

# Supplement Material for

## Investigation of the pollution level and affecting factors of formaldehyde in typical public places in Guangxi, China

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Table S1. The detail information and measurement conditions of investigated public places

Type of location	Sampling date(s)	Main pollution sources	City	Number	Year place open	Ventilation mode	Formaldehyde Sampling points	Temperature±SD (°C)	Relative humidity±SD (%)	Absolutely humidity±SD (g·kg <sup>-1</sup> <sub>air</sub> )	Air change rate±SD (h <sup>-1</sup> )	
Furniture market	2014/6/05	Wood-related furniture merchandises, decoration materials, etc.	Guilin	GF1 <sup>+</sup>	2009	Mixed	45	26.0±1.5	62.5±1.9	15.21±1.59	1.03±0.12	
				GF2	2010	Mechanical	35	25.2±1.4	64.6±2.6	14.56±1.72	0.89±0.09	
				GF3	2006	Mixed	32	24.4±1.1	57.9±3.1	13.25±1.37	1.05±0.15	
				GF3 <sup>+</sup>	2011	Mechanical	47	27.3±1.6	71.8±2.3	18.78±2.16	0.64±0.05	
				GF4 <sup>+</sup>	2008	Mechanical	43	25.9±1.5	61.5±2.7	14.88±1.94	0.75±0.09	
	-	-	-	Liuzhou	LF1	2011	Mechanical	36	26.4±1.6	66.3±2.3	16.49±1.89	0.80±0.06
					LF2 <sup>+</sup>	2006	Mechanical	46	25.8±1.4	58.6±2.5	14.10±1.59	0.89±0.08
					LF3 <sup>+</sup>	2009	Mixed	50	25.2±1.1	57.8±3.0	13.45±1.37	0.97±0.12
					LF4	2011	Mechanical	39	26.3±1.8	62.6±2.4	15.49±2.07	0.94±0.09
					LF5	2009	Mechanical	35	26.9±1.4	67.9±2.7	17.37±1.98	0.72±0.07
	2014/7/23	-	-	Nanning	NF1	2004	Mechanical	36	26.8±1.3	64.3±2.2	16.36±1.59	0.86±0.08
					NF2 <sup>+</sup>	2008	Mechanical	42	26.8±1.5	68.6±2.3	17.45±1.94	0.80±0.10
					NF3	2012	Mixed	31	25.4±0.9	52.4±2.5	12.80±1.08	1.16±0.16
					NF4 <sup>+</sup>	2009	Mechanical	45	27.3±1.7	78.6±3.1	19.51±2.54	0.75±0.08
					NF5	2007	Mechanical	39	28.3±1.6	74.1±2.8	18.70±2.31	0.54±0.06
Mall	2014/7/30	Leather, fabric, and clothing merchandises, wooden shelves, decoration materials, etc.	Guilin	GM1*	2011	Mixed	75	25.6±1.1	68.5±2.9	16.30±1.56	1.21±0.13	
				GM2 <sup>+</sup>	2008	Mechanical	47	24.7±1.3	60.6±2.3	13.71±1.47	1.02±0.10	
				GM3	2010	Mixed	38	25.2±1.3	67.3±2.2	15.66±1.59	1.02±0.12	
				GM4	2011	Mechanical	41	26.3±1.4	71.8±2.9	17.76±2.04	0.88±0.11	
				GM5*	2005	Mechanical	82	27.7±1.8	71.5±2.5	19.11±2.55	0.84±0.10	
	-	-	-	Liuzhou	LM1	2009	Mixed	40	24.3±1.3	51.3±2.1	12.15±1.42	1.06±0.14
					LM2*	2011	Mixed	85	25.5±1.6	61.6±3.2	14.57±1.08	1.15±0.13
					LM3*	2010	Mechanical	73	26.8±1.1	68.8±2.2	17.50±1.49	0.82±0.09
					LM4	2009	Mechanical	37	28.2±1.5	78.2±2.5	20.17±2.18	0.72±0.05
					LM5 <sup>+</sup>	2011	Mechanical	49	27.8±1.8	75.9±2.9	20.40±2.77	0.66±0.06

			NM1*	2009	Mixed	85	24.6±0.9	57.6±2.5	12.96±1.06	1.26±0.15	
			NM2	2007	Mechanical	38	25.8±1.4	63.6±3.1	15.30±1.83	0.92±0.14	
		Nanning	NM3*	2004	Mixed	81	26.1±1.4	65.5±2.8	16.03±1.92	0.90±0.10	
			NM4*	2010	Mechanical	78	27.3±1.3	69.6±2.1	18.20±1.78	0.73±0.12	
			NM5 <sup>+</sup>	2008	Mechanical	48	26.5±1.6	73.0±2.5	18.26±2.27	0.70±0.09	
			GH1	2010	Mechanical	28	25.8±1.5	69.3±2.9	16.67±2.10	0.95±0.12	
			GH2	2008	Mixed	23	24.8±1.4	55.6±2.1	13.33±1.38	1.30±0.15	
		Guilin	GH3	2009	Mixed	25	25.4±1.0	61.3±1.9	14.42±1.13	1.24±0.09	
			GH4	2005	Mechanical	20	28.5±1.7	75.6±1.8	20.43±2.42	0.75±0.08	
			GH5	2011	Mixed	22	26.1±1.5	73.9±2.3	18.08±1.81	1.11±0.12	
		Wood-related	LH1	2011	Mechanical	21	27.2±1.7	78.5±2.2	20.42±2.48	0.66±0.09	
	2015/6/03	furniture,	LH2	2008	Mixed	18	25.8±1.6	58.6±2.3	14.82±1.81	1.04±0.13	
	-	household	Liuzhou	LH3	2010	Mechanical	20	26.9±1.6	67.3±2.9	17.21±2.18	0.88±0.10
	2015/7/10	products,	LH4	2006	Mechanical	25	27.5±1.5	71.8±2.5	18.98±2.12	0.78±0.08	
		decoration	LH5	2009	Mixed	22	24.5±1.6	62.5±1.9	13.98±1.63	1.18±0.14	
		materials, etc.	NH1	2012	Mechanical	19	26.8±1.4	79.3±2.9	19.41±2.11	0.82±0.06	
			NH2	2010	Mechanical	26	25.7±1.4	63.6±2.5	17.22±1.88	0.85±0.05	
			Nanning	NH3	2011	Mixed	23	24.1±1.0	51.8±3.1	12.41±1.25	1.40±0.17
			NH4	2007	Mixed	18	27.0±1.8	72.2±2.8	18.57±2.43	1.03±0.09	
			NH5	2008	Mechanical	24	26.8±1.4	77.9±2.9	19.05±2.21	0.81±0.05	
			GR1	2012	Mechanical	31	26.1±1.4	75.9±2.5	18.08±2.03	1.07±0.09	
			GR2	2008	Mixed	25	24.6±1.1	62.6±2.3	14.08±1.35	1.36±0.10	
		Wood-related	Guilin	GR3	2010	Mixed	28	25.5±1.5	58.8±2.7	14.39±1.71	1.63±0.13
	2015/7/16	furniture,	GR4	2010	Mixed	36	24.3±0.8	62.6±2.2	13.84±1.01	1.69±0.17	
	-	decoration	GR5	2011	Mechanical	32	25.9±1.6	56.9±1.9	13.77±1.58	1.51±0.12	
	2015/8/30	materials, etc.	LR1	2009	Mixed	28	26.6±1.5	67.3±2.2	16.93±1.86	1.45±0.08	
			Liuzhou	LR2	2005	Mixed	29	26.8±1.2	66.6±2.9	16.94±1.75	1.31±0.12
			LR3	2007	Mechanical	36	26.9±1.0	67.9±3.1	17.37±1.51	1.19±0.13	
			LR4	2010	Mechanical	32	27.3±1.7	73.3±2.8	19.17±2.37	1.04±0.09	

	LR5	2009	Mixed	24	24.9±1.5	52.1±2.3	13.29±1.45	1.36±0.06
	NR1	2008	Mechanical	26	27.6±1.5	70.5±2.5	18.74±2.13	1.14±0.04
	NR2	2009	Mechanical	35	28.3±1.8	78.6±3.0	20.16±2.06	0.94±0.05
Nanning	NR3	2005	Mechanical	32	26.5±1.5	73.1±2.8	18.29±2.16	1.02±0.04
	NR4	2012	Mixed	28	26.6±1.4	67.8±3.1	17.06±2.01	1.34±0.09
	NR5	2011	Mixed	30	27.2±1.6	72.0±2.9	18.72±2.25	1.16±0.10

“±SD” presents the standard deviation; “\*” presents the place whose business area over 4000 m<sup>2</sup>; “+” presents the place whose business area between 2000 m<sup>2</sup> and 4000 m<sup>2</sup>; “Mixed” present places used natural ventilation on the day of sampling, but are equipped with rooftop units for mechanical ventilation.

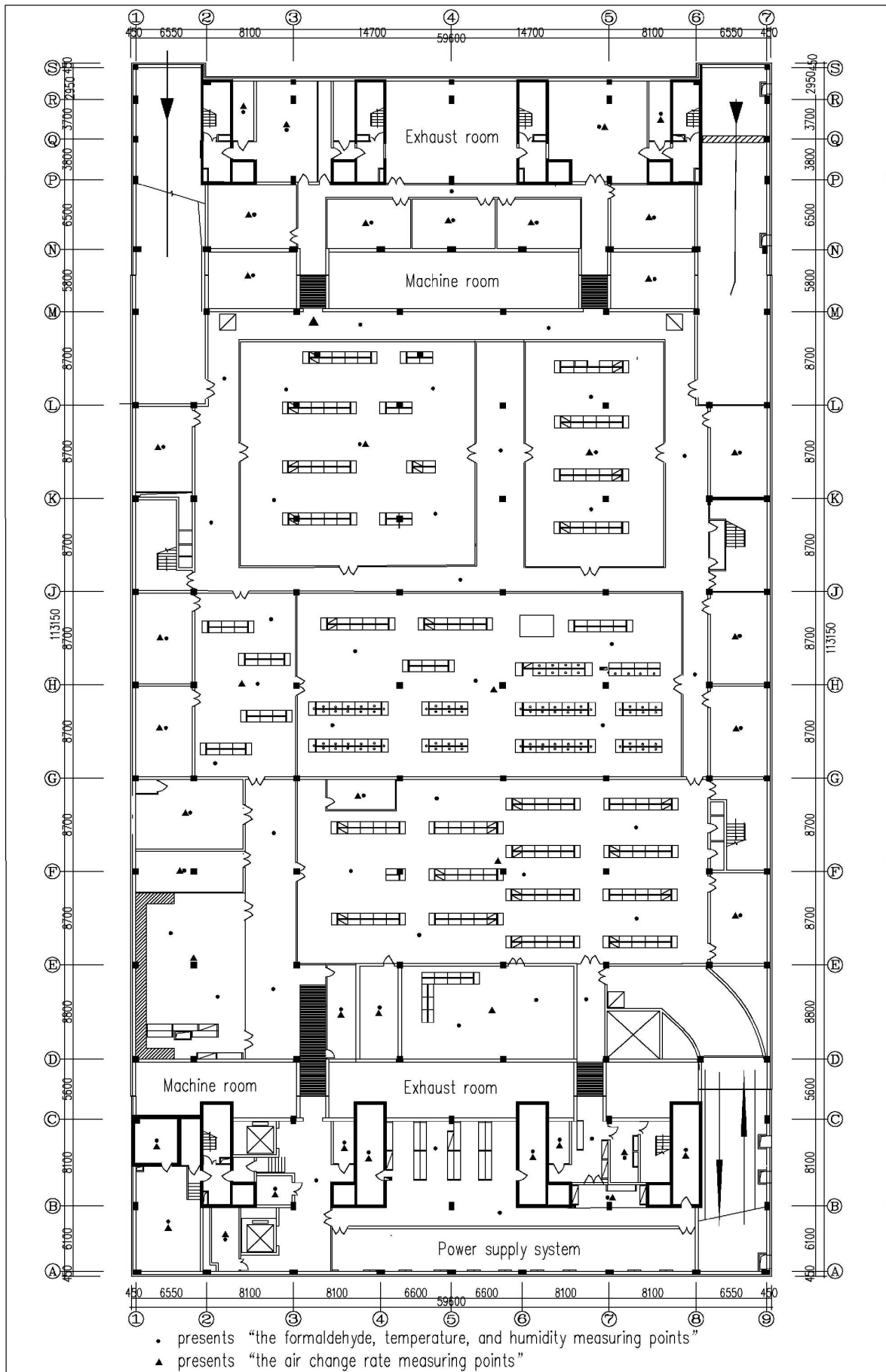


Fig. S1. The layout of one of sampled typical public place (GM1 for example), and location of sampling points

Table. S2 Mass concentration of indoor formaldehyde in tested locations

Type of location	City	Number	Formaldehyde (mg·m <sup>-3</sup> )		
			Minimum	Maximum	Median±SD
Furniture market	Guilin	GF1	0.073	0.189	0.136±0.029
		GF2	0.076	0.261	0.169±0.038
		GF3	0.066	0.144	0.107±0.020
		GF4	0.109	0.350	0.247±0.028
		GF5	0.078	0.300	0.196±0.027
	Liuzhou	LF1	0.105	0.230	0.181±0.029
		LF2	0.032	0.221	0.158±0.025
		LF3	0.032	0.145	0.120±0.023
		LF4	0.081	0.301	0.200±0.032
		LF5	0.185	0.331	0.268±0.027
	Nanning	NF1	0.121	0.249	0.193±0.030
		NF2	0.136	0.315	0.238±0.034
		NF3	0.015	0.124	0.099±0.023
		NF4	0.231	0.368	0.278±0.029
		NF5	0.276	0.473	0.308±0.036
Mall	Guilin	GM1	0.061	0.199	0.120±0.029
		GM2	0.061	0.178	0.112±0.028
		GM3	0.032	0.197	0.124±0.026
		GM4	0.117	0.269	0.162±0.032
		GM5	0.150	0.280	0.198±0.033
	Liuzhou	LM1	0.062	0.213	0.095±0.028
		LM2	0.058	0.162	0.093±0.024
		LM3	0.090	0.259	0.147±0.030
		LM4	0.131	0.273	0.200±0.031
		LM5	0.198	0.337	0.227±0.028
	Nanning	NM1	0.031	0.173	0.081±0.029
		NM2	0.056	0.200	0.100±0.029
		NM3	0.104	0.266	0.126±0.023
		NM4	0.149	0.293	0.191±0.028
		NM5	0.161	0.290	0.186±0.025
Hotel	Guilin	GH1	0.027	0.154	0.087±0.031
		GH2	0.009	0.106	0.039±0.022
		GH3	0.013	0.115	0.050±0.026
		GH4	0.040	0.195	0.107±0.039
		GH5	0.011	0.158	0.071±0.026
	Liuzhou	LH1	0.052	0.179	0.106±0.038
		LH2	0.040	0.115	0.058±0.021
		LH3	0.030	0.143	0.085±0.029
		LH4	0.030	0.164	0.091±0.027
		LH5	0.017	0.089	0.044±0.017

		NH1	0.021	0.146	0.095±0.021
		NH2	0.031	0.124	0.080±0.023
	Nanning	NH3	0.005	0.057	0.039±0.011
		NH4	0.031	0.142	0.095±0.024
		NH5	0.046	0.145	0.108±0.027
		GB1	0.008	0.089	0.070±0.022
		GB2	0.005	0.082	0.050±0.023
	Guilin	GB3	0.005	0.075	0.045±0.020
		GB4	0.001	0.063	0.043±0.017
		GB5	0.020	0.094	0.047±0.017
		LB1	0.001	0.073	0.061±0.018
		LB2	0.008	0.098	0.051±0.017
Restaurant	Liuzhou	LB3	0.001	0.073	0.056±0.019
		LB4	0.010	0.108	0.070±0.022
		LB4	0.021	0.095	0.037±0.016
		NB1	0.001	0.098	0.080±0.024
		NB2	0.024	0.127	0.079±0.020
	Nanning	NB3	0.006	0.089	0.079±0.021
		NB4	0.014	0.078	0.063±0.013
		NB5	0.021	0.104	0.061±0.017

“±SD” presents the standard deviation