

Supplementary Information

Structurally tailored Rh-Au heterodimers: plasmon-boosted oxidase mimetics for facile tea authentication via colorimetric sensing

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Reagents and Apparatus

Rhodium(III) (RhCl_3), gold(III) chloride trihydrate ($\text{HAuCl}_4 \cdot 3\text{H}_2\text{O}$) and polyvinylpyrrolidone (PVP, $M_w \approx 55\text{K}$) were supplied by Sigma-Aldrich. Potassium bromide (KBr) was purchased from Beijing Chemical Works. Ethylene glycol (EG) was bought from J. T. Baker. Cetylpyridinium chloride monohydrate (CPC), ascorbic acid (AA), and 3,3',5,5'-tetramethylbenzidine (TMB) were purchased from Tokyo Chemical Industry Development Co., Ltd. (Shanghai, China). Isopropanol (IPA), L-tryptophan (L-Trp), dopamine hydrochloride (DA), epigallocatechin (EGC), and epicatechin (EC) were purchased from Aladdin Biochemical Technology Co., Ltd. (Shanghai, China). Proanthocyanidins (PC), catechin (C) and epigallocatechin gallate

(EGCG) were obtained from McLean Biochemicals. Caffeic acid (CA) was acquired from Beijing Inokai Technology Co., Ltd. The six Liupao teas were obtained from Guangxi Maosheng Tea Co., Ltd. and Guangxi Tianyu Tea Co., Ltd., respectively. Guilin Maojian Tea (GMJ) and Yinghong No. 9 Black Tea (YH) were obtained from Guangxi Guilin Tea Science Research Institute. Darjeeling Tea (DJ) and Rose Black Tea (RB) were purchased from Twinings Taobao official flagship store. Puer Tea (PE) was from Yunnan Dayi Tea Co., Ltd. Pure water (resistivity $>18 \text{ M}\Omega\cdot\text{cm}$) was obtained on the Ultrapure Water System (UPS-II-20L, Chengdu Yuejun Technology Co., Ltd.) All other chemical reagents were analytically pure and used directly without further purification.

The JEM-2100F transmission electron microscope (TEM, JEOL, Japan) was used to observe the morphology of different nanomaterials. X-ray diffraction (XRD) patterns were obtained on a Bruker D8 Discover instrument equipped with GADDS and a Cu $K\alpha$ radiation source. X-ray photoelectron spectroscopy (XPS) analysis was carried out on a Kratos AXIS Hsi spectrometer using an Al $K\alpha$ X-ray source (1486.6 eV). The JEM-2010F equipment at 200 kV was used to obtain scanning transmission electron microscopy (STEM), high-resolution transmission electron microscopy (HRTEM), and energy-dispersive X-ray spectroscopy data. The two-channel syringe pump was purchased from Baoding Dichuang Electronic Technology Co., Ltd. (Hebei, China). The centrifugation was carried out on the centrifuge (TGL-16, Jiangsu Jintan Zhongda Instrument Co., Ltd.). The ultraviolet-visible (UV-Vis) spectra were obtained on a UV-1800 UV-Vis spectrophotometer (Shimadzu, Japan). The CHF-XM-500 xenon lamp purchased from Beijing Perfect Light Co., Ltd. was used as the light source. The optical power was measured using an MC-PM160 optical power meter (Thorlabs, Germany). The electron spin resonance (ESR) spectrum was recorded by a Bruker A300

spectrometer from Germany (Microwave power: 200 mW, Sweep width: 100 G, Modulation amplitude: 1 G).

Michaelis-Menten equation

$$\frac{1}{V} = \frac{K_m}{V_{max}} \cdot \frac{1}{[S]} + \frac{1}{V_{max}} \quad (1)$$

where V represents the initial reaction velocity, $[S]$ denotes the substrate concentration, V_{max} indicates the maximum reaction rate at enzyme saturation, and K_m stands for the Michaelis constant, which is defined as the substrate concentration required to reach half of V_{max} .

Experimental procedures for condition optimization

The oxidase activity of Rh-Au dimers at different pH values: In 1 mL of BR buffer solutions with different pH values (2, 3, 4, 5, 6, 7), add 20 μ L of 2.5 μ g/mL Rh-Au dimers and 40 μ L of 1.2 mM TMB solution. After reacting for 30 min, measure the UV-Vis absorption spectrum. The optimal pH is selected by comparing the differences between absorption intensities at 350 nm, 450 nm, and 650 nm under dark and light conditions.

The oxidase activity of Rh-Au dimers at different temperatures: BR buffer solution (pH=2) containing 2.5 μ g/mL Rh-Au dimers and 1.2 mM TMB is incubated at 15°C, 25°C, 35°C, 45°C, and 55°C for 30 min (temperature controlled by a constant temperature water bath). The UV-Vis absorption spectra under dark and light conditions are tested, and the optimal temperature is selected by comparing the

differences between absorption intensities at 350 nm, 450 nm, and 650 nm under dark and light conditions.

The oxidase activity of Rh-Au dimers at different times: The reaction solution of 1 mL pH 2 BR buffer, 2.5 $\mu\text{g/mL}$ Rh-Au dimers, and 1.2 mM TMB is measured for changes in UV absorption intensities at 350 nm, 450 nm, and 650 nm under dark and light conditions every 5 min, and the optimal time is selected by comparing the differences between absorption intensities at 350 nm, 450 nm, and 650 nm under dark and light conditions.

Figures

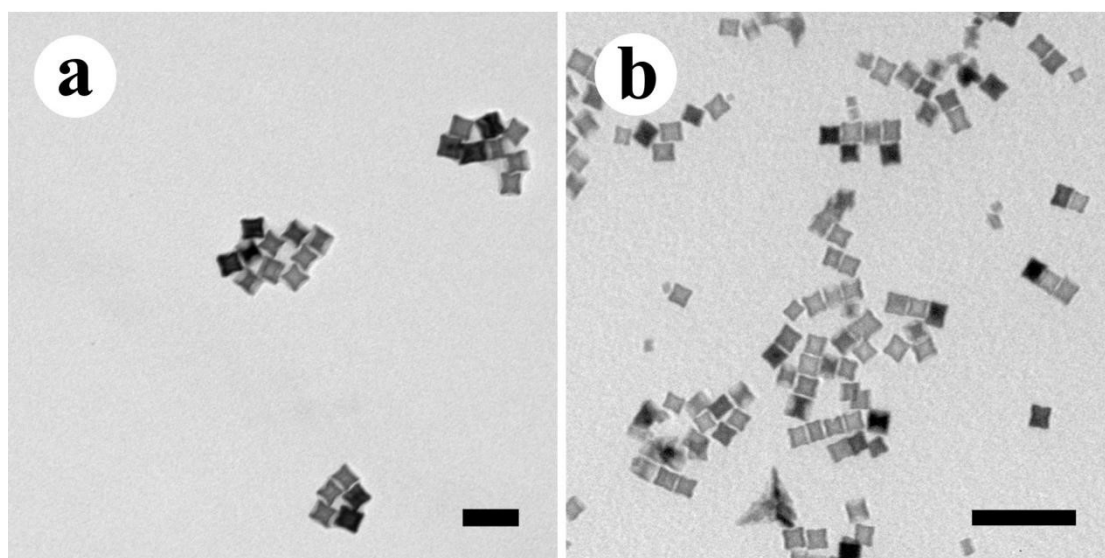


Fig. S1 TEM images of Rh nanocubes (NCs). Scale bars: (a) 50 nm; (b) 70 nm.

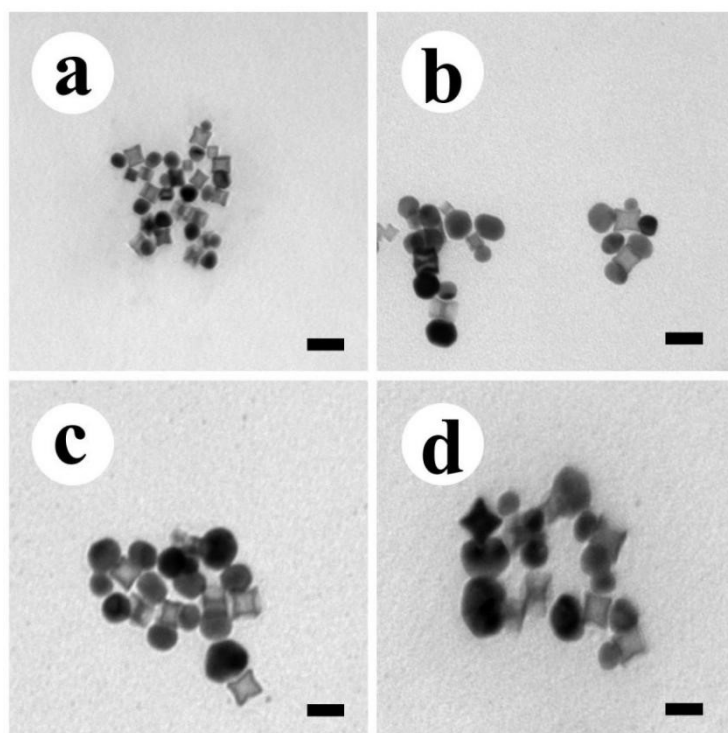


Fig. S2 Synthesis of Rh-Au dimers with different AA volume. (a) 12.5 μL , (b) 15 μL , (c) 20 μL , (d) 25 μL . Scale bars: 50 nm.

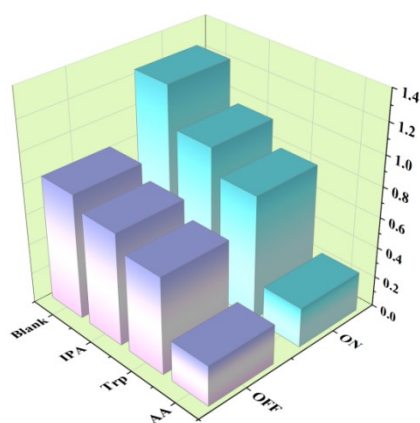


Fig. S3 The UV-vis absorbance peak at 650 nm of Rh-Au-TMB with 5 mmol/L IPA, L-Trp, and AA.

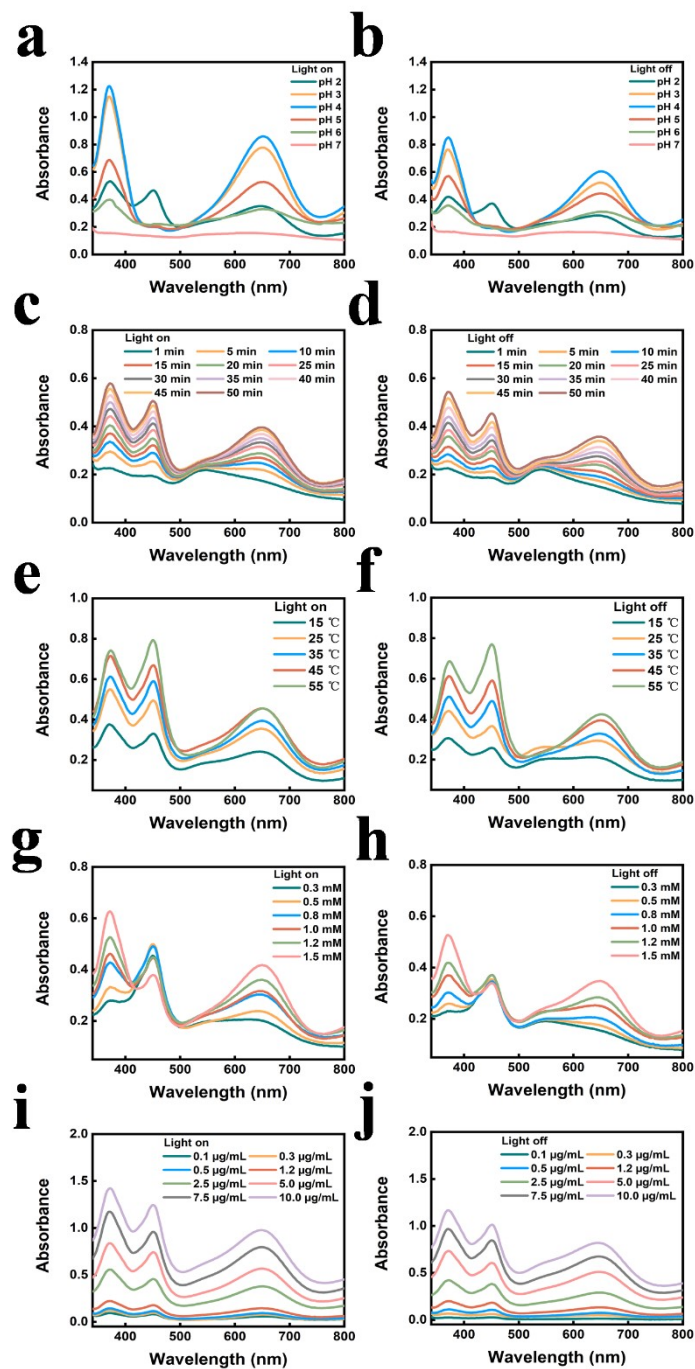


Fig. S4 UV-vis absorption of Rh-Au-TMB under various conditions: (a,b) pH, (c,d) reaction time, (e,f) reaction temperature, (g,h) TMB concentration, and (i,j) Rh-Au dimer concentration.

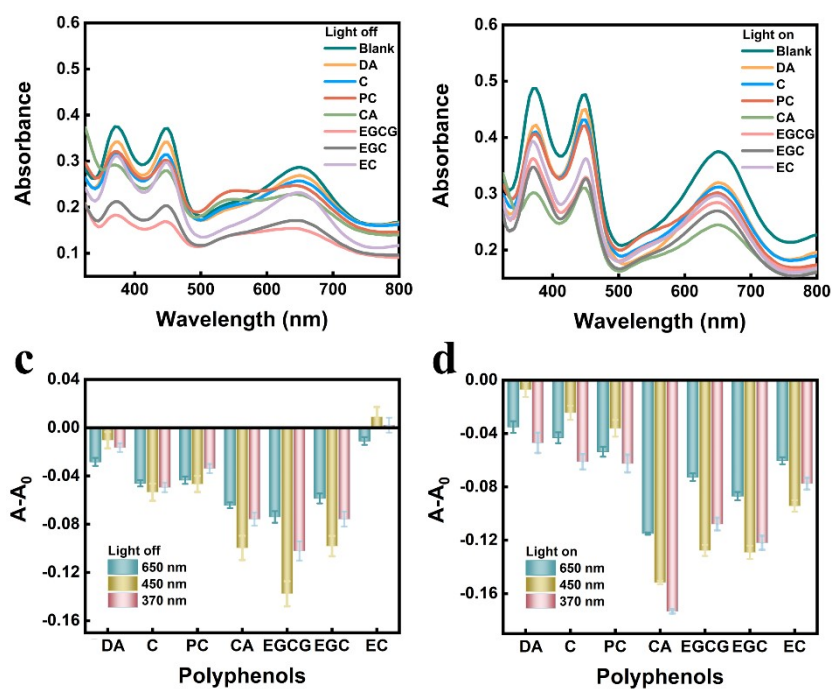


Fig. S5 UV-vis absorption spectra (a, b) and corresponding colorimetric response plots (c, d) of the Rh-Au dimer-TMB system in the presence and absence of polyphenols with (a, c) light off and (b, d) light on at 1.2 mM TMB.

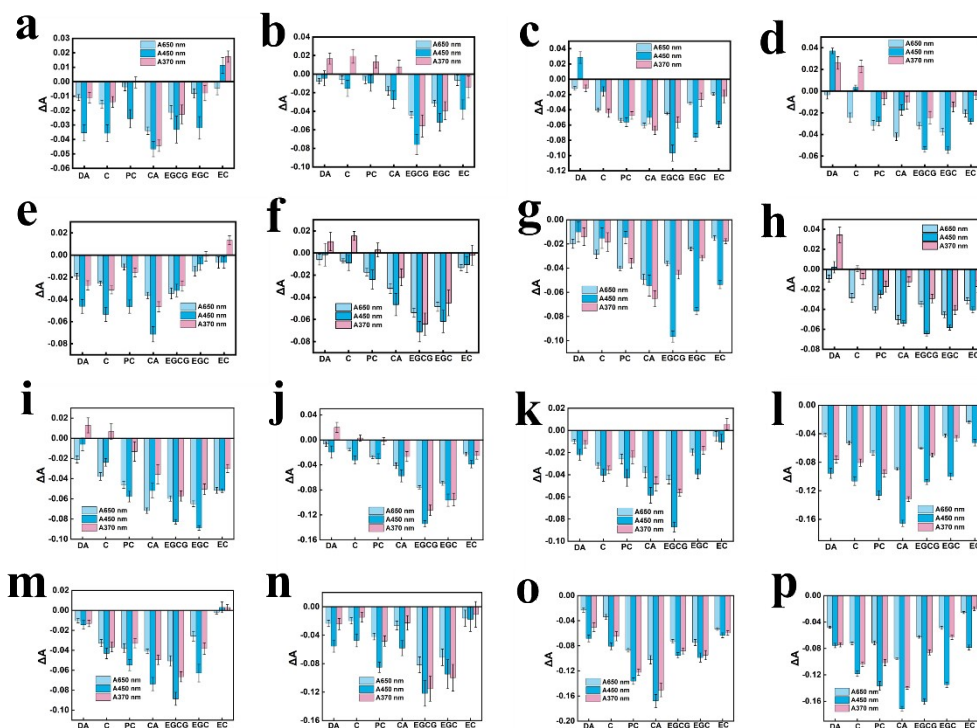


Fig. S6 Colorimetric patterns of the Rh-Au-TMB system in the presence or absence of seven polyphenols at different concentrations (1 μ M, 4 μ M, 7 μ M, 10 μ M) at different channels: (a,e,i,m) 1.0 mM TMB, light off, (b,f,j,n) 1.2 mM TMB, light off, (c,g,k,o) 1.0 mM TMB, light on, and (d,h,l,p) 1.2 mM TMB, light on.

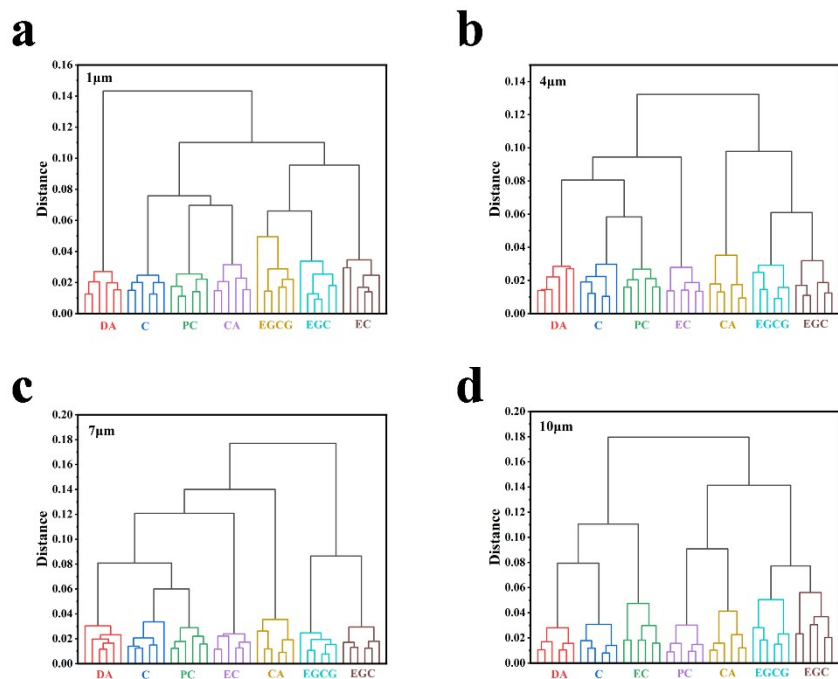


Fig. S7 HCA dendrograms for discrimination of seven polyphenols at concentrations of (a) 1 μ M, (b) 4 μ M, (c) 7 μ M, and (d) 10 μ M.

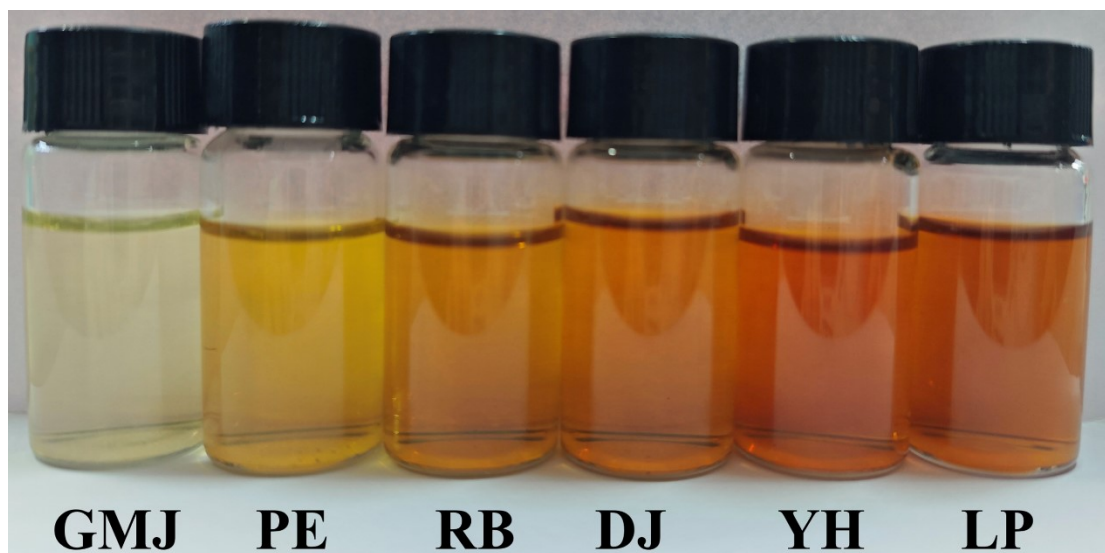


Fig. S8 Picture of tea leaves in boiling water.

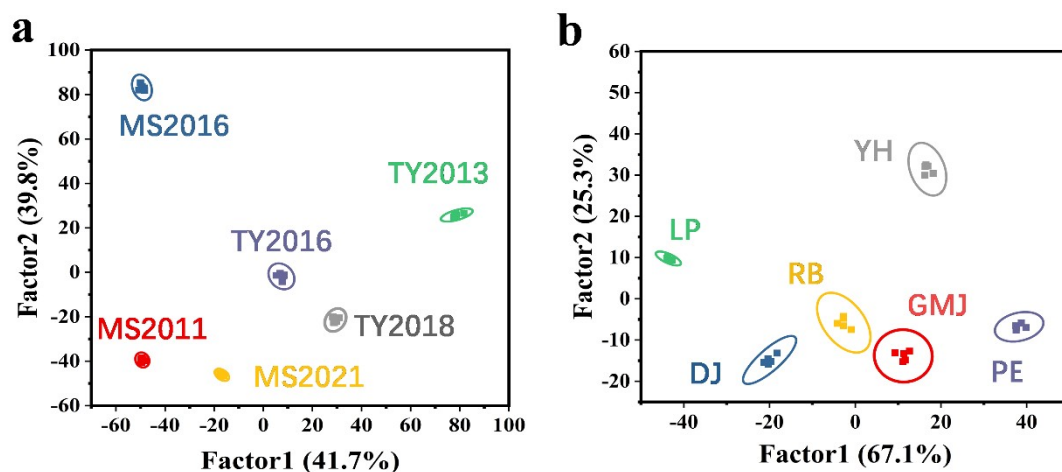


Fig. S9 The LDA results of discrimination of various tea products.

Table S1 K_m and V_{max} of different oxidase-like nanozyme with TMB as substrate.

Catalyst	Substrate	K_m (mM)	V_{max} (M/s)	Reference
CDs	TMB	0.22	2.74×10^{-8}	[1]
PCN-224-Mn	TMB	0.223	13.725×10^{-8}	[2]
ETTA-Tz COF	TMB	0.22	17.6×10^{-8}	[3]
Fe-NPC	TMB	0.970	5.558×10^{-8}	[4]
a-BiVO ₄	TMB	0.279	1.83×10^{-8}	[5]
HCS@Pt NPs	TMB	1.78	5.12×10^{-8}	[6]
Rh-Au dimers	TMB	0.135	46.38×10^{-8}	This work

Table S2 Detailed information of the seven polyphenols.

Compound	Abbreviation	Molecular Weight	Structure
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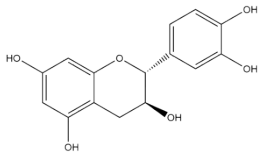
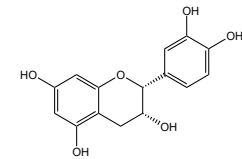
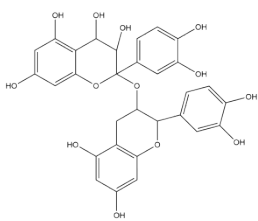
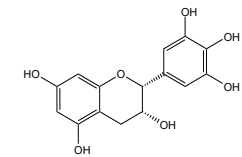
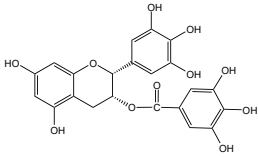
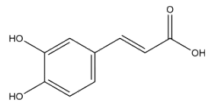
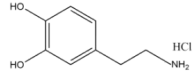
(+)-catechin	C	290.27	
(-)-Epicatechin	EC	290.27	
(-)-Epicatechin Gallate	PC	594.52	
(-)-Epigallocatechin	EGC	306.27	
(-)-Epigallocatechin gallate	EGCG	458.37	
caffeic acid	CA	180.16	
(-)-3-Hydroxytyramine hydrochloride	DA	189.64	

Table S3 Concentration details of the simulated blends mimicking tea profiles (A-F).

Samples Targets (μM)	A	B	C	D	E	F
DA	10	1	2	1	1	3
C	7	1	10	2	7	1
PC	4	1	1	1	10	4
CA	2	1	1	7	3	5
EGCG	1	1	7	1	7	4
EGC	1	1	2	1	4	1
EGC	3	1	3	2	10	2

Table S4 Comparison with other methods reported for the multiple discrimination.

Material	Type	Target number	Concentration range	Ref.
CuMnZn	polyphenol	8	2 μ M -100 μ M	[7]
Pd-Rh	polyphenol	6	5 μ M -100 μ M	[8]
MnOOH	polyphenol	6	5 μ M-100 μ M	[9]
Cu@MOFs	phenolic pollutant	6	0.1 mM-12 mM	[10]
Au NCs	metal ion	5	0.5 μ M -50 μ M	[11]
Rh-Au dimer	polyphenol	7	1 μ M -20 μ M	This work

Loading Data**1 μ M****Sample Load**

	Group	Sample	PCA1-77.71%	PCA2-15.02%	PCA3-3.92%	PCA4-1.61%	PCA5-0.94%	PCA6-0.4%	PCA7-0.16%	PCA8-0.09%	PCA9-0.08%	PCA10-0.05%	PCA11-0.02%	PCA12-0.01%
PDA1	PDA	PDA1	0.01113747	-0.1810276	0.18677309	-0.181799	-0.0613212	0.14419875	0.07652025	0.13302931	0.30980426	0.19752127	0.05761624	-0.085193
PDA2	PDA	PDA2	-0.002855	-0.1734377	0.21175835	-0.2292826	-0.05936	0.13692161	0.1046259	0.16180888	0.12891277	0.0666347	0.01844941	-0.1160845
PDA3	PDA	PDA3	-0.0164674	-0.1723392	0.18065539	-0.2605315	0.01284416	0.02778701	0.25075593	0.08844058	-0.1601747	0.13316407	0.09716176	-0.1269764
PDA4	PDA	PDA4	-0.00711111	-0.2300912	0.21730193	-0.2119511	0.05228478	0.05475862	-0.0482498	0.16509661	0.1104547	-0.0634085	-0.0747519	0.16956998
PDA5	PDA	PDA5	-0.0147999	-0.221535	0.1683445	-0.1401499	0.12483028	0.00789345	0.15298822	0.05450593	-0.0023624	0.14847857	0.1023819	0.23857047
PDA6	PDA	PDA6	-0.0341155	-0.2286147	0.14336606	-0.1801408	0.12578564	-0.0190051	0.10385816	0.1864085	-0.0264777	0.07144732	-0.0920546	0.14828707
C1	C	C1	0.0875223	-0.2088573	-0.0401723	-0.2099367	-0.1339843	0.09626283	-0.3582311	-0.1585307	0.15473901	-0.1604409	-0.0665831	-0.0164443
C2	C	C2	0.08068206	-0.1922019	-0.0780482	-0.1547924	-0.042297	0.01553697	-0.1914198	-0.2233426	-0.0131577	-0.1302535	0.09246715	-0.2301885
C3	C	C3	0.07807168	-0.1706867	-0.0341272	-0.2141113	0.00734862	-0.0791343	-0.0396704	-0.1431462	-0.3591466	-0.0799032	-0.1256277	-0.0466963
C4	C	C4	0.09580652	-0.2203397	-0.0256506	-0.0856369	0.08363682	-0.07919	-0.0710968	-0.1579284	-0.0553223	0.00146598	0.0618288	0.06417743
C5	C	C5	0.07946425	-0.2226308	-0.0408463	-0.0964353	0.11587751	-0.1072432	-0.1508134	-0.1119802	-0.1313511	-0.1211429	0.09325951	0.09122438
C6	C	C6	0.06120438	-0.2333064	-0.0429704	-0.1431618	0.12323739	-0.1424221	-0.1377742	-0.1696185	-0.1783471	-0.1882639	0.03488808	-0.0768238
PC1	PC	PC1	0.15747927	-0.0543354	-0.2236662	0.02040202	0.00019423	0.34252409	0.07684211	-0.0420548	0.04174248	0.08085371	0.2101803	-0.1214755
PC2	PC	PC2	0.13986053	-0.0542824	-0.2354363	-0.0061973	-0.0047688	0.30884426	0.00426724	0.07697646	-0.0099632	-0.0119698	0.12707593	-0.2088695
PC3	PC	PC3	0.131941	-0.0579642	-0.2610791	-0.0386811	0.07056685	0.2229119	0.06497273	0.08135647	-0.08081	0.06290385	-0.1318887	-0.1141407
PC4	PC	PC4	0.14755196	-0.1069505	-0.2404443	0.10387563	0.17923899	0.20445447	0.0218517	-0.0302133	0.14808153	0.12228639	0.07585776	0.22315132
PC5	PC	PC5	0.12935463	-0.1118534	-0.2603747	0.07088419	0.19065406	0.16821932	-0.0036053	0.02660528	0.0541323	-0.0404569	0.08230517	0.20837922
PC6	PC	PC6	0.12347849	-0.0926378	-0.1894436	-0.0438295	0.13033203	0.16882398	0.1099204	0.05851421	-0.0384774	-0.1407648	-0.1993806	0.12394564
CA1	CA	CA1	0.20622476	-0.1475776	0.02225587	0.19729557	-0.1930983	0.02399745	0.18838145	-0.0712796	0.02888404	0.20050968	0.11545279	-0.1395219
CA2	CA	CA2	0.189578	-0.1655764	0.03296149	0.158232	-0.2182607	-0.044379	0.10718781	0.03497123	0.08565765	0.06556118	-0.0211522	-0.1927859
CA3	CA	CA3	0.1772228	-0.1684338	0.01114532	0.17094677	-0.104629	-0.1882717	0.17702645	-0.081163	-0.1875158	0.11020223	0.04262269	-0.2355597
CA4	CA	CA4	0.18522785	-0.2287205	0.02736114	0.21843878	-0.0890296	-0.1284384	-0.1297232	0.11803104	0.22575547	-0.1586169	-0.2456464	0.08462294
CA5	CA	CA5	0.17106417	-0.2136037	-0.0078304	0.2639623	-0.0185139	-0.2221946	0.13889303	-0.033428	0.04722558	-0.0027735	-0.0521193	0.12394253
CA6	CA	CA6	0.15118688	-0.2247169	-0.0259582	0.22565129	-0.0484741	-0.2268448	0.14978824	0.0565857	0.02515825	0.01336695	-0.2085791	0.0591733
EGCG1	EGCG	EGCG1	0.2478587	0.12738394	0.37200943	0.04610307	-0.0364403	0.12862194	0.26979352	-0.3492038	0.00276691	-0.3940742	0.44381133	0.13262307
EGCG2	EGCG	EGCG2	0.26565813	0.14381821	0.13916809	-0.0728455	-0.2332536	0.2428366	-0.0855062	-0.1138926	0.01033381	0.06975018	-0.2437302	0.23419616
EGCG3	EGCG	EGCG3	0.26043029	0.1383883	0.10686169	-0.0405737	-0.1697171	0.06662982	0.00210874	0.02725725	-0.2667209	0.09930028	-0.1019329	0.30462496
EGCG4	EGCG	EGCG4	0.25794666	0.09716648	0.14594071	0.00393491	-0.0974951	0.04846543	-0.2086138	0.16745035	-0.0986706	0.06077234	-0.0305751	-0.0636296
EGCG5	EGCG	EGCG5	0.24609059	0.0657753	0.10396689	0.04374231	-0.0912445	-0.0413742	-0.3475547	0.2321205	0.11602022	0.00343547	0.22514507	0.1343373
EGCG6	EGCG	EGCG6	0.23241109	0.09513369	0.0635547	-0.0439704	-0.1637684	-0.0439216	-0.2007634	0.32880492	-0.2333776	-0.1003272	0.05257354	-0.2075921
EGC1	EGC	EGC1	0.17134206	0.09891995	0.19492277	-0.0177935	0.32433328	-0.1346301	-0.2618323	-0.3868113	0.17798889	0.50944124	-0.0833022	-0.1774606
EGC2	EGC	EGC2	0.19157477	0.12619137	0.06113742	-0.0238225	0.23078404	0.12344264	0.01418356	-0.0820045	0.1629927	-0.0370843	-0.233139	-0.0924418
EGC3	EGC	EGC3	0.19282561	0.12664388	0.06320472	-0.0204242	0.26945157	-0.0391151	0.15375674	-0.0372589	-0.0587978	-0.01341	0.00995758	0.00548518
EGC4	EGC	EGC4	0.18978557	0.10819713	0.08897001	-0.0047357	0.32241586	-0.029426	0.06054989	0.07662509	-0.0599681	-0.0080883	-0.0461622	0.05906846
EGC5	EGC	EGC5	0.17497595	0.07885991	0.03346633	0.02125474	0.31060574	-0.1356655	-0.0486304	0.18257807	0.06673248	-0.0871061	0.06331637	-0.1211854
EGC6	EGC	EGC6	0.16017361	0.10243895	-0.0164623	-0.0429687	0.27266178	-0.0761253	0.07467868	0.32075633	-0.1754654	-0.0914592	0.01104717	-0.1507353
EC1	EC	EC1	0.10919017	0.14153235	-0.0166467	-0.2063515	-0.0260256	-0.1380173	0.25685442	-0.0459594	0.42139909	-0.4013286	-0.2516097	-0.2254064
EC2	EC	EC2	0.12327813	0.14296767	-0.1258693	-0.2927165	-0.1988101	0.01791084	0.14305008	-0.087301	-0.0310498	0.07094203	-0.1735051	0.008822792
EC3	EC	EC3	0.11296978	0.12119517	-0.2087363	-0.2226154	-0.13153	-0.195883	0.16604651	-0.1355992	-0.0886585	0.11839994	-0.1351045	0.21678413
EC4	EC	EC4	0.1136522	0.09561637	-0.1513479	-0.2237301	-0.0601331	-0.1451365	0.08324616	0.01808914	0.02288025	0.16752953	0.06867828	-0.090489
EC5	EC	EC5	0.10083799	0.07718313	-0.1933678	-0.198535	-0.0708776	-0.2389686	0.02582879	0.06389872	0.14988165	0.09641057	0.20028139	0.02123198
EC6	EC	EC6	0.08596252	0.06182268	-0.2445961	-0.1828644	-0.0699309	-0.3229724	-0.0234182	0.11410544	0.22998818	0.03196631	0.34985172	0.21370602

Gene Load

	Var.2	PC1	PC2	PC3	PC4	PC5	PC6	PC7	PC8	PC9	PC10	PC11	PC12
onA650nm	onA650nm	-0.1842511	0.03899283	0.01989008	-0.0019422	-0.0300223	0.02135281	-0.0150785	0.00149784	0.00359361	-0.0068474	0.00381728	-0.0011338
onA450nm	onA450nm	-0.2004388	-0.1070711	0.03163141	-0.0301662	-0.0303097	0.00560902	0.00613265	0.00705973	0.00675421	0.00338594	-0.0052059	0.00093575
onA370nm	onA370nm	-0.0623991	-0.0770866	0.00369688	-0.059386	0.01776625	-0.015029	-0.0137529	-0.0004004	-0.0071084	-0.0053654	-0.001829	0.00019971
offA650nm	offA650nm	-0.1309318	-0.0186785	-0.0495508	0.00531515	-0.0031124	-0.0078946	-0.0039501	-0.0161217	0.01073974	-0.0019902	-0.0015596	0.00178238
offA450nm	offA450nm	-0.241942	-0.0565541	-0.0544055	0.04657569	0.01479553	0.00791259	-0.0092746	0.00813692	-0.0046809	0.00122626	-0.001616	0.00257923
offA370nm	offA370nm	-0.1096828	-0.1394689	-0.0711699	0.00018336	0.0038841	-0.0077868	0.00216259	0.0033132	0.00392525	0.00161439	0.00294333	-0.0041094
onB650nm	onB650nm	-0.2407612	0.09938912	0.03598089	0.00047526	0.00156952	-0.0165659	-0.0116255	-0.0006677	0.00127591	0.01189624	0.00053745	-0.0010236
onB450nm	onB450nm	-0.3760893	-0.082036	0.05123396	0.00728233	0.00291935	0.00265101	0.01127977	-0.0086369	-0.0080871	-0.0004828	0.00364411	0.00039807
onB370nm	onB370nm	-0.2597224	0.1014716	0.02438005	0.00493435	0.03646916	-0.0079841	0.00728797	0.00656192	0.00763544	-0.0076402	-0.001456	-0.0007026
offB650nm	offB650nm	-0.0897687	0.05386271	-0.02336646	-0.0109285	0.01627954	0.02784229	0.0004076	-0.0069077	-0.0041802	0.00228161	-0.0057365	-0.0026954
offB450nm	offB450nm	-0.1645471	0.12042189	-0.0607451	-0.0020386	-0.0401388	-0.0163809	0.00657323	0.00128435	-0.0078721	-0.003337	-0.0017679	-0.0003988
offB370nm	offB370nm	-0.0859118	0.0748649	-0.0572956	-0.0546256	0.01275455	0.01296346	0.00554998	0.00263322	0.00169006	0.00408096	0.00478046	0.00220006

4 μM

Sample Load

	Group	Sample	PCA1-80.62%	PCA2-13.85%	PCA3-2.53%	PCA4-1.6%	PCA5-0.67%	PCA6-0.31%	PCA7-0.26%	PCA8-0.07%	PCA9-0.04%	PCA10-0.03%	PCA11-0.01%	PCA12-0.01%
PDA1	PDA	PDA1	0.02170642	-0.22111154	-0.1644385	0.23222225	-0.0731689	-0.3519035	0.05945387	0.08401393	0.06895084	-0.1167783	-0.1828333	-0.0121031
PDA2	PDA	PDA2	0.02862056	-0.2103886	-0.1345251	0.31055473	-0.0753994	-0.1133012	-0.3734344	-0.1102869	-0.1601279	-0.0988544	0.36648272	-0.0131685
PDA3	PDA	PDA3	0.04149333	-0.1623514	-0.1449575	0.17154338	-0.080058	-0.2611048	-0.1133762	-0.0212371	-0.0434382	0.08132461	-0.0392936	0.0514619
PDA4	PDA	PDA4	0.03636498	-0.2362	-0.090896	0.20214013	0.02945821	0.02131309	0.21372675	0.23975111	0.00609912	0.0535219	-0.1130071	-0.2397877
PDA5	PDA	PDA5	0.02813643	-0.2266378	-0.1537406	0.19491709	0.03621562	-0.1825813	0.10432044	0.14199631	-0.0297608	0.19738086	-0.0243015	-0.1167569
PDA6	PDA	PDA6	0.01369686	-0.2415798	-0.1487773	0.23137303	-0.0016486	-0.1982864	-0.0536198	0.02582953	0.11080568	0.11563556	0.04118217	0.07561805
C1	C	C1	0.08052015	-0.15813	-0.0112455	-0.1590154	0.29597995	0.09593012	-0.133772	0.16493454	-0.1103557	-0.098319	-0.1687758	0.29832564
C2	C	C2	0.07657237	-0.1640894	0.04343491	-0.0721934	0.252444203	0.11353692	-0.172122	-0.0609008	-0.2232082	0.22009007	-0.2106063	-0.1930471
C3	C	C3	0.07280992	-0.166678	0.07074144	-0.0244589	0.2011616	0.004717	-0.2334328	-0.2621098	-0.1786734	-0.1844293	-0.1607832	-0.1966458
C4	C	C4	0.0804329	-0.2122324	0.07325587	-0.0633824	0.34130482	0.09399415	0.02302568	-0.0094004	-0.1718594	0.08129861	0.21228306	-0.0152057
C5	C	C5	0.07197213	-0.2073904	0.04024139	-0.0639457	0.32637451	-0.0204619	0.06098516	-0.0225049	-0.0309858	0.28919532	0.19025933	0.10535884
C6	C	C6	0.05820278	-0.216219	0.08952975	-0.1128791	0.44352319	-0.1661674	0.05893454	0.0292407	0.27097779	-0.5368084	0.056726	0.04675383
PC1	PC	PC1	0.13168986	-0.0806554	0.1682439	-0.1919662	-0.1362392	-0.1372653	-0.1236282	0.15639033	0.03057658	0.07708084	-0.312852	-0.0792248
PC2	PC	PC2	0.1117883	-0.0864975	0.14674025	-0.1816143	-0.1247331	-0.2093388	-0.1432576	0.06600107	0.08898563	0.10796314	-0.2431531	0.11123187
PC3	PC	PC3	0.10887989	-0.0867467	0.23838535	-0.1366004	-0.1272937	-0.2377233	0.1015593	0.08415419	0.16620129	-0.1058997	-0.1105188	-0.0601392
PC4	PC	PC4	0.11489604	-0.1507249	0.20362682	-0.1434027	-0.0640771	-0.1115529	0.08178259	0.15129466	0.12759655	0.03867917	0.00638379	0.08596793
PC5	PC	PC5	0.12170028	-0.1448908	0.26231447	-0.0718396	-0.1273032	0.1756495	-0.2632301	0.01287215	0.37518121	0.0784513	0.26640042	-0.3450453
PC6	PC	PC6	0.11696095	-0.1212006	0.20540497	-0.1028349	-0.0929845	-0.0201264	-0.2065847	-0.0079186	0.1749965	0.31645611	0.26432186	0.10827811
CA1	CA	CA1	0.2339053	-0.1096586	-0.0466744	-0.1071345	-0.211401	0.12016547	-0.1668187	-0.0726106	-0.232649	-0.1261841	-0.01424	0.24144312
CA2	CA	CA2	0.21857774	-0.1103285	-0.0717432	-0.0671433	0.08237306	-0.1334089	-0.1245308	-0.2219365	0.00332013	-0.21307	-0.04107	0.0844009
CA3	CA	CA3	0.2094016	-0.1192454	-0.0281362	-0.0351846	-0.2170502	0.01201908	0.00147946	-0.1663844	-0.0867262	-0.230674	0.07706211	0.12727209
CA4	CA	CA4	0.21648836	-0.1768629	-0.0142108	-0.0365577	-0.1319704	0.17445767	0.28189889	0.00284904	-0.1632822	0.00697032	-0.05655953	-0.008439
CA5	CA	CA5	0.19770873	-0.1888404	-0.0209899	-0.0304055	-0.1470492	0.15664475	0.28701046	-0.0711803	-0.0553398	-0.0506123	0.18851165	0.20172657
CA6	CA	CA6	0.19298842	-0.1863245	0.01922415	-0.0002875	-0.1488576	0.16200362	0.40139343	-0.0411274	0.05590504	-0.052401	0.00852797	-0.1744501
EGCG1	EGCG	EGCG1	0.26150056	0.12869832	-0.2953569	-0.076781	0.07709599	0.07697937	-0.0978367	0.23927383	0.10087723	0.02360194	-0.00989	0.13433368
EGCG2	EGCG	EGCG2	0.24360363	0.12941024	-0.2119047	-0.0060327	0.03793967	0.13331843	-0.1941337	0.10429391	0.11246323	-0.1011896	-0.0294177	-0.1291925
EGCG3	EGCG	EGCG3	0.24032566	0.14775756	-0.1595716	0.03547826	-0.017977	-0.0400645	-0.1015308	-0.0085655	0.17179073	-0.1823836	0.11148902	-0.0705403
EGCG4	EGCG	EGCG4	0.23462241	0.08664812	-0.1674181	0.06034832	0.05505188	0.08783866	-0.0532112	0.16563632	0.05556001	-0.0002625	0.0382284	-0.280584
EGCG5	EGCG	EGCG5	0.23211267	0.08776124	-0.2000019	0.04838509	0.09288442	0.06909462	0.00969378	-0.0549743	0.23527915	0.15456789	-0.1410559	0.06755645
EGCG6	EGCG	EGCG6	0.2209184	0.06543374	-0.1778762	0.09008661	0.13892416	0.15405999	0.04495954	-0.2006617	0.3296017	0.13064811	-0.1405762	0.18740496
EGC1	EGC	EGC1	0.2028226	0.19266414	-0.0169988	-0.1178476	0.06270939	-0.1908748	0.11707441	0.20623779	-0.2348108	0.0706756	0.15163385	0.16540957
EGC2	EGC	EGC2	0.19261385	0.21016277	0.03954421	-0.0600255	0.02567545	-0.2628543	-0.0600494	0.08150055	-0.2025503	0.05124978	0.06192629	-0.1037465
EGC3	EGC	EGC3	0.19740709	0.19635396	0.0573129	-0.0304039	0.02881427	-0.3136973	0.07501576	-0.1440204	-0.0501957	-0.080293	0.08156495	0.03236251
EGC4	EGC	EGC4	0.19202776	0.13688095	0.06183546	-0.0016682	0.09528042	-0.1555643	0.13351566	-0.0134673	-0.1262852	0.07773808	0.15750257	-0.1215343
EGC5	EGC	EGC5	0.17882549	0.12783877	0.09352473	0.0442716	0.11395958	-0.1097819	0.11524535	-0.267182	-0.1007768	0.05249219	-0.1453038	-0.2388918
EGC6	EGC	EGC6	0.16707001	0.14188491	0.11157841	0.07977348	0.08608525	-0.1865982	0.08275007	-0.3787264	0.06280034	0.12426448	0.06506382	-0.0611364
EC1	EC	EC1	0.10347829	0.10198071	0.17821091	0.18640855	0.06871717	0.13484467	0.01517216	0.36067064	-0.1577956	-0.0489162	-0.0075895	-0.159159
EC2	EC	EC2	0.09495809	0.10787903	0.20646226	0.21210049	-0.0287153	0.00939775	-0.1272677	0.28692173	-0.0859421	-0.0302516	0.03779706	0.11172135
EC3	EC	EC3	0.09477738	0.07263372	0.2687356	0.29284863	-0.0208834	0.08916421	-0.0300573	0.01318078	-0.0090954	-0.300974	0.0212926	-0.0102921
EC4	EC	EC4	0.09781918	0.0419897	0.2192345	0.27336594	0.02685221	-0.0112938	0.0548233	0.00072901	0.14779623	-0.0084129	0.07109408	0.05339009
EC5	EC	EC5	0.08712073	0.01385624	0.23302126	0.31226443	0.07325932	0.17548951	0.01901746	-0.0670439	-0.0106657	0.01064629	-0.2459719	0.0679447
EC6	EC	EC6	0.0776477	0.03886946	0.23052584	0.32531002	0.02814389	0.03111113	-0.0227846	-0.154738	0.08977424	0.10384835	-0.1646612	0.27311837

Gene Load

	Var.2	PC1	PC2	PC3	PC4	PC5	PC6	PC7	PC8	PC9	PC10	PC11	PC12
onA650nm	onA650nm	-0.2251346	0.0390911	-0.0597358	-0.0058388	-0.0104412	0.01950236	-0.0165904	0.00302013	0.00263833	0.00655649	-0.0025562	-0.0009535
onA450nm	onA450nm	-0.2684698	-0.0575774	-0.0250936	-0.0251891	0.02691478	-0.0111645	-0.0233827	-0.0033097	-0.0040295	-0.0021358	0.00231795	0.00162281
onA370nm	onA370nm	-0.1277129	-0.086733	-0.0621751	0.06042274	-0.0255421	-0.0199521	0.0026012	-0.0001683	-0.0003454	-0.0019686	-0.0005583	3.8128E-06
offA650nm	offA650nm	-0.1959008	-0.0437858	0.01706155	0.00434562	-0.004381	0.01953973	-0.0012873	0.00662365	-0.0040111	-0.0098161	-0.0031542	-0.0001993
offA450nm	offA450nm	-0.2589328	-0.0614332	0.02851513	0.03726131	0.00094995	0.01822922	0.00249056	-0.0005889	0.00659347	0.00041146	0.00509421	0.00137076
offA370nm	offA370nm	-0.1637805	-0.1149055	0.06473086	0.02487889	0.00660431	-0.0020795	-0.0047647	-0.0066271	-0.0039351	0.00517322	-0.0024691	-0.0024815
onB650nm	onB650nm	-0.196668	0.07548794	-0.0220682	0.01009057	0.00528204	0.00850842	0.02046037	-0.0004308	-0.0103937	0.00404959	0.003131397	0.001324
onB450nm	onB450nm	-0.3454629	-0.0769671	0.0079928	-0.0626885	-0.0219516	-0.0084288	0.0163381	-0.0021306	0.00337614	0.00068244	-0.0013139	0.00075445
onB370nm	onB370nm	-0.2317482	0.04581141	-0.0102085	0.01181848	0.04464168	-0.0112938	0.01238621	0.00723754	0.00475242	-0.0003501	-0.0014554	-0.0016862
offB650nm	offB650nm	-0.1379299	0.05736745	0.027747	-0.0115336	-0.0227004	-0.0107845	-0.0068038	0.01085766	-0.0029132	0.00061068	0.00440089	-0.002717
offB450nm	offB450nm	-0.2138113	0.18928043	0.00365878	0.00735994	-0.008269	-0.000967	-0.0018738	-0.0130211	0.00159681	-0.0046627	0.00014714	-0.0015475
offB370nm	offB370nm	-0.122891	0.11214398	0.05334427	0.02226712	-0.0080074	-0.0122264	-0.0092068	0.00488537	0.00089022	0.00220049	-0.0030251	0.00361614

7 μM

Gene Load

	Var.2	PC1	PC2	PC3	PC4	PC5	PC6	PC7	PC8	PC9	PC10	PC11	PC12
onA650nm	onA650nm	-0.3327012	0.01450213	-0.0577486	0.02157335	-0.0087095	0.04454318	-0.0002481	0.00054507	-3.371E-05	0.00266855	-0.0004502	-2.03E-05
onA450nm	onA450nm	-0.3554586	0.10303835	-0.0689641	0.02702254	-0.0278161	-0.0294619	0.00061372	-0.0052174	0.00151273	0.00121767	-0.0012191	-3.084E-07
onA370nm	onA370nm	-0.1885467	0.11500042	-0.0329554	0.02246658	0.05058034	-0.0042354	-0.0107768	0.00344589	0.0013602	-0.0041554	-0.0005288	1.1814E-05
offA650nm	offA650nm	-0.2672533	0.10598268	-0.002814	-0.0074121	0.004029504	-0.0037919	0.01435117	0.00978998	-0.0105889	-0.0003472	-0.0021757	0.0004769
offA450nm	offA450nm	-0.4189102	0.17421259	0.03036571	-0.0287953	-0.0153749	0.00708014	-0.0224058	-0.0053798	-0.0017062	-0.0023881	-0.0008743	0.00038558
offA370nm	offA370nm	-0.2751838	0.2605102	0.01829309	-0.0169868	0.01432225	0.00186739	0.01679085	-0.0031042	0.00429245	0.003405	0.00027284	-0.0007904
onB650nm	onB650nm	-0.3587498	-0.0816428	0.00370096	-0.01972968	0.01368458	-0.0043518	8.777E-05	-0.0074468	0.0050436	0.00226919	0.00444573	0.00151129
onB450nm	onB450nm	-0.7087032	-0.1633429	-0.0302732	-0.0229675	-0.0062856	-0.0021507	0.00698306	0.00667441	0.00570725	-0.0046008	0.00104882	0.002002991
onB370nm	onB370nm	-0.4949178	-0.1486886	0.01228205	-0.0086337	0.02012572	-0.0058105	-0.0039834	0.0053758	-0.0026981	-0.00453505	-0.0027911	-0.0013569
offB650nm	offB650nm	-0.1768886	-0.0099093	0.04275058	0.02440573	-0.0118811	0.00468738	0.00554375	-0.0045603	-0.0044826	-0.0067015	0.00200315	-0.0015132
offB450nm	offB450nm	-0.3074176	-0.0160304	0.0743316	0.0230942	-0.0107424	-0.0062837	-0.0113338	0.01305415	0.00188172	0.00416254	0.00105909	-0.0002122
offB370nm	offB370nm	-0.2010264	-0.014748	0.0824492	0.01983735	0.03027052	-0.00521726	0.01154593	0.0054196	0.00445191	-0.0014071	-0.0035966	0.00122726

	Group	Sample	PCA1-87.1%	PCA2-10.72%	PCA3-1.37%	PCA4-0.27%	PCA5-0.25%	PCA6-0.16%	PCA7-0.08%	PCA8-0.03%	PCA9-0.01%	PCA10-0.01%	PCA11-0%	PCA12-0%
PDA1	PDA	PDA1	0.09284701	0.20035772	0.05213593	0.07360485	-0.0210631	0.15352539	0.21206143	-0.2411374	-0.2793754	0.26288732	0.31434667	-0.0120789
PDA2	PDA	PDA2	0.08465223	0.1979441	-0.0002289	0.27604372	0.00357465	0.09484366	0.15967054	-0.1788334	-0.0374161	0.09955875	-0.0143118	0.24215667
PDA3	PDA	PDA3	0.0871285	0.17157022	0.02550733	0.424442849	0.08567739	-0.0278795	0.10232581	0.0267325	0.16645416	-0.0738888	-0.0483547	0.18877503
PDA4	PDA	PDA4	0.0844147	0.18015506	-0.0616637	0.2658767	0.13196019	-0.0491413	0.12885626	-0.2445976	-0.0342748	-0.1323869	-0.0709011	0.04359693
PDA5	PDA	PDA5	0.08040447	0.18529232	-0.0167312	0.17824401	0.11319503	-0.0959978	0.12570622	-0.2193465	-0.0452847	-0.1013481	0.15713858	-0.2144915
PDA6	PDA	PDA6	0.07120793	0.18974392	-0.0132881	0.18931871	0.12760577	-0.1153525	0.11388318	-0.1869452	0.15504122	-0.1723717	0.1563977	-0.1474893
C1	C	C1	0.12402772	0.16180794	-0.0920105	0.00998206	0.16124815	-0.0786281	-0.0866261	0.05730806	-0.0492065	0.0436733	-0.2799844	0.07185547
C2	C	C2	0.12314509	0.13722367	-0.0811937	0.09372455	0.10714061	-0.0284635	-0.0280057	0.20830888	-0.0699597	0.46480809	-0.2354589	-0.0733209
C3	C	C3	0.1176424	0.14968399	-0.0555734	0.0663248	0.17364522	-0.1109958	-0.0639082	0.18567346	-0.1148809	0.21347478	-0.205662	-0.1070234
C4	C	C4	0.12285572	0.12934842	-0.1279754	-0.1268513	0.21528821	-0.1747397	-0.0624936	-0.023065	-0.1247249	0.01897705	0.10795288	0.29706162
C5	C	C5	0.11372256	0.14351736	-0.128533	-0.0467566	0.22369151	-0.2044479	-0.1020422	-0.0108803	-0.0129099	0.12454824	-0.0883134	-0.1719242
C6	C	C6	0.11808683	0.11139843	-0.0617003	-0.07638	0.47872375	0.09571979	-0.1281531	0.48695854	-0.120983	-0.1627586	0.45743819	-0.0758532
PC1	PC	PC1	0.16174503	0.11185228	0.12610747	-0.0384919	-0.0414466	0.33959853	0.06313363	0.10232018	0.03858153	-0.0995914	-0.095123	0.00269178
PC2	PC	PC2	0.15332682	0.12359748	0.12475746	-0.0221885	-0.0374885	0.34636302	0.05696578	0.05120564	0.10581131	0.02634452	-0.1403868	-0.2216782
PC3	PC	PC3	0.15101789	0.1169086	0.10274727	0.07227831	0.06151916	0.19842268	-0.0452145	0.19450531	0.22912597	-0.2219988	-0.2384915	0.21747745
PC4	PC	PC4	0.14843781	0.14293652	0.04815279	-0.3122189	0.13924488	0.15986406	-0.0721603	-0.1715724	-0.1069106	-0.4011386	-0.1441868	0.08013096
PC5	PC	PC5	0.14457399	0.12738765	0.0562927	-0.2766543	0.02157283	0.34636384	-0.0336198	-0.23459	0.05379963	0.13509151	0.0182751	-0.0267171
PC6	PC	PC6	0.14587398	0.10170279	0.068445	-0.1686888	0.02942969	0.30294521	0.0685379	-0.0063462	0.12953777	0.17515956	0.07297691	-0.0867075
CA1	CA	CA1	0.22261946	0.09949265	0.03910807	-0.0712362	-0.3484925	-0.024349	0.04701147	0.14704956	-0.0070089	0.2090724	0.3386699	0.32857536
CA2	CA	CA2	0.2114446	0.12150366	0.02804547	0.10277851	-0.3298612	-0.0488477	-0.0578913	0.17882182	0.11444223	0.08485411	0.10293405	-0.1457502
CA3	CA	CA3	0.20675826	0.13175102	0.04897599	0.09552775	-0.2695319	-0.1673139	-0.079405	0.1555774	0.17809246	-0.1374629	-0.0381337	-0.0916517
CA4	CA	CA4	0.2054767	0.14262715	-0.0500159	-0.0910598	-0.2007176	-0.1538708	-0.0864689	-0.112697	-0.0637021	-0.1852988	-0.019978	0.04292418
CA5	CA	CA5	0.20157168	0.14935612	-0.0249167	-0.1501639	-0.2186483	-0.1965115	-0.1090239	-0.032346	-0.0306087	-0.1560595	0.11210009	-0.1575874
CA6	CA	CA6	0.19650217	0.16474427	-0.0992287	-0.2175274	-0.1608159	-0.2379104	-0.2162639	-0.092976	-0.0945107	0.02734472	-0.1501815	0.01166143
EGCG1	EGCG	EGCG1	0.22068116	-0.2295898	-0.2449234	0.05454261	-0.0699039	0.09202261	0.13767926	-0.0055284	-0.2231452	-0.1496817	-0.0065392	0.09266456
EGCG2	EGCG	EGCG2	0.2117227	-0.2071055	-0.1975769	0.05493197	-0.0749781	0.08846048	0.21159235	0.07902633	-0.2404561	-0.084226	-0.1785732	-0.0675701
EGCG3	EGCG	EGCG3	0.21170153	-0.2052081	-0.1753109	0.01586167	0.01168087	-0.0051371	0.17056407	0.17396859	0.04245322	-0.0444977	-0.0190909	0.35510201
EGCG4	EGCG	EGCG4	0.21222993	-0.2070669	-0.2435877	-0.0426999	0.04999385	-0.0070512	0.15049756	-0.0906828	0.13821248	-0.0850749	0.0642333	-0.1617336
EGCG5	EGCG	EGCG5	0.20831555	-0.1994823	-0.2595673	-0.0743205	0.08323512	-0.0167051	0.12503688	-0.0950029	0.22121714	0.05911273	0.01358072	-0.0553794
EGCG6	EGCG	EGCG6	0.20107862	-0.1843717	-0.2320961	-0.0777965	0.0769589	-0.0254088	0.11927536	-0.0435636	0.29745768	0.18473224	0.02864292	-0.1652094
EGC1	EGC	EGC1	0.18200347	-0.2067296	0.12705973	0.21455223	-0.0235383	0.07290075	-0.186492	-0.0571	-0.215005	-0.0081296	0.04492528	-0.3446056
EGC2	EGC	EGC2	0.17240516	-0.1852772	0.15141328	0.1864685	-0.0143669	0.07499093	-0.1696592	-0.0528088	-0.2433237	0.02110785	-0.0963798	-0.0382998
EGC3	EGC	EGC3	0.17308806	-0.2003801	0.19244575	0.19748111	0.04687273	-0.0189515	-0.1990237	0.03784964	0.0622929	-0.0599636	0.22000626	0.0375304
EGC4	EGC	EGC4	0.16780501	-0.1809283	0.13999374	0.03712562	0.09589823	-0.0152526	-0.2262383	-0.1588964	-0.1350091	-0.0258796	0.02843592	0.06349957
EGC5	EGC	EGC5	0.1611329	-0.1640067	0.14883705	0.02079979	0.11709571	-0.0160729	-0.2559432	-0.1571867	0.07569466	0.18155883	0.05537801	0.25072178
EGC6	EGC	EGC6	0.15387159	-0.1549979	0.1858032	0.06804174	0.11609222	-0.0094644	-0.2767286	-0.1677777	0.19072826	0.09619609	-0.0656472	0.06463971
EC1	EC	EC1	0.08875266	-0.0556361	0.22948385	-0.0725178	-0.0003054	-0.1000197	0.23883198	0.08867065	-0.2808382	0.07376838	-0.0427631	0.01719378
EC2	EC	EC2	0.08516053	-0.0646894	0.25416932	0.04134495	-0.0008198	-0.0913464	0.25642837	0.07942439	-0.0450691	-0.0027558	-0.1659901	-0.0125802
EC3	EC	EC3	0.07802034	-0.0468468	0.34168486	-0.0360281	0.02861818	-0.1617816	0.23279249	0.20815389	-0.0520841	-0.1360564	0.01243775	-0.129291
EC4	EC	EC4	0.08228664	-0.0492314	0.21121452	-0.2077716	0.12272863	-0.1807664	0.24574381	-0.0888222	-0.0013988	0.05420008	0.07138035	0.09183494
EC5	EC	EC5	0.07433628	-0.0372481	0.23782202	-0.2142347	0.1182088	-0.1833318	0.18571202	-0.0654825	-0.0778481	0.04202416	-0.1555116	-0.0141894
EC6	EC	EC6	0.07137601	-0.0498615	0.26408284	-0.0820544	0.11320919	-0.1977343	0.1364742	-0.027501	0.36654582	0.03378246	0.03365083	-0.0240481

10 μ M

Gene Load

	Var.2	PC1	PC2	PC3	PC4	PC5	PC6	PC7	PC8	PC9	PC10	PC11	PC12
onA650	onA650	-0.4387094	-0.0135421	0.08839394	0.02961258	-0.0047081	-0.0066975	-0.0032788	-0.0058862	0.00030752	-0.0058223	0.00212109	-0.0017833
onA450	onA450	-0.6870428	-0.0932174	0.04966	-0.0110351	-0.0235309	0.00099636	-0.0053613	-0.0080552	-0.0003945	0.005131	-0.0021626	0.00046088
onA370	onA370	-0.6080839	-0.0744049	0.08199209	0.0077305	-0.0191155	0.00216865	0.00499054	0.01190192	0.00146876	0.00094573	0.0011883	0.00090349
offA650	offA650	-0.2783592	0.14284912	0.00673708	-0.0162229	-0.0141365	0.02475646	0.01324308	-0.0037505	0.00386566	-0.0007027	0.00035624	-9.565E-05
offA450	offA450	-0.4524639	0.13511646	-0.0379525	-0.0487639	-0.0397897	-0.0145608	0.00333973	0.00103209	-0.005732	-0.0003897	0.00091965	-0.0006095
offA370	offA370	-0.339268	0.21529593	0.03609464	-0.0113533	0.02360675	-0.0061238	-0.0144566	0.00254083	0.00487245	0.00094428	-0.0010848	0.00033155
onB650	onB650	-0.4062411	-0.069592	-0.0431393	-0.0188274	0.01294685	0.0007308	0.00160508	0.00294617	0.00250947	0.00034629	-0.0016719	-0.0053203
onB450	onB450	-0.8361634	-0.0017977	-0.0082486	-0.0025324	0.06176055	0.00149877	0.0073598	-0.000807	-0.005234	-0.000317	-7.296E-05	0.00129068
onB370	onB370	-0.5720881	-0.1081395	-0.0993323	-0.029716	-0.0084732	0.00316773	-0.0090202	-0.0002753	0.0043464	-0.0033886	0.00114773	0.00215106
offB650	offB650	-0.2047676	0.01384045	-0.0376383	0.03965045	-0.0023468	-0.0219492	0.01469777	-0.0022384	0.00593652	0.00085131	-0.0000856	0.00092849
offB450	offB450	-0.3564347	0.05668684	-0.0478538	0.07462863	-0.0225642	0.00807299	-0.0045659	0.00251328	-0.0032627	-0.0020971	-0.0034583	0.00013211
offB370	offB370	-0.2478682	0.0398938	-0.055239	0.04989678	0.00102722	0.00389042	-0.0049761	-0.0008383	-0.0003015	0.00460574	0.00475025	-0.0011274

Sample Load

	Group	Sample	PCA1-93.92%	PCA2-3.98%	PCA3-1.26%	PCA4-0.48%	PCA5-0.26%	PCA6-0.05%	PCA7-0.03%	PCA8-0.01%	PCA9-0.01%	PCA10-0%	PCA11-0%	PCA12-0%
PDA1	PDA	PDA1	0.09291415	0.0245187	0.1225643	0.29666226	0.0094773	-0.0747767	0.08489317	0.4086727	-0.0573358	0.1111103	0.08942272	-0.0998333
PDA2	PDA	PDA2	0.0904378	0.04032068	0.11453473	0.30565535	-0.009562	-0.0933721	-0.0531231	0.04382866	-0.038341	0.27071093	-0.0761203	-0.1173945
PDA3	PDA	PDA3	0.0925287	0.03176747	0.07475081	0.34366734	0.00291001	0.02206753	0.0544061	0.00301212	-0.0205001	-0.1563373	0.03203219	-0.3503396
PDA4	PDA	PDA4	0.08697518	0.03799543	0.08750897	0.30092722	0.02833774	-0.0671962	0.15044074	-0.0443231	0.20308728	-0.3379081	-0.1528407	-0.1317604
PDA5	PDA	PDA5	0.08769002	0.05289958	0.09832225	0.27436634	0.02042879	-0.1277015	0.21383639	0.02487561	0.3338065	-0.2038452	-0.1491715	0.28801214
PDA6	PDA	PDA6	0.08960271	0.03659006	0.10088454	0.30553986	-0.0142842	-0.0189147	0.15219109	0.20615312	0.02306934	0.07642108	-0.0353205	0.07236356
C1	C	C1	0.13810503	0.09403006	0.18767484	0.11391213	-0.1073901	-0.009739	-0.0787561	-0.3523575	0.0397676	0.15460879	-0.0005452	0.06461077
C2	C	C2	0.13159957	0.09334729	0.19517967	0.13086013	-0.1435277	-0.0194899	-0.1366084	-0.1754034	-0.0634752	0.07999608	0.03305429	0.00067656
C3	C	C3	0.12548039	0.09831112	0.21011654	0.10831093	-0.1571904	-0.0125294	-0.185779	-0.0334259	-0.1248833	-0.0822661	0.1897177	-0.0715087
C4	C	C4	0.123561	0.09475266	0.26157052	-0.0425239	-0.1460152	-0.0372806	-0.1695436	-0.0760759	-0.0028389	-0.2407878	0.21471562	0.09466627
C5	C	C5	0.12151396	0.1108835	0.25578601	-0.0327808	-0.1828715	-0.049093	-0.1734751	-0.0110474	-0.1194587	-0.0809534	0.10523173	0.17366935
C6	C	C6	0.11812263	0.12978929	0.23114937	-0.0415811	-0.19597	-0.0174699	-0.1932848	0.08453361	-0.0753708	0.00494914	-0.0737831	0.33033224
PC1	PC	PC1	0.18949868	0.03897125	-0.0938533	0.11629335	0.20027238	0.21395749	-0.0137473	-0.0866832	0.04030681	0.1508795	0.12894321	0.0403451
PC2	PC	PC2	0.18468909	0.04416821	-0.0940187	0.12752364	0.18886015	0.22225216	-0.0584068	0.04698445	-0.0098708	0.12256753	0.10844052	-0.0598604
PC3	PC	PC3	0.17905031	0.05292299	-0.1104071	0.15905245	0.17373698	0.24330208	-0.1108509	-0.0034434	-0.080641	0.22450297	-0.0943407	0.04885228
PC4	PC	PC4	0.17711276	0.04940737	-0.0675588	0.005063	0.22887945	0.24245428	-0.0861125	-0.0096127	0.00445235	-0.0739518	0.17441501	0.13874415
PC5	PC	PC5	0.17267145	0.06030145	-0.0635698	-0.0048322	0.19140469	0.24638898	-0.123152	0.0360154	0.01862233	-0.1408154	0.03670789	0.11912648
PC6	PC	PC6	0.16849452	0.06914889	-0.0500212	-0.056879	0.21585574	0.28503757	-0.1746049	0.06561276	-0.0583656	-0.2850957	0.05694269	0.03435557
CA1	CA	CA1	0.20740027	0.20668835	-0.0001239	-0.2070353	0.11001319	-0.1669979	0.2195965	-0.0005195	-0.0452399	0.26390659	0.04138908	0.27569991
CA2	CA	CA2	0.21461996	0.20949526	-0.0672248	-0.0533187	0.06135676	-0.0546172	0.11233006	0.03683025	-0.1825736	-0.0887893	-0.2471388	-0.0479683
CA3	CA	CA3	0.21312583	0.21943226	-0.0714483	0.0466616	0.07089081	-0.0518445	0.09802951	-0.0194261	-0.0987973	-0.0679589	-0.1936425	-0.2289569
CA4	CA	CA4	0.2106331	0.22615631	-0.0081057	-0.2189321	0.09269144	-0.1249061	0.14458276	-0.0154813	0.01930068	-0.1896868	0.08730523	-0.1977719
CA5	CA	CA5	0.20244115	0.23399553	0.01696617	-0.2298424	0.01176563	-0.1371861	0.10295274	-0.0081051	0.08046032	0.08030936	-0.0494761	-0.1471342
CA6	CA	CA6	0.19687477	0.24765366	0.04071205	-0.2222844	-0.0074031	-0.1494653	0.03771402	0.0088419	0.21639155	0.23584768	-0.0220976	-0.1130402
EGCG1	EGCG	EGCG1	0.19114842	-0.2452998	-0.1188598	-0.11090868	-0.117098	0.13822146	0.25732786	0.09470106	0.10255378	-0.0321884	0.10296174	0.12836448
EGCG2	EGCG	EGCG2	0.18975882	-0.2657683	0.07193165	0.00542044	-0.1544686	0.13880624	0.34513119	-0.0632661	-0.2565601	0.15483322	0.1881966	0.05388062
EGCG3	EGCG	EGCG3	0.18594606	-0.2382305	0.07111688	-0.0059361	-0.1438666	0.22209928	0.20267164	-0.3097035	-0.0087152	0.11212078	-0.1452061	-0.0195261
EGCG4	EGCG	EGCG4	0.18819407	-0.2404678	0.13690776	-0.169772	-0.0667033	0.14460316	-0.0693995	-0.0900871	0.28138032	-0.1382325	-0.2375184	-0.1854455
EGCG5	EGCG	EGCG5	0.1838192	-0.2063652	0.10988532	-0.1619709	-0.0814572	0.15146061	0.0790951	0.10878577	0.24039216	0.03577775	-0.2123734	-0.0496368
EGCG6	EGCG	EGCG6	0.18309287	-0.2038911	0.08983936	-0.1723666	-0.1784558	0.04986152	-0.1135504	0.52755192	-0.1439251	0.02260333	-0.0902668	-0.202143
EGC1	EGC	EGC1	0.17071686	-0.2088505	-0.1144289	0.0510512	0.1180596	-0.2298698	0.03847303	-0.1190613	0.4237999	-0.2484822	-0.4202078	0.30482944
EGC2	EGC	EGC2	0.16823846	-0.2019949	-0.128773	0.08385698	0.04084751	-0.2061766	0.08529498	-0.2155233	0.17201294	0.11647614	0.19513042	-0.048101
EGC3	EGC	EGC3	0.16591783	-0.2048942	-0.1218108	0.04415582	0.03745207	-0.1932989	-0.0429255	-0.1263533	-0.1747456	-0.0194375	0.12437784	-0.1843647
EGC4	EGC	EGC4	0.16422594	-0.202516	-0.0932621	-0.0208431	0.09800556	-0.2988103	-0.2743892	-0.0072081	0.08213531	0.02301617	0.05280924	-0.0284782
EGC5	EGC	EGC5	0.16395843	-0.1943058	-0.1090075	0.00754469	0.10772739	-0.2404845	-0.0913921	0.0911458	0.27686335	-0.1653538	0.30719984	0.15425473
EGC6	EGC	EGC6	0.16232134	-0.1977738	-0.1076448	0.03012593	0.0640708	-0.2711154	-0.2121249	0.0925087	-0.1340168	0.10238254	0.03451428	-0.0087774
EC1	EC	EC1	0.07298634	0.08528529	-0.2707076	0.01829355	-0.2570897	0.05780356	0.24395753	0.12225458	0.06729801	-0.1359508	0.19618912	0.09544086
EC2	EC	EC2	0.07040979	0.07982385	-0.2698655	0.04930843	-0.2548588	0.04504226	0.14018549	0.18346911	-0.0249198	-0.037267	0.0402817	0.16747947
EC3	EC	EC3	0.07404051	0.04752004	-0.2639478	0.13321763	-0.167012	0.01608266	-0.2589515	0.10111822	0.28088074	0.20492037	-0.3216691	0.1745023
EC4	EC	EC4	0.07164303	0.06078206	-0.2581581	0.0070213	-0.2611094	-0.0871703	-0.031731	0.00231899	-0.0150798	-0.0516316	0.0812595	-0.0187311
EC5	EC	EC5	0.0699088	0.07457531	-0.2726516	0.04873161	-0.2914895	0.05576565	-0.1536756	-0.1590999	0.09630845	0.0067127	-0.0035954	-0.0533181
EC6	EC	EC6	0.06437131	0.08796555	-0.2942453	0.05934784	-0.3485849	0.10072561	-0.0844003	-0.1205273	-0.144607	-0.1210792	0.00573991	-0.1447757

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Gene Load

	Var.2	PC1	PC2	PC3	PC4	PC5	PC6	PC7	PC8	PC9	PC10	PC11	PC12
onA650nm	onA650nm	-0.4533703	-0.0428358	-0.0913326	0.00431891	0.00323349	0.00290974	0.00595999	-0.001795	0.00333121	0.00710442	0.00107385	-7.127E-05
onA450nm	onA450nm	-0.599149	0.10648632	-0.1801271	0.02907975	0.00249414	-0.0164041	-0.0019037	0.00039974	-0.0044704	0.00020472	-0.0014573	-0.0001346
onA370nm	onA370nm	-0.6455597	-0.0450088	-0.1329211	0.04185169	-0.0108005	0.02000209	-0.001952	0.00080193	0.00301185	-0.0043705	0.00092825	-2.427E-05
offA650nm	offA650nm	-0.4142229	0.15100481	0.00631679	-0.0493262	0.00187551	-0.0059899	0.0179929	-0.0029746	-0.0005438	-0.0024919	0.00143203	0.00119033
offA450nm	offA450nm	-0.5679321	0.22124245	0.02671159	-0.0508278	0.01605558	-0.0082195	-0.0100124	0.00620425	0.00476529	-0.0002235	-6.465E-05	0.0003025
offA370nm	offA370nm	-0.547065	0.19811351	0.05248986	-0.0403648	-0.0028526	0.02395093	-0.0029573	-0.00335	-0.0037914	0.00152966	-8.506E-05	-0.0013775
onB650nm	onB650nm	-0.4440722	-0.1206491	0.03234606	0.01077386	0.01455797	-0.0051925	-0.0051684	0.00554603	-0.0039973	0.00010025	0.00342006	-0.0001929
onB450nm	onB450nm	-1.0416626	-0.2282931	0.04449364	-0.0790455	-0.0246468	-0.0078877	-0.0033145	-0.0028817	4.5284E-05	-0.0002096	-0.0009147	0.00023896
onB370nm	onB370nm	-0.6425731	-0.1318978	0.05320715	0.02998976	0.04634218	0.00717531	0.00465046	-0.0015254	6.5374E-05	-0.0007836	-0.0017548	0.0001906
offB650nm	offB650nm	-0.3032363	-0.0065293	0.04905156	0.02480616	-0.0128148	-0.004167	0.01145446	0.00972883	0.00084002	-0.0002454	-0.0007238	-0.0024496
offB450nm	offB450nm	-0.4930381	0.09290164	0.10154372	0.103351	-0.0081501	-0.0129027	-0.0031129	-0.008761	0.00166795	-0.0003509	0.00070729	-0.0006729
offB370nm	offB370nm	-0.3838356	0.05316092	0.07502355	0.06457883	-0.0182055	0.00828481	0.00096564	0.00647744	-0.0014963	0.00188835	-0.0007567	0.00262145

Sample Load

	Group	Sample	PCA1-91.93%	PCA2-5.16%	PCA3-2%	PCA4-0.74%	PCA5-0.09%	PCA6-0.04%	PCA7-0.02%	PCA8-0.01%	PCA9-0%	PCA10-0%	PCA11-0%	PCA12-0%
PDA1	PDA	PDA1	0.08588684	0.18720395	-0.0434206	0.19674072	0.16998337	-0.2270327	0.13900624	-0.0421173	-0.2899591	0.16328907	0.14545677	0.01859682
PDA2	PDA	PDA2	0.08035739	0.18335127	-0.0376642	0.20181532	0.13284707	-0.1612098	0.07864489	0.00582158	-0.0796424	0.09427371	0.14922617	0.13191764
PDA3	PDA	PDA3	0.07403478	0.1866992	-0.0349171	0.2038335	0.13631909	-0.171654	0.04944451	0.01161409	-0.0280256	0.19856259	-0.0292542	0.11071229
PDA4	PDA	PDA4	0.07295751	0.17841801	-0.0747485	0.11827757	0.29695527	-0.0541729	-0.0157077	0.12565884	-0.2550826	-0.0366373	0.013835	0.09258575
PDA5	PDA	PDA5	0.06825853	0.17889858	-0.0730043	0.11059356	0.3037936	-0.016761	-0.0769001	0.20142728	-0.0727894	-0.0621289	0.04498201	0.19310542
PDA6	PDA	PDA6	0.07530272	0.21320985	-0.0513062	0.12786397	0.23190508	-0.0302332	-0.1973118	0.38588855	0.27188979	0.32092238	0.03052818	-0.3247841
C1	C	C1	0.11721108	0.13299856	-0.1151264	0.01527207	-0.0449371	-0.1916015	0.1350087	-0.3539263	-0.0676557	-0.1805404	0.01907043	-0.0931349
C2	C	C2	0.11311524	0.13643209	-0.1207611	0.03182385	-0.0520104	-0.1815554	0.10616299	-0.2887809	0.02597033	-0.0682997	-0.0993998	-0.1573477
C3	C	C3	0.10778846	0.13868009	-0.1124495	0.02224625	-0.0058317	-0.1820053	0.0492428	-0.2080834	0.21596661	-0.0455732	-0.0655201	0.02366973
C4	C	C4	0.10593638	0.13661116	-0.153966	-0.07818	0.11802071	-0.0998102	-0.0945375	-0.0777243	-0.0246702	-0.171857	-0.2014959	-0.1125119
C5	C	C5	0.10178266	0.13883489	-0.1517991	-0.0841064	0.13393186	-0.0956102	-0.1153862	-0.0597154	0.23170515	-0.2189011	-0.1896796	-0.0563106
C6	C	C6	0.09606561	0.14519269	-0.1454138	-0.0937869	0.13948545	-0.0434101	-0.1605106	-0.0700277	0.37006013	-0.2603671	0.01057326	-0.1213232
PC1	PC	PC1	0.13385452	0.17067738	-0.0953583	0.13986778	-0.2788203	0.10943395	0.11529181	-0.1593054	-0.3199411	0.05957235	-0.0666443	-0.1058242
PC2	PC	PC2	0.1291979	0.1790024	-0.0883616	0.13841611	-0.2562976	0.17258916	0.06472842	-0.0595995	0.16414538	-0.0485888	0.17854873	-0.2039383
PC3	PC	PC3	0.12344901	0.18438931	-0.0838418	0.1429465	-0.2825821	0.18943429	0.03837528	0.05247015	0.1969945	0.14752841	0.12413661	0.25169655
PC4	PC	PC4	0.12277002	0.17835713	-0.1316695	0.05242297	-0.165782	0.25639211	-0.0292019	0.0981911	-0.1494476	-0.0240118	-0.1304735	0.04106137
PC5	PC	PC5	0.11738456	0.18250752	-0.130306	0.04975227	-0.1580826	0.25047554	-0.1022328	0.13709703	-0.0146592	-0.1718787	-0.150863	0.13855996
PC6	PC	PC6	0.11435323	0.18373712	-0.1291462	0.06022851	-0.14183	0.30592298	-0.0863816	0.14085048	-0.0397997	-0.1277606	0.03818929	0.0723988
CA1	CA	CA1	0.20899232	0.11685245	0.18913948	-0.2063622	-0.0326248	-0.0544953	0.09244841	-0.1527326	0.06129425	0.11328985	0.32857848	0.01045016
CA2	CA	CA2	0.20723875	0.11436875	0.19332217	-0.2066645	-0.0437278	-0.0507938	0.1210171	-0.096747	-0.0324935	0.14747063	-0.1309233	0.00628515
CA3	CA	CA3	0.20364729	0.11816302	0.20834428	-0.2038741	-0.0745683	0.0416815	0.08485943	-0.0550982	0.13449585	0.24270976	-0.0993577	0.133937
CA4	CA	CA4	0.20676196	0.10614425	0.16692789	-0.3088729	0.06542843	0.07468917	0.05438194	0.12744882	-0.1798404	-0.0174925	0.05196342	-0.1371141
CA5	CA	CA5	0.20422962	0.11327851	0.16908666	-0.3038368	0.07017125	0.06112224	0.0043819	0.11866825	-0.0744533	0.03754376	-0.0321954	0.036659
CA6	CA	CA6	0.20289744	0.11359464	0.16669549	-0.3298837	0.09160622	0.08305606	-0.0603569	0.07038985	-0.0003009	-0.0649598	-0.0730586	0.1093967
EGCG1	EGCG	EGCG1	0.22850219	-0.2452638	-0.1647418	0.01375604	0.11165959	0.04565338	0.26718474	0.09101204	-0.0381391	-0.0393295	-0.1149213	-0.0174755
EGCG2	EGCG	EGCG2	0.2182517	-0.2139299	-0.1261073	0.07001857	0.02175058	0.04977453	0.3411468	0.1509995	0.16497878	0.083898	-0.0590591	-0.0745366
EGCG3	EGCG	EGCG3	0.21466642	-0.2182694	-0.155444	-0.0635905	0.23835397	0.19373904	0.21872291	0.07987576	-0.0800543	-0.2667905	0.23326782	-0.253773
EGCG4	EGCG	EGCG4	0.21818842	-0.2297782	-0.1684199	0.02331341	0.1462861	0.14623652	-0.0456619	-0.1978255	0.00120237	0.10755607	0.05040052	0.26992566
EGCG5	EGCG	EGCG5	0.21168272	-0.2095697	-0.1482648	0.03847907	0.12903057	0.15238941	-0.0307132	-0.1920149	0.12211837	0.18882052	0.14369939	0.12419043
EGCG6	EGCG	EGCG6	0.21212985	-0.2124668	-0.1035374	0.05754698	0.10722853	0.12633877	-0.1177676	-0.1432433	0.05439304	0.32928027	-0.3019326	-0.0200275
EGC1	EGC	EGC1	0.20822064	-0.1612939	0.00286668	0.03507288	-0.1417835	-0.2773972	-0.0108974	0.18180339	-0.1514577	-0.2075478	-0.1537306	0.23491228
EGC2	EGC	EGC2	0.19867658	-0.1316815	0.027526	0.05630503	-0.187393	-0.2231944	0.04484759	0.19154414	-0.1021946	-0.1470624	0.12048041	-0.027577
EGC3	EGC	EGC3	0.19139357	-0.1126758	0.05055938	0.0954952	-0.2391212	-0.235482	-0.0005298	0.28146231	0.07818765	0.04427988	0.02243116	-0.2598548
EGC4	EGC	EGC4	0.19563518	-0.1413712	0.00520956	0.0561367	-0.1435292	-0.1851417	-0.2750609	0.1000297	-0.0993024	0.02757525	-0.2397609	-0.0963129
EGC5	EGC	EGC5	0.19120806	-0.1251988	-0.0007625	0.01003569	-0.0722325	-0.1150731	-0.3801293	-0.073491	-0.0702768	-0.0797523	0.25100855	0.06639733
EGC6	EGC	EGC6	0.18524722	-0.108706	0.01680263	0.03936271	-0.1141215	-0.1017344	-0.4414201	-0.0968658	0.00477504	0.07070144	0.29560265	-0.0011437
EC1	EC	EC1	0.09011121	-0.0356002	0.27534884	0.22888933	0.05421217	-0.0642143	0.06310401	0.02117883	0.26097554	-0.2450132	-0.1838278	0.4105714
EC2	EC	EC2	0.0812902	-0.0069712	0.29966606	0.2465428	0.01258327	0.008455	0.15517041	-0.0145973	0.15647364	-0.1327112	0.02765188	-0.0844501
EC3	EC	EC3	0.07552363	0.01096672	0.31375099	0.25502454	-0.006721	0.04675084	0.14823396	0.03944433	0.16635992	-0.0360016	0.0318611	-0.0646773
EC4	EC	EC4	0.07933962	-0.003601	0.25689263	0.14278557	0.1668832	0.18640661	-0.0922683	-0.1019466	-0.0466627	-0.2438683	0.25541026	-0.0083469
EC5	EC	EC5	0.07848945	-0.0164486	0.25727225	0.19407529	0.11950942	0.18123788	-0.1328531	-0.1356419	-0.1445682	-0.0583941	-0.1772502	-0.1496233
EC6	EC	EC6	0.07567365	-0.0144748	0.26397719	0.22859783	0.08198031	0.15857811	-0.1626121	-0.1913234	-0.1331145	0.05188426	-0.2451757	-0.2513919

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