Abstract

Bacterial population during 3.2 billion years of early earth was responsible for modifying the greenhouse gas concentration in the early earth. Here we studied the primitive facultative anaerobe *E.coli* K12, known to contain pathways of mixed acid fermentation in stressed oxygen deficient environment. We carried out chamber experiments where bacteria were grown in M9 minimal media containing 0.4% glucose in crimp sealed chambers for a period of 7 days-12 days. Growth rate for the bacteria were monitored using optical density measurements and CFU values on LB agar. δ13C of CO2 was analysed using Gas Bench peripheral connected with IRMS MAT 253. We observed an approximate enrichment of 3‰ in the δ13C data of respired CO2 from the 1st day of incubation till 12 days of incubation under stressed conditions. We suggest that enrichment in δ13C captured a shift in the carbon source from glucose to acetate.