

Between and within-city variations of PM_{2.5} oxidative potential in five cities in Colombia

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Supplementary material

Table S1. Sampling campaigns

Period type	Month – year 2021	City
Campaign 1		
Dry	Feb 24 – Mar 15	Bucaramanga
Dry*	Mar 17 – 29 and Apr 5-14	Bogotá
Dry	Apr 19-21 and May 3-5	Barranquilla
Rainy	Apr 28-29 and May 12-14	Medellín
Dry	Aug 5- 20	Cali
Campaign 2		
Rainy	Jun 15-30	Bucaramanga
Rainy	Jul 14- 30	Bogotá
Dry	Aug 20 - Sept 3	Medellín
Rainy	Sept 10-24	Barranquilla
Rainy	Sept 30 - Oct 15	Cali

**latest restrictions due to pandemic lockdown as: night curfew and weekend, and weekly identity card restrictions.

Table S2. Shapiro-Wilk normality tests

Variable	W	p-value	Normally distributed?
PM _{2.5}	0.88748	1.163e-06	No
OP ^{AA}	0.99035	0.7562	Yes
OP ^{GSH}	0.98728	0.5341	Yes
OP ^{AA} burden	0.97761	0.1227	Yes
OP ^{GSH} burden	0.91240	1.519e-05	No

Table S3. Kruskal-Wallis rank sum test - Between-city differences

Variable	chi-squared	df	p-value	Significant differences among cities?
PM _{2.5}	10.3270	4	0.03527	Yes
OP ^{AA}	13.6070	4	0.008663	Yes
OP ^{GSH}	30.2000	4	4.456e-06	Yes
OP ^{AA} burden	19.0660	4	0.0007628	Yes
OP ^{GSH} burden	7.4950	4	0.1119	No

Table S4. Kruskal-Wallis rank sum test - Differences by site type

Variable	chi-squared	df	p-value	Significant differences among cities?
PM _{2.5}	4.8275	3	0.1849	No
OP ^{AA}	0.7191	3	0.8687	No
OP ^{GSH}	0.8645	3	0.8340	No
OP ^{AA} burden	6.0022	3	0.1115	No
OP ^{GSH} burden	2.4004	3	0.4936	No

Table S5. Kruskal-Wallis rank sum test - Differences by site type in each city

Variable	City	chi-squared	df	p-value	Significant differences among site types?
PM _{2.5}	BAR	4.9392	3	0.1763	No
OP ^{AA}	BAR	2.5614	3	0.4643	No
OP ^{GSH}	BAR	5.3688	3	0.1467	No
OP ^{AA} burden	BAR	6.0094	3	0.1112	No
OP ^{GSH} burden	BAR	0.9875	3	0.8043	No
PM _{2.5}	BOG	6.8175	3	0.0780	No
OP ^{AA}	BOG	0.9007	3	0.8253	No
OP ^{GSH}	BOG	2.3589	3	0.5013	No
OP ^{AA} burden	BOG	2.8857	3	0.4096	No
OP ^{GSH} burden	BOG	6.2210	3	0.1013	No
PM _{2.5}	BUC	1.9869	3	0.5751	No
OP ^{AA}	BUC	3.1853	3	0.2031	No
OP ^{GSH}	BUC	3.3790	3	0.3368	No
OP ^{AA} burden	BUC	1.1204	3	0.7721	No
OP ^{GSH} burden	BUC	0.9860	3	0.8046	No

Variable	City	chi-squared	df	p-value	Significant differences among site types?
PM _{2.5}	CAL	2.8346	3	0.4178	No
OP ^{AA}	CAL	4.6057	3	0.2031	No
OP ^{GSH}	CAL	7.1564	3	0.0671	No
OP ^{AA} burden	CAL	1.5113	3	0.6797	No
OP ^{GSH} burden	CAL	3.4227	3	0.3309	No
PM _{2.5}	MED	2.2437	3	0.5234	No
OP ^{AA}	MED	1.0966	3	0.7779	No
OP ^{GSH}	MED	1.4749	3	0.6881	No
OP ^{AA} burden	MED	1.8151	3	0.6116	No
OP ^{GSH} burden	MED	3.2941	3	0.3485	No

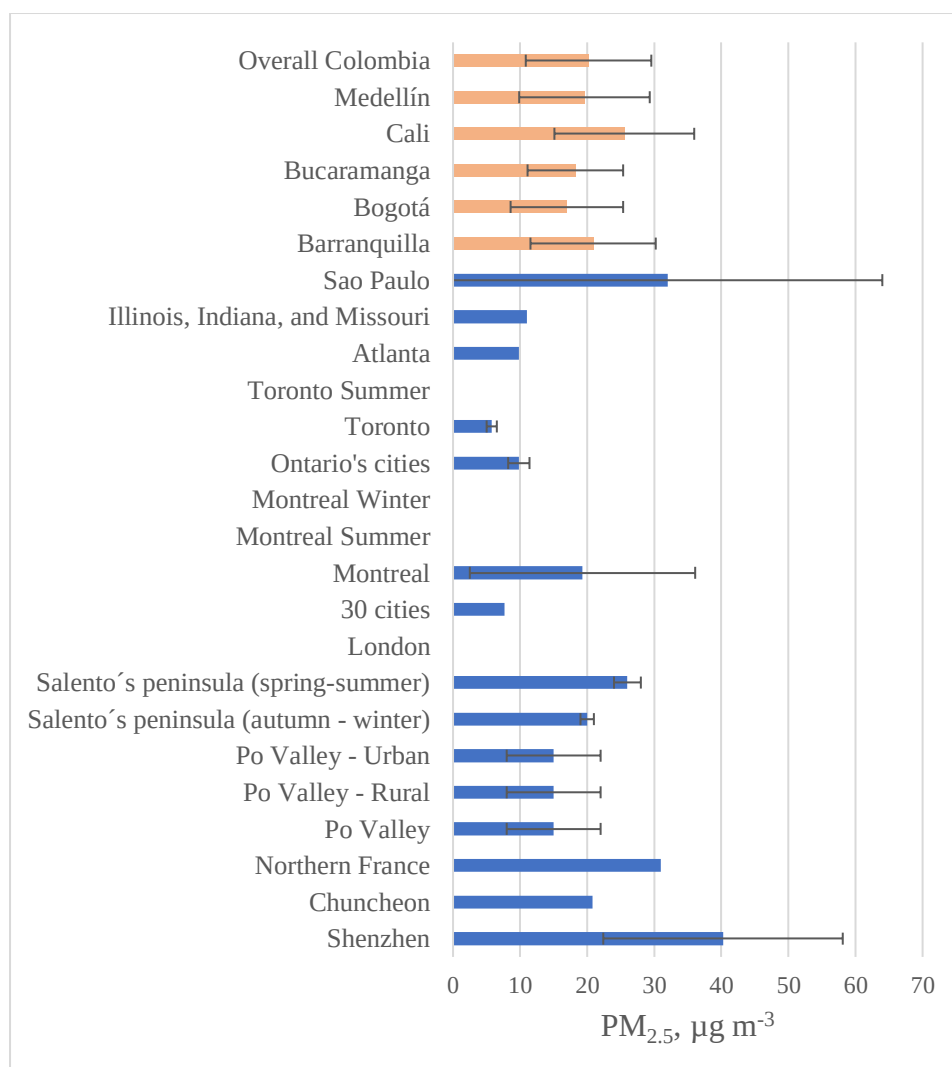


Figure S1. Comparison of PM_{2.5} between Colombian cities in this study and cities around the world.

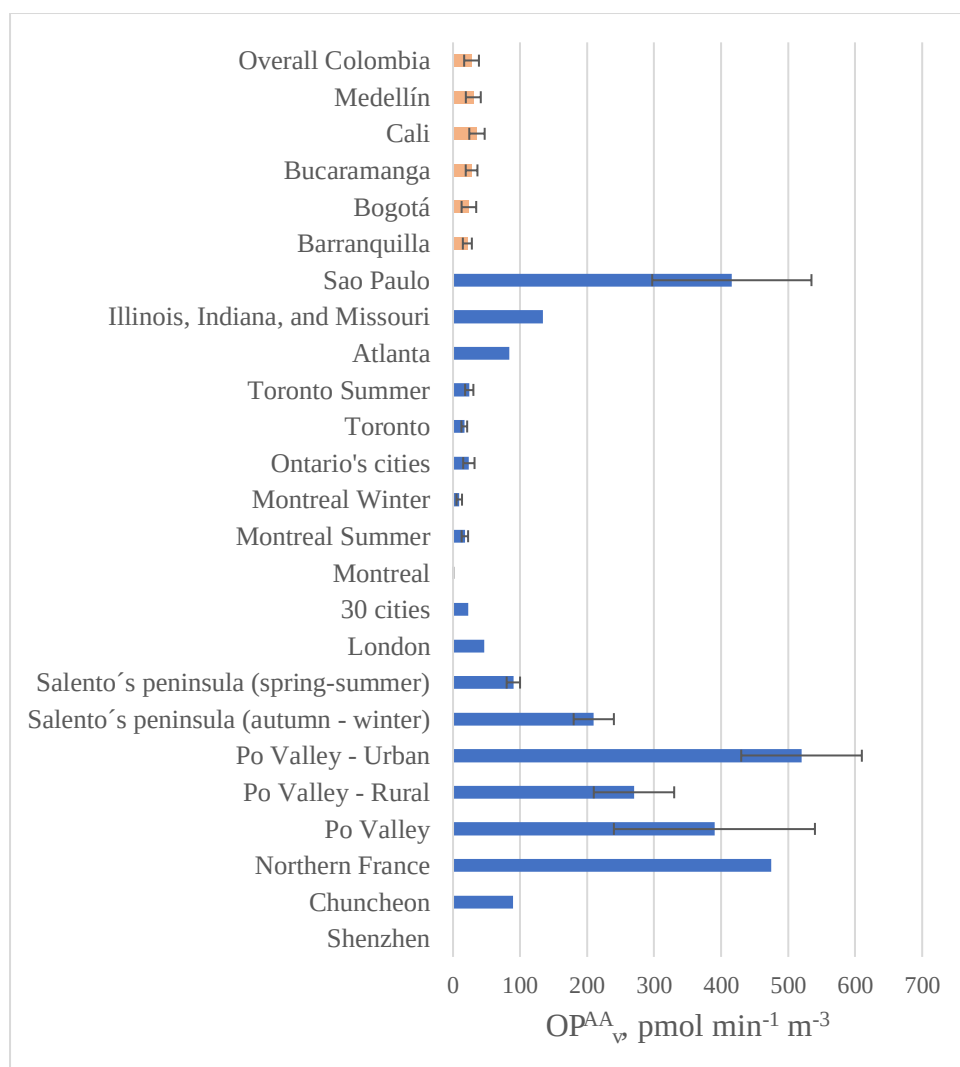


Figure S2. Comparison of OP^{AA}_v between Colombian cities in this study and cities around the world.

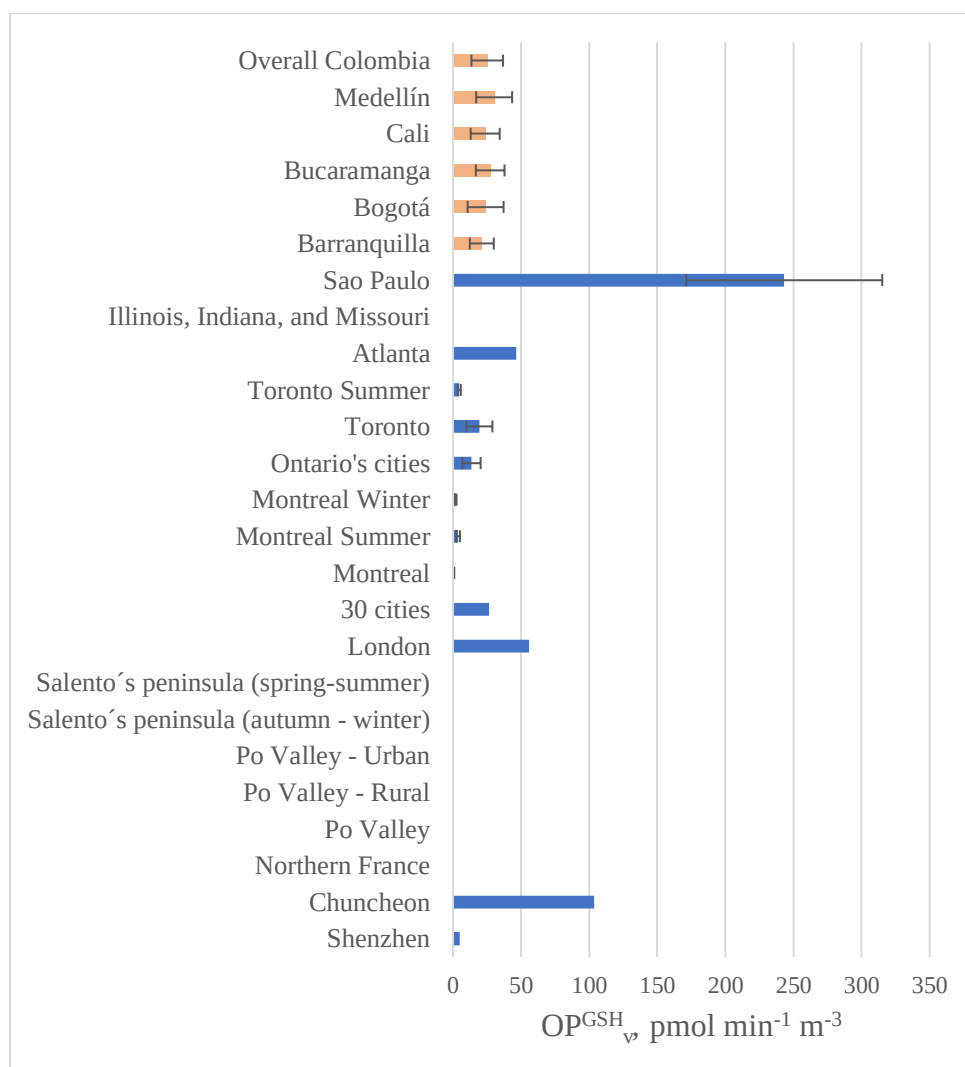


Figure S3. Comparison of OP^{GSH}_v between Colombian cities in this study and cities around the world.

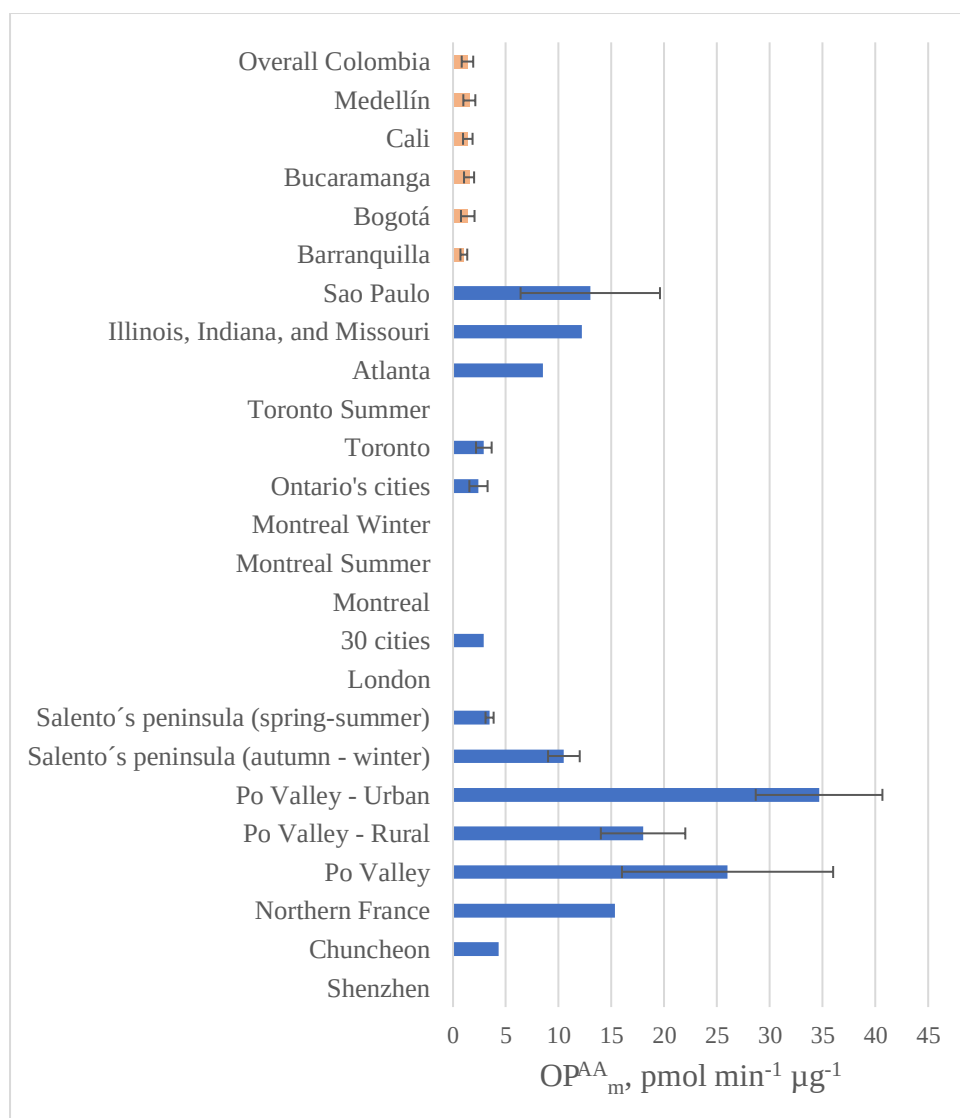


Figure S4. Comparison of $OP^{\text{AA}}_{\text{m}}$ between Colombian cities in this study and cities around the world.

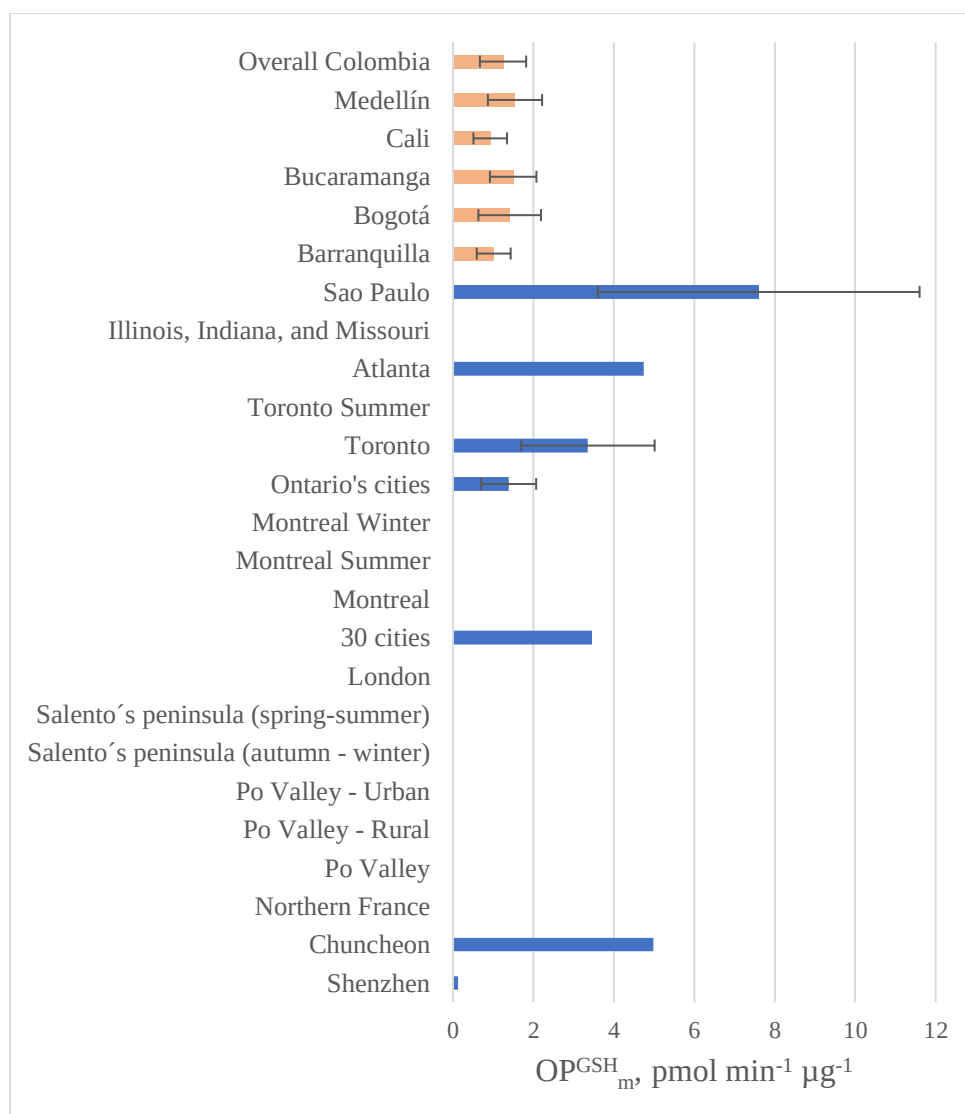


Figure S5. Comparison of OP_{GSH_m} between Colombian cities in this study and cities around the world.