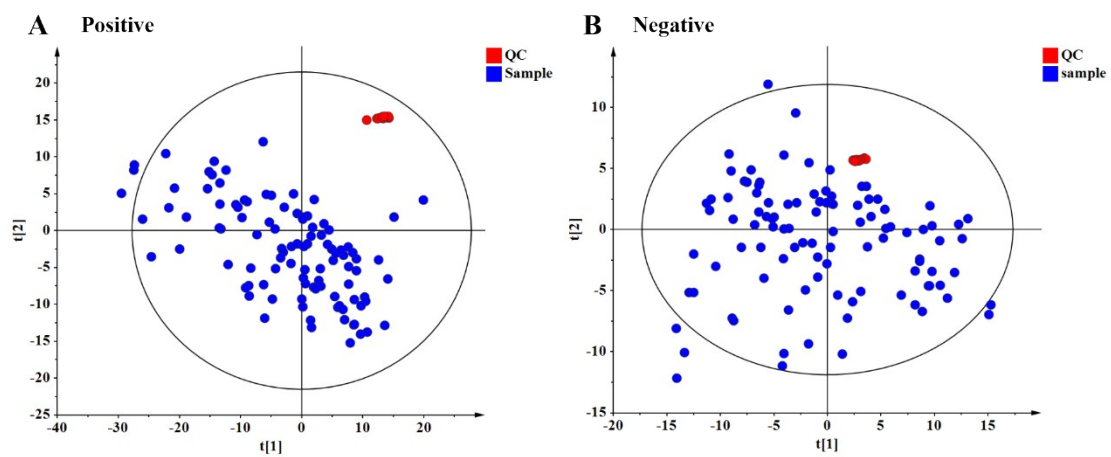


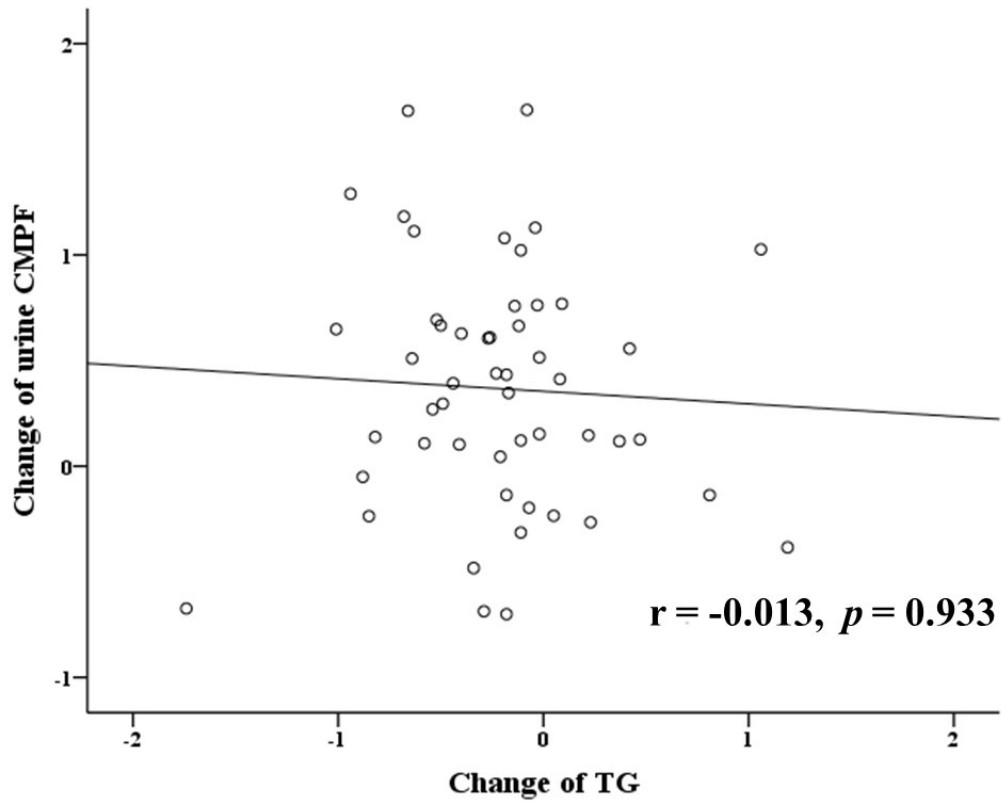
Supplementary Table 1 Experiment oil capsule preparation

Capsules	Content (mg)								
	EPA C20:5n-3	DHA C22:6n-3	ALA C18:3n-3	C16:0	C18:1n-9	C16:1	C20:0	C14:0	C18:2n-6
FO	300	200	/	71.4	58.4	56	39.4	34.6	/
FSO	/	/	630	/	137	/	/	/	155
CO	/	/	/	121	299	/	/	/	534

All the capsules were made in the Neptunus Bioengineering Co., Ltd (Hangzhou, China). Each FO, FSO, or CO capsule was one gram. All the capsules were kept in white bottles (90 capsules/bottle), which were labeled as Oil A, Oil B and Oil C for the three types of capsules. None of the participants or the nurses/physicians in the study centers knew the oil type during the intervention.



Supplementary Fig. 1 Score plots derived from PCA models. QCs were clustered together in both positive (A) and negative (B) ionization mode.



Supplementary Fig. 2 Correlation between change of urine CMPF and TG. *p* value for correlation was adjusted for age, sex, BMI and trial arms. CMPF, 3-carboxy-4-methyl-5-propyl-2-furanpropanoic acid; TG, triacylglycerol.