## Supplementary figures



**Figure S1**. Comparison of relative importance of DCW or gene expression as calculated by partial correlation across all metabolites. Points falling in the upper left half (above the line x=y) represent metabolites more influenced by DCW than gene expression, and points falling in the lower right half are more influenced by gene expression than DCW. A: *HAC1*; B: *KAR2*; C: *PDI1*.



 $\label{eq:Figure S2} \textbf{Figure S2}. Associations between gene expression and metabolite levels are higher for$ 

extracted (black) than supernatant (blue) metabolites.



**Figure S3**. Aspartate (blue dots, as Asx) and isoleucine (red dots) are not unusually discongruent to the amino acid composition of *Pichia pastoris* when compared across all amino acids. (Glu and Gln represented as Glx; Trp was the most outlying amino acid for all recombinant proteins, and is omitted here for clearer plotting.)