Supplementary Table S3. Tukey HSD Results for Human

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| --- | --- | --- | --- | --- | --- | --- | --- |
| Ontology | Network | Metric | Comparison | Mean Difference | Confidence interval | Adjusted p-value | Reject |
| CC | ModuleNet | Precision | High vs Low | -0.469 | [-0.586, -0.352] | 0 | TRUE |
| CC | ModuleNet | Precision | High vs Mid | -0.383 | [-0.500, -0.266] | 0 | TRUE |
| CC | ModuleNet | Precision | Low vs Mid | 0.086 | [-0.031, 0.203] | 0.1932 | FALSE |
| CC | ModuleNet | Recall | High vs Low | -0.484 | [-0.604, -0.365] | 0 | TRUE |
| CC | ModuleNet | Recall | High vs Mid | -0.413 | [-0.532, -0.294] | 0 | TRUE |
| CC | ModuleNet | Recall | Low vs Mid | 0.071 | [-0.048, 0.191] | 0.3375 | FALSE |
| CC | DomainNet | Precision | High vs Low | -0.088 | [-0.161, -0.016] | 0.0126 | TRUE |
| CC | DomainNet | Precision | High vs Mid | -0.039 | [-0.112, 0.034] | 0.4122 | FALSE |
| CC | DomainNet | Precision | Low vs Mid | 0.049 | [-0.024, 0.122] | 0.2527 | FALSE |
| CC | DomainNet | Recall | High vs Low | -0.1 | [-0.178, -0.022] | 0.008 | TRUE |
| CC | DomainNet | Recall | High vs Mid | -0.072 | [-0.150, 0.006] | 0.0781 | FALSE |
| CC | DomainNet | Recall | Low vs Mid | 0.028 | [-0.050, 0.106] | 0.6785 | FALSE |
| MF | ModuleNet | Precision | High vs Low | -0.42 | [-0.554, -0.285] | 0 | TRUE |
| MF | ModuleNet | Precision | High vs Mid | -0.326 | [-0.461, -0.192] | 0 | TRUE |
| MF | ModuleNet | Precision | Low vs Mid | 0.093 | [-0.041, 0.228] | 0.2339 | FALSE |
| MF | ModuleNet | Recall | High vs Low | -0.303 | [-0.436, -0.170] | 0 | TRUE |
| MF | ModuleNet | Recall | High vs Mid | -0.345 | [-0.478, -0.212] | 0 | TRUE |
| MF | ModuleNet | Recall | Low vs Mid | -0.042 | [-0.175, 0.091] | 0.7398 | FALSE |
| MF | DomainNet | Precision | High vs Low | -0.049 | [-0.124, 0.027] | 0.2806 | FALSE |
| MF | DomainNet | Precision | High vs Mid | -0.004 | [-0.079, 0.072] | 0.9921 | FALSE |
| MF | DomainNet | Precision | Low vs Mid | 0.045 | [-0.030, 0.120] | 0.3394 | FALSE |
| MF | DomainNet | Recall | High vs Low | -0.062 | [-0.137, 0.012] | 0.1232 | FALSE |
| MF | DomainNet | Recall | High vs Mid | -0.022 | [-0.096, 0.053] | 0.778 | FALSE |
| MF | DomainNet | Recall | Low vs Mid | 0.041 | [-0.034, 0.116] | 0.4031 | FALSE |
| BP | ModuleNet | Precision | High vs Low | -0.444 | [-0.563, -0.325] | 0 | TRUE |
| BP | ModuleNet | Precision | High vs Mid | -0.321 | [-0.440, -0.202] | 0 | TRUE |
| BP | ModuleNet | Precision | Low vs Mid | 0.123 | [0.004, 0.242] | 0.0414 | TRUE |
| BP | ModuleNet | Recall | High vs Low | -0.374 | [-0.491, -0.257] | 0 | TRUE |
| BP | ModuleNet | Recall | High vs Mid | -0.332 | [-0.449, -0.215] | 0 | TRUE |
| BP | ModuleNet | Recall | Low vs Mid | 0.042 | [-0.075, 0.159] | 0.6742 | FALSE |
| BP | DomainNet | Precision | High vs Low | -0.042 | [-0.088, 0.005] | 0.089 | FALSE |
| BP | DomainNet | Precision | High vs Mid | -0.048 | [-0.094, -0.002] | 0.0409 | TRUE |
| BP | DomainNet | Precision | Low vs Mid | -0.006 | [-0.053, 0.040] | 0.9446 | FALSE |
| BP | DomainNet | Recall | High vs Low | -0.077 | [-0.135, -0.020] | 0.0051 | TRUE |
| BP | DomainNet | Recall | High vs Mid | -0.08 | [-0.138, -0.023] | 0.0034 | TRUE |
| BP | DomainNet | Recall | Low vs Mid | -0.003 | [-0.061, 0.055] | 0.9918 | FALSE |