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Supplement to The Maximal Modulus of an Algebraic Integer

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Table 3

All inequivalent α of degree d with $\lceil\alpha\rceil$ less than the given bound. The table gives the minimal polynomial as a vector of integers, the number of conjugates outside the unit circle, $|\alpha|$ and $\arg\alpha$ in degrees, where α is a conjugate which attains $\lceil\alpha\rceil$. The "P" preceding certain ν denotes that α is a Perron number.

Degree = 2 Bound = 1.800

1 0-2		2	1.4142135624	0.0
1 1 2		2	1.4142135624	110.7048110546
1 2 2		2	1.4142135624	135.0000000000
1-1-1	P	1	1.6180339887	0.0
1 0-3		2	1.7320508076	0.0
1 1 3		2	1.7320508076	106.7786548810
1 2 3		2	1.7320508076	125.2643896828
1 3 3		2	1.7320508076	150.0000000000

Degree = 3 Bound = 1.360

1 1 0-1		2	1.1509639253	139.6719231917
1 0 1 1		2	1.2106077944	73.6316148171
1 0 0-2		3	1.2599210499	0.0
1 1-1-2		3	1.2880089603	148.8918227959
1 0-1-1	P	1	1.3247179572	0.0
1 1 2 1		2	1.3247179572	99.3438463835
1-1 1-2	P	3	1.3532099642	0.0
1 1 1-1		2	1.3562030656	124.6889973915

Degree = 4 Bound = 1.250

1 1 0 0 1	2	1.1837518186	149.4007468584
1 0 0 1 1	2	1.1837518186	52.1015419454
1 0 0 0 0-2	4	1.1892071150	0.0
1 0 1 0 2	4	1.1892071150	55.3524055273
1 0 2 0 2	4	1.1892071150	67.5000000000
1 0 0-1-1	P 3	1.2207440846	0.0
1 2 3 3 2	4	1.2279498431	92.0215046526
1 1 0 1 2	4	1.2403674040	155.5017558164
1 1 1 0 1	2	1.2474093920	133.0676639483
1 0 1 1 1	2	1.2474093920	63.9695632716

Degree = 5 Bound = 1.200

1 0-1 1 1-1	4	1.1216451786	158.8014602860
1 1 0-1-1-1	P 3	1.1237328210	0.0
1 0 1 0 1 1	4	1.1392502979	109.9807757154
1 1 1 1 2 1	4	1.1415099712	59.2975705341
1 0 0 0 0-2	5	1.1486983550	0.0
1 1 1 0-1-1	2	1.1617728283	97.8592379479
1 0 0 0-1-1	P 3	1.1673039783	0.0
1 0 0 1 0-1	2	1.1679895315	66.5439914899
1 0 1-1 0-2	5	1.1705999325	83.2273664596
1 0-1 1 0-2	P 5	1.1752469656	0.0
1 1 1 1 0-1	4	1.1777393416	84.5869747031
1 0 1 0 0 1	2	1.1871121409	100.5745824076
1 1 0 0 0-1	2	1.1873801922	155.2589589625
1 0 0-1 0-1	P 3	1.1938591113	0.0

Degree = 6 Bound = 1.135

1 0 1 0 0 0-1	4	1.0728298678	69.8359615959
1 1 0-1-1 0 1	4	1.0937316919	155.9270802610
1 0 0 0 1 0 1	4	1.1002762355	36.8158074085
1 1 1 0 0 0 1	4	1.1181386638	103.5297629176
1 0 0 0 0 0-2	6	1.1224620483	0.0
1 0 0 1 0 0 2	6	1.1224620483	36.9016036849
1 0 0 2 0 0 2	6	1.1224620483	45.0000000000
1 0 0 1 0-1 1	4	1.1232292282	72.9131615477
1 0 0 0 0 1 1	4	1.1261126550	32.9097611644
1 0 0 0 0-1-1	P 3	1.1347241384	0.0
1 0 1 0-1 0-2	6	1.1349048244	74.4459113979

Degree = 7 Bound = 1.113

1 1 0 0 1 0-1-1	4	1.0928455996	153.3942328438
1 1 1 0 0 0 1 1	4	1.1015405971	135.3308089735
1 1 1 1 0 0 0-1	4	1.1033553700	102.0388607483
1 0 0 0 0 0 0-2	7	1.1040895137	0.0
1 0 1 0 1 0 1 1	6	1.1045243113	82.0044693165
1 0 0 0 0 0 1 1	4	1.1076910547	27.8037760153
1 0-1 0 0 1 1-1	6	1.1098777988	164.6134484956
1 1 1 1 1 1 0-1	6	1.1103202058	111.9578005998
1 0 0 0 0 0-1-1	P 5	1.1127756843	0.0

Degree = 8 Bound = 1.098

1 1 0 0 1 0-1 0 1	6	1.0756204773	132.5916366983
1 0-1 0 1 1-1-1 1	6	1.0837043264	118.6134647793
1 0 1 0 0 0 0 0 1	4	1.0880035931	74.7003734292
1 0 0 0 0 0 1 0 1	4	1.0880035931	26.0507709727
1 0 0 0 0 0 0 0 0-2	8	1.0905077327	0.0
1 0 0 0 1 0 0 0 2	8	1.0905077327	27.6762027637
1 0 0 0 2 0 0 0 2	8	1.0905077327	33.7500000000
1 1 1 1 0 0 0 0 1	6	1.0905405495	163.7754122243
1 0 0 0 0 0 0 0-1-1	P 5	1.0969815578	0.0
1 1 1 1 0-1-1-2-1	7	1.0972950360	67.9075991015

Degree = 9 Bound = 1.086

1 0 0 1 0 0 0 0 0-1	6	1.0479821944	46.5573077306
1 0 0 0 0 0 1 0 0 1	6	1.0657806276	24.5438716057
1 1 0-1-1 0 1 1 0-1	6	1.0671508805	162.8303829583
1 0 0 0 0 0 0 0 0-2	9	1.0800597389	0.0
1 1 0-1-1 0 1 0 0-1-1	P 5	1.0815290867	0.0
1 1 1 1 1 0 0 0 0-1	6	1.0823669349	156.7176279321
1 0 0 0 0 0 0 0 0 1 1	6	1.0828680366	21.2267232164
1 0 1 0 1 0 1 0 1 1	8	1.0829693977	101.7731072061
1 1 1 1 1 0 0 0-1-1	6	1.0837251364	85.5534214908
1 0 0 0 0 0 0 0-1-1	P 5	1.0850702455	0.0

Degree = 10 Bound = 1.077

1 0 0 0-1 0 1 0 1 0-1	8	1.0590775130	79.4007301430
1 0 1 0 0 0-1 0-1 0-1	6	1.0600626496	0.0
1 0 0 0 1 0 0 0 1 0 1	8	1.0673566873	54.9903878577
1 0 1 0 1 0 1 0 2 0 1	8	1.0684147000	29.6487852670
1 0 0 0 0 0 0 0 0 0-2	10	1.0717734625	0.0
1 0 0 0 0 1 0 0 0 0 2	10	1.0717734625	22.1409622109
1 0 0 0 0 2 0 0 0 0 2	10	1.0717734625	27.0000000000
1 1 0 0 0-1 0 0-1 0 1	6	1.0723549650	146.4046606714
1 0 0 0 0 0 0 0 0 1 1	6	1.0742052452	18.9834426960
1 0 0 0 0 0 0 0 0 0-1-1	P 7	1.0757660661	0.0

Degree = 11 Bound = 1.069

1 1 0 0 1 1 0-1 0 1 0-1	8	1.0571248570	110.0962867180
1 1 0-1-1 0 1 1 0-1-1-1	P 7	1.0596110214	0.0
1 0 0 0 0 0 0 0 0 0 0-2	11	1.0650410894	0.0
1 0 0 0 0 0 0 0 0 0-1-1	P 7	1.0682971889	0.0
1 1 0-1-1 0 1 1 1 0-1-1	6	1.0684230835	111.5690101826
1 0-1 0 1 1-1-1 1 1 0-1	8	1.0686491570	168.0242301401
1 0 1 0 1 0 1 0 1 0 1 1	10	1.0689920933	84.6940395055

Degree = 12 Bound = 1.063

1 0 0 0 1 0 0 0 0 0 0 0-1	8	1.0357750083	34.9179807979
1 0 1 0 0 0-1 0-1 0 0 0 1	8	1.0458162802	77.9635401305
1 0 0 0 0 0 0 0 1 0 0 0 1	8	1.0489405300	18.4079037043
1 1 0-1-1 0 1 1 0-1-1 0 1	8	1.0521808382	166.6540411250
1 0 1 0 1 0 0 0 0 0 0 0 1	8	1.0574207601	51.7648814588
1 0 0 0 0 0 0 0 0 1 0 0 1	6	1.0578405719	17.3671806485
1 0 0 1 0 0 0 0 0 0 0 0 1	6	1.0578405719	49.8002489528
1 0 0 0 0 0 0 0 0 0 0 0-2	12	1.0594630944	0.0
1 0 0 0 0 0 1 0 0 0 0 0 2	12	1.0594630944	18.4508018424
1 0 0 0 0 0 2 0 0 0 0 0 2	12	1.0594630944	22.5000000000
1 0 0 0 0 0 1 0 0 0-1 0 1	8	1.0598250932	36.4565807738
1 0 0 0 0 0 0 0 0 0 1 0 1	8	1.0611845527	16.4548805822
1 0 0 0 0 0 0 0 0 0 0 1 1	8	1.0613026049	15.6725662428
1 1 1 1 1 1 0 0 0 0 0 0 1	8	1.0614208294	111.4361073447
1 0 0 0 0 0 0 0 0 0 0-1-1	P 7	1.0621691679	0.0
1 0-1 0 1 0-1 1 1-1-1 0 1	8	1.0625401563	68.0531743296

Table 4

Gives the same information as Table 3 for reciprocal α only.

Perron numbers are not indicated.

Degree = 4 Bound = 2.000

1 1 3 1 1	2	1.5392223384	103.2043700412
1 2 4 2 1	2	1.7000157759	115.9136461865
1-1-1-1 1	1	1.7220838057	0.0
1 3 5 3 1	2	1.7220838057	130.6463193721
1 1 4 1 1	2	1.8832035059	101.9528558907
1-2 1-2 1	1	1.8832035059	0.0
1 0-4 0 1	2	1.9318516526	0.0

Degree = 6 Bound = 1.360

1 2 2 1 2 2 1	2	1.3216631562	139.2294414662
1 1 0-2 0 1 1	2	1.3307684187	132.8317515345
1 0 2 1 2 0 1	2	1.3395072769	71.4870977126
1 1 2 3 2 1 1	2	1.3562030656	78.4370008695

Degree = 8 Bound = 1.250

1 0 0 1 1 1 0 0 1	2	1.1692830298	47.4982114761
1 1 1 0-1 0 1 1 1	2	1.1705071013	102.7574944520
1 2 2 1 1 1 2 2 1	2	1.2150236197	145.1247638300
1 1 1 0 1 0 1 1 1	2	1.2196261469	136.0133298226
1 0 1 0 3 0 1 0 1	4	1.2406539963	51.6021850206
1 1 2 3 3 3 2 1 1	2	1.2408134920	67.3528813773

Degree = 10 Bound = 1.200

1 0 1 1 0 1 0 1 1 0 1	2	1.1257148215	74.2182865812
1 1 0 0 0-1 0 0 0 1 1	2	1.1329529384	153.8287846650
1 1 0-1 0 0 0-1 0 1 1	2	1.1420874580	146.4489444547
1 0 0 0 1 1 1 0 0 0 1	2	1.1670300606	37.2664158572
1 0 0 1 0-1 0 1 0 0 1	2	1.1700421688	69.1710901964
1 1 0-1-1-1-1-1 0 1 1	1	1.1762808183	0.0
1 1 2 2 2 3 2 2 2 1 1	2	1.1825633943	107.7431868659
1 0 2 0 3 1 3 0 2 0 1	4	1.1926596333	50.2922487564
1 2 2 1 0-1 0 1 2 2 1	2	1.1941492832	151.0210048084
1 1 1 1 0-1 0 1 1 1 1	2	1.1964132386	82.5793805512

Degree = 12 Bound = 1.135

1 1 1 0-1-1-1-1-1 0 1 1 1	2	1.1080548536	100.4426482045
1 1 0 0 0-1-1-1 0 0 0 1 1	2	1.1185019523	157.1946859840
1 0 1 0 0 1-1 1 0 0 1 0 1	2	1.1244526912	111.4697318446
1 1 1 1 1 2 3 2 1 1 1 1 1	4	1.1274207202	98.0788125474
1 0 1 1 1 2 1 2 1 1 1 0 1	2	1.1281925213	42.8971943337

Degree = 14 Bound = 1.100

1 0 0 0 1 1 0 1 0 1 1 0 0 0 1	4	1.0939016857	127.7503248885
1 1 0 0 1 0-1-1-1 0 1 0 0 1 1	4	1.0966369673	140.1792842905
1 1 0-1 0 1 1 1 1 1 0-1 0 1 1	4	1.0987312747	26.2584900254

Degree = 16 Bound = 1.090

1 0 0 0 0 0 1 0 1 0 1 0 0 0 0 0 1	4	1.0813339123	23.7491057380
1 0 1 0 1 0 0 0-1 0 0 0 1 0 1 0 1	4	1.0818997649	51.3787472260
1 1 1 1 0 0-1-2-1-2-1 0 0 1 1 1 1	4	1.0856894163	112.5219189956