

Supporting Information (SI)

Point-of-care testing of methotrexate by a controlled-release sensor based on the personal glucose meter

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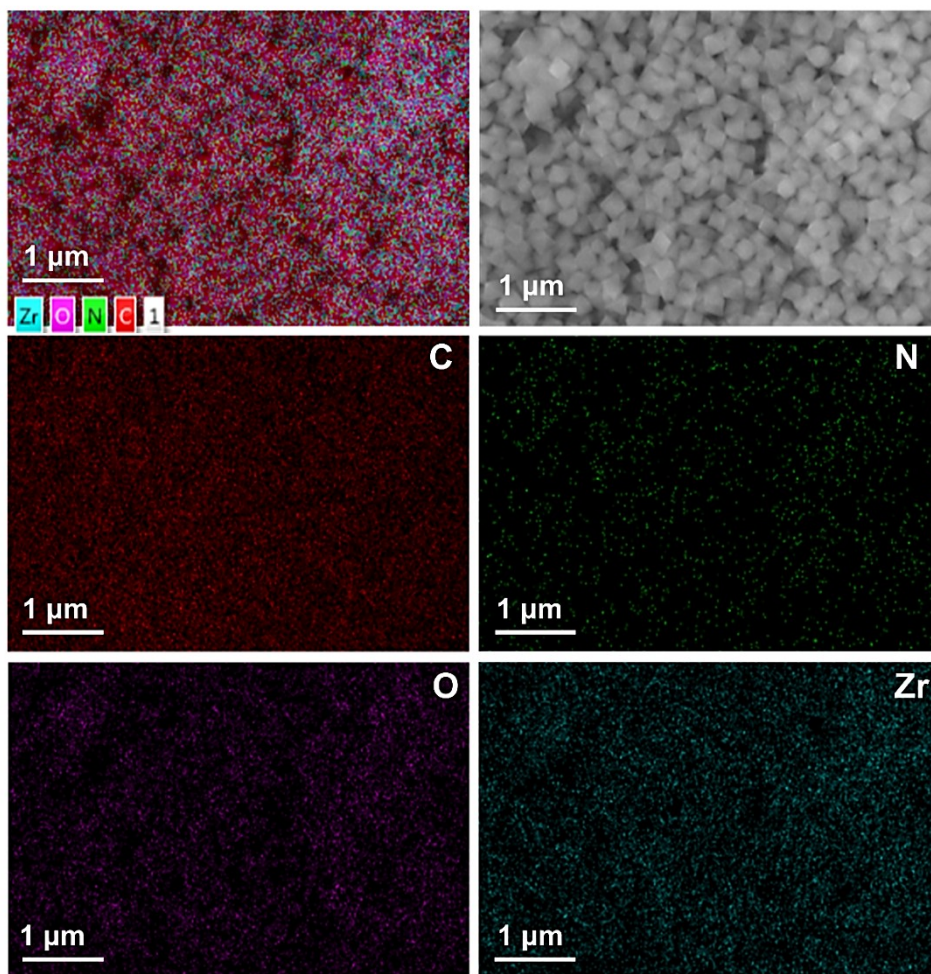


Fig. S1 EDS energy spectrum of UiO-66-NH₂

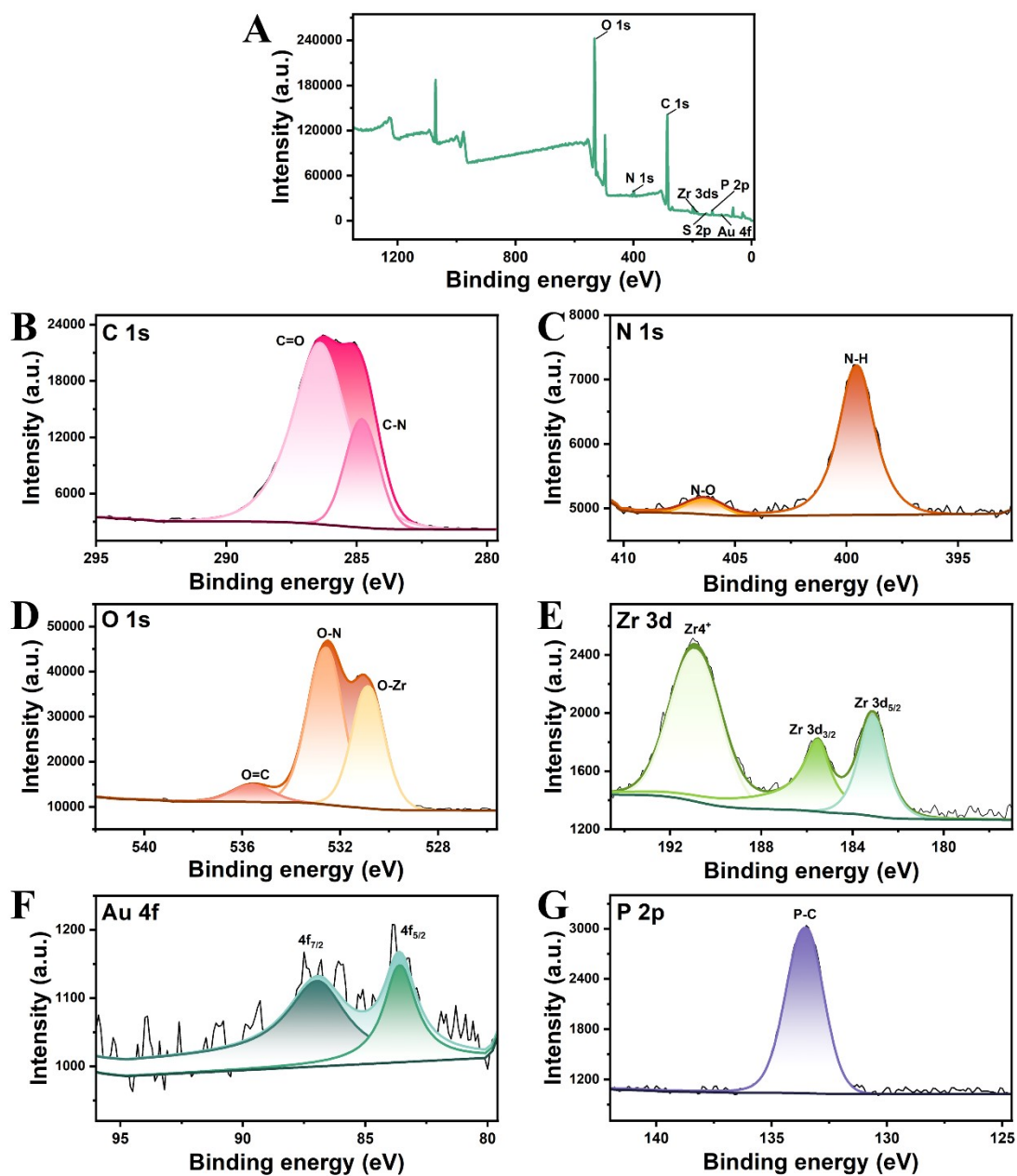


Fig. S2 XPS total spectrum of Apt@AuNPs@HP-UiO-66-NH₂ (A); XPS energy spectra of AuNPs@Apt@HP-UiO-66-NH₂: C 1s (B); N 1s (C); O 1s (D); Zr 3d (E); Au 4f (F); P 2p (G)

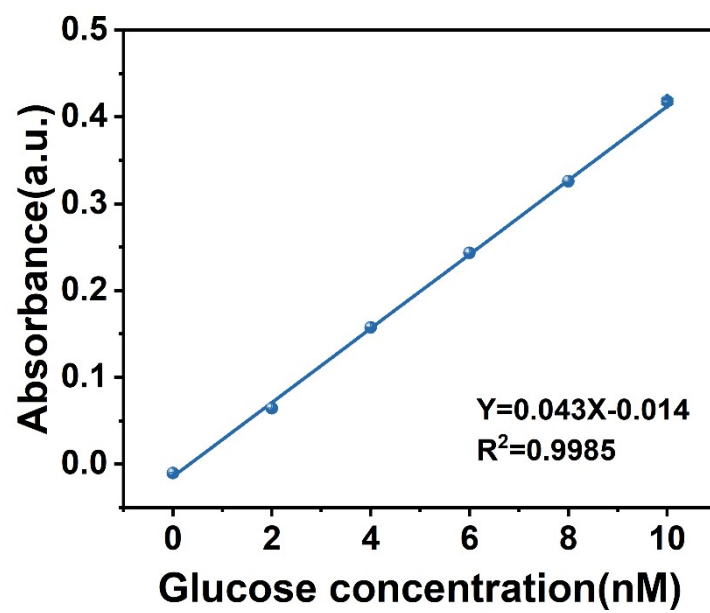


Fig. S3 Standard curve for the detection of glucose concentration by DNS method

Table S1 Comparison of methods for glucometer-based detection of non-glucose targets

Carrier	Gated	Target	Detection range (nM)	LOD (nM)	Ref.
MSN	AuNPs-Ab	CYFRA21-1	39 - 4800	23.7	1
	MnO ₂ nanosheets	glutathione	100 - 10000	34	2
Liposomes	-SH recognition, surfactant lysis of liposomes	patulin	0.0154 - 7.706	0.0077	3
	Aptamer recognition, surfactant lysis of liposomes	Aggregation of β - amyloid oligomers	5.0 - 1000	2.27	4
Nanotube array	AuNPs and Aptamer	cocaine	10 - 600	5.2	5
HP-UiO-66-NH ₂	AuNPs@Apt	MTX	100 - 20000	100	This work

Table S2 Comparison of different methods for MTX detection

Methods	Systems	LOD (μM)	Detection range (μM)	Ref.
Immunoassay	MoS ₂ quantum dots	0.042	0.05–1	6
Fluorescence	FAM or Cy5	0.03	0.1–2	7
SERS	gold-coated nanopillar SERS substrates	0.13	0.43–2	8
Electrochemical	AB/MWCNT/STAC- paste electrode	1.81×10^{-3}	0.02–8	9
Colorimetric	Aptamer/G- quadruplex/hemin	5.66×10^{-3}	0.01-1	10
PGM	Controlled release sensor	0.1	0.1-20	This work

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