Supporting Information

Molecularly imprinted peptide-based enzyme mimics with enhanced activity and specificity

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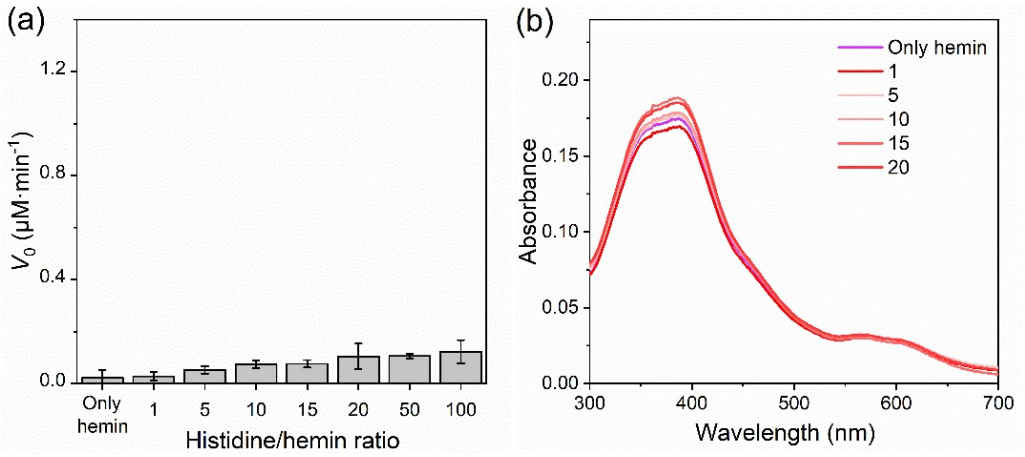

Fig. S1 The catalytic activities (a) and UV-vis spectrums (b) of histidine/hemin co-assemblies at different ratios.

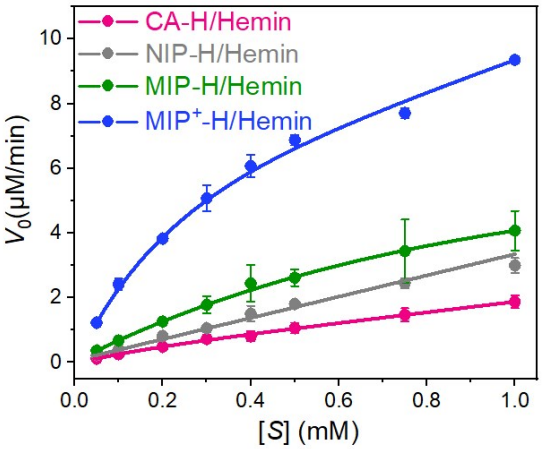

Fig. S2 The plots of the initial reaction rate (V_0) versus ABTS concentration [S] in the reactions catalyzed by CA-H/Hemin, NIP-H/Hemin, MIP-H/Hemin, and MIP$^+$-H/Hemin.

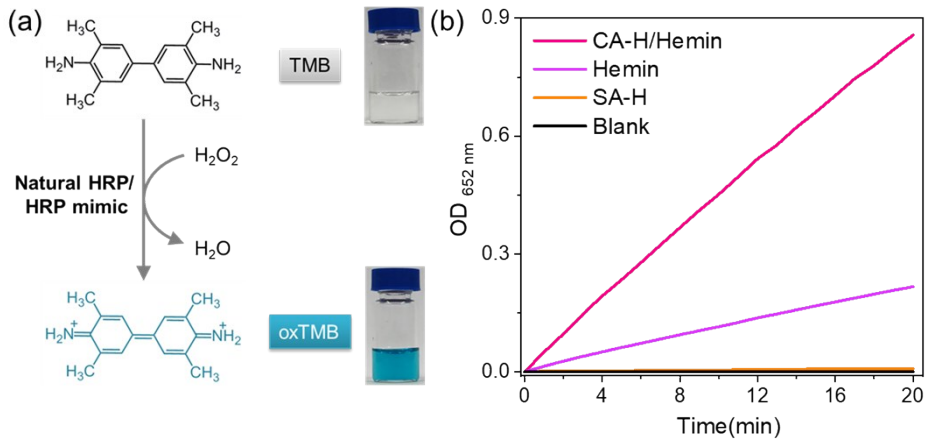

Fig. S3 The enzymatic reaction of TMB with the presence of H_2O_2 (a). Plots of $OD_{652\ nm}$ *vs* time for the oxidation reaction of TMB (b).

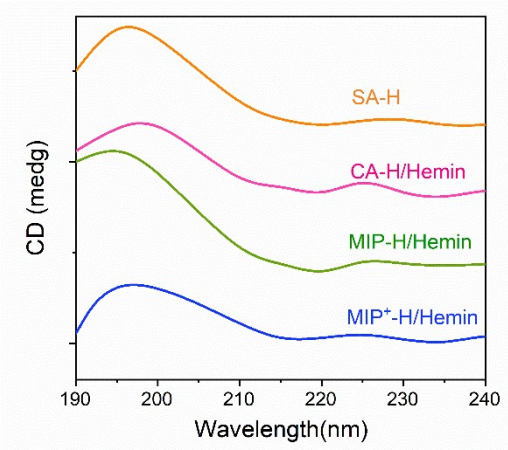

Fig.S4 The CD spectrums of SA-H, CA-H/Hemin, MIP-H/Hemin and MIP^+-H/Hemin under 75 °C.

Table S1. Comparison of kinetic parameters of some POD-like catalysts

Catalyst	Substrate	K_m (mM)	V_{max} (mM • S^{-1})	k_{cat}/K_m (mM^{-1} • S^{-1})	Reference
$Fe^{II}Fe^{III}$ LDHNS	ABTS	0.68	7.194×10^{-5}	-	1
PrussionBlue NPS	ABTS	157.45	8.475×10^{-6}	2.69×10^{-6}	2
WO_x QDs	ABTS	0.79	-	-	3
Pu39WT-hemin	ABTS	65.93	1.463×10^{-4}	4.438×10^{-3}	4
Co^{2+}-Trp	ABTS	12.1	4.7×10^{-4}	3.884×10^{-4}	5
Ni/Co LDHs	ABTS	3.43	3.29×10^{-5}	-	6
$MgFe_2O_4$	ABTS	0.14	12.54×10^{-5}	-	7
$NiFe_2O_4$	ABTS	0.46	17.48×10^{-5}	-	7
Au-Ni/g-C_3N_4	ABTS	0.51	4.79×10^{-5}	-	8
Au/g-C_3N_4	ABTS	0.73	3.43×10^{-5}	-	8
Ni/g-C_3N_4	ABTS	0.96	2.4×10^{-5}	-	8
CA-H/Hemin	ABTS	2.63	1.127×10^{-4}	2.142×10^{-3}	this work
NIP-H/Hemin	ABTS	2.32	1.335×10^{-4}	2.874×10^{-3}	this work
MIP-H/Hemin	ABTS	1.19	1.497×10^{-4}	6.289×10^{-3}	this work
MIP^+-H/Hemin	ABTS	0.56	2.433×10^{-4}	2.176×10^{-2}	this work

Table S2. The Fe content in MIP^+-H/Hemin after 6 cycles

	Sample (mg • L^{-1})	Fe (mg • L^{-1})	Fe content (%)
Initial	8.5	0.039	0.45
After 6 cycles	10	0.034	0.34

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