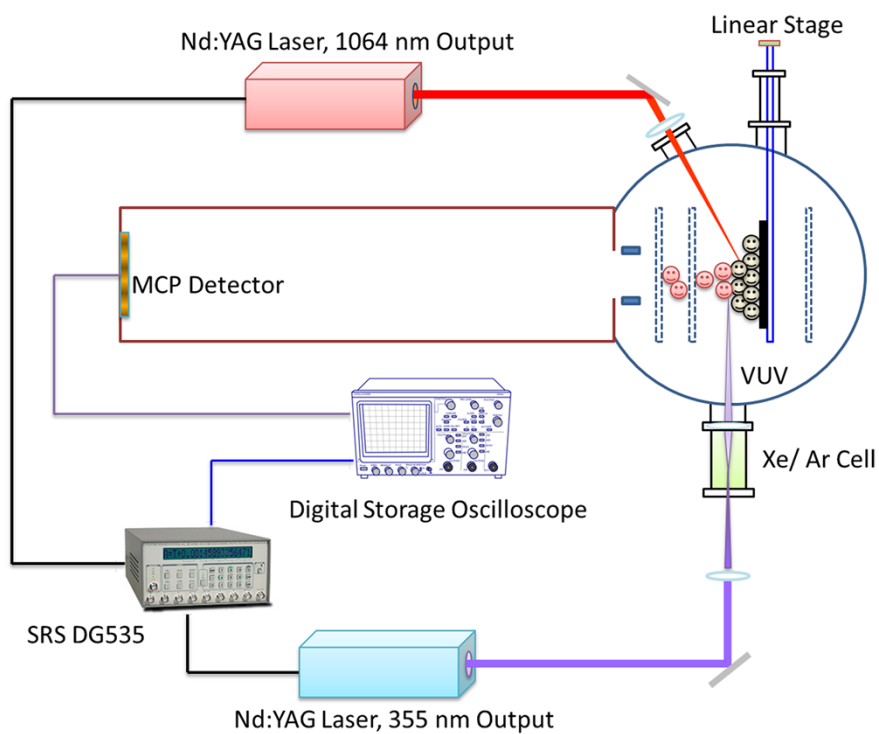


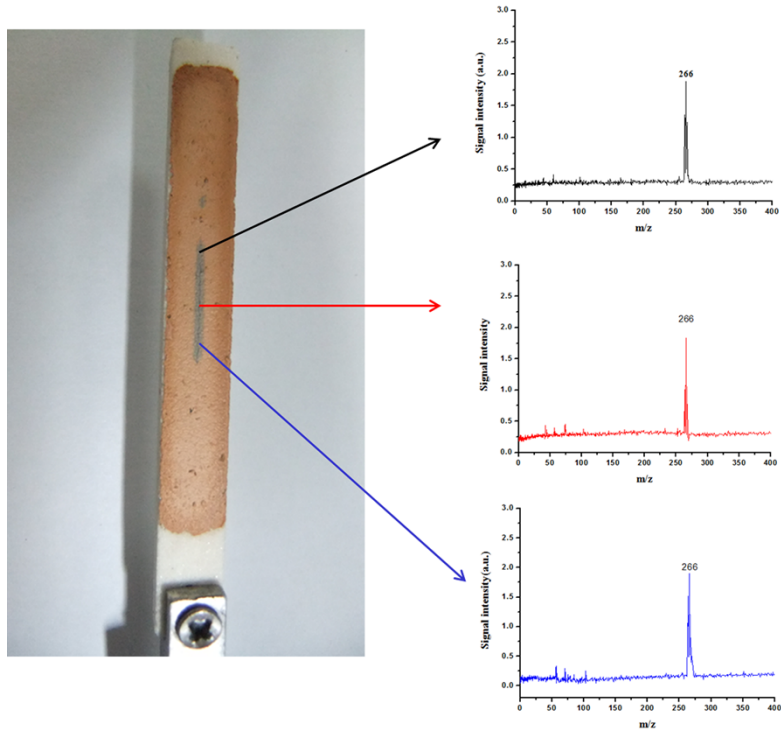
## SUPPORTING INFORMATION:



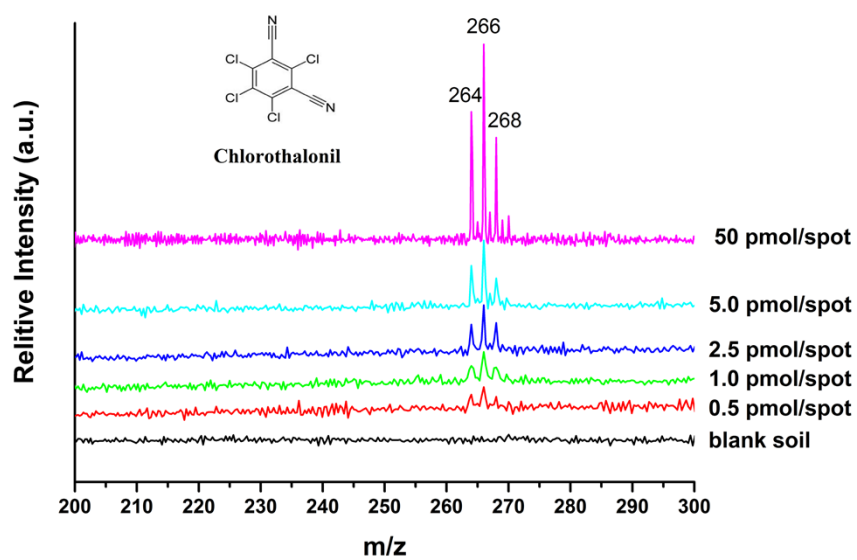
**Supplementary Figure 1.** The schematic diagram of the LDPI MS apparatus.



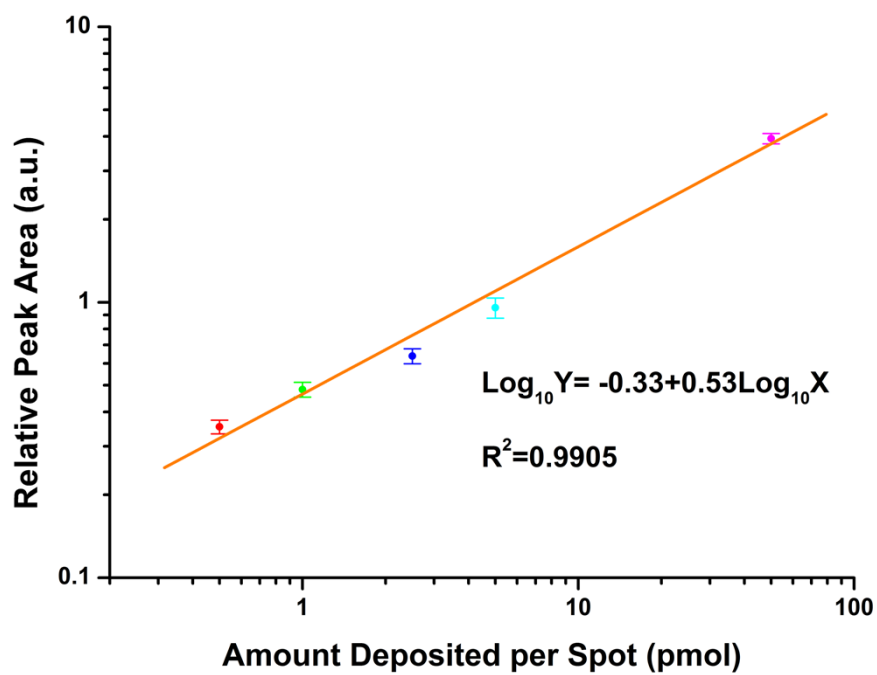
**Supplementary Figure 2.** The preparation of soil samples, where chlorothalonil is spiked into the soil in advance.



**Supplementary Figure 3.** Mass spectra of soil sample at different points which have similar signal intensities by LDPI-MS method.



**Supplementary Figure 4.** Mass spectra of chlorothalonil with different amounts per spot acquired from soil samples by LDPI MS.



**Supplementary Figure 5.** The linear correlation between the signal intensity ( $m/z$  266) and the amount of chlorothalonil deposited on each soil sample spot from 0.5 pmol to 50 pmol. Error bars indicate the standard deviations of three independent measurements.