1 Hexabromocyclododecane and tetrabromobisphenol A in tree bark

2 from different functional areas of Shanghai, China: levels and spatial

3 distributions.

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64 **Fig. S2.** Tree bark sampling sites (labeled with white five-pointed star) and the 65 corresponding isopotential map of β-HBCDD concentrations in Shanghai. The site 66 marked with prefix "I", "C" and "R" means the sampling site located in industrial areas, 67 commercial areas and residential areas, respectively.

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97 **Fig. S1.** Tree bark sampling sites (labeled with white five-pointed star) and the 98 corresponding isopotential map of α -HBCDD concentrations in Shanghai. The site 99 marked with prefix "I", "C" and "R" means the sampling site located in industrial areas, 100 commercial areas and residential areas, respectively.



102 **Fig. S2.** Tree bark sampling sites (labeled with white five-pointed star) and the 103 corresponding isopotential map of β -HBCDD concentrations in Shanghai. The site 104 marked with prefix "I", "C" and "R" means the sampling site located in industrial 105 areas, commercial areas and residential areas, respectively. 106



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108 Fig. S3. Tree bark sampling sites (labeled with white five-pointed star) and the 109 corresponding isopotential map of γ -HBCDD concentrations in Shanghai. The site 110 marked with prefix "I", "C" and "R" means the sampling site located in industrial areas, 111 commercial areas and residential areas, respectively.





Fig. S4. Tree bark sampling sites (labeled with white five-pointed star) and the corresponding isopotential map of TBBPA concentrations in Shanghai. The site marked with prefix "I", "C" and "R" means the sampling site located in industrial areas, commercial areas and residential areas, respectively.

g ⁻¹ lw.) in tree bark samples from industrial areas, commercial areas and residential areas.							
Sampling site*	α-HBCDD	β-HBCDD	γ-HBCDD	ΣHBCDD	TBBPA		
I1	6.2E+02	1.8E+02	8.2E+02	1.6E+03	4.8E+02		
I2	5.5E+02	2.6E+02	4.9E+02	1.3E+03	2.9E+02		
I3	1.6E+03	6.3E+02	1.3E+03	3.5E+03	2.7E+02		
I4	8.0E+02	4.3E+02	9.7E+02	2.2E+03	3.9E+02		
15	2.6E+02	1.7E+02	3.3E+02	7.5E+02	7.4E+03		
I6	3.6E+03	1.4E+03	1.5E+03	6.6E+03	7.2E+02		
I7	1.1E+02	5.3E+01	1.2E+02	2.8E+02	2.5E+03		
I8	1.8E+02	1.0E+02	1.6E+02	4.4E+02	1.5E+02		
19	5.5E+02	1.6E+02	2.1E+02	9.1E+02	2.3E+04		
I10	2.4E+02	6.5E+01	2.2E+02	5.2E+02	7.2E+04		
I11	5.6E+02	2.0E+02	3.7E+02	1.1E+03	7.9E+02		
I12	6.0E+02	2.3E+02	2.5E+02	1.1E+03	4.3E+02		
C1	8.2E+01	2.2E+01	3.8E+01	1.4E+02	9.0E+01		
C2	8.9E+01	6.7E+01	4.1E+01	2.0E+02	7.1E+01		
C3	1.3E+03	7.9E+02	2.9E+02	2.4E+03	2.5E+02		
C4	3.0E+02	1.9E+02	7.3E+02	1.2E+03	3.3E+02		
C5	3.2E+02	2.1E+02	1.9E+02	7.2E+02	4.9E+02		
C6	9.1E+02	2.9E+02	5.1E+02	1.7E+03	5.6E+02		
C7	1.1E+02	5.6E+01	4.0E+02	5.7E+02	3.6E+02		
C8	1.4E+02	5.2E+01	1.9E+02	3.8E+02	7.9E+01		
R1	7.3E+01	2.5E+01	4.8E+01	1.5E+02	2.8E+02		
R2	5.9E+01	1.5E+01	4.8E+01	1.2E+02	4.8E+01		
R3	1.4E+02	3.9E+01	9.3E+01	2.7E+02	1.2E+02		
R4	1.9E+02	5.6E+01	9.8E+01	3.4E+02	1.3E+02		
R5	1.7E+02	1.0E+02	2.3E+02	5.1E+02	1.7E+02		
R6	1.4E+02	1.3E+02	2.3E+02	5.0E+02	2.4E+02		
R7	8.9E+01	2.7E+01	1.3E+02	2.4E+02	1.1E+02		
R8	3.8E+02	1.7E+02	5.5E+02	1.1E+03	1.8E+02		
R9	1.7E+02	2.9E+01	7.6E+01	2.8E+02	6.9E+01		

138 Table S1. The concentrations of each HBCDD diastereoisomers, **<u>SHBCDD</u>** and **TBBPA** (ng

140 *The site marked with prefix "I", "C" and "R" means the sampling site located in industrial areas,

141 commercial areas and residential areas, respectively.

150 Table S2. Spearman's correlation coefficient matrix of each HBCDD diastereoisomers,

	α-HBCDD	β-HBCDD	γ-HBCDD	ΣHBCDD	TBBPA	
α-HBCDD	1					
β-HBCDD	0.935**	1				
γ-HBCDD	0.828**	0.830**	1			
ΣHBCDD	0.955**	0.943**	0.937**	1		
TBBPA	0.547**	0.533**	0.546**	0.587**	1	

151 Σ HBCDD and TBBPA in tree bark samples from all sampling sites.

**Correlation is significant at the 0.01 level

152 153

154 Table S3. Spearman's correlation coefficient matrix of each HBCDD diastereoisomers,

155 Σ HBCDD and TBBPA in tree bark samples from residential areas.

		1			
	α-HBCDD	β-HBCDD	γ-HBCDD	ΣHBCDD	TBBPA
α-HBCDD	1				
β-HBCDD	0.850**	1			
γ-HBCDD	0.733*	0.883**	1		
ΣHBCDD	0.917**	0.967**	0.883**	1	
TBBPA	0.267	0.500	0.433	0.433	1

**Correlation is significant at the 0.01 level

*Correlation is significant at the 0.05 level

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157

158 Table S4. Spearman's correlation coefficient matrix of each HBCDD diastereoisomers,

159 Σ HBCDD and TBBPA in tree bark samples from commercial areas.

	α-HBCDD	β-HBCDD	γ-HBCDD	ΣHBCDD	TBBPA
α-HBCDD	1				
β-HBCDD	0.905**	1			
γ-HBCDD	0.619	0.571	1		
ΣHBCDD	0.952**	0.905**	0.786*	1	
TBBPA	0.571	0.524	0.690	0.619	1

**Correlation is significant at the 0.01 level

*Correlation is significant at the 0.05 level

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161 Table S5. Spearman's correlation coefficient matrix of each HBCDD diastereoisomers,

162 Σ HBCDD and TBBPA in tree bark samples from industrial areas.

_		-				
	α-HBCDD	β-HBCDD	γ-HBCDD	ΣHBCDD	TBBPA	
α-HBCDD	1					
β-HBCDD	0.923**	1				
γ-HBCDD	0.923**	0.909**	1			
ΣHBCDD	0.972**	0.937**	0.965**	1		
TBBPA	-0.357	-0.503	-0.350	-0.385	1	

163 **Correlation is significant at the 0.01 level

165 Table S6. Spearman's correlation coefficient matrix of TBBPA in tree bark samples from

	Industrial areas	Commercial areas	Residential areas
Industrial areas	1		
Commercial areas	0.762*	1	
Residential areas	-0.117	0.238	1

166 industrial areas, commercial areas and residential areas.

167 * Correlation is significant at the 0.05 level

170 Table S7. Parameters for the bark/air partitioning of persistent organic pollutions model to estimate the concentrations of HBCDD in air from Shanghai,

171 China.

Compound	LipCont (×10 ³ g lipid m ⁻³ bark) ¹ *	$\log K_{OA} (25^{\circ} \text{ C})^2$	$\Delta H_{vap}(KJ mol^{-1})^2$	T(K) ³	B ($m^3 \mu g^{-1}$) ²	SSA(×10 ⁶ m ² m ⁻³) ¹	P _{ptn} (mm) ³	TSP(µg m ⁻³) ⁴
α-HBCD	3.513	14.5	119.7	290.35	9.82×10 ⁻¹³	5.195	115.7	61.73
β-HBCD	3.513	15.2	124.5	290.35	9.82×10 ⁻¹³	5.195	115.7	61.73
γ-HBCD	3.513	14.6	119.9	290.35	9.82×10 ⁻¹³	5.195	115.7	61.73

172 *LipCont is calculated using the bark density 5.51×10^6 g m⁻³ and measured lipid content of $0.64 \pm 0.19\%$.

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