

Figure S1 Data quality control. PCA analysis of QC samples in positive-ion (A) and negative-ion (B) modes. HCs, healthy controls; IESS, infantile epileptic spasms syndrome; PCA, principal component analysis; QC, quality control.

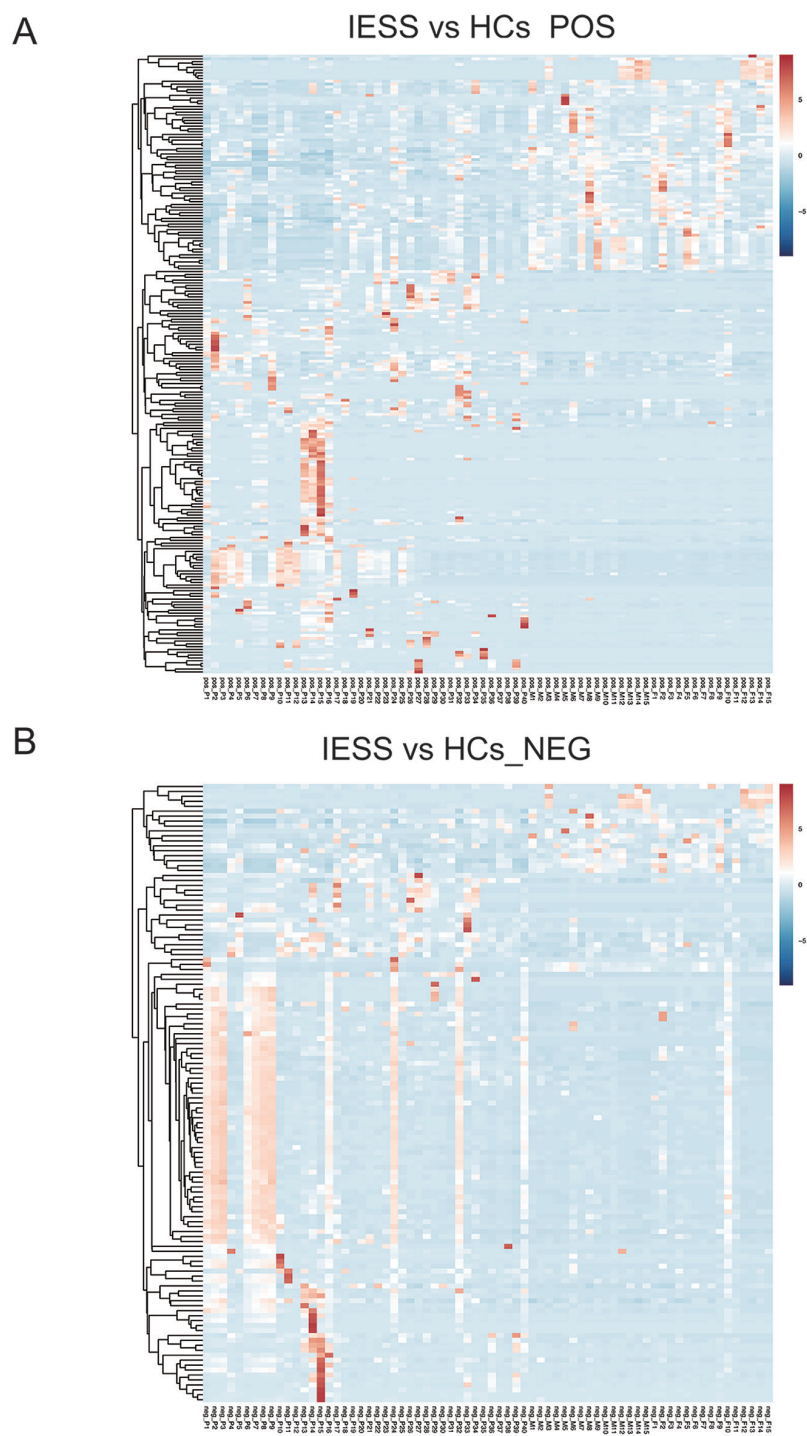


Figure S2 The heatmap analysis of the DEMs between IESS patients and HCs. Heatmaps displaying the relative abundance patterns of DEMs in the IESS group compared with HCs in positive-ion (A) and negative-ion (B) modes. DEMs, differentially expressed metabolites; HCs, healthy controls; IESS, infantile epileptic spasms syndrome; NEG, negative-ion mode; POS, positive-ion mode.

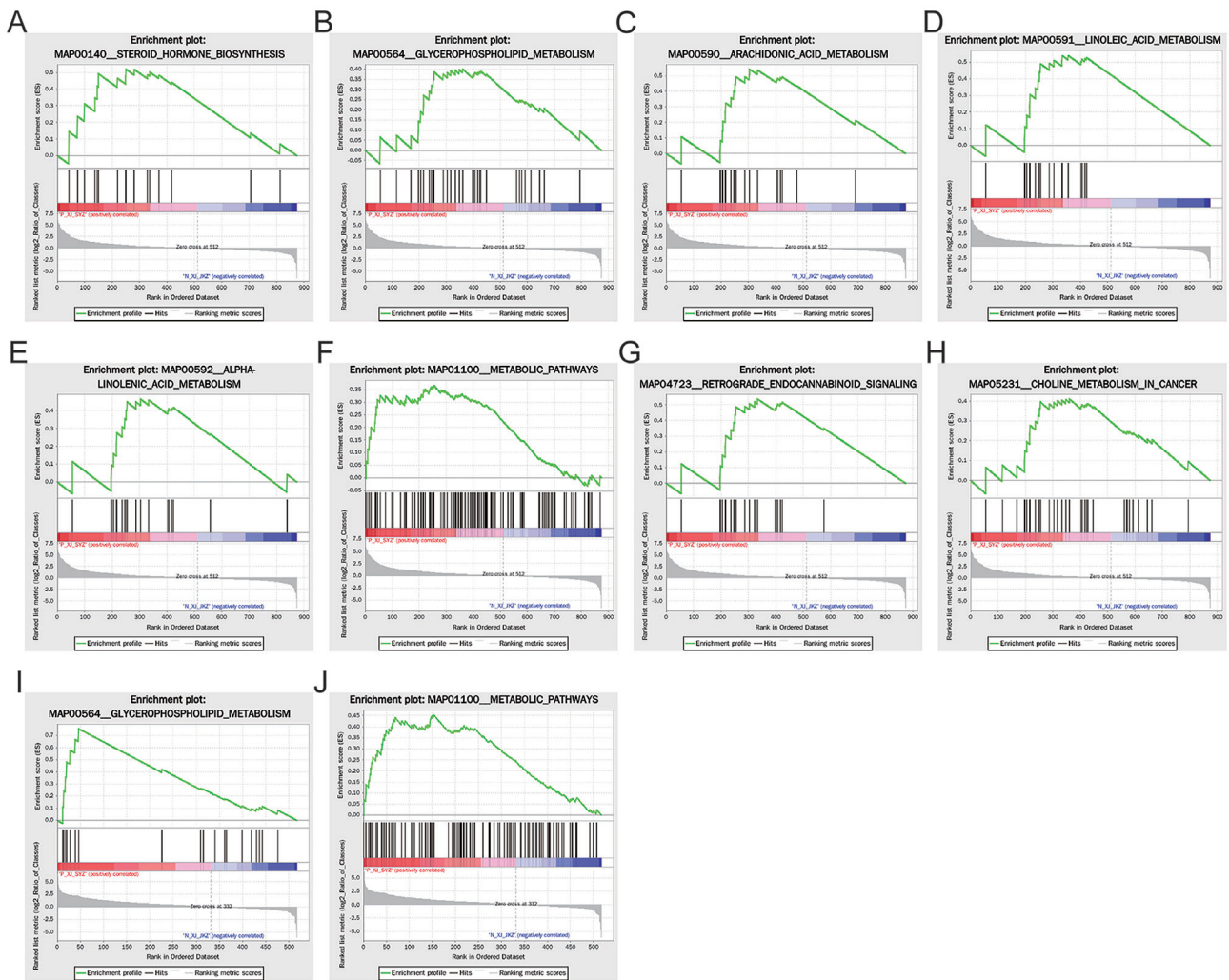


Figure S3 GSEA revealing systemic dysregulation of metabolic pathways. (A-H) Positive-ion mode was used. (I-J) In negative-ion mode. The x-axis represents the rank-ordered list, and the y-axis represents the running enrichment score (ES, green curve). Positive peaks of the ES curve (shifted to the left) indicate pathway upregulation in IESS, whereas negative peaks (shifted to the right) indicate downregulation. The red and blue segments reflect positive or negative correlations with IESS, respectively. ES, enrichment score; GSEA, gene set enrichment analysis; IESS, infantile epileptic spasms syndrome; NEG, negative-ion mode; POS, positive-ion mode.