

'T'EMPUS

The Tempus HLA Genotyping Ambiguous Allele List is intended to provide additional information regarding the HLA genotyping results provided with the xT test. This test sequences only a portion of the HLA gene that is most relevant for clinical trial matching, and the resulting sequence may correspond to multiple alleles. In such cases, a representative allele is chosen for reporting.

For your reference, we have included the full list of representative alleles, and their corresponding ambiguous alleles that may also represent the true genotype on the Tempus Document Library. Representative alleles will be in bold and shaded green, with the associated ambiguous alleles listed as a dropdown underneath:

Representative and Ambiguous Alleles
A*01:01
A*01:04
A*01:103
A*01:107
A*01:109
A*01:132
A*01:141

This document includes ambiguous alleles reported by Tempus' xT test. This list does not include all possible alleles that may be reported. Alleles that do not have associated ambiguous alleles are not included on this list.

If you have additional questions please contact support@tempus.com.

Representative and Ambiguous Alleles
A*01:01
A*01:04
A*01:103
A*01:107
A*01:109
A*01:132
A*01:141
A*01:142
A*01:155
A*01:177
A*01:212
A*01:217
A*01:22N
A*01:234
A*01:237
A*01:246
A*01:248Q
A*01:249
A*01:251
A*01:252
A*01:253
A*01:261
A*01:274
A*01:276
A*01:277
A*01:280
A*01:281Q
A*01:288
A*01:291
A*01:295
A*01:296
A*01:297
A*01:300
A*01:305
A*01:306
A*01:309
A*01:316
A*01:317
A*01:319
A*01:32
A*01:323
A*01:324
A*01:325
A*01:328N
A*01:331
A*01:332
A*01:346
A*01:347
A*01:349
A*01:351
A*01:353
A*01:356
A*01:357
A*01:358
A*01:367
A*01:368
A*01:37
A*01:370
A*01:371
A*01:372
A*01:377
A*01:378
A*01:379N
A*01:383
A*01:385
A*01:386
A*01:387
A*01:388
A*01:389
A*01:392
A*01:404
A*01:406
A*01:407
A*01:409
A*01:410

Representative and Ambiguous Alleles (2/3)
A*80:01
A*80:05
A*80:06
A*80:07
A*80:08N
B*07:02
B*07:120
B*07:128
B*07:129
B*07:130
B*07:156
B*07:161N
B*07:169
B*07:271
B*07:282
B*07:291
B*07:294
B*07:295
B*07:298
B*07:308
B*07:311
B*07:312
B*07:322
B*07:329
B*07:330N
B*07:338
B*07:339
B*07:341
B*07:342
B*07:354
B*07:355
B*07:369
B*07:370
B*07:371
B*07:373N
B*07:374N
B*07:375
B*07:379
B*07:381
B*07:382
B*07:385
B*07:390
B*07:391
B*07:392
B*07:393
B*07:394
B*07:396
B*07:402
B*07:405
B*07:406
B*07:422
B*07:423
B*07:425N
B*07:427
B*07:431
B*07:432
B*07:433
B*07:436
B*07:44N
B*07:454
B*07:456
B*07:458
B*07:459
B*07:462
B*07:466
B*07:477
B*07:482
B*07:484
B*07:486
B*07:487
B*07:49N
B*07:58
B*07:59
B*07:61
B*07:05

Representative and Ambiguous Alleles (3/3)
B*67:01
B*67:05
B*73:01
B*73:03
B*81:01
B*81:02
B*81:03
B*81:10
C*01:02
C*01:109N
C*01:127
C*01:135
C*01:138
C*01:139
C*01:142
C*01:150
C*01:151
C*01:155
C*01:159
C*01:164
C*01:165
C*01:172
C*01:173
C*01:174
C*01:175
C*01:179
C*01:180
C*01:181N
C*01:182
C*01:183
C*01:185Q
C*01:187
C*01:191
C*01:194
C*01:200
C*01:206
C*01:213
C*01:214
C*01:216
C*01:217
C*01:219
C*01:230
C*01:232
C*01:234
C*01:237
C*01:239
C*01:242
C*01:243
C*01:247
C*01:25
C*01:250
C*01:254
C*01:257N
C*01:44
C*01:82
C*01:83
C*01:84
C*01:85
C*01:89N
C*01:03
C*01:24
C*02:02
C*02:10
C*02:106
C*02:138
C*02:145
C*02:147
C*02:150N
C*02:151
C*02:153
C*02:154
C*02:155
C*02:163
C*02:170
C*02:171

A*01:411N
A*01:415
A*01:419
A*01:421N
A*01:422
A*01:426
A*01:433N
A*01:436Q
A*01:440
A*01:441
A*01:443
A*01:45
A*01:56N
A*01:81
A*01:87N
A*01:02
A*01:412
A*01:420N
A*01:03
A*01:287N
A*01:315
A*02:01
A*02:09
A*02:1005
A*02:1006N
A*02:1007Q
A*02:1008
A*02:1009
A*02:1011Q
A*02:1012
A*02:1013
A*02:1034
A*02:1035
A*02:1036
A*02:1040
A*02:1043
A*02:1047
A*02:1049
A*02:1053N
A*02:1055N
A*02:1061N
A*02:1069
A*02:1073
A*02:1078N
A*02:1080
A*02:1089
A*02:1093
A*02:1102
A*02:1103
A*02:1111
A*02:1115
A*02:1120
A*02:1124
A*02:1125
A*02:132
A*02:134
A*02:140
A*02:241
A*02:252
A*02:256
A*02:266
A*02:291
A*02:294
A*02:305N
A*02:327
A*02:329
A*02:356N
A*02:357
A*02:397
A*02:411
A*02:43N
A*02:446
A*02:455
A*02:469
A*02:481
A*02:538

B*07:06
B*07:324
B*07:389
B*07:399
B*07:434
B*07:474
B*07:489
B*08:01
B*08:109
B*08:173
B*08:178
B*08:182
B*08:183
B*08:191
B*08:194
B*08:19N
B*08:207
B*08:221
B*08:222
B*08:225
B*08:231
B*08:233
B*08:234
B*08:236N
B*08:237
B*08:238
B*08:241
B*08:243
B*08:244
B*08:246
B*08:247
B*08:248
B*08:250
B*08:258
B*08:259
B*08:260
B*08:267
B*08:268
B*08:269
B*08:270Q
B*08:273
B*08:275
B*08:276
B*08:280
B*08:294
B*08:298
B*08:301
B*08:311
B*08:312
B*13:01
B*13:109
B*13:142
B*13:148
B*13:162
B*13:168
B*13:171
B*13:173
B*13:180
B*13:52
B*13:61
B*13:02
B*13:114
B*13:116N
B*13:117
B*13:123Q
B*13:125
B*13:136
B*13:139N
B*13:151
B*13:152
B*13:175
B*13:176
B*13:177
B*13:179
B*13:182
B*13:38

C*02:172
C*02:173
C*02:175
C*02:178
C*02:179
C*02:183
C*02:186
C*02:188
C*02:193N
C*02:194
C*02:198
C*02:199
C*02:200
C*02:204
C*02:205Q
C*02:206
C*02:207
C*02:212
C*02:214
C*02:215Q
C*02:218N
C*02:29
C*02:69
C*02:70
C*02:83
C*02:10
C*02:02
C*02:168
C*02:169N
C*02:174
C*02:176
C*02:211Q
C*02:220
C*03:02
C*03:146
C*03:224N
C*03:226
C*03:373
C*03:411
C*03:425
C*03:452
C*03:473
C*03:489
C*03:497
C*03:561
C*03:589
C*03:613
C*03:614
C*03:615
C*03:618N
C*03:623
C*03:637
C*03:638
C*03:641
C*03:03
C*03:171
C*03:205
C*03:206
C*03:207
C*03:20N
C*03:227
C*03:237
C*03:312
C*03:327
C*03:341
C*03:357
C*03:370
C*03:372
C*03:378
C*03:380N
C*03:383
C*03:418
C*03:421N
C*03:422
C*03:432N
C*03:460

A*02:559
A*02:607
A*02:608N
A*02:614
A*02:629
A*02:642
A*02:66
A*02:665
A*02:675N
A*02:685
A*02:686
A*02:687
A*02:689
A*02:690
A*02:691N
A*02:692
A*02:704
A*02:716
A*02:719
A*02:720
A*02:722
A*02:724
A*02:726
A*02:739
A*02:740
A*02:742
A*02:744
A*02:75
A*02:753
A*02:755
A*02:761
A*02:762
A*02:763
A*02:765
A*02:776
A*02:779
A*02:786
A*02:792N
A*02:793N
A*02:794
A*02:795Q
A*02:810
A*02:812
A*02:819
A*02:820
A*02:823
A*02:824
A*02:825
A*02:830
A*02:832N
A*02:834
A*02:836
A*02:839
A*02:83N
A*02:844
A*02:846
A*02:852
A*02:853
A*02:857
A*02:862
A*02:864
A*02:865
A*02:866
A*02:868
A*02:869
A*02:870
A*02:871N
A*02:874
A*02:875
A*02:884
A*02:89
A*02:894
A*02:896N
A*02:899
A*02:915N
A*02:916

B*13:69
B*13:96
B*13:99
B*14:01
B*14:103
B*14:104
B*14:113N
B*14:121
B*14:78
B*14:80
B*14:81
B*14:02
B*14:100N
B*14:101N
B*14:109
B*14:115
B*14:61
B*14:64
B*14:67
B*14:69N
B*14:76N
B*14:84
B*14:85N
B*14:89
B*14:91
B*14:92
B*14:98
B*15:01
B*15:102
B*15:104
B*15:140
B*15:146
B*15:201
B*15:227
B*15:228
B*15:247
B*15:320
B*15:321Q
B*15:441
B*15:443
B*15:456
B*15:457
B*15:464
B*15:465
B*15:466
B*15:471
B*15:472
B*15:474
B*15:476
B*15:482
B*15:483N
B*15:501
B*15:514
B*15:515
B*15:533
B*15:535
B*15:536
B*15:538
B*15:542
B*15:547
B*15:558
B*15:568
B*15:572
B*15:591
B*15:593
B*15:600
B*15:601
B*15:604N
B*15:605
B*15:621
B*15:624
B*15:631
B*15:632
B*15:635
B*15:639
B*15:640

C*03:471
C*03:477
C*03:481
C*03:490
C*03:503
C*03:517
C*03:527
C*03:528
C*03:533
C*03:545
C*03:560N
C*03:563
C*03:578
C*03:582
C*03:587
C*03:592
C*03:594
C*03:595
C*03:597
C*03:606
C*03:616
C*03:62
C*03:622
C*03:624
C*03:632
C*03:636N
C*03:04
C*03:100
C*03:101
C*03:105
C*03:106
C*03:211
C*03:212
C*03:213
C*03:218
C*03:219
C*03:236
C*03:252
C*03:294
C*03:303
C*03:354
C*03:358
C*03:359
C*03:362
C*03:366N
C*03:369
C*03:376
C*03:381
C*03:387
C*03:408
C*03:417
C*03:423
C*03:424N
C*03:441
C*03:442Q
C*03:455
C*03:456
C*03:466
C*03:467
C*03:470N
C*03:478
C*03:480
C*03:483
C*03:484
C*03:485
C*03:486
C*03:491
C*03:492
C*03:496
C*03:498
C*03:499
C*03:500
C*03:502Q
C*03:523
C*03:538
C*03:543

A*02:917
A*02:919
A*02:928
A*02:930
A*02:939
A*02:942
A*02:950
A*02:956
A*02:957
A*02:969
A*02:97
A*02:970
A*02:974
A*02:975
A*02:978
A*02:983
A*02:987
A*02:989N
A*02:995
A*02:02
A*02:717
A*02:867
A*02:925
A*02:967
A*02:03
A*02:1068Q
A*02:1071
A*02:253
A*02:264
A*02:370
A*02:480
A*02:505
A*02:557
A*02:684
A*02:971
A*02:976
A*02:04
A*02:664
A*02:710N
A*02:05
A*02:1048
A*02:1086
A*02:1123
A*02:179
A*02:324
A*02:791N
A*02:922
A*02:951
A*02:06
A*02:1088
A*02:126
A*02:428
A*02:506N
A*02:625
A*02:718
A*02:737
A*02:759
A*02:760N
A*02:767
A*02:768
A*02:851
A*02:863
A*02:878
A*02:888
A*02:898
A*02:936N
A*02:07
A*02:1067
A*02:1075
A*02:1101
A*02:1128
A*02:15N
A*02:265
A*02:426
A*02:452
A*02:822

B*15:647
B*15:666
B*15:677
B*15:02
B*15:214
B*15:302N
B*15:358
B*15:437
B*15:537
B*15:557
B*15:596N
B*15:630
B*15:664
B*15:03
B*15:103
B*15:220
B*15:444
B*15:560
B*15:07
B*15:450
B*15:668
B*15:673
B*15:10
B*15:455
B*15:503
B*15:506
B*15:11
B*15:284
B*15:305
B*15:367
B*15:662
B*15:12
B*15:19
B*15:270
B*15:123
B*15:151
B*15:628
B*15:14
B*15:551
B*15:634
B*15:16
B*15:550
B*15:602
B*15:17
B*15:546Q
B*15:644
B*15:18
B*15:198
B*15:263
B*15:307
B*15:380N
B*15:388
B*15:487N
B*15:548
B*15:675
B*15:21
B*15:615
B*15:25
B*15:271
B*15:543
B*15:564
B*15:28
B*15:428
B*15:30
B*15:541
B*15:32
B*15:583
B*15:35
B*15:641
B*15:379
B*15:650
B*15:39
B*15:626
B*15:651
B*18:01
B*18:119

C*03:548
C*03:558
C*03:562
C*03:569
C*03:572
C*03:576
C*03:581
C*03:593
C*03:599
C*03:602
C*03:603
C*03:605
C*03:621
C*03:633
C*03:642
C*03:05
C*03:335
C*03:407
C*03:482
C*03:14
C*03:361
C*03:40
C*03:279
C*04:01
C*04:09N
C*04:106
C*04:144
C*04:146
C*04:161
C*04:162
C*04:165
C*04:195
C*04:226
C*04:267
C*04:274
C*04:275
C*04:277
C*04:28
C*04:287
C*04:289
C*04:295
C*04:298
C*04:30
C*04:306
C*04:308
C*04:310
C*04:318
C*04:320
C*04:321
C*04:322
C*04:327
C*04:328
C*04:329
C*04:330
C*04:339
C*04:348
C*04:356
C*04:358
C*04:372
C*04:375
C*04:380
C*04:384
C*04:388
C*04:389
C*04:390
C*04:391
C*04:392
C*04:394
C*04:395
C*04:397
C*04:398
C*04:399
C*04:403
C*04:406
C*04:407
C*04:409

A*02:924
A*02:935
A*02:973
A*02:981
A*02:10
A*02:453
A*02:11
A*02:69
A*02:751
A*02:821
A*02:893
A*02:926
A*02:940
A*02:131
A*02:16
A*02:14
A*02:818
A*02:20
A*02:1001
A*02:22
A*02:104
A*02:929
A*02:29
A*02:780
A*02:49
A*02:683
A*02:81
A*02:124
A*03:01
A*03:112
A*03:118
A*03:129N
A*03:132
A*03:134
A*03:162N
A*03:182
A*03:20
A*03:21N
A*03:220
A*03:26
A*03:279N
A*03:291
A*03:292
A*03:293
A*03:301
A*03:302
A*03:304
A*03:312
A*03:313
A*03:315
A*03:316
A*03:336N
A*03:338
A*03:339
A*03:340
A*03:344
A*03:346
A*03:349
A*03:350
A*03:351
A*03:352
A*03:355
A*03:358
A*03:359
A*03:360
A*03:361
A*03:362
A*03:363
A*03:367
A*03:368
A*03:37
A*03:370
A*03:372
A*03:374N
A*03:375
A*03:386

B*18:124
B*18:131
B*18:135
B*18:144
B*18:145
B*18:146
B*18:159
B*18:160
B*18:163
B*18:176
B*18:177
B*18:17N
B*18:180
B*18:181
B*18:183
B*18:184
B*18:186
B*18:187
B*18:188
B*18:193
B*18:200
B*18:202
B*18:206
B*18:207
B*18:208
B*18:209
B*18:211
B*18:212
B*18:220
B*18:225
B*18:231Q
B*18:232
B*18:53
B*18:81
B*27:02
B*27:163
B*27:197
B*27:04
B*27:211
B*27:229
B*27:240
B*27:247
B*27:68
B*27:69
B*27:05
B*27:13
B*27:162
B*27:174
B*27:184
B*27:190
B*27:191
B*27:193
B*27:195
B*27:196
B*27:199
B*27:206
B*27:212N
B*27:216
B*27:220
B*27:230
B*27:231
B*27:252
B*27:253Q
B*27:255
B*27:259
B*27:263N
B*27:265
B*27:266
B*27:06
B*27:192
B*27:208
B*27:222
B*35:01
B*35:134N
B*35:161
B*35:227

C*04:41
C*04:411N
C*04:418
C*04:423
C*04:424
C*04:430
C*04:431
C*04:432
C*04:434
C*04:435
C*04:437
C*04:438
C*04:440
C*04:441
C*04:442
C*04:444
C*04:450
C*04:451
C*04:452N
C*04:453
C*04:454
C*04:456Q
C*04:460
C*04:469
C*04:470
C*04:471
C*04:472
C*04:474
C*04:475
C*04:482
C*04:488
C*04:491
C*04:493
C*04:494
C*04:495
C*04:497
C*04:502
C*04:503Q
C*04:508
C*04:79
C*04:82
C*04:84
C*04:03
C*04:286
C*04:337
C*04:06
C*04:357
C*04:10
C*04:347
C*04:355
C*04:427
C*04:360
C*04:477
C*04:59Q
C*04:428Q
C*05:01
C*05:03
C*05:108
C*05:145
C*05:153N
C*05:158
C*05:161
C*05:172
C*05:179
C*05:187
C*05:192
C*05:199
C*05:204
C*05:212
C*05:221
C*05:222
C*05:224
C*05:225
C*05:226
C*05:231
C*05:232

A*03:387
A*03:391
A*03:392
A*03:393
A*03:399
A*03:401
A*03:410
A*03:411
A*03:415
A*03:419
A*03:420
A*03:421
A*03:423
A*03:424
A*03:425
A*03:426
A*03:434
A*03:437Q
A*03:439
A*03:440
A*03:441
A*03:444
A*03:446
A*03:45
A*03:454
A*03:462
A*03:471
A*03:78
A*03:02
A*03:218
A*03:242
A*03:314
A*03:318
A*03:333
A*03:458Q
A*03:473
A*03:04
A*03:345
A*11:01
A*11:100
A*11:102
A*11:108
A*11:120
A*11:124
A*11:126
A*11:129
A*11:142
A*11:154
A*11:163
A*11:171
A*11:172
A*11:173
A*11:174
A*11:193
A*11:194
A*11:210N
A*11:21N
A*11:263
A*11:270
A*11:274
A*11:278
A*11:279
A*11:280
A*11:292
A*11:295
A*11:303
A*11:306
A*11:311
A*11:313Q
A*11:316
A*11:317
A*11:320
A*11:322
A*11:324
A*11:328
A*11:329

B*35:241
B*35:245
B*35:250
B*35:332
B*35:336
B*35:347
B*35:348
B*35:359
B*35:365
B*35:370
B*35:376
B*35:380
B*35:383
B*35:406
B*35:40N
B*35:417
B*35:42
B*35:421
B*35:429
B*35:447
B*35:448N
B*35:454
B*35:456N
B*35:458
B*35:462
B*35:464
B*35:465
B*35:467
B*35:473
B*35:485
B*35:490
B*35:506
B*35:514
B*35:515
B*35:516
B*35:520
B*35:528
B*35:529
B*35:533
B*35:552
B*35:559
B*35:57
B*35:573
B*35:574N
B*35:580
B*35:588
B*35:94
B*35:02
B*35:220
B*35:379
B*35:483
B*35:562
B*35:03
B*35:279
B*35:298
B*35:344
B*35:364
B*35:371
B*35:399
B*35:420
B*35:434
B*35:435
B*35:442
B*35:451
B*35:457
B*35:496
B*35:507N
B*35:511
B*35:543
B*35:563
B*35:568
B*35:70
B*35:05
B*35:389
B*35:416
B*35:459N

C*05:239N
C*05:242
C*05:243
C*05:246
C*05:248
C*05:255
C*05:260N
C*05:261
C*05:266
C*05:267
C*05:273
C*05:275
C*05:277
C*05:278N
C*05:279
C*05:282Q
C*05:283
C*05:285
C*05:286
C*05:287
C*05:291N
C*05:37
C*05:53
C*05:93
C*06:02
C*06:111
C*06:146
C*06:176
C*06:201
C*06:211
C*06:213
C*06:214
C*06:227
C*06:228
C*06:234
C*06:236
C*06:238
C*06:239
C*06:240
C*06:244
C*06:246
C*06:255
C*06:258
C*06:260
C*06:261
C*06:262
C*06:266
C*06:268
C*06:272
C*06:273
C*06:274
C*06:275
C*06:276
C*06:277
C*06:278
C*06:279
C*06:283
C*06:285Q
C*06:287
C*06:288
C*06:289
C*06:294
C*06:297
C*06:302
C*06:308
C*06:310
C*06:312
C*06:314
C*06:315
C*06:324
C*06:327
C*06:328
C*06:329
C*06:332
C*06:333
C*06:336Q

A*11:332
A*11:333
A*11:335
A*11:338
A*11:339
A*11:343
A*11:347N
A*11:349
A*11:353
A*11:363
A*11:365N
A*11:369
A*11:371
A*11:382N
A*11:383N
A*11:388N
A*11:391
A*11:393
A*11:394
A*11:398
A*11:402
A*11:406
A*11:407N
A*11:417N
A*11:419
A*11:420
A*11:422
A*11:425
A*11:427
A*11:430
A*11:437
A*11:444
A*11:447Q
A*11:448
A*11:451
A*11:452N
A*11:453
A*11:454
A*11:69N
A*11:86
A*11:02
A*11:110
A*11:429
A*11:433N
A*11:438
A*11:77
A*11:03
A*11:175
A*11:348
A*11:05
A*11:248
A*11:403N
A*11:441
A*11:43
A*11:440
A*23:01
A*23:07N
A*23:103N
A*23:115
A*23:116
A*23:117
A*23:118
A*23:121
A*23:123
A*23:125
A*23:17
A*23:18
A*23:20
A*23:58
A*23:85
A*23:86
A*23:87
A*23:88
A*23:91N
A*23:92
A*23:93

B*35:572
B*35:08
B*35:386
B*35:466
B*35:12
B*35:474
B*35:137
B*35:147
B*35:14
B*35:390N
B*35:512
B*35:43
B*35:67
B*35:79
B*37:01
B*37:103
B*37:104
B*37:108
B*37:109N
B*37:110
B*37:23
B*37:43
B*37:45
B*37:46
B*37:47
B*37:68
B*37:71
B*37:73
B*37:75
B*37:78
B*37:80
B*37:86N
B*37:87
B*37:88
B*37:89
B*37:92N
B*37:93
B*38:01
B*38:108
B*38:109
B*38:110
B*38:161
B*38:171
B*38:68L
B*38:80N
B*38:86
B*38:90
B*38:99
B*38:02
B*38:105
B*38:160
B*38:162
B*38:163
B*38:167
B*38:18
B*38:82
B*38:85
B*38:92
B*39:01
B*39:130
B*39:150Q
B*39:151
B*39:160
B*39:177
B*39:179
B*39:183
B*39:189
B*39:191
B*39:194Q
B*39:198
B*39:46
B*39:59
B*39:77
B*39:86
B*39:02
B*39:162

C*06:337
C*06:346
C*06:349
C*06:355
C*06:359N
C*06:360
C*06:46N
C*06:55
C*06:73
C*06:83
C*06:06
C*06:271
C*06:17
C*06:02
C*06:87
C*06:330
C*07:01
C*07:06
C*07:1000
C*07:1001N
C*07:1022
C*07:1023
C*07:1030
C*07:1047
C*07:1048
C*07:1049
C*07:1051
C*07:1055
C*07:1064
C*07:1082
C*07:153
C*07:166
C*07:18
C*07:337
C*07:343
C*07:419
C*07:458
C*07:52
C*07:588
C*07:591
C*07:607
C*07:610
C*07:615
C*07:617
C*07:618
C*07:619
C*07:621
C*07:623
C*07:624
C*07:657
C*07:658
C*07:682
C*07:685
C*07:687
C*07:694
C*07:696
C*07:706
C*07:708
C*07:721
C*07:732
C*07:734
C*07:735
C*07:739
C*07:760
C*07:762
C*07:777
C*07:778
C*07:781
C*07:782
C*07:795
C*07:796N
C*07:800
C*07:803
C*07:805
C*07:808
C*07:811

A*23:94
A*23:95
A*23:96
A*24:02
A*24:09N
A*24:11N
A*24:144
A*24:150
A*24:153
A*24:154
A*24:155N
A*24:163N
A*24:183N
A*24:231
A*24:249
A*24:250
A*24:251
A*24:263
A*24:264
A*24:265
A*24:266
A*24:267
A*24:268
A*24:269
A*24:270
A*24:271
A*24:352
A*24:353
A*24:354
A*24:383
A*24:385
A*24:388N
A*24:400
A*24:401
A*24:402
A*24:40N
A*24:417
A*24:418
A*24:419
A*24:422
A*24:423
A*24:427N
A*24:430N
A*24:431
A*24:436
A*24:437
A*24:438
A*24:442
A*24:443
A*24:448N
A*24:451
A*24:454
A*24:455
A*24:460
A*24:462
A*24:463
A*24:464
A*24:465
A*24:466
A*24:469
A*24:470
A*24:473Q
A*24:474
A*24:476
A*24:479Q
A*24:486
A*24:487
A*24:496
A*24:497
A*24:498
A*24:500
A*24:501
A*24:507
A*24:511
A*24:513Q
A*24:519

B*39:03
B*39:144
B*39:05
B*39:149
B*39:163
B*39:165
B*39:167
B*39:06
B*39:132
B*39:187
B*39:09
B*39:158
B*39:10
B*39:145
B*39:175N
B*39:199
B*39:15
B*39:188
B*40:01
B*40:141
B*40:150
B*40:151
B*40:179
B*40:221
B*40:236
B*40:241
B*40:247
B*40:264
B*40:272
B*40:278
B*40:299
B*40:301
B*40:329
B*40:338N
B*40:353
B*40:379
B*40:383
B*40:386
B*40:395
B*40:406
B*40:416
B*40:417
B*40:418
B*40:419
B*40:431
B*40:439
B*40:443
B*40:446
B*40:450
B*40:456
B*40:475
B*40:480
B*40:483N
B*40:485
B*40:486
B*40:490
B*40:495
B*40:509Q
B*40:512
B*40:516
B*40:524
B*40:538
B*40:548
B*40:55
B*40:550
B*40:552
B*40:02
B*40:144N
B*40:176
B*40:303
B*40:356
B*40:384
B*40:405
B*40:435
B*40:440
B*40:442

C*07:813
C*07:814
C*07:823
C*07:824
C*07:825
C*07:832
C*07:833N
C*07:841
C*07:843
C*07:848
C*07:859
C*07:875
C*07:877
C*07:879
C*07:882
C*07:903
C*07:925
C*07:928
C*07:930
C*07:931
C*07:933
C*07:934N
C*07:935
C*07:943
C*07:944
C*07:945
C*07:949
C*07:952
C*07:955
C*07:961
C*07:983
C*07:985
C*07:02
C*07:1004
C*07:1014Q
C*07:1015
C*07:1019
C*07:1021
C*07:1029
C*07:1038
C*07:1046
C*07:1052
C*07:1054N
C*07:1058
C*07:1068
C*07:1083
C*07:1084
C*07:1086
C*07:159
C*07:160
C*07:167
C*07:245
C*07:308
C*07:348
C*07:349
C*07:350N
C*07:359
C*07:446
C*07:486
C*07:50
C*07:500
C*07:533
C*07:544
C*07:566
C*07:592
C*07:593N
C*07:594
C*07:595
C*07:596
C*07:608
C*07:612
C*07:66
C*07:661
C*07:665
C*07:666
C*07:667

A*24:520
A*24:521
A*24:530
A*24:533
A*24:538
A*24:543
A*24:545
A*24:546
A*24:547
A*24:548
A*24:550
A*24:552
A*24:558
A*24:564
A*24:565
A*24:568N
A*24:573
A*24:575
A*24:576N
A*24:579
A*24:581
A*24:582
A*24:585
A*24:587
A*24:591
A*24:595
A*24:596N
A*24:598
A*24:602
A*24:614
A*24:76
A*24:79
A*24:83N
A*24:03
A*24:33
A*24:441
A*24:461
A*24:05
A*24:199
A*24:07
A*24:457
A*24:477
A*24:510
A*24:544
A*24:10
A*24:495
A*24:26
A*24:314
A*24:515
A*24:610
A*25:01
A*25:07
A*25:60
A*25:62
A*25:63
A*25:68
A*25:85
A*26:01
A*26:117
A*26:157
A*26:160
A*26:162
A*26:163
A*26:164
A*26:166
A*26:167
A*26:168
A*26:179
A*26:180N
A*26:183
A*26:185
A*26:186
A*26:187
A*26:191N
A*26:199
A*26:201

B*40:444
B*40:455
B*40:493
B*40:521
B*40:531
B*40:544
B*40:545N
B*40:56
B*40:97
B*40:03
B*40:267
B*40:06
B*40:387
B*40:425
B*40:427
B*40:453
B*40:464
B*40:473
B*40:476
B*40:484
B*40:487N
B*40:494
B*40:213
B*40:474
B*40:40
B*40:229
B*41:01
B*41:57
B*41:61
B*41:75
B*41:79
B*41:02
B*41:43
B*41:69
B*41:81
B*42:01
B*42:25
B*42:28
B*42:29
B*42:30
B*42:31
B*42:33
B*44:02
B*44:118
B*44:187
B*44:19N
B*44:243
B*44:262
B*44:267N
B*44:27
B*44:270
B*44:279
B*44:292
B*44:301
B*44:303N
B*44:306N
B*44:311
B*44:313
B*44:315
B*44:321
B*44:334N
B*44:338
B*44:341N
B*44:344
B*44:351
B*44:359
B*44:361
B*44:363
B*44:376
B*44:437
B*44:457
B*44:461
B*44:462
B*44:464
B*44:467
B*44:468

C*07:675N
C*07:676
C*07:684
C*07:686N
C*07:688
C*07:703
C*07:704
C*07:707
C*07:722
C*07:736
C*07:737
C*07:738
C*07:74
C*07:740
C*07:741
C*07:743N
C*07:759
C*07:766
C*07:767
C*07:768
C*07:769
C*07:772
C*07:779
C*07:783
C*07:785
C*07:789
C*07:790
C*07:791
C*07:798
C*07:799
C*07:801
C*07:807N
C*07:809
C*07:810
C*07:818
C*07:822
C*07:826
C*07:829
C*07:837
C*07:840N
C*07:853
C*07:862
C*07:880
C*07:883
C*07:885
C*07:886N
C*07:888
C*07:890
C*07:904
C*07:906
C*07:924
C*07:946
C*07:950
C*07:956
C*07:962
C*07:965
C*07:966
C*07:968
C*07:969
C*07:971
C*07:972
C*07:976
C*07:978
C*07:04
C*07:1033
C*07:11
C*07:324
C*07:585
C*07:586
C*07:622
C*07:674
C*07:693
C*07:797N
C*07:831
C*07:852
C*07:876

A*26:202N
A*26:203
A*26:208
A*26:209
A*26:220
A*26:222
A*26:223
A*26:228
A*26:24
A*26:242
A*26:26
A*26:56
A*26:82
A*26:98
A*26:99
A*26:02
A*26:232
A*29:01
A*29:147
A*29:155
A*29:166
A*29:169
A*29:170
A*29:183
A*29:02
A*29:100
A*29:116
A*29:119
A*29:120
A*29:121
A*29:130
A*29:131
A*29:134
A*29:135
A*29:145
A*29:146
A*29:148
A*29:149
A*29:160
A*29:167
A*29:175Q
A*29:178
A*29:181
A*29:26
A*29:46
A*29:75
A*29:95
A*30:01
A*30:112
A*30:114
A*30:115
A*30:130N
A*30:132N
A*30:135
A*30:136
A*30:137
A*30:138
A*30:141
A*30:142
A*30:147
A*30:148
A*30:167
A*30:170
A*30:171
A*30:173
A*30:181
A*30:187
A*30:190
A*30:192
A*30:201
A*30:205
A*30:207
A*30:220Q
A*30:221
A*30:24
A*30:81

B*44:470
B*44:473
B*44:477
B*44:478
B*44:479
B*44:484
B*44:492
B*44:498
B*44:503
B*44:515
B*44:517
B*44:520
B*44:521
B*44:523N
B*44:66
B*44:03
B*44:278
B*44:280
B*44:281
B*44:298
B*44:302
B*44:309N
B*44:310N
B*44:324
B*44:325
B*44:336
B*44:346
B*44:348
B*44:349
B*44:367
B*44:379
B*44:466N
B*44:469
B*44:471
B*44:472
B*44:474
B*44:476
B*44:485
B*44:487
B*44:488
B*44:490
B*44:501
B*44:508
B*44:509
B*44:510
B*44:511
B*44:512N
B*44:519
B*44:522
B*44:524
B*44:531
B*44:546
B*44:05
B*44:465
B*44:29
B*44:285
B*45:01
B*45:07
B*45:13
B*45:19
B*45:25
B*45:30
B*45:32
B*46:01
B*46:15N
B*46:24
B*46:34
B*46:38
B*46:39
B*46:56
B*46:57
B*46:76
B*46:80
B*46:82
B*46:89
B*46:91

C*07:926
C*07:948
C*07:165
C*07:815
C*07:19
C*07:639
C*07:22
C*07:847
C*07:26
C*07:845
C*07:27
C*07:830
C*07:33N
C*07:936N
C*07:450
C*07:959
C*07:726N
C*07:776N
C*07:787N
C*07:1042N
C*07:919
C*07:1025
C*08:01
C*08:102
C*08:128
C*08:147
C*08:148
C*08:164
C*08:178
C*08:186
C*08:187
C*08:194
C*08:196
C*08:197
C*08:199
C*08:20
C*08:204
C*08:210
C*08:212
C*08:217
C*08:22
C*08:220
C*08:232
C*08:235
C*08:236N
C*08:24
C*08:250
C*08:252
C*08:253
C*08:254
C*08:259
C*08:78
C*08:86
C*08:87
C*08:99
C*08:02
C*08:110
C*08:159
C*08:179
C*08:195
C*08:198
C*08:200
C*08:202
C*08:211
C*08:215
C*08:225Q
C*08:226
C*08:227
C*08:229
C*08:230
C*08:231
C*08:257
C*08:258
C*08:266
C*08:52N
C*08:75

A*30:95
A*30:02
A*30:100
A*30:144
A*30:146
A*30:149
A*30:151
A*30:156
A*30:169
A*30:175
A*30:193
A*30:200
A*30:208N
A*30:214
A*30:33
A*30:04
A*30:105
A*30:77
A*31:01
A*31:111
A*31:119
A*31:125
A*31:128
A*31:132
A*31:135
A*31:143
A*31:14N
A*31:151Q
A*31:152
A*31:153
A*31:155
A*31:156
A*31:157
A*31:159
A*31:160
A*31:166
A*31:167
A*31:177
A*31:178
A*31:181
A*31:182
A*31:184N
A*31:186
A*31:194
A*31:196
A*31:197
A*31:198
A*31:199
A*31:208
A*31:209
A*31:212
A*31:215
A*31:23
A*31:46
A*31:48
A*31:55
A*31:56
A*31:59
A*31:71
A*31:72
A*31:81
A*31:95
A*32:01
A*32:103
A*32:106
A*32:110
A*32:111
A*32:114
A*32:116
A*32:117N
A*32:121
A*32:122
A*32:124
A*32:134
A*32:139
A*32:147

B*46:92
B*46:95N
B*46:99
B*47:01
B*47:12
B*47:13
B*48:01
B*48:09
B*48:34
B*48:43
B*48:45
B*48:47
B*48:49
B*48:55
B*48:04
B*48:51
B*49:01
B*49:49
B*49:62
B*49:64
B*49:65
B*49:66
B*49:78
B*49:79
B*49:81
B*50:01
B*50:22
B*50:37
B*50:57
B*50:59
B*50:69
B*50:79
B*50:02
B*50:21
B*51:01
B*51:11N
B*51:142
B*51:164
B*51:165
B*51:166
B*51:169
B*51:193
B*51:219
B*51:224
B*51:229
B*51:230
B*51:232
B*51:234
B*51:237
B*51:248
B*51:249
B*51:250
B*51:256N
B*51:260
B*51:262
B*51:264N
B*51:268
B*51:269
B*51:270
B*51:271
B*51:285
B*51:286
B*51:288
B*51:289
B*51:296
B*51:297
B*51:30
B*51:303
B*51:307
B*51:308
B*51:309
B*51:316
B*51:32
B*51:320
B*51:321
B*51:322

C*08:03
C*08:40
C*12:02
C*12:228
C*12:234
C*12:243
C*12:261
C*12:280
C*12:281
C*12:285
C*12:303
C*12:304
C*12:307
C*12:336
C*12:338
C*12:351Q
C*12:03
C*12:109
C*12:110
C*12:111
C*12:125
C*12:143
C*12:160
C*12:167
C*12:171
C*12:172
C*12:201
C*12:209
C*12:210
C*12:211
C*12:216
C*12:220
C*12:223
C*12:23
C*12:244
C*12:245
C*12:253
C*12:254
C*12:262
C*12:273
C*12:277
C*12:278
C*12:283
C*12:284
C*12:289
C*12:290
C*12:291
C*12:292
C*12:295N
C*12:297
C*12:300
C*12:302
C*12:306
C*12:317
C*12:322
C*12:323
C*12:324N
C*12:330Q
C*12:332
C*12:339
C*12:342Q
C*12:346
C*12:348
C*12:349
C*12:350
C*12:354
C*12:364
C*12:367
C*12:368
C*12:369
C*12:370
C*12:372
C*12:374
C*12:375
C*12:378
C*12:386

A*32:148
A*32:149
A*32:154
A*32:155
A*32:161
A*32:162
A*32:168N
A*32:172
A*32:177
A*32:178
A*32:53
A*32:54
A*32:61
A*32:68
A*32:74
A*33:01
A*33:111
A*33:129N
A*33:136
A*33:157N
A*33:170
A*33:171
A*33:182
A*33:191
A*33:193
A*33:207
A*33:210
A*33:221
A*33:232
A*33:236
A*33:237
A*33:251
A*33:253
A*33:03
A*33:145
A*33:146
A*33:148
A*33:15
A*33:151
A*33:153
A*33:156N
A*33:160
A*33:163
A*33:169
A*33:172
A*33:174N
A*33:181
A*33:202
A*33:203
A*33:204
A*33:205
A*33:209
A*33:218
A*33:219
A*33:220
A*33:222
A*33:228
A*33:234
A*33:235
A*33:239Q
A*33:242
A*33:245
A*33:25
A*33:256
A*33:31
A*33:39
A*33:44
A*33:73N
A*33:74N
A*33:77
A*33:82
A*33:83
A*33:84
A*33:85
A*34:01
A*34:18

B*51:329Q
B*51:330
B*51:332
B*51:334
B*51:335
B*51:336
B*51:339
B*51:343
B*51:360
B*51:361N
B*51:363
B*51:364
B*51:365N
B*51:367
B*51:368
B*51:370
B*51:375
B*51:380
B*51:381
B*51:384
B*51:387N
B*51:388
B*51:393Q
B*51:48
B*51:51
B*51:02
B*51:385
B*51:08
B*51:263
B*51:09
B*51:259
B*51:42
B*51:359
B*52:01
B*52:07
B*52:100
B*52:102
B*52:103N
B*52:104
B*52:108
B*52:36
B*52:53
B*52:79
B*52:80
B*52:85
B*52:86
B*52:90
B*52:91
B*52:93
B*52:94N
B*52:95
B*53:01
B*53:37
B*53:51
B*53:54
B*53:59
B*53:64
B*53:66
B*53:73
B*54:01
B*54:17
B*54:32
B*55:01
B*55:102
B*55:108
B*55:109
B*55:111
B*55:114
B*55:116
B*55:125N
B*55:85
B*55:91
B*55:97N
B*55:98
B*55:02
B*55:107

C*12:390
C*14:02
C*14:100
C*14:102
C*14:109
C*14:111
C*14:114
C*14:115
C*14:117N
C*14:121
C*14:124
C*14:127
C*14:131
C*14:137
C*14:138
C*14:143
C*14:149
C*14:152
C*14:155
C*14:23
C*14:31
C*14:57
C*14:60
C*14:03
C*14:112
C*14:113
C*14:86
C*15:02
C*15:13
C*15:146
C*15:151
C*15:154
C*15:160N
C*15:163
C*15:176
C*15:186
C*15:187
C*15:193
C*15:196
C*15:197
C*15:199
C*15:200
C*15:202
C*15:205
C*15:213N
C*15:215
C*15:219
C*15:220
C*15:221
C*15:223
C*15:230
C*15:231
C*15:237
C*15:239
C*15:251
C*15:255
C*15:261
C*15:47
C*15:81
C*15:82
C*15:87
C*15:97
C*15:04
C*15:236
C*15:05
C*15:152
C*15:164N
C*15:234
C*15:29
C*15:103
C*15:127
C*15:152
C*15:05
C*16:01
C*16:100
C*16:111

