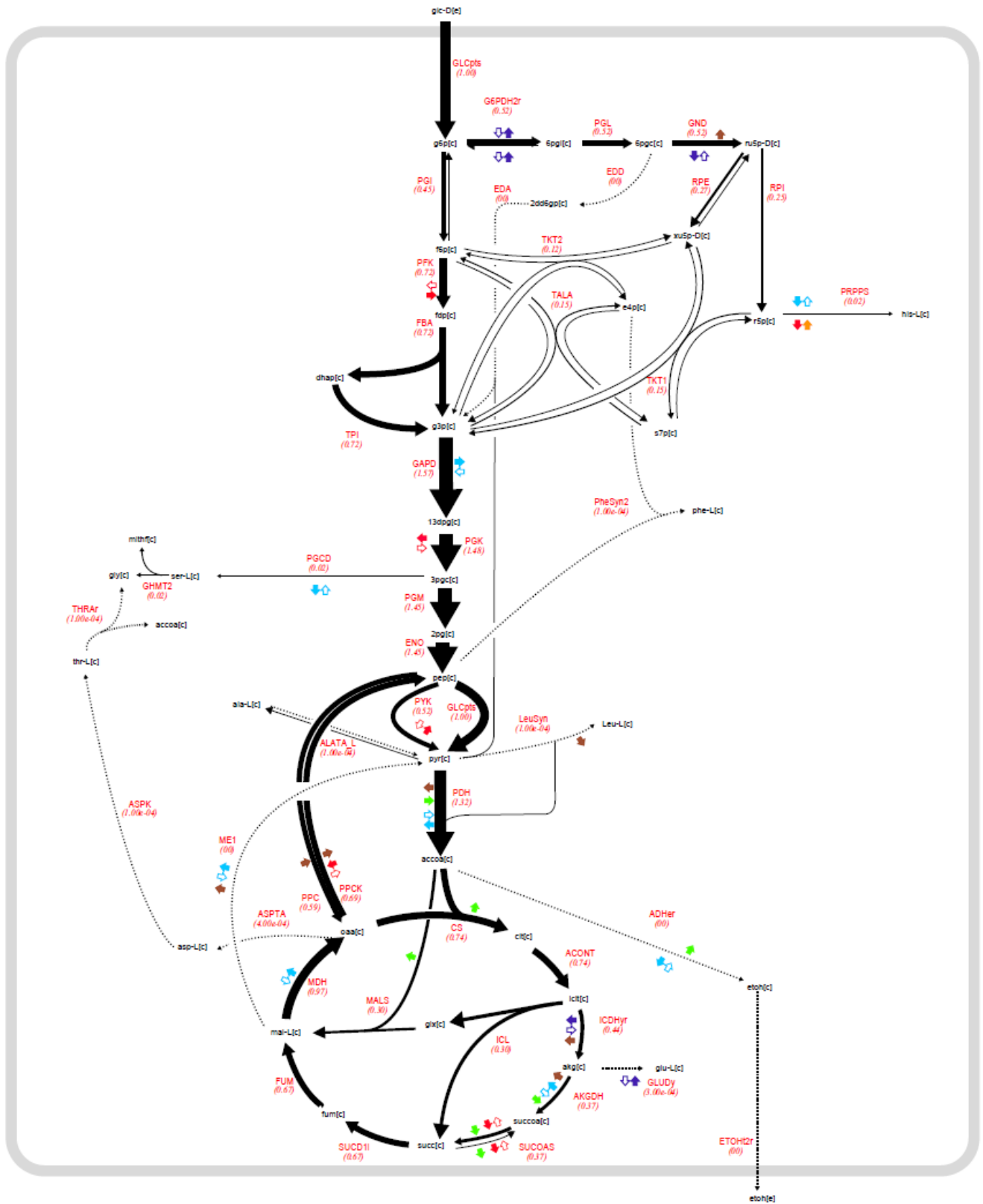
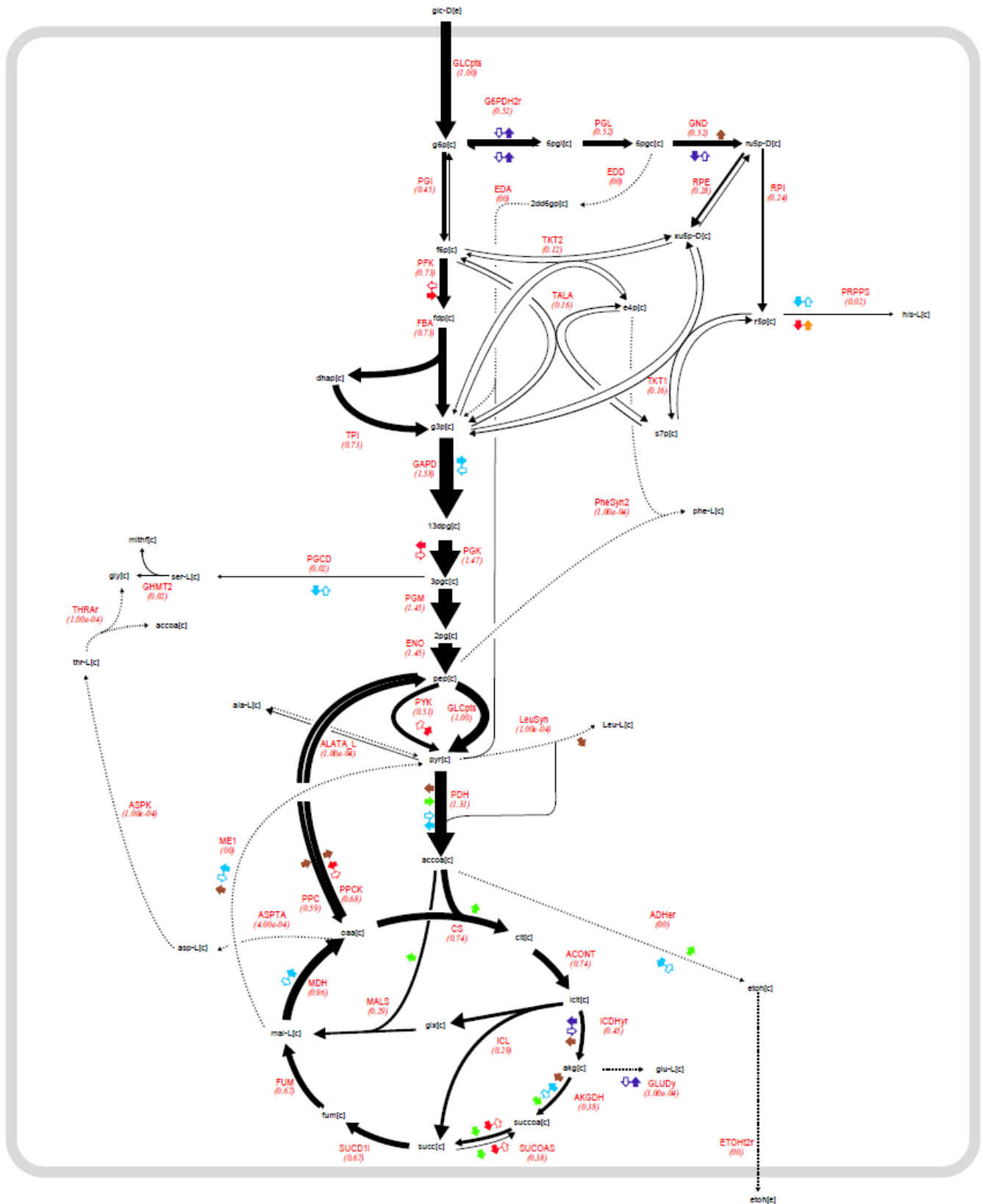


a) Flux Profile for AA Method



## b) Flux Profile for Peptide Method



**Figure S1.**  $^{13}\text{C}$  MFA Flux Map for the aminoacid (top panel) and peptide-based (bottom panel) methods for 5 aminoacids and 15 peptides. Best fit for flux is given on top red number for each reaction and confidence interval at the bottom. Cofactors and common metabolites are indicated by small arrows. Reversible reactions are indicated by double arrows. As can be observed, the results for both methods are virtually the same, validating the peptide-based approach.