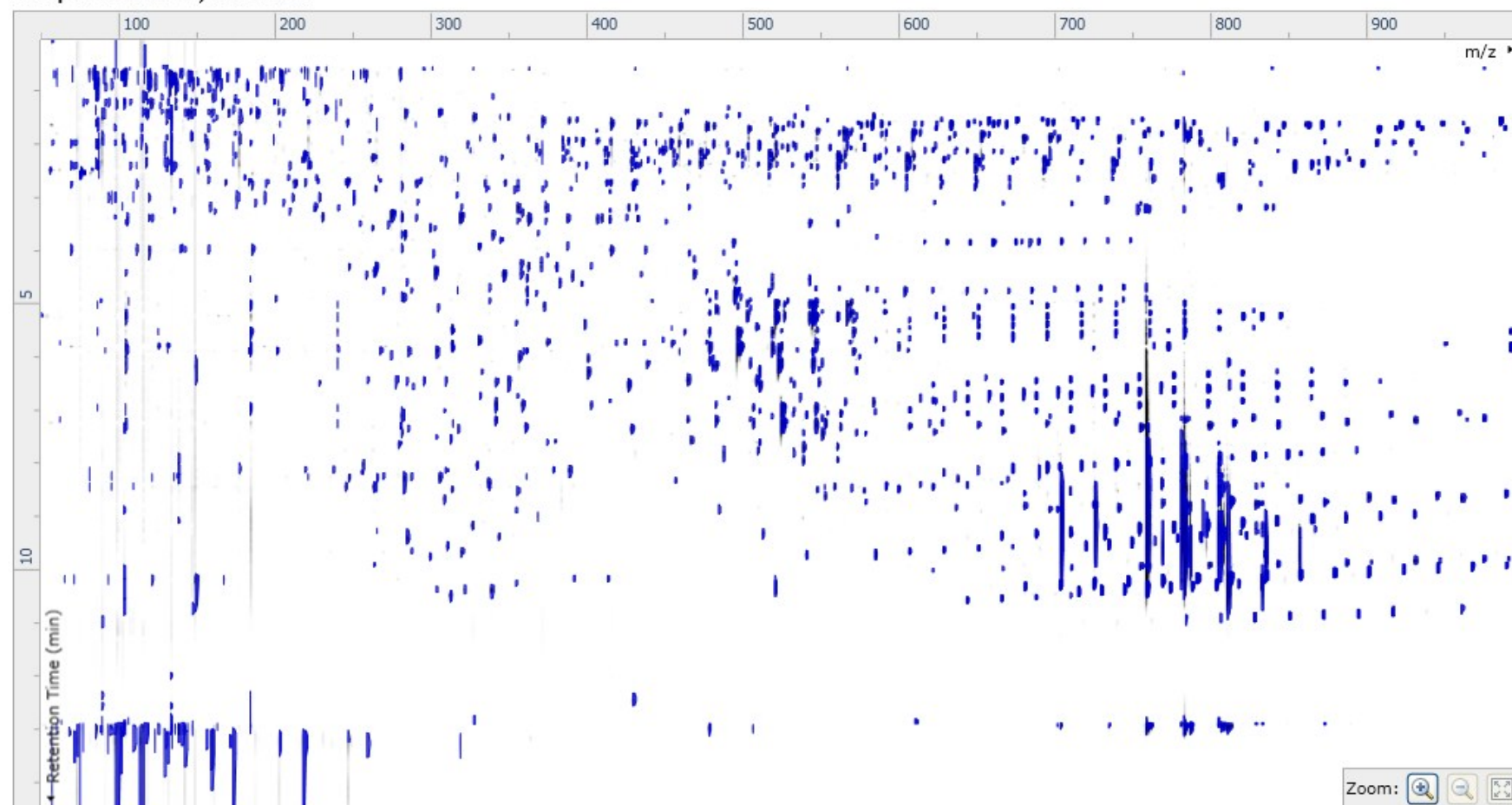


**Fig. S1** Typical TIC chromatogram of CC and controls in positive and negative mode.

A, CC in positive mode; B, controls in positive mode; C, CC in negative mode; D, controls in negative mode.

Compound ions: 1,750 found



**Fig. S2** The typical 2D ion intensity map generates ‘compound ions’ in the retention time direction. The ‘compound ions’ will be highlighted in blue.

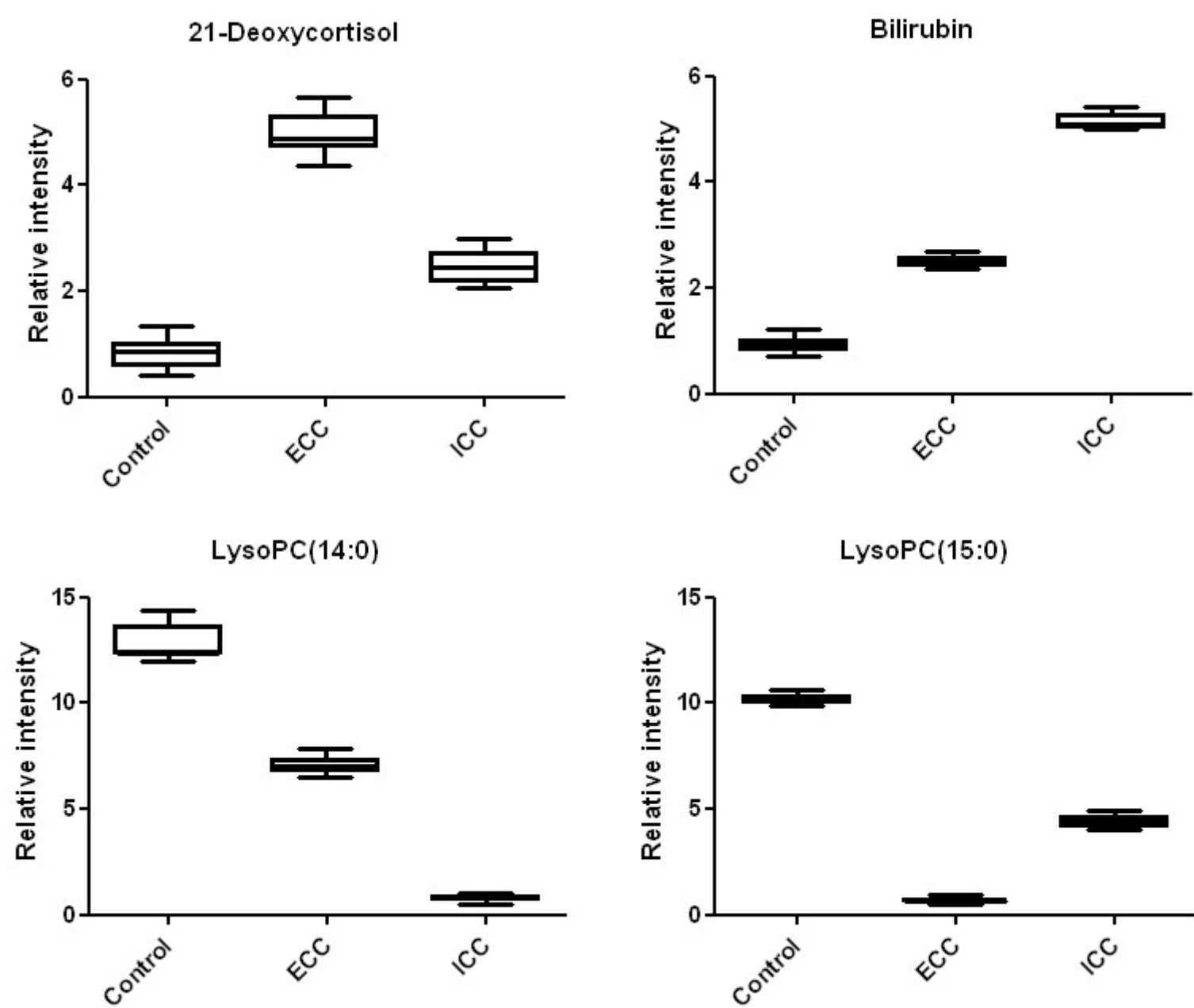
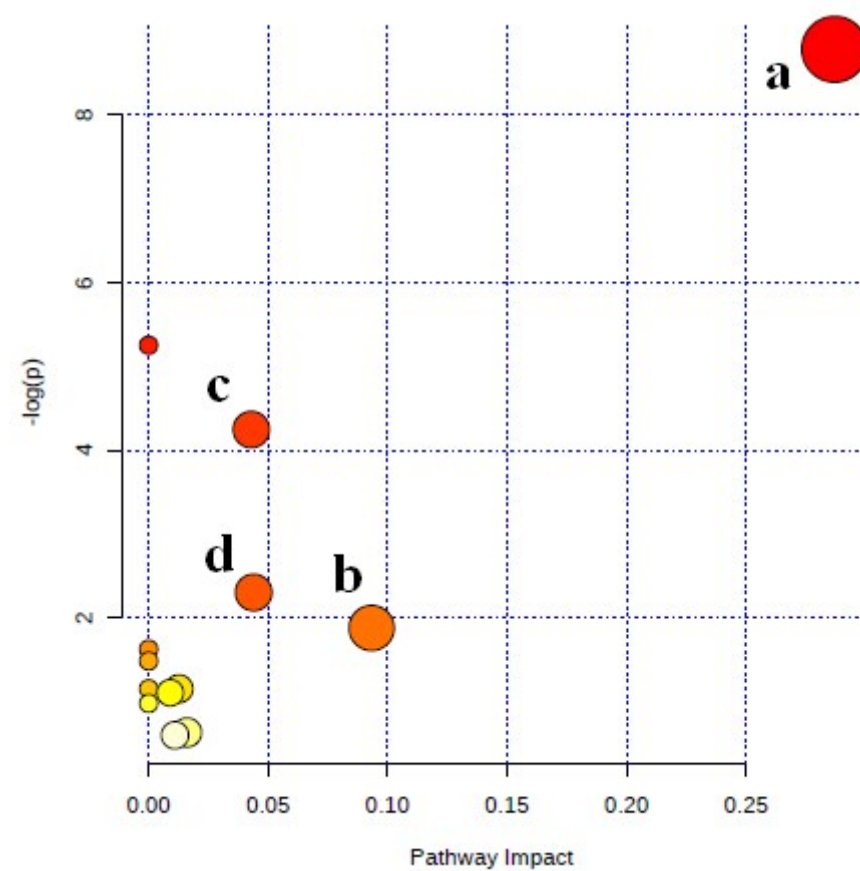


Fig. S3.



**Fig.S4.** Construction of the altered metabolism pathways in CC disease using MetPA analysis. The map was generated using the reference map by KEGG. a, glycerophospholipid metabolism,; b, retinol metabolism; c, glycosylphosphatidylinositol(GPI)-anchor biosynthesis; d, sphingolipid metabolism