Supplementary materials

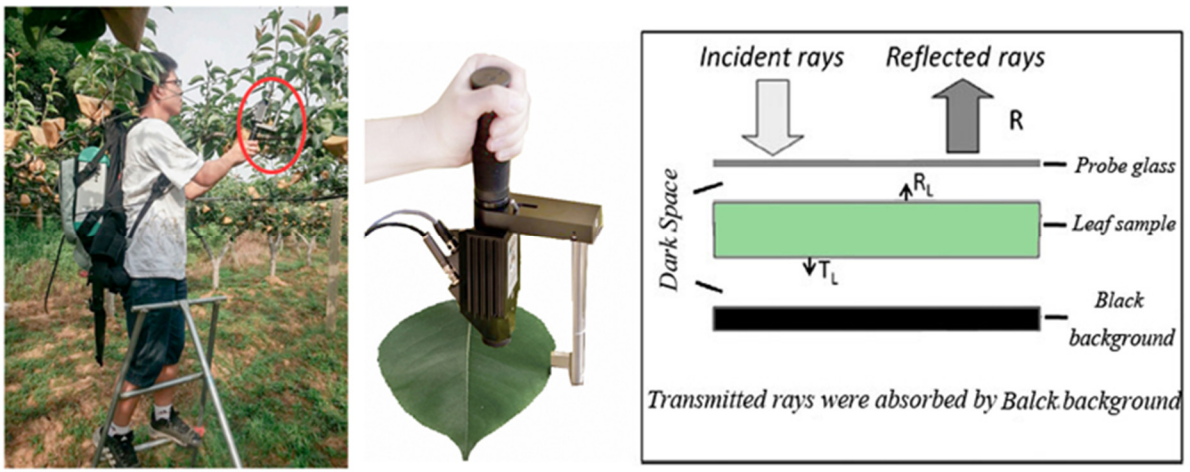
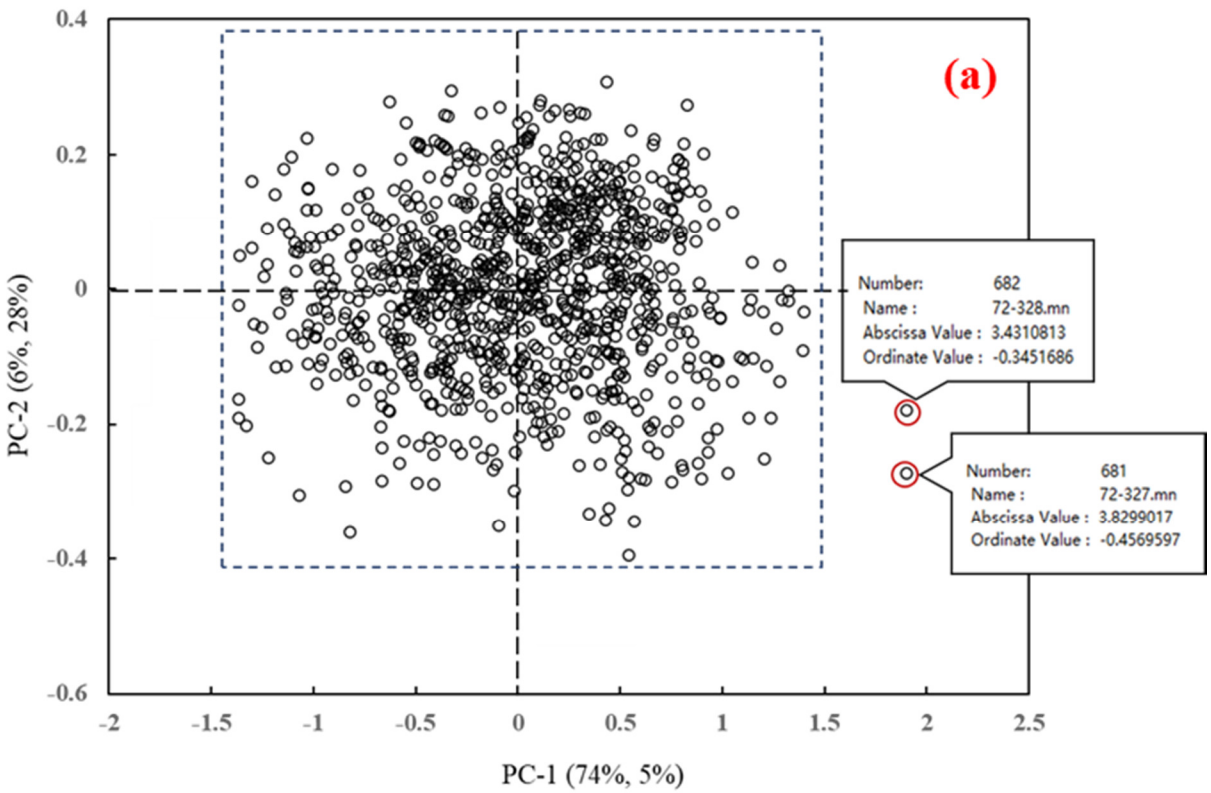


Figure S1 The schematic diagram of spectral acquisition by the plant probe and leaf clip (picture was adapt from Wang et al 2017).


(a)
0.4
0.2
0
-0.2
-0.4
-0.6
-2
-1.5
-1
-0.5
0
0.5
1
1.5
2
2.5
PC-2 (6%, 28%)
PC-1 (74%, 5%)
Number: 682
Name : 72-328.mn
Abscissa Value : 3.4310813
Ordinate Value : -0.3451686
Number: 681
Name : 72-327.mn
Abscissa Value : 3.8299017
Ordinate Value : -0.4569597

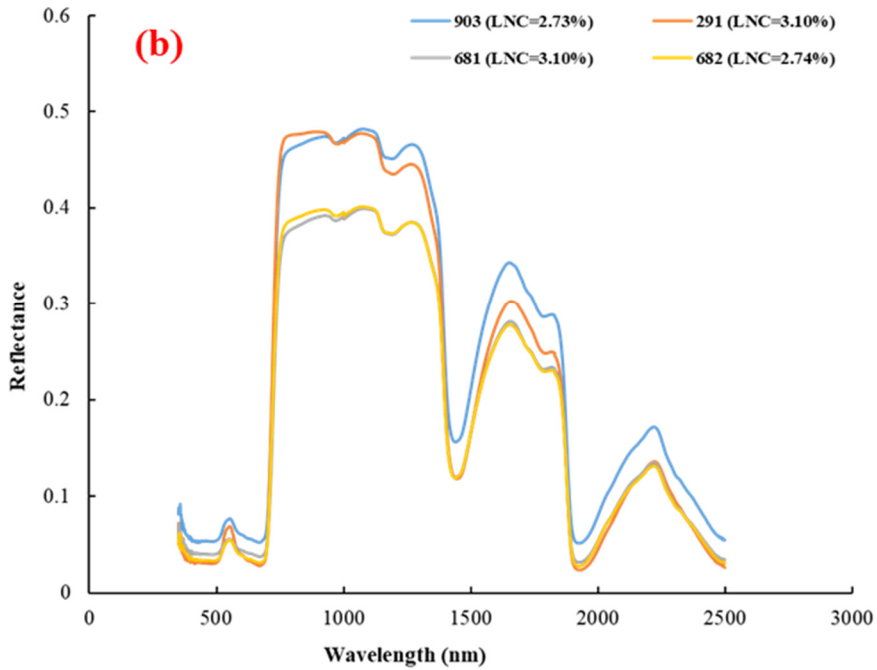
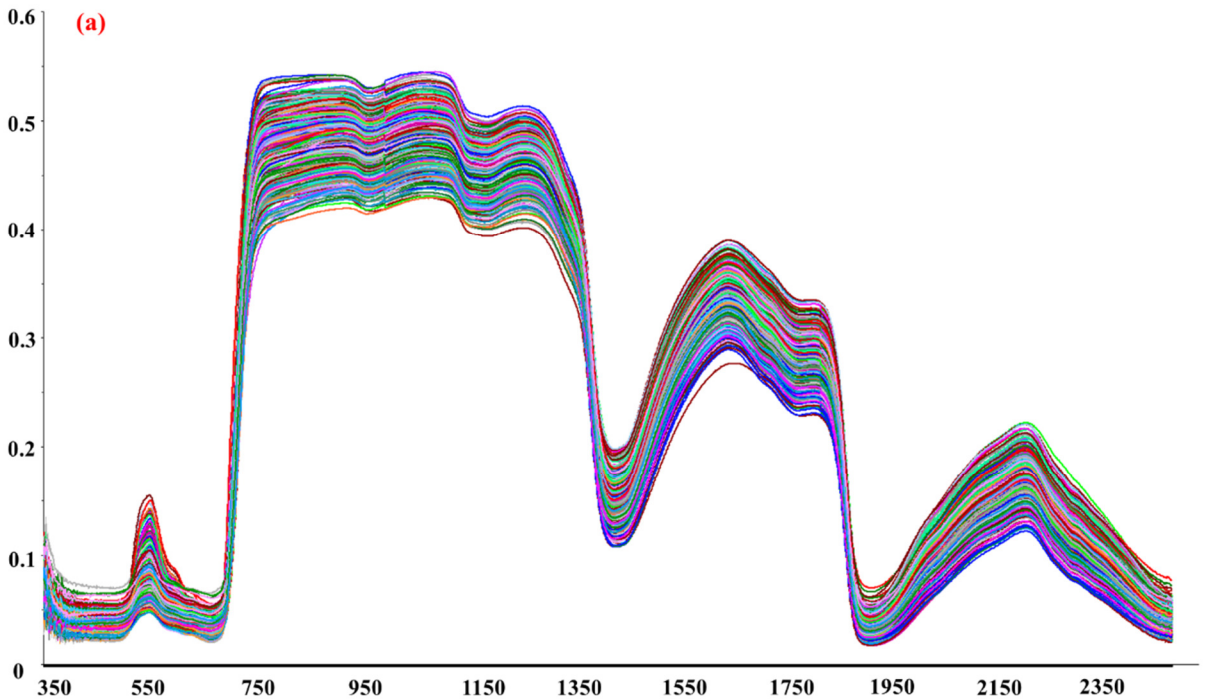


Figure S2 outliers were automatically by the button of “mark outliers” in the menu bar of the software (a). We have retrospect the outliers named “680 and 681” in the notebook and compared the reflectance with the same leaf nitrogen concentration. Sample “680 and 681” were measured just before the spectral acquisition interruption because of low battery warning. These outlier samples with lower reflectance in all bands for the weakening incident ray (b) were not easy perceptible.


(a)
0.6
0.5
0.4
0.3
0.2
0.1
0
350
550
750
950
1150
1350
1550
1750
1950
2150
2350

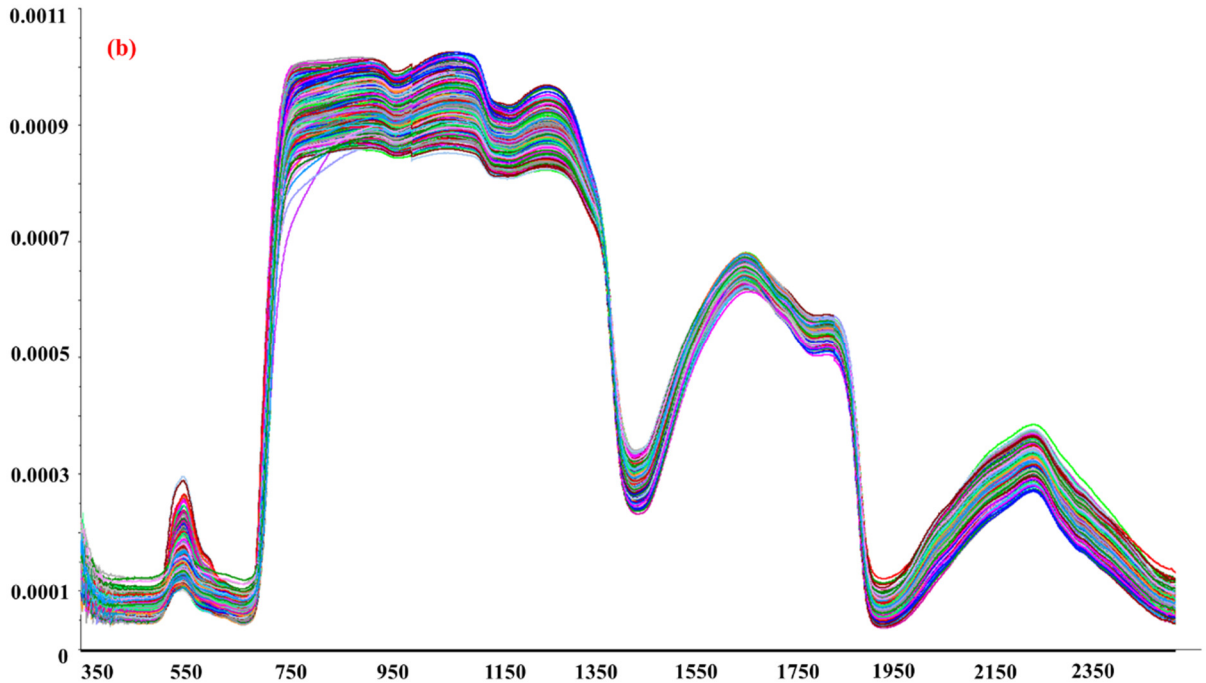


Figure S3 raw spectral data (a) versus the normalized data (b).

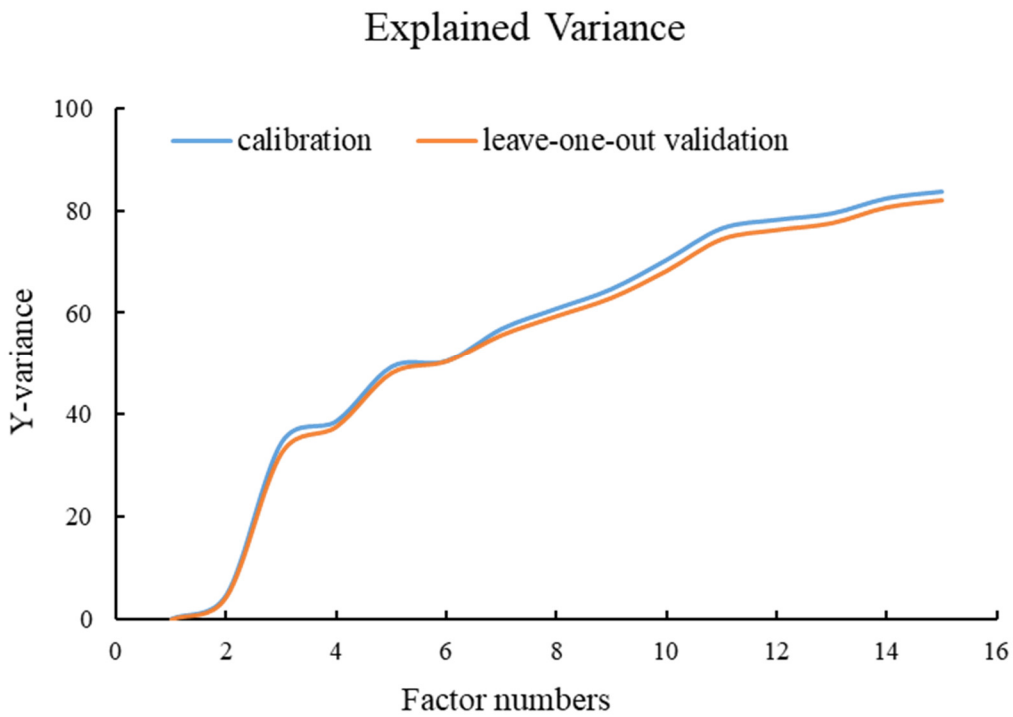


Figure S4 PLSR modelling accuracy cumulated by the increment of factor number and stopped with the stable platform.

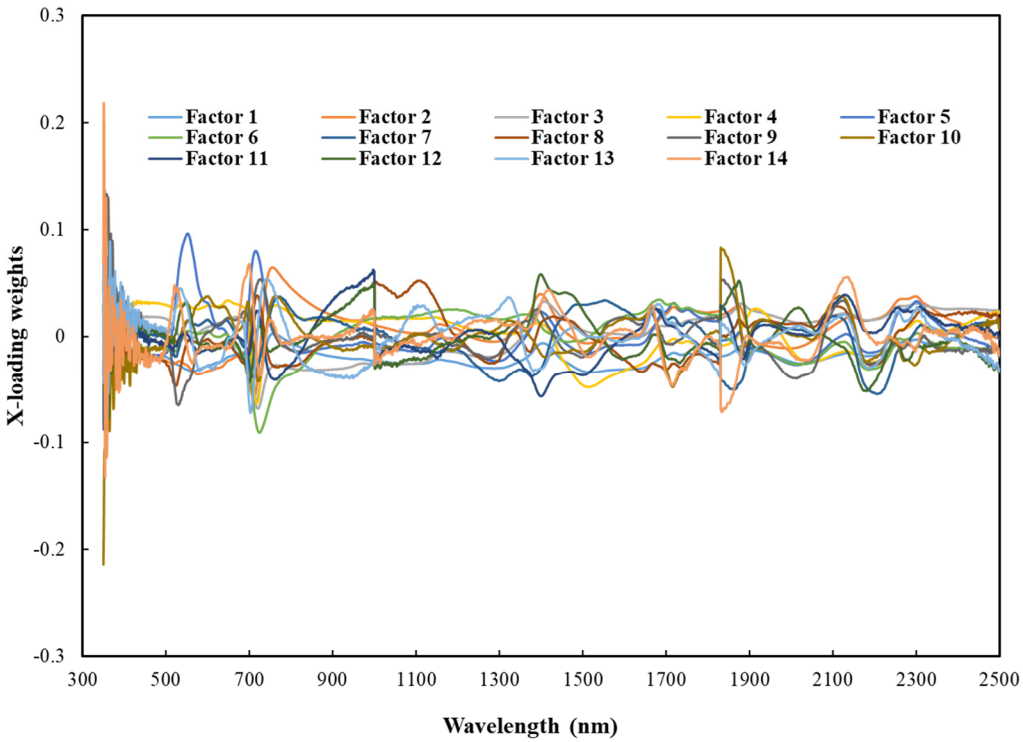


Figure S5 X-loading weights of the PLSR model (the factor number was 14) calculated by all bands and normalization pretreatments.