

1 *Supporting Information for*

2 **Occurrence of Earthy-Musty Taste and Odor in Taihu Lake, China:**
3 **Spatial and Seasonal Patterns**

4 **Yingchao Zhang ^a, Ni Zhang ^b, Bingbing Xu ^{c*}, Jolanta Kumirska ^d, Fei Qi ^{b**}**

5

6 ^a State Key Laboratory of Automotive Simulation and Control, Jilin University,
7 Changchun 1300022, China.

8 ^b State Key Laboratory of Environmental Criteria and Risk Assessment, Chinese
9 Research Academy of Environmental Sciences, Beijing 100012, China

10 ^c Beijing Key Lab for Source Control Technology of Water Pollution, College of
11 Environmental Science and Engineering, Beijing Forestry University, Beijing 100083,
12 China.

13 ^d Department of Environmental Analysis, Faculty of Chemistry, University of Gdansk,
14 Wita Stwosza 63, 80-308, Poland

15

16 * Corresponding author, Prof. Fei Qi,

17 Tel.: 86 10 62336615; Fax: 86 10 62336596

18 Email address: qifei@bjfu.edu.cn; qifei_hit@163.com

19 Co-Corresponding author, Bingbing Xu

20 Email address: xbb_hit@126.com

21

22 Page: 6; Table: 3.

24 Table S1: Sampling Sites in Taihu Lake

Lake Zone	Sampling Site	Coordinate	
		North latitude (N)	East longitude (E)
Zhushan Lake (I)	TH-1	N31°25.965'	120°01.859'
	TH-17	N31°26.912'	120°01.768'
	TH-18	N31°28.654'	120°02.304'
	TH-19	N31°27.426'	120°03.264'
	TH-20	N31°23.756'	120°03.376'
	TH-40	N31°24.865'	120°02.020'
Meiliang Bay (II)	TH-21	N31°24.531'	120°08.112'
	TH-22	N31°30.254'	120°09.207'
	TH-23	N31°30.844'	120°12.152'
	TH-24	N31°27.049'	120°11.644'
	TH-25	N31°24.146'	120°12.178'
Gonghu Lake (III)	TH-26	N31°20.976'	120°12.981'
	TH-27	N31°26.271'	120°19.367'
	TH-28	N31°26.345'	120°23.038'
	TH-29	N31°23.054'	120°18.949'
	TH-30	N31°18.536'	120°15.728'
West Coast (IV)	TH-2	N31°22.423'	119°58.883'
	TH-3	N31°18.965'	119°57.018'
	TH-4	N31°13.703'	119°54.028'
	TH-5	N31°06.440'	119°57.380'
	TH-6	N31°02.044'	120°00.305'
	TH-39	N31°19.247'	119°58.761'
South Lakes (V)	TH-7	N30°57.534'	120°08.486'
	TH-8	N30°56.395'	120°13.357'
	TH-9	N30°56.447'	120°18.826'

	TH-10	N30°58.415'	120°15.701'
	TH-11	N30°59.957'	120°11.800'
	TH-12	N31°03.036'	120°10.874'
	TH-31	N31°17.485'	120°17.830'
	TH-32	N31°17.920'	120°20.130'
East Coast (VI)	TH-33	N31°16.511'	120°18.156'
	TH-34	N31°14.549'	120°19.356'
	TH-35	N31°12.126'	120°14.351'
	TH-13	N31°08.916'	120°12.241'
	TH-14	N31°12.005'	120°12.328'
	TH-15	N31°15.062'	120°12.070'
Lake Centre (VII)	TH-16	N31°17.987'	120°12.127'
	TH-36	N31°11.774'	120°09.330'
	TH-37	N31°12.732'	120°04.360'
	TH-38	N31°13.282'	119°58.577'

25
26
27

Table S2: Characteristics of water quality in Taihu Lake

Lake zone		Temp. (°C)	DO (mg/L)	pH	UV254	DOC (mg/L)	TN (mg/L)	TP (mg/L)	NH ₄ -N (mg/L)	NO ₃ -N (mg/L)	SO ₄ ²⁻ (mg/L)	Chlorophyll-a (µg/L)
Zhushan Lake (I)	Max.	27.60	6.59	7.36	0.25	25.26	2.27	0.083	3.18	0.080	54.51	45.95
	Min.	26.60	3.95	7.10	0.25	23.43	2.24	0.031	2.50	0.011	51.63	24.20
	Ave.	26.87	5.44	7.17	0.14	21.68	1.93	0.049	2.15	0.040	49.74	35.76
	RSD(%)	0.38	0.92	0.15	0.06	3.29	0.45	0.021	0.72	0.030	4.30	9.06
Meiliang Bay (II)	Max.	28.30	7.76	7.43	0.14	40.22	0.52	0.067	3.38	0.004	94.48	48.75
	Min.	26.80	6.24	7.10	0.07	22.49	0.31	0.019	1.25	N.D.	58.92	13.65
	Ave.	27.60	6.85	7.32	0.10	31.80	0.42	0.040	2.54	N.D.	67.39	30.20
	RSD(%)	0.60	0.73	0.13	0.03	6.88	0.09	0.020	0.84	N.D.	15.24	16.49
Gonghu Lake (III)	Max.	29.40	9.16	8.07	0.09	34.39	1.21	0.051	5.79	0.029	61.84	26.30
	Min.	27.70	7.81	7.72	0.05	16.28	0.32	0.015	1.15	N.D.	47.15	9.20
	Ave.	28.52	8.55	7.88	0.07	23.77	0.62	0.030	2.33	0.010	55.00	17.75
	RSD(%)	0.61	0.57	0.13	0.01	6.87	0.37	0.010	1.96	0.010	6.93	12.09
West Coast (IV)	Max.	28.00	7.85	7.75	0.25	39.24	2.13	0.063	2.84	0.040	46.14	193.30
	Min.	26.80	4.14	7.06	0.07	19.09	0.40	0.027	0.67	0.004	38.10	55.05
	Ave.	27.27	6.00	7.33	0.15	26.44	1.27	0.040	1.64	0.020	43.59	135.82

	RSD(%)	0.46	1.78	0.30	0.08	7.44	0.68	0.010	0.71	0.010	3.08	59.80
South Lake (V)	Max.	28.20	8.63	7.99	0.07	28.42	0.80	0.063	4.72	0.030	55.06	52.05
	Min.	27.70	6.01	7.45	0.05	18.80	0.53	0.019	0.67	0.005	47.58	10.40
	Ave.	27.92	7.24	7.72	0.06	24.61	0.68	0.030	2.41	0.020	51.55	29.19
	RSD(%)	0.23	0.99	0.21	0.01	3.42	0.10	0.020	1.56	0.010	2.46	14.78
East Coast (VI)	Max.	30.00	9.5	8.03	0.07	27.48	1.14	0.035	1.92	0.024	182.26	51.60
	Min.	28.20	7.9	7.52	0.05	16.84	0.32	0.011	0.86	0.001	54.88	11.60
	Ave.	29.30	8.51	7.79	0.06	21.63	0.67	0.020	1.23	0.010	86.90	30.94
	RSD(%)	0.67	0.65	0.22	0.01	5.12	0.35	0.010	0.43	0.010	54.32	18.58
Lake centre (VII)	Max.	28.20	9.31	8.27	0.11	39.00	0.86	0.047	3.33	0.039	60.87	220.20
	Min.	27.10	7.94	7.60	0.05	19.78	0.33	0.019	0.57	0.003	42.50	16.95
	Ave.	27.81	8.85	7.91	0.07	25.75	0.60	0.030	1.60	0.020	56.57	52.69
	RSD(%)	0.34	0.49	0.24	0.02	6.83	0.17	0.010	1.21	0.010	6.56	74.39

Table S3 Component's matrix. of water quality of Taihu Lake

%Variance	Component				
	C1 (30.404%)	C2 (14.698%)	C3 (12.319%)	C4 (8.364%)	C5(5.086)
IPMP	-.241	.819	.069	-.259	-.125
IBMP	-.198	.537	.013	.537	.285
2-MIB	-.563	.618	.054	-.279	-.082
geosmin	.707	.111	-.241	-.226	.156
β-ionone	.346	.752	-.177	-.036	-.085
β-cyclocitral	-.228	.438	-.474	-.115	.118
Temp.	-.772	-.264	-.046	-.119	-.166
DO	-.846	-.165	.183	.131	.104
pH	-.759	-.046	-.019	.335	.206
UV254	.703	.028	.406	.005	-.470
TP	.646	.098	.382	-.093	.389
Ammonia	.298	.003	.430	-.214	.691
Nitrate	.518	-.207	-.641	.167	.250
DOC	.138	.081	.749	-.165	-.022
TN	.856	-.159	-.242	.071	-.201
Sulfate	-.346	-.425	.141	-.385	.012
Chlorophyll-	.234	.152	.437	.720	-.146

a