

## RW OUTPUT SUMMARY

Parameters:  $W_q=0.8, W_u=0.4, r_q=0.8, r_u=0.4$

For each protein, x fraction of the known interactions were zeroed and random walk was performed. Hence some RNAs with which that protein is known to interact are also considered unlabelled nodes. AUROC and AUPR were calculated considering all unlabelled nodes(RNAs with whom interaction is actually unknown + RNAs with which interaction is known, but deliberately ignored) as test set. Following are the average results for  $x=0.2$ ,  $x=0.4$ ,  $x=0.6$ ,  $x=0.8$ .

+++ x = 0.2 +++

Prot	AUROC	AUPR
0	0.49067497543107297	0.10695289570533736
1	0.467210405953813	0.860162948717107
2	0.46163162097418153	0.0852957614859386
3	0.46869680851063833	0.05204441403385035
4	0.4997242216155098	0.8675259913432216
5	0.44671391752577316	0.021230575615729746
6	0.5239206671279952	0.2794398382171867
7	0.46945748315611324	0.06348165926670354
8	0.5381377551020408	0.01026116162537415
9	0.4088050314465409	0.036338703340708566
10	0.46252572772713907	0.07286619430200722
11	0.46001004632471953	0.06359859231085047
12	0.4348664839069956	0.03681284545693521
13	0.531060606060606	0.09386907586441534
14	0.6309443317556908	0.14327971572454276
15	0.4337676438653637	0.047583103130380694
16	0.5573963762720278	0.06390650926155259
17	0.598364008179959	0.018936545784033657
18	0.45700134051303026	0.09818407896092286
19	0.39623601220752797	0.006258468911958732
20	0.5	0.0030303030303030303
21	0.4989795918367347	0.011442159407284422
22	0.5385519298562776	0.03075934438033756
23	0.2951070336391437	0.006624827436990546
24	0.44223779854620976	0.09538104209603088
25	0.5307770961145194	0.012277599382882726
26	0.4065396498455201	0.01389052410354288
27	0.5414944903581267	0.03389137191685944
28	0.4869230769230769	0.012838865976733893
29	0.4955440414507772	0.02412386508250742
30	0.5181251770036817	0.025372875147895806
31	0.3775991024682124	0.021898008010778677

32	0.5	0.00202020202020202
33	0.2319776831595948	0.009146793294213541
34	0.6121305251740035	0.03380835754838091
35	0.5354179016004742	0.03933144266075337
36	0.6664185354052294	0.08526859043847426
37	0.46792849631966354	0.02934502485226348
38	0.5	0.00202020202020202
39	0.5448033985378383	0.026940804917484833
40	0.44040300546448086	0.013047894083974925
41	0.5	0.00404040404040404
42	0.44492385786802036	0.004488497535591721
43	0.4533811475409836	0.024148040077026416
44	0.5	0.00404040404040404
45	0.6520854526958291	0.009916419779875086
46	0.5390593047034765	0.1385008813443847
47	0.5	0.00101010101010101
48	0.5	0.00404040404040404
49	0.5	0.00101010101010101
50	0.20017457084666862	0.005042771504263872
51	0.5372448979591837	0.01087772637220814
52	0.5	0.00202020202020202
53	0.41675126903553306	0.024086002866310376
54	0.5	0.00303030303030303
55	0.6156531859179517	0.01159405406370829
56	0.5	0.00101010101010101
57	0.5	0.00404040404040404
58	0.5	0.00303030303030303
59	0.5	0.00202020202020202
60	0.5	0.00101010101010101
61	0.5	0.00404040404040404
62	0.5	0.00101010101010101
63	0.5	0.00303030303030303

Average AUROC=**0.4879277763113742**

Average AUPR=**0.059805115762407185**

+++ x = 0.4 +++

Prot	AUROC	AUPR
0	0.45613329759671223	0.07406373312010066
1	0.4578910245106683	0.8185936703600951
2	0.48699095022624433	0.06647559842391201
3	0.39907801418439715	0.028537769296167935
4	0.49941139682890046	0.8299425794647748
5	0.20661512027491408	0.008352975796390738
6	0.5250507574574418	0.2350084122495188

7	0.4738461538461538	0.03392930675198847
8	0.5967687074829933	0.012424517492558776
9	0.33685915761387464	0.02189990292180539
10	0.4386356953837107	0.05453823129989083
11	0.5567338282078473	0.07257699355885111
12	0.4579224413646056	0.03044079507255599
13	0.5328282828282829	0.08649845562312175
14	0.6396316102198455	0.10869288288210316
15	0.4537769505196215	0.03844574542360931
16	0.6373336579032782	0.06034524186532531
17	0.5475460122699386	0.010421823610818757
18	0.506944966968142	0.0853489706589175
19	0.3542217700915564	0.004519576417132848
20	0.8191489361702128	0.5027855153203342
21	0.5037414965986394	0.008501929313125576
22	0.5042802983979454	0.02419007440271009
23	0.7150866462793068	0.016921780369530178
24	0.4280893042575285	0.07297677220303292
25	0.63420245398773	0.024023142734994583
26	0.42009955372468244	0.01069188111132385
27	0.5505460448642266	0.02473046173968268
28	0.43521367521367516	0.008577611643332227
29	0.3537823834196891	0.013542889285719966
30	0.5335043674790789	0.02475170350139744
31	0.35248067813512846	0.01600571682931217
32	0.5	0.00202020202020202
33	0.42801083808278056	0.01751285271994047
34	0.5226855815091109	0.021359298191987702
35	0.5221084024896265	0.04784115718852704
36	0.7484646878198569	0.15187542767898465
37	0.3890203294777427	0.01939405215115727
38	0.5	0.00202020202020202
39	0.5527100622406639	0.01928581823033943
40	0.4701730418943533	0.010061598616774898
41	0.5314401622718052	0.004737664946393697
42	0.1840947546531303	0.002390804698705042
43	0.38820582877959925	0.008803626425825507
44	0.3045977011494253	0.002829076499179592
45	0.7487283825025433	0.011387496614476906
46	0.3725715746421268	0.006845925297621638
47	0.5	0.00101010101010101
48	0.46551724137931033	0.006445440524387893
49	0.5	0.00101010101010101
50	0.3936863543788187	0.005087795828473978
51	0.4212585034013605	0.006070623436395861
52	0.5	0.00202020202020202
53	0.5279187817258884	0.005378179456999942

54	0.6129685916919959	0.0038954635108481264
55	0.5507128309572302	0.009745756361726704
56	0.5	0.00101010101010101
57	0.2883705206220419	0.0032465792772202904
58	0.6995947315096251	0.005919225710063496
59	0.5	0.00202020202020202
60	0.5	0.00101010101010101
61	0.6267748478701826	0.006386222191236772
62	0.5	0.00101010101010101
63	0.3900709219858156	0.0024346432321892446

Average AUROC=**0.491470004802219**

Average AUPR=**0.0597003547291391**

+++ x = 0.6 +++

Prot	AUROC	AUPR
0	0.4658938622353256	0.05438577006088061
1	0.4682665399440308	0.7598197611963922
2	0.5088919288645691	0.049549677713608534
3	0.38313829787234044	0.01942461595765332
4	0.5060586032165675	0.7731840500299512
5	0.45940721649484534	0.01333916633722538
6	0.5248720764503844	0.16782128365950388
7	0.4232318849563007	0.014810522016910401
8	0.6469387755102041	0.011258926166610797
9	0.5785464709993011	0.03908625141845696
10	0.4486915613054984	0.03855148355538542
11	0.42088519283362164	0.07213208761399495
12	0.5112194131383897	0.023143380590141614
13	0.5246071829405163	0.05770315828009219
14	0.5437232364210052	0.10492082760994563
15	0.41775244299674263	0.02656468176047771
16	0.5127202779846116	0.025987636906769543
17	0.6239263803680981	0.007761446262938711
18	0.4617499375184604	0.055702054123352523
19	0.3594438792811122	0.004491359557661488
20	0.6889564336372846	0.004792904394724645
21	0.713265306122449	0.019769129114348513
22	0.4950623700623701	0.020340063020093613
23	0.5389908256880733	0.007736589713202776
24	0.4775224991346486	0.05849072741340684
25	0.5063394683026585	0.013587550857231026
26	0.4374356333676622	0.007960463315884634
27	0.4637281910009183	0.017476073441744736
28	0.51008547008547	0.008067209265980323

29	0.6389637305699482	0.02598113373986948
30	0.5989804587935428	0.03362633401969899
31	0.37142857142857144	0.011327708067289576
32	0.14676113360323884	0.001184834123222749
33	0.40508001761855816	0.01399376605136352
34	0.5	0.015607862712384131
35	0.5665786495662014	0.0153587117449749
36	0.6482429205049471	0.18241372513413454
37	0.47200315457413244	0.015441377534842952
38	0.5576923076923077	0.00228310502283105
39	0.5701622029422859	0.014304750601715821
40	0.5104166666666667	0.008871835409922145
41	0.4259634888438134	0.0025779674117270028
42	0.18071065989847718	0.0018497099214217522
43	0.6857923497267759	0.014818705330639117
44	0.14858012170385393	0.001744786657262345
45	0.5527297388945405	0.004693893087142626
46	0.283640081799591	0.004021839488355341
47	0.5	0.00101010101010101
48	0.024847870182555798	0.0015470457252343226
49	0.5	0.00101010101010101
50	0.38365580448065173	0.004313484720730739
51	0.6969387755102041	0.009533442467456606
52	1.0	1.0
53	0.6223350253807107	0.005607717041800643
54	0.4250253292806484	0.0025622912920626765
55	0.5707739307535642	0.007654217307116929
56	0.5	0.00101010101010101
57	0.9563894523326572	0.06265822784810127
58	0.34295845997973656	0.00224640190872008
59	0.5576923076923077	0.00228310502283105
60	0.5	0.00101010101010101
61	0.5172413793103448	0.003105453650994448
62	0.5	0.00101010101010101
63	0.3900709219858156	0.0024346432321892446

Average AUROC=**0.4980157323507829**

Average AUPR=**0.061827459885642394**

+++ x = 0.8 +++

Prot	AUROC	AUPR
0	0.4023496828374877	0.02570172779463087
1	0.477533313268916	0.6207417253769398
2	0.5225215960510078	0.029489806818126886

3	0.3856382978723405	0.024847832592580756
4	0.536737166776823	0.6560147872894405
5	0.3002577319587629	0.003946429753691579
6	0.5165986646884273	0.09606860172383525
7	0.5032197634937361	0.11997318958009341
8	0.6132653061224489	0.012038858096430061
9	0.37696540880503143	0.024533162481208296
10	0.40370479270802706	0.020381597218071285
11	0.5207847295864263	0.11204662323770367
12	0.4540608645086257	0.01094816652488118
13	0.5388327721661055	0.027696689343383818
14	0.5733478576615831	0.02448568505957024
15	0.48821157127346054	0.0497060728461078
16	0.6249413970932958	0.021077777907731916
17	0.4556918882072256	0.003628394336872489
18	0.43822978875122565	0.02758025805386783
19	0.4338758901322482	0.004266389177939646
20	1.0	1.0
21	0.25510204081632654	0.0020002768549280178
22	0.3924116424116424	0.0072397287453545255
23	0.5632008154943935	0.009191213080799027
24	0.5134994807892004	0.03952427073496946
25	0.5231765507839128	0.011427774688673595
26	0.375643666323378	0.004096305609553693
27	0.42458677685950413	0.007832176452301805
28	0.4649572649572649	0.004011987978560956
29	0.5077720207253886	0.00887065171022094
30	0.4555209415022499	0.008698415363772652
31	0.44487658937920715	0.007519591524171367
32	0.14676113360323884	0.001184834123222749
33	0.45632065775950664	0.005571243484088044
34	0.5384615384615384	0.007430937744728987
35	0.5255878284923928	0.007082478694075132
36	0.870692596383487	0.24709696433834363
37	0.344111461619348	0.00708962601759619
38	0.3836032388663968	0.001639344262295082
39	0.504149377593361	0.00787512229505383
40	0.653346994535519	0.006233766233766234
41	0.7454361054766734	0.003968253968253968
42	0.4487309644670051	0.001838235294117647
43	0.3046448087431694	0.002875669192998903
44	0.11764705882352944	0.001148105625717566
45	0.7334689725330621	0.005540458937198067
46	0.5156782549420587	0.3356793417145875
47	0.5	0.00101010101010101
48	0.0851926977687627	0.0011074197120708748
49	0.5	0.00101010101010101

50	0.08299389002036661	0.0016483624626043142
51	0.7561224489795918	0.0060643742791234145
52	1.0	1.0
53	0.9715736040609138	0.034482758620689655
54	0.4893617021276596	0.0019801980198019802
55	0.4078411405295316	0.00254862834801512
56	0.5	0.00101010101010101
57	0.09026369168356996	0.0011135857461024498
58	0.5673758865248226	0.002336448598130841
59	0.5576923076923077	0.00228310502283105
60	0.5	0.00101010101010101
61	0.47058823529411764	0.0019120458891013384
62	0.5	0.00101010101010101
63	0.353596757852077	0.001564945226917058

Average AUROC=**0.48607436637906126**

Average AUPR=**0.07390520198216172**