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Table 3. COS compensation point (*CP*), the ordinate intercept, the slope and the correlation coefficient (*R*) of the regression line of the observed COS exchange rates versus concentrations in this study compared with other studies (P1: Paddy soil in Jiaxing (Zhejiang Province); P2: Paddy soil in Guangzhou (Guangdong Province); W1: wheat soil in Beijing; W2: wheat soil in Zibo (Shandong Province); F: forest soil in Beijing).

Fig. 3. COS exchange rates correlated to the ambient mixing ratio in chamber. (W1: wheat soil in Beijing, 8.00% moisture; W2: wheat soil in Zibo (Shandong Province), 17.2% moisture; P1: Paddy soil in Jiaxing (Zhejiang Province), 20.7% moisture; P2: Paddy soil in Guangzhou (Guangdong Province), 19.4% moisture; F: forest soil in Beijing, 43.9% moisture). The error bars are calculated from formula (2); each exchange rate measurement was conducted twice.

Fig. 4. COS exchange rates in relation to the temperatures. (W1: wheat soil in Beijing, 8.00% moisture; W2: wheat soil in Zibo (Shandong Province), 17.2% moisture; P1: Paddy soil in Jiaxing (Zhejiang Province), 20.7% moisture; P2: Paddy soil in Guangzhou (Guangdong Province), 19.4% moisture; F: forest soil in Beijing, 43.9% moisture). The error bars are calculated from formula (2); each exchange rate measurement was conducted twice.

Fig. 5. COS exchange rates in relation to soil water content at 17°C. (W1: wheat soil in Beijing; W2: wheat soil in Zibo (Shandong Province); P1: Paddy soil in Jiaxing (Zhejiang Province); P2: Paddy soil in Guangzhou (Guangdong Province); F: forest soil in Beijing). The error bars are calculated from formula (2); each exchange rate measurement was conducted twice.

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Site	Plant type	Parent material	Soil moisture % ^a	ER (17 °C)	ER (25 °C)	ER (17 °C)	ER (25 °C)	Deposition velocity ^b	Deposition velocity
				pmol m ⁻² s ⁻¹	pmol m ⁻² s ⁻¹	pmol g ⁻¹ h ⁻¹	pmol g ⁻¹ h ⁻¹	mm s ⁻¹ (17°C)	mm s ⁻¹ (25°C)
Jinxian, Jiangxi	badlands	Red earth	19.0	0.061	-2.84	0.049	-1.84	—	0.12
Liaocheng, Shandong	cotton	Fluvo-aquic soil	16.5	-1.32	-1.10	-0.84	-0.69	0.075	0.056
Yancheng, Jiangsu	cotton	Solonchak soil	17.8	-0.49	-0.11	-0.31	-0.05	0.020	0.0051
Beijing	forest	Drab soil	43.9	-4.05	-0.83	-3.21	-0.81	0.17	0.041
Waliguan, Qinghai	grass	Chestnut soil	9.77	-3.76	-2.69	-2.28	-1.62	0.22	0.15
Beijing	lawn	Drab soil	8.35	-4.90	-4.83	-3.00	-3.08	0.23	0.26
Liaocheng, Shandong	maize	Fluvo-aquic soil	18.9	-2.17	-1.41	-1.42	-0.90	0.10	0.075
Jiaxing, Zhejiang	paddy	Drab soil	20.7	0.44	1.19	0.27	0.63	—	—
Guangzhou, Guangdong	paddy	Paddy soil	19.4	0.69	12.9	0.46	8.56	—	—
Jinchun, Hubei	paddy	Red earth	23.2	0.57	2.00	0.40	1.34	—	—
Jishui, Jiangxi	paddy	Red earth	18.8	-2.04	0.29	-1.33	0.22	0.077	—
Yancheng, Jiangsu	paddy	Solonchak soil	19.7	-0.41	-0.10	-0.27	-0.04	0.018	0.0044
Huangping, Guizhou	paddy	Yellow earth	27.8	-3.20	-3.56	-2.25	-2.15	0.15	0.19
Lanzhou, Gansu	plum blossom	Grey-drab soil	10.7	-2.46	-2.18	-1.51	-1.32	0.12	0.096
Dalian, Liaoning	wheat	Burozem	9.13	-2.10	-2.76	-1.26	-1.66	0.096	0.17
Zibo, Shandong	wheat	Burozem	17.2	-4.32	-2.73	-2.80	-1.66	0.18	0.13
Beijing	wheat	Drab soil	8.00	-1.04	-0.73	-0.69	-0.44	0.052	0.031
Zhumadian, Henan	wheat/paddy	Yellow-brown	13.1	-0.77	0.02	-0.48	0.032	0.039	—

^a soil moisture % = water (g) / soil (dry weight, g) × 100%; ^b Deposition velocity = COS exchange rate / the outlet concentration of COS.

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Soil	Water content (%) ^a	17 °C				25 °C				Reference
		<i>CP</i> (ppt)	Ordinate intercept	Slope	<i>R</i>	<i>CP</i> (ppt)	Ordinate intercept	Slope	<i>R</i>	
W1	8.00	255	1.054	-0.0041	-0.997	267	1.454	-0.0055	-0.999	This study (laboratory)
W2	17.2	120	1.413	-0.0118	-0.997	149	2.260	-0.0152	-0.999	This study (laboratory)
P1	20.7	491	4.125	-0.0084	-0.995	765	5.292	-0.0069	-0.998	This study (laboratory)
P2	19.4	572	4.388	-0.0077	-0.995	780	10.048	-0.0129	-0.998	This study (laboratory)
F	43.9	80.0	0.775	-0.0097	-0.998	225	2.748	-0.0122	-0.997	This study (laboratory)
Oak woodland		< 100								Kuhn et al. (1999) (field)
Sandy clay soil		~ 53								Kesselmeier et al. (1999) (laboratory)
Forest soil						785				Conrad and Meuser (2000) (laboratory)
Rape field soil						1470				Conrad and Meuser (2000) (laboratory)

^a The water content of the soil is the original as found in the field.

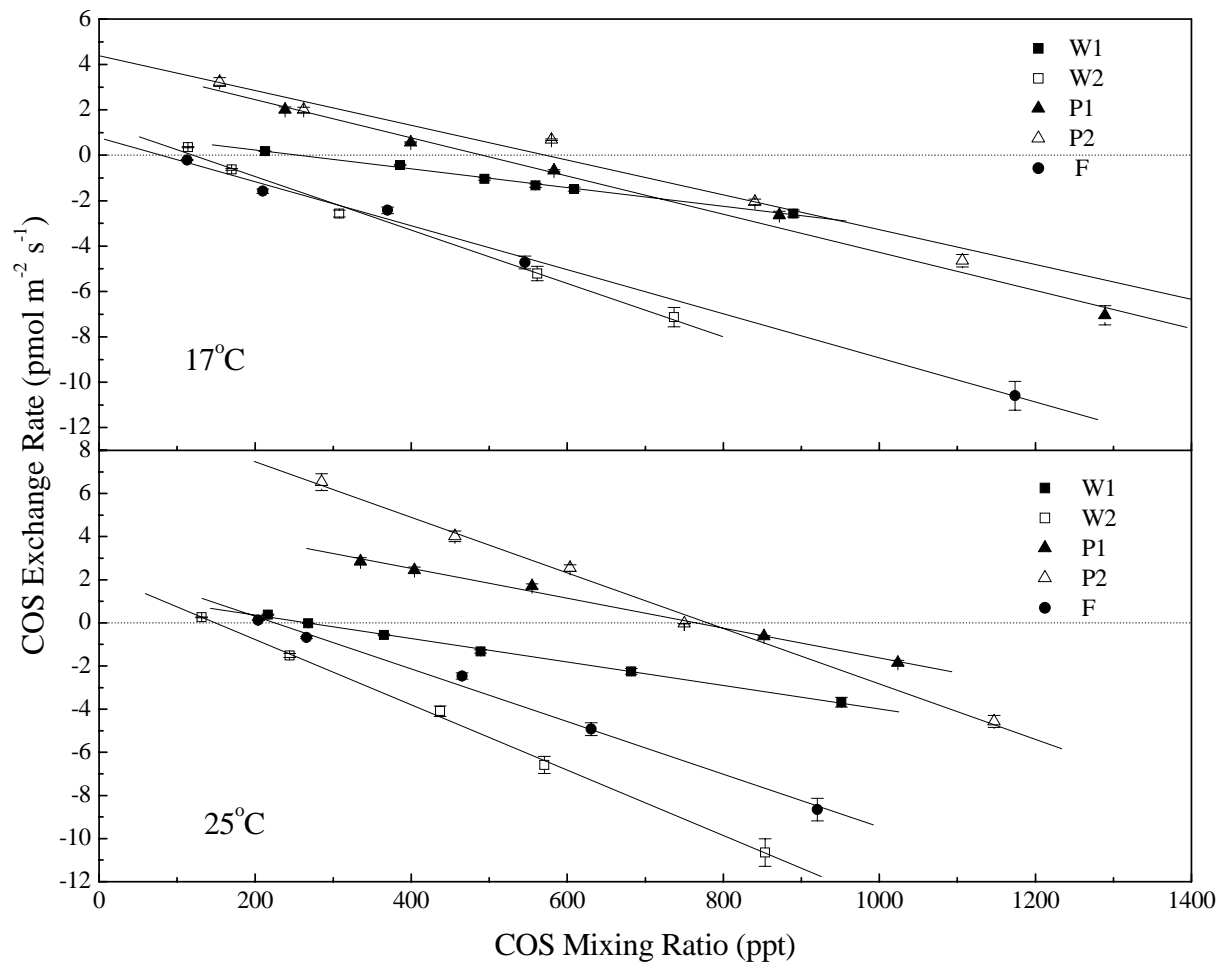


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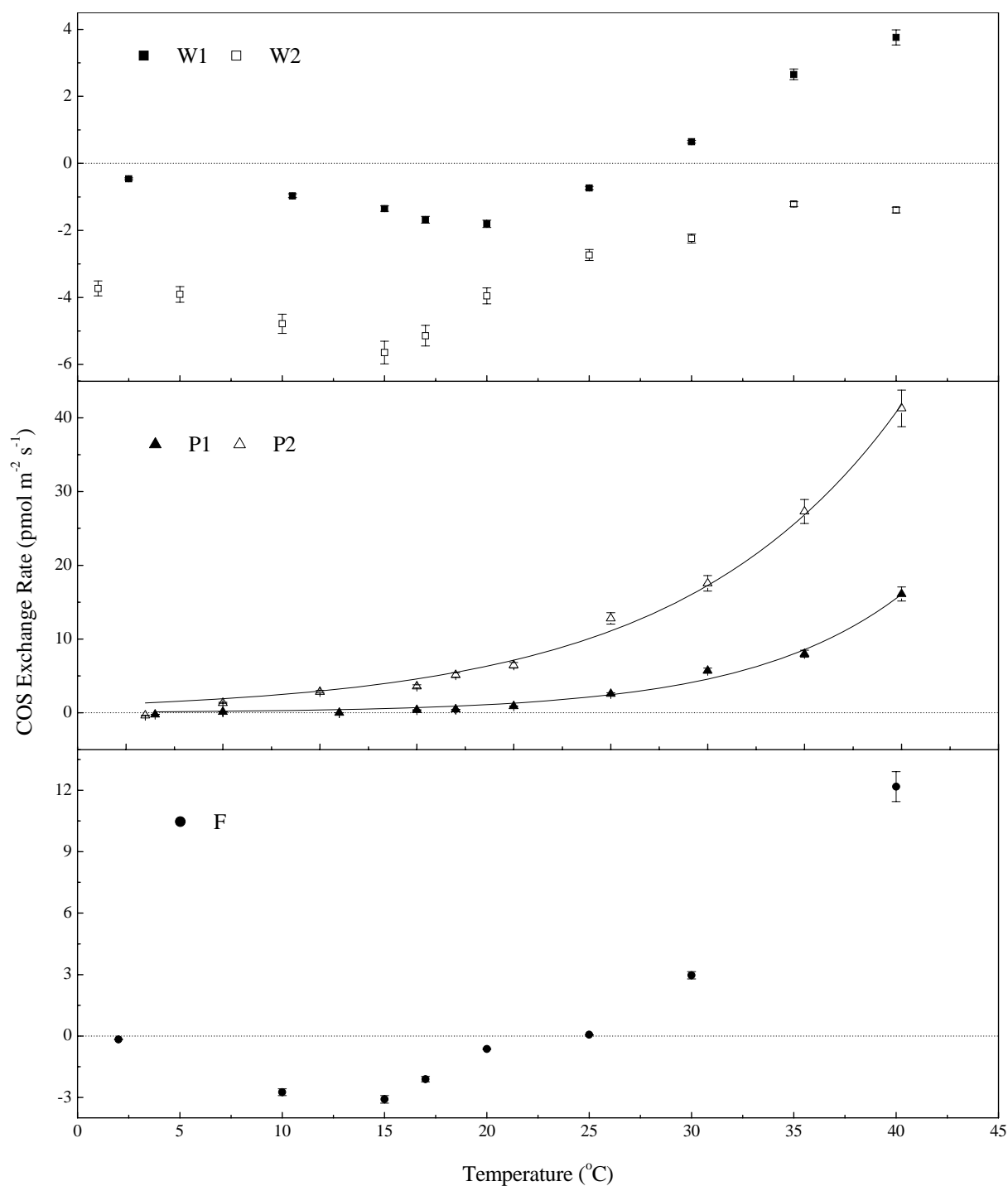


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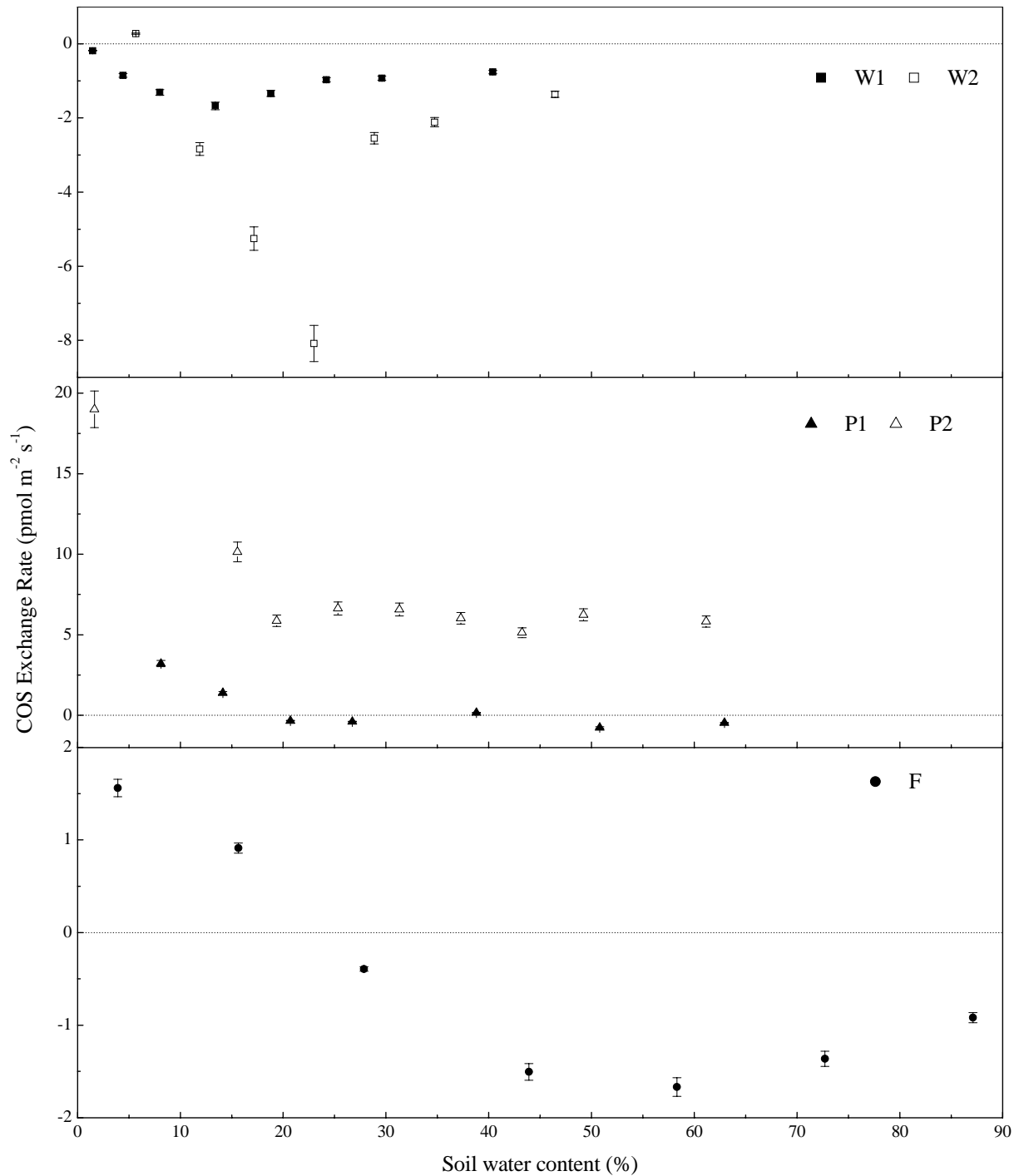


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