Table S1 Compounds, retention times (RT), qualitative ions, quantitative ions, linear regression equations for 63 SVOCs and 6 substitutes

	Compound	RT (min)	Qualitative ions (z/m)	Quantitative ion (z/m)	Linear equation
1.	N-Nitrosodimethylamine	4.795	42	74、43	y = 0.055x - 0.002
2.	(Substitute)2-Fluorophenol	6.273	112	63、92	y = 0.131x - 0.005
3.	(Substitute)phenol-d6	6.977	99	71	y = 0.152x + 0.002
4.	Phenol	6.986	94	66、40	y = 0.151x + 0.002
5.	Bis(2-chloroethyl) ether	7.034	93	63、95	y = 0.128x + 0.003
6.	2-Chlorophenol	7.073	128	93、63	y = 0.127x - 0.001
7.	1,3-Dichlorobenzene	7.169	146	111、75	y = 0.935x + 0.030
8.	1,4-dichlorobenzene	7.203	146	148、111	y = 0.982x + 0.039
9.	1,2-dichlorobenzene	7.338	146	148、111	y = 0.920x + 0.024
10.	2-methylphenol	7.391	108	107、77	y = 0.114x - 0.003
11.	Bis(2-chloroisopropyl) ether	7.410	121	123、77、79	y = 0.044x + 3.492
12.	4-Methylphenol	7.482	107	108、77	y = 0.140x - 0.004
13.	N-nitrosodi-n-propylamine	7.501	43	70、130	y = 0.056x - 0.002
14.	Hexachloroethane	7.550	117	109、201	y = 0.046x - 0.001
15.	(Substitute)nitrobenzene-d5	7.598	82	128、54	y = 0.127x - 0.005
16.	Nitrobenzene	7.607	77	123、51	y = 0.065x - 0.003
17.	Isophorone	7.766	82	138、54	y = 0.165x - 0.007
18.	2,4-Dimethylphenol	7.843	107	122、77	y = 0.110x - 0.004
19.	Bis(2-chloroethoxy)methane	7.911	93	63、123	y = 0.147x + 0.001
20.	2,4-Dichlorophenol	7.997	162	163、63	y = 0.099x - 0.008
21.	1,2,4-Trichlorobenzene	8.060	147	74、109	y = 0.022x + 3.017
22.	2,4-Dinitrophenol	8.063	184	63、154	y = 0.065x + 0.003
23.	Naphthalene	8.113	128	129	y = 0.312x + 0.054
24.	4-Chloroaniline	8.161	127	129、65	y = 0.077x - 0.006
25.	Hexachlorobutadiene	8.238	118	260、223	y = 0.021x + 7.206
26.	4-Chloro-3-methylphenol	8.513	107	142、144、77	y = 0.101x - 0.012
27.	2-Nitrophenol	8.667	139	65、81	y = 0.027x + 2.713
28.	2-Methylnaphthalene	8.667	142	141、115	y = 0.249x + 0.008
29.	Hexachlorocyclopentadiene	8.869	130	239、235	y = 0.049x - 0.017
30.	2,4,6-trichlorophenol	8.936	196	198、200	y = 0.123x - 0.016
31.	2,4,5-trichlorophenol	8.975	196	198、200	y = 0.133x - 0.014
32.	(Substitute)2-Fluorobiphenyl	9.013	172	171、170	y = 0.520x + 0.062
33.	2-Chloronaphthalene	9.129	162	127	y = 0.406x + 0.020
34.	2-nitroaniline	9.249	138	65、92	y = 0.140x - 0.031
35.	3-Nitroaniline	9.249	65	92、138	y = 0.102x - 0.024
36.	Dimethyl phthalate	9.461	163	77	y = 0.462x + 0.003
37.	2,6-Dinitrotoluene	9.548	63	89	y = 0.010x - 0.004
38.	Acenaphthylene	9.586	152	76	y = 0.578x + 0.005
39.	Acenaphthene	9.808	153	76	y = 0.415x + 0.019

40.	4-Nitrophenol	10.001	139	65、109	y = 0.213x + 0.005
41.	Dibenzofuran	10.001	168	139	y = 0.580x + 0.040
42.	2,4-Dinitrotoluene	10.034	165	89、63	y = 0.124x - 0.035
43.	Diethyl phthalate	10.366	149	177	y = 0.460x - 0.022
44.	4-Nitroaniline	10.462	65	138、108	y = 0.014x + 8.710
45.	4-Chlorophenyl phenyl ether	10.467	204	141、77	y = 0.242x + 0.007
46.	Fluorene	10.472	166	163、82	y = 0.454x + 0.014
47.	Azo benzene	10.698	77	182、51	y = 0.428x - 0.034
48.	(Substitute)2,4,6-Tribromophenol	10.857	332	62、143	y = 0.068x - 0.018
49.	4-Bromodiphenyl ether	11.223	250	141、77	y = 0.080x - 0.002
50.	Hexachlorobenzene	11.463	284	286、282	y = 0.093x + 0.002
51.	Pentachlorophenol	11.763	266	184	y = 0.041x - 0.025
52.	phenanthrene	12.032	178	176、179	y = 0.384x + 0.023
53.	Anthracene	12.109	178	176、179	y = 0.388x - 0.014
54.	Carbazole	12.422	167	166、139	y = 0.363x - 0.016
55.	Di-n-butyl phthalate	13.304	149	150、76	y = 0.426x - 0.068
56.	Fluoranthene	14.416	202	200、203	y = 0.399x - 0.032
57.	Pyrene	14.888	202	200、201	y = 0.459x - 0.011
58.	(Substitute)p-terphenyl-d14	15.345	244	245、243	y = 0.400x - 3.996
59.	Butyl benzyl phthalate	16.621	149	91、206	y = 0.158x - 0.055
60.	Benzo[a]anthracene	17.623	228	226、229	y = 0.368x - 0.062
61.	Oxalic acid	17.714	228	226、229	y = 0.441x + 0.008
62.	Bis(2-diethylhexyl) phthalate	18.090	149	167、57	y = 0.243x - 0.090
63.	Di-n-octyl phthalate	19.462	149	279	y = 0.374x - 0.150
64.	Benzo[b]fluoranthene	20.007	252	126、250	y = 0.463x - 0.072
65.	Benzo[k]fluoranthene	20.059	252	126、250	y = 0.554x + 0.001
66.	Benzo[a]pyrene	20.652	252	250、253	y = 0.419x - 0.087
67.	Indeno[1,2,3-cd]pyrene	22.929	276	138、274	y = 0.303x - 0.095
68.	Dibenzo[a,h]anthracene	22.997	278	139、276	y = 0.378x - 0.085
69.	Benzo[g,h,i]perylene	23.507	276	138、274	y = 0.426x - 0.059

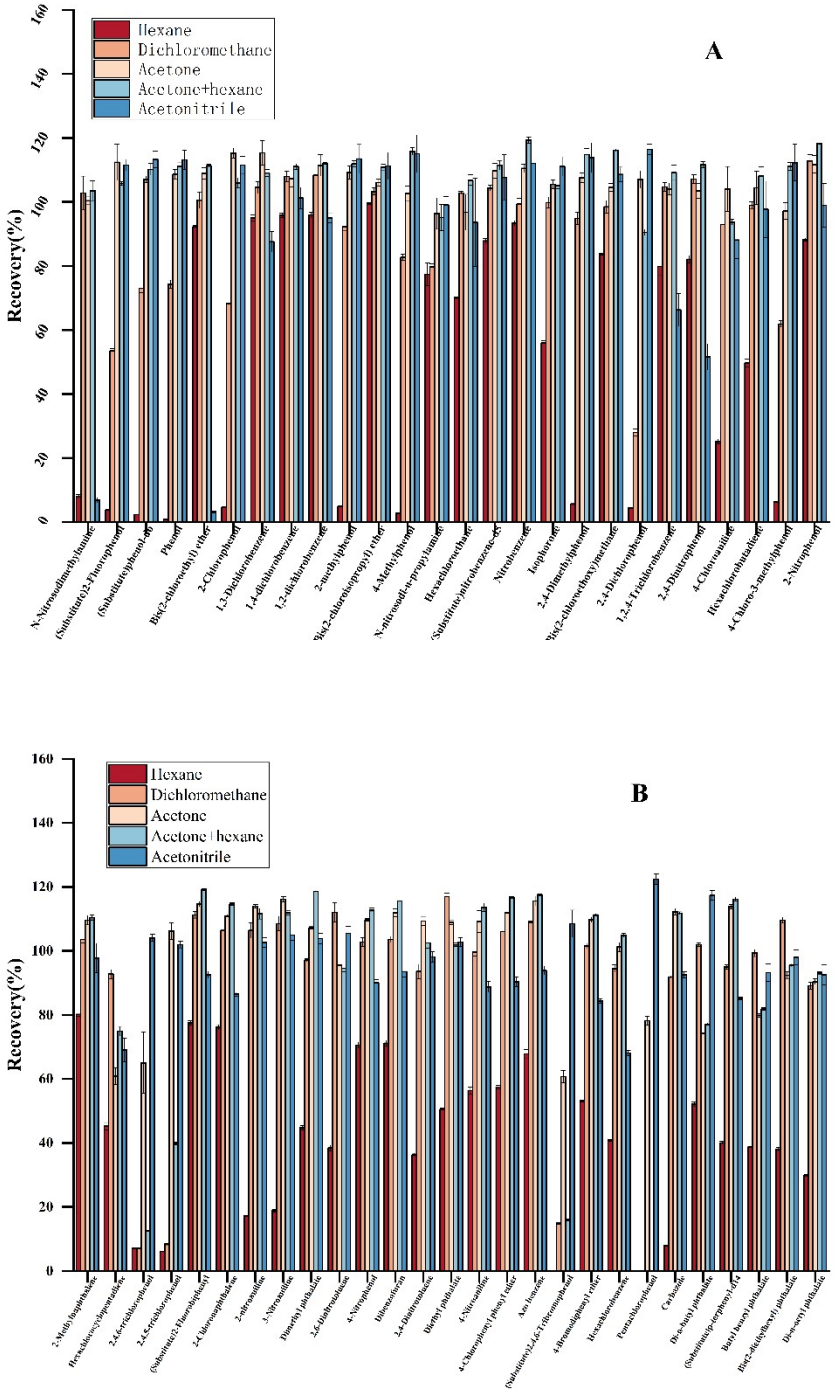

Fig.S1 Effect of different extraction solvents on the spiked recovery of SVOCs in soil samples.

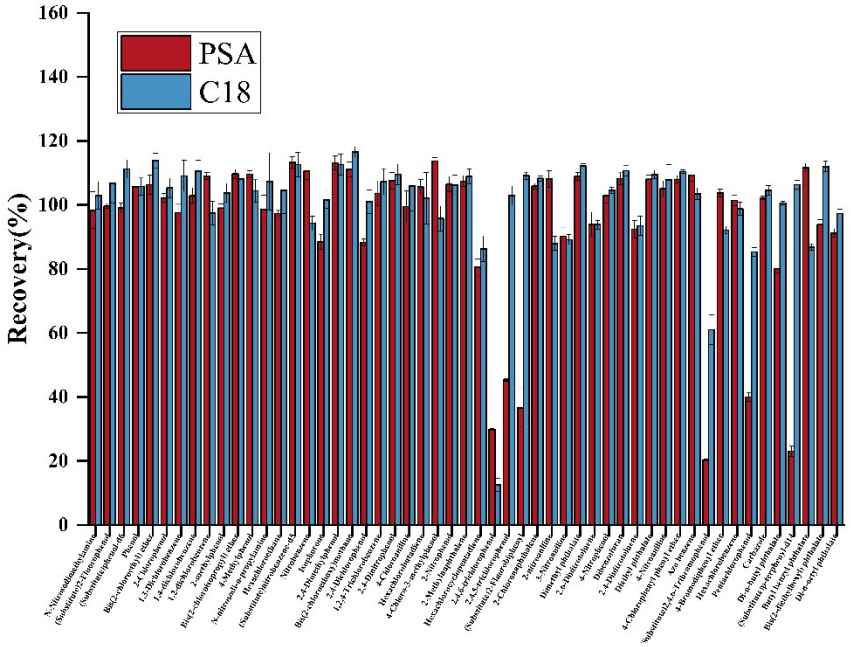

Fig.S2. Depicts the impact of PSA and C18 on recovery rates.

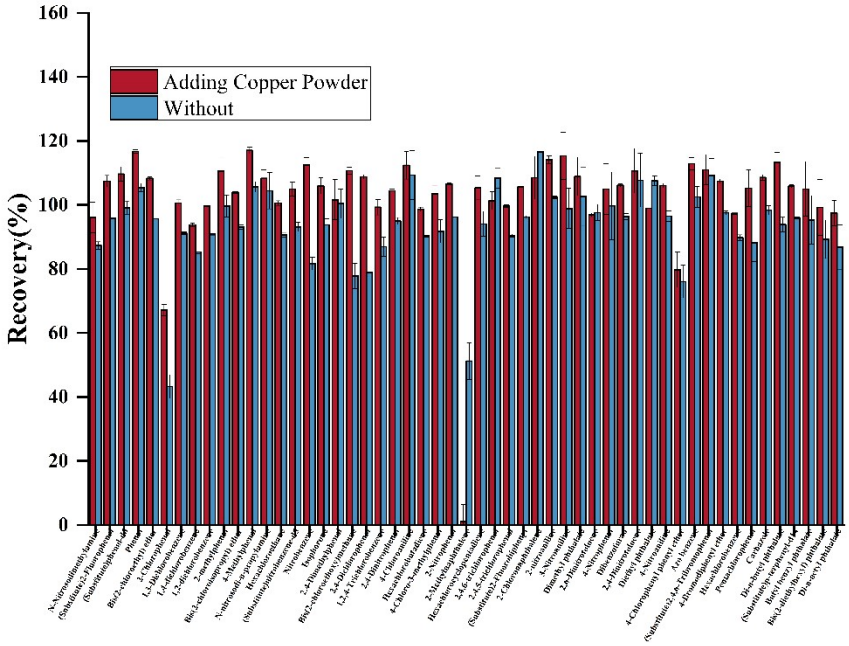

Fig.S3. The effect of copper powder on recovery rates.

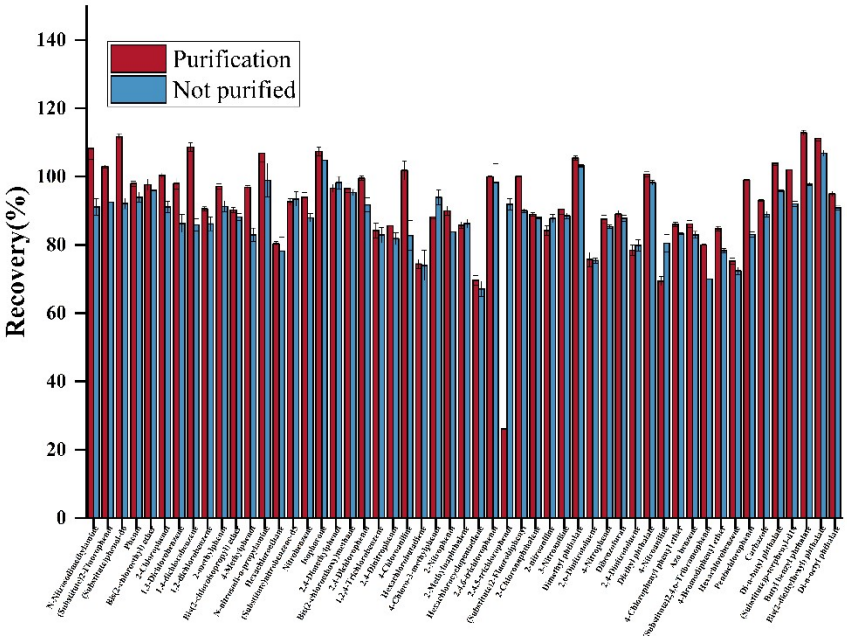

Fig.S4. The influence of purification steps on recovery rates.

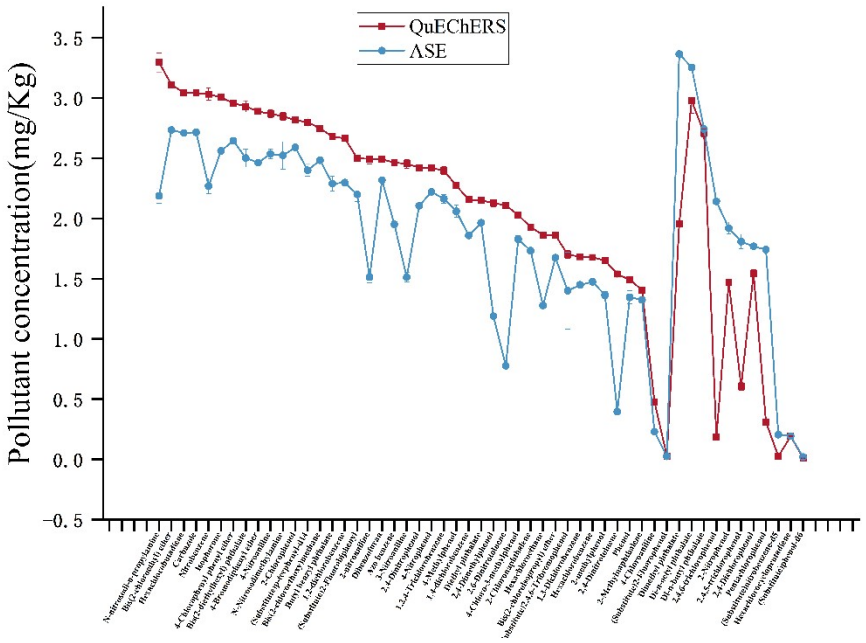

Fig.S5. Determination of SVOCs in QC soil samples using QuEChERS and ASE methods.