
Zr-TCPP(Pd)	1.96	7
Zr-TCPP	1.68	
Zn-MOF	2.988	8
Cd-TCPP	1.86	9
Fe-TCPP	1.473	10
Pd-MOFs	0.025	This work

**Supplementary table 4.** Determination of phorate in samples

Sample	Found (ppb)	Recovery (%)	RSD(%)
	0	0	0
Tap water	93.05 ± 0.08	93.05 ± 0.06	6.46
	8.77 ± 0.18	87.69 ± 0.02	2.06
	1.06 ± 0.04	105.66 ± 0.04	4.06
	0	0	0
Peer rinsing water	100.83 ± 0.10	100.83 ± 0.05	4.81
	9.37 ± 0.58	93.68 ± 0.06	6.15
	1.00 ± 0.07	99.65 ± 0.07	7.40
	0	0	0
Pear juice	100.69 ± 0.08	100.69 ± 0.05	4.95
	10.56 ± 1.18	105.62 ± 0.12	11.16
	1.06 ± 0.07	106.12 ± 0.07	6.16
	0	0	0
Cabbage rinsing water	96.03 ± 0.17	96.03 ± 0.08	8.25
	9.96 ± 0.52	99.57 ± 0.05	5.21
	1.01 ± 0.10	101.47 ± 0.10	9.94
	0	0	0
Cabbage juice	99.05 ± 0.09	99.05 ± 0.05	4.67
	9.85 ± 0.58	98.48 ± 0.06	5.88
	0.96 ± 0.04	96.19 ± 0.04	4.36

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