

# Test Results on the Performance of Approximation Algorithms for the Maximum Induced Planar Subgraph Problem

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## 1 Results

The following tables contain the results in terms of size of induced subgraph produced and running time taken by various algorithms for the Maximum Induced Planar Subgraph problem. In this document tables for the average proportion of vertices in the induced planar subgraph, the average size of induced planar subgraph and the average elapsed time taken are provided. The standard deviation is included in parenthesis for each average size (or time) given. Table 1 provides a list of abbreviations used for the algorithms. The algorithms were tested on graphs from the GDT-test-suite-CU downloaded from the GDT-ToolKit ([www.graphdrawing.org](http://www.graphdrawing.org)). This test suite contains graphs of 10 to 100 vertices from the ALF graph base used in [1]

Abbreviation	Algorithm
IS	Maximal Independent Set
T	Maximal Induced Forest
HL	Halldórsson and Lau's Algorithm [4]
<b>OP1</b>	<b>Outerplanar Algorithm 1</b>
<b>OP2</b>	<b>Outerplanar Algorithm 2</b>
<b>PT</b>	<b>Palm Trees Algorithm</b>
VA	Vertex Addition Algorithm [2]
VR	Vertex Removal Algorithm [3]
<i>VSR</i>	<i>Vertex Subset Removal Algorithm</i>
<b>OP1+EPS</b>	<b>Outerplanar Algorithm 1 combined with EPS operation</b>
<b>PT+EPS</b>	<b>Palm Tree Algorithm combined with EPS operation</b>
<i>VSR+EPS</i>	<i>Vertex Subset Removal Algorithm combined with EPS operation</i>

Lines in **bold** type indicate algorithms designed by the authors. Lines in *italics* indicate algorithms based on modifications of (or combinations that include) existing algorithms.

Table 1: Key to abbreviations for algorithm names

## 2 Results - Proportion of Vertices in Induced Planar Subgraph

Table 2: Average Size (as a proportion) of Maximum Induced Planar Subgraph on graphs of size  $n$ .

$n$	OP1+EPS	PT+EPS	VSR+EPS	VSR	VR	VA	PT	OP1	OP2	T	IS	HL
10	1.000000	1.000000	1.000000	0.995000	0.995000	0.992000	0.913000	0.973000	0.976000	0.913000	0.563000	0.533000
11	0.993636	0.993636	0.992727	0.975455	0.975455	0.957273	0.883636	0.936364	0.951818	0.883636	0.499091	0.530000
12	0.996667	0.996667	0.996667	0.978333	0.978333	0.952500	0.901667	0.935000	0.951667	0.900833	0.513333	0.528333
13	0.996154	0.996154	0.995385	0.976923	0.976923	0.947692	0.894615	0.935385	0.950769	0.893077	0.510769	0.523846
14	0.997143	0.997143	0.997143	0.975714	0.975000	0.946429	0.895714	0.935714	0.950714	0.895000	0.513571	0.527143
15	0.993333	0.993333	0.993333	0.971333	0.971333	0.936000	0.889333	0.928667	0.946000	0.888667	0.516000	0.497333
16	0.995000	0.994375	0.993750	0.971250	0.971250	0.937500	0.888750	0.921875	0.938125	0.888125	0.516250	0.508750
17	0.995294	0.995294	0.994118	0.973529	0.973529	0.945882	0.895294	0.935882	0.947647	0.892941	0.508235	0.501765
18	0.991111	0.991111	0.988889	0.965000	0.965000	0.930556	0.888889	0.928889	0.936111	0.886667	0.515556	0.482778
19	0.990000	0.990526	0.988421	0.960000	0.959474	0.930526	0.886842	0.923684	0.933684	0.884737	0.508947	0.487368
20	0.995000	0.995000	0.993000	0.972500	0.972500	0.941500	0.901500	0.933000	0.946500	0.898500	0.526000	0.501500
21	0.985238	0.984762	0.984762	0.957619	0.957619	0.931429	0.889524	0.927619	0.935714	0.888571	0.504286	0.476667
22	0.990000	0.989545	0.987727	0.965000	0.964545	0.929545	0.895909	0.935000	0.941364	0.893636	0.510455	0.479091
23	0.989130	0.989130	0.987826	0.966087	0.966087	0.934783	0.903478	0.941739	0.943913	0.900435	0.528696	0.463913
24	0.991250	0.990833	0.990417	0.969167	0.969167	0.941250	0.902917	0.938333	0.947917	0.902500	0.532083	0.463333
25	0.992000	0.992000	0.991200	0.969200	0.968400	0.939200	0.908000	0.940000	0.945600	0.907600	0.528800	0.463200
26	0.989231	0.988846	0.988846	0.968462	0.968462	0.945000	0.910385	0.940385	0.947692	0.910000	0.533077	0.448846
27	0.989259	0.989259	0.988519	0.966667	0.966667	0.938889	0.909259	0.940741	0.944815	0.908519	0.529630	0.454074
28	0.987500	0.987500	0.987500	0.964286	0.964286	0.935357	0.904286	0.935357	0.942143	0.903571	0.531429	0.417857
29	0.981379	0.982069	0.982069	0.960690	0.959655	0.928966	0.905172	0.933448	0.938621	0.904138	0.525172	0.445172
30	0.985000	0.984333	0.983333	0.964667	0.964667	0.925667	0.903667	0.935333	0.940333	0.902000	0.516000	0.431333
31	0.986452	0.985806	0.986774	0.969677	0.969677	0.929032	0.906774	0.937419	0.940645	0.906129	0.490645	0.445484
32	0.984688	0.984062	0.982500	0.964063	0.963750	0.931250	0.908437	0.941250	0.942187	0.906875	0.504062	0.447188
33	0.985758	0.982121	0.981515	0.967879	0.967576	0.938182	0.906061	0.937273	0.941212	0.905152	0.522121	0.438788
34	0.985882	0.986176	0.982353	0.970000	0.970294	0.939412	0.914706	0.942353	0.947353	0.913824	0.527647	0.446765
35	0.977429	0.976857	0.976000	0.958857	0.958286	0.934286	0.908571	0.931429	0.936286	0.908286	0.521143	0.425143
36	0.964722	0.964444	0.964722	0.944444	0.944444	0.915000	0.891667	0.919167	0.921389	0.891111	0.506389	0.455278
37	0.968378	0.968108	0.968108	0.945676	0.944595	0.915946	0.896216	0.920000	0.927838	0.895946	0.509730	0.429459
38	0.967105	0.966579	0.964474	0.944474	0.943684	0.917368	0.893421	0.923947	0.925526	0.892368	0.514474	0.423947
39	0.961795	0.961795	0.961282	0.941538	0.940256	0.910769	0.892051	0.919487	0.923590	0.891795	0.522820	0.403590
40	0.962250	0.961000	0.960500	0.941500	0.940250	0.907500	0.891250	0.918250	0.922250	0.890500	0.514750	0.409500

Table 3: Average Size (as a proportion) of Maximum Induced Planar Subgraph on graphs of size  $n$  (continued).

$n$	OP1+EPS	PT+EPS	VSR+EPS	VSR	VR	VA	PT	OP1	OP2	T	IS	HL
41	0.960488	0.959756	0.958049	0.937805	0.937073	0.901951	0.889024	0.916098	0.917073	0.889024	0.518537	0.399756
42	0.956667	0.957143	0.956905	0.938810	0.938095	0.905000	0.889524	0.915476	0.920714	0.889286	0.509524	0.386429
43	0.955581	0.955814	0.955581	0.935814	0.935349	0.901628	0.887442	0.914419	0.918372	0.886744	0.510930	0.394419
44	0.959318	0.959091	0.957500	0.940909	0.939773	0.909773	0.894091	0.922500	0.924091	0.893864	0.515682	0.390909
45	0.956222	0.956000	0.956000	0.939111	0.938222	0.908222	0.890444	0.919111	0.920000	0.890222	0.513111	0.386667
46	0.954130	0.953913	0.955870	0.935870	0.935217	0.897609	0.883913	0.914348	0.916522	0.883043	0.509783	0.398043
47	0.952340	0.953191	0.951702	0.932553	0.932340	0.896809	0.887021	0.913191	0.914468	0.886383	0.516809	0.401489
48	0.953750	0.953333	0.953125	0.937708	0.937083	0.903750	0.885625	0.916250	0.916667	0.885000	0.511458	0.400208
49	0.954898	0.954694	0.952041	0.935714	0.934898	0.902857	0.887959	0.914694	0.916735	0.887347	0.514286	0.401020
50	0.953800	0.955000	0.951600	0.935600	0.935200	0.902800	0.889200	0.915200	0.916200	0.888800	0.518400	0.399600
51	0.951373	0.950980	0.948235	0.933725	0.932353	0.901176	0.883333	0.911961	0.911373	0.883333	0.520392	0.392157
52	0.948077	0.947500	0.948846	0.932500	0.931731	0.899615	0.887115	0.910385	0.913077	0.886731	0.511923	0.382500
53	0.945660	0.944717	0.946038	0.929057	0.928491	0.891887	0.882264	0.908868	0.909811	0.882264	0.517358	0.386038
54	0.946852	0.948333	0.946296	0.929444	0.928889	0.901296	0.885926	0.910185	0.912037	0.885926	0.514444	0.382222
55	0.947818	0.948000	0.947091	0.932909	0.931636	0.900182	0.886182	0.913455	0.913273	0.885636	0.515455	0.370364
56	0.946964	0.946607	0.947679	0.929643	0.928929	0.898929	0.886071	0.912679	0.911964	0.885714	0.516071	0.380357
57	0.941404	0.943509	0.944035	0.927018	0.926140	0.894737	0.881754	0.909825	0.907719	0.881579	0.509474	0.378947
58	0.947414	0.946897	0.946379	0.930690	0.929655	0.898621	0.883966	0.915345	0.913276	0.883793	0.523621	0.369310
59	0.944576	0.944407	0.943220	0.928814	0.928136	0.894237	0.884407	0.910847	0.911525	0.884407	0.518814	0.368305
60	0.944667	0.944000	0.945667	0.929667	0.929333	0.901000	0.887833	0.913500	0.912833	0.887333	0.523333	0.365000
61	0.942131	0.942459	0.943115	0.928525	0.927541	0.896066	0.885082	0.909508	0.911639	0.884590	0.517377	0.366066
62	0.940968	0.940484	0.941290	0.926774	0.926290	0.896452	0.884516	0.910484	0.908710	0.883710	0.513710	0.380484
63	0.942540	0.943016	0.940952	0.926508	0.925238	0.896349	0.886191	0.910000	0.910159	0.886191	0.509683	0.368413
64	0.940469	0.940469	0.939844	0.927656	0.927500	0.893594	0.883594	0.908281	0.908906	0.883281	0.510469	0.376719
65	0.940462	0.941231	0.940154	0.927385	0.926154	0.894923	0.884462	0.908769	0.908769	0.884308	0.514000	0.369538
66	0.940152	0.939545	0.938636	0.925303	0.923636	0.895000	0.886061	0.908030	0.908788	0.885000	0.502121	0.382273
67	0.942239	0.942388	0.941940	0.930000	0.928806	0.894627	0.888209	0.913284	0.910896	0.887463	0.508955	0.366567
68	0.940147	0.940000	0.941618	0.926618	0.925441	0.900735	0.888971	0.912206	0.911765	0.888529	0.509853	0.365588
69	0.943478	0.942319	0.943188	0.929710	0.928985	0.897391	0.888841	0.913623	0.911884	0.887826	0.510290	0.363478
70	0.937429	0.936714	0.938143	0.923429	0.922857	0.892000	0.883000	0.907286	0.906857	0.883000	0.505857	0.369714

Table 4: Average Size (as a proportion) of Maximum Induced Planar Subgraph on graphs of size  $n$  (continued).

$n$	OP1+EPS	PT+EPS	VSR+EPS	VSR	VR	VA	PT	OP1	OP2	T	IS	HL
71	0.940704	0.940000	0.940563	0.926901	0.926338	0.896197	0.886761	0.911408	0.910986	0.886338	0.508028	0.373521
72	0.939167	0.939722	0.938750	0.925556	0.924861	0.895556	0.886528	0.913750	0.910694	0.886111	0.509722	0.355694
73	0.943151	0.943014	0.941644	0.929726	0.928767	0.898356	0.890548	0.914247	0.913562	0.890274	0.512055	0.365205
74	0.938919	0.938108	0.940270	0.926351	0.924595	0.896757	0.885405	0.912432	0.908378	0.884865	0.506216	0.369324
75	0.938400	0.937867	0.937200	0.925067	0.924000	0.895467	0.886533	0.910267	0.909200	0.886133	0.508000	0.366800
76	0.934868	0.934211	0.934211	0.921974	0.921053	0.890395	0.883947	0.905921	0.904868	0.883947	0.506316	0.365000
77	0.937273	0.937403	0.937143	0.926623	0.925065	0.894545	0.887013	0.908442	0.908831	0.886883	0.506364	0.367403
78	0.937821	0.937308	0.938461	0.927949	0.926154	0.894744	0.886667	0.911538	0.909615	0.886410	0.507308	0.360897
79	0.932785	0.932658	0.933418	0.922405	0.921266	0.891392	0.885696	0.906202	0.904937	0.885570	0.503544	0.355823
80	0.932750	0.932750	0.932000	0.920125	0.919125	0.889625	0.883875	0.906625	0.904125	0.883625	0.505250	0.359750
81	0.933827	0.933580	0.932716	0.921728	0.919506	0.891605	0.886420	0.907161	0.905926	0.885802	0.506296	0.361235
82	0.931829	0.930976	0.931585	0.920732	0.919756	0.891341	0.884756	0.906219	0.903537	0.884268	0.500610	0.349634
83	0.932289	0.932169	0.932771	0.920241	0.919639	0.891325	0.886988	0.905663	0.904819	0.886386	0.505060	0.362048
84	0.934167	0.932738	0.934405	0.922024	0.921190	0.888929	0.889405	0.908929	0.907976	0.889405	0.509881	0.355476
85	0.929059	0.929882	0.932941	0.919529	0.919294	0.891647	0.884235	0.906235	0.904941	0.883765	0.498824	0.350000
86	0.931512	0.930930	0.933605	0.919884	0.919767	0.889884	0.887326	0.906628	0.905116	0.887209	0.501512	0.349535
87	0.929195	0.927816	0.930920	0.918851	0.917471	0.889310	0.882644	0.906552	0.901609	0.881839	0.502529	0.365287
88	0.932614	0.931477	0.934773	0.923409	0.922045	0.891818	0.888295	0.907727	0.906591	0.888295	0.506705	0.356250
89	0.935843	0.935056	0.938090	0.926180	0.925281	0.895843	0.892135	0.912809	0.910674	0.891573	0.505281	0.350112
90	0.929333	0.927444	0.929556	0.918111	0.917667	0.888667	0.881556	0.903222	0.899778	0.881556	0.497778	0.357111
91	0.932308	0.931099	0.931648	0.922527	0.921758	0.892637	0.886044	0.910000	0.905824	0.885824	0.497912	0.364835
92	0.930978	0.930543	0.931956	0.919891	0.919456	0.888991	0.886848	0.906196	0.904565	0.886630	0.499674	0.347500
93	0.929893	0.930108	0.930968	0.919355	0.919140	0.890860	0.885376	0.906022	0.904194	0.885269	0.501290	0.345914
94	0.928191	0.927979	0.930000	0.919255	0.917872	0.888617	0.885000	0.904894	0.903192	0.884468	0.497766	0.343191
95	0.929579	0.929263	0.929664	0.918947	0.917789	0.890316	0.887263	0.905368	0.903158	0.887263	0.498421	0.350737
96	0.931146	0.930938	0.932187	0.921771	0.920521	0.892500	0.887604	0.909479	0.906146	0.887396	0.501042	0.343438
97	0.927320	0.926392	0.927113	0.915670	0.915361	0.884742	0.883608	0.904536	0.901856	0.883402	0.503814	0.344124
98	0.930714	0.929490	0.931429	0.919388	0.917755	0.892347	0.888469	0.909286	0.905612	0.888163	0.502959	0.344694
99	0.928081	0.927576	0.929192	0.917879	0.916869	0.885051	0.886061	0.906970	0.902727	0.885657	0.502424	0.349495
100	0.927700	0.927400	0.929900	0.917400	0.916400	0.885800	0.885100	0.905700	0.902600	0.885100	0.502500	0.346900

### **3 Results - Average Size of Induced Planar Subgraph of graphs of order $n$ .**

Table 5: Average Size of Maximum Induced Planar Subgraph on graphs of size  $n$ .

$n$	OP1+EPS	PT+EPS	VSR+EPS	VSR	VR	VA	PT	OP1	OP2	T	IS	HL
10	10.00 (0.00)	10.00 (0.00)	10.00 (0.00)	9.95 (0.27)	9.95 (0.27)	9.92 (0.31)	9.13 (0.52)	9.73 (0.47)	9.76 (0.46)	9.13 (0.52)	5.63 (0.54)	5.33 (0.71)
11	10.93 (0.26)	10.93 (0.26)	10.92 (0.27)	10.73 (0.51)	10.73 (0.51)	10.53 (0.73)	9.72 (0.69)	10.30 (0.71)	10.47 (0.68)	9.72 (0.69)	5.49 (0.68)	5.83 (1.01)
12	11.96 (0.20)	11.96 (0.20)	11.96 (0.20)	11.74 (0.51)	11.74 (0.51)	11.43 (0.78)	10.82 (0.77)	11.22 (0.71)	11.42 (0.61)	10.81 (0.78)	6.16 (0.63)	6.34 (0.76)
13	12.95 (0.22)	12.95 (0.22)	12.94 (0.24)	12.70 (0.50)	12.70 (0.50)	12.32 (0.84)	11.63 (0.69)	12.16 (0.65)	12.36 (0.63)	11.61 (0.73)	6.64 (0.84)	6.81 (0.83)
14	13.96 (0.20)	13.96 (0.20)	13.96 (0.20)	13.66 (0.50)	13.65 (0.52)	13.25 (0.84)	12.54 (0.72)	13.10 (0.71)	13.31 (0.60)	12.53 (0.73)	7.19 (0.84)	7.38 (0.91)
15	14.90 (0.33)	14.90 (0.33)	14.90 (0.33)	14.57 (0.61)	14.57 (0.61)	14.04 (1.03)	13.34 (0.77)	13.93 (0.76)	14.19 (0.70)	13.33 (0.80)	7.74 (0.80)	7.46 (1.06)
16	15.92 (0.31)	15.91 (0.32)	15.90 (0.30)	15.54 (0.56)	15.54 (0.56)	15.00 (0.89)	14.22 (0.72)	14.75 (0.68)	15.01 (0.56)	14.21 (0.76)	8.26 (0.99)	8.14 (1.11)
17	16.92 (0.27)	16.92 (0.27)	16.90 (0.30)	16.55 (0.61)	16.55 (0.61)	16.08 (0.87)	15.22 (0.74)	15.91 (0.74)	16.11 (0.68)	15.18 (0.76)	8.64 (0.85)	8.53 (1.29)
18	17.84 (0.37)	17.84 (0.37)	17.80 (0.43)	17.37 (0.66)	17.37 (0.66)	16.75 (1.01)	16.00 (0.78)	16.72 (0.74)	16.85 (0.72)	15.96 (0.81)	9.28 (0.81)	8.69 (1.30)
19	18.81 (0.42)	18.82 (0.39)	18.78 (0.46)	18.24 (0.72)	18.23 (0.73)	17.68 (1.03)	16.85 (0.94)	17.55 (0.81)	17.74 (0.76)	16.81 (0.97)	9.67 (0.97)	9.26 (1.41)
20	19.90 (0.31)	19.90 (0.31)	19.86 (0.35)	19.45 (0.69)	19.45 (0.69)	18.83 (0.76)	18.03 (0.68)	18.66 (0.48)	18.93 (0.70)	17.97 (0.73)	10.52 (0.91)	10.03 (1.09)
21	20.69 (0.58)	20.68 (0.59)	20.68 (0.59)	20.11 (0.78)	20.11 (0.78)	19.56 (1.09)	18.68 (0.93)	19.48 (0.85)	19.65 (0.81)	18.66 (0.94)	10.59 (1.04)	10.01 (1.72)
22	21.78 (0.41)	21.77 (0.42)	21.73 (0.44)	21.23 (0.65)	21.22 (0.66)	20.45 (1.07)	19.71 (0.89)	20.57 (0.90)	20.71 (0.77)	19.66 (0.91)	11.23 (1.20)	10.54 (1.68)
23	22.75 (0.49)	22.75 (0.49)	22.72 (0.53)	22.22 (0.78)	22.22 (0.78)	21.50 (1.21)	20.78 (1.07)	21.66 (0.86)	21.71 (0.83)	20.71 (1.09)	12.16 (1.08)	10.67 (1.95)
24	23.79 (0.50)	23.78 (0.51)	23.77 (0.49)	23.26 (0.78)	23.26 (0.78)	22.59 (1.05)	21.67 (0.99)	22.52 (0.85)	22.75 (0.81)	21.66 (1.02)	12.77 (1.22)	11.12 (1.93)
25	24.80 (0.53)	24.80 (0.53)	24.78 (0.54)	24.23 (0.78)	24.21 (0.80)	23.48 (1.10)	22.70 (0.92)	23.50 (0.85)	23.64 (0.91)	22.69 (0.92)	13.22 (1.31)	11.58 (1.91)

Table 6: Average Size of Maximum Induced Planar Subgraph on graphs of size  $n$  (continued).

$n$	OP1+EPS	PT+EPS	VSR+EPS	VSR	VR	VA	PT	OP1	OP2	T	IS	HL
26	25.72 (0.53)	25.71 (0.53)	25.71 (0.53)	25.18 (0.80)	25.18 (0.80)	24.57 (1.13)	23.67 (0.87)	24.45 (0.99)	24.64 (0.85)	23.66 (0.89)	13.86 (1.12)	11.67 (2.08)
27	26.71 (0.48)	26.71 (0.48)	26.69 (0.53)	26.10 (0.69)	26.10 (0.69)	25.35 (0.97)	24.55 (0.92)	25.40 (0.87)	25.51 (0.85)	24.53 (0.92)	14.30 (1.06)	12.26 (2.18)
28	27.65 (0.62)	27.65 (0.62)	27.57 (0.65)	27.00 (0.81)	27.00 (0.81)	26.19 (1.09)	25.32 (0.97)	26.19 (0.98)	26.38 (0.87)	25.30 (1.01)	14.88 (1.20)	11.70 (2.01)
29	28.46 (0.68)	28.48 (0.68)	28.48 (0.66)	27.86 (0.91)	27.83 (0.94)	26.94 (1.28)	26.25 (1.16)	27.07 (0.96)	27.22 (1.06)	26.22 (1.20)	15.23 (1.19)	12.91 (2.34)
30	29.55 (0.62)	29.53 (0.62)	29.50 (0.62)	28.94 (0.85)	28.94 (0.85)	27.77 (1.25)	27.11 (1.07)	28.06 (0.99)	28.21 (0.81)	27.06 (1.08)	15.48 (1.34)	12.94 (2.27)
31	30.58 (0.64)	30.56 (0.66)	30.59 (0.66)	30.06 (0.82)	30.06 (0.82)	28.80 (1.07)	28.11 (0.98)	29.06 (0.86)	29.16 (0.86)	28.09 (0.97)	15.21 (1.19)	13.81 (2.54)
32	31.51 (0.71)	31.49 (0.68)	31.44 (0.72)	30.85 (0.86)	30.84 (0.87)	29.80 (1.23)	29.07 (0.99)	30.12 (1.08)	30.15 (0.95)	29.02 (1.03)	16.13 (1.39)	14.31 (2.61)
33	32.53 (0.72)	32.41 (0.71)	32.39 (0.70)	31.94 (0.89)	31.93 (0.92)	30.96 (1.16)	29.90 (1.16)	30.93 (0.99)	31.06 (0.99)	29.87 (1.21)	17.23 (1.29)	14.48 (2.72)
34	33.52 (0.58)	33.53 (0.58)	33.40 (0.64)	32.98 (0.81)	32.99 (0.80)	31.94 (1.19)	31.10 (1.09)	32.04 (0.95)	32.21 (0.91)	31.07 (1.13)	17.94 (1.33)	15.19 (2.81)
35	34.21 (0.84)	34.19 (0.85)	34.16 (0.79)	33.56 (1.01)	33.54 (1.04)	32.70 (1.28)	31.80 (1.12)	32.60 (1.10)	32.77 (1.12)	31.79 (1.13)	18.24 (1.29)	14.88 (2.84)
36	34.73 (0.91)	34.72 (0.92)	34.73 (0.91)	34.00 (1.02)	34.00 (1.02)	32.94 (1.34)	32.10 (1.18)	33.09 (1.06)	33.17 (1.10)	32.08 (1.17)	18.23 (1.32)	16.39 (2.97)
37	35.83 (0.83)	35.82 (0.83)	35.82 (0.75)	34.99 (0.93)	34.95 (0.94)	33.89 (1.26)	33.16 (1.05)	34.04 (0.99)	34.33 (0.87)	33.15 (1.03)	18.86 (1.22)	15.89 (3.03)
38	36.75 (0.87)	36.73 (0.89)	36.65 (0.91)	35.89 (1.04)	35.86 (1.06)	34.86 (1.32)	33.95 (1.26)	35.11 (1.01)	35.17 (1.09)	33.91 (1.26)	19.55 (1.44)	16.11 (2.68)
39	37.51 (0.91)	37.51 (0.91)	37.49 (0.88)	36.72 (1.03)	36.67 (1.08)	35.52 (1.37)	34.79 (1.06)	35.86 (1.08)	36.02 (1.02)	34.78 (1.06)	20.39 (1.42)	15.74 (2.47)
40	38.49 (0.95)	38.44 (0.95)	38.42 (0.88)	37.66 (1.12)	37.61 (1.13)	36.30 (1.36)	35.65 (1.17)	36.73 (1.10)	36.89 (1.11)	35.62 (1.17)	20.59 (1.42)	16.38 (2.72)

Table 7: Average Size of Maximum Induced Planar Subgraph on graphs of size  $n$ .

$n$	OP1+EPS	PT+EPS	VSR+EPS	VSR	VR	VA	PT	OP1	OP2	T	IS	HL
41	39.38 (1.01)	39.35 (1.03)	39.28 (0.96)	38.45 (1.00)	38.42 (1.04)	36.98 (1.32)	36.45 (1.17)	37.56 (1.01)	37.60 (1.06)	36.45 (1.17)	21.26 (1.44)	16.39 (2.50)
42	40.18 (0.91)	40.20 (0.90)	40.19 (0.97)	39.43 (1.07)	39.40 (1.09)	38.01 (1.26)	37.36 (1.20)	38.45 (1.10)	38.67 (1.13)	37.35 (1.20)	21.40 (1.32)	16.23 (2.47)
43	41.09 (1.02)	41.10 (1.01)	41.09 (1.00)	40.24 (1.19)	40.22 (1.20)	38.77 (1.48)	38.16 (1.22)	39.32 (1.20)	39.49 (1.16)	38.13 (1.23)	21.97 (1.54)	16.96 (2.70)
44	42.21 (1.11)	42.20 (1.11)	42.13 (1.06)	41.40 (1.18)	41.35 (1.21)	40.03 (1.49)	39.34 (1.29)	40.59 (1.16)	40.66 (1.15)	39.33 (1.29)	22.69 (1.49)	17.20 (2.39)
45	43.03 (1.20)	43.02 (1.20)	43.02 (1.17)	42.26 (1.23)	42.22 (1.27)	40.87 (1.48)	40.07 (1.30)	41.36 (1.31)	41.40 (1.30)	40.06 (1.31)	23.09 (1.49)	17.40 (2.40)
46	43.89 (1.09)	43.88 (1.11)	43.97 (1.08)	43.05 (1.16)	43.02 (1.20)	41.29 (1.54)	40.66 (1.25)	42.06 (1.19)	42.16 (1.13)	40.62 (1.28)	23.45 (1.51)	18.31 (3.01)
47	44.76 (1.28)	44.80 (1.27)	44.73 (1.29)	43.83 (1.32)	43.82 (1.33)	42.15 (1.76)	41.69 (1.38)	42.92 (1.36)	42.98 (1.41)	41.66 (1.42)	24.29 (1.69)	18.87 (2.97)
48	45.78 (1.27)	45.76 (1.30)	45.75 (1.12)	45.01 (1.29)	44.98 (1.33)	43.38 (1.72)	42.51 (1.28)	43.98 (1.41)	44.00 (1.36)	42.48 (1.26)	24.55 (1.93)	19.21 (3.68)
49	46.79 (1.25)	46.78 (1.23)	46.65 (1.25)	45.85 (1.46)	45.81 (1.49)	44.24 (1.88)	43.51 (1.35)	44.82 (1.49)	44.92 (1.34)	43.48 (1.36)	25.20 (1.78)	19.65 (3.05)
50	47.69 (1.26)	47.75 (1.21)	47.58 (1.23)	46.78 (1.42)	46.76 (1.39)	45.14 (1.86)	44.46 (1.34)	45.76 (1.49)	45.81 (1.38)	44.44 (1.36)	25.92 (1.44)	19.98 (3.04)
51	48.52 (1.14)	48.50 (1.19)	48.36 (1.15)	47.62 (1.29)	47.55 (1.33)	45.96 (1.58)	45.05 (1.19)	46.51 (1.33)	46.48 (1.22)	45.05 (1.19)	26.54 (1.41)	20.00 (3.61)
52	49.30 (1.26)	49.27 (1.24)	49.34 (1.18)	48.49 (1.27)	48.45 (1.30)	46.78 (1.87)	46.13 (1.49)	47.34 (1.51)	47.48 (1.48)	46.11 (1.50)	26.62 (1.91)	19.89 (2.39)
53	50.12 (1.36)	50.07 (1.35)	50.14 (1.30)	49.24 (1.44)	49.21 (1.44)	47.27 (1.78)	46.76 (1.43)	48.17 (1.52)	48.22 (1.45)	46.76 (1.43)	27.42 (1.90)	20.46 (3.19)
54	51.13 (1.22)	51.21 (1.25)	51.10 (1.25)	50.19 (1.25)	50.16 (1.23)	48.67 (1.62)	47.84 (1.35)	49.15 (1.32)	49.25 (1.39)	47.84 (1.35)	27.78 (1.71)	20.64 (3.12)
55	52.13 (1.27)	52.14 (1.32)	52.09 (1.28)	51.31 (1.35)	51.24 (1.39)	49.51 (1.76)	48.74 (1.56)	50.24 (1.47)	50.23 (1.48)	48.71 (1.56)	28.35 (1.90)	20.37 (2.73)

Table 8: Average Size of Maximum Induced Planar Subgraph on graphs of size  $n$  (continued).

$n$	OP1+EPS	PT+EPS	VSR+EPS	VSR	VR	VA	PT	OP1	OP2	T	IS	HL
56	53.03 (1.45)	53.01 (1.44)	53.07 (1.41)	52.06 (1.42)	52.02 (1.42)	50.34 (1.83)	49.62 (1.54)	51.11 (1.49)	51.07 (1.48)	49.60 (1.54)	28.90 (1.69)	21.30 (3.38)
57	53.66 (1.29)	53.78 (1.25)	53.81 (1.20)	52.84 (1.37)	52.79 (1.44)	51.00 (1.73)	50.26 (1.49)	51.86 (1.41)	51.74 (1.44)	50.25 (1.49)	29.04 (1.76)	21.60 (2.63)
58	54.95 (1.27)	54.92 (1.30)	54.89 (1.32)	53.98 (1.41)	53.92 (1.50)	52.12 (1.65)	51.27 (1.41)	53.09 (1.51)	52.97 (1.49)	51.26 (1.42)	30.37 (1.92)	21.42 (2.78)
59	55.73 (1.11)	55.72 (1.17)	55.65 (1.10)	54.80 (1.24)	54.76 (1.28)	52.76 (1.71)	52.18 (1.26)	53.74 (1.42)	53.78 (1.26)	52.18 (1.26)	30.61 (1.98)	21.73 (3.04)
60	56.68 (1.38)	56.64 (1.42)	56.74 (1.31)	55.78 (1.47)	55.76 (1.44)	54.06 (1.75)	53.27 (1.47)	54.81 (1.50)	54.77 (1.50)	53.24 (1.48)	31.40 (1.91)	21.90 (2.93)
61	57.47 (1.29)	57.49 (1.29)	57.53 (1.34)	56.64 (1.50)	56.58 (1.45)	54.66 (1.83)	53.99 (1.57)	55.48 (1.53)	55.61 (1.49)	53.96 (1.60)	31.56 (1.88)	22.33 (2.82)
62	58.34 (1.46)	58.31 (1.51)	58.36 (1.49)	57.46 (1.49)	57.43 (1.48)	55.58 (1.87)	54.84 (1.54)	56.45 (1.56)	56.34 (1.53)	54.79 (1.59)	31.85 (1.99)	23.59 (3.36)
63	59.38 (1.25)	59.41 (1.21)	59.28 (1.26)	58.37 (1.37)	58.29 (1.40)	56.47 (1.73)	55.83 (1.53)	57.33 (1.41)	57.34 (1.60)	55.83 (1.53)	32.11 (1.87)	23.21 (2.79)
64	60.19 (1.35)	60.19 (1.35)	60.15 (1.33)	59.37 (1.37)	59.36 (1.36)	57.19 (1.91)	56.55 (1.50)	58.13 (1.48)	58.17 (1.37)	56.53 (1.51)	32.67 (1.73)	24.11 (3.28)
65	61.13 (1.57)	61.18 (1.51)	61.11 (1.55)	60.28 (1.55)	60.20 (1.64)	58.17 (2.03)	57.49 (1.68)	59.07 (1.61)	59.07 (1.69)	57.48 (1.69)	33.41 (1.69)	24.02 (3.40)
66	62.05 (1.52)	62.01 (1.53)	61.95 (1.46)	61.07 (1.49)	60.96 (1.57)	59.07 (1.86)	58.48 (1.67)	59.93 (1.63)	59.98 (1.61)	58.41 (1.63)	33.14 (1.74)	25.23 (3.85)
67	63.13 (1.57)	63.14 (1.51)	63.11 (1.44)	62.31 (1.53)	62.23 (1.56)	59.94 (1.91)	59.51 (1.70)	61.19 (1.70)	61.03 (1.57)	59.46 (1.69)	34.10 (1.65)	24.56 (3.38)
68	63.93 (1.41)	63.92 (1.42)	64.03 (1.29)	63.01 (1.50)	62.93 (1.53)	61.25 (1.84)	60.45 (1.38)	62.03 (1.49)	62.00 (1.44)	60.42 (1.41)	34.67 (1.73)	24.86 (3.55)
69	65.10 (1.45)	65.02 (1.41)	65.08 (1.35)	64.15 (1.52)	64.10 (1.56)	61.92 (1.98)	61.33 (1.52)	63.04 (1.54)	62.92 (1.51)	61.26 (1.58)	35.21 (1.70)	25.08 (3.51)
70	65.62 (1.50)	65.57 (1.43)	65.67 (1.41)	64.64 (1.49)	64.60 (1.55)	62.44 (1.72)	61.81 (1.52)	63.51 (1.51)	63.48 (1.60)	61.81 (1.52)	35.41 (1.71)	25.88 (3.40)

Table 9: Average Size of Maximum Induced Planar Subgraph on graphs of size  $n$  (continued).

$n$	OPI+EPS	PT+EPS	VSR+EPS	VSR	VR	VA	PT	OPI	OP2	T	IS	HL
71	66.79 (1.41)	66.74 (1.43)	66.78 (1.41)	65.81 (1.53)	65.77 (1.56)	63.63 (1.75)	62.96 (1.44)	64.71 (1.56)	64.68 (1.54)	62.93 (1.45)	36.07 (1.86)	26.52 (3.75)
72	67.62 (1.41)	67.66 (1.41)	67.59 (1.38)	66.64 (1.46)	66.59 (1.54)	64.48 (2.05)	63.83 (1.69)	65.79 (1.52)	65.57 (1.61)	63.80 (1.69)	36.70 (1.86)	25.61 (2.61)
73	68.85 (1.19)	68.84 (1.22)	68.74 (1.15)	67.87 (1.17)	67.80 (1.20)	65.58 (1.68)	65.01 (1.48)	66.74 (1.42)	66.69 (1.29)	64.99 (1.48)	37.38 (1.81)	26.66 (3.12)
74	69.48 (1.15)	69.42 (1.20)	69.58 (1.26)	68.55 (1.41)	68.42 (1.46)	66.36 (1.55)	65.52 (1.34)	67.52 (1.37)	67.22 (1.32)	65.48 (1.34)	37.46 (1.83)	27.33 (4.12)
75	70.38 (1.52)	70.34 (1.57)	70.29 (1.50)	69.38 (1.61)	69.30 (1.69)	67.16 (1.95)	66.49 (1.73)	68.27 (1.64)	68.19 (1.79)	66.46 (1.69)	38.10 (1.74)	27.51 (4.29)
76	71.05 (1.35)	71.00 (1.38)	71.00 (1.39)	70.07 (1.39)	70.00 (1.46)	67.67 (1.67)	67.18 (1.57)	68.85 (1.39)	68.77 (1.51)	67.18 (1.57)	38.48 (1.91)	27.74 (3.41)
77	72.17 (1.64)	72.18 (1.66)	72.16 (1.45)	71.35 (1.62)	71.23 (1.70)	68.88 (2.05)	68.30 (1.80)	69.95 (1.73)	69.98 (1.69)	68.29 (1.81)	38.99 (1.86)	28.29 (3.60)
78	73.15 (1.59)	73.11 (1.57)	73.20 (1.44)	72.38 (1.49)	72.24 (1.58)	69.79 (2.01)	69.16 (1.94)	71.10 (1.65)	70.95 (1.70)	69.14 (1.92)	39.57 (1.89)	28.15 (3.63)
79	73.69 (1.51)	73.68 (1.62)	73.74 (1.55)	72.87 (1.60)	72.78 (1.65)	70.42 (1.87)	69.97 (1.86)	71.59 (1.70)	71.49 (1.79)	69.96 (1.85)	39.78 (1.82)	28.11 (2.85)
80	74.62 (1.61)	74.62 (1.57)	74.56 (1.49)	73.61 (1.66)	73.53 (1.66)	71.17 (2.09)	70.71 (1.79)	72.53 (1.79)	72.33 (1.73)	70.69 (1.82)	40.42 (2.20)	28.78 (4.08)
81	75.64 (1.65)	75.62 (1.68)	75.55 (1.57)	74.66 (1.67)	74.48 (1.77)	72.22 (2.04)	71.80 (1.69)	73.48 (1.84)	73.38 (1.79)	71.75 (1.77)	41.01 (1.92)	29.26 (4.82)
82	76.41 (1.56)	76.34 (1.48)	76.39 (1.43)	75.50 (1.40)	75.42 (1.42)	73.09 (1.92)	72.55 (1.81)	74.31 (1.50)	74.09 (1.58)	72.51 (1.82)	41.05 (1.91)	28.67 (3.15)
83	77.38 (1.46)	77.37 (1.46)	77.42 (1.38)	76.38 (1.44)	76.33 (1.46)	73.98 (1.71)	73.62 (1.62)	75.17 (1.33)	75.10 (1.50)	73.57 (1.64)	41.92 (1.80)	30.05 (2.91)
84	78.47 (1.58)	78.35 (1.63)	78.49 (1.54)	77.45 (1.53)	77.38 (1.56)	74.67 (2.09)	74.71 (1.74)	76.35 (1.63)	76.27 (1.65)	74.71 (1.74)	42.83 (2.25)	29.86 (2.88)
85	78.97 (1.45)	79.04 (1.49)	79.30 (1.42)	78.16 (1.53)	78.14 (1.52)	75.79 (1.86)	75.16 (1.69)	77.03 (1.49)	76.92 (1.76)	75.12 (1.67)	42.40 (2.23)	29.75 (3.93)

Table 10: Average Size of Maximum Induced Planar Subgraph on graphs of size  $n$  (continued).

$n$	OPI+EPS	PT+EPS	VSR+EPS	VSR	VR	VA	PT	OPI	OP2	T	IS	HL
86	80.11 (1.60)	80.06 (1.62)	80.29 (1.63)	79.11 (1.79)	79.10 (1.78)	76.53 (2.52)	76.31 (1.84)	77.97 (1.69)	77.84 (1.79)	76.30 (1.86)	43.13 (1.81)	30.06 (3.41)
87	80.84 (1.77)	80.72 (1.66)	80.99 (1.58)	79.94 (1.79)	79.82 (1.83)	77.37 (2.39)	76.79 (1.93)	78.87 (1.97)	78.44 (1.88)	76.72 (1.92)	43.72 (1.93)	31.78 (4.90)
88	82.07 (1.67)	81.97 (1.65)	82.26 (1.55)	81.26 (1.78)	81.14 (1.78)	78.48 (2.39)	78.17 (1.66)	79.88 (1.86)	79.78 (1.83)	78.17 (1.66)	44.59 (1.97)	31.35 (4.13)
89	83.29 (1.79)	83.22 (1.84)	83.49 (1.72)	82.43 (1.75)	82.35 (1.76)	79.73 (2.31)	79.40 (1.85)	81.24 (1.94)	81.05 (1.86)	79.35 (1.88)	44.97 (1.92)	31.16 (3.32)
90	83.64 (1.64)	83.47 (1.84)	83.66 (1.63)	82.63 (1.75)	82.59 (1.68)	79.98 (1.97)	79.34 (1.57)	81.29 (1.70)	80.98 (1.75)	79.34 (1.57)	44.80 (2.02)	32.14 (4.22)
91	84.84 (2.00)	84.73 (2.10)	84.78 (1.95)	83.95 (2.00)	83.88 (2.07)	81.23 (2.47)	80.63 (2.01)	82.81 (2.28)	82.43 (2.11)	80.61 (2.02)	45.31 (2.16)	33.20 (4.79)
92	85.65 (1.92)	85.61 (1.97)	85.74 (1.81)	84.63 (1.91)	84.59 (1.88)	81.87 (2.30)	81.59 (1.94)	83.37 (1.96)	83.22 (1.88)	81.57 (1.95)	45.97 (1.99)	31.97 (3.25)
93	86.48 (1.88)	86.50 (1.96)	86.58 (1.76)	85.50 (1.94)	85.48 (1.99)	82.85 (2.24)	82.34 (1.97)	84.26 (2.04)	84.09 (2.06)	82.33 (1.98)	46.62 (2.39)	32.17 (3.46)
94	87.25 (1.98)	87.23 (2.04)	87.42 (1.91)	86.41 (1.95)	86.28 (1.98)	83.53 (2.42)	83.19 (1.99)	85.06 (1.96)	84.90 (2.06)	83.14 (2.00)	46.79 (2.32)	32.26 (3.32)
95	88.31 (1.73)	88.28 (1.69)	88.32 (1.61)	87.30 (1.65)	87.19 (1.68)	84.58 (1.94)	84.29 (1.81)	86.01 (1.67)	85.80 (1.75)	84.29 (1.81)	47.35 (1.95)	33.32 (3.72)
96	89.39 (1.78)	89.37 (1.80)	89.49 (1.82)	88.49 (1.91)	88.37 (1.97)	85.68 (2.50)	85.21 (1.91)	87.31 (1.98)	86.99 (1.95)	85.19 (1.94)	48.10 (2.12)	32.97 (3.94)
97	89.95 (1.59)	89.86 (1.74)	89.93 (1.59)	88.82 (1.66)	88.79 (1.68)	85.82 (2.33)	85.71 (1.68)	87.74 (1.72)	87.48 (1.76)	85.69 (1.68)	48.87 (1.91)	33.38 (3.56)
98	91.21 (1.81)	91.09 (1.87)	91.28 (1.78)	90.10 (1.86)	89.94 (1.99)	87.45 (2.42)	87.07 (2.00)	89.11 (1.74)	88.75 (2.04)	87.04 (2.02)	49.29 (2.10)	33.78 (3.57)
99	91.88 (1.71)	91.83 (1.75)	91.99 (1.53)	90.87 (1.77)	90.77 (1.75)	87.62 (2.20)	87.72 (1.84)	89.79 (1.80)	89.37 (1.79)	87.68 (1.84)	49.74 (2.13)	34.60 (3.38)
100	92.77 (1.86)	92.74 (1.96)	92.99 (1.83)	91.74 (1.88)	91.64 (1.96)	88.58 (2.32)	88.51 (1.90)	90.57 (1.96)	90.26 (1.97)	88.51 (1.90)	50.25 (1.93)	34.69 (3.51)

## 4 Results - Time Taken to Produce Induced Planar Subgraph

Table 11: Average Elapsed Time (microseconds) to Produce an Induced Planar Subgraph on graphs of size  $n$ .

$n$	OP1+EPS	PT+EPS	VSR+EPS	VSR	VR	VA	PT	OP1	OP2	T	IS	HL
10	33.36 (7.90)	40.86 (7.17)	9.83 (8.30)	6.74 (4.09)	6.31 (1.67)	5.82 (2.43)	10.68 (1.52)	11.19 (2.25)	12.24 (3.59)	9.41 (1.40)	4.63 (0.87)	3.41 (1.18)
11	43.87 (11.07)	50.90 (7.68)	18.21 (15.83)	8.05 (1.72)	7.81 (1.64)	8.48 (4.07)	12.39 (1.24)	13.38 (1.91)	15.42 (3.62)	10.97 (1.35)	5.01 (0.65)	3.78 (0.78)
12	52.19 (17.94)	57.70 (10.24)	20.55 (18.15)	8.71 (1.71)	8.67 (1.65)	9.87 (5.22)	14.11 (2.04)	14.34 (2.27)	17.43 (4.94)	12.21 (1.51)	5.75 (0.76)	4.03 (0.63)
13	56.69 (13.71)	66.95 (11.91)	24.02 (20.10)	9.81 (1.42)	9.72 (1.35)	11.35 (6.40)	15.10 (1.63)	16.02 (2.84)	19.31 (4.85)	13.40 (1.62)	6.06 (0.53)	4.35 (0.67)
14	64.93 (15.15)	77.75 (13.19)	29.22 (24.98)	12.02 (15.91)	10.94 (6.06)	13.26 (6.86)	16.42 (1.59)	17.40 (2.52)	21.87 (9.19)	16.23 (15.90)	6.47 (0.61)	4.47 (0.56)
15	70.43 (15.70)	84.49 (13.99)	32.59 (25.24)	10.56 (1.83)	10.83 (4.04)	15.36 (7.88)	17.61 (1.82)	18.42 (2.65)	23.76 (6.51)	15.61 (1.66)	6.90 (0.80)	4.76 (0.70)
16	87.21 (22.29)	99.07 (16.49)	37.99 (27.89)	12.01 (1.50)	11.80 (1.52)	17.92 (8.50)	18.94 (1.70)	19.88 (2.86)	26.25 (5.88)	17.32 (1.92)	7.29 (0.70)	5.17 (0.66)
17	85.74 (23.93)	102.86 (18.40)	38.84 (30.95)	12.77 (1.90)	12.58 (1.80)	18.60 (11.25)	19.92 (2.07)	21.65 (3.52)	26.45 (5.29)	17.97 (2.39)	7.64 (0.65)	5.31 (0.89)
18	99.38 (52.49)	113.83 (18.60)	46.72 (30.36)	13.87 (1.96)	13.79 (2.37)	20.77 (9.53)	21.39 (1.92)	23.22 (3.61)	30.39 (6.48)	19.64 (5.62)	8.16 (0.83)	5.83 (0.86)
19	104.94 (27.21)	125.06 (23.06)	57.84 (37.12)	14.59 (2.40)	15.89 (16.21)	23.62 (12.29)	22.86 (2.41)	24.51 (5.88)	32.95 (8.43)	20.30 (2.35)	8.62 (0.75)	6.00 (0.83)
20	120.17 (28.47)	138.72 (24.54)	51.86 (40.49)	14.69 (1.71)	14.48 (1.53)	26.41 (15.36)	24.00 (2.49)	24.52 (2.73)	33.17 (5.08)	21.41 (3.09)	9.03 (0.73)	6.17 (0.71)
21	115.71 (25.85)	150.07 (56.76)	67.81 (37.04)	16.81 (2.31)	16.49 (2.05)	27.06 (13.15)	24.45 (2.41)	26.59 (4.43)	35.37 (9.25)	21.51 (2.20)	9.39 (0.75)	6.91 (0.72)
22	129.76 (38.19)	160.41 (27.56)	69.46 (41.03)	17.46 (2.60)	17.14 (2.53)	27.45 (18.96)	25.35 (2.59)	27.98 (4.15)	36.01 (9.10)	22.77 (2.76)	9.88 (0.79)	7.12 (0.86)
23	130.30 (35.04)	158.95 (28.99)	68.12 (43.99)	18.20 (2.71)	17.87 (2.53)	27.25 (16.18)	26.53 (2.70)	29.20 (4.37)	36.76 (9.41)	24.14 (4.05)	10.34 (0.68)	7.51 (0.79)
24	141.08 (42.11)	174.79 (37.22)	71.41 (54.93)	18.41 (2.36)	18.18 (2.04)	27.92 (14.78)	27.84 (2.91)	29.64 (4.99)	40.59 (10.42)	24.92 (3.43)	10.70 (0.59)	7.67 (0.69)
25	151.65 (42.67)	186.10 (33.83)	77.91 (48.28)	19.27 (2.53)	19.02 (2.36)	29.71 (13.90)	28.95 (3.47)	31.24 (5.41)	41.70 (10.86)	25.91 (3.31)	11.08 (0.80)	8.03 (0.76)

Table 12: Average Elapsed Time (microseconds) to Produce an Induced Planar Subgraph on graphs of size  $n$ .

$n$	OPI+EPS	PT+EPS	VSR+EPS	VSR	VR	VA	PT	OPI	OP2	T	IS	HL
26	163.47 (47.34)	200.63 (40.74)	86.51 (54.87)	20.30 (2.57)	20.06 (2.38)	34.52 (18.75)	30.73 (3.89)	39.00 (51.17)	45.41 (12.79)	27.72 (3.86)	11.58 (0.75)	8.07 (0.68)
27	170.18 (48.98)	215.01 (43.98)	96.94 (53.59)	21.46 (3.18)	21.02 (2.69)	40.51 (25.95)	31.82 (3.00)	35.03 (6.28)	47.71 (15.77)	28.76 (3.75)	11.94 (0.80)	8.49 (0.79)
28	183.10 (55.45)	225.02 (43.76)	98.77 (51.60)	22.16 (2.71)	22.28 (5.50)	39.51 (23.08)	38.51 (52.90)	35.17 (5.00)	51.15 (13.77)	29.32 (3.76)	12.88 (3.30)	8.74 (0.74)
29	200.17 (58.93)	254.91 (46.93)	106.45 (60.33)	23.58 (3.40)	22.90 (2.45)	49.07 (30.98)	35.84 (4.87)	38.22 (5.76)	53.13 (13.94)	32.23 (4.32)	12.91 (0.85)	9.19 (0.86)
30	202.98 (61.80)	267.18 (72.06)	105.34 (59.34)	24.97 (5.92)	23.68 (2.43)	46.11 (22.88)	36.00 (3.53)	40.56 (8.63)	54.65 (15.26)	32.56 (3.89)	13.32 (0.88)	9.79 (3.11)
31	230.49 (65.39)	309.75 (107.10)	111.04 (67.05)	25.12 (2.42)	25.05 (4.74)	42.65 (27.55)	37.96 (4.40)	44.86 (9.89)	61.08 (27.48)	34.87 (4.18)	13.55 (0.85)	9.71 (1.04)
32	225.48 (68.00)	302.72 (63.51)	124.96 (69.36)	26.03 (4.07)	25.14 (2.72)	50.05 (31.28)	38.70 (5.66)	45.42 (8.86)	66.91 (31.45)	35.32 (5.48)	13.91 (0.80)	10.31 (5.11)
33	242.04 (66.30)	314.09 (59.20)	114.10 (63.93)	26.65 (3.00)	26.14 (2.80)	43.09 (31.53)	38.79 (4.72)	44.45 (7.52)	59.78 (19.01)	35.71 (5.51)	14.80 (1.79)	10.22 (0.89)
34	253.33 (80.07)	338.99 (123.16)	111.70 (60.53)	27.04 (3.09)	26.49 (2.88)	47.01 (31.44)	41.28 (4.42)	45.68 (7.24)	63.12 (17.24)	37.98 (4.68)	15.05 (0.95)	10.31 (0.93)
35	268.02 (74.38)	337.31 (61.37)	151.41 (68.86)	28.98 (3.02)	28.23 (2.72)	52.51 (30.08)	42.93 (4.98)	47.05 (8.54)	66.90 (22.93)	39.62 (6.00)	15.73 (1.73)	10.89 (0.99)
36	274.97 (81.63)	352.80 (62.58)	171.94 (59.70)	31.92 (4.16)	30.60 (2.82)	80.65 (44.46)	45.77 (6.82)	51.53 (8.99)	74.69 (18.75)	41.62 (5.90)	16.12 (0.81)	11.16 (1.03)
37	296.75 (91.03)	377.61 (88.27)	189.06 (72.42)	32.40 (2.95)	31.47 (2.66)	84.29 (48.33)	47.44 (6.19)	51.38 (8.96)	82.44 (24.20)	43.48 (6.39)	16.64 (0.72)	11.66 (0.89)
38	307.48 (113.72)	411.48 (81.30)	188.40 (67.09)	33.35 (4.09)	32.17 (2.76)	93.82 (46.32)	48.38 (6.08)	56.33 (10.37)	84.32 (24.17)	44.04 (5.87)	17.29 (1.46)	11.85 (0.93)
39	302.10 (91.73)	400.69 (69.99)	189.12 (63.35)	34.88 (3.74)	33.91 (3.81)	86.95 (44.37)	51.48 (7.52)	57.88 (10.58)	93.39 (40.64)	46.64 (6.93)	17.71 (0.96)	12.52 (1.08)
40	321.95 (90.08)	436.92 (80.05)	200.43 (70.05)	35.30 (3.35)	34.25 (3.01)	95.86 (45.85)	52.62 (6.52)	60.18 (11.59)	98.95 (30.50)	47.66 (6.01)	17.87 (0.88)	12.77 (1.04)

Table 13: Average Elapsed Time (microseconds) to Produce an Induced Planar Subgraph on graphs of size  $n$ .

$n$	OP1+EPS	PT+EPS	VSR+EPS	VSR	VR	VA	PT	OP1	OP2	T	IS	HL
41	337.17 (90.62)	449.69 (83.20)	211.91 (54.67)	36.68 (3.29)	35.71 (3.54)	98.44 (51.30)	54.44 (6.82)	62.75 (12.02)	102.53 (26.65)	49.74 (6.28)	19.07 (6.26)	13.18 (0.95)
42	334.17 (91.48)	446.75 (84.56)	208.33 (55.05)	37.86 (3.56)	36.59 (3.17)	90.32 (54.17)	54.93 (7.30)	62.09 (12.13)	105.35 (30.45)	50.10 (6.39)	18.91 (1.00)	13.61 (0.92)
43	354.44 (94.90)	491.66 (97.26)	223.81 (73.36)	39.12 (4.68)	37.76 (3.87)	94.06 (54.75)	56.31 (6.02)	65.87 (15.03)	113.51 (36.74)	51.68 (6.50)	19.39 (0.99)	13.96 (1.07)
44	350.72 (110.75)	486.77 (94.94)	227.20 (101.62)	39.26 (4.21)	38.08 (3.74)	98.65 (56.32)	57.22 (6.63)	66.87 (12.89)	109.99 (33.62)	52.44 (7.04)	19.80 (0.91)	13.96 (1.00)
45	357.70 (102.34)	509.55 (99.97)	229.14 (73.00)	40.20 (4.33)	39.04 (3.84)	91.94 (52.15)	59.26 (7.07)	69.48 (14.91)	115.56 (34.39)	54.00 (6.70)	21.72 (13.46)	14.40 (1.12)
46	385.24 (97.14)	565.59 (100.45)	252.76 (70.32)	42.10 (4.41)	41.10 (6.30)	116.33 (59.84)	63.02 (9.03)	73.62 (12.58)	128.88 (38.80)	56.46 (7.01)	20.74 (0.98)	14.69 (1.14)
47	408.32 (130.93)	579.63 (94.30)	259.92 (75.16)	42.79 (5.30)	41.15 (4.47)	115.29 (56.61)	64.81 (9.29)	76.44 (15.84)	132.74 (42.85)	59.28 (7.61)	21.38 (1.17)	14.98 (1.17)
48	416.15 (145.76)	618.85 (119.42)	244.53 (78.01)	43.26 (4.69)	41.75 (4.04)	131.18 (78.66)	66.41 (8.94)	80.56 (16.90)	149.27 (51.50)	61.43 (9.91)	21.84 (1.66)	15.12 (1.14)
49	438.38 (129.72)	634.41 (139.63)	256.81 (99.29)	43.93 (4.75)	42.96 (5.61)	119.89 (79.77)	66.20 (9.00)	76.40 (11.88)	132.02 (40.10)	60.36 (8.13)	22.09 (0.97)	15.46 (1.91)
50	457.98 (140.16)	653.88 (106.58)	263.97 (105.41)	45.17 (4.61)	43.75 (3.90)	122.69 (66.21)	67.93 (8.22)	78.97 (12.95)	143.44 (42.83)	62.31 (8.48)	22.76 (1.04)	15.81 (1.15)
51	462.62 (136.71)	667.04 (129.21)	265.26 (92.32)	47.06 (6.30)	45.45 (5.58)	122.46 (65.28)	69.88 (9.44)	85.92 (18.04)	150.00 (37.15)	64.14 (8.53)	23.27 (0.93)	16.19 (1.16)
52	487.65 (163.52)	678.27 (133.55)	280.13 (91.20)	47.97 (4.66)	46.15 (4.11)	129.34 (66.09)	71.19 (7.22)	86.57 (50.88)	155.80 (47.22)	65.71 (7.55)	23.52 (1.33)	16.46 (1.02)
53	482.84 (137.88)	700.20 (121.38)	290.09 (91.06)	50.13 (6.61)	47.82 (5.04)	143.04 (77.65)	72.89 (9.39)	86.69 (17.86)	160.52 (46.81)	67.36 (10.17)	24.26 (1.21)	16.74 (1.25)
54	490.96 (128.13)	710.78 (127.92)	307.63 (98.93)	49.92 (4.58)	48.10 (4.15)	150.80 (88.29)	76.20 (9.59)	88.48 (15.77)	162.72 (46.40)	70.44 (10.20)	24.56 (1.06)	16.98 (1.20)
55	509.87 (185.25)	750.79 (157.10)	298.53 (108.42)	51.09 (4.87)	49.31 (4.58)	156.69 (153.40)	81.61 (50.52)	90.74 (21.27)	173.77 (59.61)	69.80 (9.42)	25.11 (1.02)	17.30 (1.35)

Table 14: Average Elapsed Time (microseconds) to Produce an Induced Planar Subgraph on graphs of size  $n$ .

$n$	OPI+EPS	PT+EPS	VSR+EPS	VSR	VR	VA	PT	OPI	OP2	T	IS	HL
56	526.92 (154.35)	784.51 (173.85)	349.57 (133.20)	52.59 (5.59)	50.75 (4.58)	153.63 (82.62)	79.17 (9.80)	93.24 (16.34)	167.89 (47.19)	72.61 (9.55)	26.25 (6.95)	17.59 (1.14)
57	513.10 (159.23)	809.26 (141.97)	339.25 (100.89)	53.80 (5.82)	52.21 (6.30)	170.76 (75.59)	81.70 (10.93)	100.29 (19.84)	192.61 (51.95)	74.92 (10.47)	25.88 (1.06)	18.16 (1.09)
58	527.69 (181.62)	827.95 (172.91)	331.53 (111.96)	53.85 (5.34)	51.82 (4.20)	166.36 (85.33)	81.63 (11.00)	100.99 (19.66)	197.86 (68.88)	74.22 (11.18)	26.80 (2.77)	18.12 (1.29)
59	567.55 (164.95)	855.83 (182.61)	332.61 (112.72)	55.68 (4.32)	54.04 (6.13)	182.61 (100.81)	84.33 (10.66)	103.62 (24.45)	215.89 (74.51)	77.25 (9.99)	28.04 (8.59)	18.90 (2.91)
60	544.31 (169.25)	836.79 (185.45)	359.97 (119.55)	56.86 (9.97)	53.84 (4.75)	176.99 (94.55)	86.34 (11.68)	102.26 (20.85)	199.63 (66.29)	78.71 (11.57)	27.42 (1.12)	18.78 (1.33)
61	606.29 (189.05)	892.23 (162.26)	348.93 (103.39)	57.67 (5.12)	55.46 (4.62)	191.15 (101.19)	94.92 (66.06)	104.92 (22.56)	207.97 (93.92)	81.05 (13.11)	27.88 (1.08)	19.01 (1.31)
62	608.40 (213.00)	930.71 (225.25)	366.22 (109.58)	58.36 (5.34)	56.44 (6.00)	218.95 (110.49)	90.06 (12.28)	109.65 (23.95)	223.07 (90.80)	81.78 (9.95)	34.14 (59.49)	19.53 (1.30)
63	645.20 (197.37)	975.26 (186.81)	373.82 (104.82)	59.39 (4.80)	57.16 (4.24)	225.60 (113.32)	90.98 (12.25)	108.94 (22.59)	220.89 (69.66)	84.47 (11.63)	29.31 (6.25)	19.81 (1.16)
64	630.28 (201.08)	976.91 (191.18)	355.40 (112.40)	60.30 (5.33)	57.92 (4.46)	203.54 (85.58)	94.34 (11.45)	116.22 (25.90)	232.43 (67.75)	86.84 (11.70)	28.93 (0.97)	19.74 (1.24)
65	657.00 (208.85)	1010.47 (201.69)	382.94 (160.37)	63.04 (13.37)	59.28 (5.12)	258.49 (149.16)	96.31 (12.47)	114.93 (20.94)	228.80 (71.50)	88.22 (11.69)	29.66 (1.18)	20.38 (1.34)
66	697.99 (216.77)	1029.70 (205.68)	397.44 (117.07)	63.31 (7.30)	60.22 (4.67)	252.68 (115.64)	100.17 (14.56)	120.15 (24.44)	244.27 (72.89)	91.52 (13.15)	30.01 (2.86)	20.65 (1.34)
67	667.27 (227.52)	1067.87 (253.24)	389.44 (136.81)	63.11 (5.69)	60.97 (5.58)	258.23 (115.42)	97.65 (12.22)	123.09 (23.45)	255.89 (84.76)	89.69 (10.65)	30.44 (1.20)	20.93 (1.38)
68	683.91 (244.33)	1079.49 (226.39)	449.44 (160.50)	65.03 (5.78)	62.95 (6.80)	279.02 (168.82)	100.57 (13.67)	124.58 (23.98)	253.42 (104.61)	93.13 (11.98)	31.05 (1.13)	21.27 (1.52)
69	730.64 (200.69)	1149.15 (274.47)	423.55 (156.11)	64.51 (5.34)	62.21 (4.83)	246.17 (93.97)	105.68 (15.86)	129.93 (24.80)	257.49 (84.99)	96.81 (14.61)	31.37 (1.28)	21.50 (1.40)
70	765.60 (231.79)	1212.28 (212.92)	452.32 (139.06)	67.27 (5.85)	64.63 (5.16)	267.32 (138.58)	107.04 (15.50)	132.44 (28.04)	290.91 (99.00)	100.46 (19.01)	31.84 (1.12)	21.77 (1.31)

Table 15: Average Elapsed Time (microseconds) to Produce an Induced Planar Subgraph on graphs of size  $n$ .

$n$	OPI+EPS	PT+EPS	VSR+EPS	VSR	VR	VA	PT	OPI	OP2	T	IS	HL
71	765.25 (257.50)	1240.32 (266.44)	455.30 (177.40)	67.68 (5.59)	65.15 (4.86)	276.35 (149.74)	112.35 (53.73)	134.24 (28.89)	287.19 (98.09)	98.63 (14.45)	32.40 (1.11)	22.29 (2.94)
72	727.48 (233.53)	1271.88 (241.94)	463.39 (162.62)	68.27 (5.32)	65.64 (4.68)	280.91 (116.71)	108.99 (15.64)	139.96 (27.88)	290.25 (88.63)	100.71 (14.77)	32.88 (1.22)	22.25 (1.21)
73	797.75 (264.19)	1287.62 (280.13)	436.39 (154.61)	69.11 (5.21)	66.20 (3.48)	264.31 (129.70)	111.20 (16.19)	136.47 (25.41)	290.41 (108.61)	102.93 (15.64)	33.44 (1.26)	22.38 (1.23)
74	766.66 (234.55)	1325.90 (270.49)	487.07 (175.15)	70.61 (5.04)	67.92 (4.68)	291.06 (172.71)	113.32 (16.42)	144.86 (31.72)	313.14 (108.28)	104.13 (14.36)	33.77 (1.25)	23.02 (2.99)
75	814.82 (256.24)	1309.20 (257.07)	478.64 (176.22)	71.75 (5.88)	69.04 (5.31)	299.73 (156.35)	117.85 (18.43)	146.23 (34.07)	322.29 (106.89)	108.52 (16.14)	34.41 (1.35)	23.19 (1.35)
76	887.68 (261.80)	1376.26 (317.38)	483.84 (151.27)	73.65 (5.94)	70.63 (4.65)	321.36 (154.78)	116.74 (15.10)	148.92 (35.00)	320.94 (126.82)	107.64 (14.10)	35.51 (7.35)	23.73 (1.15)
77	903.74 (337.84)	1394.86 (320.42)	454.46 (157.32)	73.59 (6.05)	70.69 (5.47)	313.70 (146.75)	116.57 (14.19)	143.86 (39.30)	311.66 (99.21)	108.42 (15.00)	35.37 (1.29)	23.73 (1.40)
78	838.16 (253.23)	1377.85 (252.39)	473.23 (171.10)	74.80 (5.60)	71.59 (4.81)	322.84 (141.19)	122.12 (19.35)	153.51 (31.16)	352.98 (142.02)	111.68 (17.43)	35.87 (1.40)	23.93 (1.24)
79	913.32 (312.01)	1405.76 (223.43)	500.82 (194.25)	76.30 (5.97)	73.29 (5.32)	372.54 (178.98)	125.52 (16.66)	156.32 (38.23)	340.99 (99.08)	116.12 (16.10)	36.10 (1.19)	24.49 (1.26)
80	882.27 (306.84)	1428.14 (256.07)	515.28 (197.27)	78.37 (6.27)	75.39 (7.59)	383.29 (181.85)	125.10 (18.44)	161.34 (37.70)	374.01 (121.64)	115.80 (16.22)	36.78 (1.27)	24.76 (1.45)
81	931.88 (315.46)	1476.15 (264.64)	522.18 (220.11)	78.00 (6.10)	75.52 (7.54)	379.22 (159.36)	129.37 (17.13)	159.33 (42.36)	358.07 (101.90)	122.92 (21.04)	37.95 (5.86)	24.86 (1.27)
82	952.18 (222.62)	1551.42 (352.65)	520.07 (167.14)	80.50 (5.16)	76.90 (4.38)	370.88 (148.65)	131.82 (17.53)	166.95 (38.48)	378.80 (124.05)	121.35 (15.42)	38.16 (6.23)	25.41 (1.87)
83	1037.88 (366.52)	1575.16 (353.00)	571.19 (188.47)	80.69 (5.37)	77.30 (4.40)	405.48 (134.13)	135.38 (20.85)	167.87 (35.08)	385.37 (107.42)	126.15 (19.50)	38.07 (1.32)	25.52 (1.38)
84	986.01 (296.53)	1559.00 (321.76)	578.76 (184.10)	81.55 (6.08)	78.86 (7.23)	393.42 (168.86)	135.58 (16.24)	166.72 (31.06)	372.97 (114.21)	125.95 (15.78)	38.90 (1.35)	26.55 (3.13)
85	950.42 (290.03)	1632.22 (326.60)	591.12 (187.63)	82.62 (5.30)	80.42 (11.35)	415.34 (161.86)	134.85 (16.92)	172.86 (43.71)	400.78 (128.13)	125.48 (16.01)	38.97 (1.33)	26.92 (3.81)

Table 16: Average Elapsed Time (microseconds) to Produce an Induced Planar Subgraph on graphs of size  $n$ .

$n$	OP1+EPS	PT+EPS	VSR+EPS	VSR	VR	VA	PT	OP1	OP2	T	IS	HL
86	1018.47 (265.11)	1636.11 (351.89)	626.17 (199.04)	84.26 (7.12)	80.44 (5.58)	395.91 (167.42)	141.01 (17.35)	176.24 (39.26)	400.79 (114.83)	130.19 (16.02)	39.51 (1.15)	26.74 (1.61)
87	940.07 (330.90)	1668.19 (346.12)	617.29 (208.98)	84.87 (6.76)	81.34 (6.07)	503.43 (206.65)	140.06 (21.22)	182.12 (33.87)	429.81 (144.26)	127.97 (19.67)	40.40 (2.29)	26.96 (1.24)
88	1043.38 (304.00)	1697.93 (245.27)	590.64 (194.82)	85.35 (7.37)	81.52 (5.53)	465.68 (193.15)	144.41 (20.44)	185.38 (44.24)	437.26 (131.27)	133.72 (19.13)	41.09 (3.76)	27.32 (1.44)
89	1017.95 (308.45)	1682.10 (342.85)	621.67 (195.80)	85.30 (6.33)	82.16 (6.08)	417.05 (195.52)	140.52 (21.95)	179.90 (38.98)	393.84 (119.65)	130.22 (20.76)	40.87 (1.59)	27.29 (1.40)
90	1129.24 (355.13)	1910.07 (385.06)	631.17 (200.14)	89.81 (6.83)	85.22 (4.37)	471.25 (210.41)	148.08 (21.61)	189.66 (39.41)	469.93 (126.41)	136.07 (18.37)	41.78 (1.35)	27.63 (1.19)
91	1084.73 (404.50)	1893.62 (350.95)	592.01 (207.00)	88.15 (6.83)	84.65 (6.37)	501.23 (208.17)	147.03 (29.66)	197.38 (42.17)	506.75 (176.88)	135.09 (19.58)	42.11 (3.01)	28.08 (1.40)
92	1149.18 (349.90)	1856.78 (370.08)	675.10 (227.59)	91.35 (5.93)	87.84 (6.25)	526.30 (225.85)	145.96 (18.78)	187.14 (47.75)	461.15 (147.02)	135.70 (17.51)	43.27 (6.88)	28.59 (1.69)
93	1140.93 (415.89)	1934.01 (423.53)	688.34 (237.14)	91.86 (6.26)	87.67 (4.98)	500.16 (228.45)	156.54 (32.90)	195.96 (44.33)	486.63 (171.73)	141.61 (22.29)	42.98 (1.30)	28.80 (1.55)
94	1186.64 (416.63)	1949.66 (345.56)	654.01 (230.05)	95.73 (25.39)	89.00 (5.20)	519.16 (225.86)	155.29 (22.37)	197.76 (42.53)	520.99 (175.97)	143.46 (19.67)	43.51 (1.46)	29.52 (1.44)
95	1203.67 (357.91)	1878.53 (304.66)	668.94 (232.80)	95.32 (11.30)	90.36 (6.56)	534.78 (259.68)	155.77 (21.12)	200.42 (48.11)	484.47 (146.42)	144.51 (18.90)	44.05 (1.30)	29.71 (2.66)
96	1160.74 (443.93)	1987.89 (379.07)	662.31 (221.85)	93.53 (6.74)	89.61 (5.81)	510.21 (208.96)	155.68 (23.16)	202.83 (45.86)	498.62 (152.06)	143.76 (20.01)	44.39 (1.67)	29.88 (1.38)
97	1175.27 (324.03)	2052.20 (460.94)	703.81 (251.37)	96.71 (7.03)	92.24 (5.19)	548.65 (227.62)	165.09 (25.61)	215.04 (49.19)	561.67 (203.75)	152.83 (23.07)	45.25 (2.14)	30.53 (3.26)
98	1171.76 (375.62)	2099.98 (498.09)	774.58 (273.14)	96.88 (5.60)	92.66 (4.86)	538.25 (224.04)	163.73 (22.74)	215.36 (46.67)	509.25 (140.36)	150.44 (18.76)	45.78 (5.70)	30.55 (1.57)
99	1219.07 (438.90)	2091.65 (394.25)	745.03 (240.68)	97.96 (6.67)	93.78 (5.83)	530.26 (228.94)	166.72 (25.85)	225.98 (55.62)	562.22 (164.45)	153.64 (22.06)	45.85 (1.37)	31.21 (4.50)
100	1253.29 (393.87)	2166.85 (392.79)	751.53 (209.08)	98.60 (5.98)	94.30 (5.16)	561.26 (254.00)	168.93 (24.50)	222.89 (48.82)	558.43 (170.16)	154.99 (23.49)	46.51 (2.20)	31.22 (1.87)

**5 Results - Average Size (as a proportion) of Maximum Induced Planar Subgraph of graphs of average degree at most  $\bar{d}$ .**

Table 17: Average Size (as a proportion) of Maximum Induced Planar Subgraph on graphs of average degree at most  $\bar{d}$ .

<i>Average Degree</i>	OP1+EPS	PT+EPS	VSR+EPS	VSR	VR	VA	PT	OP1	OP2	T	IS	HL
[1.75, 1.85)	1.00 (0.00)	0.56 (0.04)	0.55 (0.10)									
[1.85, 1.95)	1.00 (0.00)	0.56 (0.03)	0.53 (0.04)									
[1.95, 2.05)	1.00 (0.00)	1.00 (0.00)	1.00 (0.00)	1.00 (0.00)	1.00 (0.00)	1.00 (0.00)	0.93 (0.02)	1.00 (0.00)	1.00 (0.00)	0.93 (0.02)	0.55 (0.05)	0.54 (0.05)
[2.05, 2.15)	1.00 (0.00)	1.00 (0.00)	1.00 (0.00)	1.00 (0.00)	1.00 (0.00)	0.99 (0.02)	0.94 (0.03)	0.97 (0.02)	0.98 (0.02)	0.94 (0.03)	0.54 (0.05)	0.50 (0.07)
[2.15, 2.25)	1.00 (0.00)	1.00 (0.00)	1.00 (0.00)	0.99 (0.02)	0.99 (0.02)	0.97 (0.02)	0.92 (0.03)	0.95 (0.02)	0.96 (0.02)	0.92 (0.03)	0.53 (0.04)	0.49 (0.08)
[2.25, 2.35)	0.99 (0.01)	0.99 (0.01)	0.99 (0.01)	0.98 (0.02)	0.98 (0.02)	0.95 (0.02)	0.91 (0.03)	0.95 (0.02)	0.95 (0.02)	0.91 (0.03)	0.52 (0.04)	0.47 (0.08)
[2.35, 2.45)	0.98 (0.02)	0.98 (0.02)	0.98 (0.02)	0.96 (0.02)	0.96 (0.02)	0.93 (0.02)	0.91 (0.02)	0.94 (0.02)	0.94 (0.02)	0.91 (0.02)	0.52 (0.04)	0.43 (0.08)
[2.45, 2.55)	0.97 (0.02)	0.97 (0.02)	0.97 (0.02)	0.95 (0.02)	0.95 (0.02)	0.92 (0.02)	0.90 (0.02)	0.93 (0.02)	0.93 (0.02)	0.90 (0.02)	0.52 (0.03)	0.40 (0.07)
[2.55, 2.65)	0.95 (0.02)	0.95 (0.02)	0.95 (0.02)	0.93 (0.02)	0.93 (0.02)	0.90 (0.02)	0.89 (0.02)	0.92 (0.02)	0.92 (0.02)	0.89 (0.02)	0.51 (0.03)	0.39 (0.06)
[2.65, 2.75)	0.94 (0.02)	0.94 (0.02)	0.94 (0.02)	0.93 (0.02)	0.92 (0.02)	0.89 (0.02)	0.88 (0.02)	0.91 (0.02)	0.91 (0.02)	0.88 (0.02)	0.51 (0.03)	0.37 (0.06)

Table 18: Average Size (as a proportion) of Maximum Induced Planar Subgraph on graphs of average degree at most  $\bar{d}$ .

<i>Averagedegree</i>	OPI+EPS	PT+EPS	VSR+EPS	VSR	VR	VA	PT	OPI	OP2	T	IS	HL
[2.75,2.85)	0.93 (0.02)	0.93 (0.02)	0.93 (0.02)	0.92 (0.02)	0.91 (0.02)	0.88 (0.02)	0.87 (0.02)	0.90 (0.02)	0.90 (0.02)	0.87 (0.02)	0.50 (0.03)	0.36 (0.05)
[2.85,2.95)	0.92 (0.02)	0.92 (0.02)	0.92 (0.02)	0.91 (0.02)	0.91 (0.02)	0.87 (0.02)	0.86 (0.02)	0.89 (0.02)	0.89 (0.02)	0.86 (0.02)	0.50 (0.03)	0.36 (0.05)
[2.95,3.05)	0.92 (0.03)	0.92 (0.03)	0.92 (0.03)	0.90 (0.02)	0.90 (0.03)	0.86 (0.03)	0.86 (0.02)	0.88 (0.02)	0.88 (0.02)	0.86 (0.02)	0.50 (0.03)	0.36 (0.05)
[3.05,3.15)	0.92 (0.03)	0.92 (0.04)	0.92 (0.03)	0.90 (0.02)	0.89 (0.03)	0.84 (0.03)	0.84 (0.03)	0.87 (0.02)	0.87 (0.03)	0.84 (0.03)	0.48 (0.03)	0.36 (0.06)
[3.15,3.25)	0.92 (0.04)	0.92 (0.04)	0.92 (0.03)	0.89 (0.03)	0.89 (0.03)	0.82 (0.03)	0.83 (0.03)	0.86 (0.02)	0.87 (0.03)	0.83 (0.03)	0.48 (0.04)	0.37 (0.06)
[3.25,3.35)	0.92 (0.04)	0.92 (0.04)	0.92 (0.04)	0.89 (0.02)	0.89 (0.02)	0.83 (0.03)	0.83 (0.02)	0.85 (0.02)	0.86 (0.02)	0.83 (0.02)	0.47 (0.05)	0.37 (0.06)
[3.35,3.45)	0.91 (0.03)	0.90 (0.03)	0.90 (0.03)	0.88 (0.04)	0.88 (0.04)	0.81 (0.03)	0.83 (0.03)	0.85 (0.02)	0.86 (0.03)	0.83 (0.03)	0.47 (0.03)	0.39 (0.03)
[3.45,3.55)	0.92 (0.04)	0.92 (0.04)	0.91 (0.04)	0.87 (0.03)	0.87 (0.03)	0.82 (0.05)	0.81 (0.04)	0.83 (0.01)	0.85 (0.03)	0.80 (0.04)	0.46 (0.05)	0.38 (0.05)
[3.55,3.65)	0.90 (0.04)	0.90 (0.04)	0.90 (0.04)	0.86 (0.04)	0.86 (0.04)	0.77 (0.04)	0.77 (0.04)	0.82 (0.06)	0.83 (0.03)	0.77 (0.04)	0.45 (0.07)	0.42 (0.07)

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