

	Num Complexes Tested	Num Complexes with Higher Avg Essential Degree	Empirical p-value
<i>Pull-down<sup>f</sup></i>	42	28 (66.67%)	0e+00

**Table S 15. Within each essential protein complex, essential bait proteins tend to have a higher average intracomplex degree than non-essential bait proteins.** **Num Complexes Tested** gives the number of complexes considered in each of the two networks excluding small-scale experiments; each such complex was required to have at least two essential bait proteins and at least two non-essential bait proteins, each with intracomplex interactions. **Num Complexes with Higher Avg Essential Degree** gives the number of complexes among the tested complexes where the essential bait proteins have higher intracomplex degree on average than the non-essential bait proteins. To determine whether this number is significant, we randomly permuted essentiality assignments and computed the number of complexes with higher average intracomplex degrees for essential bait proteins. **Empirical  $p$ -value** gives the fraction of random permutations where the number of such complexes is greater than or equal to the actual number, computed over 10,000 permutations.