SUPPLEMENTARY MATERIAL

Artifacts in the analysis and assessment of low-cost containers for sampling and storing greenhouse gases

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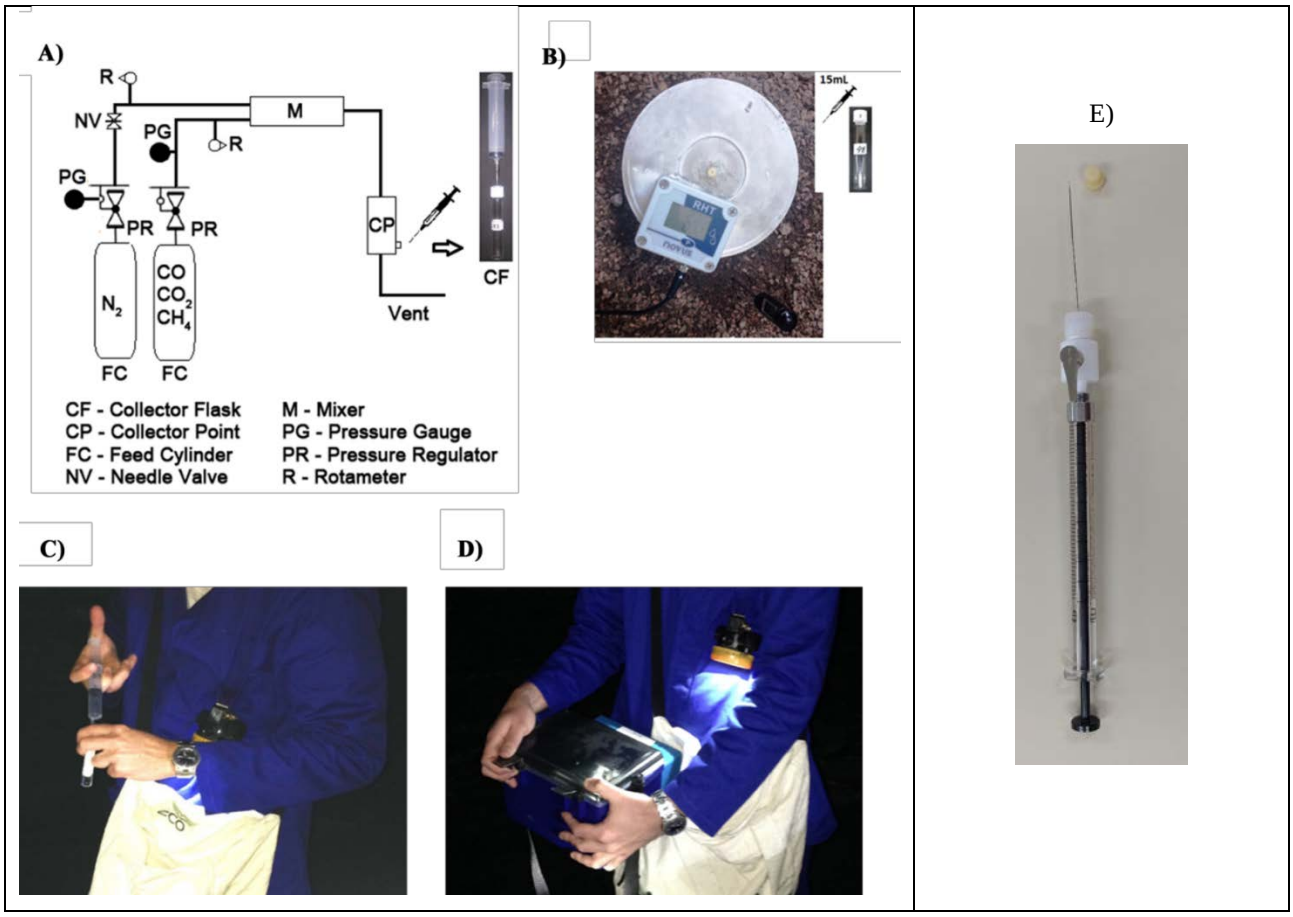

Figure 1S. *Gas sample collection procedures: a) Schematic diagram of the collection of the standard gas mixture, b) Static chamber process used to collect soil vapor samples from the garden, c) Collection using flasks in the coal mine and d) Collection using bags in the coal mine, e) Syringe with an adapted valve for GC analysis using methods 1 and 2*

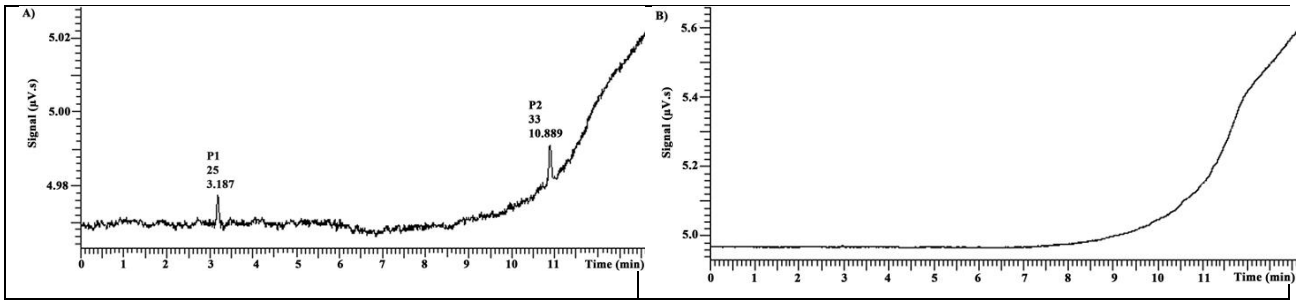

Figure 2S. *Chromatogram of standard A5 by Method 2 for: a) Syringe without valve adaptation, and b) Syringe with valve adaptation*

Table 1S. Experimental conditions used in chromatographic analysis methods

Parameters	Methods	
	1	**2**
Column	Mega-bore Elite-Q Plot column, 30 m x 0.53 mm	Mega-bore Carbonex 1010 column, 30 m x 0.53 mm
Oven	50°C (Isothermal)	35 ºC (6 min) to 150 °C a 20 °C min^{-1}
Injector (°C)	200	200
Injector Volumn (µL)	50-400	50-400
Injection Mode	Split	Split
Detector	FID with methanator, 350 °C	FID with methanator, 400 °C
Flow Rate	Helium, 10 mL min^{-1}	Helium, 10 mL min^{-1}
Run Time	5 min	20 min

Table 2S. Composition of the standard gas mixtures used

Code	Gas	Composition		Supplier	Purity
		(µmol mol^{-1})	(%)		
A1	CO_2	10,000	1	Air Product	
	CO	5,000	0.5		
	CH_4	50,000	5		
	N_2	Balance			
A2	CO	503	0.0503	Air Product	
	CH_4	504	0.0504		
	N_2	Balance			
A3	O_2		21	Air Product	99.998
	N_2		79		
A4	O_2		100	Air Product	99.999
A5	N_2		100	Air Product	99.9992

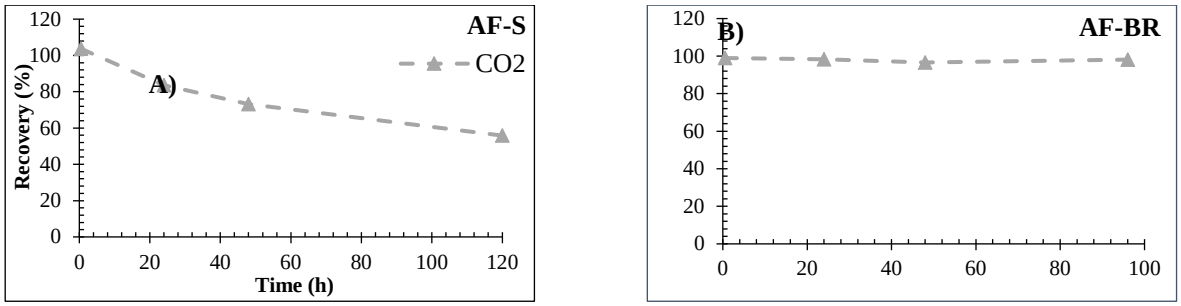

Figure 3S. *Variation of CO_2 levels in soil vapor samples over different storage periods in AF-S and AF-BR flasks*