

Table S4: **The function propensities of families with significantly ($p < 0.01$) higher or lower number of bi-functional positions than expected by chance.**

Function	Propensity of families with significantly low bi-functional positions (95% confidence interval)	Propensity of families with significantly high bi-functional positions (95% confidence interval)
Information	1.197 (0.535, 2.123)	1.099 (0.571, 1.768)
Metabolism	1.237 * (1.074, 1.401)	0.848 * (0.719, 0.976)
Extracellular processes	0.325 (0, 1.051)	0.932 (0.193, 2.135)
Intracellular processes	0.718 (0.296, 1.252)	1.648 * (1.169, 2.298)
Regulation	0.39 * (0, 0.858)	1.118 (0.607, 1.765)
General	0.666 (0.204, 1.264)	1.464 (0.879, 2.205)
Other	0.337 * (0, 0.875)	0.387 * (0.084, 0.852)

Bootstrap resampling was performed to compute 95% confidence intervals of the function propensities (Text Eqn 5). Propensities are considered significant (asterisk) at the $\alpha = 0.05$ level if their confidence intervals do not include the value 1.