

Supplementary Material

Co-effects of hydrological conditions and industrial activities on the distribution of heavy metal pollution in Taipu River, China

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Table S1. The MDL value (mg·kg⁻¹) of heavy metals.

	Sb	Cd	Cr	Cu	Zn	As	Pb
MDL	0.02	0.01	8.1	0.19	24	17	0.10

Table S2. The I_{geo} value level classification criteria.

Range	Degree
$I_{geo} \leq 0$	No pollution
$0 < I_{geo} \leq 1$	Light- Medium pollution
$1 < I_{geo} \leq 2$	Medium pollution

Table S3. The I_{geo} value of sediments in Taipu River.

	Sb	Cd	Cr	Cu	Zn	As	Pb
Mean	0.48	0.89	-1.18	0.32	0.44	-0.84	0.27
Max	2.20	2.44	-0.09	3.63	1.86	1.23	1.03
Min	-1.39	-1.06	-2.46	-2.04	-1.86	-3.00	-1.06

Table S4. Heavy metals average concentration (mg·kg⁻¹) in part of Taipu River.

		Sb	Cd	Cr	Cu	Zn	As	Pb
MS	Upstream	1.58	0.23	50.78	48.12	113.29	7.36	38.50
	Midstream	1.85	0.29	53.15	72.09	165.83	8.61	44.64
	Downstream	1.34	0.19	56.19	51.14	135.07	6.14	40.98
CL	N1	3.35	0.16	57.71	40.86	121.80	8.71	36.99
	S1	0.98	0.15	64.69	41.11	101.72	2.98	30.33
	S2	2.10	0.29	63.46	48.01	179.78	11.54	51.27
	S3	2.46	0.34	72.29	54.89	231.55	13.28	56.90
	S4	1.99	0.28	63.77	157.83	232.90	10.21	53.41

Table S5. Lead isotopic compositions in several material sources from China.

Sample	$^{206}\text{Pb}/^{207}\text{Pb}$	$^{208}\text{Pb}/^{206}\text{Pb}$	References
Sample-April, 2021	1.169	2.101	Present study
	1.169	2.107	
	1.174	2.098	
	1.169	2.096	
	1.164	2.118	
	1.172	2.103	
	1.168	2.114	
	1.174	2.107	
Sample-January, 2021	1.176	2.110	Present study
	1.186	2.092	
	1.179	2.094	
	1.180	2.095	
	1.176	2.107	
	1.179	2.102	
	1.179	2.100	
	1.179	2.092	
	1.171	2.112	
	1.175	2.110	
	1.174	2.102	
	1.176	2.104	
	1.178	2.106	
	1.178	2.108	
	1.173	2.105	
	1.175	2.107	
	1.165	2.114	
	1.182	2.091	
	1.175	2.105	
	1.177	2.107	
	1.182	2.098	
	1.178	2.104	
Coals-Jiangsu	1.172	2.106	[1]
	1.171	2.110	
	1.166	2.119	
Coals-Shanghai	1.163	2.111	[1]
Gasoline-Shanghai	1.143	2.150	[2]
	1.135	2.139	
	1.136	2.146	[3]
	1.147	2.124	
	1.143	2.113	
	1.145	2.126	
	1.147	2.124	[1]
	1.114	2.139	
	1.113	2.141	
Diesel	1.149	2.118	[4]
	1.147	2.122	
	1.148	2.135	
	1.163	2.123	

Sample	$^{206}\text{Pb}/^{207}\text{Pb}$	$^{208}\text{Pb}/^{206}\text{Pb}$	References
natural background	1.183	2.086	[5]
	1.184	2.096	
	1.199	2.082	
	1.193	2.092	
Yangtze sediments	1.184	2.090	[6]
	1.180	2.093	
	1.184	2.089	
	1.186	2.089	
	1.188	2.085	
	1.189	2.083	
	1.182	2.092	
	1.191	2.083	
	1.182	2.091	
	1.186	2.089	
	1.183	2.091	

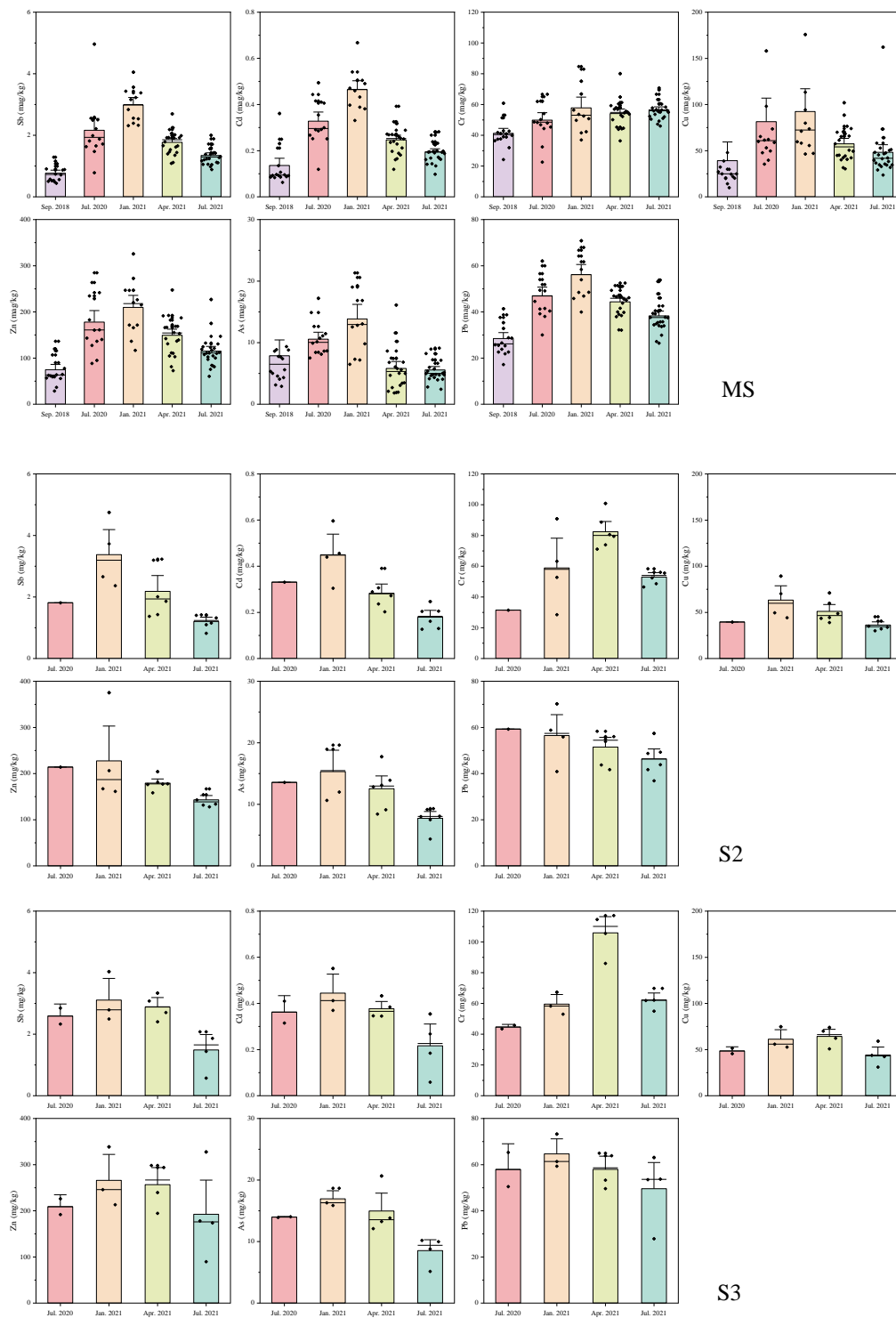


Figure S1. Temporal distribution of heavy metals in sediments of the Taipu River MS, S2, S3.

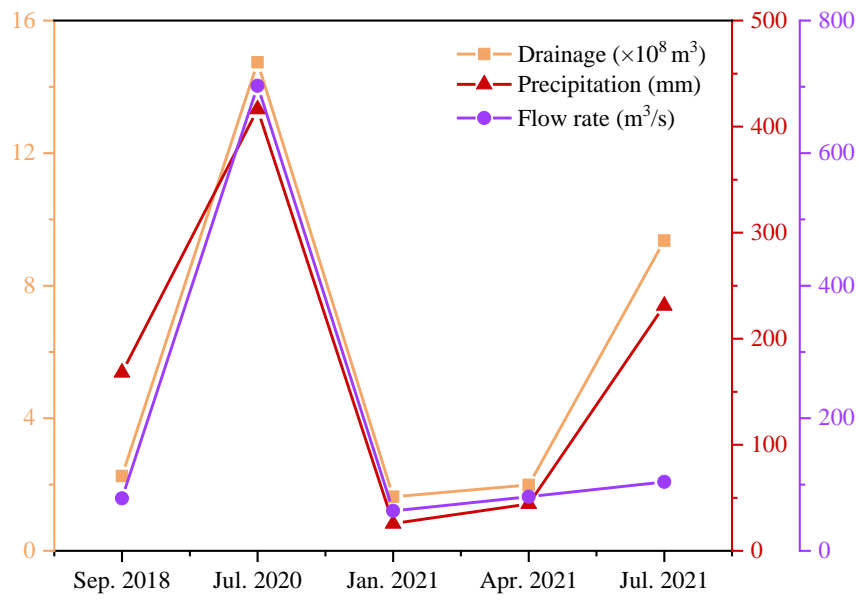


Figure S2. Variations of precipitation, drainage, and flow rates in the Taipu River.

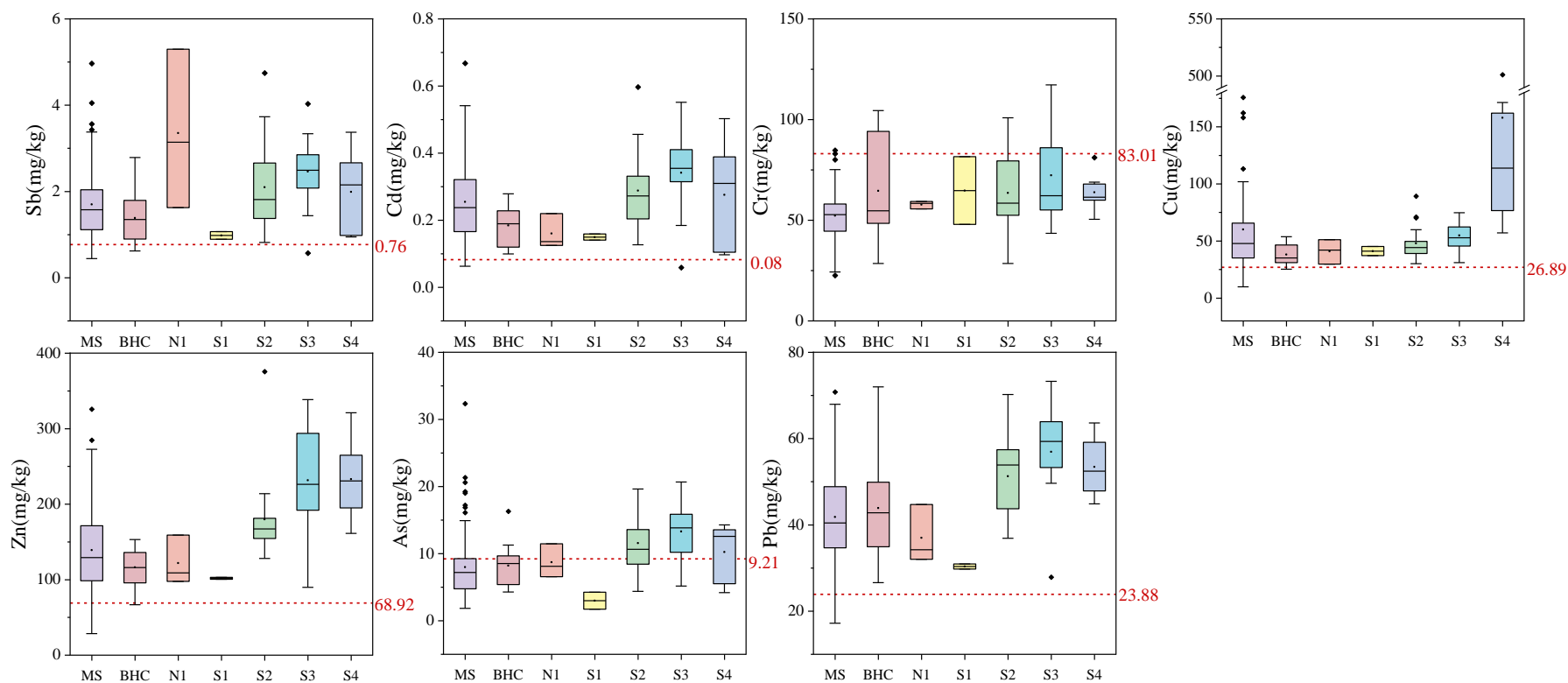


Figure S3. Spatial distribution of heavy metals in sediments (The red dashed line represented the background value of each heavy metal).

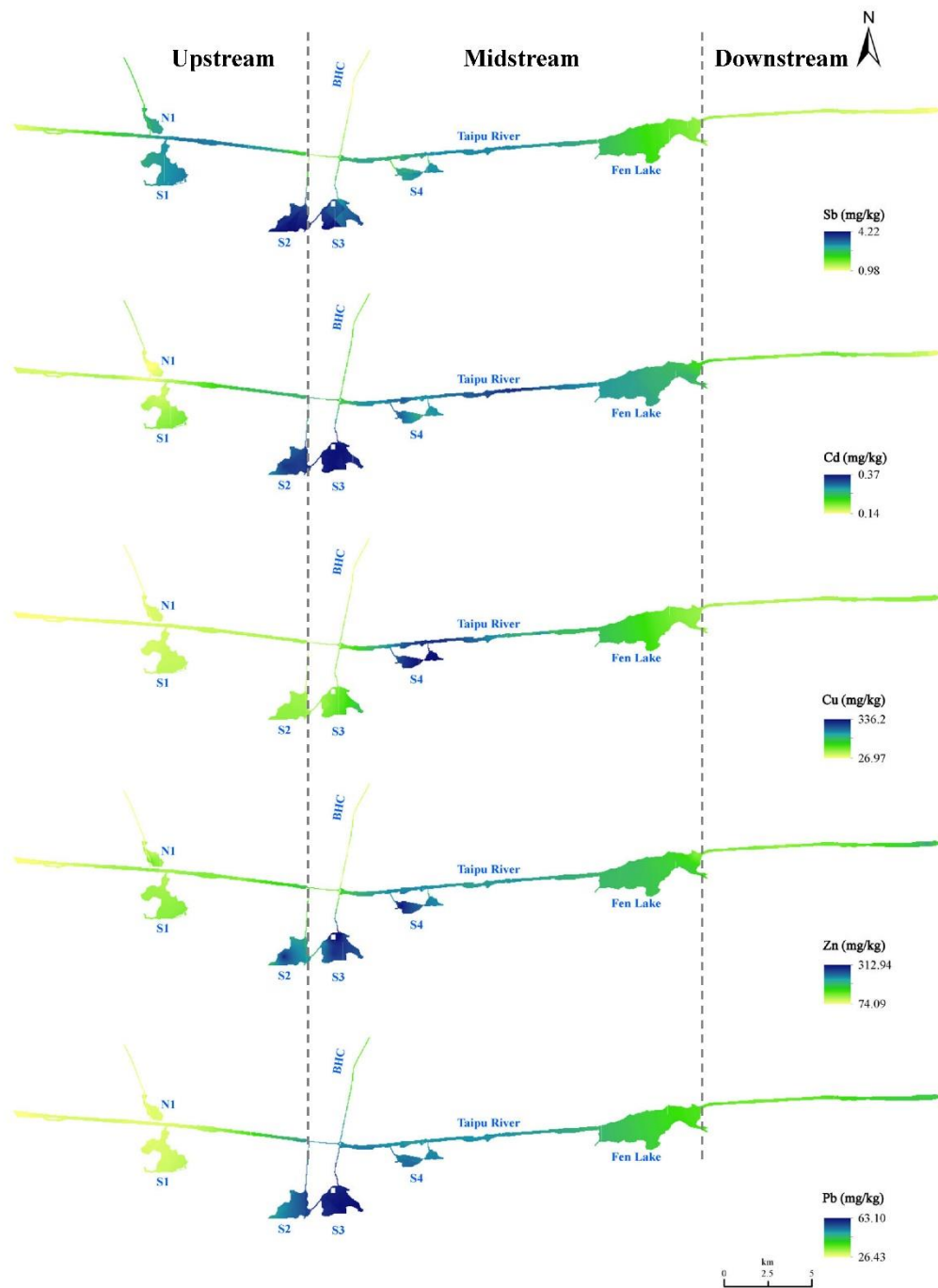


Figure S4. Spatial distribution of Sb, Cd, Cu, Zn, and Pb in Taipu River sediments.

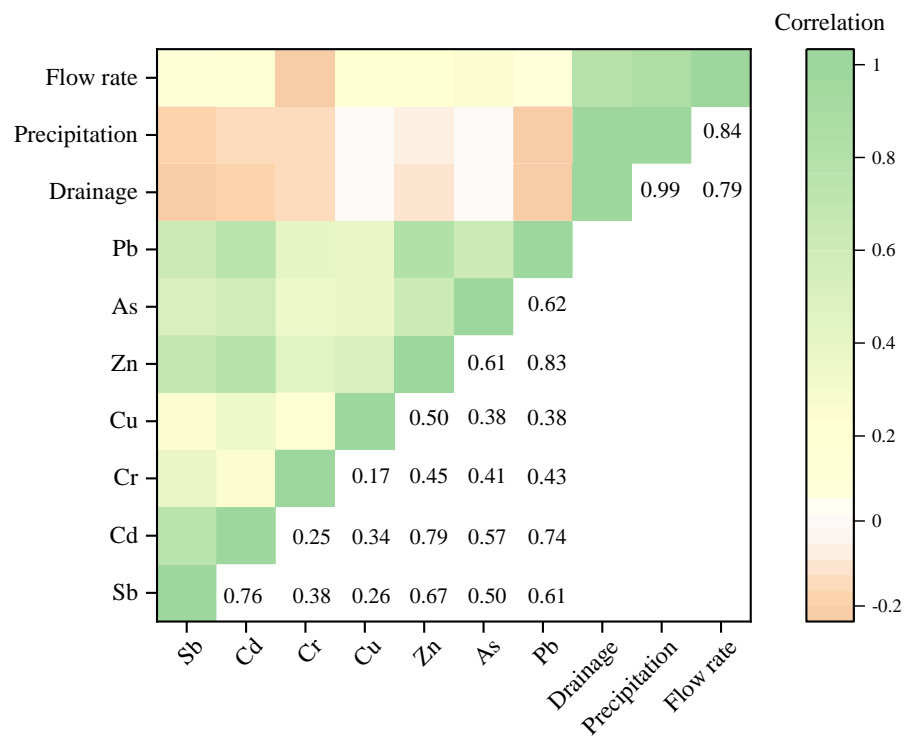


Figure S5. Pearson correlations among target metal elements and hydrological conditions in the Taipu River.

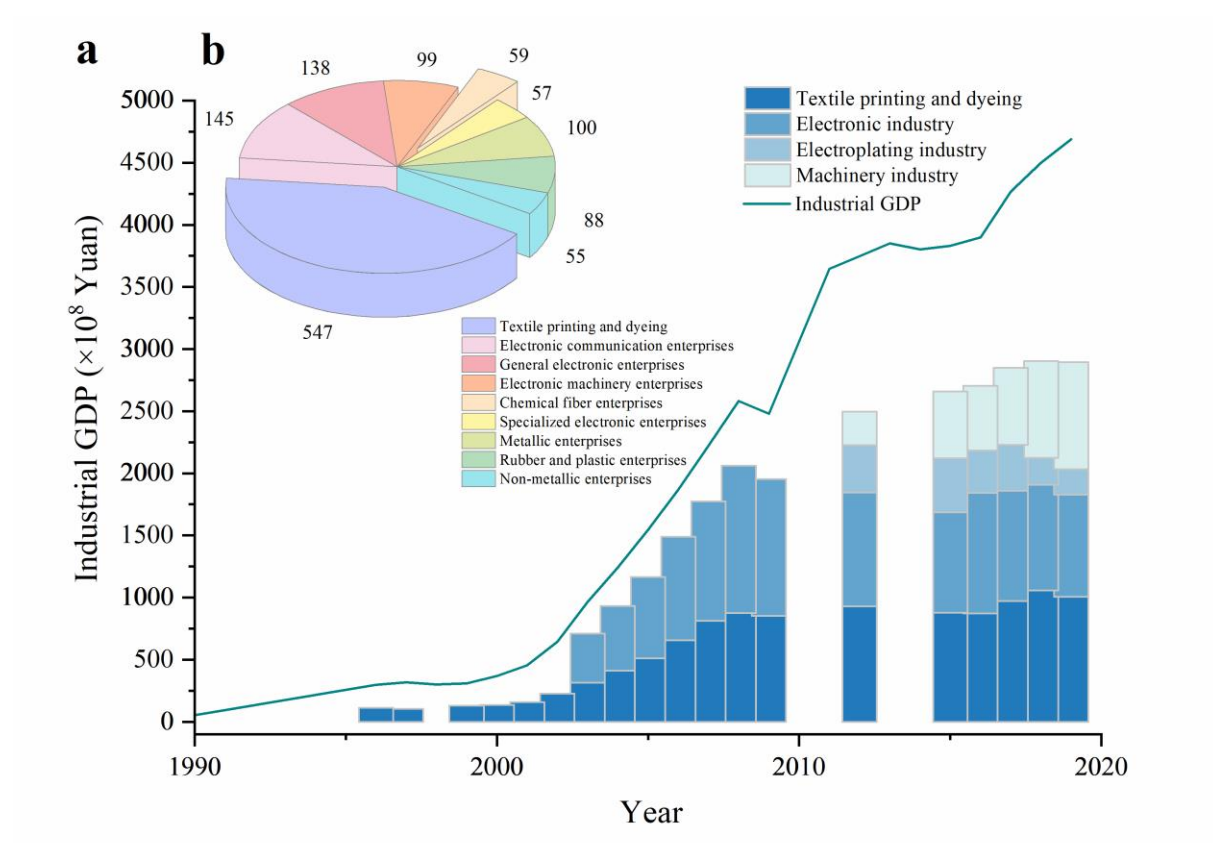


Figure S6. (a) Temporal trends of industrial and major industrial output values in Wujiang from 1990 to 2019 (b) Distribution of industrial enterprise types in Wujiang.

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