# Electronic supplementary information

# Dichlorofluorescein as a peroxidase mimic and its application to glucose detection

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Email: yjlong@swu.edu.cn
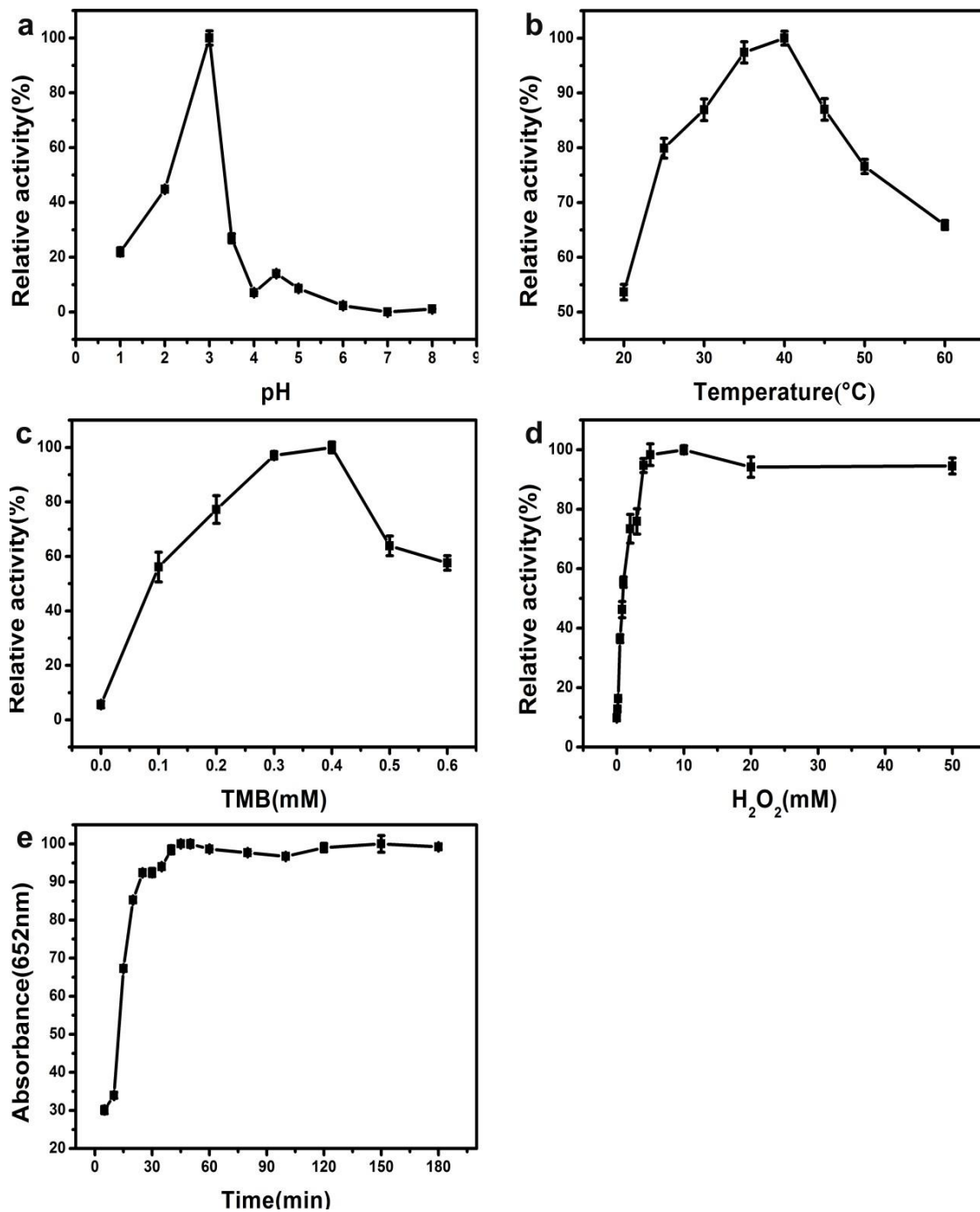
Fig S1 Effects of (a) pH, (b) temperature, (c) TMB concentration, (d) H_2O_2 concentration and (e) incubation time on the peroxidase mimetic activity of DCF. Experiments were carried out using 100 μM DCF in the volume of 1.0 mL NaAc-HAc buffer (0.2 M, pH=3.0) at 40 °C with 0.40 mM TMB and 10 mM H_2O_2 as substrates. The maximum point in each curve was set as 100%. The error bars represent the standard deviations derived from three independent measurements.
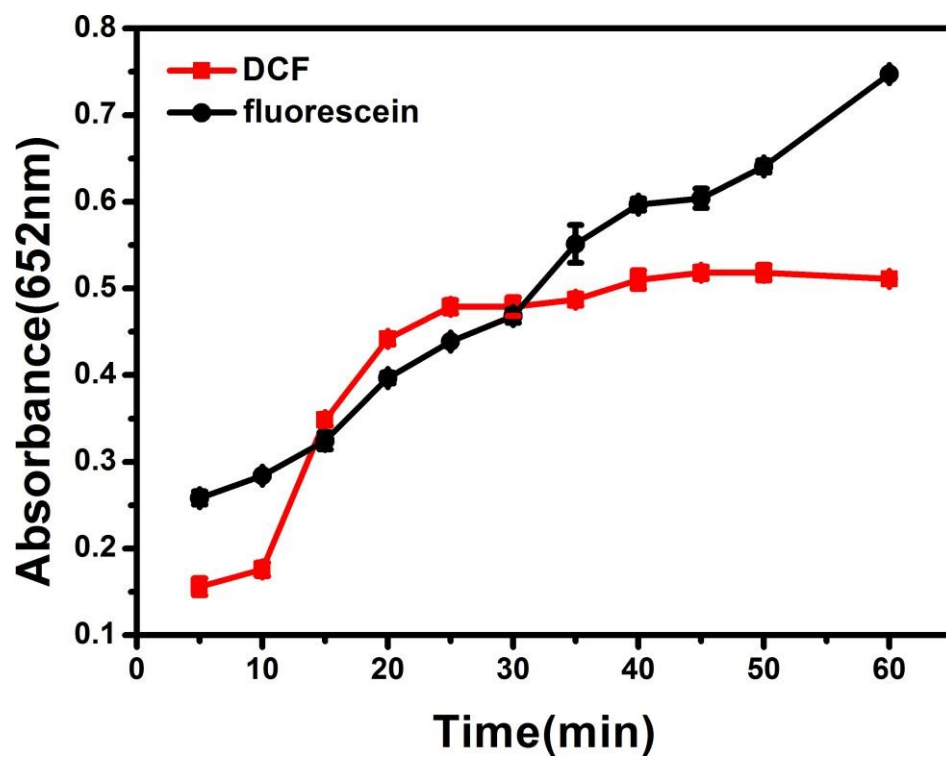
Fig S2 Time-dependent absorbance changes at 652 nm of TMB using DCF and fluorescein as catalysts. Experiment were carried out using 100 μM DCF and fluorescein in reaction volume of 2 mL, in 0.2 M NaAc-HAc buffer (pH 3.0) , with 0.4 mM TMB and 10 mM H_2O_2 contains
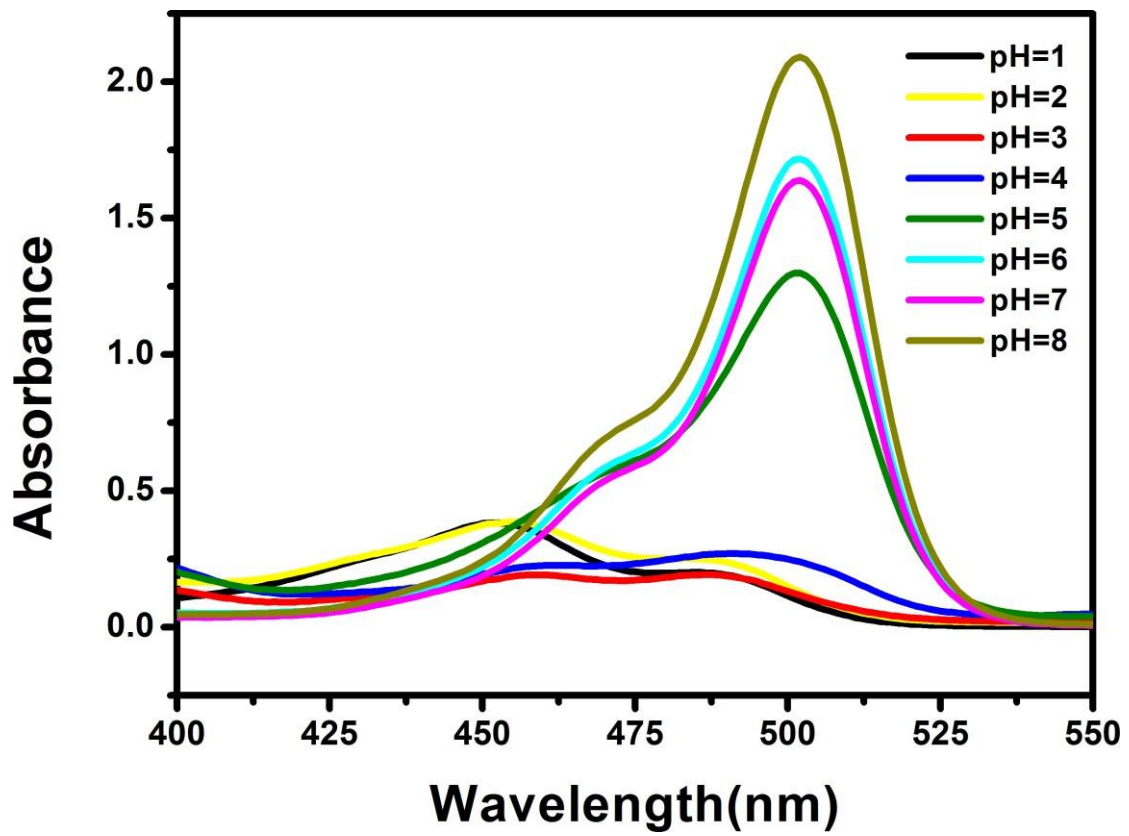
Fig S3 Absorption spectra of DCF at different pH values.

Table S1 Comparison the present method with other methods for the detection of

H_2O_2.

Materials	Linear rang (μM)	LOD (μM)	Reference
CuZnFeS	10-55	3	1
Co_3O_4 NPs	50-25000	10	2
Fe_3O_4 MNPs	5-100	3	3
POM-pillared MOF	10-50	1.4	4
CuO:GNS	10-100	6.8	5
Pd@PEDOT	10-100	4.8	6
FF@PW$_{12}$@GO	1-75	0.1	7
MoS_2 nanosheets	5-100	1.5	8
Cu NCs	10-1000	10	9
fluorescein	80-1200	30	10
DCF	5-600	2	This work

Table S2 Comparison the present method with other methods for the detection of glucose.

Materials	Linear rang (µM)	LOD(µM)	Reference
Fe_3O_4 MNPs	50-1000	30	3
Au@p-SiO$_2$	20-500	20	11
Gold nanorods	100-1000	100	12
Cu NCs	100-2000	100	9
Au@Ag Heterogeneous NRs	50-20000	39	13
FeIII(biuret-amide)	20-300	10	14
H_2TCPP-NiO nanocomposites	50-500	20	15
PEI/$^{17}_3$/CNT/GC	0-300	50	16
Au@Pt core/shell nanorods	45-400	45	17
DCF	80-1200	30	This work

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