

Supporting Information Table S1

In addition to betweenness centrality (*BC*), we analyzed the predictive power of other two types of centrality measures [1]: degree centrality (*DC*) and closeness centrality (*CC*).

Degree centrality

The degree centrality of a vertex is defined as the number of edges that connect the vertex with its neighboring vertices within the contact graph of a protein chain.

Closeness centrality

Closeness centrality is calculated as the reciprocal of the average geodesic distance (i.e., the shortest path) between a vertex v and any other vertex t within the contact graph G of a protein chain of length n :

$$CC(v) = \frac{n-1}{\sum_{t \in V \setminus v} d_G(v, t)}$$

Table S1. Predictive power of individual centrality measure on the DBP-123 dataset by 5-fold cross validation.

Feature	Recall (%)	Precision (%)	F ₁	PR-AUC
BC	36.8	21.9	0.274	0.208
WBC	65.1	22.6	0.333	0.228
CC	58.4	20.1	0.299	0.202
WCC	68.9	19.8	0.307	0.206
DC	50.9	16.8	0.248	0.168
WDC	46.0	18.7	0.255	0.205

References

1. Maetschke SR, Yuan Z (2009) Exploiting structural and topological information to improve prediction of RNA-protein binding sites. *BMC Bioinformatics* 10: 341.