

Supplementary Materials:

# Identifying the Source of Heavy Metal Pollution and Apportionment in Agricultural Soils Impacted by Different Smelters in China by the Positive Matrix Factorization Model and the Pb Isotope Ratio Method

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**Table S1.**

Regression relationship between heavy metal content (X) and distance (Y) from sample site to smelter (n = 50).

	Element	Equation	R <sup>2</sup>
Zhuzhou	Cd	$Y = 42.844 - 3.402 x$	0.903
	Pb	$Y = 49.705 - 0.157 x$	0.927
	As	$Y = 205.665 - 143.887 \ln(x)$	0.901
	Hg	$Y = 52.514 - 38.815 x$	0.915
	Cr	$Y = -171.975 + 92.502 \ln(x)$	0.882
	Ni	$Y = -270.111 + 188.009 \ln(x)$	0.765
	Cu	$Y = 66.052 - 0.726 x$	0.885
	Zn	$Y = 45.640 - 0.042 x$	0.920
Huludao	Cd	$Y = 1.055 - 8.512e^{-10} \ln(x)$	0.780
	Pb	$Y = 149.372 - 0.150 x$	0.928
	As	$Y = 1.345 - 7.256e^{-5} \ln(x)$	0.881
	Hg	$Y = 2.177 - 0.001 \ln(x)$	0.908
	Cr	$Y = 1.857 - 2.433e^{-5} \ln(x)$	0.589
	Ni	$Y = 1.459 - 1.570e^{-5} \ln(x)$	0.787
	Cu	$Y = 121.866 - 0.016 x$	0.714
	Zn	$Y = 983.052 - 0.127 x$	0.704