

Supplementary Information For

Bubble-Wrap Carbon: An Integration of Graphene and Fullerenes

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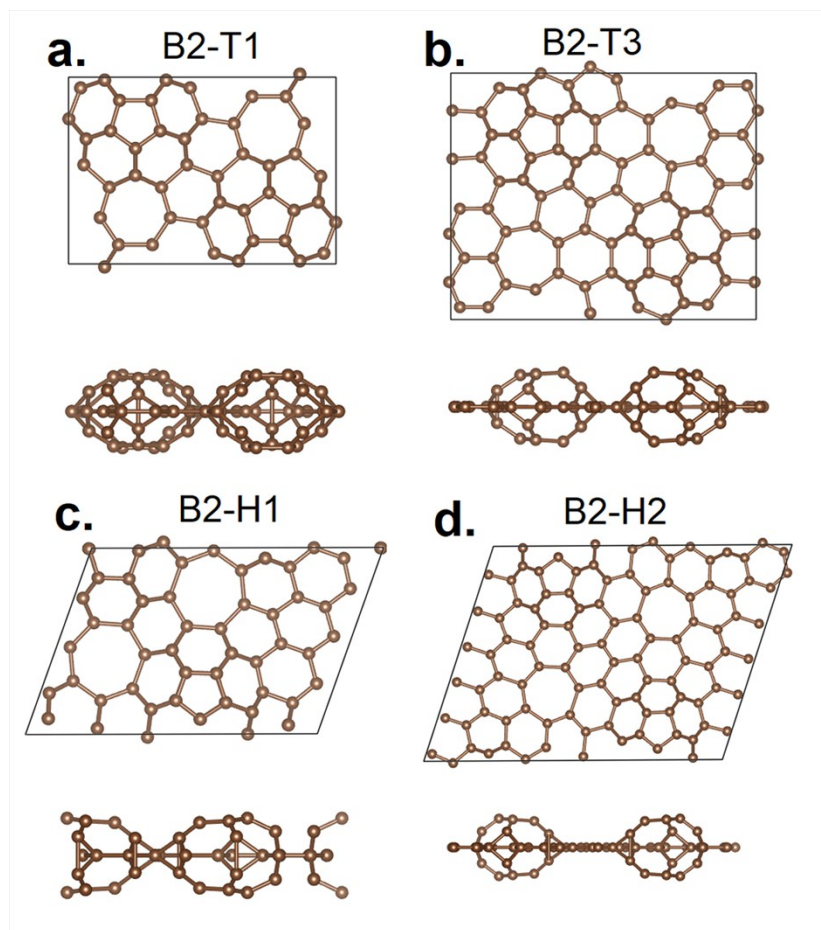


Figure S1. Structures of bubble wrap graphene (a) B₂-T₁, (b) B₂-T₃, (c) B₂-H₁ and (d) B₂-H₂ viewed from the [001] and [100] directions, respectively.

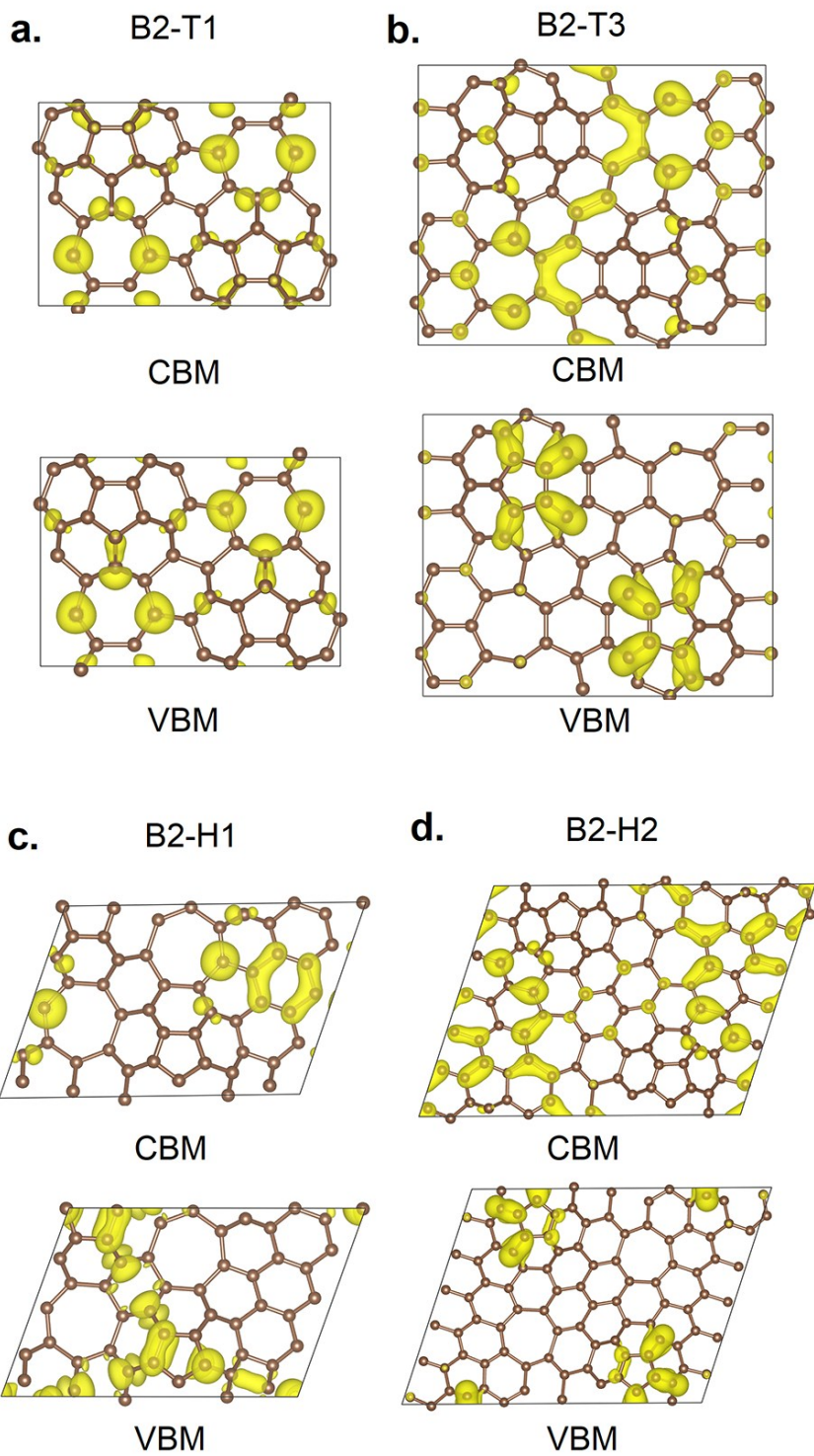


Figure S2. Partial charge density distributions at CBM and VBM of (a) B₂-T₁, (b) B₂-T₃, (c) B₂-H₁ and (d) B₂-H₂.

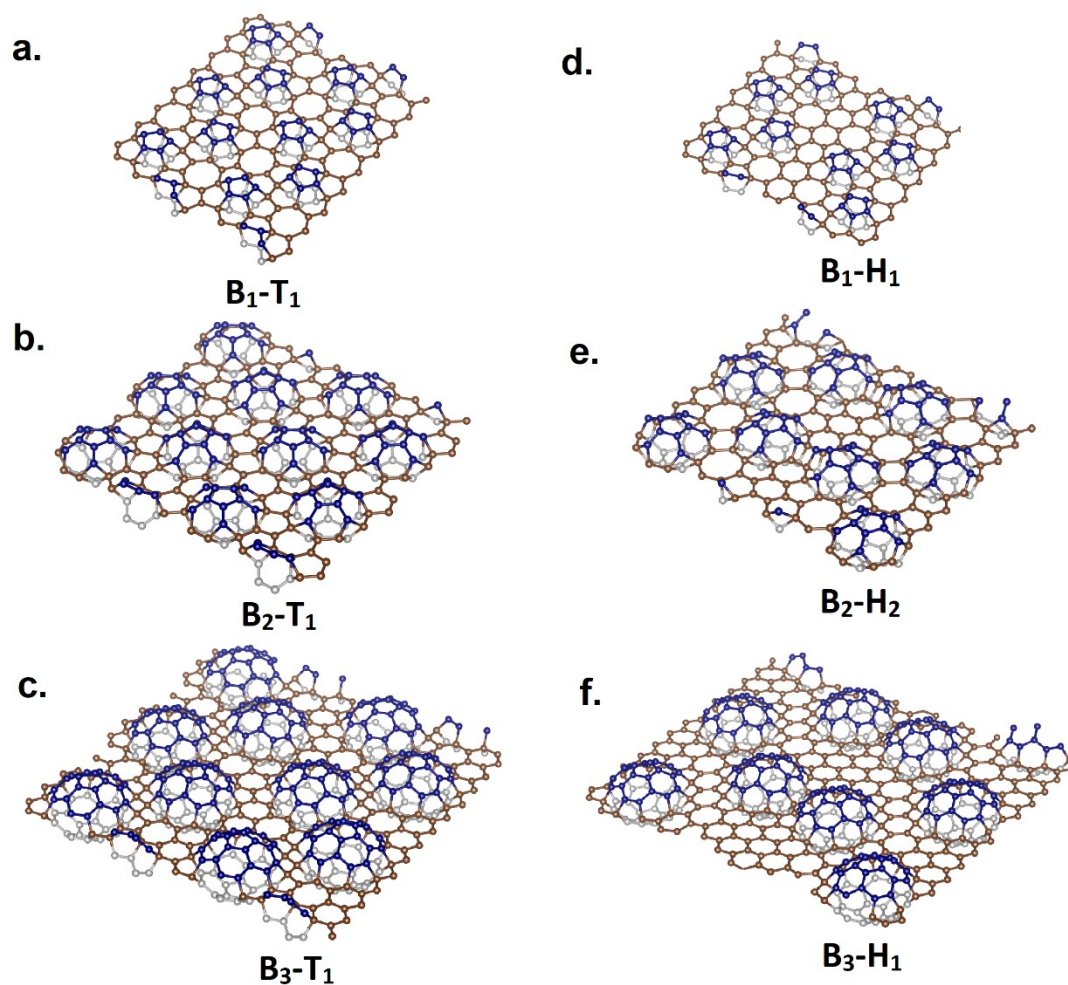


Figure S3. Two-dimensional structures of bubble-wrap carbon allotropes (a) B_1-T_1 , (b) B_2-T_1 , (c) B_3-T_1 , (d) B_1-H_1 , (e) B_2-H_1 and (f) B_3-H_1 . Brown, navy and gray balls all represent carbon atoms. Different colors are used to enhance the view.

The coordinates and unit cells for all the bubble-wrap graphenes considered in the manuscript have been presented in POSCAR format as following:

B1-T1

```
1.0000000000000000
 7.8839901763091316  0.0000000000000000  0.0000000000000000
 0.0000000000000000  8.8722787135683934  0.0000000000000000
 0.0000000000000000  0.0000000000000000  19.9133125984625714
```

C

38

Direct

```
0.6084165503604030 0.7486995508167169 0.5518348990541168
0.3915834496395968 0.2513004791832855 0.4481650749458812
0.8915834496395970 0.7486995508167169 0.4481650749458812
0.1084165503604031 0.2513004791832855 0.5518348990541168
0.3915834496395968 0.2513004791832855 0.5518348990541168
0.6084165503604030 0.7486995508167169 0.4481650749458812
0.1084165503604031 0.2513004791832855 0.4481650749458812
0.8915834496395970 0.7486995508167169 0.5518348990541168
0.8366115775196546 0.9064072813600396 0.5567036467399659
0.1633884224803451 0.0935927036399626 0.4432963422600297
0.6633884224803454 0.9064072813600396 0.4432963422600297
0.3366115775196549 0.0935927036399626 0.5567036467399659
0.1633884224803451 0.0935927036399626 0.5567036467399659
0.8366115775196546 0.9064072813600396 0.4432963422600297
0.3366115775196549 0.0935927036399626 0.4432963422600297
0.6633884224803454 0.9064072813600396 0.5567036467399659
0.1647371411722478 0.8350372078637167 0.5000000000000000
0.8352628588277524 0.1649627621362807 0.5000000000000000
0.3352628588277521 0.8350372078637167 0.5000000000000000
0.6647371411722476 0.1649627621362807 0.5000000000000000
0.0931119004880239 0.9949687092506644 0.5000000000000000
0.9068880995119760 0.0050313067493369 0.5000000000000000
0.4068880995119761 0.9949687092506644 0.5000000000000000
0.5931119004880240 0.0050313067493369 0.5000000000000000
0.9290574430076138 0.4542971887038744 0.5000000000000000
0.0709425569923861 0.5457028112961256 0.5000000000000000
0.5709425569923862 0.4542971887038744 0.5000000000000000
0.4290574430076138 0.5457028112961256 0.5000000000000000
0.0328825322575923 0.7120795957598256 0.5000000000000000
0.9671174677424078 0.2879204332401730 0.5000000000000000
0.4671174677424079 0.7120795957598256 0.5000000000000000
0.5328825322575922 0.2879204332401730 0.5000000000000000
0.2500000000000000 0.3482916569684610 0.4427304376853706
0.7500000000000000 0.6517083430315391 0.5572695513146252
0.2500000000000000 0.3482916569684610 0.5572695513146252
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0.7500000000000000	0.6517083430315391	0.4427304376853706
0.2500000000000000	0.4698916997856671	0.5000000000000000
0.7500000000000000	0.5301083002143326	0.5000000000000000

B1-T2

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9.1479392210303505	0.0000000946999171	-0.0000000231053702
0.0000000909694940	8.7794582783026485	0.0000967577211245
-0.0000000501582620	0.0002012754554185	19.8109719214810873

C

42

Direct

0.0163657036366092	0.0272037145871771	0.5000205107728566
0.5163656962825457	0.9727962923989438	0.4999794868864589
0.9513573832044735	0.3084160634943914	0.4999944863202971
0.4513573864474655	0.6915839456881624	0.5000055127665860
0.9157279671868894	0.1567534469578349	0.4999955468615651
0.4157279673506162	0.8432465506593163	0.5000044529430419
0.9418729844389401	0.8704466561077999	0.5000279929299530
0.4418729926856911	0.1295533436551933	0.4999720070719680
0.0973512309211518	0.5221969423105004	0.4458515101680351
0.5973512388103674	0.4778030811535806	0.5541485135273220
0.0948967388909300	0.3905892026065729	0.5000020946971638
0.5948967435370350	0.6094107983826536	0.4999979082956575
0.4689206204905128	0.3774392109972416	0.5559456194078966
0.9689205914787105	0.6225607683160811	0.4440543712015657
0.7215367326336070	0.3856477264982203	0.5583387873705942
0.2215367472227143	0.6143522933198234	0.4416612046416263
0.7458118511428824	0.1291308294810023	0.4999804825298321
0.2458118504751525	0.8708691731437698	0.5000195193965085
0.6701165755469735	0.2328965188367999	0.5516512919090337
0.1701165933243513	0.7671034710647263	0.4483487056852944
0.5125371278603645	0.2269962763846483	0.5573328029484046
0.0125371321244576	0.7730037100793617	0.4426672131190667
0.7362561916296303	0.6943170553064533	0.5000105993497154
0.2362561962163028	0.3056829364144280	0.4999894001054124
0.8257011246031215	0.4191990920561635	0.4999970578926466
0.3257011266625094	0.5808009191860090	0.5000029398581753
0.8621021634217186	0.5857055327785293	0.5000122042561932
0.3621021640879067	0.4142944817460180	0.4999877976950766
0.2721174859902357	0.1545888268687974	0.4999864845078133
0.7721174829486850	0.8454111908115001	0.5000135158723845
0.1705436155264449	0.0266391793991207	0.5000146300362275
0.6705436184785368	0.9733608165790744	0.4999853709893128
0.4689171861066754	0.3774704326938655	0.4440211792009290

0.9689171540387024	0.6225295484471279	0.5559788338932093
0.5973525188044078	0.4778372419311065	0.4458326743006057
0.0973525060935989	0.5221627825432228	0.5541673139930291
0.7215382189079972	0.3856810902518841	0.4416482411373157
0.2215382219938979	0.6143189423147994	0.5583517572629690
0.6701207720398875	0.2329230423688345	0.4483136656537351
0.1701207890565852	0.7670769564415794	0.5516863496199558
0.5125356906931336	0.2270275665897510	0.4426184820571432
0.0125356900076406	0.7729724401479452	0.5573815118674215

B1-H1

1.0000000000000000

7.7577009261154988	-0.0000578068685770	0.0002157301060230
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C

44

Direct

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0.8849140360411225	0.0699055926358935	0.2238112748821446
0.1738093104161926	0.0670993810599410	0.2205433187957720
0.1769712796471414	0.1940145563891353	0.2182293195889306
0.0016299032429299	0.1957665017108017	0.2163535250260533
0.6483771672675265	0.1394840534893131	0.2741582319576900
0.7539531381179537	0.3479326512672164	0.3302626352924434
0.1091243727516908	0.4033592016369457	0.2742032320964267
0.5859005682134426	0.4719958719131007	0.3252487863982950
0.2801690089020348	0.4030880915197991	0.2742115071693074
0.7712815248033219	0.5497061175348861	0.3320747333422549
0.2767818080576601	0.9013695470942218	0.2748482619513020
0.1466561024770032	0.6412319349010465	0.2749469107479707
0.3464662857081731	0.7029140657482139	0.2749514017288702
0.4149116862629416	0.8396990952599515	0.2748990284593803
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0.0880460364572198	0.8341314962960094	0.2750342077164819
0.7370817235072197	0.8342320758701656	0.2750326512894226
0.6145912526390689	0.9011237134452580	0.2748389460306170
0.4846813197770931	0.6414396552522702	0.2749629315329579
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0.6740890540167562	0.7083785740179117	0.2751340657194482
0.8779816419666803	0.4755820032446079	0.2206260502949005
0.5771684746941999	0.3468970110364784	0.2164099606915506
0.7542709413101072	0.3486707169651867	0.2182545789275507
0.5862852874321149	0.4727335156916131	0.2239131826180236

0.7716262896682103	0.5505199950175221	0.2175554962894266
0.1741129755346711	0.0677591664594937	0.3284908403131918
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0.1772393146533176	0.1946088961030520	0.3302440829631759
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0.7837922307882317	0.2678137208767846	0.2740899659385895
0.4703397431577663	0.2674287467662028	0.2741084593871370
0.4576794527057653	0.5047340369788641	0.2746323405044086
0.8179473107885060	0.6437004731427388	0.2750504213964963
0.2996876068101383	0.0375213501743943	0.2745493446438297
0.9742015344352445	0.2751932619197000	0.2740728578667069
0.7242330675338752	0.0378394003918789	0.2745036407648196
0.2872931969335555	0.2748057344741466	0.2741045164295077
0.9456110413928005	0.8989170167923322	0.2749017407111826

B1-H2

1.0000000000000000

9.0248547463833226	0.0002564614611058	0.0195736639331912
-4.5127435605836670	11.2381142316267741	-0.0252218120211534
0.0421096212105763	-0.0554692868265238	12.6797802759829530

C

50

Direct

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0.4253636091917930	0.8180257172935391	0.3660695596866497
0.7385892666035241	0.9304040476130387	0.3665483155842028
0.6116011448168270	0.7044656821451043	0.3657558211479540
0.9215704251419592	0.8058009587328482	0.3662569335489367
0.3117738506468411	0.5909610302074245	0.3655902340641281
0.1372332445331828	0.3593051669404491	0.3661358486574057
0.1617639647497860	0.4784816618077426	0.3656458152048835
0.2887484352439881	0.7044996660214649	0.3657220507960714
0.0254447238149175	0.1150502006169994	0.4576274774026142
0.1921537385354631	0.1891159445215669	0.4469693532695244
0.5126096334617222	0.4785456080343825	0.3655368293868738
0.4180130542565587	0.3593878736298700	0.3659891729445415
0.4749946683071570	0.5909509594399992	0.3655760587370100
0.5885730696198781	0.8179877023744504	0.3661278524827280
0.7817985348374376	0.7044496838155957	0.3656470971009504
0.8202641634399945	0.6031797252067916	0.3651051481018348
0.9788156572153456	0.6031753666835857	0.3651266104907885
0.4824611231625874	0.0497144909422325	0.3665069562612301

0.2845964545164497	0.1153688528846585	0.4577245808886072
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0.6161117922638443	0.2935897566659291	0.2750544705810350
0.7086955957775399	0.2196117531951279	0.2858774936317509
0.7631456516230618	0.0495806894488488	0.3667038378075347
0.8749866092634976	0.2932830980529215	0.2749066490559727
0.8844379142774205	0.4093460380079160	0.2791171247833996
0.7221073465577732	0.4096229199261289	0.2785602741342290
0.6155951082923716	0.2955304291433075	0.4570648002637610
0.7081689670312420	0.2212778363338478	0.4468218814052562
0.8744106809874179	0.2952245628426577	0.4574298495003928
0.8838890990583893	0.4112088144885956	0.4522585152952140
0.7216410778061233	0.4114883438381982	0.4526881068993642
0.0260696010738214	0.1137964108054752	0.2755567177991609
0.0161469807729176	0.9978497637936962	0.2794980942159427
0.1787315391870014	0.9981300784075979	0.2798363686961106
0.2852449787517574	0.1141131886916364	0.2752047641387490
0.1926823878123125	0.1879641077201757	0.2860382781735848
0.2129524925637268	0.9218613439403137	0.3664313566414930
0.9048492933862455	0.9218364222551622	0.3665733470443835
0.2448869386449053	0.2937591552220516	0.3663801816751330
0.4004439446208736	0.1388851985801844	0.3664268686760631
0.9342944963462076	0.1387082236858619	0.3666385257276668
0.6874548202716031	0.4871062551179524	0.3653097500763106
0.5000725760590538	0.2702782909670186	0.3661419641491647
0.6556555823676883	0.1152355152805127	0.3666138031587822
0.9660481672350125	0.2701093097895618	0.3663343186580266
0.9955602187682272	0.4871364803044566	0.3654165315933241

B1-H3

1.0000000000000000

9.4058465388059798	0.0000209019011922	-0.0009443180382051
-4.7035540631787560	13.0923243850210813	0.0002571506685390
-0.0020101130408389	-0.0003289470863134	19.9960200777335757

C

58

Direct

0.0673165008902881	0.8700324951921051	0.1684157028739083
0.2168379498008139	0.9258216330145741	0.1693911675538944
0.3180081370787287	0.8740225088946301	0.1706847638174656
0.4720203265383852	0.9388057149510396	0.1711601073133533
0.8079712057536090	0.8700415738619252	0.1682684698871172
0.5612398323749704	0.8740307609391444	0.1706152189628034
0.7142287600197423	0.9258393820846093	0.1692521691040253
0.1289580091523173	0.5291912938363607	0.1712127539005465

0.0390973393466421	0.4246335872808289	0.1717582098398936
0.0151400758061823	0.7656813536618532	0.1687213679200519
0.1088477175188620	0.7099038409810179	0.1697795783661918
0.2618610649138020	0.7617012264677323	0.1707961940797770
0.0952840898028791	0.3393325122572331	0.1720485402979471
0.3510794195508991	0.6969388268212774	0.1713209768623372
0.2947793597104336	0.5843114130887745	0.1713003042716675
0.7557922818685946	0.7656926756558202	0.1685854436255560
0.3907736384795960	0.4246363544608646	0.1717292530397358
0.4054988308573924	0.5291899567977633	0.1711689807520573
0.2493002106486604	0.3393464286723852	0.1720600189454340
0.5050657700834961	0.7617114709573208	0.1707402179476897
0.6063197704290185	0.7099190630722866	0.1696901114424592
0.6600075084351303	0.5681098488613879	0.2285106946091851
0.8162967375104256	0.6273650245473942	0.2230408111210200
0.9133959747230554	0.5680754086139502	0.2284602789490048
0.4176098150928580	0.1065237578398600	0.1708619844033550
0.4323350662163526	0.2110980374383979	0.1715190063260454
0.0079395551179934	0.0105573251672652	0.1163088888992190
0.1644760480017018	0.0698453852458493	0.1120348199193151
0.1670827131014868	0.1697188258304566	0.1175808941822487
0.0078369264954512	0.1697237384168299	0.1174820893123918
0.5738166249957013	0.2963943362199706	0.1720572250306601
0.5283479891164498	0.0514436592707757	0.1710031668536903
0.9105698504707684	0.0698771528379611	0.1119195433888372
0.7839935839151521	0.2110979275780618	0.1714199145142550
0.6941448170034177	0.1065395856737735	0.1707717146017978
0.7278263110469951	0.2963867619905892	0.1720040119385253
0.8162527673923540	0.4679595379172536	0.2246394838316212
0.6571208076488019	0.4679879656296809	0.2246362458046970
0.6586184393441693	0.5659686574313125	0.1123298580053907
0.8152136045525280	0.6252480977125084	0.1166424768430870
0.9125324287936176	0.5659319099678857	0.1123108991612874
0.8153298305927298	0.4660599086298280	0.1176903091784881
0.6559961619729072	0.4660870493884743	0.1177624145851838
0.9097269885703319	0.0675587058869492	0.2280758439608761
0.0068112798407865	0.1677050194446061	0.2244462635891744
0.1660491146456945	0.1676638271396763	0.2244309340982047
0.1631448424595581	0.0675296781323606	0.2282229516291484
0.0067698625572273	0.0082684076111860	0.2227094858980274
0.9664187331454297	0.9275735765124901	0.1685732343857530
0.2730654743691051	0.2340805998304648	0.1715531491558255
0.2545012022171770	0.0392291173130448	0.1699613942973329
0.9662562420033882	0.2340536588752770	0.1714935847712151
0.7899789194368588	0.0392533129665195	0.1698200527365470
0.0331530121258322	0.5965083247000819	0.1703324795103987

0.5686349045041476	0.5965127258521463	0.1703253779242466
0.8566983801531570	0.7081503712970855	0.1689840865058310
0.5500987879592214	0.4016751704103453	0.1717340583003575
0.8568483828466973	0.4016835458687250	0.1716908209738449

B2-T1

1.0000000000000000

8.6583195106888819	0.0000409720292241	-0.0006628390335214
0.0000586063078760	12.4276023181633395	0.0009566228097707
-0.0015086409557752	0.0015244557490111	19.3606637166066626

C

64

Direct

0.0160378596405058	0.1350663334381782	0.2923888825324665
0.9839500248695289	0.8649373493513526	0.3935024786283416
0.0160837557518443	0.3649382614457196	0.3934937317485326
0.9839229713970572	0.6350855549601914	0.2923649977701226
0.9839343455378315	0.8649614263005961	0.2923785562711361
0.0160817557722230	0.1350347899709398	0.3934971848447366
0.9839522113837185	0.6350416647601991	0.3934880869195789
0.0160343491254022	0.3649420445462205	0.2923724103058100
0.7131772667631584	0.6570731604961112	0.4258472502061765
0.2867778555852964	0.3429033112001320	0.2600319586849117
0.7131638365901557	0.8429259399264839	0.2600293243942834
0.2868861724878567	0.1570873748672812	0.4258581750309319
0.2868833962627214	0.3428720351975497	0.4258488603517523
0.7131475883820204	0.6571237376399005	0.2600231518368319
0.2867883642213610	0.1571135891707556	0.2600319569606734
0.7131831001476134	0.8428624422797996	0.4258569162658177
0.8756506947539400	0.8091185798089598	0.4295934029699194
0.1243222170588486	0.1908698391000790	0.2562671767443205
0.8756186433208697	0.6908774499375401	0.2562611167397512
0.1244075572038073	0.3091396463117544	0.4295826020500272
0.1243999615560007	0.1908453437832368	0.4295900961045125
0.8756248709147598	0.8091809705633217	0.2562620677887996
0.1243329089893956	0.3091672627584187	0.2562725503338795
0.8756637552288065	0.6908217309001835	0.4295830771101558
0.6691725161982625	0.9342696769999029	0.3896990259260298
0.3308184773416791	0.0657215751102718	0.2961841728432646
0.6691504492800486	0.5657219715493834	0.2961624490591435
0.3308450037699231	0.4342748560901429	0.3896865844416189
0.3308496691773199	0.0657094860576157	0.3897080021920867
0.6691533718073582	0.9342881041460644	0.2961899377704323
0.3308175085277926	0.4343035179932312	0.2961754979404005
0.6691903861532612	0.5657071081322892	0.3896933185087181
0.8967128490904386	0.1867571175111448	0.3429358521868445

0.1032934441617488	0.8132609779308114	0.3429388641995928
0.8966909318946297	0.3132785369799693	0.3429319963532950
0.1032946050797164	0.6867419678467923	0.3429267423840116
0.7520672419722770	0.1188629326016944	0.3429481121910768
0.2479436815386448	0.8811350854756060	0.3429485016198469
0.7520449790262431	0.3811325091470436	0.3429358018624812
0.2479432909112335	0.6188696350810617	0.3429377025983349
0.5893673118797530	0.1522835531860028	0.3429492311670598
0.4106067793788949	0.8477208639190564	0.3429470767758386
0.5894618927195215	0.3477203748241813	0.3429339902398897
0.4105678450348349	0.6522822285033663	0.3429381099367618
0.0577076927116576	0.0450998253752121	0.3429407486321231
0.9422903308553167	0.9549016352359057	0.3429384175759534
0.0577003652187486	0.4549012443162104	0.3429242114936999
0.9422905124399430	0.5451092410695569	0.3429187103292026
0.7769844668893047	0.9987789438162115	0.3429457040835948
0.2230346573677603	0.0012079940665050	0.3429487525346283
0.7769305292977851	0.5011854869220834	0.3429280688471827
0.2230418829493037	0.4988055172945747	0.3429314864669363
0.5308751558316962	0.9426792485507889	0.3429487388001272
0.4691225460025943	0.0573193738733455	0.3429516067073862
0.5308757354616739	0.5573225883642710	0.3429371241115776
0.4691202765885823	0.4426776006633810	0.3429378118193886
0.5253271610752179	0.2500192862756855	0.3014539277040106
0.4746041856827603	0.7499812566197083	0.3844530772494077
0.5254442422464807	0.2500031637078799	0.3844529523855213
0.4746537981430037	0.7500073260184379	0.3014661803821650
0.6185481146845353	0.7499730668210767	0.4219388070771606
0.3814266307546355	0.2500073063973748	0.2639304316213994
0.6185109899408384	0.7500180636641758	0.2639363974616208
0.3815328139697824	0.2499799281470078	0.4219398479267509

B2-T2

1.0000000000000000

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0.0000000000000000 13.8322853405121275 0.0000000000000000

0.0000000000000000 0.0000000000000000 14.2469394140692955

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68

Direct

0.0360041124398252 0.0878300027681139 0.2815712802812201

0.9638267423204088 0.9122274076740219 0.4024415103259674

0.0361732686795957 0.4122274376740242 0.4024415103259674

0.9639958985601785 0.5878300177681121 0.2815712802812201

0.9639958985601785 0.9121699822318879 0.2815712802812201

0.0361732686795957 0.0877725773259804 0.4024415103259674

0.9638267423204088	0.5877725923259781	0.4024415103259674
0.0360041124398252	0.4121700122318911	0.2815712802812201
0.0739713796132843	0.1702556295176807	0.2326466464483916
0.9256873355009675	0.8297544437632592	0.4511905380339160
0.0743126574990352	0.3297544737632548	0.4511905380339160
0.9260286133867188	0.6702556595176761	0.2326466464483916
0.9260286133867188	0.8297443404823239	0.2326466464483916
0.0743126574990352	0.1702455262367453	0.4511905380339160
0.9256873355009675	0.6702455562367408	0.4511905380339160
0.0739713796132843	0.3297443704823192	0.2326466464483916
0.3446037006545397	0.1479105157002763	0.2849209825370925
0.6553377527701850	0.8520326022441047	0.3980631672795630
0.3446622772298099	0.3520325722441088	0.3980631672795631
0.6553963293454554	0.6479104857002805	0.2849209825370925
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0.3446622772298099	0.1479674277558911	0.3980631672795631
0.6553377527701850	0.6479673977558953	0.3980631672795630
0.3446037006545397	0.3520894842997237	0.2849209825370925
0.2321229854189801	0.2005242754056803	0.2321208961747274
0.7674905869493636	0.7994557922748269	0.4511066213352491
0.2325094130506368	0.2994557922748272	0.4511066213352491
0.7678770145810204	0.7005242754056802	0.2321208961747274
0.7678770145810204	0.7994757245943198	0.2321208961747274
0.2325094130506368	0.2005442077251729	0.4511066213352491
0.7674905869493636	0.7005442077251731	0.4511066213352491
0.2321229854189801	0.2994757245943198	0.2321208961747274
0.1035992778644442	0.9219531266800940	0.3420513373156924
0.8964007221355559	0.0780468963199037	0.3420513373156924
0.1035992778644442	0.5780468733199060	0.3420513373156924
0.8964007221355559	0.4219530966800923	0.3420513373156924
0.5245851832193639	0.8091711173127689	0.3414847085077824
0.4754148167806357	0.1908288676872265	0.3414847085077824
0.5245851832193639	0.6908288826872311	0.3414847085077824
0.4754148167806357	0.3091711173127686	0.3414847085077824
0.3882182378885149	0.8797687069376898	0.3416866926380455
0.6117817911114845	0.1202312850623092	0.3416866926380455
0.3882182378885149	0.6202312930623102	0.3416866926380455
0.6117817911114845	0.3797687069376902	0.3416866926380455
0.6903944768828414	0.9422288506897003	0.3415903805532726
0.3096055521171574	0.0577711573103001	0.3415903805532726
0.6903944768828414	0.5577711493102997	0.3415903805532726
0.3096055521171574	0.4422288506897008	0.3415903805532726
0.5776090202436571	0.0215539578329820	0.3413995167420222
0.4223910097563384	0.9784460481670180	0.3413995167420222
0.5776090202436571	0.4784460481670184	0.3413995167420222
0.4223910097563384	0.5215539518329820	0.3413995167420222

0.8559467568254133	0.9702545164292120	0.3418927219798951
0.1440532281745894	0.0297454785707910	0.3418927219798951
0.8559467568254133	0.5297454835707880	0.3418927219798951
0.1440532281745894	0.4702545164292120	0.3418927219798951
0.7734478927637415	0.1600112981154814	0.3420613573070971
0.2265520922362614	0.8399886718845162	0.3420613573070971
0.7734478927637415	0.3399887018845185	0.3420613573070971
0.2265520922362614	0.6600113281154838	0.3420613573070971
0.9747427600747192	0.2500000000000000	0.2328877988298784
0.0249589852605615	0.7500000000000000	0.4512108786442386
0.9750410257394357	0.2500000000000000	0.4512108786442386
0.0252572509252781	0.7500000000000000	0.2328877988298784
0.8290778993155521	0.2500000000000000	0.2869247606465102
0.1710011688531247	0.7500000000000000	0.3973296719594615
0.8289988311468750	0.2500000000000000	0.3973296719594615
0.1709221006844484	0.7500000000000000	0.2869247606465102

B2-T3

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96

Direct

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0.6381243899876967	0.5905146327616498	0.2691869641788823
0.8618756100123033	0.5905146327616498	0.2691869641788823
0.1382046970496494	0.4096839147356744	0.3784602926956636
0.6382120710567920	0.5903419254233729	0.3783958513344537
0.3618682217703002	0.4094484405015923	0.2692495677094768
0.1906137278771043	0.3512922536299292	0.2271076347505355
0.8093609165538227	0.6482040070528937	0.4208320470544755
0.3093657871280599	0.3518432302997145	0.4208798589895653
0.6906173244304186	0.6486803585082020	0.2270612121429665
0.8093826755695814	0.6486803585082020	0.2270612121429665
0.1906342278719377	0.3518432302997145	0.4208798589895653
0.6906390834461773	0.6482040070528937	0.4208320470544755
0.3093862871228933	0.3512922536299292	0.2271076347505355
0.6560860616830638	0.7384662979166481	0.4165708012655855
0.3438871291072244	0.2610264194535390	0.2319959312750937
0.8438870675666249	0.7389444694922517	0.2319666521043911
0.1560857260350731	0.2615684298741370	0.4165953979842448
0.3439142889649245	0.2615684298741370	0.4165953979842448

0.6561129324333751	0.7389444694922517	0.2319666521043911
0.1561128858927734	0.2610264194535390	0.2319959312750937
0.8439139383169362	0.7384662979166481	0.4165708012655855
0.9331086042214749	0.7634833242544370	0.3749339748347961
0.0670336440007242	0.2362594423979502	0.2738442265849760
0.5670365466554405	0.7637271088225258	0.2738211649714925
0.4331060561897846	0.2365395152964272	0.3749570847671723
0.0668939368102181	0.2365395152964272	0.3749570847671723
0.9329634533445595	0.7637271088225258	0.2738211649714925
0.4329663489992788	0.2362594423979502	0.2738442265849760
0.5668913957785251	0.7634833242544370	0.3749339748347961
0.1901518398514128	0.4735819936927673	0.3237494371684777
0.8098439078932622	0.5264164196127082	0.3236945394899404
0.3098481601485873	0.4735819936927673	0.3237494371684777
0.6901560921067378	0.5264164196127082	0.3236945394899404
0.1587751252569357	0.1001371045392062	0.3247343151892571
0.8412250003364364	0.8998678388138528	0.3247247268670426
0.3412248747430642	0.1001371045392062	0.3247343151892571
0.6587749996635636	0.8998678388138528	0.3247247268670426
0.0492752884379143	0.3858583091339801	0.3239611116140146
0.9507176279532732	0.6141421312952858	0.3239104457740711
0.4507247225620832	0.3858583091339801	0.3239611116140146
0.5492823720467268	0.6141421312952858	0.3239104457740711
0.0009291392599945	0.2949955131091200	0.3242068301922341
0.9990664853342599	0.7050044232689630	0.3241740341033663
0.4990708467400044	0.2949955131091200	0.3242068301922341
0.5009335146657401	0.7050044232689630	0.3241740341033663
0.0603091194562231	0.1589625945523404	0.3245512084322504
0.9396915046008590	0.8410386955688229	0.3245302448753219
0.4396908775437803	0.1589625945523404	0.3245512084322504
0.5603084953991410	0.8410386955688229	0.3245302448753219
0.1430674667966197	0.8198915339482066	0.3242872010146324
0.8569327276707365	0.1801085575896406	0.3242971114949590
0.3569325332033805	0.8198915339482066	0.3242872010146324
0.6430672723292635	0.1801085575896406	0.3242971114949590
0.1884143061086060	0.6480998776541737	0.3238904942242854
0.8115819892761874	0.3518985284672899	0.3238884430701097
0.3115856788913890	0.6480998776541737	0.3238904942242854
0.6884180107238126	0.3518985284672899	0.3238884430701097
0.0503014328795667	0.9702683237235075	0.3246275741331032
0.9496986502446323	0.0297329424743336	0.3246281222141538
0.4496985821204307	0.9702683237235075	0.3246275741331032
0.5503013497553677	0.0297329424743336	0.3246281222141538
0.1213822703067419	0.7227866417813562	0.3241012114911507
0.8786181447104723	0.2772122774041940	0.3241150102877606
0.3786177146932535	0.7227866417813562	0.3241012114911507

0.6213818552895277	0.2772122774041940	0.3241150102877606
0.0500854890464656	0.8778007558542125	0.3244718311299798
0.9499164420095165	0.1221999209465380	0.3244806499918376
0.4499145259535317	0.8778007558542125	0.3244718311299798
0.5500835579904835	0.1221999209465380	0.3244806499918376
0.0259207909282336	0.5431246327414471	0.3238508204991493
0.9740780250828993	0.4568744342295016	0.3238614962615424
0.4740792220717711	0.5431246327414471	0.3238508204991493
0.5259219749171007	0.4568744342295016	0.3238614962615424
0.8657968403586495	0.4396751304899230	0.3237743776819100
0.1342006948168688	0.5603258100896411	0.3237890734941564
0.6342031596413505	0.4396751304899230	0.3237743776819100
0.3657993051831311	0.5603258100896411	0.3237890734941564
0.8481430787263878	0.9947053336599690	0.3247305107253530
0.1518566659234578	0.0052955883430539	0.3247333583041514
0.6518569212736122	0.9947053336599690	0.3247305107253530
0.3481433190765373	0.0052955883430539	0.3247333583041514
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0.7500000000000000	0.1385024437565120	0.3244008656499984
0.2500000000000000	0.9556091463489832	0.3246490446897124
0.7500000000000000	0.0443948858646862	0.3246552519311739
0.2500000000000000	0.1343890558178147	0.2793518343746757
0.7500000000000000	0.8654774457723804	0.3700212080063620
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0.7500000000000000	0.8655967531082519	0.2793434487440071
0.7500000000000000	0.7894288081761736	0.4137248562989672
0.2500000000000000	0.2101001747685729	0.2352282513232856
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0.2500000000000000	0.2106114673994669	0.4137439940890973

B2-H1

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9.2764502376620719	-0.0001179674660342	0.0002957987904868
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-0.0003047437971681	-0.0739699317201487	17.8230453540909579

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68

Direct

0.0582083064826676	0.8771257171246951	0.2090735149043575
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0.8339166076070083	0.8771274998482209	0.2091140656653531
0.7300576681017861	0.9360299021019303	0.2091418644443327
0.0792746799029567	0.3270744118799667	0.2091605929708245
0.2627335226035549	0.3270489516141208	0.2091598567410945
0.4006824264367210	0.0981664832764123	0.2091443852380008
0.4138916866385897	0.2170335033487743	0.2091306778807970

0.8181033745538326	0.2170698047214678	0.2091687439423119
0.7124037727766751	0.0981695656992000	0.2091683848419119
0.9520351782037334	0.8891231972643553	0.1462171325270458
0.3187042011424630	0.8728255125934521	0.2091583024347668
0.4759850235485961	0.9370439921946644	0.2092498995057414
0.5691214483815745	0.8728636260111804	0.2091868822146569
0.0567711834694792	0.6082196673671204	0.2584089629420597
0.2653678047630449	0.7660936257453093	0.2091892654437095
0.3584568507568482	0.7018920939833917	0.2092253355964644
0.3034368686100978	0.5919089943434934	0.2091907410422555
0.5663636247194480	0.6082093147880726	0.2583879436622192
0.5157341455391944	0.7660857185565202	0.2091555958219300
0.6758133218461879	0.5812441828448949	0.2993335444218999
0.8317735584173027	0.6486299490723324	0.3067796570162514
0.8825461483584810	0.7500129783175030	0.2719986670260026
0.9203073840638613	0.5812267840254578	0.2993021014389231
0.5492020626942248	0.4004113632047686	0.2542268182047824
0.0027418797662014	0.9904664355993188	0.1114611729918729
0.1586725837906822	0.0578231956807133	0.1188599717918120
0.2852138555658459	0.2385527274489353	0.1640727049776597
0.1641776185719203	0.1641036205441074	0.1227961297565414
0.0148919504064856	0.1640997831150639	0.1228523847884895
0.2680954188267814	0.0307943135961287	0.1598016388115706
0.5309637678726128	0.0470285857975267	0.2091867465538665
0.9141232122251214	0.0578203610701683	0.1189765596508486
0.9683476415819873	0.2385833851552601	0.1640943437438620
0.7776667305486525	0.0307854942663365	0.1598931034585341
0.8661869011428607	0.4004403727196941	0.2542159740575990
0.8195496144518181	0.4749337943702280	0.2954107179431431
0.6702930413532063	0.4749501181329410	0.2953850746735308
0.0562461827730648	0.6070956617016134	0.1598972776890360
0.9193206387445300	0.5791352527859699	0.1189645545738447
0.8306826580516087	0.6463611884215991	0.1114870426888808
0.8817470206222221	0.7484748829504109	0.1461989918251701
0.6747933006576765	0.5791767485198591	0.1189372700780292
0.8656874287036589	0.3994043202880647	0.1641368634662325
0.5486806622947608	0.3993759609126750	0.1641394789369616
0.6693546052176158	0.4729460768483412	0.1229316312377757
0.8185974682573166	0.4729507210601682	0.1229079441289556
0.5658181125213301	0.6071208570494327	0.1598342161562239
0.2856546841053781	0.2394769771467570	0.2541406408374555
0.0157636957407547	0.1658732395775021	0.2953688374362476
0.7781356203616001	0.0318009844219148	0.2584486125463935
0.9687635894432215	0.2394862106668662	0.2541678618134005
0.1650062350406779	0.1658946530616694	0.2953400966871686
0.1594961457012496	0.0596563023025097	0.2992616690753155

0.9526624031763270	0.8902627029946346	0.2720392471078240
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0.2685410794983220	0.0317922442334918	0.2584039593907084
0.1220607170553917	0.5407829608545252	0.2091789589602026
0.0163774768126786	0.4218930497516024	0.2091788676704224
0.0005733462205733	0.7618230555926289	0.2090725824415657
0.1044016180559532	0.7029203796375215	0.2091184765161146
0.7762640181492282	0.7618215583459964	0.2090904955390468
0.4204713566886309	0.4218576714112406	0.2091631910581701
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0.5716652453627497	0.3118490508988992	0.2091968068789883
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B2-H2

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Direct

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0.0342693046088794	0.7904196530727526	0.4491915343902524
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0.2922487651433143	0.2076648573005569	0.4492199641606444
0.2922487651433143	0.2076648573005569	0.5507800358393561
0.7077512348566856	0.7923351426994433	0.4492199641606444
0.7764492267105494	0.7713375197876885	0.5891453780046286
0.2235507732894510	0.2286624802123116	0.4108546219953716
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0.7764492267105494	0.7713375197876885	0.4108546219953716
0.8824011196890632	0.8197196792266687	0.5920893301095284
0.1175988803109371	0.1802803207733322	0.4079106698904715
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0.8824011196890632	0.8197196792266687	0.4079106698904715
0.9071362577389904	0.8801359720655080	0.5510577052659094
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0.0928637422610023	0.1198640279344917	0.5510577052659094
0.9071362577389904	0.8801359720655080	0.4489422947340903
0.9479383127169095	0.7708629205246815	0.5889603811817060
0.0520616872830907	0.2291370794753183	0.4110396188182942

0.0520616872830907	0.2291370794753183	0.5889603811817060
0.9479383127169095	0.7708629205246815	0.4110396188182942
0.7080144133578171	0.6434899786442927	0.5425904562084639
0.2919855866421827	0.3565100213557073	0.4574095437915361
0.2919855866421827	0.3565100213557073	0.5425904562084639
0.7080144133578171	0.6434899786442927	0.4574095437915361
0.9103440395105825	0.6433385540923620	0.5424253958656895
0.0896559604894173	0.3566614459076385	0.4575746041343108
0.0896559604894173	0.3566614459076385	0.5424253958656895
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0.8804178008317606	0.6950527583847492	0.5841133979251212
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0.8804178008317606	0.6950527583847492	0.4158866020748787
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0.2194291473507138	0.3047595838194703	0.5841809491194805
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B3-T1

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116

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0.8079272200523001 0.4942220175276899 0.4400427384239757
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0.5168339606216554	0.6946084847220196	0.5598873403357910
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B3-T2

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Direct

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0.3450111272114801	0.8599927327116920	0.3558872667743516
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B3-H1

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C

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Direct

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