

1. parameter walk lengths: 1, 5, 10, 20, and 50

| Walk Length | Modularity | Link Prediction Accuracy | Node Classification Accuracy |

1	-0.01083	0.50122	0.3049	
5	0.32148	0.55257	0.6784	
10	0.75631	0.59394	0.7862	
20	0.02802	0.60823	0.6511	
50	0.74333	0.59394	0.7936	

parameter number of walks: 1, 10, 40, 80, and 200

| Number of Walks | Modularity | Link Prediction Accuracy | Node Prediction Accuracy |

1	0.2999	0.5881	0.6605	
10	0.7649	0.5798	0.7731	
40	0.7824	0.5908	0.7897	
80	0.7815	0.5762	0.7601	
200	0.7817	0.5914	0.7961	

parameter embedding dimension: 2, 10, 50, 120, and 500

| Embedding Dimension | Modularity | Link Predict Accuracy | Node Predict Accuracy |

2	0.1749	0.6307	0.4068	
10	0.6966	0.6226	0.7417	
50	0.7887	0.5800	0.7731	
120	0.7875	0.5835	0.7641	
500	0.7842	0.5668	0.7749	

2. parameter p: 0.01, 0.1, 0.25, 0.5, and 1

| P Value | Modularity | Link Prediction Accuracy | Node Prediction Accuracy |

0.01	0.7531	0.5781	0.7675	
0.1	0.7531	0.5706	0.7122	
0.25	0.7531	0.5803	0.7371	
0.5	0.7531	0.5760	0.7617	
1	0.7531	0.5744	0.7615	

parameter q: 0.1, 0.5, 1, 2, and 4

| Q Value | Modularity | Link Prediction Accuracy | Node Prediction Accuracy |

0.1	0.021	0.579	0.677	
0.5	0.025	0.583	0.721	
1	0.024	0.578	0.756	
2	0.026	0.586	0.752	
4	0.028	0.575	0.701	

3. parameter p: 0.01, 0.1, 0.25, 0.5, and 1

| p value | Modularity | Link Prediction Accuracy | Node Prediction Accuracy |

0.01	0.0416	0.5294	0.2496	
0.1	0.2012	0.5223	0.4638	
0.25	0.2791	0.5569	0.5761	
0.5	0.1556	0.5672	0.7194	
1	0.0280	0.5823	0.7991	

4. parameter p: 1, 0.8, 0.5, 0.2, and 0

| p value | Modularity | Link Prediction Accuracy | Node Prediction Accuracy |

0	0.105	0.582	0.263	
0.2	0.160	0.576	0.588	
0.5	0.207	0.581	0.720	
0.8	0.467	0.582	0.719	
1	0.786	0.593	0.789	

