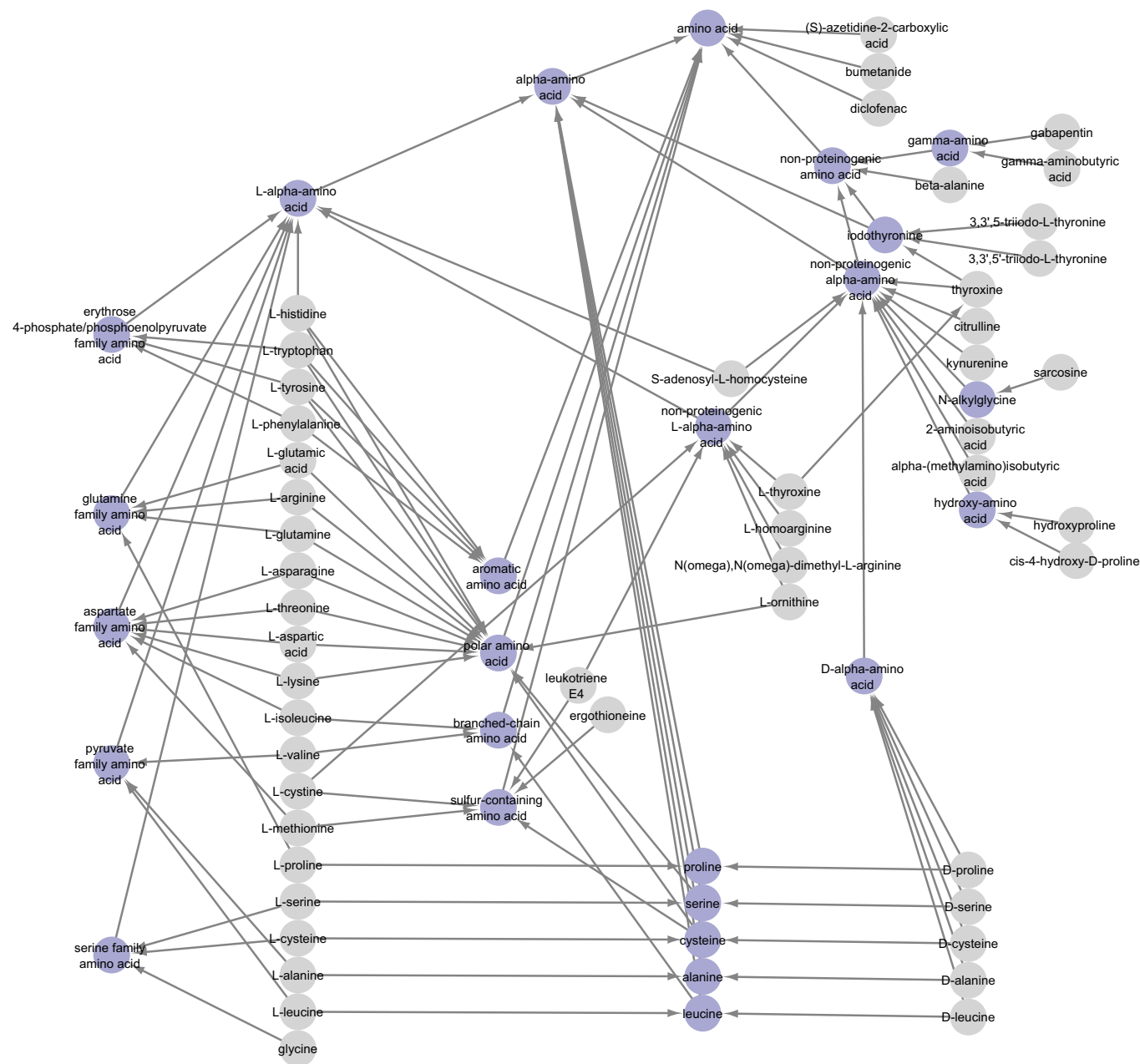
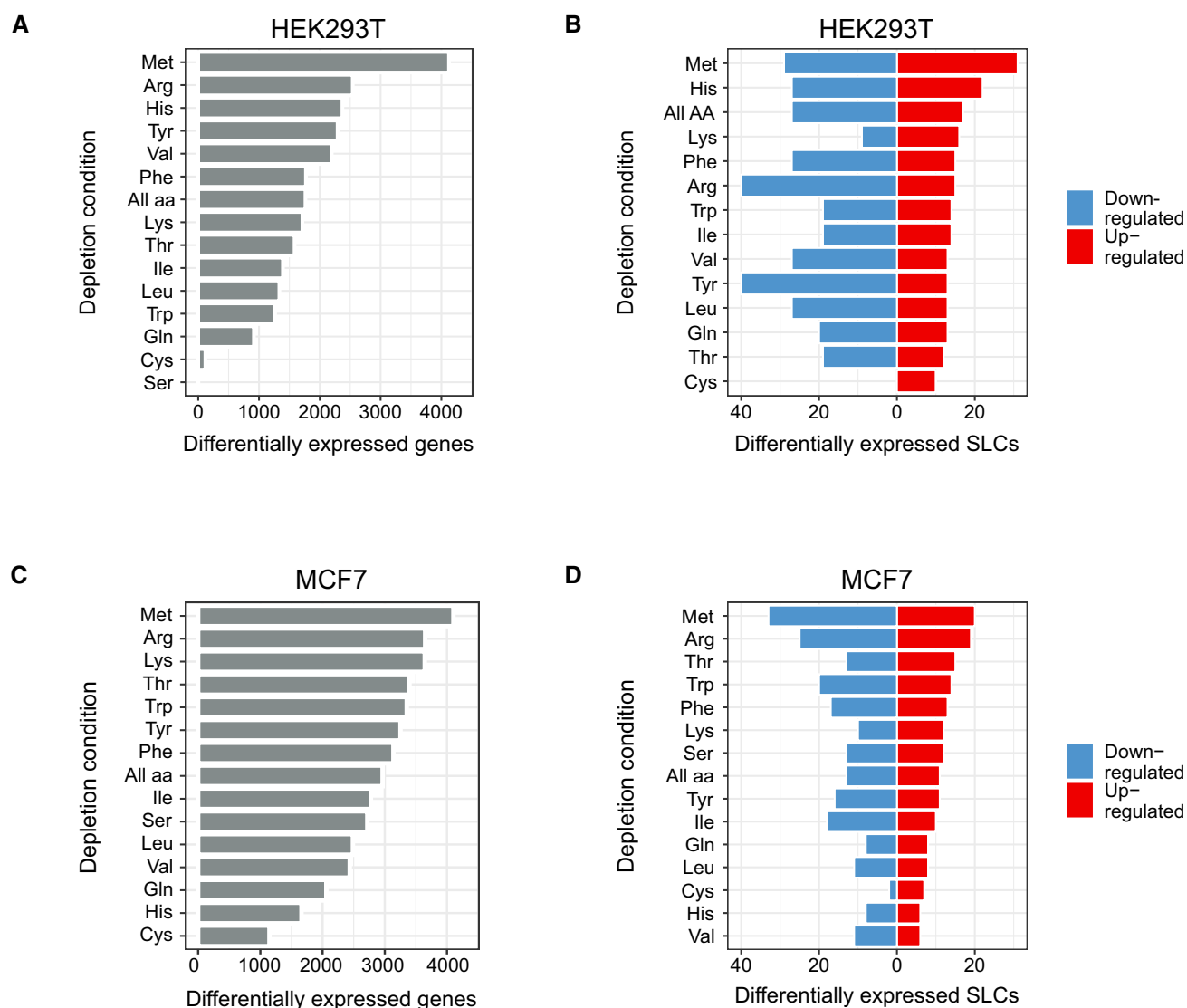


## Expanded View Figures



**Figure EV1. Exemplified visualization of term “amino acid” and sub-terms.**

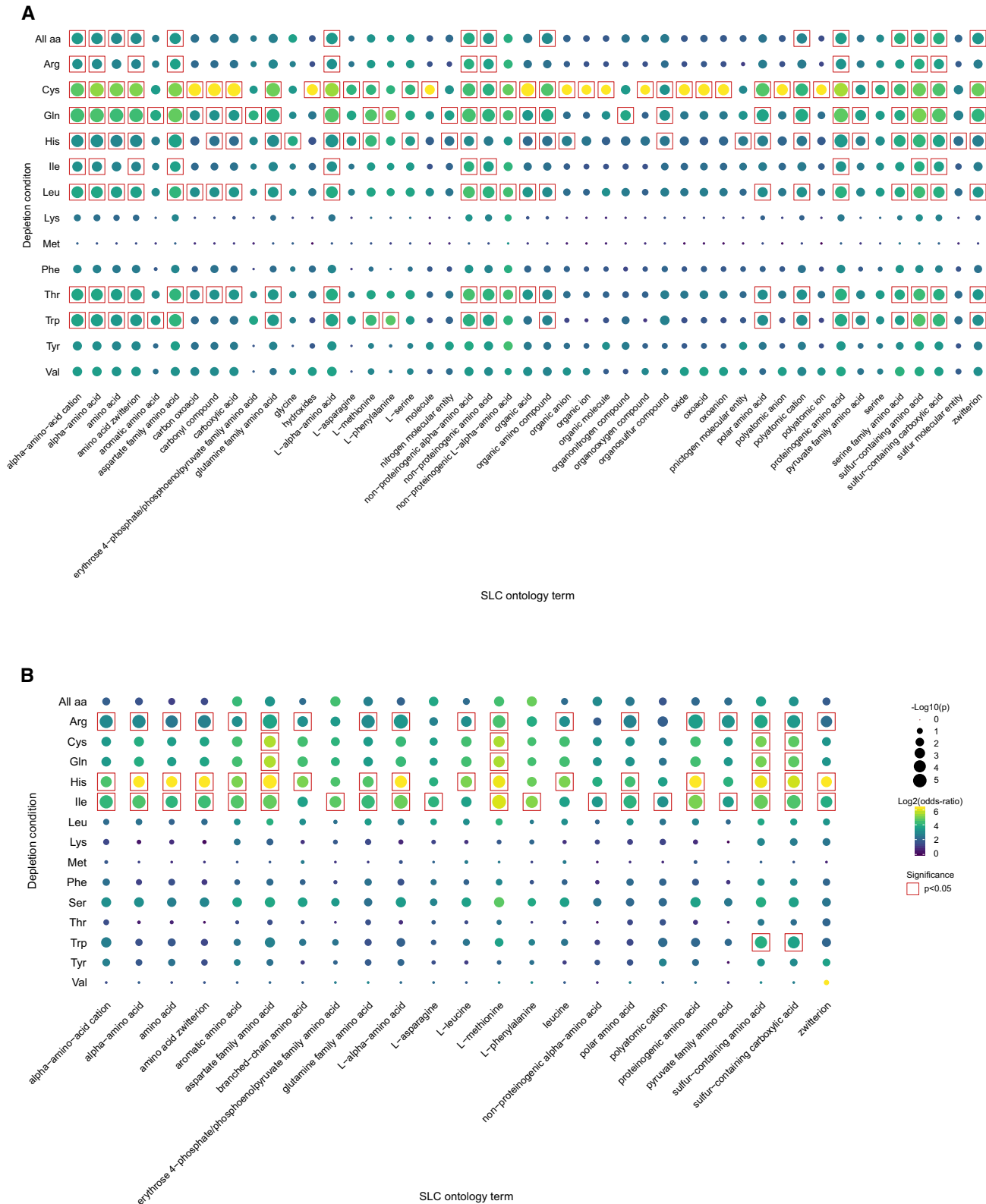
The proteinogenic amino acids can be found in the lower left area of the network and are grouped metabolically (blue nodes on the left) as well as physicochemically (blue nodes in the right). Please note that this is a sub-graph of the full ontology and SLC substrates (gray) might be connected to more terms in the full ontology.

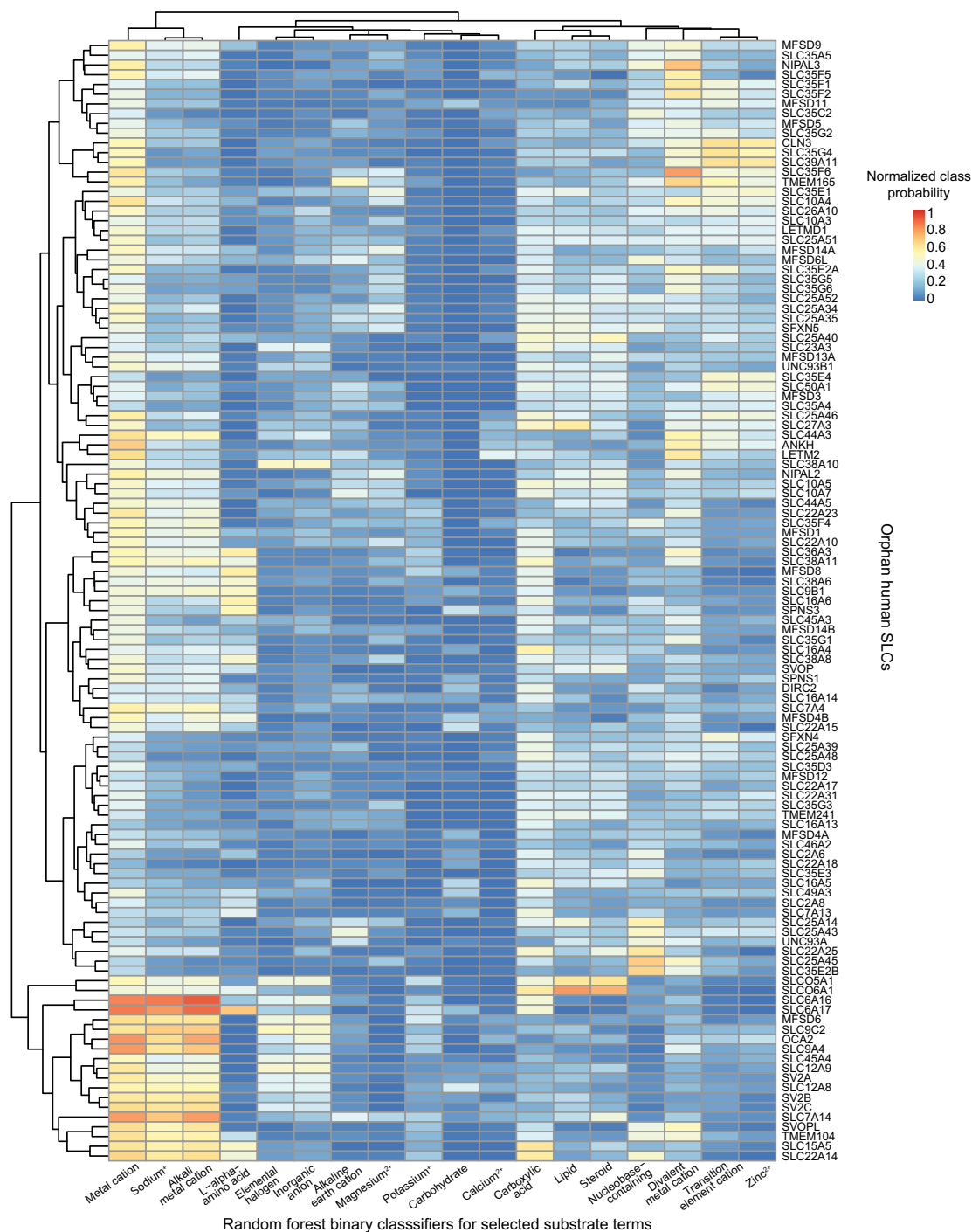


**Figure EV2. Upregulation of amino acid transporter gene expression in HEK293T and MCF7 cells after amino acid deprivation conditions.**

A, B Number of (A) differentially expressed genes and of (B) up- and downregulated SLC genes for different amino acid depletion conditions in HEK293T cells.

C, D Number of (C) differentially expressed genes and of (D) up- and downregulated SLC genes for different amino acid depletion conditions in MCF7 cells.





**Figure EV4. Substrate probabilities for orphan SLCs.**

Probabilities were normalized to a decision threshold of 0.5.