

## Description of Additional Supplementary Files:

**Supplementary Data 1:** (Microsoft Excel format). Integrated Regulatory Interaction Map: pairwise distances between RNA binding proteins

**Supplementary Data 2:** (Microsoft Excel format). The pairwise distances between RBPs inferred from STRING-DB

**Supplementary Data 3:** (Microsoft Excel format). The pairwise distances between RBPs inferred from BioID2 data

**Supplementary Data 4:** (Microsoft Excel format). The pairwise distances between RBPs inferred from eCLIP data

**Supplementary Data 5:** (Microsoft Excel format). The pairwise distances between RBPs inferred from Pertub-seq data

**Supplementary Data 6:** (Microsoft Excel format). BioID2 Proximity Interactome: log fold changes

**Supplementary Data 7:** (Microsoft Excel format). BioID2 Proximity Interactome: P-values  
Data file S8 (Microsoft Excel format). eCLIP RBP-RNA binding profiles

**Supplementary Data 9:** (tsv format). Pathway enrichment for RNA binding proteins inferred from BioID2 data: GSEA results for GO Biological Process annotations

**Supplementary Data 10:** (tsv format). Pathway enrichment for RNA binding proteins inferred from BioID2 data: GSEA results for GO Molecular Function annotations

**Supplementary Data 11:** (tsv format). Pathway enrichment for RNA binding proteins inferred from BioID2 data: GSEA results for GO Cellular Component annotations

**Supplementary Data 12:** (Microsoft Excel format). Data availability for the studied RNA binding proteins

**Supplementary Data 13:** (Microsoft Excel format). RBPcentered regulatory modules annotation.

**Supplementary Data 14:** (Microsoft Excel format). Comparison to the external PPI databases STRING, OpenCell and hu.MAP

**Supplementary Data 15:** (Microsoft Excel format). Compositions of RNA regulons for the RBPcentered regulatory modules.