



Figure S2: Performer class specific log₂-fold changes referenced to time point 1. * p < 0.05, ** p < 0.01, *** p < 0.001, Quantification of 188 metabolites including acylcarnitines, amino acids, biogenic amines, hexoses, phospholipids (lysophosphatidylcholines, phosphatidylcholines), sphingolipids (sphingomyelins), and metabolite sums and ratios. Groups included top (n = 20, top performers, TP), average (n = 40, average performers, AP), and low (n = 20, low performers, LP) performers based on endurance capacity (relative VO₂max) and net marathon finishing time. Blood samples were collected at time points T1 (training phase), T2 (tapering phase), T3 (immediately after the race), T4 (24 h post-race), and T5 (72 h post-race). All blood samples were measured for the TP and LP groups, with T1, T3, and T4 measured for the AP group.