

Table S2 The list of frequently occurred genes in the detected logic relationships in the eggNOG ortholog dataset

COG/NOG ID	Description	Frequency
COG1661	Predicted DNA-binding protein	6137
COG1836	Predicted membrane protein	5359
COG2771	DNA-binding HTH domain-containing proteins	4508
COG4333	Uncharacterized protein	3591
NOG277419	-	2826
NOG40089	-	2429
COG0727	Predicted Fe-S-cluster oxidoreductase	2242
NOG119063	-	2239
COG3823	Glutamine cyclotransferase	2162
COG1876	D-alanyl-D-alanine carboxypeptidase	2076

“-” means that the database had no annotation for the ortholog groups.