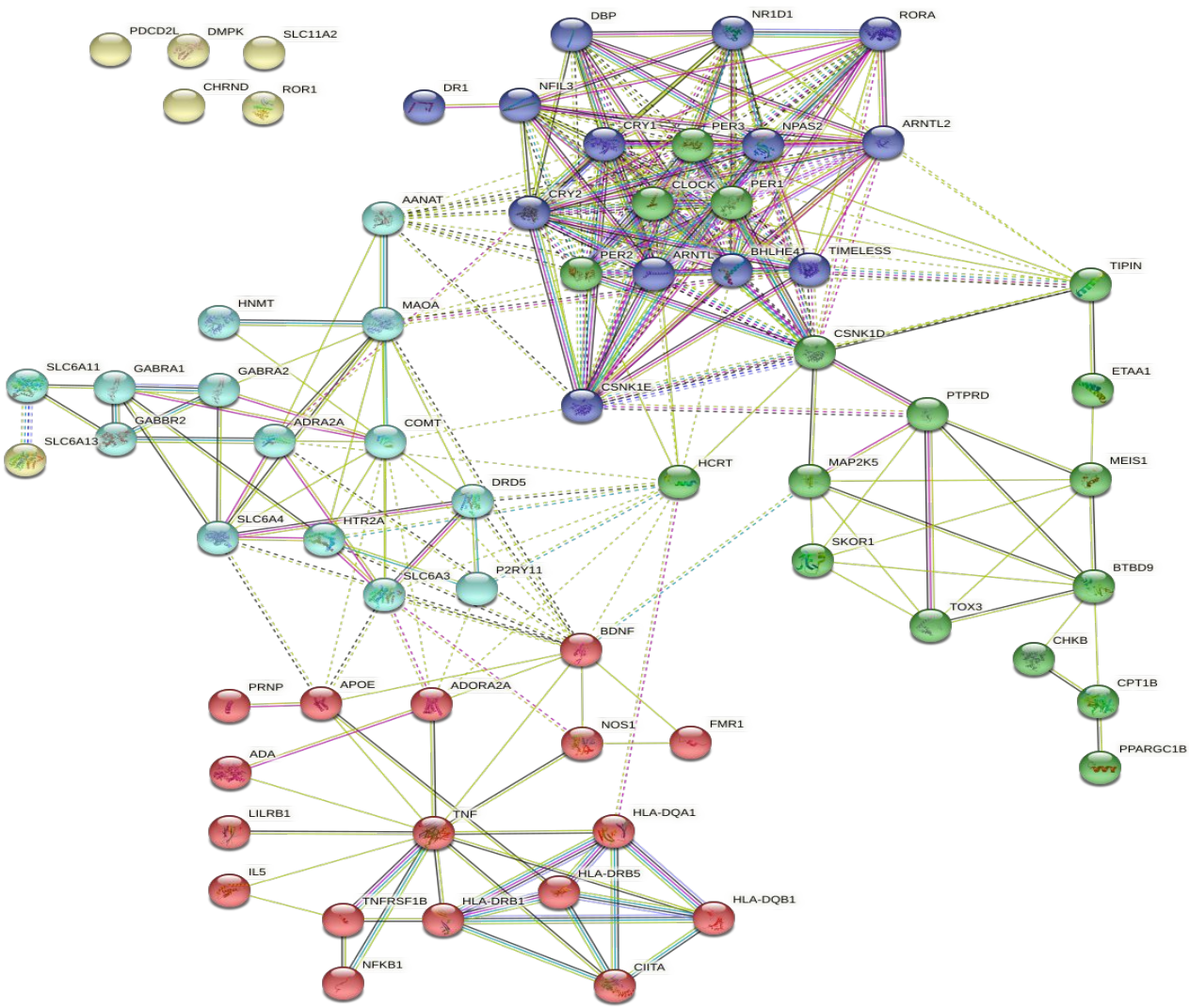
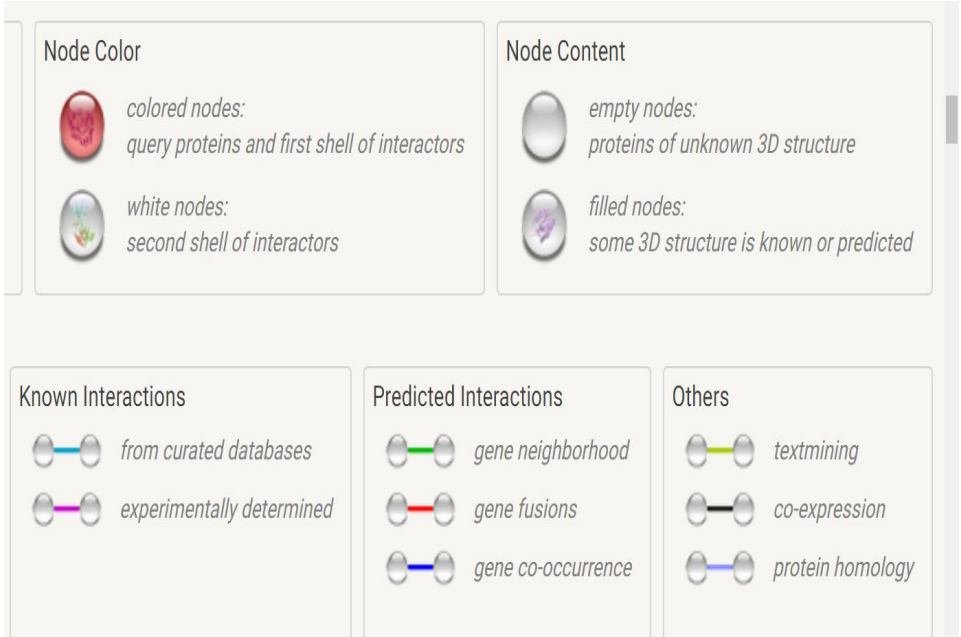
Aditya Agarwal 2017B1A71075H

- Protein-protein interaction network from STRING for 67 genes associated with Sleep disorders.
- Clustered using k-means clustering with k = 5.
- Confidence level : Medium (Score >=0.4)
- FDR stringency : Medium (<=5%)



Legend :

- Network nodes represent proteins/protein coding gene - splice isoforms or post-translational modifications are collapsed, i.e. **each node represents all the proteins produced by a single, protein-coding gene locus.**
- Edges represent protein-protein associations - associations are meant to be specific and meaningful. Multiple edges represent the 7 different parameters for association.
- Color of node represents particular cluster to which it belongs.



Some pathway analysis

1. Chloride channel and neurotransmitter transport - SLC6A11, SLC6A13, GABRA1, GABRA2
2. Circadian rhythm - CRY1, CRY2, PER2, PER3, CLOCK, ARNTL. BHLHE41, PER1, RORA, NPAS2, NR1D1, CSNK1D, CSNK1E, DBP
3. DNA photolyase and period-circadian like, C-terminal - PER1, PER2, CRY1, CRY2, CSNK1E
4. MHC class II protein complex - HLA-DRB1, HLA-DRB5. HLA-DQB1, HLA-DQA1
5. Dopamine catabolic process - MAOA, COMT
6. Catecholamine synthesis and Dopamine catabolism - SLC6A3, HNMT, MAOA, COMT, SLC6A4.
7. EDA-ID and death inducing signalling complex assembly, tnf-alpha - TNF, TNFRSF1B, NFKB
8. GABA A receptor activation - GABRA1, GABRA2

Some pathway analysis

1. Reuptake of GABA - SLC6A13, SLC6A11
2. Serotonin clearance from synaptic cleft - MAOA, SLC6A4
3. PD-1 signalling and and phosphorylation of CD3 and TCR zeta chains - HLA-DQB1, HLA-DRB1,HLA-DRB5
4. Na+/Cl- dependent neurotransmitter transporters - SLC6A11, SLC6A13,SLC6A3

Physical subnetwork