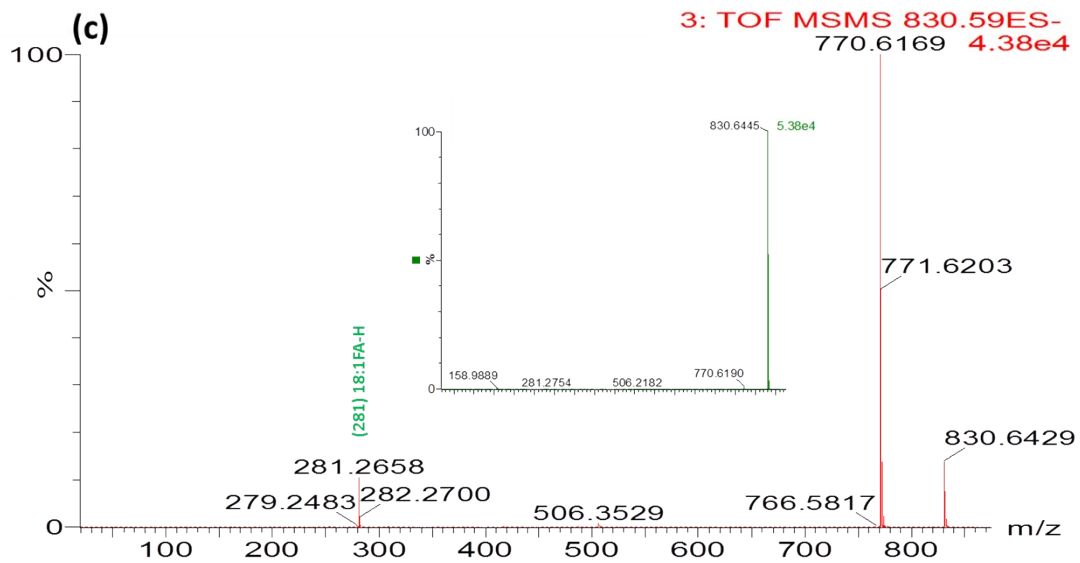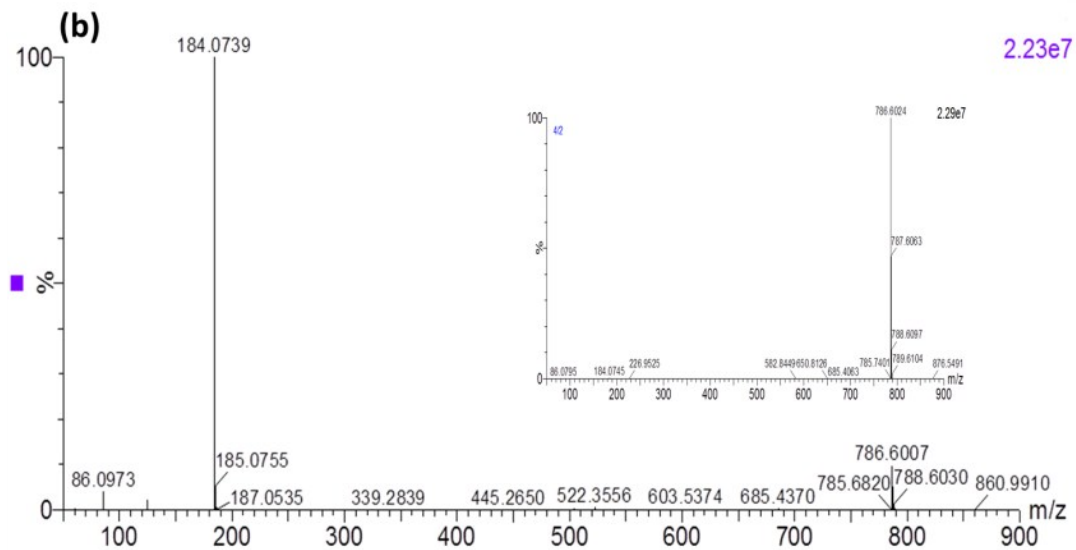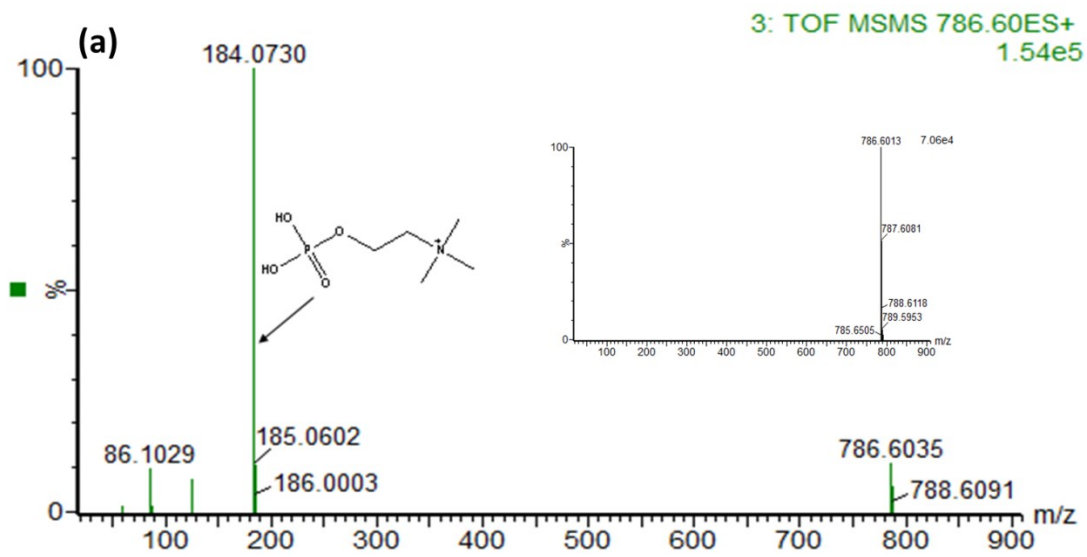**Figure S1.** Different lipidomic profilings of the cervical cancer tissues based on LC/MS analysis. (a) Electrospray ionization (ESI) positive and (b) negative modes. Base peak chromatograms (BPC) of the cervical cancer samples are shown from the different groups. Blue, HPV18; Red, HPV16; Black, HPV negative; FFA, free fatty acid; LysoPC, lysophosphatidylcholine; SM, sphingomyelin; Cer, ceramide.
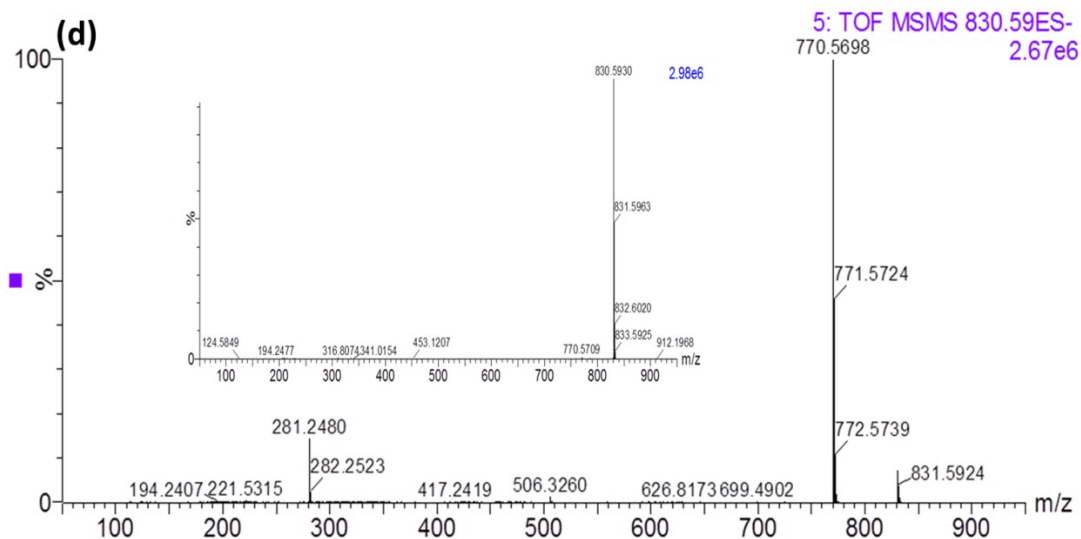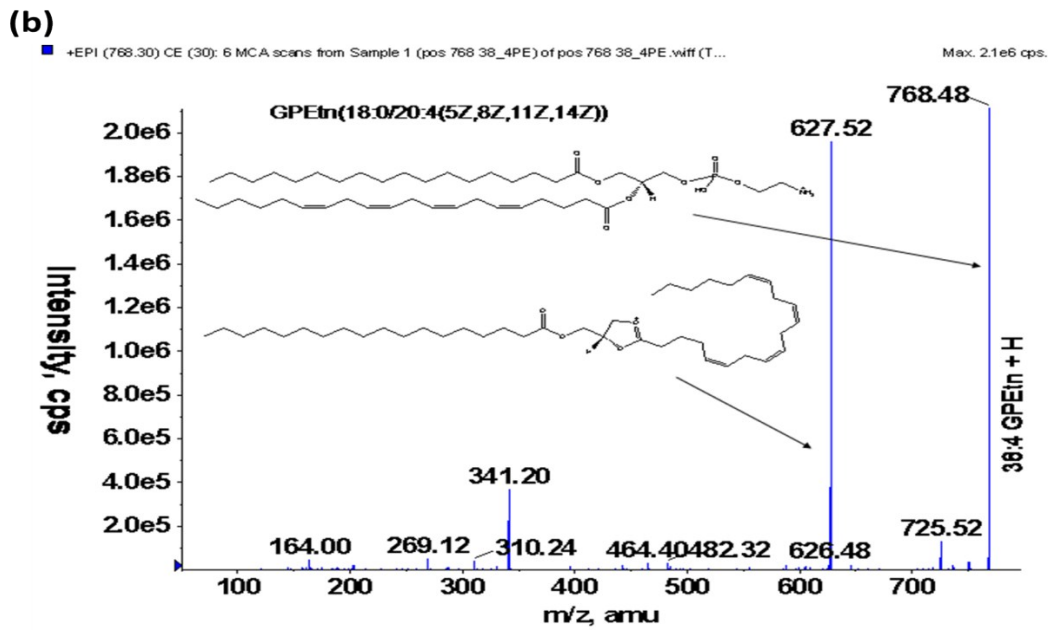
(a)

3: TOF MSMS 786.60ES+
1.54e5

184.0730

86.1029
185.0602
186.0003
786.6035
788.6091

786.6013 7.06e4
787.6081
788.6118
785.6505 789.5953

(b)

2.23e7

184.0739

86.0973
185.0755
187.0535 339.2839 445.2650 522.3556 603.5374 685.4370
786.6007
785.6820 788.6030 860.9910

786.6024 2.29e7
787.6063
788.6097
789.6104
86.0795 184.0745 226.9525 582.8449 650.8126 685.4063 785.7401 876.5491

(c)

3: TOF MSMS 830.59ES-
770.6169 4.38e4

771.6203

830.6429

(281) 18:1FA-H

281.2658
279.2483 282.2700
506.3529
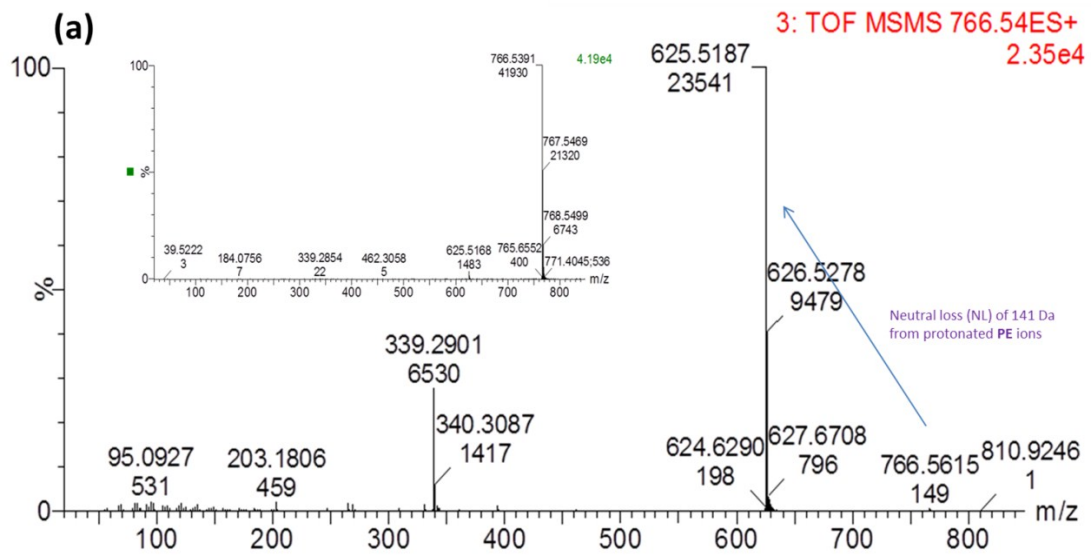766.5817

830.6445 5.38e4
158.9889 281.2754 506.2182 770.6190

Figure S2. A representative phosphocholine (PC) MS/MS spectra. (a) The QC sample XIC of m/z 786.6083 with [M+H]+ in ESI+ mode of LC-MS analysis. (Upper is the default setting (trap/transfer collision energies (CE) = 6/4; lower at the higher CE =30/4 for gain more fragment.); (b) The MS/MS specta of the chemical standard PC (18:1/18:1) was used in ESI+ mode. (c) The XIC of m/z 830.5964 [M+FA-H]- in ESI- mode of LC-MS analysis. (Upper is the default setting (trap/transfer CE=6/4; lower at the higher CE =24/4 for gain more fragment.) (d) The MS/MS specta of the chemical standard PC (18:1/18:1) was used in ESI- mode.
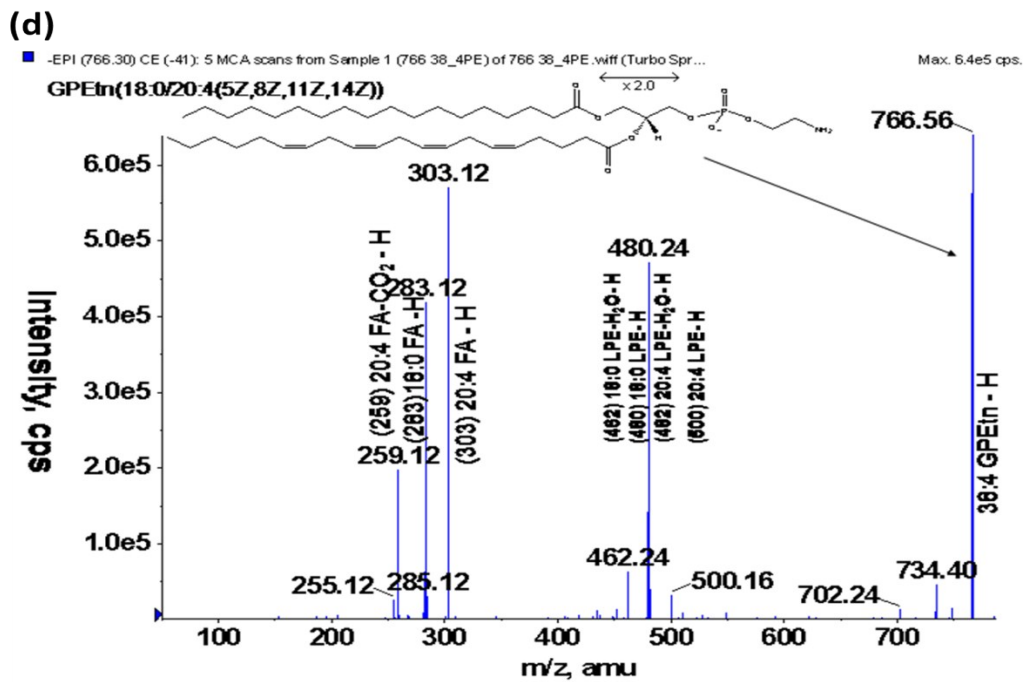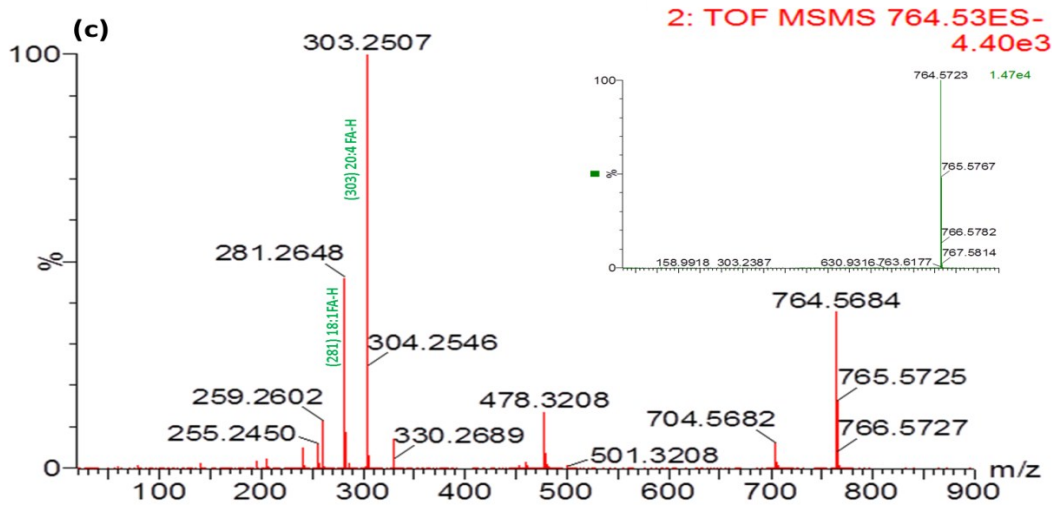
(a)

3: TOF MSMS 766.54ES+
2.35e4

(b)

+EPI (768.30) CE (30): 6 MCA scans from Sample 1 (pos 768 38_4PE) of pos 768 38_4PE .wiff (T...   Max. 2.1e6 cps.

GPEtn(18:0/20:4(5Z,8Z,11Z,14Z))

Figure S3. A representative phosphatidylethanolamine (PE) MS/MS spectra. (a) The XIC of m/z 766.5763 with [M + H]+ in ESI+ mode of LC-MS analysis. (Upper is the default setting (trap/transfer CE=6/4; lower at the higher CE =29/4 for gain more fragment.) (b) The XIC of m/z 764.5312 [M-H]- in ESI- mode of LC-MS analysis. (Upper is the default setting; lower at the higher CE =30/4.) (c) The MS/MS specta of the PE (38:4) [M + H]+ in ESI+ mode from LIPID MAPS databases (LMGP02010118). (d) The MS/MS specta of the PE (38:4) [M-Hl]- in ESI+ mode from LIPID MAPS databases (LMGP02010118). According to the similar patterns of the fragments, we defined the m/z 764.5312 in ESI- mode as the PE (38:5).

Table S1. Patient's characteristics (N=13).

Variable	Datum	Variable	Datum
Age (year)*	48.1 (27—65)	HPV	
Histopathology		16	4 (32)
Squamous cell	7 (53.8)	18	4 (32)
Adenocarcinoma	4 (32)	45	2 (14.5)
Adenosquamous	1 (7.1)	Multiple	1 (7)
Small cell	1 (7.1)	Absence	2 (14.5)
Grade of differentiation			
Well/Moderate	7 (53.8)	TNM stage	
Poorly	6 (46.2)	T1bN0M0	10(78.7)
Treatment		T1bN1M0	1 (7.1)
Surgery	9 (69.2)	T3bN0M1	1 (7.1)
Chemoradiation	4 (30.8)	T4N1M0	1 (7.1)

Note.—Data in parentheses are %. *Median (range).