The Newton radius and covering radius of some binary and ternary linear codes

The Newton and covering radii of some binary and ternary linear codes, the number of the unique coset leaders and the corresponding weight of the coset are presented in the tables below. In the brackets is shown what percentage of all vectors of a given weight are the unique coset leaders.

The following classifications are used as a source for the generator matrices of the codes:

1. D. Downie, N. J. A. Sloane, The covering radius of cyclic codes of length up to 31, *IEEE Trans. Inf. Theory*, vol. 31, 1985, pp. 446-447.

2. T. Baicheva, The covering radius of ternary cyclic codes with length up to 25, *Designs, Codes and Cryptography*, vol.13, pp. 223-227, 1998.

3. T. Baicheva, On the covering radius of ternary negacyclic codes with length up to 26, *IEEE Trans. on Inform. Theory*, vol. 47, No. 1, 2001, pp.413-416.

4. D. Jaffe, Binary linear codes: New results nonexistence. Draft (Version 0.4), Department of Mathematics and Statistics, University of Nebraska, April 14, 1997.

Table 1. Binary cyclic codes.

No	[n,k,d]	$\nu(C)$	$r(C)$	Unique leaders
1.	[7,4,3]	1	1	
2.	[7,3,4]	1	3	
3.	[9,3,3]	3	3	27 unique leaders with wt=2 (75%)
				27 unique leaders with wt=3 (32%)
4.	[9,2,6]	3	4	27 unique leaders with wt=3 (32%)
5.	[15,11,3]	1	1	
6.	[15,10,4]	1	3	
7.	[15,9,3]	1	3	
8.	[15,9,4]	1	3	
9.	[15,8,4]	2	4	15 unique leaders with wt=2 (14%)
10.	[15,8,4]	1	5	
11.	[15,7,3]	3	3	90 unique leaders with wt=2 (86%)
				60 unique leaders with wt=3 (13%)
12.	[15,7,5]	3	3	65 unique leaders with wt=3 (14%)
13.	[15,6,6]	3	5	60 unique leaders with wt=3 (13%)
14.	[15,6,6]	3	4	65 unique leaders with wt=3 (14%)
15.	[15,5,3]	5	5	90 unique leaders with wt=2 (86%)
				270 unique leaders with wt=3 (59%)
				405 unique leaders with wt=4 (30%)
				243 unique leaders with wt=5 (8%)
16.	[15,5,7]	3	5	
17.	[15,4,6]	5	6	270 unique leaders with wt=3 (59%)
				405 unique leaders with wt=4 (30%)
				243 unique leaders with wt=5 (8%)
18.	[15,4,8]	4	7	420 unique leaders with wt=4 (31%)
19.	[15,3,5]	6	6	425 unique leaders with wt=3 (93%)
				1050 unique leaders with wt=4 (77%)
				1500 unique leaders with wt=5 (50%)
				1000 unique leaders with wt=6 (20%)
20.	[15,2,10]	6	7	2250 unique leaders with wt=5 (75%)
				1000 unique leaders with wt=6 (20%)
21.	[17,9,5]	2	3	
22.	[17,8,6]	2	5	
23.	[21,16,3]	1	2	
24.	[21,15,3]	1	2	
25.	[21,15,4]	1	3	
26.	[21,14,4]	1	3	
27.	[21,13,3]	2	3	126 unique leaders with wt=2 (60%)
28.	[21,13,4]	1	3	
29.	[21,12,3]	3	3	147 unique leaders with wt=2 (70%)
				343 unique leaders with wt=3 (26%)
30.	[21,12,4]	1	7	
31.	[21,12,4]	2	4	147 unique leaders with wt=2 (70%)

Table 1. Binary cyclic codes.(Continued)

No	[n,k,d]	$\nu(C)$	$r(C)$	Unique leaders
32.	[21,12,5]	2	3	
33.	[21,11,4]	3	4	147 unique leaders with wt=2 (70%)
				343 unique leaders with wt=3 (26%)
34.	[21,11,6]	3	5	210 unique leaders with wt=3 (16%)
35.	[21,10,4]	3	4	147 unique leaders with wt=2 (70%)
				343 unique leaders with wt=3 (26%)
36.	[21,10,5]	3	6	1120 unique leaders with wt=3 (84%)
37.	[21,9,3]	4	5	189 unique leaders with wt=2 (90%)
				945 unique leaders with wt=3 (71%)
				1890 unique leaders with wt=4 (32%)
38.	[21,9,4]	3	9	147 unique leaders with wt=2 (70%)
				343 unique leaders with wt=3 (26%)
39.	[21,9,6]	4	5	931 unique leaders with wt=3 (70%)
				1008 unique leaders with wt=4 (17%)
40.	[21,9,8]	3	7	
41.	[21,8,6]	4	7	931 unique leaders with wt=3 (70%)
				1008 unique leaders with wt=4 (17%)
42.	[21,8,6]	4	6	945 unique leaders with wt=3 (71%)
				1890 unique leaders with wt=4 (32%)
43.	[21,7,3]	7	7	189 unique leaders with wt=2 (90%)
				945 unique leaders with wt=3 (71%)
				2835 unique leaders with wt=4 (47%)
				5103 unique leaders with wt=5 (25%)
				5103 unique leaders with wt=6 (9%)
				2187 unique leaders with wt=7 (2%)
44.	[21,7,8]	5	6	4599 unique leaders with wt=4 (77%)
				3864 unique leaders with wt=5 (19%)
45.	[21,6,6]	7	8	945 unique leaders with wt=3 (71%)
				2835 unique leaders with wt=4 (47%)
				5103 unique leaders with wt=5 (25%)
				5103 unique leaders with wt=6 (9%)
				2187 unique leaders with wt=7 (2%)
46.	[21,6,7]	6	6	5880 unique leaders with wt=4 (98%)
				13020 unique leaders with wt=5 (64%)
				1680 unique leaders with wt=6 (3%)
47.	[21,6,8]	5	9	4599 unique leaders with wt=4 (77%)
				6195 unique leaders with wt=5 (30%)
48.	[21,5,10]	6	8	15183 unique leaders with wt=5 (75%)
				7539 unique leaders with wt=6 (14%)
49.	[21,4,9]	8	8	19467 unique leaders with wt=5 (96%)
				38178 unique leaders with wt=6 (70%)
				32805 unique leaders with wt=7 (28%)
				15309 unique leaders with wt=8 (8%)

Table 1. Binary cyclic codes.(Continued)

No	[n,k,d]	$\nu(C)$	$r(C)$	Unique leaders
50.	[21,3,7]	9	9	5880 unique leaders with wt=4 (98%)
				18816 unique leaders with wt=5 (92%)
				43806 unique leaders with wt=6 (81%)
				72030 unique leaders with wt=7 (62%)
				77175 unique leaders with wt=8 (38%)
				42875 unique leaders with wt=9 (15%)
51.	[21,3,12]	8	10	47817 unique leaders with wt=6 (88%)
				57375 unique leaders with wt=7 (49%)
				15309 unique leaders with wt=8 (8%)
52.	[21,2,14]	9	10	105987 unique leaders with wt=7 (91%)
				123480 unique leaders with wt=8 (61%)
				42875 unique leaders with wt=9 (15%)
53.	[23,12,7]	3	3	
54.	[23,11,8]	3	7	
55.	[25,5,5]	10	10	2250 unique leaders with wt=3 (98%)
				11625 unique leaders with wt=4 (92%)
				43125 unique leaders with wt=5 (81%)
				116250 unique leaders with wt=6 (66%)
				225000 unique leaders with wt=7 (47%)
				300000 unique leaders with wt=8 (28%)
				250000 unique leaders with wt=9 (12%)
				100000 unique leaders with wt=10 (3%)
56.	[25,4,10]	10	11	50625 unique leaders with wt=5 (95%)
				141250 unique leaders with wt=6 (80%)
				256250 unique leaders with wt=7 (53%)
				300000 unique leaders with wt=8 (28%)
				250000 unique leaders with wt=9 (12%)
				100000 unique leaders with wt=10 (3%)
57.	[27,9,3]	9	9	324 unique leaders with wt=2 (92%)
				2268 unique leaders with wt=3 (78%)
				10206 unique leaders with wt=4 (58%)
				30618 unique leaders with wt=5 (38%)
				61236 unique leaders with wt=6 (21%)
				59049 unique leaders with wt=8 (3%)
				19683 unique leaders with wt=9 (0,42%)
58.	[27,8,6]	9	10	2268 unique leaders with wt=3 (78%)
				10206 unique leaders with wt=4 (58%)
				30618 unique leaders with wt=5 (38%)
				61236 unique leaders with wt=6 (21%)
				78732 unique leaders with wt=7 (9%)
				59049 unique leaders with wt=8 (3%)
				19683 unique leaders with wt=9 (0,4%)

Table 1. Binary cyclic codes.(Continued)

No	[n,k,d]	$\nu(C)$	$r(C)$	Unique leaders
59.	[27,7,6]	9	10	2754 unique leaders with wt=3 (94%)
				14094 unique leaders with wt=4 (80%)
				45198 unique leaders with wt=5 (56%)
				94041 unique leaders with wt=6 (32%)
				118098 unique leaders with wt=7 (13%)
				78732 unique leaders with wt=8 (4%)
				19683 unique leaders with wt=9 (0,4%)
60.	[27,6,6]	9	12	2754 unique leaders with wt=3 (94%)
				14094 unique leaders with wt=4 (80%)
				47385 unique leaders with wt=5 (59%)
				101331 unique leaders with wt=6 (34%)
				124659 unique leaders with wt=7 (14%)
				78732 unique leaders with wt=8 (4%)
				19683 unique leaders with wt=9 (0,4%)
61.	[27,3,9]	12	12	80352 unique leaders with wt=5 (99,5%)
				288954 unique leaders with wt=6 (98%)
				825552 unique leaders with wt=7 (93%)
				1871100 unique leaders with wt=8 (84%)
				3307500 unique leaders with wt=9 (71%)
				4381776 unique leaders with wt=10 (52%)
				4000752 unique leaders with wt=11 (31%)
				2000376 unique leaders with wt=12 (12%)
62.	[27,2,18]	12	13	4540968 unique leaders with wt=9 (97%)
				6994512 unique leaders with wt=10 (83%)
				6667920 unique leaders with wt=11 (51%)
				2000376 unique leaders with wt=12 (12%)
63.	[31,26,3]	1	1	
64.	[31,25,4]	2	3	
65.	[31,21,5]	2	3	
66.	[31,21,5]	2	3	
67.	[31,21,5]	2	3	
68.	[31,20,6]	2	5	
69.	[31,20,6]	2	5	
70.	[31,20,6]	2	5	
71.	[31,16,5]	5	5	4185 unique leaders with wt=3 (93%)
				13485 unique leaders with wt=4 (43%)
				186 unique leaders with wt=5 (0,1%)
72.	[31,16,6]	4	5	3875 unique leaders with wt=3 (86%)
				9920 unique leaders with wt=4 (32%)
73.	[31,16,7]	3	5	
74.	[31,16,7]	4	5	9765 unique leaders with wt=4 (31%)

Table 1. Binary cyclic codes.(Continued)

No	[n,k,d]	$\nu(C)$	$r(C)$	Unique leaders
75.	[31,15,6]	5	9	3875 unique leaders with wt=3 (86%)
				9920 unique leaders with wt=4 (32%)
				2201 unique leaders with wt=5 (1%)
76.	[31,15,8]	4	7	4340 unique leaders with wt=4 (14%)
77.	[31,15,8]	5	7	11315 unique leaders with wt=4 (36%)
				93 unique leaders with wt=5 (0,05%)
78.	[31,15,8]	5	6	14415 unique leaders with wt=4 (46%)
				186 unique leaders with wt=5 (0,1%)
79.	[31,11,11]	7	7	400179 unique leaders with wt=6 (54%)
				16275 unique leaders with wt=7 (1%)
80.	[31,11,11]	7	7	400179 unique leaders with wt=6 (54%)
				17050 unique leaders with wt=7 (1%)
81.	[31,11,10]	7	8	162099 unique leaders with wt=5 (95%)
				394599 unique leaders with wt=6 (54%)
				22475 unique leaders with wt=7 (1%)
82.	[31,10,12]	7	11	469371 unique leaders with wt=6 (64%)
				102145 unique leaders with wt=7 (4%)
83.	[31,10,12]	7	11	469371 unique leaders with wt=6 (64%)
				103695 unique leaders with wt=7 (4%)
84.	[31,10,10]	7	11	162099 unique leaders with wt=5 (95%)
				451019 unique leaders with wt=6 (61%)
				103695 unique leaders with wt=7 (4%)
85.	[31,6,15]	10	11	7291200 unique leaders with wt=8 (92%)
				11179840 unique leaders with wt=9 (55%)
				1833216 unique leaders with wt=10 (4%)
86.	[31,5,16]	11	15	7490220 unique leaders with wt=8 (95%)
				14069660 unique leaders with wt=9 (70%)
				9634304 unique leaders with wt=10 (22%)
				317688 unique leaders with wt=11 (0,4%)

Table 2. Distance-optimal binary codes.

No	[n,k,d]	$\nu(C)$	$r(C)$	Unique leaders
1.	$[12,4,6]$	3	4	28 unique leaders with wt=3 (13%)
2.	$[16,11,4]$	1	2	
3.	$[16,7,6]_1$	3	4	80 unique leaders with wt=3 (14%)
4.	$[16,7,6]_2$	3	4	44 unique leaders with wt=3 (8%)
5.	$[16,7,6]_3$	3	5	24 unique leaders with wt=3 (4%)
6.	$[17,8,6]$	2	4	
7.	$[17,5,8]_1$	4	6	980 unique leaders with wt=4 (41%)
8.	$[17,5,8]_2$	4	7	584 unique leaders with wt=4 (25%)
9.	$[17,5,8]_3$	4	7	870 unique leaders with wt=4 (37%)
10.	$[18,9,6]$	2	4	
11.	$[18,6,8]_1$	4	7	630 unique leaders with wt=4 (21%)
12.	$[18,6,8]_2$	4	7	480 unique leaders with wt=4 (16%)
13.	$[19,7,8]$	4	7	256 unique leaders with wt=4 (7%)
14.	$[20,8,8]$	3	7	
15.	$[21,9,8]$	3	7	
16.	$[22,10,8]$	3	7	
17.	$[23,11,8]$	3	7	
18.	$[24,12,8]$	3	7	
19.	$[21,8,8]_1$	4	6	1508 unique leaders with wt=4 (25%)
20.	$[21,8,8]_2$	4	7	1470 unique leaders with wt=4 (25%)
21.	$[21,8,8]_3$	4	7	1447 unique leaders with wt=4 (24%)
22.	$[21,8,8]_4$	4	7	1352 unique leaders with wt=4 (23%)
23.	$[21,8,8]_5$	4	7	1410 unique leaders with wt=4 (24%)
24.	$[21,8,8]_6$	4	7	1380 unique leaders with wt=4 (23%)
25.	$[21,8,8]_7$	4	8	1233 unique leaders with wt=4 (21%)
26.	$[21,8,8]_8$	4	8	1074 unique leaders with wt=4 (18%)
27.	$[21,8,8]_9$	3	8	
28.	$[21,5,10]_1$	6	8	15183 unique leaders with wt=5 (75%) 7539 unique leaders with wt=6 (14%)
29.	$[21,5,10]_2$	6	8	15429 unique leaders with wt=5 (76%) 7544 unique leaders with wt=6 (14%)
30.	$[24,14,6]$	2	4	
31.	$[24,7,10]_1$	6	8	30414 unique leaders with wt=5 (72%) 10402 unique leaders with wt=6 (8%)
32.	$[24,7,10]_2$	6	8	30864 unique leaders with wt=5 (73%) 10176 unique leaders with wt=6 (8%)
33.	$[24,7,10]_3$	6	8	30408 unique leaders with wt=5 (72%) 10108 unique leaders with wt=6 (8%)
34.	$[24,7,10]_4$	6	8	29496 unique leaders with wt=5 (69%) 10648 unique leaders with wt=6 (8%)
35.	$[24,7,10]_5$	7	8	30195 unique leaders with wt=5 (71%) 10339 unique leaders with wt=6 (8%) 2 unique leaders with wt=7 (0%)

Table 2. Distance-optimal binary codes. (Continued)

No	[n,k,d]	$\nu(C)$	$r(C)$	Unique leaders
36.	$[24,7,10]_6$	6	8	30195 unique leaders with wt=5 (71%)
				10417 unique leaders with wt=6 (8%)
37.	$[24,5,12]$	7	10	109060 unique leaders with wt=6 (81%)
				89400 unique leaders with wt=7 (26%)
38.	$[25,5,12]_1$	8	11	151564 unique leaders with wt=6 (86%)
				198460 unique leaders with wt=7 (41%)
				89400 unique leaders with wt=8 (8%)
39.	$[25,5,12]_2$	8	11	154240 unique leaders with wt=6 (87%)
				214485 unique leaders with wt=7 (45%)
				62720 unique leaders with wt=8 (6%)
40.	$[25,5,12]_3$	8	11	155134 unique leaders with wt=6 (88%)
				221026 unique leaders with wt=7 (46%)
				57678 unique leaders with wt=8 (5%)
41.	$[25,5,12]_4$	8	10	157843 unique leaders with wt=6 (89%)
				228315 unique leaders with wt=7 (47%)
				52161 unique leaders with wt=8 (5%)
42.	$[25,5,12]_5$	8	10	164248 unique leaders with wt=6 (93%)
				298196 unique leaders with wt=7 (62%)
				170437 unique leaders with wt=8 (16%)
43.	$[25,5,12]_6$	9	10	160540 unique leaders with wt=6 (91%)
				237388 unique leaders with wt=7 (49%)
				42777 unique leaders with wt=8 (4%)
				1 unique leaders with wt=9 (0%)
44.	$[25,5,12]_7$	8	10	166060 unique leaders with wt=6 (94%)
				311932 unique leaders with wt=7 (65%)
				167352 unique leaders with wt=8 (15%)
45.	$[25,5,12]_8$	8	10	158740 unique leaders with wt=6 (90%)
				232516 unique leaders with wt=7 (48%)
				47856 unique leaders with wt=8 (4%)
46.	$[26,6,12]_1$	8	11	188485 unique leaders with wt=6 (82%)
				190608 unique leaders with wt=7 (29%)
				12168 unique leaders with wt=8 (1%)
47.	$[26,6,12]_2$	8	11	189355 unique leaders with wt=6 (82%)
				193570 unique leaders with wt=7 (29%)
				7370 unique leaders with wt=8 (0,5%)
48.	$[27,7,12]$	7	10	222447 unique leaders with wt=6 (75%)
				132060 unique leaders with wt=7 (15%)
49.	$[27,6,12]_1$	9	11	281286 unique leaders with wt=6 (95%)
				619137 unique leaders with wt=7 (70%)
				414720 unique leaders with wt=8 (19%)
				240 unique leaders with wt=9 (0,005%)

Table 2. Distance-optimal binary codes. (Continued)

No	[n,k,d]	$\nu(C)$	$r(C)$	Unique leaders
50.	$[27,6,12]_2$	9	11	277650 unique leaders with wt=6 (94%)
				582600 unique leaders with wt=7 (66%)
				382010 unique leaders with wt=8 (17%)
				8215 unique leaders with wt=9 (0,2%)
51.	$[27,6,12]_3$	9	11	279465 unique leaders with wt=6 (94%)
				599565 unique leaders with wt=7 (68%)
				396628 unique leaders with wt=8 (18%)
				5960 unique leaders with wt=9 (0,1%)
52.	$[27,6,12]_4$	9	11	276747 unique leaders with wt=6 (93%)
				574159 unique leaders with wt=7 (65%)
				379686 unique leaders with wt=8 (17%)
				9178 unique leaders with wt=9 (0,2%)
53.	$[27,6,12]_5$	8	10	272108 unique leaders with wt=6 (92%)
				475450 unique leaders with wt=7 (54%)
				108744 unique leaders with wt=8 (5%)
54.	$[27,6,12]_6$	9	10	273017 unique leaders with wt=6 (92%)
				477924 unique leaders with wt=7 (54%)
				106875 unique leaders with wt=8 (5%)
				10 unique leaders with wt=9 (0,0002%)
55.	$[27,6,12]_7$	9	11	263106 unique leaders with wt=6 (89%)
				441552 unique leaders with wt=7 (50%)
				132582 unique leaders with wt=8 (6%)
				114 unique leaders with wt=9 (0,002%)
56.	$[27,6,12]_8$	8	10	276651 unique leaders with wt=6 (93%)
				495288 unique leaders with wt=7 (56%)
				89780 unique leaders with wt=8 (4%)
57.	$[27,6,12]_9$	9	10	271203 unique leaders with wt=6 (92%)
				466453 unique leaders with wt=7 (53%)
				116372 unique leaders with wt=8 (5%)
				40 unique leaders with wt=9 (0,0009%)
58.	$[27,6,12]_{1}0$	9	11	271212 unique leaders with wt=6 (92%)
				469469 unique leaders with wt=7 (53%)
				115207 unique leaders with wt=8 (5%)
				48 unique leaders with wt=9 (0,002%)
59.	$[27,6,12]_{1}1$	9	11	270309 unique leaders with wt=6 (91%)
				465069 unique leaders with wt=7 (52%)
				118117 unique leaders with wt=8 (5%)
				74 unique leaders with wt=9 (0,002%)
60.	$[27,6,12]_{1}2$	8	10	273015 unique leaders with wt=6 (92%)
				470365 unique leaders with wt=7 (53%)
				113670 unique leaders with wt=8 (5%)

Table 2. Distance-optimal binary codes. (Continued)

No	[n,k,d]	$\nu(C)$	$r(C)$	Unique leaders
61.	$[27,6,12]_13$	9	11	268500 unique leaders with wt=6 (91%)
				460580 unique leaders with wt=7 (52%)
				120895 unique leaders with wt=8 (5%)
				235 unique leaders with wt=9 (0,005%)
62.	$[27,6,12]_14$	9	10	268500 unique leaders with wt=6 (91%)
				454428 unique leaders with wt=7 (51%)
				124632 unique leaders with wt=8 (6%)
				169 unique leaders with wt=9 (0,004%)
63.	$[27,6,12]_15$	9	11	269394 unique leaders with wt=6 (91%)
				455850 unique leaders with wt=7 (51%)
				123205 unique leaders with wt=8 (6%)
				113 unique leaders with wt=9 (0,002%)
64.	$[27,6,12]_16$	9	10	271197 unique leaders with wt=6 (92%)
				458595 unique leaders with wt=7 (52%)
				121230 unique leaders with wt=8 (5%)
				336 unique leaders with wt=9 (0,007%)
65.	$[27,6,12]_17$	9	11	270303 unique leaders with wt=6 (91%)
				462533 unique leaders with wt=7 (52%)
				120272 unique leaders with wt=8 (5%)
				117 unique leaders with wt=9 (0,002%)
66.	$[27,6,12]_18$	9	11	271215 unique leaders with wt=6 (92%)
				465423 unique leaders with wt=7 (52%)
				118594 unique leaders with wt=8 (5%)
				60 unique leaders with wt=9 (0,001%)
67.	$[27,6,12]_19$	9	11	270303 unique leaders with wt=6 (91%)
				460464 unique leaders with wt=7 (52%)
				121342 unique leaders with wt=8 (5%)
				82 unique leaders with wt=9 (0,002%)
68.	$[27,6,12]_20$	9	11	269403 unique leaders with wt=6 (91%)
				458563 unique leaders with wt=7 (52%)
				122651 unique leaders with wt=8 (6%)
				164 unique leaders with wt=9 (0,003%)
69.	$[27,6,12]_21$	9	11	268497 unique leaders with wt=6 (91%)
				458349 unique leaders with wt=7 (52%)
				122764 unique leaders with wt=8 (6%)
				200 unique leaders with wt=9 (0,004%)
70.	$[27,6,12]_22$	9	11	267597 unique leaders with wt=6 (90%)
				454084 unique leaders with wt=7 (51%)
				125084 unique leaders with wt=8 (6%)
				349 unique leaders with wt=9 (0,007%)
71.	$[28,10,10]_1$	6	8	65184 unique leaders with wt=5 (66%)
				6384 unique leaders with wt=6 (2%)

Table 2. Distance-optimal binary codes. (Continued)

No	[n,k,d]	$\nu(C)$	$r(C)$	Unique leaders
72.	$[28,10,10]_2$	6	8	63528 unique leaders with wt=5 (65%)
				6864 unique leaders with wt=6 (2%)
73.	$[28,10,10]_3$	6	8	62700 unique leaders with wt=5 (64%)
				6569 unique leaders with wt=6 (2%)
74.	$[28,10,10]_4$	6	8	62487 unique leaders with wt=5 (64%)
				6453 unique leaders with wt=6 (2%)
75.	$[28,10,10]_5$	6	8	62511 unique leaders with wt=5 (64%)
				6574 unique leaders with wt=6 (2%)
76.	$[28,10,10]_6$	6	8	62475 unique leaders with wt=5 (64%)
				6600 unique leaders with wt=6 (2%)
77.	$[28,10,10]_7$	6	8	62463 unique leaders with wt=5 (64%)
				6756 unique leaders with wt=6 (2%)
78.	$[28,10,10]_8$	6	8	62521 unique leaders with wt=5 (64%)
				6537 unique leaders with wt=6 (2%)
79.	$[28,10,10]_9$	6	8	62287 unique leaders with wt=5 (63%)
				6681 unique leaders with wt=6 (2%)
80.	$[28,10,10]_10$	6	8	62073 unique leaders with wt=5 (63%)
				6926 unique leaders with wt=6 (2%)
81.	$[28,10,10]_11$	6	8	62091 unique leaders with wt=5 (63%)
				6678 unique leaders with wt=6 (2%)
82.	[28,5,14]	10	12	1101864 unique leaders with wt=7 (93%)
				1878996 unique leaders with wt=8 (60%)
				769328 unique leaders with wt=9 (11%)
				4816 unique leaders with wt=10 (0,04%)
83.	$[29,5,14]_1$	11	12	1499088 unique leaders with wt=7 (96%)
				3212586 unique leaders with wt=8 (75%)
				2894764 unique leaders with wt=9 (29%)
				291669 unique leaders with wt=10 (1%)
				16 unique leaders with wt=11 (0,0005%)
84.	$[29,5,14]_2$	11	12	1485423 unique leaders with wt=7 (95%)
				3070013 unique leaders with wt=8 (72%)
				2717953 unique leaders with wt=9 (27%)
				512848 unique leaders with wt=10 (3%)
				3136 unique leaders with wt=11 (0,009%)
85.	$[29,5,14]_3$	11	12	1488837 unique leaders with wt=7 (95%)
				3128163 unique leaders with wt=8 (73%)
				2830863 unique leaders with wt=9 (28%)
				395636 unique leaders with wt=10 (2%)
				288 unique leaders with wt=11 (0,0008%)

Table 2. Distance-optimal binary codes. (Continued)

No	[n,k,d]	$\nu(C)$	$r(C)$	Unique leaders
86.	$[29,5,14]_4$	11	12	1492248 unique leaders with wt=7 (96%)
				3163088 unique leaders with wt=8 (74%)
				2862624 unique leaders with wt=9 (29%)
				345118 unique leaders with wt=10 (2%)
				204 unique leaders with wt=11 (0,006%)
87.	$[29,5,14]_5$	11	12	1499088 unique leaders with wt=7 (96%)
				3212586 unique leaders with wt=8 (75%)
				2894764 unique leaders with wt=9 (29%)
				291669 unique leaders with wt=10 (1%)
				16 unique leaders with wt=11 (0,00004%)
88.	$[29,5,14]_6$	11	12	1492260 unique leaders with wt=7 (96%)
				3142111 unique leaders with wt=8 (73%)
				2837011 unique leaders with wt=9 (28%)
				384620 unique leaders with wt=10 (2%)
				128 unique leaders with wt=11 (0,0004%)
89.	$[29,5,14]_7$	11	12	1505916 unique leaders with wt=7 (96%)
				3260208 unique leaders with wt=8 (76%)
				2915240 unique leaders with wt=9 (29%)
				246200 unique leaders with wt=10 (1%)
				76 unique leaders with wt=11 (0,0002%)
90.	$[30,9,12]_1$	8	10	426411 unique leaders with wt=6 (72%)
				221991 unique leaders with wt=7 (11%)
				63 unique leaders with wt=8 (0,001%)
91.	$[30,9,12]_2$	8	10	426417 unique leaders with wt=6 (72%)
				223142 unique leaders with wt=7 (11%)
				94 unique leaders with wt=8 (0,001%)
92.	$[30,9,12]_3$	8	10	426417 unique leaders with wt=6 (72%)
				223096 unique leaders with wt=7 (11%)
				11 unique leaders with wt=8 (0,0002%)
93.	$[30,9,12]_4$	9	9	478475 unique leaders with wt=6 (81%)
				515787 unique leaders with wt=7 (25%)
				30690 unique leaders with wt=8 (1%)
				1 unique leaders with wt=9 (0%)
94.	$[30,9,12]_5$	7	11	426405 unique leaders with wt=6 (72%)
				221410 unique leaders with wt=7 (11%)
95.	$[30,9,12]_6$	8	11	426405 unique leaders with wt=6 (72%)
				221120 unique leaders with wt=7 (11%)
				50 unique leaders with wt=8 (0,0009%)
96.	$[30,6,14]_1$	9	11	1929600 unique leaders with wt=7 (95%)
				3784704 unique leaders with wt=8 (65%)
				1597120 unique leaders with wt=9 (11%)

Table 2. Distance-optimal binary codes. (Continued)

No	[n,k,d]	$\nu(C)$	$r(C)$	Unique leaders
97.	$[30, 6, 14]_2$	10	11	1984320 unique leaders with wt=7 (97%)
				4609920 unique leaders with wt=8 (79%)
				4018560 unique leaders with wt=9 (28%)
				112896 unique leaders with wt=10 (0,4%)
98.	$[31, 13, 9]$	6	7	102903 unique leaders with wt=5 (61%)
				5817 unique leaders with wt=6 (1%)
99.	$[31, 10, 12]$	7	11	469371 unique leaders with wt=6 (64%)
				102145 unique leaders with wt=7 (4%)
100.	$[32,17,8]$	4	6	2304 unique leaders with wt=4 (6%)
101.	$[32,11,16]$	7	8	492528 unique leaders with wt=6 (54%)
				20832 unique leaders with wt=7 (1%)
102.	$[32,6,16]$	10	12	9721600 unique leaders with wt=8 (92%)
				15554560 unique leaders with wt=9 (55%)
				2666496 unique leaders with wt=10 (4%)
103.	$[33,8,14]$	10	11	3944361 unique leaders with wt=7 (92%)
				7368103 unique leaders with wt=8 (53%)
				1701934 unique leaders with wt=9 (4%)
				92 unique leaders with wt=10 (0,0001%)
104.	$[33,12,11]$	7	9	706832 unique leaders with wt=6 (64%)
				196530 unique leaders with wt=7 (5%)

Table 3. Ternary cyclic codes.

No	[n,k,d]	$\nu(C)$	$r(C)$	Unique leaders
1.	[8,5,3]	1	2	
2.	[8,4,4]	2	3	16 unique leaders with wt=2 (14%)
3.	[8,3,5]	2	4	
4.	[8,3,4]	2	4	56 unique leaders with wt=2 (50%)
5.	[8,2,6]	3	5	288 unique leaders with wt=3 (64%)
6.	[8,2,4]	4	4	88 unique leaders with wt=2 (79%)
				192 unique leaders with wt=3 (43%)
				144 unique leaders with wt=4 (13%)
7.	[10,5,4]	2	3	90 unique leaders with wt=2 (50%)
8.	[10,4,4]	2	5	90 unique leaders with wt=2 (50%)
9.	[10,2,5]	4	6	800 unique leaders with wt=3 (83%)
				1600 unique leaders with wt=4 (48%)
10.	[11,6,5]	2	2	
11.	[11,5,6]	2	5	
12.	[13,10,3]	1	1	
13.	[13,9,3]	1	3	
14.	[13,7,5]	2	3	
15.	[13,7,4]	2	3	156 unique leaders with wt=2 (50%)
16.	[13,6,6]	4	5	780 unique leaders with wt=3 (34%)
				78 unique leaders with wt=4 (1%)
17.	[13,6,6]	3	4	598 unique leaders with wt=3 (26%)
18.	[13,4,7]	5	6	7046 unique leaders with wt=4 (62%)
				936 unique leaders with wt=5 (2%)
19.	[13,3,9]	5	7	23400 unique leaders with wt=5 (57%)
20.	[14,7,4]	2	4	182 unique leaders with wt=2 (50%)
21.	[14,6,4]	2	7	182 unique leaders with wt=2 (50%)
22.	[14,2,7]	8	8	15316 unique leaders with wt=4 (96%)
				52920 unique leaders with wt=5 (83%)
				113680 unique leaders with wt=6 (59%)
				117600 unique leaders with wt=7 (27%)
				44100 unique leaders with wt=8 (6%)
23.	[16,10,4]	2	3	288 unique leaders with wt=2 (60%)
24.	[16,10,3]	2	4	256 unique leaders with wt=2 (53%)
25.	[16,10,3]	2	4	256 unique leaders with wt=2 (53%)
26.	[16,9,5]	3	4	384 unique leaders with wt=3 (9%)
27.	[16,9,4]	2	4	288 unique leaders with wt=2 (60%)
28.	[16,8,5]	3	5	3584 unique leaders with wt=3 (80%)
29.	[16,8,4]	4	6	288 unique leaders with wt=2 (60%)
				512 unique leaders with wt=3 (11%)
				256 unique leaders with wt=4 (1%)
30.	[16,7,6]	4	5	4160 unique leaders with wt=3 (93%)
				4672 unique leaders with wt=4 (16%)

Table 3. Ternary cyclic codes. (Continued)

No	[n,k,d]	$\nu(C)$	$r(C)$	Unique leaders
31.	[16,7,5]	4	6	3584 unique leaders with wt=3 (80%)
				5920 unique leaders with wt=4 (20%)
32.	[16,7,4]	2	8	240 unique leaders with wt=2 (50%)
33.	[16,6,5]	4	8	3584 unique leaders with wt=3 (80%)
				12544 unique leaders with wt=4 (43%)
34.	[16,6,6]	5	7	4160 unique leaders with wt=3 (93%)
				21760 unique leaders with wt=4 (75%)
				1024 unique leaders with wt=5 (1%)
35.	[16,6,4]	4	8	432 unique leaders with wt=2 (90%)
				2688 unique leaders with wt=3 (60%)
				3840 unique leaders with wt=4 (13%)
36.	[16,6,4]	5	8	382 unique leaders with wt=2 (80%)
				2048 unique leaders with wt=3 (46%)
				4432 unique leaders with wt=4 (15%)
				1792 unique leaders with wt=5 (1%)
37.	[16,6,4]	4	8	368 unique leaders with wt=2 (77%)
				1792 unique leaders with wt=3 (40%)
				3136 unique leaders with wt=4 (11%)
38.	[16,5,6]	6	8	4160 unique leaders with wt=3 (93%)
				21760 unique leaders with wt=4 (75%)
				42624 unique leaders with wt=5 (30%)
				10368 unique leaders with wt=6 (2%)
39.	[16,5,6]	6	8	4160 unique leaders with wt=3 (93%)
				19248 unique leaders with wt=4 (66%)
				28416 unique leaders with wt=5 (20%)
				9216 unique leaders with wt=6 (2%)
40.	[16,5,4]	6	8	432 unique leaders with wt=2 (90%)
				3200 unique leaders with wt=3 (71%)
				13664 unique leaders with wt=4 (47%)
				24576 unique leaders with wt=5 (18%)
				17408 unique leaders with wt=6 (3%)
41.	[16,4,8]	8	8	27744 unique leaders with wt=4 (95%)
				96064 unique leaders with wt=5 (69%)
				108416 unique leaders with wt=6 (21%)
				30720 unique leaders with wt=7 (2%)
				1024 unique leaders with wt=8 (0,03%)
42.	[16,4,6]	6	10	4160 unique leaders with wt=3 (93%)
				21760 unique leaders with wt=4 (75%)
				64512 unique leaders with wt=5 (46%)
				82944 unique leaders with wt=6 (16%)

Table 3. Ternary cyclic codes. (Continued)

No	[n,k,d]	$\nu(C)$	$r(C)$	Unique leaders
43.	[16,4,4]	8	8	432 unique leaders with wt=2 (90%)
				3200 unique leaders with wt=3 (71%)
				14176 unique leaders with wt=4 (49%)
				38400 unique leaders with wt=5 (27%)
				62208 unique leaders with wt=6 (12%)
				55296 unique leaders with wt=7 (4%)
				20736 unique leaders with wt=8 (1%)
44.	[16,3,10]	8	10	135744 unique leaders with wt=5 (97%)
				388928 unique leaders with wt=6 (76%)
				394240 unique leaders with wt=7 (27%)
				38400 unique leaders with wt=8 (1%)
45.	[16,3,8]	8	10	28296 unique leaders with wt=4 (97%)
				117504 unique leaders with wt=5 (84%)
				282752 unique leaders with wt=6 (55%)
				304128 unique leaders with wt=7 (21%)
				165888 unique leaders with wt=8 (5%)
46.	[16,2,12]	9	10	505120 unique leaders with wt=6 (99%)
				1223744 unique leaders with wt=7 (84%)
				1373184 unique leaders with wt=8 (42%)
				165888 unique leaders with wt=9 (3%)
47.	[16,2,8]	8	10	28840 unique leaders with wt=4 (99%)
				131712 unique leaders with wt=5 (94%)
				420224 unique leaders with wt=6 (82%)
				878080 unique leaders with wt=7 (60%)
				960400 unique leaders with wt=8 (29%)
48.	[20,15,4]	2	2	20 unique leaders with wt=2 (3%)
49.	[20,14,4]	2	4	260 unique leaders with wt=2 (34%)
50.	[20,14,4]	2	3	200 unique leaders with wt=2 (26%)
51.	[20,13,4]	2	5	380 unique leaders with wt=2 (50%)
52.	[20,13,4]	2	5	200 unique leaders with wt=2 (26%)
53.	[20,13,4]	2	4	380 unique leaders with wt=2 (50%)
54.	[20,12,4]	2	6	380 unique leaders with wt=2 (50%)
55.	[20,12,4]	3	5	580 unique leaders with wt=2 (76%)
				720 unique leaders with wt=3 (8%)
56.	[20,12,4]	3	4	700 unique leaders with wt=2 (92%)
				2720 unique leaders with wt=3 (30%)
57.	[20,11,5]	4	5	5760 unique leaders with wt=3 (63%)
				1280 unique leaders with wt=4 (2%)
58.	[20,11,4]	2	6	380 unique leaders with wt=2 (50%)
59.	[20,11,4]	4	5	700 unique leaders with wt=2 (92%)
				4640 unique leaders with wt=3 (51%)
				320 unique leaders with wt=4 (0,4%)

Table 3. Ternary cyclic codes. (Continued)

No	[n,k,d]	$\nu(C)$	$r(C)$	Unique leaders
60.	[20,10,6]	5	6	7520 unique leaders with wt=3 (82%)
				15450 unique leaders with wt=4 (20%)
				200 unique leaders with wt=5 (0,04%)
61.	[20,10,4]	4	6	700 unique leaders with wt=2 (92%)
				6240 unique leaders with wt=3 (68%)
				14680 unique leaders with wt=4 (19%)
62.	[20,10,4]	4	6	580 unique leaders with wt=2 (76%)
				3600 unique leaders with wt=3 (39%)
				8100 unique leaders with wt=4 (10%)
63.	[20,9,6]	5	7	8320 unique leaders with wt=3 (91%)
				42510 unique leaders with wt=4 (55%)
				12408 unique leaders with wt=5 (3%)
64.	[20,9,4]	2	10	380 unique leaders with wt=2 (50%)
65.	[20,9,4]	4	7	580 unique leaders with wt=2 (76%)
				3600 unique leaders with wt=3 (39%)
				8100 unique leaders with wt=4 (10%)
66.	[20,9,4]	5	6	700 unique leaders with wt=2 (92%)
				7040 unique leaders with wt=3 (77%)
				40120 unique leaders with wt=4 (52%)
				20400 unique leaders with wt=5 (4%)
67.	[20,8,8]	6	7	70910 unique leaders with wt=4 (91%)
				171288 unique leaders with wt=5 (35%)
				3400 unique leaders with wt=6 (0,1%)
68.	[20,8,5]	6	7	8800 unique leaders with wt=3 (96%)
				61820 unique leaders with wt=4 (80%)
				146560 unique leaders with wt=5 (30%)
				5760 unique leaders with wt=6 (0,2%)
69.	[20,8,4]	4	10	580 unique leaders with wt=2 (76%)
				3600 unique leaders with wt=3 (39%)
				8100 unique leaders with wt=4 (10%)
70.	[20,8,4]	6	7	700 unique leaders with wt=2 (92%)
				6720 unique leaders with wt=3 (74%)
				36480 unique leaders with wt=4 (47%)
				96240 unique leaders with wt=5 (19%)
				52560 unique leaders with wt=6 (2%)
71.	[20,7,8]	6	8	73500 unique leaders with wt=4 (95%)
				324720 unique leaders with wt=5 (65%)
				397920 unique leaders with wt=6 (16%)
72.	[20,7,8]	7	8	73350 unique leaders with wt=4 (95%)
				310080 unique leaders with wt=5 (63%)
				379080 unique leaders with wt=6 (15%)
				2880 unique leaders with wt=7 (0,03%)

Table 3. Ternary cyclic codes. (Continued)

No	[n,k,d]	$\nu(C)$	$r(C)$	Unique leaders
73.	[20,7,6]	7	8	8960 unique leaders with wt=3 (98%)
				70984 unique leaders with wt=4 (92%)
				332836 unique leaders with wt=5 (67%)
				368220 unique leaders with wt=6 (15%)
				1486 unique leaders with wt=7 (0%)
74.	[20,6,10]	7	10	474960 unique leaders with wt=5 (96%)
				1504160 unique leaders with wt=6 (61%)
				445280 unique leaders with wt=7 (4%)
75.	[20,6,8]	8	10	73500 unique leaders with wt=4 (95%)
				334080 unique leaders with wt=5 (67%)
				695040 unique leaders with wt=6 (28%)
				460800 unique leaders with wt=7 (5%)
				46080 unique leaders with wt=8 (0,1%)
76.	[20,6,8]	7	9	76150 unique leaders with wt=4 (98%)
				439840 unique leaders with wt=5 (89%)
				1379080 unique leaders with wt=6 (56%)
				497040 unique leaders with wt=7 (5%)
77.	[20,6,4]	8	10	700 unique leaders with wt=2 (92%)
				7040 unique leaders with wt=3 (77%)
				44960 unique leaders with wt=4 (58%)
				188160 unique leaders with wt=5 (38%)
				452480 unique leaders with wt=6 (18%)
				450560 unique leaders with wt=7 (5%)
				225280 unique leaders with wt=8 (0,7%)
78.	[20,5,11]	8	10	2297880 unique leaders with wt=6 (93%)
				4893600 unique leaders with wt=7 (49%)
				355320 unique leaders with wt=8 (1%)
79.	[20,5,8]	9	10	76150 unique leaders with wt=4 (98%)
				445088 unique leaders with wt=5 (90%)
				1632320 unique leaders with wt=6 (66%)
				2737280 unique leaders with wt=7 (28%)
				1853440 unique leaders with wt=8 (6%)
				358400 unique leaders with wt=9 (0,4%)
80.	[20,5,4]	10	10	700 unique leaders with wt=2 (92%)
				7040 unique leaders with wt=3 (77%)
				44960 unique leaders with wt=4 (58%)
				190208 unique leaders with wt=5 (38%)
				539520 unique leaders with wt=6 (22%)
				1013760 unique leaders with wt=7 (10%)
				1209600 unique leaders with wt=8 (4%)
				829440 unique leaders with wt=9 (1%)
				248832 unique leaders with wt=10 (0,1%)

Table 3. Ternary cyclic codes. (Continued)

No	[n,k,d]	$\nu(C)$	$r(C)$	Unique leaders
81.	[20,4,12]	10	12	2425440 unique leaders with wt=6 (98%)
				7806720 unique leaders with wt=7 (79%)
				10851840 unique leaders with wt=8 (34%)
				3409920 unique leaders with wt=9 (4%)
				368640 unique leaders with wt=10 (0,2%)
82.	[20,4,8]	10	11	76150 unique leaders with wt=4 (98%)
				449408 unique leaders with wt=5 (91%)
				1810240 unique leaders with wt=6 (73%)
				4602880 unique leaders with wt=7 (46%)
				6912000 unique leaders with wt=8 (21%)
				6635520 unique leaders with wt=9 (8%)
				2737152 unique leaders with wt=10 (1%)
83.	[20,4,5]	8	12	8800 unique leaders with wt=3 (96%)
				67600 unique leaders with wt=4 (87%)
				352000 unique leaders with wt=5 (71%)
				1216000 unique leaders with wt=6 (49%)
				2560000 unique leaders with wt=7 (26%)
				2560000 unique leaders with wt=8 (8%)
84.	[20,3,10]	10	12	493120 unique leaders with wt=5 (99%)
				2368200 unique leaders with wt=6 (95%)
				8299000 unique leaders with wt=7 (84%)
				19658000 unique leaders with wt=8 (61%)
				27600000 unique leaders with wt=9 (32%)
				18240000 unique leaders with wt=10 (10%)
85.	[20,2,10]	12	12	495120 unique leaders with wt=5 (99,8%)
				2442000 unique leaders with wt=6 (98%)
				9340800 unique leaders with wt=7 (94%)
				27316800 unique leaders with wt=8 (85%)
				58867200 unique leaders with wt=9 (68%)
				85377600 unique leaders with wt=10 (45%)
				63504000 unique leaders with wt=11 (18%)
				17640000 unique leaders with wt=12 (3%)
86.	[22,16,4]	2	2	30 unique leaders with wt=2 (3%)
87.	[22,15,4]	2	5	342 unique leaders with wt=2 (37%)
88.	[22,12,7]	4	5	2236 unique leaders with wt=4 (2%)
89.	[22,12,5]	4	4	2400 unique leaders with wt=3 (19%)
				1600 unique leaders with wt=4 (1%)
90.	[22,11,7]	5	7	39342 unique leaders with wt=4 (34%)
				814 unique leaders with wt=5 (0,1%)
91.	[22,11,6]	4	5	5680 unique leaders with wt=3 (46%)
				24800 unique leaders with wt=4 (21%)
92.	[22,11,4]	2	7	110 unique leaders with wt=2 (12%)
93.	[22,10,9]	5	8	83300 unique leaders with wt=5 (10%)

Table 3. Ternary cyclic codes. (Continued)

No	[n,k,d]	$\nu(C)$	$r(C)$	Unique leaders
94.	[22,10,6]	4	10	9280 unique leaders with wt=3 (75%)
				46000 unique leaders with wt=4 (39%)
95.	[22,10,4]	2	11	462 unique leaders with wt=2 (50%)
96.	[22,7,10]	7	8	195072 unique leaders with wt=5 (23%)
				721670 unique leaders with wt=6 (15%)
				574388 unique leaders with wt=7 (3%)
97.	[22,6,12]	8	9	1291758 unique leaders with wt=6 (27%)
				3773772 unique leaders with wt=7 (17%)
				948530 unique leaders with wt=8 (1%)
98.	[22,6,10]	9	11	724164 unique leaders with wt=5 (86%)
				2911488 unique leaders with wt=6 (61%)
				5236720 unique leaders with wt=7 (24%)
				3338880 unique leaders with wt=8 (4%)
				1028160 unique leaders with wt=9 (0,4%)
99.	[22,5,12]	10	13	3982974 unique leaders with wt=6 (83%)
				13816646 unique leaders with wt=7 (63%)
				21353860 unique leaders with wt=8 (26%)
				9812640 unique leaders with wt=9 (4%)
				2027520 unique leaders with wt=10 (0,3%)
100.	[22,2,11]	12	14	4285560 unique leaders with wt=6 (90%)
				18198240 unique leaders with wt=7 (83%)
				60732000 unique leaders with wt=8 (74%)
				156562560 unique leaders with wt=9 (62%)
				301399056 unique leaders with wt=10 (46%)
				380247840 unique leaders with wt=11 (26%)
				216090000 unique leaders with wt=12 (8%)

Table 4. Ternary Negacyclic Codes.

No	[n,k,d]	$\nu(C)$	$r(C)$	Unique leaders
1.	[6,2,3]	2	4	36 unique leaders with wt=2 (53%)
2.	[8,4,3]	2	2	64 unique leaders with wt=2 (57%)
3.	[10,6,4]	1	2	
4.	[10,4,6]	2	5	
5.	[10,2,5]	4	6	800 unique leaders with wt=3 (83%)
				1600 unique leaders with wt=4 (48%)
6.	[12,8,3]	1	2	
7.	[12,6,3]	2	4	216 unique leaders with wt=2 (82%)
8.	[12,6,3]	3	3	192 unique leaders with wt=2 (73%)
				512 unique leaders with wt=3 (29%)
9.	[12,4,3]	4	8	216 unique leaders with wt=2 (82%)
				864 unique leaders with wt=3 (49%)
				1296 unique leaders with wt=4 (16%)
10.	[12,4,6]	4	6	1304 unique leaders with wt=3 (74%)
				1800 unique leaders with wt=4 (23%)
11.	[12,2,9]	6	8	19440 unique leaders with wt=5 (77%)
				12960 unique leaders with wt=6 (22%)
12.	[14,8,5]	2	3	
13.	[14,6,6]	4	5	2352 unique leaders with wt=3 (81%)
				168 unique leaders with wt=4 (1%)
14.	[14,2,7]	8	8	15316 unique leaders with wt=4 (96%)
				52920 unique leaders with wt=5 (83%)
				113680 unique leaders with wt=6 (59%)
				117600 unique leaders with wt=7 (27%)
				44100 unique leaders with wt=8 (6%)
15.	[16,8,3]	4	4	384 unique leaders with wt=2 (80%)
				2048 unique leaders with wt=3 (46%)
				4096 unique leaders with wt=4 (14%)
16.	[18,10,3]	2	6	324 unique leaders with wt=2 (53%)
17.	[18,8,3]	4	8	540 unique leaders with wt=2 (88%)
				3888 unique leaders with wt=3 (60%)
				11664 unique leaders with wt=4 (24%)
18.	[18,6,3]	6	12	540 unique leaders with wt=2 (88%)
				4320 unique leaders with wt=3 (66%)
				19440 unique leaders with wt=4 (40%)
				46656 unique leaders with wt=5 (17%)
				46656 unique leaders with wt=6 (4%)
19.	[18,4,6]	8	12	6446 unique leaders with wt=3 (99%)
				43041 unique leaders with wt=4 (88%)
				191276 unique leaders with wt=5 (70%)
				546568 unique leaders with wt=6 (46%)
				905366 unique leaders with wt=7 (22%)
				656523 unique leaders with wt=8 (6%)

Table 4. Ternary Negacyclic Codes. (Continued)

No	[n,k,d]	$\nu(C)$	$r(C)$	Unique leaders
20.	[18,2,9]	10	12	271152 unique leaders with wt=5 (99%)
				1122912 unique leaders with wt=6 (95%)
				3435264 unique leaders with wt=7 (84%)
				7451136 unique leaders with wt=8 (67%)
				10160640 unique leaders with wt=9 (41%)
				6350400 unique leaders with wt=10 (14%)
21.	[20,16,3]	1	2	
22.	[20,14,3]	2	3	400 unique leaders with wt=2 (53%)
23.	[20,14,4]	2	3	40 unique leaders with wt=2 (5%)
24.	[20,12,5]	3	4	2240 unique leaders with wt=3 (25%)
25.	[20,12,4]	2	4	400 unique leaders with wt=2 (53%)
26.	[20,12,4]	3	4	520 unique leaders with wt=2 (68%)
				1080 unique leaders with wt=3 (12%)
27.	[20,12,3]	3	3	640 unique leaders with wt=2 (84%)
				3360 unique leaders with wt=3 (37%)
28.	[20,10,7]	4	5	20160 unique leaders with wt=4 (26%)
29.	[20,10,3]	5	5	640 unique leaders with wt=2 (84%)
				5120 unique leaders with wt=3 (56%)
				20480 unique leaders with wt=4 (26%)
				32768 unique leaders with wt=5 (7%)
30.	[20,10,6]	4	4	7200 unique leaders with wt=3 (79%)
				32400 unique leaders with wt=4 (42%)
31.	[20,8,6]	4	10	7200 unique leaders with wt=3 (79%)
				32400 unique leaders with wt=4 (42%)
32.	[20,8,6]	6	8	7640 unique leaders with wt=3 (84%)
				38480 unique leaders with wt=4 (50%)
				92768 unique leaders with wt=5 (19%)
				75000 unique leaders with wt=6 (3%)
33.	[20,8,8]	6	7	69440 unique leaders with wt=4 (90%)
				169808 unique leaders with wt=5 (34%)
				2800 unique leaders with wt=6 (0,1%)
34.	[20,8,5]	6	7	8800 unique leaders with wt=3 (96%)
				62600 unique leaders with wt=4 (81%)
				143280 unique leaders with wt=5 (29%)
				14640 unique leaders with wt=6 (1%)
35.	[20,6,9]	7	9	438048 unique leaders with wt=5 (88%)
				1215200 unique leaders with wt=6 (46%)
				852080 unique leaders with wt=7 (9%)
36.	[20,6,9]	7	8	465888 unique leaders with wt=5 (94%)
				1524960 unique leaders with wt=6 (61%)
				544800 unique leaders with wt=7 (5%)

Table 4. Ternary Negacyclic Codes. (Continued)

No	[n,k,d]	$\nu(C)$	$r(C)$	Unique leaders
37.	[20,4,5]	8	12	8800 unique leaders with wt=3 (96%)
				67600 unique leaders with wt=4 (87%)
				352000 unique leaders with wt=5 (71%)
				1216000 unique leaders with wt=6 (49%)
				2560000 unique leaders with wt=7 (26%)
				2560000 unique leaders with wt=8 (8%)
38.	[20,4,12]	9	11	2443680 unique leaders with wt=6 (99%)
				8454960 unique leaders with wt=7 (85%)
				13391440 unique leaders with wt=8 (42%)
				1844840 unique leaders with wt=9 (2%)
39.	[20,2,15]	11	13	31785000 unique leaders with wt=8 (99%)
				76217600 unique leaders with wt=9 (89%)
				111260000 unique leaders with wt=10 (59%)
				56960000 unique leaders with wt=11 (17%)
40.	[22,12,5]	3	4	515 unique leaders with wt=3 (4%)
41.	[22,10,6]	4	10	9280 unique leaders with wt=3 (75%)
				46000 unique leaders with wt=4 (39%)
42.	[22,2,11]	12	14	4285560 unique leaders with wt=6 (90%)
				18198240 unique leaders with wt=7 (83%)
				60732000 unique leaders with wt=8 (74%)
				156562560 unique leaders with wt=9 (62%)
				301399056 unique leaders with wt=10 (46%)
				380247840 unique leaders with wt=11 (26%)
				216090000 unique leaders with wt=12 (8%)