Fluorescence and Colorimetric Dual-mode LAMP Method for Detection of *Vibrio parahaemolyticus*

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Table S1. Primers of *V. parahaemolyticus* used in this work

	Primer	Sequences (5'-3')
LAMP	F3	GCGCAAGGTTACAACATCAC
	B3	GCGTGACATTCCAGAACACA
	FIP	CGCGTTCACGAAACCGTGCTGATACTCACGCCTTGTTCGA
	BIP	TTGGACATCAACCGCTCATCGTGACGCTGCACACTCAGAG
	LF	TCGGGCGCAGAAGTTAGC
	LB	CTGTCGATTACATGTACACCCAC
PCR	F	GCGACCTTTCTCTGAAATATTAATTGT
	R	CATTCGCGTGGCAAACATC

Table S2. Optimize experimental factors and levels of dual-mode LAMP

Factors	Level 1	Level 2	Level 3	Level 4	Level 5
Dosage of *Bst* II polymerase (U)	3.2	6.4	12.8	16	19.2
Concentration of Mg^{2+} (mM)	0.0	0.4	0.8	1.2	1.6
Concentration of HNB (×)	0.043	0.054	0.068	0.085	0.104
Temperature (°C)	61	62	63	64	65

Table S3. RGB value

No.	R(+)	G(+)	B(+)	R(-)	G(-)	B(-)	R/G(+)	B/G(+)	R/G(-)	B/G(-)
1	145	197	242	171	166	249	0.734	1.226	1.030	1.502
2	142	199	238	148	155	222	0.712	1.197	0.956	1.432
3	141	200	243	155	160	244	0.706	1.214	0.967	1.525
4	140	213	256	149	158	241	0.655	1.200	0.942	1.525
5	140	209	252	153	164	244	0.672	1.207	0.930	1.486
6	154	211	256	174	169	255	0.730	1.215	1.031	1.512
7	145	198	243	173	168	253	0.733	1.227	1.031	1.505
8	137	195	233	151	158	228	0.704	1.194	0.956	1.443
9	141	199	240	156	165	230	0.710	1.204	0.945	1.393
10	152	215	256	155	162	231	0.706	1.189	0.956	1.428
11	143	202	246	161	166	254	0.710	1.220	0.967	1.528
12	150	211	249	158	164	241	0.713	1.179	0.961	1.471
13	174	245	303	142	151	232	0.710	1.235	0.942	1.537
14	142	196	245	156	169	249	0.725	1.251	0.925	1.474
15	142	196	249	156	173	244	0.722	1.269	0.903	1.412
16	152	201	259	140	151	214	0.755	1.290	0.926	1.420
17	126	196	238	140	151	227	0.645	1.213	0.929	1.505
18	139	206	244	148	159	232	0.673	1.185	0.932	1.459
19	131	196	235	156	166	247	0.667	1.199	0.937	1.486
20	147	192	239	152	156	236	0.765	1.245	0.974	1.510
21	138	190	227	148	156	235	0.728	1.194	0.950	1.504
22	124	187	217	176	160	266	0.664	1.161	1.099	1.662
23	151	206	242	154	158	233	0.732	1.175	0.974	1.477
24	137	205	239	151	158	228	0.667	1.167	0.957	1.442
25	142	201	247	165	164	273	0.706	1.229	1.006	1.662

Continued Table S3. RGB value

No.	R(+)	G(+)	B(+)	R(-)	G(-)	B(-)	R/G(+)	B/G(+)	R/G(-)	B/G(-)
26	133	200	236	172	172	287	0.666	1.180	1.000	1.669
27	137	206	235	148	165	244	0.667	1.141	0.895	1.477
28	152	215	250	141	155	226	0.708	1.163	0.909	1.456
29	147	210	248	153	161	254	0.700	1.179	0.948	1.575
30	153	214	251	167	158	258	0.714	1.172	1.058	1.636
31	136	201	235	161	164	260	0.675	1.170	0.980	1.588
32	135	210	242	182	169	277	0.644	1.151	1.079	1.638
33	157	217	264	174	168	264	0.725	1.215	1.036	1.574
34	153	213	266	157	158	255	0.716	1.249	0.993	1.616
35	148	211	251	184	165	267	0.700	1.189	1.117	1.621
36	128	214	250	164	162	262	0.599	1.166	1.012	1.615
37	151	210	265	173	166	265	0.717	1.263	1.044	1.598
38	138	217	247	152	164	246	0.638	1.140	0.926	1.501
39	144	200	243	146	151	240	0.721	1.214	0.967	1.588
40	145	197	235	150	169	258	0.736	1.195	0.888	1.526
41	153	211	253	158	173	261	0.725	1.201	0.914	1.507
42	150	215	265	147	151	233	0.699	1.231	0.974	1.546
43	139	198	246	158	151	241	0.700	1.240	1.044	1.595
44	150	219	260	183	165	266	0.686	1.189	1.108	1.615
45	140	201	233	187	168	282	0.698	1.161	1.113	1.680
46	154	205	259	161	158	258	0.752	1.264	1.021	1.635
47	142	204	240	172	154	253	0.698	1.177	1.118	1.644
48	139	203	245	178	158	269	0.687	1.206	1.129	1.703
49	158	200	248	161	152	250	0.791	1.239	1.058	1.647
50	161	211	264	171	160	267	0.764	1.251	1.066	1.669
51	166	216	261	147	154	239	0.770	1.209	0.955	1.554
52	136	197	231	146	153	239	0.690	1.175	0.955	1.564
53	143	213	247	156	156	262	0.670	1.161	1.000	1.680
54	150	208	252	149	157	241	0.720	1.210	0.950	1.535
55	143	201	230	172	167	253	0.709	1.144	1.030	1.515
56	153	199	237	174	158	245	0.768	1.192	1.100	1.550
57	146	205	249	170	163	260	0.714	1.216	1.044	1.598
58	150	210	251	161	167	238	0.712	1.197	0.962	1.422
59	154	216	252	155	159	237	0.714	1.168	0.974	1.489
60	144	204	242	146	156	228	0.706	1.184	0.937	1.465
61	168	214	261	161	156	242	0.785	1.221	1.032	1.549
62	149	208	249	154	150	222	0.717	1.196	1.029	1.480
63	146	199	242	150	148	219	0.736	1.214	1.017	1.483
64	146	198	240	157	152	237	0.738	1.212	1.033	1.559
65	151	207	250	152	148	225	0.731	1.208	1.024	1.521
66	135	201	236	143	153	225	0.672	1.174	0.938	1.471
67	127	195	226	146	151	217	0.651	1.161	0.968	1.438
68	146	194	247	177	162	245	0.752	1.274	1.094	1.512
69	131	197	230	175	161	250	0.665	1.168	1.084	1.551
70	146	198	239	143	150	226	0.735	1.206	0.955	1.505
71	136	197	246	183	164	260	0.691	1.249	1.118	1.585
72	154	211	264	166	159	239	0.729	1.251	1.043	1.505

Continued Table S3. RGB value

No.	R(+)	G(+)	B(+)	R(-)	G(-)	B(-)	R/G(+)	B/G(+)	R/G(-)	B/G(-)
73	154	216	262	166	158	257	0.712	1.214	1.051	1.629
74	135	197	232	165	157	253	0.685	1.180	1.052	1.614
75	150	213	243	164	165	265	0.702	1.142	0.993	1.608
76	161	208	256	156	159	253	0.774	1.230	0.980	1.591
77	136	201	232	149	163	244	0.676	1.153	0.914	1.495
78	137	199	231	165	153	243	0.686	1.160	1.081	1.588
79	140	205	236	157	162	247	0.682	1.152	0.968	1.526
80	160	210	257	162	163	249	0.763	1.222	0.992	1.525
81	146	216	233	140	152	228	0.674	1.080	0.920	1.498
82	151	204	246	154	159	243	0.741	1.204	0.967	1.531
83	149	214	248	155	165	268	0.697	1.160	0.941	1.623
84	157	211	234	163	168	268	0.742	1.111	0.967	1.594
85	156	215	267	161	158	262	0.726	1.244	1.019	1.658
86	136	198	233	146	154	242	0.685	1.175	0.949	1.574
87	143	219	252	157	158	258	0.653	1.151	0.993	1.636
88	133	201	233	155	152	250	0.661	1.158	1.019	1.647
89	144	205	241	151	160	258	0.700	1.174	0.942	1.615
90	142	214	248	151	154	247	0.662	1.158	0.980	1.604
91	146	201	237	139	153	220	0.728	1.180	0.908	1.441
92	149	210	267	160	156	242	0.710	1.271	1.024	1.550
93	164	217	284	150	157	242	0.756	1.308	0.955	1.538
94	164	213	276	180	167	255	0.769	1.296	1.077	1.525
95	163	211	273	165	158	237	0.771	1.296	1.043	1.499
96	158	214	246	178	163	256	0.737	1.150	1.092	1.572
97	162	210	248	159	165	247	0.770	1.180	0.961	1.499
98	141	196	232	165	168	262	0.721	1.184	0.980	1.558
99	145	192	228	148	158	242	0.755	1.190	0.936	1.531
100	159	207	245	147	154	240	0.766	1.185	0.951	1.559

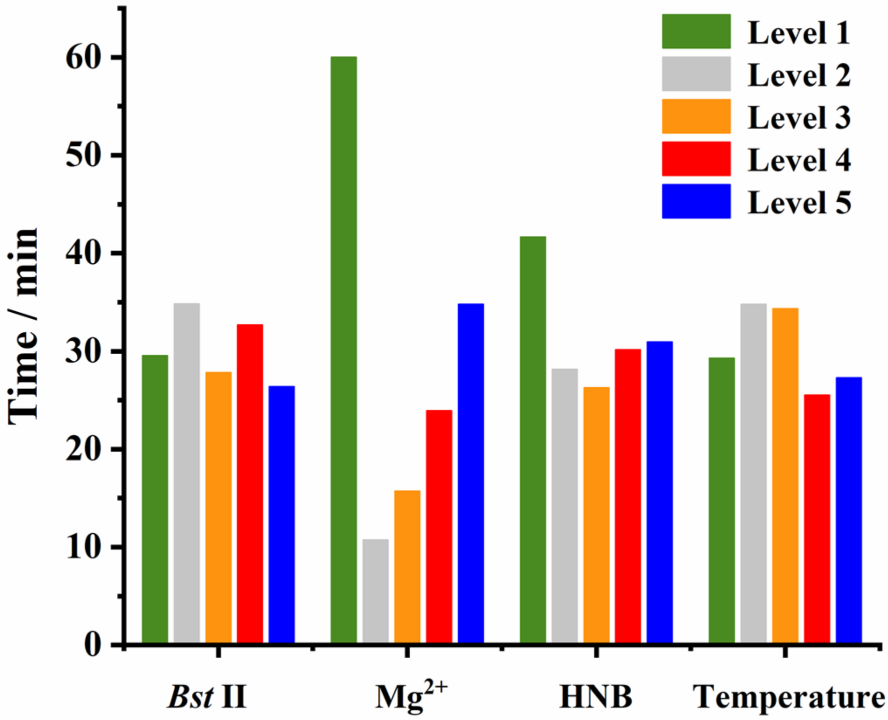

Fig. S1 Bar chart of orthogonal analysis, level 1-5 respectively corresponds to the optimization factors values from low to high.