
```

clear
% Skip first line to get to data
f = fopen('WeightMatrixForImage2Noisy.dat.txt','r');
fgetl(f);
% Read in all data from matrix
data = fscanf(f, "%f");
fclose(f);
n = 1024;
% Take first [1:n^2] subset of data to store first matrix
weight_vector = data(1:(n*n));
% Reshape [n^2 x 1] vector into [n x n] matrix
weight_matrix = reshape(weight_vector, n, n);

D = diag(weight_matrix*ones(n,1));
L = D - weight_matrix;

%Calculate D(-1/2)
dinv = zeros(n,1);
for i = 1:n
    if(D(i,i) > 0)
        dinv(i) = 1/sqrt(D(i,i));
    end
end
norm_L = diag(dinv)*L*diag(dinv);
% Spectral Algorithms

% Spectral method using weight matrix W ? R [n x n]
[V,~] = eigs(weight_matrix, 2, 'smallestabs');
w_partition_vector = V(:,2);
weight_partition_omega_1 = [];
weight_partition_omega_2 = [];
for i = 1:n
    if w_partition_vector(i) > 0
        weight_partition_omega_1 = [weight_partition_omega_1,i];
    else if w_partition_vector(i) <= 0
        weight_partition_omega_2 = [weight_partition_omega_2,i];
    end
end
end
disp(weight_partition_omega_1)
disp(weight_partition_omega_2)
% Spectral method using weighted laplacian matrix ?? R [n x n]
[V,~] = eigs(L, 2, 'smallestabs');
L_partition_vector = V(:,2);
L_partition_omega_1 = [];
L_partition_omega_2 = [];
for i = 1:n
    if L_partition_vector(i) > 0
        L_partition_omega_1 = [L_partition_omega_1,i];
    else if L_partition_vector(i) <= 0
        L_partition_omega_2 = [L_partition_omega_2,i];
    end
end

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        end
    end
end
disp(L_partition_omega_1)
disp(L_partition_omega_2)

% Spectral method using weighted normalized laplacian matrix ?? ? R [n
x n]
[V,~] = eigs(norm_L, 2, 'smallestabs');
norm_L_partition_vector = V(:,2);
norm_L_partition_omega_1 = [];
norm_L_partition_omega_2 = [];
for i = 1:n
    if norm_L_partition_vector(i) > 0
        norm_L_partition_omega_1 = [norm_L_partition_omega_1,i];
    else if norm_L_partition_vector(i) <= 0
        norm_L_partition_omega_2 = [norm_L_partition_omega_2,i];
    end
end
end
disp(norm_L_partition_omega_1)
disp(norm_L_partition_omega_2)

% SDP algorithms
Y_matrix_weight = sdp_W(weight_matrix, n);
Y_matrix_laplace = sdp_W_min(L, n);
Y_matrix_normal = sdp_W_min(norm_L, n);

% SDP partitions
[weight_omega_1, weight_omega_2] = partition_sdp(Y_matrix_weight, n);
disp(weight_omega_1)
disp(weight_omega_2)
[laplace_omega_1, laplace_omega_2] = partition_sdp(Y_matrix_laplace,
n);
disp(laplace_omega_1)
disp(laplace_omega_2)
[normal_omega_1, normal_omega_2] = partition_sdp(Y_matrix_normal, n);
disp(normal_omega_1)
disp(normal_omega_2)

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Columns 1 through 6

	7	8	9	10	11
17					

Columns 7 through 12

	24	25	26	27	31
32					

Columns 13 through 18

	34	39	40	41	42
43					

Columns 19 through 24

	46	47	49	50	55
56					

Columns 25 through 30

	57	58	59	63	64
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Columns 31 through 36

	66	67	68	76	77
78					

Columns 37 through 42

	79	80	83	84	85
86					

Columns 43 through 48

	87	95	96	97	99
100					

Columns 49 through 54

	101	107	109	111	113
115					

Columns 55 through 60

	116	117	118	119	123
124					

Columns 61 through 66

	125	126	127	128	131
132					

Columns 67 through 72

	133	139	140	142	144
145					

Columns 73 through 78

	147	148	149	150	154
155					

Columns 79 through 84

167	156	157	164	165	166
	<i>Columns 85 through 90</i>				
183	168	169	171	172	173
	<i>Columns 91 through 96</i>				
198	187	188	192	193	197
	<i>Columns 97 through 102</i>				
207	200	201	202	203	204
	<i>Columns 103 through 108</i>				
218	208	209	214	215	217
	<i>Columns 109 through 114</i>				
225	219	220	221	222	224
	<i>Columns 115 through 120</i>				
241	226	230	231	235	240
	<i>Columns 121 through 126</i>				
250	242	245	246	247	248
	<i>Columns 127 through 132</i>				
264	254	256	257	258	261
	<i>Columns 133 through 138</i>				
278	268	271	272	273	274
	<i>Columns 139 through 144</i>				
293	282	287	288	289	290
	<i>Columns 145 through 150</i>				

303	294	295	297	299	301
	<i>Columns 151 through 156</i>				
311	304	305	306	309	310
	<i>Columns 157 through 162</i>				
319	312	314	315	316	318
	<i>Columns 163 through 168</i>				
329	320	321	325	327	328
	<i>Columns 169 through 174</i>				
344	331	332	341	342	343
	<i>Columns 175 through 180</i>				
352	345	347	348	349	351
	<i>Columns 181 through 186</i>				
362	357	358	359	360	361
	<i>Columns 187 through 192</i>				
370	363	364	365	368	369
	<i>Columns 193 through 198</i>				
388	374	375	378	380	381
	<i>Columns 199 through 204</i>				
401	389	390	398	399	400
	<i>Columns 205 through 210</i>				
419	406	407	411	412	413

Columns 211 through 216

	420	421	429	430	434
436					

Columns 217 through 222

	437	438	439	442	443
446					

Columns 223 through 228

	448	449	450	451	452
453					

Columns 229 through 234

	455	459	460	461	466
467					

Columns 235 through 240

	468	469	472	474	475
476					

Columns 241 through 246

	477	478	480	481	482
483					

Columns 247 through 252

	484	486	487	490	491
492					

Columns 253 through 258

	493	498	499	500	501
504					

Columns 259 through 264

	505	506	507	508	511
512					

Columns 265 through 270

	513	517	519	520	521
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Columns 271 through 276

	523	524	525	530	531
532					

Columns 277 through 282

	536	537	542	543	545
549					

Columns 283 through 288

	552	553	558	559	560
561					

Columns 289 through 294

	562	568	573	574	577
582					

Columns 295 through 300

	584	585	590	591	592
593					

Columns 301 through 306

	598	599	606	609	610
611					

Columns 307 through 312

	613	614	615	616	619
620					

Columns 313 through 318

	621	622	624	625	629
630					

Columns 319 through 324

	631	633	635	636	637
639					

Columns 325 through 330

	641	642	643	644	645
646					

Columns 331 through 336

	651	652	653	654	660
661					

Columns 337 through 342

669	662	663	664	667	668
	<i>Columns 343 through 348</i>				
677	670	671	672	675	676
	<i>Columns 349 through 354</i>				
694	679	684	689	692	693
	<i>Columns 355 through 360</i>				
704	697	698	699	701	703
	<i>Columns 361 through 366</i>				
719	707	712	713	714	715
	<i>Columns 367 through 372</i>				
726	720	721	722	723	725
	<i>Columns 373 through 378</i>				
745	730	731	735	736	744
	<i>Columns 379 through 384</i>				
763	746	747	752	760	762
	<i>Columns 385 through 390</i>				
776	767	768	770	771	774
	<i>Columns 391 through 396</i>				
785	777	778	779	783	784
	<i>Columns 397 through 402</i>				
795	786	788	790	791	792
	<i>Columns 403 through 408</i>				

812	800	801	803	804	810
	<i>Columns 409 through 414</i>				
823	814	815	816	821	822
	<i>Columns 415 through 420</i>				
830	824	825	827	828	829
	<i>Columns 421 through 426</i>				
838	831	834	835	836	837
	<i>Columns 427 through 432</i>				
854	843	845	846	851	853
	<i>Columns 433 through 438</i>				
863	858	859	860	861	862
	<i>Columns 439 through 444</i>				
879	866	869	870	876	877
	<i>Columns 445 through 450</i>				
894	884	885	888	892	893
	<i>Columns 451 through 456</i>				
906	899	900	901	902	903
	<i>Columns 457 through 462</i>				
918	907	908	910	914	915
	<i>Columns 463 through 468</i>				
938	920	925	934	935	936

Columns 469 through 474

	940	943	945	946	947
948					

Columns 475 through 480

	951	953	957	958	961
966					

Columns 481 through 486

	967	968	969	972	973
975					

Columns 487 through 492

	977	978	979	980	984
985					

Columns 493 through 498

	991	992	993	994	995
996					

Columns 499 through 504

	999	1000	1004	1005	1009
1010					

Columns 505 through 510

	1011	1016	1017	1018	1019
1021					

Columns 511 through 513

	1022	1023	1024		
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Columns 1 through 6

	1	2	3	4	5
6					

Columns 7 through 12

	12	13	14	15	16
18					

Columns 13 through 18

	19	20	21	22	23
28					

Columns 19 through 24

	29	30	33	35	36
37					

Columns 25 through 30

	38	44	45	48	51
52					

Columns 31 through 36

	53	54	60	61	62
69					

Columns 37 through 42

	70	71	72	73	74
75					

Columns 43 through 48

	81	82	88	89	90
91					

Columns 49 through 54

	92	93	94	98	102
103					

Columns 55 through 60

	104	105	106	108	110
112					

Columns 61 through 66

	114	120	121	122	129
130					

Columns 67 through 72

	134	135	136	137	138
141					

Columns 73 through 78

	143	146	151	152	153
158					

Columns 79 through 84

	159	160	161	162	163
170					

Columns 85 through 90

	174	175	176	177	178
179					

Columns 91 through 96

	180	181	182	184	185
186					

Columns 97 through 102

	189	190	191	194	195
196					

Columns 103 through 108

	199	205	206	210	211
212					

Columns 109 through 114

	213	216	223	227	228
229					

Columns 115 through 120

	232	233	234	236	237
238					

Columns 121 through 126

	239	243	244	249	251
252					

Columns 127 through 132

	253	255	259	260	262
263					

Columns 133 through 138

	265	266	267	269	270
275					

Columns 139 through 144

	276	277	279	280	281
283					

Columns 145 through 150

296	284	285	286	291	292
	<i>Columns 151 through 156</i>				
313	298	300	302	307	308
	<i>Columns 157 through 162</i>				
330	317	322	323	324	326
	<i>Columns 163 through 168</i>				
338	333	334	335	336	337
	<i>Columns 169 through 174</i>				
354	339	340	346	350	353
	<i>Columns 175 through 180</i>				
372	355	356	366	367	371
	<i>Columns 181 through 186</i>				
383	373	376	377	379	382
	<i>Columns 187 through 192</i>				
392	384	385	386	387	391
	<i>Columns 193 through 198</i>				
402	393	394	395	396	397
	<i>Columns 199 through 204</i>				
410	403	404	405	408	409
	<i>Columns 205 through 210</i>				
422	414	415	416	417	418
	<i>Columns 211 through 216</i>				

428	423	424	425	426	427
	<i>Columns 217 through 222</i>				
441	431	432	433	435	440
	<i>Columns 223 through 228</i>				
457	444	445	447	454	456
	<i>Columns 229 through 234</i>				
470	458	462	463	464	465
	<i>Columns 235 through 240</i>				
489	471	473	479	485	488
	<i>Columns 241 through 246</i>				
503	494	495	496	497	502
	<i>Columns 247 through 252</i>				
518	509	510	514	515	516
	<i>Columns 253 through 258</i>				
534	526	527	528	529	533
	<i>Columns 259 through 264</i>				
544	535	538	539	540	541
	<i>Columns 265 through 270</i>				
554	546	547	548	550	551
	<i>Columns 271 through 276</i>				
565	555	556	557	563	564

Columns 277 through 282

	566	567	569	570	571
572					

Columns 283 through 288

	575	576	578	579	580
581					

Columns 289 through 294

	583	586	587	588	589
594					

Columns 295 through 300

	595	596	597	600	601
602					

Columns 301 through 306

	603	604	605	607	608
612					

Columns 307 through 312

	617	618	623	626	627
628					

Columns 313 through 318

	632	634	638	640	647
648					

Columns 319 through 324

	649	650	655	656	657
658					

Columns 325 through 330

	659	665	666	673	674
678					

Columns 331 through 336

	680	681	682	683	685
686					

Columns 337 through 342

	687	688	690	691	695
696					

Columns 343 through 348

	700	702	705	706	708
709					

Columns 349 through 354

	710	711	716	717	718
724					

Columns 355 through 360

	727	728	729	732	733
734					

Columns 361 through 366

	737	738	739	740	741
742					

Columns 367 through 372

	743	748	749	750	751
753					

Columns 373 through 378

	754	755	756	757	758
759					

Columns 379 through 384

	761	764	765	766	769
772					

Columns 385 through 390

	773	775	780	781	782
787					

Columns 391 through 396

	789	793	794	796	797
798					

Columns 397 through 402

	799	802	805	806	807
808					

Columns 403 through 408

819	809	811	813	817	818
	<i>Columns 409 through 414</i>				
840	820	826	832	833	839
	<i>Columns 415 through 420</i>				
849	841	842	844	847	848
	<i>Columns 421 through 426</i>				
864	850	852	855	856	857
	<i>Columns 427 through 432</i>				
873	865	867	868	871	872
	<i>Columns 433 through 438</i>				
882	874	875	878	880	881
	<i>Columns 439 through 444</i>				
891	883	886	887	889	890
	<i>Columns 445 through 450</i>				
905	895	896	897	898	904
	<i>Columns 451 through 456</i>				
917	909	911	912	913	916
	<i>Columns 457 through 462</i>				
926	919	921	922	923	924
	<i>Columns 463 through 468</i>				
932	927	928	929	930	931
	<i>Columns 469 through 474</i>				

944 933 937 939 941 942

Columns 475 through 480

956 949 950 952 954 955

Columns 481 through 486

965 959 960 962 963 964

Columns 487 through 492

982 970 971 974 976 981

Columns 493 through 498

990 983 986 987 988 989

Columns 499 through 504

1006 997 998 1001 1002 1003

Columns 505 through 510

1015 1007 1008 1012 1013 1014

Column 511

1020

Warning: First input matrix is close to singular or badly scaled.

RCOND =
9.632985e-18. Results may be inaccurate.

Columns 1 through 13

368 369 370 371 372 373 374 375 395 396 397
398 399

Columns 14 through 26

400 401 402 403 404 405 406 407 426 427 428
429 430

Columns 27 through 39

431	432	433	434	435	436	437	438	439	457	458
459	460									

Columns 40 through 52

461	462	463	464	465	466	467	468	469	470	471
489	490									

Columns 53 through 65

491	492	493	494	495	496	497	498	499	500	501
502	503									

Columns 66 through 78

521	522	523	524	525	526	527	528	529	530	531
532	533									

Columns 79 through 91

534	535	554	555	556	557	558	559	560	561	562
563	564									

Columns 92 through 104

565	566	567	587	588	589	590	591	592	593	594
595	596									

Columns 105 through 115

597	598	599	624	625	626	627	628	629	630	631
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Columns 1 through 6

	1	2	3	4	5
6					

Columns 7 through 12

	7	8	9	10	11
12					

Columns 13 through 18

	13	14	15	16	17
18					

Columns 19 through 24

	19	20	21	22	23
24					

Columns 25 through 30

	25	26	27	28	29
30					
	<i>Columns 31 through 36</i>				
	31	32	33	34	35
36					
	<i>Columns 37 through 42</i>				
	37	38	39	40	41
42					
	<i>Columns 43 through 48</i>				
	43	44	45	46	47
48					
	<i>Columns 49 through 54</i>				
	49	50	51	52	53
54					
	<i>Columns 55 through 60</i>				
	55	56	57	58	59
60					
	<i>Columns 61 through 66</i>				
	61	62	63	64	65
66					
	<i>Columns 67 through 72</i>				
	67	68	69	70	71
72					
	<i>Columns 73 through 78</i>				
	73	74	75	76	77
78					
	<i>Columns 79 through 84</i>				
	79	80	81	82	83
84					
	<i>Columns 85 through 90</i>				
	85	86	87	88	89
90					
	<i>Columns 91 through 96</i>				

96	91	92	93	94	95
	<i>Columns 97 through 102</i>				
102	97	98	99	100	101
	<i>Columns 103 through 108</i>				
108	103	104	105	106	107
	<i>Columns 109 through 114</i>				
114	109	110	111	112	113
	<i>Columns 115 through 120</i>				
120	115	116	117	118	119
	<i>Columns 121 through 126</i>				
126	121	122	123	124	125
	<i>Columns 127 through 132</i>				
132	127	128	129	130	131
	<i>Columns 133 through 138</i>				
138	133	134	135	136	137
	<i>Columns 139 through 144</i>				
144	139	140	141	142	143
	<i>Columns 145 through 150</i>				
150	145	146	147	148	149
	<i>Columns 151 through 156</i>				
156	151	152	153	154	155

Columns 157 through 162

157	158	159	160	161
162				

Columns 163 through 168

163	164	165	166	167
168				

Columns 169 through 174

169	170	171	172	173
174				

Columns 175 through 180

175	176	177	178	179
180				

Columns 181 through 186

181	182	183	184	185
186				

Columns 187 through 192

187	188	189	190	191
192				

Columns 193 through 198

193	194	195	196	197
198				

Columns 199 through 204

199	200	201	202	203
204				

Columns 205 through 210

205	206	207	208	209
210				

Columns 211 through 216

211	212	213	214	215
216				

Columns 217 through 222

217	218	219	220	221
222				

Columns 223 through 228

	223	224	225	226	227
228					

Columns 229 through 234

	229	230	231	232	233
234					

Columns 235 through 240

	235	236	237	238	239
240					

Columns 241 through 246

	241	242	243	244	245
246					

Columns 247 through 252

	247	248	249	250	251
252					

Columns 253 through 258

	253	254	255	256	257
258					

Columns 259 through 264

	259	260	261	262	263
264					

Columns 265 through 270

	265	266	267	268	269
270					

Columns 271 through 276

	271	272	273	274	275
276					

Columns 277 through 282

	277	278	279	280	281
282					

Columns 283 through 288

288	283	284	285	286	287
	<i>Columns 289 through 294</i>				
294	289	290	291	292	293
	<i>Columns 295 through 300</i>				
300	295	296	297	298	299
	<i>Columns 301 through 306</i>				
306	301	302	303	304	305
	<i>Columns 307 through 312</i>				
312	307	308	309	310	311
	<i>Columns 313 through 318</i>				
318	313	314	315	316	317
	<i>Columns 319 through 324</i>				
324	319	320	321	322	323
	<i>Columns 325 through 330</i>				
330	325	326	327	328	329
	<i>Columns 331 through 336</i>				
336	331	332	333	334	335
	<i>Columns 337 through 342</i>				
342	337	338	339	340	341
	<i>Columns 343 through 348</i>				
348	343	344	345	346	347
	<i>Columns 349 through 354</i>				

354	349	350	351	352	353
	<i>Columns 355 through 360</i>				
360	355	356	357	358	359
	<i>Columns 361 through 366</i>				
366	361	362	363	364	365
	<i>Columns 367 through 372</i>				
380	367	376	377	378	379
	<i>Columns 373 through 378</i>				
386	381	382	383	384	385
	<i>Columns 379 through 384</i>				
392	387	388	389	390	391
	<i>Columns 385 through 390</i>				
411	393	394	408	409	410
	<i>Columns 391 through 396</i>				
417	412	413	414	415	416
	<i>Columns 397 through 402</i>				
423	418	419	420	421	422
	<i>Columns 403 through 408</i>				
443	424	425	440	441	442
	<i>Columns 409 through 414</i>				
449	444	445	446	447	448

Columns 415 through 420

	450	451	452	453	454
455					

Columns 421 through 426

	456	472	473	474	475
476					

Columns 427 through 432

	477	478	479	480	481
482					

Columns 433 through 438

	483	484	485	486	487
488					

Columns 439 through 444

	504	505	506	507	508
509					

Columns 445 through 450

	510	511	512	513	514
515					

Columns 451 through 456

	516	517	518	519	520
536					

Columns 457 through 462

	537	538	539	540	541
542					

Columns 463 through 468

	543	544	545	546	547
548					

Columns 469 through 474

	549	550	551	552	553
568					

Columns 475 through 480

	569	570	571	572	573
574					

Columns 481 through 486

	575	576	577	578	579
580					

Columns 487 through 492

	581	582	583	584	585
586					

Columns 493 through 498

	600	601	602	603	604
605					

Columns 499 through 504

	606	607	608	609	610
611					

Columns 505 through 510

	612	613	614	615	616
617					

Columns 511 through 516

	618	619	620	621	622
623					

Columns 517 through 522

	632	633	634	635	636
637					

Columns 523 through 528

	638	639	640	641	642
643					

Columns 529 through 534

	644	645	646	647	648
649					

Columns 535 through 540

	650	651	652	653	654
655					

Columns 541 through 546

661	656	657	658	659	660
	<i>Columns 547 through 552</i>				
667	662	663	664	665	666
	<i>Columns 553 through 558</i>				
673	668	669	670	671	672
	<i>Columns 559 through 564</i>				
679	674	675	676	677	678
	<i>Columns 565 through 570</i>				
685	680	681	682	683	684
	<i>Columns 571 through 576</i>				
691	686	687	688	689	690
	<i>Columns 577 through 582</i>				
697	692	693	694	695	696
	<i>Columns 583 through 588</i>				
703	698	699	700	701	702
	<i>Columns 589 through 594</i>				
709	704	705	706	707	708
	<i>Columns 595 through 600</i>				
715	710	711	712	713	714
	<i>Columns 601 through 606</i>				
721	716	717	718	719	720
	<i>Columns 607 through 612</i>				

727	722	723	724	725	726
	<i>Columns 613 through 618</i>				
733	728	729	730	731	732
	<i>Columns 619 through 624</i>				
739	734	735	736	737	738
	<i>Columns 625 through 630</i>				
745	740	741	742	743	744
	<i>Columns 631 through 636</i>				
751	746	747	748	749	750
	<i>Columns 637 through 642</i>				
757	752	753	754	755	756
	<i>Columns 643 through 648</i>				
763	758	759	760	761	762
	<i>Columns 649 through 654</i>				
769	764	765	766	767	768
	<i>Columns 655 through 660</i>				
775	770	771	772	773	774
	<i>Columns 661 through 666</i>				
781	776	777	778	779	780
	<i>Columns 667 through 672</i>				
787	782	783	784	785	786

Columns 673 through 678

	788	789	790	791	792
793					

Columns 679 through 684

	794	795	796	797	798
799					

Columns 685 through 690

	800	801	802	803	804
805					

Columns 691 through 696

	806	807	808	809	810
811					

Columns 697 through 702

	812	813	814	815	816
817					

Columns 703 through 708

	818	819	820	821	822
823					

Columns 709 through 714

	824	825	826	827	828
829					

Columns 715 through 720

	830	831	832	833	834
835					

Columns 721 through 726

	836	837	838	839	840
841					

Columns 727 through 732

	842	843	844	845	846
847					

Columns 733 through 738

	848	849	850	851	852
853					

Columns 739 through 744

	854	855	856	857	858
859					

Columns 745 through 750

	860	861	862	863	864
865					

Columns 751 through 756

	866	867	868	869	870
871					

Columns 757 through 762

	872	873	874	875	876
877					

Columns 763 through 768

	878	879	880	881	882
883					

Columns 769 through 774

	884	885	886	887	888
889					

Columns 775 through 780

	890	891	892	893	894
895					

Columns 781 through 786

	896	897	898	899	900
901					

Columns 787 through 792

	902	903	904	905	906
907					

Columns 793 through 798

	908	909	910	911	912
913					

Columns 799 through 804

919	914	915	916	917	918
	<i>Columns 805 through 810</i>				
925	920	921	922	923	924
	<i>Columns 811 through 816</i>				
931	926	927	928	929	930
	<i>Columns 817 through 822</i>				
937	932	933	934	935	936
	<i>Columns 823 through 828</i>				
943	938	939	940	941	942
	<i>Columns 829 through 834</i>				
949	944	945	946	947	948
	<i>Columns 835 through 840</i>				
955	950	951	952	953	954
	<i>Columns 841 through 846</i>				
961	956	957	958	959	960
	<i>Columns 847 through 852</i>				
967	962	963	964	965	966
	<i>Columns 853 through 858</i>				
973	968	969	970	971	972
	<i>Columns 859 through 864</i>				
979	974	975	976	977	978
	<i>Columns 865 through 870</i>				

	980	981	982	983	984
985					

Columns 871 through 876

	986	987	988	989	990
991					

Columns 877 through 882

	992	993	994	995	996
997					

Columns 883 through 888

	998	999	1000	1001	1002
1003					

Columns 889 through 894

	1004	1005	1006	1007	1008
1009					

Columns 895 through 900

	1010	1011	1012	1013	1014
1015					

Columns 901 through 906

	1016	1017	1018	1019	1020
1021					

Columns 907 through 909

1022	1023	1024
------	------	------

Warning: First input matrix is close to singular or badly scaled.

RCOND =

1.302017e-17. Results may be inaccurate.

Columns 1 through 13

368	369	370	371	372	373	374	375	395	396	397
398	399									

Columns 14 through 26

400	401	402	403	404	405	406	407	426	427	428
429	430									

Columns 27 through 39

431	432	433	434	435	436	437	438	439	457	458
459	460									

Columns 40 through 52

461	462	463	464	465	466	467	468	469	470	471
489	490									

Columns 53 through 65

491	492	493	494	495	496	497	498	499	500	501
502	503									

Columns 66 through 78

521	522	523	524	525	526	527	528	529	530	531
532	533									

Columns 79 through 91

534	535	554	555	556	557	558	559	560	561	562
563	564									

Columns 92 through 104

565	566	567	587	588	589	590	591	592	593	594
595	596									

Columns 105 through 115

597	598	599	624	625	626	627	628	629	630	631
-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

Columns 1 through 6

	1	2	3	4	5
6					

Columns 7 through 12

	7	8	9	10	11
12					

Columns 13 through 18

	13	14	15	16	17
18					

Columns 19 through 24

	19	20	21	22	23
24					

Columns 25 through 30

	25	26	27	28	29
30					
	<i>Columns 31 through 36</i>				
	31	32	33	34	35
36					
	<i>Columns 37 through 42</i>				
	37	38	39	40	41
42					
	<i>Columns 43 through 48</i>				
	43	44	45	46	47
48					
	<i>Columns 49 through 54</i>				
	49	50	51	52	53
54					
	<i>Columns 55 through 60</i>				
	55	56	57	58	59
60					
	<i>Columns 61 through 66</i>				
	61	62	63	64	65
66					
	<i>Columns 67 through 72</i>				
	67	68	69	70	71
72					
	<i>Columns 73 through 78</i>				
	73	74	75	76	77
78					
	<i>Columns 79 through 84</i>				
	79	80	81	82	83
84					
	<i>Columns 85 through 90</i>				
	85	86	87	88	89
90					
	<i>Columns 91 through 96</i>				

96	91	92	93	94	95
	<i>Columns 97 through 102</i>				
102	97	98	99	100	101
	<i>Columns 103 through 108</i>				
108	103	104	105	106	107
	<i>Columns 109 through 114</i>				
114	109	110	111	112	113
	<i>Columns 115 through 120</i>				
120	115	116	117	118	119
	<i>Columns 121 through 126</i>				
126	121	122	123	124	125
	<i>Columns 127 through 132</i>				
132	127	128	129	130	131
	<i>Columns 133 through 138</i>				
138	133	134	135	136	137
	<i>Columns 139 through 144</i>				
144	139	140	141	142	143
	<i>Columns 145 through 150</i>				
150	145	146	147	148	149
	<i>Columns 151 through 156</i>				
156	151	152	153	154	155

Columns 157 through 162

	157	158	159	160	161
162					

Columns 163 through 168

	163	164	165	166	167
168					

Columns 169 through 174

	169	170	171	172	173
174					

Columns 175 through 180

	175	176	177	178	179
180					

Columns 181 through 186

	181	182	183	184	185
186					

Columns 187 through 192

	187	188	189	190	191
192					

Columns 193 through 198

	193	194	195	196	197
198					

Columns 199 through 204

	199	200	201	202	203
204					

Columns 205 through 210

	205	206	207	208	209
210					

Columns 211 through 216

	211	212	213	214	215
216					

Columns 217 through 222

	217	218	219	220	221
222					

Columns 223 through 228

	223	224	225	226	227
228					

Columns 229 through 234

	229	230	231	232	233
234					

Columns 235 through 240

	235	236	237	238	239
240					

Columns 241 through 246

	241	242	243	244	245
246					

Columns 247 through 252

	247	248	249	250	251
252					

Columns 253 through 258

	253	254	255	256	257
258					

Columns 259 through 264

	259	260	261	262	263
264					

Columns 265 through 270

	265	266	267	268	269
270					

Columns 271 through 276

	271	272	273	274	275
276					

Columns 277 through 282

	277	278	279	280	281
282					

Columns 283 through 288

288	283	284	285	286	287
	<i>Columns 289 through 294</i>				
294	289	290	291	292	293
	<i>Columns 295 through 300</i>				
300	295	296	297	298	299
	<i>Columns 301 through 306</i>				
306	301	302	303	304	305
	<i>Columns 307 through 312</i>				
312	307	308	309	310	311
	<i>Columns 313 through 318</i>				
318	313	314	315	316	317
	<i>Columns 319 through 324</i>				
324	319	320	321	322	323
	<i>Columns 325 through 330</i>				
330	325	326	327	328	329
	<i>Columns 331 through 336</i>				
336	331	332	333	334	335
	<i>Columns 337 through 342</i>				
342	337	338	339	340	341
	<i>Columns 343 through 348</i>				
348	343	344	345	346	347
	<i>Columns 349 through 354</i>				

354	349	350	351	352	353
	<i>Columns 355 through 360</i>				
360	355	356	357	358	359
	<i>Columns 361 through 366</i>				
366	361	362	363	364	365
	<i>Columns 367 through 372</i>				
380	367	376	377	378	379
	<i>Columns 373 through 378</i>				
386	381	382	383	384	385
	<i>Columns 379 through 384</i>				
392	387	388	389	390	391
	<i>Columns 385 through 390</i>				
411	393	394	408	409	410
	<i>Columns 391 through 396</i>				
417	412	413	414	415	416
	<i>Columns 397 through 402</i>				
423	418	419	420	421	422
	<i>Columns 403 through 408</i>				
443	424	425	440	441	442
	<i>Columns 409 through 414</i>				
449	444	445	446	447	448

Columns 415 through 420

	450	451	452	453	454
455					

Columns 421 through 426

	456	472	473	474	475
476					

Columns 427 through 432

	477	478	479	480	481
482					

Columns 433 through 438

	483	484	485	486	487
488					

Columns 439 through 444

	504	505	506	507	508
509					

Columns 445 through 450

	510	511	512	513	514
515					

Columns 451 through 456

	516	517	518	519	520
536					

Columns 457 through 462

	537	538	539	540	541
542					

Columns 463 through 468

	543	544	545	546	547
548					

Columns 469 through 474

	549	550	551	552	553
568					

Columns 475 through 480

	569	570	571	572	573
574					

Columns 481 through 486

	575	576	577	578	579
580					

Columns 487 through 492

	581	582	583	584	585
586					

Columns 493 through 498

	600	601	602	603	604
605					

Columns 499 through 504

	606	607	608	609	610
611					

Columns 505 through 510

	612	613	614	615	616
617					

Columns 511 through 516

	618	619	620	621	622
623					

Columns 517 through 522

	632	633	634	635	636
637					

Columns 523 through 528

	638	639	640	641	642
643					

Columns 529 through 534

	644	645	646	647	648
649					

Columns 535 through 540

	650	651	652	653	654
655					

Columns 541 through 546

661	656	657	658	659	660
Columns 547 through 552					
667	662	663	664	665	666
Columns 553 through 558					
673	668	669	670	671	672
Columns 559 through 564					
679	674	675	676	677	678
Columns 565 through 570					
685	680	681	682	683	684
Columns 571 through 576					
691	686	687	688	689	690
Columns 577 through 582					
697	692	693	694	695	696
Columns 583 through 588					
703	698	699	700	701	702
Columns 589 through 594					
709	704	705	706	707	708
Columns 595 through 600					
715	710	711	712	713	714
Columns 601 through 606					
721	716	717	718	719	720
Columns 607 through 612					

727	722	723	724	725	726
	<i>Columns 613 through 618</i>				
733	728	729	730	731	732
	<i>Columns 619 through 624</i>				
739	734	735	736	737	738
	<i>Columns 625 through 630</i>				
745	740	741	742	743	744
	<i>Columns 631 through 636</i>				
751	746	747	748	749	750
	<i>Columns 637 through 642</i>				
757	752	753	754	755	756
	<i>Columns 643 through 648</i>				
763	758	759	760	761	762
	<i>Columns 649 through 654</i>				
769	764	765	766	767	768
	<i>Columns 655 through 660</i>				
775	770	771	772	773	774
	<i>Columns 661 through 666</i>				
781	776	777	778	779	780
	<i>Columns 667 through 672</i>				
787	782	783	784	785	786

Columns 673 through 678

	788	789	790	791	792
793					

Columns 679 through 684

	794	795	796	797	798
799					

Columns 685 through 690

	800	801	802	803	804
805					

Columns 691 through 696

	806	807	808	809	810
811					

Columns 697 through 702

	812	813	814	815	816
817					

Columns 703 through 708

	818	819	820	821	822
823					

Columns 709 through 714

	824	825	826	827	828
829					

Columns 715 through 720

	830	831	832	833	834
835					

Columns 721 through 726

	836	837	838	839	840
841					

Columns 727 through 732

	842	843	844	845	846
847					

Columns 733 through 738

	848	849	850	851	852
853					

Columns 739 through 744

	854	855	856	857	858
859					

Columns 745 through 750

	860	861	862	863	864
865					

Columns 751 through 756

	866	867	868	869	870
871					

Columns 757 through 762

	872	873	874	875	876
877					

Columns 763 through 768

	878	879	880	881	882
883					

Columns 769 through 774

	884	885	886	887	888
889					

Columns 775 through 780

	890	891	892	893	894
895					

Columns 781 through 786

	896	897	898	899	900
901					

Columns 787 through 792

	902	903	904	905	906
907					

Columns 793 through 798

	908	909	910	911	912
913					

Columns 799 through 804

919	914	915	916	917	918
	<i>Columns 805 through 810</i>				
925	920	921	922	923	924
	<i>Columns 811 through 816</i>				
931	926	927	928	929	930
	<i>Columns 817 through 822</i>				
937	932	933	934	935	936
	<i>Columns 823 through 828</i>				
943	938	939	940	941	942
	<i>Columns 829 through 834</i>				
949	944	945	946	947	948
	<i>Columns 835 through 840</i>				
955	950	951	952	953	954
	<i>Columns 841 through 846</i>				
961	956	957	958	959	960
	<i>Columns 847 through 852</i>				
967	962	963	964	965	966
	<i>Columns 853 through 858</i>				
973	968	969	970	971	972
	<i>Columns 859 through 864</i>				
979	974	975	976	977	978
	<i>Columns 865 through 870</i>				

```

          980          981          982          983          984
985
Columns 871 through 876

          986          987          988          989          990
991
Columns 877 through 882

          992          993          994          995          996
997
Columns 883 through 888

          998          999          1000          1001          1002
1003
Columns 889 through 894

          1004          1005          1006          1007          1008
1009
Columns 895 through 900

          1010          1011          1012          1013          1014
1015
Columns 901 through 906

          1016          1017          1018          1019          1020
1021
Columns 907 through 909

          1022          1023          1024

Calling SDPT3 4.0: 524800 variables, 1025 equality constraints
-----

num. of constraints = 1025
dim. of sdp var = 1024, num. of sdp blk = 1
*****
SDPT3: Infeasible path-following algorithms
*****
version predcorr gam expon scale_data
HKM      1      0.000  1      0
it pstep dstep pinfeas dinfeas gap      prim-obj      dual-obj
cputime
-----
0/0.000/0.000/3.2e+04/3.2e+02/2.1e+09/ 0.000000e+00 0.000000e+00/
0:0:02/ spchol 1 1

```

```

1|0.989|1.000|3.4e+02|7.8e-02|2.5e+07|-2.981090e+02 -2.092802e+06|
0:0:02| chol 1 1
2|1.000|1.000|3.0e-07|7.8e-03|1.8e+06|-2.657478e+01 -1.755479e+06|
0:0:03| chol 1 1
3|1.000|0.960|1.6e-07|1.1e-03|7.1e+04|-7.577577e+01 -7.111774e+04|
0:0:03| chol 1 1
4|1.000|1.000|7.6e-08|7.8e-05|4.7e+04|-3.574024e+03 -5.085529e+04|
0:0:04| chol 1 1
5|0.273|1.000|5.3e-08|7.8e-06|7.0e+04|-1.834852e+04 -8.843402e+04|
0:0:05| chol 1 1
6|1.000|1.000|1.1e-08|7.9e-07|3.4e+04|-2.405985e+04 -5.812817e+04|
0:0:05| chol 1 1
7|0.901|1.000|3.6e-11|8.0e-08|9.0e+03|-3.725040e+04 -4.627247e+04|
0:0:06| chol 1 1
8|0.889|1.000|6.0e-11|7.8e-09|5.3e+03|-3.953078e+04 -4.481715e+04|
0:0:06| chol 1 1
9|0.948|0.917|3.4e-10|2.8e-09|4.1e+02|-4.407515e+04 -4.448216e+04|
0:0:07| chol 1 1
10|0.562|0.960|1.1e-10|8.0e-10|2.6e+02|-4.418789e+04 -4.445048e+04|
0:0:08| chol 1 1
11|0.954|0.958|1.3e-10|2.6e-10|1.7e+01|-4.442993e+04 -4.444696e+04|
0:0:08| chol 1 1
12|0.968|0.971|4.9e-10|9.4e-11|6.5e-01|-4.444615e+04 -4.444679e+04|
0:0:09| chol 1 1
13|0.985|0.980|1.6e-10|4.0e-11|4.9e-02|-4.444674e+04 -4.444679e+04|
0:0:09| chol 1 1
14|0.966|0.958|2.3e-10|3.3e-11|2.1e-03|-4.444679e+04 -4.444679e+04|
0:0:10| chol 1 1
15|0.986|0.986|2.1e-10|4.5e-11|1.3e-04|-4.444679e+04 -4.444679e+04|
0:0:10|

```

```

stop: max(relative gap, infeasibilities) < 1.49e-08

```

```

-----
number of iterations      = 15
primal objective value    = -4.44467873e+04
dual   objective value    = -4.44467874e+04
gap := trace(XZ)          = 1.28e-04
relative gap              = 1.44e-09
actual relative gap       = 1.40e-09
rel. primal infeas (scaled problem) = 2.05e-10
rel. dual      "      "      "      = 4.55e-11
rel. primal infeas (unscaled problem) = 0.00e+00
rel. dual      "      "      "      = 0.00e+00
norm(X), norm(Y), norm(Z) = 6.6e+02, 1.4e+03, 1.4e+03
norm(A), norm(b), norm(C) = 2.0e+03, 3.3e+01, 2.0e+02
Total CPU time (secs)    = 10.24
CPU time per iteration   = 0.68
termination code         = 0
DIMACS: 3.4e-09  0.0e+00  3.3e-09  0.0e+00  1.4e-09  1.4e-09

```

```

-----
Status: Solved
Optimal value (cvx_optval): +44446.8

```

Calling SDPT3 4.0: 524800 variables, 1025 equality constraints

```
-----
num. of constraints = 1025
dim. of sdp      var = 1024,   num. of sdp blk = 1
*****
SDPT3: Infeasible path-following algorithms
*****
version  predcorr  gam  expon  scale_data
HKM      1      0.000  1      0
it pstep dstep pinfeas dinfeas  gap      prim-obj      dual-obj
cputime
-----
0/0.000/0.000/3.2e+04/8.7e+01/2.1e+09/ 2.314646e+07 0.000000e+00/
0:0:02/ spchol 1 1
1/0.989/1.000/3.4e+02/2.1e-02/2.5e+07/ 2.673162e+05 -2.070198e+06/
0:0:02/ chol 1 1
2/1.000/1.000/3.0e-07/2.1e-03/1.8e+06/ 2.257738e+04 -1.732875e+06/
0:0:03/ chol 1 1
3/1.000/0.960/1.6e-07/2.9e-04/7.1e+04/ 2.252819e+04 -4.851378e+04/
0:0:03/ chol 1 1
4/1.000/1.000/7.6e-08/2.1e-05/4.7e+04/ 1.902994e+04 -2.825133e+04/
0:0:04/ chol 1 1
5/0.273/1.000/5.3e-08/2.2e-06/7.0e+04/ 4.255437e+03 -6.583005e+04/
0:0:05/ chol 1 1
6/1.000/1.000/1.1e-08/2.2e-07/3.4e+04/-1.455887e+03 -3.552420e+04/
0:0:05/ chol 1 1
7/0.901/1.000/1.5e-10/2.4e-08/9.0e+03/-1.464644e+04 -2.366851e+04/
0:0:06/ chol 1 1
8/0.889/1.000/1.2e-10/2.2e-09/5.3e+03/-1.692682e+04 -2.221319e+04/
0:0:07/ chol 1 1
9/0.948/0.917/3.0e-10/7.9e-10/4.1e+02/-2.147119e+04 -2.187820e+04/
0:0:07/ chol 1 1
10/0.562/0.960/4.7e-12/2.5e-10/2.6e+02/-2.158393e+04 -2.184652e+04/
0:0:08/ chol 1 1
11/0.954/0.958/7.0e-11/6.7e-11/1.7e+01/-2.182596e+04 -2.184300e+04/
0:0:08/ chol 1 1
12/0.968/0.971/6.4e-11/2.0e-11/6.5e-01/-2.184218e+04 -2.184283e+04/
0:0:09/ chol 1 1
13/0.985/0.980/7.0e-11/2.6e-12/4.9e-02/-2.184278e+04 -2.184282e+04/
0:0:09/ chol 1 1
14/0.966/0.958/2.6e-10/3.5e-12/2.1e-03/-2.184282e+04 -2.184282e+04/
0:0:10/ chol 1 2
15/0.986/0.986/1.0e-09/5.1e-12/1.3e-04/-2.184282e+04 -2.184282e+04/
0:0:10/
stop: max(relative gap, infeasibilities) < 1.49e-08
-----
number of iterations = 15
primal objective value = -2.18428245e+04
dual objective value = -2.18428246e+04
gap := trace(XZ) = 1.29e-04
relative gap = 2.95e-09
actual relative gap = 2.95e-09
```

```

rel. primal infeas (scaled problem)  = 1.02e-09
rel. dual      "      "      "      = 5.11e-12
rel. primal infeas (unscaled problem) = 0.00e+00
rel. dual      "      "      "      = 0.00e+00
norm(X), norm(Y), norm(Z) = 6.6e+02, 7.0e+02, 1.4e+03
norm(A), norm(b), norm(C) = 2.0e+03, 3.3e+01, 7.5e+02
Total CPU time (secs)  = 10.41
CPU time per iteration = 0.69
termination code       = 0
DIMACS: 1.7e-08  0.0e+00  1.3e-10  0.0e+00  3.0e-09  3.0e-09

```

```

-----
Status: Solved
Optimal value (cvx_optval): -21842.8

```

```

Calling SDPT3 4.0: 524800 variables, 1025 equality constraints
-----

```

```

num. of constraints = 1025
dim. of sdp var = 1024, num. of sdp blk = 1
*****
SDPT3: Infeasible path-following algorithms
*****
version  predcorr  gam  expon  scale_data
HKM      1      0.000  1      0
it pstep dstep pinfeas dinfeas gap      prim-obj      dual-obj
cputime
-----
0/0.000/0.000/3.2e+04/1.9e+03/2.1e+09/ 1.048576e+06  0.000000e+00/
0:0:02/ spchol 1 1
1/0.990/1.000/3.3e+02/4.7e-01/2.4e+07/ 1.189218e+04 -2.091777e+06/
0:0:02/ chol 1 1
2/1.000/1.000/3.0e-07/4.7e-02/1.7e+06/ 1.024940e+03 -1.748188e+06/
0:0:03/ chol 1 1
3/1.000/0.988/1.6e-07/5.2e-03/2.1e+04/ 1.024842e+03 -2.027522e+04/
0:0:03/ chol 1 1
4/1.000/0.891/2.6e-08/9.8e-04/2.4e+03/ 1.015890e+03 -1.388601e+03/
0:0:04/ chol 1 1
5/1.000/1.000/5.3e-09/4.7e-05/1.9e+03/ 4.978417e+02 -1.412025e+03/
0:0:05/ chol 1 1
6/0.833/1.000/6.8e-10/4.7e-06/1.1e+03/-4.540803e+02 -1.532733e+03/
0:0:05/ chol 1 1
7/1.000/0.981/8.7e-10/5.5e-07/2.4e+02/-7.717316e+02 -1.007609e+03/
0:0:06/ chol 1 1
8/0.905/0.973/3.1e-10/6.0e-08/4.5e+01/-9.343895e+02 -9.795630e+02/
0:0:06/ chol 1 1
9/0.864/0.970/7.3e-11/1.5e-08/6.2e+00/-9.709660e+02 -9.771379e+02/
0:0:07/ chol 1 1
10/0.968/0.966/3.4e-11/4.6e-09/7.7e-01/-9.762753e+02 -9.770478e+02/
0:0:08/ chol 1 1
11/0.962/0.981/2.3e-10/1.3e-09/3.0e-02/-9.770122e+02 -9.770426e+02/
0:0:08/ chol 1 1

```

```

12|0.923|0.994|3.7e-10|1.8e-11|5.5e-03|-9.770370e+02 -9.770425e+02|
0:0:09| chol 1 1
13|0.946|1.000|3.3e-10|1.5e-11|7.1e-04|-9.770418e+02 -9.770425e+02|
0:0:09| chol 1 1
14|1.000|1.000|4.6e-10|2.3e-11|1.3e-04|-9.770423e+02 -9.770425e+02|
0:0:10| chol 1 1
15|1.000|1.000|3.8e-10|3.4e-11|2.8e-06|-9.770425e+02 -9.770425e+02|
0:0:10|
stop: max(relative gap, infeasibilities) < 1.49e-08

```

```

number of iterations      = 15
primal objective value    = -9.77042469e+02
dual  objective value     = -9.77042472e+02
gap := trace(XZ)          = 2.83e-06
relative gap              = 1.45e-09
actual relative gap       = 1.43e-09
rel. primal infeas (scaled problem) = 3.79e-10
rel. dual      "      "      "      = 3.39e-11
rel. primal infeas (unscaled problem) = 0.00e+00
rel. dual      "      "      "      = 0.00e+00
norm(X), norm(Y), norm(Z) = 6.6e+02, 3.1e+01, 6.3e+01
norm(A), norm(b), norm(C) = 2.0e+03, 3.3e+01, 3.4e+01
Total CPU time (secs)    = 10.18
CPU time per iteration   = 0.68
termination code         = 0
DIMACS: 6.3e-09  0.0e+00  5.8e-10  0.0e+00  1.4e-09  1.4e-09

```

```

Status: Solved
Optimal value (cvx_optval): -977.042

```

Columns 1 through 6

	481	482	483	484	485
486					

Columns 7 through 12

	487	488	513	514	515
516					

Columns 13 through 18

	517	518	519	520	536
537					

Columns 19 through 24

	538	539	540	541	542
543					

Columns 25 through 30

549	544	545	546	547	548
	<i>Columns 31 through 36</i>				
569	550	551	552	553	568
	<i>Columns 37 through 42</i>				
575	570	571	572	573	574
	<i>Columns 43 through 48</i>				
581	576	577	578	579	580
	<i>Columns 49 through 54</i>				
600	582	583	584	585	586
	<i>Columns 55 through 60</i>				
606	601	602	603	604	605
	<i>Columns 61 through 66</i>				
612	607	608	609	610	611
	<i>Columns 67 through 72</i>				
618	613	614	615	616	617
	<i>Columns 73 through 78</i>				
632	619	620	621	622	623
	<i>Columns 79 through 84</i>				
638	633	634	635	636	637
	<i>Columns 85 through 90</i>				
644	639	640	641	642	643
	<i>Columns 91 through 96</i>				

650	645	646	647	648	649
	<i>Columns 97 through 102</i>				
656	651	652	653	654	655
	<i>Columns 103 through 108</i>				
662	657	658	659	660	661
	<i>Columns 109 through 114</i>				
668	663	664	665	666	667
	<i>Columns 115 through 120</i>				
674	669	670	671	672	673
	<i>Columns 121 through 126</i>				
680	675	676	677	678	679
	<i>Columns 127 through 132</i>				
686	681	682	683	684	685
	<i>Columns 133 through 138</i>				
692	687	688	689	690	691
	<i>Columns 139 through 144</i>				
698	693	694	695	696	697
	<i>Columns 145 through 150</i>				
704	699	700	701	702	703
	<i>Columns 151 through 156</i>				
710	705	706	707	708	709

Columns 157 through 162

711	712	713	714	715
716				

Columns 163 through 168

717	718	719	720	721
722				

Columns 169 through 174

723	724	725	726	727
728				

Columns 175 through 180

729	730	731	732	733
734				

Columns 181 through 186

735	736	737	738	739
740				

Columns 187 through 192

741	742	743	744	745
746				

Columns 193 through 198

747	748	749	750	751
752				

Columns 199 through 204

753	754	755	756	757
758				

Columns 205 through 210

759	760	761	762	763
764				

Columns 211 through 216

765	766	767	768	769
770				

Columns 217 through 222

771	772	773	774	775
776				

Columns 223 through 228

	777	778	779	780	781
782					

Columns 229 through 234

	783	784	785	786	787
788					

Columns 235 through 240

	789	790	791	792	793
794					

Columns 241 through 246

	795	796	797	798	799
800					

Columns 247 through 252

	801	802	803	804	805
806					

Columns 253 through 258

	807	808	809	810	811
812					

Columns 259 through 264

	813	814	815	816	817
818					

Columns 265 through 270

	819	820	821	822	823
824					

Columns 271 through 276

	825	826	827	828	829
830					

Columns 277 through 282

	831	832	833	834	835
836					

Columns 283 through 288

842	837	838	839	840	841
	Columns 289 through 294				
848	843	844	845	846	847
	Columns 295 through 300				
854	849	850	851	852	853
	Columns 301 through 306				
860	855	856	857	858	859
	Columns 307 through 312				
866	861	862	863	864	865
	Columns 313 through 318				
872	867	868	869	870	871
	Columns 319 through 324				
878	873	874	875	876	877
	Columns 325 through 330				
884	879	880	881	882	883
	Columns 331 through 336				
890	885	886	887	888	889
	Columns 337 through 342				
896	891	892	893	894	895
	Columns 343 through 348				
902	897	898	899	900	901
	Columns 349 through 354				

908	903	904	905	906	907
	<i>Columns 355 through 360</i>				
914	909	910	911	912	913
	<i>Columns 361 through 366</i>				
920	915	916	917	918	919
	<i>Columns 367 through 372</i>				
926	921	922	923	924	925
	<i>Columns 373 through 378</i>				
932	927	928	929	930	931
	<i>Columns 379 through 384</i>				
938	933	934	935	936	937
	<i>Columns 385 through 390</i>				
944	939	940	941	942	943
	<i>Columns 391 through 396</i>				
950	945	946	947	948	949
	<i>Columns 397 through 402</i>				
956	951	952	953	954	955
	<i>Columns 403 through 408</i>				
962	957	958	959	960	961
	<i>Columns 409 through 414</i>				
968	963	964	965	966	967

Columns 415 through 420

	969	970	971	972	973
974					

Columns 421 through 426

	975	976	977	978	979
980					

Columns 427 through 432

	981	982	983	984	985
986					

Columns 433 through 438

	987	988	989	990	991
992					

Columns 439 through 444

	993	994	995	996	997
998					

Columns 445 through 450

	999	1000	1001	1002	1003
1004					

Columns 451 through 456

	1005	1006	1007	1008	1009
1010					

Columns 457 through 462

	1011	1012	1013	1014	1015
1016					

Columns 463 through 468

	1017	1018	1019	1020	1021
1022					

Columns 469 through 470

1023	1024
------	------

Columns 1 through 13

	1	2	3	4	5	6	7	8	9	10	11
12	13										

Columns 14 through 26

14	15	16	17	18	19	20	21	22	23	24
25	26									

Columns 27 through 39

27	28	29	30	31	32	33	34	35	36	37
38	39									

Columns 40 through 52

40	41	42	43	44	45	46	47	48	49	50
51	52									

Columns 53 through 65

53	54	55	56	57	58	59	60	61	62	63
64	65									

Columns 66 through 78

66	67	68	69	70	71	72	73	74	75	76
77	78									

Columns 79 through 91

79	80	81	82	83	84	85	86	87	88	89
90	91									

Columns 92 through 104

92	93	94	95	96	97	98	99	100	101	102
103	104									

Columns 105 through 117

105	106	107	108	109	110	111	112	113	114	115
116	117									

Columns 118 through 130

118	119	120	121	122	123	124	125	126	127	128
129	130									

Columns 131 through 143

131	132	133	134	135	136	137	138	139	140	141
142	143									

Columns 144 through 156

144	145	146	147	148	149	150	151	152	153	154
155	156									

Columns 157 through 169

157	158	159	160	161	162	163	164	165	166	167
168	169									

Columns 170 through 182

170	171	172	173	174	175	176	177	178	179	180
181	182									

Columns 183 through 195

183	184	185	186	187	188	189	190	191	192	193
194	195									

Columns 196 through 208

196	197	198	199	200	201	202	203	204	205	206
207	208									

Columns 209 through 221

209	210	211	212	213	214	215	216	217	218	219
220	221									

Columns 222 through 234

222	223	224	225	226	227	228	229	230	231	232
233	234									

Columns 235 through 247

235	236	237	238	239	240	241	242	243	244	245
246	247									

Columns 248 through 260

248	249	250	251	252	253	254	255	256	257	258
259	260									

Columns 261 through 273

261	262	263	264	265	266	267	268	269	270	271
272	273									

Columns 274 through 286

274	275	276	277	278	279	280	281	282	283	284
285	286									

Columns 287 through 299

287	288	289	290	291	292	293	294	295	296	297
298	299									

Columns 300 through 312

300	301	302	303	304	305	306	307	308	309	310
311	312									

Columns 313 through 325

313	314	315	316	317	318	319	320	321	322	323
324	325									

Columns 326 through 338

326	327	328	329	330	331	332	333	334	335	336
337	338									

Columns 339 through 351

339	340	341	342	343	344	345	346	347	348	349
350	351									

Columns 352 through 364

352	353	354	355	356	357	358	359	360	361	362
363	364									

Columns 365 through 377

365	366	367	368	369	370	371	372	373	374	375
376	377									

Columns 378 through 390

378	379	380	381	382	383	384	385	386	387	388
389	390									

Columns 391 through 403

391	392	393	394	395	396	397	398	399	400	401
402	403									

Columns 404 through 416

404	405	406	407	408	409	410	411	412	413	414
415	416									

Columns 417 through 429

417	418	419	420	421	422	423	424	425	426	427
428	429									

Columns 430 through 442

430 431 432 433 434 435 436 437 438 439 440
441 442

Columns 443 through 455

443 444 445 446 447 448 449 450 451 452 453
454 455

Columns 456 through 468

456 457 458 459 460 461 462 463 464 465 466
467 468

Columns 469 through 481

469 470 471 472 473 474 475 476 477 478 479
480 489

Columns 482 through 494

490 491 492 493 494 495 496 497 498 499 500
501 502

Columns 495 through 507

503 504 505 506 507 508 509 510 511 512 521
522 523

Columns 508 through 520

524 525 526 527 528 529 530 531 532 533 534
535 554

Columns 521 through 533

555 556 557 558 559 560 561 562 563 564 565
566 567

Columns 534 through 546

587 588 589 590 591 592 593 594 595 596 597
598 599

Columns 547 through 554

624 625 626 627 628 629 630 631

Columns 1 through 6

481 482 483 484 485
486

Columns 7 through 12

516	487	488	513	514	515
	<i>Columns 13 through 18</i>				
537	517	518	519	520	536
	<i>Columns 19 through 24</i>				
543	538	539	540	541	542
	<i>Columns 25 through 30</i>				
549	544	545	546	547	548
	<i>Columns 31 through 36</i>				
569	550	551	552	553	568
	<i>Columns 37 through 42</i>				
575	570	571	572	573	574
	<i>Columns 43 through 48</i>				
581	576	577	578	579	580
	<i>Columns 49 through 54</i>				
600	582	583	584	585	586
	<i>Columns 55 through 60</i>				
606	601	602	603	604	605
	<i>Columns 61 through 66</i>				
612	607	608	609	610	611
	<i>Columns 67 through 72</i>				
618	613	614	615	616	617

Columns 73 through 78

	619	620	621	622	623
632					

Columns 79 through 84

	633	634	635	636	637
638					

Columns 85 through 90

	639	640	641	642	643
644					

Columns 91 through 96

	645	646	647	648	649
650					

Columns 97 through 102

	651	652	653	654	655
656					

Columns 103 through 108

	657	658	659	660	661
662					

Columns 109 through 114

	663	664	665	666	667
668					

Columns 115 through 120

	669	670	671	672	673
674					

Columns 121 through 126

	675	676	677	678	679
680					

Columns 127 through 132

	681	682	683	684	685
686					

Columns 133 through 138

	687	688	689	690	691
692					

Columns 139 through 144

	693	694	695	696	697
698					

Columns 145 through 150

	699	700	701	702	703
704					

Columns 151 through 156

	705	706	707	708	709
710					

Columns 157 through 162

	711	712	713	714	715
716					

Columns 163 through 168

	717	718	719	720	721
722					

Columns 169 through 174

	723	724	725	726	727
728					

Columns 175 through 180

	729	730	731	732	733
734					

Columns 181 through 186

	735	736	737	738	739
740					

Columns 187 through 192

	741	742	743	744	745
746					

Columns 193 through 198

	747	748	749	750	751
752					

Columns 199 through 204

758	753	754	755	756	757
	Columns 205 through 210				
764	759	760	761	762	763
	Columns 211 through 216				
770	765	766	767	768	769
	Columns 217 through 222				
776	771	772	773	774	775
	Columns 223 through 228				
782	777	778	779	780	781
	Columns 229 through 234				
788	783	784	785	786	787
	Columns 235 through 240				
794	789	790	791	792	793
	Columns 241 through 246				
800	795	796	797	798	799
	Columns 247 through 252				
806	801	802	803	804	805
	Columns 253 through 258				
812	807	808	809	810	811
	Columns 259 through 264				
818	813	814	815	816	817
	Columns 265 through 270				

824	819	820	821	822	823
	<i>Columns 271 through 276</i>				
830	825	826	827	828	829
	<i>Columns 277 through 282</i>				
836	831	832	833	834	835
	<i>Columns 283 through 288</i>				
842	837	838	839	840	841
	<i>Columns 289 through 294</i>				
848	843	844	845	846	847
	<i>Columns 295 through 300</i>				
854	849	850	851	852	853
	<i>Columns 301 through 306</i>				
860	855	856	857	858	859
	<i>Columns 307 through 312</i>				
866	861	862	863	864	865
	<i>Columns 313 through 318</i>				
872	867	868	869	870	871
	<i>Columns 319 through 324</i>				
878	873	874	875	876	877
	<i>Columns 325 through 330</i>				
884	879	880	881	882	883

Columns 331 through 336

	885	886	887	888	889
890					

Columns 337 through 342

	891	892	893	894	895
896					

Columns 343 through 348

	897	898	899	900	901
902					

Columns 349 through 354

	903	904	905	906	907
908					

Columns 355 through 360

	909	910	911	912	913
914					

Columns 361 through 366

	915	916	917	918	919
920					

Columns 367 through 372

	921	922	923	924	925
926					

Columns 373 through 378

	927	928	929	930	931
932					

Columns 379 through 384

	933	934	935	936	937
938					

Columns 385 through 390

	939	940	941	942	943
944					

Columns 391 through 396

	945	946	947	948	949
950					

Columns 397 through 402

	951	952	953	954	955
956					

Columns 403 through 408

	957	958	959	960	961
962					

Columns 409 through 414

	963	964	965	966	967
968					

Columns 415 through 420

	969	970	971	972	973
974					

Columns 421 through 426

	975	976	977	978	979
980					

Columns 427 through 432

	981	982	983	984	985
986					

Columns 433 through 438

	987	988	989	990	991
992					

Columns 439 through 444

	993	994	995	996	997
998					

Columns 445 through 450

	999	1000	1001	1002	1003
1004					

Columns 451 through 456

	1005	1006	1007	1008	1009
1010					

Columns 457 through 462

	1011	1012	1013	1014	1015						
1016											
	Columns 463 through 468										
	1017	1018	1019	1020	1021						
1022											
	Columns 469 through 470										
	1023	1024									
	Columns 1 through 13										
	1	2	3	4	5	6	7	8	9	10	11
12	13										
	Columns 14 through 26										
	14	15	16	17	18	19	20	21	22	23	24
25	26										
	Columns 27 through 39										
	27	28	29	30	31	32	33	34	35	36	37
38	39										
	Columns 40 through 52										
	40	41	42	43	44	45	46	47	48	49	50
51	52										
	Columns 53 through 65										
	53	54	55	56	57	58	59	60	61	62	63
64	65										
	Columns 66 through 78										
	66	67	68	69	70	71	72	73	74	75	76
77	78										
	Columns 79 through 91										
	79	80	81	82	83	84	85	86	87	88	89
90	91										
	Columns 92 through 104										
	92	93	94	95	96	97	98	99	100	101	102
103	104										
	Columns 105 through 117										

105 106 107 108 109 110 111 112 113 114 115
116 117

Columns 118 through 130

118 119 120 121 122 123 124 125 126 127 128
129 130

Columns 131 through 143

131 132 133 134 135 136 137 138 139 140 141
142 143

Columns 144 through 156

144 145 146 147 148 149 150 151 152 153 154
155 156

Columns 157 through 169

157 158 159 160 161 162 163 164 165 166 167
168 169

Columns 170 through 182

170 171 172 173 174 175 176 177 178 179 180
181 182

Columns 183 through 195

183 184 185 186 187 188 189 190 191 192 193
194 195

Columns 196 through 208

196 197 198 199 200 201 202 203 204 205 206
207 208

Columns 209 through 221

209 210 211 212 213 214 215 216 217 218 219
220 221

Columns 222 through 234

222 223 224 225 226 227 228 229 230 231 232
233 234

Columns 235 through 247

235 236 237 238 239 240 241 242 243 244 245
246 247

Columns 248 through 260

248 249 250 251 252 253 254 255 256 257 258
259 260

Columns 261 through 273

261 262 263 264 265 266 267 268 269 270 271
272 273

Columns 274 through 286

274 275 276 277 278 279 280 281 282 283 284
285 286

Columns 287 through 299

287 288 289 290 291 292 293 294 295 296 297
298 299

Columns 300 through 312

300 301 302 303 304 305 306 307 308 309 310
311 312

Columns 313 through 325

313 314 315 316 317 318 319 320 321 322 323
324 325

Columns 326 through 338

326 327 328 329 330 331 332 333 334 335 336
337 338

Columns 339 through 351

339 340 341 342 343 344 345 346 347 348 349
350 351

Columns 352 through 364

352 353 354 355 356 357 358 359 360 361 362
363 364

Columns 365 through 377

365 366 367 368 369 370 371 372 373 374 375
376 377

Columns 378 through 390

378 379 380 381 382 383 384 385 386 387 388
389 390

Columns 391 through 403

391	392	393	394	395	396	397	398	399	400	401
402	403									

Columns 404 through 416

404	405	406	407	408	409	410	411	412	413	414
415	416									

Columns 417 through 429

417	418	419	420	421	422	423	424	425	426	427
428	429									

Columns 430 through 442

430	431	432	433	434	435	436	437	438	439	440
441	442									

Columns 443 through 455

443	444	445	446	447	448	449	450	451	452	453
454	455									

Columns 456 through 468

456	457	458	459	460	461	462	463	464	465	466
467	468									

Columns 469 through 481

469	470	471	472	473	474	475	476	477	478	479
480	489									

Columns 482 through 494

490	491	492	493	494	495	496	497	498	499	500
501	502									

Columns 495 through 507

503	504	505	506	507	508	509	510	511	512	521
522	523									

Columns 508 through 520

524	525	526	527	528	529	530	531	532	533	534
535	554									

Columns 521 through 533

555	556	557	558	559	560	561	562	563	564	565
566	567									

Columns 534 through 546

587	588	589	590	591	592	593	594	595	596	597
598	599									

Columns 547 through 554

624	625	626	627	628	629	630	631			
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Columns 1 through 6

	481		482		483		484		485	
486										

Columns 7 through 12

	487		488		513		514		515	
516										

Columns 13 through 18

	517		518		519		520		536	
537										

Columns 19 through 24

	538		539		540		541		542	
543										

Columns 25 through 30

	544		545		546		547		548	
549										

Columns 31 through 36

	550		551		552		553		568	
569										

Columns 37 through 42

	570		571		572		573		574	
575										

Columns 43 through 48

	576		577		578		579		580	
581										

Columns 49 through 54

	582		583		584		585		586	
600										

Columns 55 through 60

	601	602	603	604	605
606					

Columns 61 through 66

	607	608	609	610	611
612					

Columns 67 through 72

	613	614	615	616	617
618					

Columns 73 through 78

	619	620	621	622	623
632					

Columns 79 through 84

	633	634	635	636	637
638					

Columns 85 through 90

	639	640	641	642	643
644					

Columns 91 through 96

	645	646	647	648	649
650					

Columns 97 through 102

	651	652	653	654	655
656					

Columns 103 through 108

	657	658	659	660	661
662					

Columns 109 through 114

	663	664	665	666	667
668					

Columns 115 through 120

674	669	670	671	672	673
	<i>Columns 121 through 126</i>				
680	675	676	677	678	679
	<i>Columns 127 through 132</i>				
686	681	682	683	684	685
	<i>Columns 133 through 138</i>				
692	687	688	689	690	691
	<i>Columns 139 through 144</i>				
698	693	694	695	696	697
	<i>Columns 145 through 150</i>				
704	699	700	701	702	703
	<i>Columns 151 through 156</i>				
710	705	706	707	708	709
	<i>Columns 157 through 162</i>				
716	711	712	713	714	715
	<i>Columns 163 through 168</i>				
722	717	718	719	720	721
	<i>Columns 169 through 174</i>				
728	723	724	725	726	727
	<i>Columns 175 through 180</i>				
734	729	730	731	732	733
	<i>Columns 181 through 186</i>				

740	735	736	737	738	739
	Columns 187 through 192				
746	741	742	743	744	745
	Columns 193 through 198				
752	747	748	749	750	751
	Columns 199 through 204				
758	753	754	755	756	757
	Columns 205 through 210				
764	759	760	761	762	763
	Columns 211 through 216				
770	765	766	767	768	769
	Columns 217 through 222				
776	771	772	773	774	775
	Columns 223 through 228				
782	777	778	779	780	781
	Columns 229 through 234				
788	783	784	785	786	787
	Columns 235 through 240				
794	789	790	791	792	793
	Columns 241 through 246				
800	795	796	797	798	799

Columns 247 through 252

	801	802	803	804	805
806					

Columns 253 through 258

	807	808	809	810	811
812					

Columns 259 through 264

	813	814	815	816	817
818					

Columns 265 through 270

	819	820	821	822	823
824					

Columns 271 through 276

	825	826	827	828	829
830					

Columns 277 through 282

	831	832	833	834	835
836					

Columns 283 through 288

	837	838	839	840	841
842					

Columns 289 through 294

	843	844	845	846	847
848					

Columns 295 through 300

	849	850	851	852	853
854					

Columns 301 through 306

	855	856	857	858	859
860					

Columns 307 through 312

	861	862	863	864	865
866					

Columns 313 through 318

	867	868	869	870	871
872					

Columns 319 through 324

	873	874	875	876	877
878					

Columns 325 through 330

	879	880	881	882	883
884					

Columns 331 through 336

	885	886	887	888	889
890					

Columns 337 through 342

	891	892	893	894	895
896					

Columns 343 through 348

	897	898	899	900	901
902					

Columns 349 through 354

	903	904	905	906	907
908					

Columns 355 through 360

	909	910	911	912	913
914					

Columns 361 through 366

	915	916	917	918	919
920					

Columns 367 through 372

	921	922	923	924	925
926					

Columns 373 through 378

932	927	928	929	930	931
	<i>Columns 379 through 384</i>				
938	933	934	935	936	937
	<i>Columns 385 through 390</i>				
944	939	940	941	942	943
	<i>Columns 391 through 396</i>				
950	945	946	947	948	949
	<i>Columns 397 through 402</i>				
956	951	952	953	954	955
	<i>Columns 403 through 408</i>				
962	957	958	959	960	961
	<i>Columns 409 through 414</i>				
968	963	964	965	966	967
	<i>Columns 415 through 420</i>				
974	969	970	971	972	973
	<i>Columns 421 through 426</i>				
980	975	976	977	978	979
	<i>Columns 427 through 432</i>				
986	981	982	983	984	985
	<i>Columns 433 through 438</i>				
992	987	988	989	990	991
	<i>Columns 439 through 444</i>				

	993	994	995	996	997						
998											
	Columns 445 through 450										
	999	1000	1001	1002	1003						
1004											
	Columns 451 through 456										
	1005	1006	1007	1008	1009						
1010											
	Columns 457 through 462										
	1011	1012	1013	1014	1015						
1016											
	Columns 463 through 468										
	1017	1018	1019	1020	1021						
1022											
	Columns 469 through 470										
	1023	1024									
	Columns 1 through 13										
	1	2	3	4	5	6	7	8	9	10	11
12	13										
	Columns 14 through 26										
	14	15	16	17	18	19	20	21	22	23	24
25	26										
	Columns 27 through 39										
	27	28	29	30	31	32	33	34	35	36	37
38	39										
	Columns 40 through 52										
	40	41	42	43	44	45	46	47	48	49	50
51	52										
	Columns 53 through 65										
	53	54	55	56	57	58	59	60	61	62	63
64	65										
	Columns 66 through 78										

66	67	68	69	70	71	72	73	74	75	76
77	78									

Columns 79 through 91

79	80	81	82	83	84	85	86	87	88	89
90	91									

Columns 92 through 104

92	93	94	95	96	97	98	99	100	101	102
103	104									

Columns 105 through 117

105	106	107	108	109	110	111	112	113	114	115
116	117									

Columns 118 through 130

118	119	120	121	122	123	124	125	126	127	128
129	130									

Columns 131 through 143

131	132	133	134	135	136	137	138	139	140	141
142	143									

Columns 144 through 156

144	145	146	147	148	149	150	151	152	153	154
155	156									

Columns 157 through 169

157	158	159	160	161	162	163	164	165	166	167
168	169									

Columns 170 through 182

170	171	172	173	174	175	176	177	178	179	180
181	182									

Columns 183 through 195

183	184	185	186	187	188	189	190	191	192	193
194	195									

Columns 196 through 208

196	197	198	199	200	201	202	203	204	205	206
207	208									

Columns 209 through 221

209	210	211	212	213	214	215	216	217	218	219
220	221									

Columns 222 through 234

222	223	224	225	226	227	228	229	230	231	232
233	234									

Columns 235 through 247

235	236	237	238	239	240	241	242	243	244	245
246	247									

Columns 248 through 260

248	249	250	251	252	253	254	255	256	257	258
259	260									

Columns 261 through 273

261	262	263	264	265	266	267	268	269	270	271
272	273									

Columns 274 through 286

274	275	276	277	278	279	280	281	282	283	284
285	286									

Columns 287 through 299

287	288	289	290	291	292	293	294	295	296	297
298	299									

Columns 300 through 312

300	301	302	303	304	305	306	307	308	309	310
311	312									

Columns 313 through 325

313	314	315	316	317	318	319	320	321	322	323
324	325									

Columns 326 through 338

326	327	328	329	330	331	332	333	334	335	336
337	338									

Columns 339 through 351

339	340	341	342	343	344	345	346	347	348	349
350	351									

Columns 352 through 364

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363	364									

Columns 365 through 377

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376	377									

Columns 378 through 390

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389	390									

Columns 391 through 403

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Columns 404 through 416

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Columns 417 through 429

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Columns 430 through 442

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Columns 443 through 455

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Columns 456 through 468

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Columns 469 through 481

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480	481									

Columns 482 through 494

490 491 492 493 494 495 496 497 498 499 500
501 502

Columns 495 through 507

503 504 505 506 507 508 509 510 511 512 521
522 523

Columns 508 through 520

524 525 526 527 528 529 530 531 532 533 534
535 554

Columns 521 through 533

555 556 557 558 559 560 561 562 563 564 565
566 567

Columns 534 through 546

587 588 589 590 591 592 593 594 595 596 597
598 599

Columns 547 through 554

624 625 626 627 628 629 630 631

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