

Candidate A-Locus Antigen	Equivalent Candidate and Donor A-Locus Antigens Equivalent to Each Other
01:02	01:02, 1
2	2, <u>02:01P</u> , 02:01, <u>02:02P</u> , 02:02, <u>02:03P</u> , 02:03, <u>02:04P</u> , 02:05P, 02:05, <u>02:06P</u> , 02:06, <u>02:07P</u> , 02:07, <u>02:10P</u> , 02:10, <u>02:11P</u> , 02:14P, 02:16P, 02:18, <u>02:20P</u> , <u>02:22P</u> , 02:29P, 02:49P, <u>02:65P</u> , <u>02:81P</u>
02:01	02:01, 2
02:02	02:02, 2
02:03	02:03, 2
02:05	02:05, 2
02:06	02:06, 2
02:07	02:07, 2
02:10	02:10, 2
02:18	02:18, 2
3	3, <u>03:01P</u> , 03:01, <u>03:02P</u> , 03:02, <u>03:04P</u> , 32:04
03:01	03:01, 3
03:02	03:02, 3
9	9
10	10
11	11, <u>11:01P</u> , 11:01, <u>11:02P</u> , 11:02, <u>11:03P</u> , <u>11:05P</u>
11:01	11:01, 11
11:02	11:02, 11
19	19
23	23, <u>23:01P</u>
24	24, <u>24:02P</u> , 24:02, <u>24:03P</u> , 24:03, <u>24:05P</u> , <u>24:07P</u> , 24:10P, <u>24:26P</u>
24:02	24:02, 24
24:03	24:03, 24
25	25, <u>25:01P</u>
26	26, <u>26:01P</u> , 26:01, 26:02, <u>26:03P</u> , 26:03
26:01	26:01, 26
26:02	26:02, 26
26:03	26:03, 26
28	28
29	29, <u>29:01P</u> , 29:01, <u>29:02P</u> , 29:02
29:01	29:01, 29
29:02	29:02, 29
30	30, <u>30:01P</u> , 30:01, <u>30:02P</u> , 30:02, <u>30:04P</u>
30:01	30:01, 30
30:02	30:02, 30
31	31, <u>31:01P</u>

Table 4-3: HLA B Matching Antigen Equivalences

Candidate B-Locus Antigen	Equivalent Candidate and Donor B-Locus Antigens Equivalent to Each Other
5	5
7	7, <u>07:02P</u> , 07:02, 07:03, <u>07:05P</u> , 07:14
<u>07:02</u>	<u>07:02</u> , 7
<u>07:03</u>	<u>07:03</u> , 7
<u>07:14</u>	<u>07:14</u> , 7
8	8, <u>08:01P</u> , 08:01, 08:02, 08:03, 08:04
<u>08:01</u>	<u>08:01</u> , 8
<u>08:02</u>	<u>08:02</u> , 8
<u>08:03</u>	<u>08:03</u> , 8
<u>08:04</u>	<u>08:04</u> , 8
<u>12</u>	12
<u>13</u>	13, <u>13:01P</u> , 13:01, <u>13:02P</u> , 13:02
<u>13:01</u>	<u>13:01</u> , 13
<u>13:02</u>	<u>13:02</u> , 13
<u>14</u>	14
<u>14:01</u>	<u>14:01</u> , 64
<u>14:02</u>	<u>14:02</u> , 65
<u>15</u>	15
<u>15:01</u>	<u>15:01</u> , 62
<u>15:02</u>	<u>15:02</u> , 75
<u>15:03</u>	<u>15:03</u> , 72
<u>15:04</u>	<u>15:04</u> , 62
<u>15:06</u>	<u>15:06</u> , 62
<u>15:07</u>	<u>15:07</u> , 62
<u>15:10</u>	<u>15:10</u> , 71
<u>15:11</u>	<u>15:11</u> , 75
<u>15:12</u>	<u>15:12</u> , 76
<u>15:13</u>	<u>15:13</u> , 77
<u>15:16</u>	<u>15:16</u> , 63
<u>15:17</u>	<u>15:17</u> , 63
<u>15:18</u>	<u>15:18</u> , 71
<u>15:20</u>	<u>15:20</u> , 62
<u>15:21</u>	<u>15:21</u> , 75
<u>15:24</u>	<u>15:24</u>
<u>15:27</u>	<u>15:27</u> , 62
<u>16</u>	16
<u>17</u>	17
<u>18</u>	18, <u>18:01P</u>
<u>21</u>	21
<u>22</u>	22

Candidate B-Locus Antigen	Equivalent Candidate and Donor B-Locus Antigens Equivalent to Each Other
27	27, <u>27:02P</u> , 27:03, <u>27:04P</u> , 27:04, <u>27:05P</u> , 27:05, <u>27:06P</u> , 27:06, <u>27:07P</u>
27:03	27:03, 27
27:04	27:04, 27
27:05	27:05, 27
27:06	27:06, 27
27:08	27:08
35	35, <u>35:01P</u> , 35:01, <u>35:02P</u> , 35:02, <u>35:03P</u> , 35:03, <u>35:05P</u> , <u>35:08P</u> , <u>35:14P</u> , 35:08, <u>35:12P</u> , 35:12, <u>35:43P</u> , <u>35:137P</u>
35:01	35:01, 35
35:02	35:02, 35
35:03	35:03, 35
35:08	35:08, 35
35:12	35:12, 35
37	37, <u>37:01P</u>
38	38, <u>38:01P</u> , 38:01, <u>38:02P</u> , 38:02
38:01	38:01, 38
38:02	38:02, 38
39	39, <u>39:01P</u> , 39:01, <u>39:02P</u> , 39:02, <u>39:03P</u> , 39:04, <u>39:05P</u> , 39:05, <u>39:06P</u> , 39:06, <u>39:09P</u> , <u>39:10P</u> , 39:13, <u>39:15P</u>
39:01	39:01, 39
39:02	39:02, 39
39:04	39:04, 39
39:05	39:05, 39
39:06	39:06, 39
39:13	39:13, 39
40	40, <u>40:40P</u> , <u>40:213P</u>
40:01	40:01, 60
40:02	40:02, 61
40:03	40:03, 61
40:04	40:04, 61
40:05	40:05, 50
40:06	40:06, 61
41	41, <u>41:01P</u> , 41:01, <u>41:02P</u> , 41:02
41:01	41:01, 41
41:02	41:02, 41
42	42, <u>42:01P</u> , 42:01, 42:02
42:01	42:01, 42
42:02	42:02, 42
44	44, <u>44:02P</u> , 44:02, <u>44:03P</u> , 44:03, <u>44:05P</u> , 44:29P, 44:53P, <u>51:42P</u>
44:02	44:02, 44
44:03	44:03, 44

Candidate B-Locus Antigen	Equivalent Candidate and Donor B-Locus Antigens Equivalent to Each Other
45	45, <u>45:01P</u> , <u>50:02P</u> , 50:02
46	46, <u>46:01P</u>
47	47, <u>47:01P</u>
48	48, <u>48:01P</u> , 48:01, 48:02, <u>48:04P</u>
48:01	48:01, 48
48:02	48:02, 48
49	49, <u>49:01P</u>
50	50, <u>50:01P</u> , 50:01, 40:05
50:01	50:01, 50
50:02	50:02, 45
51	51, <u>51:01P</u> , 51:01, 51:02, <u>51:08P</u> , <u>51:09P</u> , <u>51:143P</u>
51:01	51:01, 51
51:02	51:02, 51
52	52, <u>52:01P</u>
53	53, <u>53:01P</u>
54	54, <u>54:01P</u>
55	55, <u>55:01P</u> , 55:01, <u>55:02P</u> , 55:02, 55:04
55:01	55:01, 55
55:02	55:02, 55
55:04	55:04, 55
56	56, <u>56:01P</u> , 56:01, 56:03
56:01	56:01, 56
56:03	56:03, 56
57	57, <u>57:01P</u> , 57:01, <u>57:03P</u> , 57:03
57:01	57:01, 57
57:03	57:03, 57
58	58, <u>58:01P</u> , <u>58:02P</u>
59	59, <u>59:01P</u>
60	60, <u>40:01P</u> , 40:01
61	61, <u>40:02P</u> , 40:02, <u>40:03P</u> , 40:03, 40:04, <u>40:06P</u> , 40:06
62	62, <u>15:01P</u> , 15:01, 15:04, 15:06, <u>15:07P</u> , 15:07, <u>15:20P</u> , 15:20, <u>15:25P</u> , 15:27, <u>15:28P</u> , <u>15:30P</u> , <u>15:32P</u> , <u>15:35P</u> , <u>15:39P</u>
63	63, <u>15:16P</u> , 15:16, <u>15:17P</u> , 15:17
64	64, <u>14:01P</u> , 14:01
65	65, <u>14:02P</u> , 14:02
67	67, <u>67:01P</u>
70	70, <u>15:123P</u>
71	71, <u>15:10P</u> , 15:10, <u>15:18P</u> , 15:18
72	72, <u>15:03P</u> , 15:03
73	73, <u>73:01P</u>
75	75, <u>15:02P</u> , 15:02, <u>15:11P</u> , 15:11, <u>15:21P</u> , 15:21
76	76, <u>15:12P</u> , 15:12, <u>15:14P</u>

Candidate B-Locus Antigen	Equivalent Candidate and Donor B-Locus Antigens Equivalent to Each Other
77	77, 15:13, 15:24
78	78
81	81, 81:01P
82	82
83:01	83:01

Table 4-4: HLA DR Matching Antigen Equivalences

Candidate DR-Locus Antigen	Equivalent Candidate and Donor DR-Locus Antigens Equivalent to Each Other
1	1, 01:01P, 01:01, 01:02P, 01:02
01:01	01:01, 1
01:02	01:02, 1
01:03	01:03, 103
2	2
3	3, 03:01P, 03:01, 03:02P, 03:02, 03:03
03:01	03:01, 17
03:02	03:02, 18
03:03	03:03, 18
4	4, 04:01P, 04:01, 04:02P, 04:02, 04:03P, 04:03, 04:04P, 04:04, 04:05P, 04:05, 04:06P, 04:06, 04:07P, 04:07, 04:08P, 04:10P, 04:10, 04:11
04:01	04:01, 4
04:02	04:02, 4
04:03	04:03, 4
04:04	04:04, 4
04:05	04:05, 4
04:06	04:06, 4
04:07	04:07, 4
04:10	04:10, 4
04:11	04:11, 4
5	5
6	6
7	7, 07:01P
8	8, 08:01P, 08:01, 08:02P, 08:02, 08:03P, 08:03, 08:04P, 08:07
08:01	08:01, 8
08:02	08:02, 8
08:03	08:03, 8
08:07	08:07, 8
9	9, 09:01P, 09:01, 09:02
09:01	09:01, 9
09:02	09:02, 9

<u>Candidate DR-Locus-Antigen</u>	<u>Equivalent Candidate and Donor DR-Locus Antigens Equivalent to Each Other</u>
10	10, <u>10:01P</u>
11	11, <u>11:01P</u> , 11:01, <u>11:02P</u> , <u>11:03P</u> , 11:03, <u>11:04P</u> , 11:04, <u>11:06P</u> , <u>11:11P</u>
11:01	<u>11:01</u> , 11
11:03	<u>11:03</u> , 11
11:04	11:04, 11
12	12, <u>12:01P</u> , 12:01, <u>12:02P</u> , 12:02
12:01	<u>12:01</u> , 12
12:02	<u>12:02</u> , 12
13	13, <u>13:01P</u> , 13:01, <u>13:02P</u> , 13:02, <u>13:03P</u> , 13:03, 13:05, <u>13:12P</u>
13:01	<u>13:01</u> , 13
13:02	<u>13:02</u> , 13
13:03	<u>13:03</u> , 13
13:05	<u>13:05</u> , 13
14	14, <u>14:01P</u> , 14:01, <u>14:02P</u> , 14:02, <u>14:03P</u> , 14:03, <u>14:04P</u> , 14:04, 14:05, 14:06, <u>14:08P</u> , <u>14:24P</u> , 14:54
14:01	<u>14:01</u> , 14, 14:54
14:02	<u>14:02</u> , 14
14:03	<u>14:03</u> , 14
14:04	<u>14:04</u> , 14
14:05	14:05, 14
14:06	14:06, 14
14:54	<u>14:54</u> , 14, <u>14:01</u>
15	15, <u>15:01P</u> , 15:01, <u>15:02P</u> , 15:02, <u>15:03P</u> , 15:03, <u>15:04P</u> , <u>15:07P</u>
15:01	<u>15:01</u> , 15
15:02	<u>15:02</u> , 15
15:03	<u>15:03</u> , 15
16	16, <u>16:01P</u> , 16:01, <u>16:02P</u> , 16:02
16:01	<u>16:01</u> , 16
16:02	<u>16:02</u> , 16
17	17, <u>03:01P</u> , 03:01
18	18, <u>03:02P</u> , 03:02, 03:03
103	103, <u>01:03P</u> , 01:03

4.11.B: HLA Unacceptable Antigen Equivalences

At the time of the match run, if an antigen or epitope is entered as unacceptable for a candidate, then the candidate will not appear on the match run for donors reported with any of the equivalent antigens described in *Tables 4-5, 4-6, 4-7, 4-8, 4-9, 4-10, 4-11, 4-12, 4-13, 4-14, 4-15, and 4-16* below.

CPRA calculations include all donor alleles equivalent to a candidate's reported unacceptable antigens, alleles, and epitopes.

HLA values listed below as equivalent for the purposes of unacceptable antigen screening are also equivalent for the purposes of reporting HLA typing, with the exception of epitope-based unacceptable antigen assignments in the *Table 4-16*.

Table 4-5: HLA A Unacceptable Antigen Equivalences

If this A-Locus Unacceptable Antigen is reported:	The following HLA values are considered equivalent to the reported unacceptable antigen:
1	1, <u>01:01P</u> , 01:01, <u>01:02P</u> , 01:02, <u>01:03P</u>
01:01	01:01
01:02	01:02
2	2, <u>02:01P</u> , 02:01, <u>02:02P</u> , 02:02, <u>02:03P</u> , 02:03, <u>02:04P</u> , 02:05P, 02:05, <u>02:06P</u> , 02:06, <u>02:07P</u> , 02:07, <u>02:10P</u> , 02:10, <u>02:11P</u> , <u>02:14P</u> , <u>02:16P</u> , 02:18, <u>02:20P</u> , <u>02:22P</u> , <u>02:29P</u> , <u>02:49P</u> , <u>02:65P</u> , <u>02:81P</u>
02:01	02:01
02:02	02:02
02:03	02:03
02:05	02:05
02:06	02:06
02:07	02:07
02:10	02:10
02:18	02:18
3	3, <u>03:01P</u> , 03:01, <u>03:02P</u> , 03:02, <u>03:04P</u> , 32:04
03:01	03:01
03:02	03:02
9	9, 23, <u>23:01P</u> , 24, <u>24:02P</u> , 24:02, <u>24:03P</u> , 24:03, <u>24:05P</u> , <u>24:07P</u> , <u>24:10P</u> , <u>24:26P</u>
10	10, 25, <u>25:01P</u> , 26, <u>26:01P</u> , 26:01, 26:02, <u>26:03P</u> , 26:03, 34, <u>34:01P</u> , 34:01, 34:02, 66, <u>66:01P</u> , 66:01, <u>66:02P</u> , 66:02, 43
11	11, <u>11:01P</u> , 11:01, <u>11:02P</u> , 11:02, <u>11:03P</u> , <u>11:05P</u>
11:01	11:01
11:02	11:02
19	19, 29, <u>29:01P</u> , 29:01, <u>29:02P</u> , 29:02, 30, <u>30:01P</u> , 30:01, <u>30:02P</u> , 30:02, <u>30:04P</u> , 31, <u>31:01P</u> , 32, <u>32:01P</u> , 33, <u>33:01P</u> , 33:01, <u>33:03P</u> , 33:03, 74, <u>74:01P</u> , <u>74:06P</u>
23	23, <u>23:01P</u>

If this A-Locus Unacceptable Antigen is reported:	The following HLA values are considered equivalent to the reported unacceptable antigen:
24	24, <u>24:02P</u> , 24:02, <u>24:03P</u> , 24:03, <u>24:05P</u> , <u>24:07P</u> , <u>24:10P</u> , <u>24:26P</u>
24:02	24:02
24:03	24:03
25	25, <u>25:01P</u>
26	26, <u>26:01P</u> , 26:01, 26:02, <u>26:03P</u> , 26:03
26:01	26:01
26:02	26:02
26:03	26:03
28	28, 68, 69, <u>68:01P</u> , 68:01, <u>68:02P</u> , 68:02, <u>68:03P</u>
29	29, <u>29:01P</u> , 29:01, <u>29:02P</u> , 29:02
29:01	29:01
29:02	29:02
30	30, <u>30:01P</u> , 30:01, <u>30:02P</u> , 30:02, <u>30:04P</u>
30:01	30:01
30:02	30:02
31	31, <u>31:01P</u>
32	32, <u>32:01P</u>
32:04	32:04
33	33, <u>33:01P</u> , 33:01, <u>33:03P</u> , 33:03
33:01	33:01
33:03	33:03
34	34, <u>34:01P</u> , 34:01, 34:02
34:01	34:01
34:02	34:02
36	36, <u>36:01P</u>
43	43
66	66, <u>66:01P</u> , 66:01, <u>66:02P</u> , 66:02
66:01	66:01
66:02	66:02
68	68, <u>68:01P</u> , 68:01, <u>68:02P</u> , 68:02, <u>68:03P</u>
68:01	68:01
68:02	68:02
69	69
74	74, <u>74:01P</u> , <u>74:06P</u>
80	80, <u>80:01P</u>

Table 4-6 HLA B Unacceptable Antigen Equivalences

If this B-Locus Unacceptable Antigen is reported:	The following HLA values are considered equivalent to the reported unacceptable antigen:
5	5, 51, <u>51:01P</u> , 51:01, 51:02, <u>51:08P</u> , 51:09P, <u>51:143P</u> , 52, 52:01P
7	7, <u>07:02P</u> , 07:02, 07:03, <u>07:05P</u> , 07:14
07:02	07:02
07:03	07:03
07:14	07:14
8	8, <u>08:01P</u> , 08:01, 08:02, 08:03, 08:04
08:01	08:01
08:02	08:02
08:03	08:03
08:04	08:04
12	12, 44, <u>44:02P</u> , 44:02, <u>44:03P</u> , 44:03, <u>44:05P</u> , 44:29P, 44:53P, <u>51:42P</u> , 45, <u>50:02P</u> , 50:02
13	13, <u>13:01P</u> , 13:01, <u>13:02P</u> , 13:02
13:01	13:01
13:02	13:02
14	14, 64, 65, <u>14:01P</u> , 14:01, <u>14:02P</u> , 14:02
14:01	14:01, 64
14:02	14:02, 65
15	15, 62, 63, 70, 71, 72, 75, 76, 77, <u>15:01P</u> , 15:01, <u>15:02P</u> , 15:02, <u>15:03P</u> , 15:03, 15:04, 15:06, <u>15:07P</u> , 15:07, <u>15:10P</u> , 15:10, <u>15:11P</u> , 15:11, <u>15:12P</u> , 15:12, 15:13, <u>15:14P</u> , <u>15:16P</u> , 15:16, <u>15:17P</u> , 15:17, <u>15:18P</u> , 15:18, <u>15:20P</u> , 15:20, <u>15:21P</u> , 15:21, <u>15:24P</u> , <u>15:25P</u> , 15:27, <u>15:28P</u> , 15:30P, 15:32P, 15:35P, 15:39P, <u>15:123P</u>
15:01	15:01
15:02	15:02
15:03	15:03
15:04	15:04
15:06	15:06
15:07	15:07
15:10	15:10
15:11	15:11
15:12	15:12
15:13	15:13
15:16	15:16
15:17	15:17
15:18	15:18
15:20	15:20
15:21	15:21
15:24	15:24
15:27	15:27

If this B-Locus Unacceptable Antigen is reported:	The following HLA values are considered equivalent to the reported unacceptable antigen:
16	16, 38, <u>38:01P</u> , 38:01, <u>38:02P</u> , 38:02, 39, <u>39:01P</u> , 39:01, <u>39:02P</u> , 39:02, <u>39:03P</u> , 39:04, <u>39:05P</u> , 39:05, <u>39:06P</u> , 39:06, <u>39:09P</u> , <u>39:10P</u> , 39:13, 39:15P
17	17, 57, <u>57:01P</u> , 57:01, <u>57:03P</u> , 57:03, 58, <u>58:01P</u> , <u>58:02P</u>
18	18, <u>18:01P</u>
21	21, 49, <u>49:01P</u> , 50, 40:05, <u>50:01P</u> , 50:01
22	22, 54, <u>54:01P</u> , 55, <u>55:01P</u> , 55:01, <u>55:02P</u> , 55:02, 55:04, 56, <u>56:01P</u> , 56:01, 56:03
27	27, <u>27:02P</u> , 27:03, <u>27:04P</u> , 27:04, <u>27:05P</u> , 27:05, <u>27:06P</u> , 27:06, <u>27:07P</u>
27:03	27:03
27:04	27:04
27:05	27:05
27:06	27:06
27:08	27:08
35	35, <u>35:01P</u> , 35:01, <u>35:02P</u> , 35:02, <u>35:03P</u> , 35:03, <u>35:05P</u> , 35:08P, 35:08, 35:12, <u>35:14P</u> , <u>35:43P</u> , <u>35:137P</u>
35:01	35:01
35:02	35:02
35:03	35:03
35:08	35:08
35:12	35:12
37	37, <u>37:01P</u>
38	38, <u>38:01P</u> , 38:01, <u>38:02P</u> , 38:02
38:01	38:01
38:02	38:02
39	39, <u>39:01P</u> , 39:01, <u>39:02P</u> , 39:02, <u>39:03P</u> , 39:04, <u>39:05P</u> , 39:05, <u>39:06P</u> , 39:06, <u>39:09P</u> , <u>39:10P</u> , 39:13, <u>39:15P</u>
39:01	39:01
39:02	39:02
39:04	39:04
39:05	39:05
39:06	39:06
39:13	39:13
40	40, 60, 61, <u>40:01P</u> , 40:01, <u>40:02P</u> , 40:02, <u>40:03P</u> , 40:03, 40:04, <u>40:06P</u> , 40:06, <u>40:40P</u> , <u>40:213P</u>
40:01	40:01
40:02	40:02
40:03	40:03
40:04	40:04
40:05	40:05
40:06	40:06
41	41, <u>41:01P</u> , 41:01, <u>41:02P</u> , 41:02

If this B-Locus Unacceptable Antigen is reported:	The following HLA values are considered equivalent to the reported unacceptable antigen:
41:01	41:01
41:02	41:02
42	42, <u>42:01P</u> , 42:01, 42:02
42:01	42:01
42:02	42:02
44	44, <u>44:02P</u> , 44:02, <u>44:03P</u> , 44:03, <u>44:05P</u> , 44:29P, 44:53P, <u>51:42P</u>
44:02	44:02
44:03	44:03
45	45, <u>45:01P</u> , <u>50:02P</u> , 50:02
46	46, <u>46:01P</u>
47	47, <u>47:01P</u>
48	48, <u>48:01P</u> , 48:01, 48:02, <u>48:04P</u>
48:01	48:01
48:02	48:02
49	49, <u>49:01P</u>
50	50, 40:05, <u>50:01P</u> , 50:01
50:01	50:01
50:02	50:02
51	51, <u>51:01P</u> , 51:01, 51:02, <u>51:08P</u> , <u>51:09P</u> , <u>51:143P</u>
51:01	51:01
51:02	51:02
52	52, <u>52:01P</u>
53	53, <u>53:01P</u>
54	54, <u>54:01P</u>
55	55, <u>55:01P</u> , 55:01, <u>55:02P</u> , 55:02, 55:04
55:01	55:01
55:02	55:02
55:04	55:04
56	56, <u>56:01P</u> , 56:01, 56:03
56:01	56:01
56:03	56:03
57	57, <u>57:01P</u> , 57:01, <u>57:03P</u> , 57:03
57:01	57:01
57:03	57:03
58	58, <u>58:01P</u> , <u>58:02P</u>
59	59, <u>59:01P</u>
60	60, <u>40:01P</u> , 40:01
61	61, <u>40:02P</u> , 40:02, <u>40:03P</u> , 40:03, 40:04, <u>40:06P</u> , 40:06
62	62, <u>15:01P</u> , 15:01, 15:04, 15:06, <u>15:07P</u> , 15:07, <u>15:20P</u> , 15:20, <u>15:25P</u> , 15:27, <u>15:28P</u> , <u>15:30P</u> , <u>15:32P</u> , <u>15:35P</u> , <u>15:39P</u>
63	63, <u>15:16P</u> , 15:16, <u>15:17P</u> , 15:17
64	64, <u>14:01P</u> , 14:01

Table 4-7: HLA C Unacceptable Antigen Equivalences

If this C-Locus Unacceptable Antigen is reported:	The following HLA values are considered equivalent to the reported unacceptable antigen:
01	01, <u>01:02P</u> , 01:02, <u>01:03P</u> , 01:03, <u>01:63P</u>
01:02	01:02
01:03	01:03
02	02, <u>02:02P</u> , 02:02, 02:10, <u>02:14P</u> , 02:16P, 02:134P, 02:159P, <u>02:182P</u>
02:02	02:02
02:10	02:10
03	03, <u>03:02P</u> , 03:02, <u>03:03P</u> , 03:03, <u>03:04P</u> , 03:04, <u>03:05P</u> , 03:05, 03:06, <u>03:14P</u> , <u>03:40P</u> , 09, 10
03:02	03:02
03:03	03:03
03:04	03:04
03:05	03:05
03:06	03:06
04	04, <u>04:01P</u> , 04:01, <u>04:03P</u> , 04:03, 04:04, <u>04:06P</u> , 04:07, <u>04:10P</u> , <u>04:59P</u> , <u>04:355P</u> , <u>04:360P</u>
04:01	04:01
04:03	04:03
04:04	04:04
04:07	04:07
05	05, <u>05:01P</u> , 05:01
05:01	05:01
06	06, <u>06:02P</u> , 06:02, <u>06:06P</u> , 06:87P
06:02	06:02
07	07, <u>07:01P</u> , 07:01, <u>07:02P</u> , 07:02, <u>07:04P</u> , 07:04, 07:06, 07:18, <u>07:19P</u> , 07:22P, 07:26P, 07:27P, 07:28P, 07:165P, 07:450P, <u>07:919P</u>
07:01	07:01
07:02	07:02
07:04	07:04
07:06	07:06
07:18	07:18
08	08, <u>08:01P</u> , 08:01, <u>08:02P</u> , 08:02, <u>08:03P</u> , 08:03, 08:04
08:01	08:01
08:02	08:02
08:03	08:03
08:04	08:04
09	09, <u>03:03P</u> , 03:03
10	10, <u>03:02P</u> , 03:02, <u>03:04P</u> , 03:04, 03:06
12	12, <u>12:02P</u> , 12:02, <u>12:03P</u> , 12:03, 12:04, <u>12:14P</u>
12:02	12:02

If this DR-Locus Unacceptable Antigen is reported:	The following HLA values are considered equivalent to the reported unacceptable antigen:
04:03	04:03
04:04	04:04
04:05	04:05
04:06	04:06
04:07	04:07
04:10	04:10
04:11	04:11
5	5, 11, <u>11:01P</u> , 11:01, <u>11:02P</u> , <u>11:03P</u> , <u>11:04P</u> , 11:04, <u>11:06P</u> , <u>11:11P</u> , 12, <u>12:01P</u> , 12:01, <u>12:02P</u> , 12:02
6	6, 13, <u>13:01P</u> , 13:01, <u>13:02P</u> , 13:02, <u>13:03P</u> , 13:03, 13:05, <u>13:12P</u> , 14, <u>14:01P</u> , 14:01, <u>14:02P</u> , 14:02, <u>14:02P</u> , 14:03, <u>14:04P</u> , 14:04, 14:05, 14:06, <u>14:08P</u> , <u>14:24P</u> , 14:54
7	7, <u>07:01P</u>
8	8, <u>08:01P</u> , 08:01, <u>08:02P</u> , 08:02, <u>08:03P</u> , 08:03, <u>08:04P</u> , 08:07
08:01	08:01
08:02	08:02
08:03	08:03
08:07	08:07
9	9, <u>09:01P</u> , 09:01, 09:02
09:01	09:01
09:02	09:02
10	10, <u>10:01P</u>
11	11, <u>11:01P</u> , 11:01, <u>11:02P</u> , <u>11:03P</u> , 11:03, <u>11:04P</u> , 11:04, <u>11:06P</u> , <u>11:11P</u>
11:01	11:01
11:03	11:03
11:04	11:04
12	12, <u>12:01P</u> , 12:01, <u>12:02P</u> , 12:02
12:01	12:01
12:02	12:02
13	13, <u>13:01P</u> , 13:01, <u>13:02P</u> , 13:02, <u>13:03P</u> , 13:03, 13:05, <u>13:12P</u>
13:01	13:01
13:02	13:02
13:03	13:03
13:05	13:05
14	14, <u>14:01P</u> , 14:01, <u>14:02P</u> , 14:02, <u>14:03P</u> , 14:03, <u>14:04P</u> , 14:04, 14:05, 14:06, <u>14:08P</u> , <u>14:24P</u> , 14:54
14:01	14:01, 14:54
14:02	14:02
14:03	14:03
14:04	14:04
14:05	14:05
14:06	14:06

Table 4-11: HLA DR53 Unacceptable Antigen Equivalences

If this DR-53 Locus Unacceptable Antigen is reported:	The following HLA values are considered equivalent to the reported unacceptable antigen:
4*01	4*01, <u>4*01:01P</u> , 4*01:01, 4*01:03, 4*01:75P, 4*01:78P
4*01:01	4*01:01
4*01:03	4*01:03
53	53, <u>4*01:01P</u> , 4*01:01, 4*01:03, <u>4*01:75P</u> , 4*01:78P, 4*01

Table 4-12: HLA DQA1 Unacceptable Antigen Equivalences

If this DQA1-Locus Unacceptable Antigen is reported:	The following HLA values are considered equivalent to the reported unacceptable antigen:
01	01, <u>01:01P</u> , 01:01, <u>01:02P</u> , 01:02, <u>01:03P</u> , 01:03, 01:04, 01:05, 01:06, <u>01:07P</u> , 01:07, 01:08, 01:09, 01:10, 01:11, 01:12
01:01	01:01
01:02	01:02
01:03	01:03
01:04	01:04
01:05	01:05
01:06	01:06
01:07	01:07
01:08	01:08
01:09	01:09
01:10	01:10
01:11	01:11
01:12	01:12
02	02, <u>02:01P</u> , 02:01
02:01	02:01
03	03, <u>03:01P</u> , 03:01, 03:02, 03:03
03:01	03:01
03:02	03:02
03:03	03:03
04	04, <u>04:01P</u> , 04:01, 04:02, 04:04
04:01	04:01
04:02	04:02
04:04	04:04

Table 4-15: HLA DPB1 Unacceptable Antigen Equivalences

In addition to the alleles and p-groups displayed in this table, all non-null HLA-DPB1 alleles as of IMGT/HLA version 3.52.0 are available for reporting candidate, donor, or recipient HLA typing.

If this DPB1-Locus Unacceptable Antigen is reported:	All of the following HLA values are considered equivalent to the unacceptable antigen reported and to all the values within the row:
01:01	<u>01:01P</u> , 01:01, 162:01, 417:01, 462:01, 616:01, 733:01, 807:01, 810:01, 853:01, 931:01, 953:01, 979:01, 998:01, 999:01, 1024:01, 1038:01, 1050:01, 1068:01, 1076:01, 1151:01, 1162:01, 1183:01, <u>1287:01</u> , 1314:01, 1361:01, <u>1392:01</u> , <u>1406:01</u> , <u>1443:01</u>
02:01	<u>02:01P</u> , 02:01, 141:01, 352:01, 414:01, 416:01, 461:01, 617:01, 640:01, 678:01, 723:01, 783:01, 799:01, 819:01, 845:01, 857:01, 861:01, 955:01, 967:01, 975:01, 1036:01, 1051:01, 1055:01, 1077:01, 1082:01, 1094:01, 1102:01, 1115:01, 1160:01, 1175:01, <u>1198:01</u> , <u>1227:01</u> , <u>1243:01</u> , <u>1248:01</u> , <u>1266:01</u> , <u>1290:01</u> , <u>1298:01</u> , <u>1307:01</u> , <u>1312:01</u> , <u>1315:01</u> , <u>1320:01</u> , <u>1323:01</u> , <u>1326:01</u> , <u>1344:01</u> , <u>1352:01</u> , <u>1360:01</u> , <u>1363:01</u> , <u>1369:01</u> , <u>1372:01</u> , <u>1405:01</u> , <u>1417:01</u> , <u>1419:01</u> , <u>1456:01</u>
02:02	<u>02:02P</u> , 02:02, 547:01, <u>721:01</u> , 766:01, 1188:01, <u>1376:01</u> , <u>1437:01</u>
03:01	<u>03:01P</u> , 03:01, 104:01, 124:01, 351:01, 669:01, 675:01, 676:01, 704:01, 706:01, 728:01, 829:01, 855:01, 938:01, 946:01, 948:01, 952:01, 1000:01, 1014:01, 1021:01, 1049:01, 1114:01, 1134:01, 1157:01, <u>1245:01</u> , <u>1246:01</u> , <u>1254:01</u> , <u>1263:01</u> , <u>1295:01</u> , <u>1382:01</u> , <u>1388:01</u> , <u>1401:01</u> , <u>1407:01</u> , <u>1429:01</u>
04:01	<u>04:01P</u> , 04:01, 126:01, 350:01, 415:01, 459:01, 464:01, 534:01, 615:01, 618:01, 670:01, 677:01, 699:01, 702:01, 755:01, 757:01, 765:01, 767:01, 784:01, 804:01, 806:01, 813:01, 820:01, 824:01, 826:01, 849:01, 850:01, 859:01, 880:01, 882:01, 926:01, 932:01, 939:01, 978:01, 988:01, 989:01, 992:01, 997:01, 1001:01, 1002:01, 1003:01, 1004:01, 1010:01, 1011:01, 1023:01, 1033:01, 1074:01, 1086:01, 1091:01, 1100:01, 1129:01, 1132:01, 1144:01, 1146:01, 1148:01, 1152:01, 1155:01, 1161:01, 1164:01, 1173:01, 1181:01, 1184:01, <u>1196:01</u> , <u>1206:01</u> , <u>1207:01</u> , <u>1217:01</u> , <u>1225:01</u> , <u>1226:01</u> , <u>1231:01</u> , <u>1237:01</u> , <u>1238:01</u> , <u>1241:01</u> , <u>1242:01</u> , <u>1244:01</u> , <u>1249:01</u> , <u>1268:01</u> , <u>1271:01</u> , <u>1284:01</u> , <u>1297:01</u> , <u>1300:01</u> , <u>1304:01</u> , <u>1308:01</u> , <u>1316:01</u> , <u>1317:01</u> , <u>1321:01</u> , <u>1322:01</u> , <u>1327:01</u> , <u>1328:01</u> , <u>1345:01</u> , <u>1362:01</u> , <u>1374:01</u> , <u>1377:01</u> , <u>1379:01</u> , <u>1387:01</u> , <u>1390:01</u> , <u>1391:01</u> , <u>1409:01</u> , <u>1412:01</u> , <u>1413:01</u> , <u>1436:01</u> , <u>1444:01</u> , <u>1446:01</u> , <u>1450:01</u> , <u>1459:01</u> , <u>1465:01</u> , <u>1472:01</u> , <u>1476:01</u>

If this DPB1-Locus Unacceptable Antigen is reported:	All of the following HLA values are considered equivalent to the unacceptable antigen reported and to all the values within the row:
04:02	04:02P, 04:02, 105:01, 463:01, 571:01, 647:01, 665:01, 674:01, 701:01, 725:01, 726:01, 730:01, 731:01, 734:01, 735:01, 763:01, 809:01, 818:01, 823:01, 858:01, 881:01, 927:01, 933:01, 954:01, 958:01, 981:01, 1005:01, 1013:01, 1020:01, 1025:01, 1031:01, 1035:01, 1037:01, 1072:01, 1075:01, 1083:01, 1085:01, 1124:01, 1153:01, 1171:01, 1194:01, <u>1197:01</u> , <u>1235:01</u> , <u>1239:01</u> , <u>1267:01</u> , <u>1270:01</u> , <u>1283:01</u> , <u>1331:01</u> , <u>1346:01</u> , <u>1380:01</u> , <u>1404:01</u> , <u>1424:01</u> , <u>1425:01</u> , <u>1460:01</u>
05:01	05:01P, 05:01, 135:01, 668:01, 729:01, 744:01, 764:01, 790:01, 847:01, 848:01, 851:01, 860:01, 923:01, 951:01, 1015:01, 1018:01, 1117:01, 1118:01, 1119:01, 1120:01, 1143:01, 1172:01, <u>1199:01</u> , <u>1213:01</u> , <u>1273:01</u> , <u>1289:01</u> , <u>1318:01</u> , <u>1438:01</u> , <u>1457:01</u> , <u>1462:01</u> , <u>1473:01</u>
06:01	06:01P, 06:01, 737:01, 906:01, 914:01, 1022:01, 1087:01, 1111:01, <u>1259:01</u> , <u>1471:01</u>
08:01	08:01
09:01	09:01P, 09:01, 797:01, 899:01, 1149:01, <u>1258:01</u> , <u>1303:01</u> , <u>1313:01</u> , <u>1378:01</u>
10:01	10:01P, 10:01, 650:01, 673:01, 902:01, 1126:01, <u>1261:01</u> , <u>1470:01</u>
11:01	11:01P, 11:01, 649:01, 654:01, 672:01, 707:01, 907:01, 937:01, 1063:01
13:01	13:01P, 13:01, 107:01, 133:01, 518:01, 519:01, 888:01, 924:01, 947:01, 996:01, 1065:01, 1069:01, 1105:01, 1123:01, 1131:01, 1185:01, <u>1232:01</u> , <u>1294:01</u> , <u>1451:01</u>
14:01	14:01P, 14:01, 498:01, 572:01, 651:01, 671:01, 705:01, 834:01, 854:01, 949:01, 1187:01, <u>1348:01</u> , <u>1354:01</u> , <u>1384:01</u> , <u>1395:01</u> , <u>1414:01</u>
15:01	15:01P, 15:01, 585:01, 896:01, 910:01, 1054:01, 1192:01, <u>1250:01</u> , <u>1336:01</u> , <u>1434:01</u>
16:01	16:01P, 16:01, 652:01, 653:01, 864:01, 886:01, 940:01, 968:01, <u>1386:01</u>
17:01	17:01P, 17:01, 131:01, 168:01, 460:01, 846:01, 956:01, 1032:01, 1052:01, <u>1233:01</u> , <u>1265:01</u> , <u>1367:01</u> , <u>1394:01</u> , <u>1397:01</u> , <u>1431:01</u> , <u>1435:01</u> , <u>1475:01</u>
18:01	18:01P, 18:01, 897:01, 942:01, 1165:01
19:01	19:01P, 19:01, 106:01, 533:01, 535:01, 785:01, 965:01, 1101:01, <u>1255:01</u> , <u>1282:01</u>
20:01	20:01P, 20:01, 905:01, <u>1389:01</u> , <u>1426:01</u>

If this DPB1-Locus Unacceptable Antigen is reported:	All of the following HLA values are considered equivalent to the unacceptable antigen reported and to all the values within the row:
21:01	<u>21:01P</u> , 21:01, 1019:01, 1186:01, 1190:01
22:01	<u>22:01P</u> , 22:01, 1026:01
23:01	<u>23:01P</u> , 23:01, 138:01
24:01	24:01
25:01	<u>25:01P</u> , 25:01, <u>1469:01</u>
26:01	<u>26:01P</u> , 26:01, 1088:01
27:01	27:01
28:01	<u>28:01P</u> , 28:01, 296:01, <u>1286:01</u> , <u>1324:01</u>
29:01	<u>29:01P</u> , 29:01, 909:01
30:01	30:01
31:01	<u>31:01P</u> , 31:01, 945:01
34:01	<u>34:01P</u> , 34:01, 835:01, 913:01
35:01	35:01
38:01	<u>38:01P</u> , 38:01, 1099:01
39:01	<u>39:01P</u> , 39:01, 584:01
40:01	<u>40:01P</u> , 40:01, 745:01
45:01	<u>45:01P</u> , 45:01, 832:01
51:01	<u>51:01P</u> , 51:01, 736:01
<u>55:01</u>	<u>55:01P</u> , 55:01, <u>1353:01</u>
57:01	<u>57:01P</u> , 57:01, 648:01
59:01	<u>59:01P</u> , 59:01, 782:01
80:01	<u>80:01P</u> , 80:01, 762:01
<u>81:01</u>	<u>81:01P</u> , 81:01, <u>1383:01</u>
85:01	<u>85:01P</u> , 85:01, 713:01, 901:01, 1034:01, <u>1441:01</u>
90:01	<u>90:01P</u> , 90:01, 1012:01
<u>100:01</u>	<u>100:01P</u> , 100:01, <u>1483:01</u>
104:01	104:01
105:01	105:01
106:01	106:01
107:01	107:01
124:01	124:01
126:01	126:01

If this DPB1-Locus Unacceptable Antigen is reported:	All of the following HLA values are considered equivalent to the unacceptable antigen reported and to all the values within the row:
<u>130:01</u>	<u>130:01P, 130:01, 1211:01</u>
131:01	131:01
132:01	<u>132:01P, 132:01, 1027:01</u>
135:01	135:01
137:01	<u>137:01P, 137:01, 791:01</u>
152:01	<u>152:01P, 152:01, 944:01</u>
<u>184:01</u>	<u>184:01P, 184:01, 1224:01</u>
<u>233:01</u>	<u>233:01P, 233:01, 1428:01</u>
398:01	<u>398:01P, 398:01, 922:01</u>
1096:01	<u>1096P, 1096:01, 1133:01</u>
<u>1371:01</u>	<u>1371:01P, 1371:01, 1445:01</u>

Table 4-16: Epitope based Unacceptable Antigen Assignment for DPB1

If this Candidate Unacceptable Epitope is reported:	The following HLA values are considered equivalent to the reported unacceptable epitope:									
55AAE	01:01	04:01	11:01	13:01	15:01	23:01	26:01	27:01	31:01	
	33:01	34:01	39:01	40:01	52:01	55:01	56:01	58:01	62:01	
	63:01	65:01	66:01	67:01	71:01	72:01	74:01	85:01	87:01	
	89:01	90:01	95:01	96:01	99:01	102:01	103:01	107:01	110:01	
	112:01	117:01	118:01	121:01	125:01	126:01	127:01	128:01	133:01	
	134:01	138:01	142:01	147:01	149:01	150:01	158:01	160:01	162:01	
	169:01	173:01	174:01	175:01	176:01	177:01	178:01	179:01	180:01	
	181:01	192:01	193:01	194:01	195:01	199:01	201:01	202:01	206:01	
	207:01	209:01	212:01	213:01	220:01	224:01	225:01	227:01	228:01	
	230:01	231:01	232:01	240:01	244:01	246:01	247:01	250:01	253:01	
	255:01	262:01	264:01	267:01	268:01	272:01	275:01	276:01	278:01	

If this Candidate Unacceptable Epitope is reported:	The following HLA values are considered equivalent to the reported unacceptable epitope:								
84GGPM	<u>1347:01</u>	<u>1352:01</u>	<u>1356:01</u>	<u>1358:01</u>	<u>1360:01</u>	<u>1362:01</u>	<u>1363:01</u>	<u>1368:01</u>	<u>1369:01</u>
	<u>1371:01</u>	<u>1372:01</u>	<u>1374:01</u>	<u>1376:01</u>	<u>1377:01</u>	<u>1379:01</u>	<u>1380:01</u>	<u>1381:01</u>	<u>1383:01</u>
	<u>1385:01</u>	<u>1387:01</u>	<u>1390:01</u>	<u>1391:01</u>	<u>1393:01</u>	<u>1399:01</u>	<u>1402:01</u>	<u>1403:01</u>	<u>1404:01</u>
	<u>1405:01</u>	<u>1408:01</u>	<u>1409:01</u>	<u>1410:01</u>	<u>1412:01</u>	<u>1413:01</u>	<u>1417:01</u>	<u>1419:01</u>	<u>1420:01</u>
	<u>1424:01</u>	<u>1425:01</u>	<u>1428:01</u>	<u>1433:01</u>	<u>1436:01</u>	<u>1437:01</u>	<u>1444:01</u>	<u>1445:01</u>	<u>1446:01</u>
	<u>1447:01</u>	<u>1450:01</u>	<u>1453:01</u>	<u>1454:01</u>	<u>1456:01</u>	<u>1459:01</u>	<u>1460:01</u>	<u>1461:01</u>	<u>1465:01</u>
	<u>1468:01</u>	<u>1472:01</u>	<u>1474:01</u>	<u>1476:01</u>	<u>1479:01</u>	<u>1483:01</u>			
84VGPM	15:01	18:01	28:01	34:01	40:01	53:01	62:01	74:01	139:01
	198:01	290:01	292:01	296:01	299:01	333:01	345:01	347:01	387:01
	471:01	482:01	484:01	493:01	499:01	512:01	526:01	580:01	585:01
	644:01	695:01	745:01	752:01	768:01	835:01	896:01	897:01	900:01
	903:01	910:01	913:01	918:01	942:01	1054:01	1109:01	1136:01	1142:01
	1165:01	1192:01	<u>1201:01</u>	<u>1219:01</u>	<u>1250:01</u>	<u>1252:01</u>	<u>1286:01</u>	<u>1324:01</u>	<u>1336:01</u>
	<u>1422:01</u>	<u>1427:01</u>	<u>1434:01</u>						

4.11.C: HLA-DPB1 Available Alleles

Table 4-17: Available OPTN-DPB1 HLA Allele Values

Table 4-16 contains all HLA-DPB1 alleles available for reporting to the OPTN for candidate, donor, or recipient HLA typing.

<u>01:01</u>	<u>02:01</u>	<u>02:02</u>	<u>03:01</u>	<u>04:01</u>	<u>04:02</u>	<u>05:01</u>	<u>06:01</u>	<u>08:01</u>	<u>09:01</u>
<u>10:01</u>	<u>11:01</u>	<u>13:01</u>	<u>14:01</u>	<u>15:01</u>	<u>16:01</u>	<u>17:01</u>	<u>18:01</u>	<u>19:01</u>	<u>20:01</u>
<u>21:01</u>	<u>22:01</u>	<u>23:01</u>	<u>24:01</u>	<u>25:01</u>	<u>26:01</u>	<u>27:01</u>	<u>28:01</u>	<u>29:01</u>	<u>30:01</u>

31:01	32:01	33:01	34:01	35:01	36:01	37:01	38:01	39:01	40:01
41:01	44:01	45:01	46:01	47:01	48:01	49:01	50:01	51:01	52:01
53:01	54:01	55:01	56:01	57:01	58:01	59:01	60:01	62:01	63:01
65:01	66:01	67:01	68:01	69:01	70:01	71:01	72:01	73:01	74:01
75:01	76:01	77:01	78:01	79:01	80:01	81:01	82:01	83:01	84:01
85:01	86:01	87:01	88:01	89:01	90:01	91:01	92:01	93:01	94:01
95:01	96:01	97:01	98:01	99:01	100:01	101:01	102:01	103:01	104:01
105:01	106:01	107:01	108:01	109:01	110:01	111:01	112:01	113:01	114:01
115:01	116:01	117:01	118:01	119:01	121:01	122:01	123:01	124:01	125:01
126:01	127:01	128:01	129:01	130:01	131:01	132:01	133:01	134:01	135:01
136:01	137:01	138:01	139:01	140:01	141:01	142:01	143:01	144:01	145:01
146:01	147:01	148:01	149:01	150:01	151:01	152:01	153:01	155:01	156:01
157:01	158:01	160:01	162:01	163:01	164:01	165:01	166:01	167:01	168:01
169:01	170:01	171:01	172:01	173:01	174:01	175:01	176:01	177:01	178:01
179:01	180:01	181:01	182:01	183:01	184:01	185:01	186:01	187:01	188:01
189:01	190:01	191:01	192:01	193:01	194:01	195:01	196:01	197:01	198:01
199:01	200:01	201:01	202:01	203:01	204:01	205:01	206:01	207:01	208:01
209:01	210:01	211:01	212:01	213:01	214:01	215:01	217:01	219:01	220:01
221:01	222:01	223:01	224:01	225:01	226:01	227:01	228:01	229:01	230:01
231:01	232:01	233:01	234:01	235:01	236:01	237:01	238:01	239:01	240:01
241:01	242:01	243:01	244:01	245:01	246:01	247:01	248:01	249:01	250:01
251:01	252:01	253:01	254:01	255:01	256:01	257:01	258:01	259:01	260:01
261:01	262:01	263:01	264:01	265:01	266:01	267:01	268:01	269:01	270:01

271:01	272:01	273:01	274:01	275:01	276:01	277:01	278:01	279:01	280:01
281:01	282:01	283:01	284:01	285:01	286:01	287:01	288:01	289:01	290:01
291:01	292:01	293:01	294:01	295:01	296:01	297:01	298:01	299:01	300:01
301:01	302:01	303:01	304:01	305:01	306:01	307:01	308:01	309:01	310:01
311:01	312:01	313:01	314:01	315:01	316:01	317:01	318:01	319:01	320:01
321:01	322:01	323:01	324:01	325:01	326:01	327:01	329:01	330:01	331:01
332:01	333:01	334:01	335:01	336:01	337:01	338:01	339:01	340:01	341:01
342:01	343:01	344:01	345:01	346:01	347:01	348:01	349:01	350:01	351:01
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363:01	364:01	365:01	366:01	367:01	368:01	369:01	370:01	371:01	372:01
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384:01	385:01	386:01	387:01	388:01	389:01	390:01	391:01	392:01	393:01
394:01	395:01	396:01	397:01	398:01	399:01	400:01	402:01	404:01	405:01
406:01	407:01	408:01	409:01	410:01	411:01	412:01	413:01	414:01	415:01
416:01	417:01	418:01	419:01	420:01	421:01	422:01	423:01	424:01	425:01
426:01	427:01	428:01	429:01	430:01	431:01	432:01	433:01	434:01	435:01
436:01	437:01	438:01	439:01	440:01	441:01	442:01	443:01	444:01	445:01
446:01	447:01	448:01	449:01	451:01	452:01	453:01	454:01	456:01	457:01
458:01	459:01	460:01	461:01	462:01	463:01	464:01	465:01	466:01	467:01
468:01	469:01	470:01	471:01	472:01	473:01	474:01	475:01	476:01	477:01
478:01	479:01	480:01	481:01	482:01	483:01	484:01	485:01	486:01	487:01
488:01	489:01	490:01	491:01	492:01	493:01	494:01	495:01	496:01	497:01
498:01	499:01	500:01	501:01	502:01	503:01	504:01	505:01	506:01	508:01

509:01	510:01	511:01	512:01	513:01	514:01	515:01	516:01	517:01	518:01
519:01	520:01	521:01	522:01	523:01	524:01	525:01	526:01	527:01	528:01
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549:01	550:01	552:01	553:01	554:01	555:01	556:01	557:01	558:01	559:01
560:01	561:01	562:01	563:01	564:01	565:01	566:01	567:01	568:01	569:01
571:01	572:01	573:01	574:01	575:01	576:01	577:01	578:01	579:01	580:01
581:01	582:01	583:01	584:01	585:01	586:01	587:01	588:01	589:01	590:01
591:01	592:01	593:01	594:01	595:01	596:01	597:01	599:01	600:01	601:01
602:01	603:01	604:01	605:01	606:01	607:01	608:01	609:01	610:01	611:01
612:01	613:01	614:01	615:01	616:01	617:01	618:01	619:01	620:01	621:01
622:01	623:01	624:01	625:01	626:01	627:01	628:01	629:01	630:01	631:01
632:01	633:01	634:01	635:01	636:01	637:01	638:01	639:01	640:01	641:01
642:01	643:01	644:01	645:01	646:01	647:01	648:01	649:01	650:01	651:01
652:01	653:01	654:01	655:01	656:01	658:01	659:01	660:01	662:01	663:01
664:01	665:01	666:01	667:01	668:01	669:01	670:01	671:01	672:01	673:01
674:01	675:01	676:01	677:01	678:01	679:01	680:01	681:01	682:01	683:01
684:01	685:01	686:01	687:01	688:01	689:01	690:01	692:01	694:01	695:01
697:01	698:01	699:01	701:01	702:01	703:01	704:01	705:01	706:01	707:01
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718:01	719:01	720:01	721:01	722:01	723:01	725:01	726:01	727:01	729:01
730:01	731:01	733:01	734:01	735:01	736:01	737:01	739:01	740:01	741:01
742:01	744:01	745:01	746:01	747:01	749:01	750:01	751:01	752:01	753:01

755:01	757:01	758:01	759:01	760:01	761:01	762:01	763:01	764:01	765:01
766:01	767:01	768:01	769:01	770:01	771:01	772:01	773:01	774:01	775:01
776:01	778:01	779:01	780:01	781:01	782:01	783:01	784:01	785:01	787:01
788:01	789:01	790:01	791:01	795:01	796:01	797:01	798:01	799:01	801:01
802:01	803:01	804:01	805:01	806:01	807:01	808:01	809:01	810:01	811:01
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834:01	835:01	836:01	837:01	839:01	840:01	841:01	842:01	843:01	845:01
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856:01	857:01	858:01	859:01	860:01	861:01	863:01	864:01	879:01	880:01
881:01	882:01	883:01	884:01	885:01	886:01	887:01	888:01	889:01	890:01
891:01	892:01	893:01	895:01	896:01	897:01	898:01	899:01	900:01	901:01
902:01	903:01	904:01	905:01	906:01	907:01	908:01	909:01	910:01	912:01
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981:01	982:01	983:01	987:01	988:01	989:01	990:01	991:01	992:01	993:01
994:01	996:01	997:01	998:01	999:01	1000:01	1001:01	1002:01	1003:01	1004:01
1005:01	1006:01	1007:01	1008:01	1009:01	1010:01	1011:01	1012:01	1013:01	1014:01
1015:01	1016:01	1017:01	1018:01	1019:01	1020:01	1021:01	1022:01	1023:01	1024:01

1025:01	1026:01	1027:01	1028:01	1030:01	1031:01	1032:01	1033:01	1034:01	1035:01
1036:01	<u>1037:01</u>	<u>1038:01</u>	<u>1039:01</u>	<u>1040:01</u>	<u>1042:01</u>	<u>1043:01</u>	<u>1046:01</u>	<u>1047:01</u>	<u>1048:01</u>
1049:01	1050:01	1051:01	1052:01	1053:01	1054:01	1055:01	1056:01	1057:01	1058:01
1059:01	1060:01	1061:01	1062:01	1063:01	1064:01	1065:01	1066:01	1067:01	1068:01
1069:01	1071:01	1072:01	1073:01	1074:01	1075:01	1076:01	1077:01	1078:01	1080:01
1081:01	1082:01	1083:01	1085:01	1086:01	1087:01	1088:01	1089:01	1090:01	1091:01
1092:01	1093:01	1094:01	1095:01	1096:01	1097:01	1099:01	1100:01	1101:01	1102:01
1103:01	1104:01	1105:01	1106:01	1107:01	1108:01	1109:01	1110:01	1111:01	1113:01
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1178:01	1179:01	1180:01	1181:01	1182:01	1183:01	1184:01	1185:01	1186:01	1187:01
1188:01	1189:01	1190:01	1192:01	1194:01	1195:01				