An Alternate View of Nuclear Structure: Surface Available by Baryon Count

Aran David Stubbs

This table has least surface for all cases, then for low dipole, then for zero dipole. Each cell has solution layout, max z supported by surface, 1 or more dipole calculations, and max Z supported for near zero dipole. Dipole calculation is either: dominant type plus subordinate type if axis of dipole is even in length, or dominant plus subordinate plus equator length over 2 if axis with maximum dipole is odd in length. Dipole needs to be calculated on all 7 planes (3 related to the x, y, and z axises and 4 related to the pairs of faces). Often a face plane has the largest dipole. For instance Helium 4 as a cube can be split by 13 planes passing through the origin. In 3 of these the split is 2+2 (for planes like the xy), in 6 it is 1+1 with 4 on the equator (for planes including an axis, diagonally through 4 spheres), in the other 4 (perpendicular to a line passing diagonally through 2 corners) it is 3+1:  . Odd length diagonals are never high dipole, due to reflective symmetry. In this context low dipole means the maximum z that can be supported without dipole is within 4 of the maximum z for the surface. Maximum z that can be supported assumes the diquark dominated hemi-octahedron has all its monoquarks as ups, and the monoquark dominated hemisphere has just enough charge to balance (rounding up to the nearest integer). Also see the complete solutions table, which includes many solutions beyond the least surface, some of which may match the actual nuclei (especially for medium size isotopes where 5 to 7 surface downs are reasonable). Only solutions with reflective symmetry and valid parity (monoquark count equals diquark count) are included. Many solutions have links to a Sketchup drawing of the solution. A few extra solutions that happened to be especially pretty were also added, especially for high baryon counts, where the least surface is too small for the ideal z.

A standard naming convention based on simple descriptions of the solutions is used: E for eccentric (relative to a 2x2x2 core is not otherwise stated, O for a 1x1x1 core, and Q for a 4x4x4 core), S for standard skew (3x3 – 2 spheres), T for thin skew (2x3 – 2 spheres), H for half-fat skew (3x4 – 2 spheres), F for fat skew (4x4 – 2 spheres), and D for Diagonal. Some hybrid types (combining eccentric and 1of the other types) are also given. From the base solution, there are derivatives adding or subtracting spheres (s), hexagons (h), or triangles (t), with a count of items added preceding the letter and a size for triangles and hexagons following. T2 is 3 spheres, t3 is 6, h2 is 7 spheres, h3 12, etc.. In some cases an intermediate form is added (t4-2s, for example). Many structures can be extended without increasing the surface; the extended form has an x suffix. L designates layer: how many times the solutions can have its entire surface removed until there is nothing left. See complete table for more details on solution naming convention. In many cases multiple additions and/or subtractions occur. 2 miscellaneous forms that are not body centered cubic structures (for baryon count 3 and 5) are also included.

Following each solution description is a dipole calculation. This gives the count of the 2 types for each hemisphere along the axis with the most dipole, with an equatorial count over 2 for cases with odd axis length, and a maximum z without dipole that results. Example: baryon count 125, solution DE-1L5 (an eccentric diagonal solution) has formula 55:48+7;42 (++ axis). There are 55 surface monoquarks; each hemisphere has 55 spheres (no equator). In the diquark dominated hemisphere 48 diquarks and 7 monoquarks have a maximum charge of 62/3, so the maximum z is 42, calculated on the diagonal axis protruding into the ++ octant. This requires 13 surface downs, so is not a low dipole solution. In cases with an equator, the charges on the 2 hemispheres add to the equatorial charge. Some cells also have a bond count calculation. Since a bond connects a pair of spheres, the bond count is half the sum of the bonds projecting from each sphere. Interior spheres each have 6 bonds, surface have from 1 to 5 each. In cases where 2 solutions have about the same surface, and dipole is not an issue, the solution with the most bonds is preferred. For the small nuclei, where all bond counts have been calculated, the highest bond count solution is highlighted in yellow.

A	Overall Least Surface	Low Dipole Least Surface	Zero Dipole Least Surface
1	E-1-1L1 Dipole 1:1+0;1 Bond (2@1)/2=1	E-1-1L1 Dipole 1:1+0;1 Bond (2@1)/2=1	
2	Tetrahedron Dipole 2:1+1;2 Bond (4@2)/2=4 E+0-1L1 Dipole 2:1+1;2 Bond (4@2)/2=4 Or E+0+3oL1 Dipole 2:0+4/2;2 Bond (2@2+2@1)/2=3	Tetrahedron Dipole 2:1+1;2 Bond (4@2)/2=4 E+0-1L1 Dipole 2:1+1;2 Bond (4@2)/2=4	E+0-1L1 Dipole 2:1+1;2 Bond (4@2)/2=4
3	Octahedron Dipole 3:2+1;3 Bond (6@2)/2=6 Misc3 Dipole 3:1+0+4/2;3 Bond (4@3+2@2)/2=8 Or E-1+1L1 Dipole 3:2+1;3 Bond (2@3+4@2)/2=7 Or E+0+5oL1 Dipole 3:2+1;3 Bond (4@2+2@1)/2=5 Or D-1L1 Dipole 3:3+0;2 Bond (6@2)/2=6 Or DE-1L1 Dipole 3:3+0;2 Bond (2@3+4@1)/2=5	Misc3 Dipole 3:1+0+4/2;3 Bond (4@3+2@2)/2=8 Or E-1+1L1 Dipole 3:2+1;3 Bond (2@3+4@2)/2=7 Or E+0+5oL1 Dipole 3:2+1;3 Bond (4@2+2@1)/2=5	
4	T001L1 Dipole 4:2+2;4 Bond (4@3+4@2)/2=10 Or S000L1 Dipole 4:3+1;4 Bond (8@3)/2=12 Or E-1+2L1 Dipole 4:2+1+2/2;4 Bond (4@3+4@2)/4=10	T001L1 Dipole 4:2+2;4 Bond (4@3+4@2)/2=10 Or S000L1 Dipole 4:3+1;4 Bond (8@3)/2=12 Or E-1+2L1 Dipole 4:2+1+2/2;4 Bond (4@3+4@2)/4=10	T001L1 Dipole 4:2+2;4 Bond (4@3+4@2)/2=10
5	Misc5 Dipole 5:4+1;4 Bond (2@5+8@3)/2=17 Or S000L1+2s Dipole 5:4+1;4 Bond (2@4+6@3+2@1)/2=14 Or E-1-1L2-2s Dipole 5:4+1;4 Bond (2@5+8@2)/2=13	Misc5 Dipole 5:4+1;4 Bond (2@5+8@3)/2=17 Or S000L1+2s Dipole 5:4+1;4 Bond (2@4+6@3+2@1)/2=14 Or E-1-1L2-2s Dipole 5:4+1;4 Bond (2@5+8@2)/2=13	
6	E-1-1L2 Dipole 5:5+0;3 Bond (2@6+8@2+2@1)/2=15	E-1-1L2 Dipole 5:5+0;3 Bond (2@6+8@2+2@2)/2=15	E+0+1L1 Dipole 6:3+3;6 Bond (4@4+8@3)/2=20

A	Overall Least Surface	Low Dipole Least Surface	Zero Dipole Least Surface
7	E-1-1L2+2s (DS011L2) Dipole 6:5+1;5 Bond (2@6+2@3+10@2)/2=19 Or D1L2 (S000L1+2t2) Dipole 6:6+0;4 Bond (2@6+6@3+6@1)/2=18	E-1-1L2+2s (DS011L2) Dipole 6:5+1;5 Bond (2@6+2@3 +10@2)/2=19 Pretty: S001L1 Dipole 7:4+3;7 Bond (2@5+12@3)/2=23	
8	S001xL1 Dipole 7:5+2;6 Bond (2@6+12@3+2@1)/2=25	S001xL1 Dipole 7:5+2;6 Bond (2@6+12@3+2@1)/2=25 Pretty E+0+2L1 Dipole 8:5+3;8 Bond (8@4+8@3)/2=28	E+0-1L2-4s (E+0+1L1+4s) Dipole 8:4+4;8 Bond (4@4+8@3+4@2)/2=24
9	S001xL1+2s Dipole 8:5+3;8 Bond (2@6+6@4+8@3 +2@1)/2=31	S001xL1+2s Dipole 8:5+3;8 Bond (2@6+6@4+8@3 +2@1)/2=31 Pretty: E+1+1L1 Dipole Bond (2@5+8@4+8@3)/2=33	
10	E+0-1L2 Dipole 8:4+4;8 Bond (4@6+8@3+8@2)/2=32 Or S000L1+4t2 Dipole 8:8+0;6 Bond (4@6+4@3 +8@2+4@1)/2=28	E+0-1L2 Dipole 8:4+4;8 Bond (4@6+8@3+8@2)/2=32	E+0-1L2 Dipole 8:4+4;8 Bond (4@6+8@3+8@2)/2=32
11	E+0+3oL2 Dipole 9:5+4;9 Bond (4@6+8@3 +8@2+2@1)/2=33 Or S001xL1+2t2 Dipole 9:5+1+6/2;8 Bond (4@6+2@4+8@3 +6@2+2@1)/2=35	E+0+3oL2 Dipole 9:5+4;9 Bond (4@6+8@3 +8@2+2@1)/2=33 Pretty: DC1L2 Dipole 10:7+3;9 Bond (2@6+20@3)/2=36	
12	E+0-1L2+4s Dipole 10:5+5;10 Bond (4@6+16@3+4@2)/2=40 Or D-1L3-2s Dipole 10:6+4;10 Bond (4@6+2@5+6@3 +8@2+4@1)/2=36 Or DE-1L2-2s Or S002xL1 Dipole 10:8+2;8	E+0-1L2+4s Dipole 10:5+5;10 Bond (4@6+16@3+4@2)/2=40 Pretty: S011L2 Dipole 11:7+4;10 Bond (2@6+4@5+18@3)/2=38	E+0-1L2+4s Dipole 10:5+5,10
13	D-1L2 (S000L2-2t2) Dipole 10:7+3;9 Bond (6@6+8@3+12@2)/2=42 Or DE-1L2 (E-1-1L3-2t3) Dipole 10:9+1;8 Bond (6@6+8@3 +8@2+4@1)/2=40	D-1L2 (S000L2-2t2) Dipole 10:7+3;9 Bond (6@6+8@3+12@2)/2=42 Pretty: E+0+0tL2-1s Dipole 25/2;9+7/2;6 Bond: (1@6+6@5+9@4 +10@3)/2=51 Bad Symmetry	

A	Overall Least Surface	Low Dipole Least Surface	Zero Dipole Least Surface
14	S011xL2 Dipole 11:5+2+8/2;10 Bond (6@6+18@3+4@1)/2=47 Or D-1L3+2s 11:7+4;10 Or E-1+1L2 11:8+3;10 Or DE-1L2+2s 11:9+2;9 ++ axis Or S003xL1-4s (S001xL1+4t2) 11:11+0;8	S011xL2 Dipole 11:5+2+8/2;10 Bond (6@6+18@3 +4@1)/2=47 Or D-1L3+2s 11:7+4;10	E+1+2xL1 Or E+0-1L2+8s 12:6+6;12
15	S011xL2+2s 12:5+3+8/2;12 Or D-1L3+4s (S000L2-2s) 12:7+5;12 S002xL1+2t2 12:6+2+8/4;11 Or DE-1L2+4s 12:9+3;10 ++ or z-axis	S011xL2+2s 12:5+3+8/2;12 Or D-1L3+4s (S000L2-2s) 12:7+5;12	
16	E+0-1L2+4t2 (T001L2) Dipole 12:6+6;12 Bond (8@6+16@3 +8@2)/2=56 Or S000L2 Dipole 12:6+6;12 Bond (8@6+24@3)/2=60 Or DE-1L2+2t2 (E-1-1L3-6s stripe) 12:10+2;10 z-axis	E+0-1L2+4t2 (T001L2) Dipole 12:6+6;12 Bond (8@6+16@3 +8@2)/2=56 Or S000L2 Dipole 12:6+6;12 Bond (8@6+24@3)/2=60	E+0-1L2+4t2 (T001L2) Dipole 12:6+6;12 Bond (8@6+16@3 +8@2)/2=56 Or S000L2 Dipole 12:6+6;12 Bond (8@6+24@3)/2=60
17	S000L2+2s Or DT1L2 13:7+6;13 Or S011xL2+2t2 13:5+4+8/2;13 Or E-1-1L3-2V 13:11+2;10	S000L2+2s Or DT1L2 13:7+6;13 Or S011xL2+2t2 13:5+4+8/2;13	
18	E-1-1L3-2s 13:12+1;9	E-1-1L3-2s 13:12+1;9	E-1+2L2 14:7+7;14 Or T001L2+4s 14:7+7;14
19	E-1-1L3 Dipole 13:13+0;9 Bond (12@6+8@3 +16@2+2@1)/2=65	E-1-1L3 Dipole 13:13+0;9 Bond (12@6+8@3 +16@2+2@1)/2=65 Pretty: S000L2+2t2 Dipole 14:9+5;13 Bond (10@6+2@4+20@3 +4@2+2@1)/2=69	
20	E-1-1L3+2s 14:13+1;10	E-1-1L3+2s 14:13+1;10	E+0+1L2-4s (T001L2+8s) 16:8+8;16
21	E-1-1L3+2t2-2s 15:11+4;13	E-1-1L3+2t2-2s 15:11+4;13	

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22	DS001L3 (S000L2+2t3 Or S111xL2-2s) Or E-1-1L3+2t2 (DS011L3) 15:12+3;12	DS001L3 (S000L2+2t3 Or S111xL2-2s) Or E-1-1L3+2t2 (DS011L3) 15:12+3;12	E+0+1L2 16:8+8;16
23	S111xL2 Or E-1-1L3+2t2+2s 16:12+4;14 Or D1L3 16:13+3;13	S111xL2 Or E-1-1L3+2t2+2s 16:12+4;14	
24	S001L2 (E-1-1L3+4t2-2s) Dipole 17:11+6;16 (++ axis) Bond (14@6+2@5 +32@3)/2=95 Or (S111xL2+2s Or E-1-1L3+2t2+4s) 17:12+5;15 Or D1L3+2s 17:13+4;14	S001L2 (E-1-1L3+4t2-2s) Dipole 17:11+6;16 (++ axis) Bond (14@6+2@5 +32@3)/2=95	E+0-1L3-8s Dipole 18:9+9;18 Bond (12@6+8@4+24@3 +4@2)/2=97
25	S001xL2 (E-1-1L3+4t2) 17:12+5;15 (++ axis)	S001xL2 (E-1-1L3+4t2) 17:12+5;15 (++ axis)	
26	E+0-1L3-2V 18:9+9;18 Or S001xL2+2s 18:11+7;17 Or S111xL2+2t2 18:12+6;16 Or DSCSxL2 18:15+3;14	E+0-1L3-2V 18:9+9;18	E+0-1L3-4s 18:9+9;18
27	E+2+3oxL2 Or S001xL2+4s 19:11+8;18	E+2+3oxL2 Or S001xL2+4s 19:11+8;18	
28	E+0-1L3 Dipole 18:9+9;18 Bond (20@6+24@3 +12@2)/2=108	E+0-1L3 Dipole 18:9+9;18 Bond (10@6+24@3 +12@2)/2=108	E+0-1L3 Dipole 18:9+9;18 Bond (10@6+24@3 +12@2)/2=108
29	S111L2+2t3 19:18+1;14	S111L2+4t2 20:11+9;20	
30	E+0-1L3+4s 20:10+10;20 Or (S001L2+2t3 Or S001xL2+2t3-2s) 20:16+4;16	E+0-1L3+4s 20:10+10;20	E+0-1L3+4s 20:10+10;20
31	S001xL2+2t3 (S002xL2-6s) 20:17+3;16	S001xL2+2t3 (S002xL2-6s) 20:17+3;16	
32	E+0+3oL3 21:13+8;20 Or DE-1L3-4s 21:14+7;19 Or D-1L3-4s 21:16+5;18 Or S112xL2 21:17+4;17	E+0+3oL3 21:13+8;20	E+0-1QxL2 (E+0-1L2+8s) 22:11+11;22

A	Overall Least Surface	Low Dipole Least Surface	Zero Dipole Least Surface
33	E-1-1L4-2t4-2s (DE-1L3-2s) 21:15+6;18 Or D-1L3-2s 21:17+4;17	E-1-1L4-2t4-2s (DE-1L3-2s) 21:17+4;17 (++ axis)	
34	E-1-1L4-2t4 (DE-1L3) 21:16+5;18 (++ axis) Or S000L3-2t3 (D-1L3) 21:18+3;16 (++ axis)	E-1-1L4-2t4 (DE-1L3) 21:16+5;18 (++ axis)	E+0-1L3+4t2 22:11+11;22
35	DE-1L3+2s 22:16+6;19 (++ axis) Or D-1L3+2s 22:18+4;18	Pretty: S011L3 23:14+9;22 DE-1L3+2s 22:16+6;19 (++ axis)	
36	S011L3+2s 23:14+9;22 (++ axis) Or DE-1L3+4s 23:17+6;20 ++ or z-axis Or D-1L3+4s 23:18+5;19	S011L3+2s 23:14+9;22 (++ axis)	E+0-1L3+4t2+4s 24:12+12;24
37	S011xL3 23:15+8;21 (++ axis) Or D-1L3+2t2 (S000L3-6s stripe) 23:17+6;20 Or E-1+1L3 23:18+5;19 Or DE-1L3+2t2 23:18+5;20 z-axis	S011xL3 23:15+8;21 (++ axis)	
38	E+0-1L3+(4t3-4s) 24:12+12;24 Or S000L3-4s Or S011xL3+2s 24:15+9;22 Or E-1+1L3+2s 24:18+6;20 Or DE-1L3+2t2+2s 24:19+5;20	E+0-1L3+(4t3-4s) 24:12+12;24	E+0-1L3+(4t3-4s) 24:12+12;24
39	S000L3-2s 24:16+8:22 Or DE-1L3+2t3-2s 24:20+4;19	S000L3-2s 24:16+8:22	
40	S000L3 Dipole 24:15+9;22 Bond (32@6+48@3)/2=168 Or E+0-1L3+4t3 (T001L3) Dipole 24:13+7+8/2;22 Bond (32@6+40@3 +8@2)/2=164 Or DE-1L3+2t3 (E-1-1L4-8s stripe) 24:21+3;18	S000L3 Dipole 24:15+9;22 Bond (32@6+48@3)/2=168 Or E+0-1L3+4t3 (T001L3) Dipole 24:13+7+8/2;22 Bond (32@6+40@3 +8@2)/2=164	E+0-1L3+4t3 (T001L3) Dipole 24:13+7+8/2;22 Bond (32@6+40@3 +8@2)/2=164
41	S000L3+2s 25:16+9;22 Or E-1-1L4-4V 25:22+3;19	S000L3+2s 25:16+9;22	

A	Overall Least Surface	Low Dipole Least Surface	Zero Dipole Least Surface
42	E-1-1L4-2V 25:23+2;18	T001L3+4s 26:13+10+6/2;25	T001L3+4s 26:13+13;26
43	E-1-1L4-2s 25:24+1;18	DT1L3 26:14+12;26	
44	E-1-1L4 Dipole 25:25+0;17 Bond (38@6+24@3 +24@2+2@1)/2=175	Pretty: S000L3+8s Dipole 28:17+11;26 Bond (32@6+24@4 +32@3)/2=192 DT1L3+2s 27:15+12;26	T001L3+8s Or E-1+2L3-4s 28:14+14
45	E-1-1L4+2s 26:25+1;18	DT1L3+4s (equator) 27:17+10;25	
46	S000L3+2t3 27:21+6;22 Or E-1-1L4+2t2-2s 27:24+3;20 Or E-1-1L4+4s 27:25+2;20	E-1+2L3 28:14+14;28	E-1+2L3 Or T001L3+4t2 28:14+14;28
47	E-1-1L4+2t2 27:24+3;20	S000L3+2t3+2s 28:21+7;24	
48	E-1-1L4+(2t3-2s)-2s 28:22+6;23 Or DS001L4-4s Or DS011L4-4s 28:23+5;22 Or E-1-1L4+2t2+2s 28:24+4;22	S000L3+2t3+4s 29:21+8;25	E+0+1L3-8s 30:15+15;30
49	DS001L4-2s Or DS011L4-2s 28:24+4;22	S000L3+2t3+2t2 29:21+8;25	
50	DS001L4 (S000L3+2t4 or S111xL3-2t2) Or DS011L4 (E+0-1L4-4t4 or E-1-1L4+2t3 or S001xL3-2t3) 28:25+3;21	E+0+1L3-4s 30:15+15;30	E+0+1L3-4s 30:15+15;30
51	DS001L4+2s Or DS011L4+2s 29:25+4;22	S111L3+2s 30:22+8;26	
52	E+0+1L3 (T001L3+4t3) 30:15+15;30 Or S111L3+4s 30:23+7;25 Or E-1-1L4+2t3+2t2-2s 30:21+9;27 Or DS011L4+4s 30:25+5;24	E+0+1L3 (T001L3+4t3) 30:15+15;30	E+0+1L3 (T001L3+4t3) 30:15+15;30
53	E-1-1L4+2t3+2t2 30:22+8;26 Or S111xL3 30:24+6;24 Or D1L4 30:27+3;22	E-1-1L4+2t3+2t2 30:22+8;26	

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54	S001L3-2s (E-1-1L4+4t3-4s) 31:17+14;30 Or S111xL3+2s 31:24+7;26 Or D1L4+2s 31:27+4;24	S001L3-2s (E-1-1L4+4t3-4s) 31:17+14;30	E+0-1L4-12s 32:16+16;32
55	S001L3 (E-1-1L4+4t3-2s) 31:18+13;30	S001L3 (E-1-1L4+4t3-2s) 31:18+13;30	
56	S001xL3 (E-1-1L4+4t3) Dipole 31:19+12;29 Bond (50@6+60@3 +2@1)/2=241	S001xL3 (E-1-1L4+4t3) Dipole 31:19+12;29 Bond (50@6+60@3 +2@1)/2=241	E+0-1L4-8s Dipole 32:16+16;32 Bond (48@6+8@4+48@3 +8@2)/2=240
57	S001xL3+2s 32:19+13;30	S001xL3+2s 32:19+13;30	
58	E+0-1L4-2V 32:16+16;32	E+0-1L4-2V 32:16+16;32	E+0-1L4-4s 32:16+16;32
59	S001xL3+2t2 33:18+15;32	S001xL3+2t2 33:18+15;32	
60	E+0-1L4 (T001L3+4t4) Dipole 32:16+16;32 Bond (56@6+48@3 +16@2)/2=256	E+0-1L4 (T001L3+4t4) Dipole 32:16+16;32 Bond (48@6+48@3 +16@2)/2=256	E+0-1L4 (T001L3+4t4) Dipole 32:16+16;32 Bond (48@6+48@3 +16@2)/2=256
61	S001xL3+2t3-2s 34:17+10+14/2;32	S001xL3+2t3-2s 34:17+10+14/2;32	
62	E+0-1L4+4s 34:17+17;34 Or S001xL3+2t3 34:18+9+14/2;31	E+0-1L4+4s 34:17+17;34	E+0-1L4+4s 34:17+17;34
63	S001xL3+2t3+2s 35:18+10+14/2;33 Or S001xL3+2h2 35:19+9+14/2;32 Or S001L3+2t4-4s 35:20+8+14/2;31	S001xL3+2t3+2s 35:18+10+14/2;33	
64	S001xL3+2t4-4s 35:20+8+14/2;31 Or S001L3+2t4-2s 35:21+7+14/2;31	S001xL3+2t4-4s 35:20+8+14/2;31	E+0-1L4+8s 36:18+18;36
65	S001xL3+2t4-2s 35:21+7+14/2;31 Or S001L3+2t4 35:22+6+14/2;30	S001xL3+2t4-2s 35:21+7+14/2;31	
66	S001xL3+2t4 35:22+6+14/2;30	E+0-1L4+4t2 36:18+18;36	E+0-1L4+4t2 36:18+18;36
67	D-1L4-6s 36:24+12;32 Or S001xL3+2t4+2s 36:22+7+14/2;31 Or DE-1L4-6s 36:26+10;31	D-1L4-6s 36:24+12;32	

A	Overall Least Surface	Low Dipole Least Surface	Zero Dipole Least Surface
68	D-1L4-4s 36:25+11;32 Or DE-1L4-4s 36:27+9;30	D-1L4-4s 36:25+11;32	E+0-1L4+4t2+4s 38:19+19;38
69	D-1L4-2s 36:26+10;31 Or DE-1L4-2s 36:28+8;30	E+0+3oL4 37:25+12;33	
70	D-1L4 (S000L4-2t4) 36:27+9;30 (++ axis) Or E-1-1L5-2t5 (DE-1L4) 36:29+7;29 (++ axis)	E+0-1L4+4t3-4s 38:19+19;38	E+0-1L4+4t3-4s 38:19+19;38
71	D-1L4+2s 37:27+10;32 Or DE-1L4+2s 37:29+8;30 (++ axis)	S002L3+2s 38:25+13;34	
72	E+0-1L4+4t3 38:19+19;38 Or (S002xL3 Or D-1L4+2t2-2s) 38:26+12;34 Or D-1L4+4s 38:27+11;33 Or DE-1L4+2t2-2s 38:28+10;32 z or ++ axis Or DE-1L4+4s 38:29+9;32 ++ axis	E+0-1L4+4t3 38:19+19;38	E+0-1L4+4t3 38:19+19;38
73	D-1L4+2t2 38:26+12;34 Or DE-1L4+2t2 38:29+9;32 z-axis	D-1L4+2t2 38:26+12;34	
74	S011L4 Or D-1L4+2t2+2s 39:26+13;35 Or DE-1L4+2t2+2s 39:30+9;32 z-axis	S011L4 Or D-1L4+2t2+2s 39:26+13;35	E+0-1L4+4t3+4s Or E+0-1L4+4h2 40:20+20;40
75	D-1L4+2t3-2s 39:25+14;36 Or S011L4+2s 39:27+12;34 Or DE-1L4+2t3-2s 39:31+8;32	D-1L4+2t3-2s 39:25+14;36	
76	D-1L4+2t3 (S000L4-8s stripe) 39:24+15;36 Or S011xL4 39:28+11;34 (++ axis) Or DE-1L4+2t3 39:32+7;32 Or E-1+1L4 39:32+7;31	D-1L4+2t3 39:24+15;36	T001L4-8s 40:20+20;40

A	Overall Least Surface	Low Dipole Least Surface	Zero Dipole Least Surface
77	S000L4-6s 40:22+18;39 Or S011xL4+2s 40:19+13+16/2;38 Or DE-1L4+2t3+2s Or DE-1L4+2h2 40:33+7;32 Or E-1+1L4+2s 40:32+8;32	S000L4-6s 40:22+18;39	
78	T001L4-4s 40:20+20;40 Or S000L4-4s 40:21+19;40 Or DE-1L4+2t4-4s 40:34+6;31	T001L4-4s 40:20+20;40	Pretty: E+0-1L4+4t3+4t2 42:21+21;42 Or T001L4-4s 40:20+20;40
79	S000L4-2s 40:22+18;39 Or DE-1L4+2t4-2s 40:35+5;30	S000L4-2s 40:22+18;39	
80	E+0-1L4+4t4 (T001L4) Dipole 40:20+20;40 Bond (80@6+72@3 +8@2)/2=356 Or S000L4 Dipole 40:21+19;40 Bond (80@6+80@3)/2=360 Or DE-1L4+2t4 (E-1-1L5-10s stripe) 40:36+4;30	Pretty: S000L4 Dipole 40:21+19;40 Bond (80@6+80@3)/2=360 Or E+0-1L4+4t4 (T001L4) Dipole 40:20+20;40 Bond (80@6+72@3 +8@2)/2=356	E+0-1L4+4t4 (T001L4) Dipole 40:20+20;40 Bond (80@6+72@3 +8@2)/2=356
81	S000L4+2s 41:22+19;40 Or E-1-1L5-4V 41:37+4;30	S000L4+2s 41:22+19;40	
82	E-1-1L5-2V-2s 41:38+3;30	E+0-1L4+4t4+4s (T001L4+4s) 42:21+21;42	T001L4+4s 42:21+21;42
83	E-1-1L5-2V 41:39+2;29	S000L4+2t2 42:24+18;40	
84	E-1-1L5-2s 41:40+1;28	S000L4+2t2+2s 43:24+19;42	E+1+2xL3 Or T001L4+8s 44:22+22;44
85	E-1-1L5 41:41+0;28	S000L4+2t3-2s 43:25+18;41	
86	E-1-1L5+2s 42:41+1;29	DT1L4 Or S000L4+2t3 43:26+17;40	T001L4+4t2 44:22+22;44
87	E-1-1L5+2t2-2s 43:39+4;32 Or E-1-1L5+4s 43:41+2;30	S000L4+2h2 Or DT1L4+2s 44:27+17;41	

A	Overall Least Surface	Low Dipole Least Surface	Zero Dipole Least Surface
88	E-1-1L5+2t2 43:40+3;31	S000L4+2t4-4s Or DT1L4+4s (equator) 44:28+16;40	E-1+2L4-2V Or E+1+2xL3+8s (equator) Or T001L4+4t2+4s 46:23+23;46
89	S000L4+2t4-2s 44:29+15;40 Or E-1-1L5+2t3-2V 44:36+8;35 Or E-1-1L5+2t2+2s 44:40+4;32	Pretty: S111L4-18s 3 stripes 45:24+21;44 Or S000L4+2t4-2s 44:29+15;40	
90	S000L4+2t4 44:28+16;40 Or E-1-1L5+2t3-2s 44:37+7;35	Pretty: S111L4-18s+2s 46:25+21;45 S000L4+2t4 44:28+16;40	E-1+2L4-2V Or T001L4+4t3-4s 46:23+23;46
91	E-1-1L5+2t3 44:38+6;34	S000L4+2t4+2s 45:28+17;41	
92	DS001L5-6s Or DS011L5-6s (E-1-1L5+2h2) 45:32+13;39 Or E-1-1L5+2t3+2s 45:38+7;35	E-1+2L4 Or T001L4+4t3 46:23+23;46	E-1+2L4 Or T001L4+4t3 46:23+23;46
93	DS001L5-4s Or DS011L5-4s 45:33+12;38	S012L4 47:29+18;44 (++ axis)	
94	DS001L5-2s Or DS011L5-2s 45:34+11;38	S012L4+2s 47:24+14+18/2;44 (z-axis)	E+0+1L4-12s 48:24+24;48
95	DS001L5 (S000L4+2t5 or S111xL4-2t3) Or E-1-1L5+2t4 (DS011L5) Or S001xL4-2t4 45:35+10;37	S111L4-6s (equator) 47:27+20;45	
96	DS001L5+2s Or DS011L5+2s 46:35+11;38 Or S001xL4-2t4+2s 46:35+11;38	S012xL4 47:26+12+18/2;43	E+0+1L4-8s 48:24+24;48
97	DS001L5+2t2-2s Or DS011L5+2t2-2s 47:33+14;41 Or E-1-1L5+4t3 Or DS001L5+4s Or DS011L5+4s 47:35+12;38	S111L4-2s 48:29+19;45	
98	DS001L5+2t2 Or DS011L5+2t2 47:34+13;40	E+0+1L4-4s 48:24+24;48	E+0+1L4-4s 48:24+24;48
99	S111L4+2s 48:31+17;44	S111L4+2s 48:31+17;44	
100	E+0+1L4 48:24+24;48 Or S111L4+4s 48:31+17;43	E+0+1L4 48:24+24;48	E+0+1L4 48:24+24;48

A	Overall Least Surface	Low Dipole Least Surface	Zero Dipole Least Surface
101	S111xL4 48:33+15;42 (++ axis)	S001L4-6s 49:27+22;48	
102	S001L4-4s 49:29+20;46 Or S111xL4+2s 49:32+17;44	S001L4-4s 49:29+20;46	E+0-1L5-16s 50:25+25;50
103	S001L4-2s 49:30+19;46	S001L4-2s 49:30+19;46	
104	S001L4 (E-1-1L5+4t4-2s) 49:31+18:45 (++ axis)	S001L4 (E-1-1L5+4t4-2s) 49:31+18:45 (++ axis)	E+0-1L5-12s 50:25+25;50
105	S001xL4 (E-1-1L5+4t4) 49:32+17;44 (++ axis)	S001L4+2s face 50:31+19;46	
106	E+0-1L5-8s (4V (small) Or 2V (large)) 50:25+25;50 Or S001xL4+2s 50:32+18;46	E+0-1L5-8s (4V (small) Or 2V (large)) 50:25+25;50	E+0-1L5-8s (4V (small) Or 2V (large)) 50:25+25;50
107	S001L4+2t2 Or S111xL4+2t3 51:29+22;49 Or S001xL4+4s 51:32+19;47	S001L4+2t2 Or S111xL4+2t3 51:29+22;49	
108	E+0-1L5-2V (small) 50:25+25;50	E+0-1L5-2V (small) 50:25+25;50	E+0-1L5-4s 50:25+25;50
109	S001L4+2t3-2s 52:27+20+10/2;50 (y-axis) Or D-1L5-32s Or DE-1L5-32s 52:30+22;50 Or S001xL4+2t2+2s 52:31+21;49 (++ axis)	S001L4+2t3-2s 52:27+20+10/2;50	
110	E+0-1L5 Dipole 50:25+25;50 Bond (70@6+80@3 +20@2)/2=350	E+0-1L5 Dipole 50:25+25;50 Bond (70@6+80@3 +20@2)/2=350	E+0-1L5 Dipole 50:25+25;50 Bond (70@6+80@3 +20@2)/2=350
111	S001xL4+2t3 52:28+19+10/2;49	S001xL4+2t3 52:28+19+10/2;49	
112	E+0-1L5+4s 52:26+26;52	E+0-1L5+4s 52:26+26;52	E+0-1L5+4s 52:26+26;52
113	D-1L5-24s 53:34+19;48 Or DE-1L5-24s 53:36+17;47 Or S001xL4+2t4-4s 53:34+14+10/2;46 Or S001L4+2t4-2s 53:35+13+10/2;46	Pretty: S112L4-18s 3 stripes 54:28+26;54	

A	Overall Least Surface	Low Dipole Least Surface	Zero Dipole Least Surface
114	D-1L5-22s 53:35+18;48 Or DE-1L5-22s 53:37+16;46 Or S001xL4+2t4-2s 53:35+13+10/2;46 Or S001L4+2t4 53:36+12+10/2;45	E+0-1L5+8s 54:27+27;54	E+0-1L5+8s 54:27+27;54
115	D-1L5-2h5+2t5 53:36+17;47 Or DE-1L5-20s 53:38+15;45 Or S001xL4+2t4 53:36+12+10/2;45	S001xL4+4t3-4s 55:31+24;53	
116	E+0-1L5+4t2 54:27+27;54 Or D-1L5-18s 54:37+17;48 Or DE-1L5-18s 54:39+15;46 Or S001xL4+2t4+2s 54:36+13+10/2;47 Or S001L4+2h3 large face 54:38+11+10/2;45 Or DS011L5 (S112L5-2t3 or S001L4+2h3 small face) 54:43+11;44	E+0-1L5+4t2 54:27+27;54	E+0-1L5+4t2 54:27+27;54
117	D-1L5-16s 54:38+16;47 Or DE-1L5-16s 54:40+14;45 Or S001xL4+2h3 54:38+11+10/2;45 Or S001L4+2t5-4s 54:39+10+10/2;45 Or DS011L5+2s 54:44+10;43	S001xL4+4t3 55:32+23;53	
118	D-1L5-14s 54:39+15;46 Or DE-1L5-14s 54:41+13;45 Or S001xL4+2t5-4s 54:39+10+10/2;45 Or S001L4+2t5-2s 54:40+9+10/2;44 Or DS011L5+4s 54:45+9;42	E+0-1L5+4t2+4s 56:28+28;56	E+0-1L5+4t2+4s 56:28+28;56

A	Overall Least Surface	Low Dipole Least Surface	Zero Dipole Least Surface
119	D-1L5-12s 54:40+14;46 Or DE-1L5-12s 54:42+12;44 Or S001xL4+2t5-2s 54:40+9+10/2;44 Or S001L4+2t5 54:41+8+10/2;43 Or DS011L5+6s 54:46+8;42	E+0+2L4-2s 56:34+22;52	
120	D-1L5-10s (equator) 54:41+13;45 Or DE-1L5-10s (equator) 54:43+11;44 Or S001xL4+2t5 54:41+8+10/2;43 Or DS011xL5 54:47+7;41	E+0-1L5+4t3-4s 56:28+28;56	E+0-1L5+4t3-4s 56:28+28;56
121	(D-1L5-10s)+2s 55:41+14;46 Or (DE-1L5-10s)+2s 55:43+12;45 Or D-1L5-8s 55:42+13;45 Or DE-1L5-8s 55:44+11;44 Or S001xL4+2t5+2s 55:41+9+10/2;45 Or S001L4+2h4a 55:44+6+10/2;43 Or DS011xL5+2s 55:47+8;42	S001xL4+2t4+2t3 56:30+26;55	
122	D-1L5-6s 55:43+12;45 Or DE-1L5-6s 55:45+10;44	E+0-1L5+4t3 56:28+28;56	Pretty: E+0-1L5+8t2 58:29+29;58 Or E+0-1L5+4t3 56:28+28;56
123	D-1L5-4s 55:44+11;44 Or DE-1L5-4s 55:46+9;43	Pretty: S001xL4+4t4-4s (E+1+1xL4-4s) 57:38+19;51 Or S002L4-10s 57:33+24;54	
124	D-1L5-2s 55:45+10;44 Or DE-1L5-2s 55:47+8;42	Pretty: S001L4+4t4 (E+1+1L4) 57:40+17;50 Or S002L4-8s 57:34+23;54	E+0-1L5+4t3+4s Or E+0-1L5+4h2 58:29+29;58
125	D-1L5 (S000L5-2t5) 55:46+9;43 (++ axis) Or DE-1L5 (E-1-1L6-2t6) 55:48+7;42 (++ axis)	Pretty: S001xL4+4t4 (E+1+1xL4) 57:39+18;50 Or S002xL4-8s 57:35+22;53	

A	Overall Least Surface	Low Dipole Least Surface	Zero Dipole Least Surface
126	D-1L5+2s 56:46+10;44 Or DE-1L5+2s 56:48+8;43	E+0-1L5+4t4-8s 58:29+29;58	E+0-1L5+4t4-8s 58:29+29;58
127	(D-1L5-2s) +2t2 57:45+12;46 Or D-1L5+4s 57:46+11;46 Or (DE-1L5-2s)+2t2 57:47+10;45 Or DE-1L5+4s 57:48+9;44	S002L4-2s 58:35+23;54	
128	D-1L5+2t2 57:45+12;46 Or DE-1L5+2t2 57:47+10;45	E+0-1L5+4t4-4s 58:29+29;58	E+0-1L5+4t4-4s 58:29+29;58
129	S002L4+2s vertex 58:37+21;53 Or D-1L5+2t2+2s 58:45+13;48 Or DE-1L5+2t2+2s 58:47+11;46 (++ axis)	S002L4+2s face 59:36+23;55	
130	E+0-1L5+4t4 58:29+29;58 Or S002xL4 58:38+20;52 Or D-1L5+2t3-2s 58:44+14;48 Or DE-1L5+2t3-2s 58:46+12;47 (++ or z-axis) Or H001xL5 58:?	E+0-1L5+4t4 58:29+29;58	E+0-1L5+4t4 58:29+29;58
131	D-1L5+2t3 58:43+15;49 Or DE-1L5+2t3 58:45+13;48 (z-axis)	S011L5-4s 59:28+20+22/2;57	
132	S011L5-2s 59:27+21+22/2;57 Or D-1L5+2t3+2s Or D-1L5+2h2 59:43+16;50 Or DE-1L5+2t3+2s 59:46+13;48 Or DE-1L5+2h2 59:47+12;48	S011L5-2s 59:27+21+22/2;57	E+0-1L5+4t4+4s 60:30+30;60
133	S011L5 59:28+20+22/2;57 Or D-1L5-4s+2t4 (S000L5-14s) 59:42+17;51 Or DE-1L5-4s+2t4 59:48+11;47	S011L5 59:28+20+22/2;57	

A	Overall Least Surface	Low Dipole Least Surface	Zero Dipole Least Surface
134	S011L5+2s 59:28+20+22/2;57 Or D-1L5-2s+2t4 (S000L5-12s) 59:41+18;52 Or DE-1L5-2s+2t4 59:49+10;46	S011L5+2s 59:28+20+22/2;57	Pretty: E+0-1L5+8t3 62:31+31;62 Or E+0-1L5+4h3 (T001L5-12s) 60:30+30;60
135	S011xL5 59:29+19+22/2;56 Or D-1L5+2t4 (S000L5-10s stripe) 59:40+19;52 Or DE-1L5+2t4 Or E-1+1L5 59:50+9;46	S011xL5 59:29+19+22/2;56	
136	E+0-1L5+4t5-8s (T001L5-8s) 60:30+30;60 Or S011xL5+2s 60:29+20+22/2;57 Or S000L5-2V 60:36+24;56 Or DE-1L5-2s+2h3 60:51+9;46	E+0-1L5+4t5-8s (T001L5-8s) 60:30+30;60	E+0-1L5+4t5-8s (T001L5-8s) 60:30+30;60
137	S000L5-6s 60:37+23;56 Or DE-1L5+2h3 60:52+8;46	S000L5-6s 60:37+23;56	
138	E+0-1L5+4t5-4s (T001L5-4s) 60:30+30;60 S000L5-4s 60:36+24;60 Or DE-1L5-4s+2t5 60:53+7;45	E+0-1L5+4t5-4s (T001L5-4s) 60:30+30;60	E+0-1L5+4t5-4s (T001L5-4s) 60:30+30;60
139	S000L5-2s 60:37+23;56 Or DE-1L5-2s+2t5 60:54+6;44	S000L5-2s 60:37+23;56	
140	E+0-1L5+4t5 (T001L5) Dipole 60:30+30;60 Bond (160@6+112@3 +8@2)/2=656 Or S000L5 Dipole 60:36+24;56 Bond (160@6+120@3)/2=660 Or DE-1L5+2t5 (E-1-1L6-12s stripe) 60:55+5;44	E+0-1L5+4t5 (T001L5) Dipole 60:30+30;60 Bond (160@6+112@3 +8@2)/2=656	E+0-1L5+4t5 (T001L5) Dipole 60:30+30;60 Bond (160@6+112@3 +8@2)/2=656
141	S000L5+2s 61:37+24;57 Or E-1-1L6-6V Or DE-1L5+2t5+2s 61:56+5;44	S000L5+2s 61:37+24;57	

A	Overall Least Surface	Low Dipole Least Surface	Zero Dipole Least Surface
142	E-1-1L6-4V 61:57+4;44	T001L5+4s 62:31+31;62	Pretty: E+0-1L5+4t4+4t3 64:32+32;64 Or T001L5+4s 62:31+31;62
143	E-1-1L6-4V 61:58+3;43	Pretty: S000L5+2t2 62:39+23;57 Or DT1L5-14s 63:33+30;62	
144	E-1-1L6-2V 61:59+2;42	DT1L5-12s 63:34+29;62	T001L5+8s 64:32+32;64
145	E-1-1L6-2s 61:60+1;42	DT1L5-10s stripe 63:35+28;61	
146	E-1-1L6 61:61+0;41	Pretty: S000L5+2t3 63:42+21;56 Or T001L5+4t2 64:32+32;64	T001L5+4t2 64:32+32;64
147	E-1-1L6+2s 62:61+1;42	DT1L5-6s 64:37+27;61	
148	E-1-1L6+2t2-2s 63:59+4;45 Or E-1-1L6+4s 63:61+2;43	DT1L5-4s 64:38+26;60	E+1+2L4 Or T001L5+4t2+4s 66:33+33;66
149	E-1-1L6+2t2 63:60+3;44	DT1L5-2s 64:39+25;60	
150	S000L5+2t4 Or DT1L5 64:40+24;59 E-1-1L6+2t3-2V 64:56+8;48 Or E-1-1L6+(2t3-2s)-2s 64:58+6;47 Or E-1-1L6+2t2+2s 64:60+4;45	DT1L5-2s+2s (elsewhere) 65:39+26;61	E+1+2xL4 Or T001L5+4t3-4s 66:33+33;66
151	E-1-1L6+2t3-2s 64:57+7;48 Or E-1-1L6+(2t3-2s) pentet 64:59+5;46	DT1L5-2s+4s (elsewhere) 66:39+27;62	
152	E-1-1L6+2t3 64:58+6;47	T001L5+4t3 66:33+33;66	T001L5+4t3 66:33+33;66
153	S000L5+2t5-4s 65:43+22;58 Or E-1-1L6+2t4-4V 65:52+13;52 Or E-1-1L6+(2t4-2s)-2V 65:54+11;51 Or E-1-1L6+(2t4-4s)-2s 65:56+9;50 Or (E-1-1L6+2t3+2s Or E-1-1L6+2h2) 65:58+7;48	DT1L5+2t2 66:39+27;62	

A	Overall Least Surface	Low Dipole Least Surface	Zero Dipole Least Surface
154	S000L5+2t5-2s 65:44+21;58 Or E-1-1L6+2t4-2V 65:53+12;52 Or E-1-1L6+(2t4-2s)-2s 65:55+10;50 Or E-1-1L6+(2t4-4s) octet 65:57+8;49	S1E+2xL5 67:37+30;65	E-1+2L5-4V Or T001L5+4t3+4s Or T001L5+4h2 68:34+34;68
155	S000L5+2t5 65:45+20;57 Or E-1-1L6+2t4-2s 65:54+11;51 Or E-1-1L6+(2t4-2s) nonet 65:56+9;50	DT1L5+2t3-2s 67:33+24+20/2;64	
156	E-1-1L6+2t4 65:55+10;50	S111L5-30s 3 stripes 67:36+31;66	E-1+2L5-2V Or T001L5+4t4-8s 68:34+34;68
157	E-1-1L6+2t5-4V 66:47+19;57 Or E-1-1L6+(2t5-2s)-2V-2s 66:49+17;56 Or E-1-1L6+(2t5-4s)-2V 66:51+15;54 Or E-1-1L6+2h3-2s 66:53+13;53 Or E-1-1L6+2t4+2s 66:55+11;52	DT1L5+2t3+2s Or DT1L5+2h2 68:32+26+20/2;66	
158	E-1-1L6+2t5-2V-2s 66:48+18;56 Or E-1-1L6+(2t5-2s)-2V 66:50+16;55 Or E-1-1L6+(2t5-4s)-2s 66:52+14;54 Or E-1-1L6+2h3 Or S000L5+2h4a 66:54+12;52	E-1+2L5-2V 68:34+34;68	E-1+2L5-2V Or T001L5+4t4-4s 68:34+34;68
159	E-1-1L6+2t5-2V 66:49+17;56 Or E-1-1L6+(2t5-2s)-2s 66:51+15;54 Or E-1-1L6+(2t5-4s) 66:53+13;53	Pretty: S111L5-24s+2t2 69:39+30;66 DT1L5+2t4-2s 68:30+28+20/2;68	
160	E-1-1L6+2t5-2s 66:50+16;55 Or E-1-1L6+(2t5-2s) 66:52+14;54	E-1+2L5 68:34+34;68	E-1+2L5 Or T001L5+4t4 68:34+34;68
161	S000L5+2t6 (DS001L5) Or E-1-1L6+2t5 (DS011L6) 66:51+15;54	DT1L5+2t4+2s 69:30+29+20/2;69	
162	E-1-1L6+2t5+2s 67:51+16;55	DT1L5+2h3 69:36+33;68	T001L5+4t4+4s Or E+0+1L5-16s 70:35+35;70

A	Overall Least Surface	Low Dipole Least Surface	Zero Dipole Least Surface
163	E-1-1L6+2t5+2t2-2s 68:50+18;57 Or E-1-1L6+2t5+4s 68:51+17;56	DT1L5+2t5-4s 69:37+32;68	
164	E-1-1L6+2t5+2t2 68:51+17;56	DT1L5+2t5-2s 69:38+31;67	E+0+1L5-12s 70:35+35;70
165	DT1L5+2t5 69:39+30;66 S012xL5 69:38+20+22/2;63 Or E-1-1L6+2t5+2t3-2s 69:46+23;60 Or (E-1-1L6+2t5+(2t3-2s) Or E-1-1L6+4t4-2s) 69:48+21;60 Or E-1-1L6+2t5+2t2+2s 69:51+18;58	DT1L5+2t5 69:39+30;66	
166	E-1-1L6+2t5+2t3-2s 69:47+22;61 Or E-1-1L6+4t4 69:49+20;60	E+0+1L5-8s 70:35+35;70	E+0+1L5-8s 70:35+35;70
167	E-1-1L6+2t5+2t3 69:48+21;60	S001L5-16s 70:~36+34;70	
168	E+0+1L5-4s 70:35+35;70 Or E-1-1L6+2t5+2t4-2V-2s 70:42+28;66 Or E-1-1L6+2t5+(2t4-2s)-2V 70:44+26;64 Or E-1-1L6+2t5+(2t4-4s)-2s 70:46+24;62 Or(E-1-1L6+2t5+2h2 Or S111L5 Or E-1-1L6+2t5+2t3+2s) 70:48+22;62	E+0+1L5-4s 70:35+35;70	E+0+1L5-4s 70:35+35;70
169	E-1-1L6+2t5+2t4-2V 70:43+27;65 Or E-1-1L6+2t5+(2t4-2s)-2s 70:45+25;64 Or E-1-1L6+2t5+(2t4-4s) 70:47+23;62 Or S111L5+2s vertex 70:49+21;61	S001L5-12s 71:37+34;70	
170	E+0+1L5 70:35+35;70 Or E-1-1L6+2t5+2t4-2s 70:44+26;64 Or E-1-1L6+2t5+(2t4-2s) 70:46+24;62 Or S111L5+4s vertex 70:50+20;60	E+0+1L5 70:35+35;70	E+0+1L5 70:35+35;70

A	Overall Least Surface	Low Dipole Least Surface	Zero Dipole Least Surface
171	E-1-1L6+2t5+2t4 70:45+25;64 Or S111xL5 70:51+19;60	S001L5-8s 71:36+35;71	
172	E-1-1L6+4t5-4V Or S001L5-2t2 71:37+34;70 Or E-1-1L6+2t5+2t4+2s 71:45+25;64 Or S111xL5+2s 71:51+20;61	E-1-1L6+4t5-4V Or S001L5-2t2 71:37+34;70	E+0+1L5+4s Or E+0-1L6-20s 72:36+36;72
173	E-1-1L6+4t5-4V (S001L5-4s) 71:38+33;70	E-1-1L6+4t5-4V (S001L5-4s) 71:38+33;70	
174	E-1-1L6+4t5-2V (S001L5-2s) 71:39+32;70	Pretty: E-1-1L6+8h2 77:49+28;70 E-1-1L6+4t5-2V (S001L5-2s) 71:39+32;70	E+0-1L6-16s 72:36+36;72
175	E-1-1L6+4t5-2s (S001L5) 71:40+31;68	E-1-1L6+4t5-2s (S001L5) 71:40+31;68	
176	E-1-1L6+4t5 (S001xL5) 71:41+30;68	E-1-1L6+4t5 (S001xL5) 71:41+30;68	E+0-1L6-12s 72:36+36;72
177	S001xL5+2s 72:41+31;69	S001xL5+2s 72:41+31;69	
178	E+0-1L6-8s (4V (small) Or 2V (large)) 72:36+36;72	E+0-1L6-8s (4V (small) Or 2V (large)) 72:36+36;72	E+0-1L6-8s (4V (small) Or 2V (large)) 72:36+36;72
179	S001xL5+2t2 73:40+33;71	S001xL5+2t2 73:40+33;71	
180	E+0-1L6-2V 72:36+36;72	E+0-1L6-2V 72:36+36;72	E+0-1L6-4s 72:36+36;72
181	S001xL5+2t3-2s 74:36+31+14/2;73 Or S001L5+2t3 74:37+30+14/2;72	S001xL5+2t3-2s 74:36+31+14/2;73	
182	E+0-1L6 Dipole 72:36+36;72 Bond (220@6+120@3 +24@2)/2=864	E+0-1L6 Dipole 72:36+36;72 Bond (220@6+120@3 +24@2)/2=864	E+0-1L6 Dipole 72:36+36;72 Bond (220@6+120@3 +24@2)/2=864
183	D-1L6-40s (D-2L5+2t5-4s) 75:40+35;74 Or S001xL5+2t3+2s 75:37+31+14/2;73 Or S001L5+2t4-4s 75:38+30+14/2;73 Or DE-1L6-40s 75:46+29;70	D-1L6-40s (D-2L5+2t5-4s) 75:40+35;74 Or Pretty: E-1-1L6+(8t4-4s)-2s 77:39+38;77	
184	E+0-1L6+4s 74:37+37;74	E+0-1L6+4s 74:37+37;74	E+0-1L6+4s 74:37+37;74

A	Overall Least Surface	Low Dipole Least Surface	Zero Dipole Least Surface
185	D-1L6-36s (D-2L5+2t5) 75:42+33;72 Or S001xL5+2t4-2s 75:41+27+14/2;71 Or DE-1L6-36s 75:48+28;70 Or S001L5+2t4 75:42+26+14/2;70	D-1L6-36s (D-2L5+2t5) 75:42+33;72 Or Pretty: E-1-1L6+8t4-2s 77:40+37;76	
186	S001xL5+2t4 75:42+26+14/2;70 Or DE-1L6-34s 75:49+27;69	E+0-1L6+8s 76:38+38;76	E+0-1L6+8s 76:38+38;76
187	D-1L6-32s 76:44+32;72 Or S001xL5+2t4+2s 76:42+27+14/2;71 Or S001L5+2h3 76:44+25+14/2;70 Or DE-1L6-32s 76:50+26;68	Pretty S001xL5+(2t4-4s)+2t2 77:39+31+14/2;75 Or D-1L6-32s 76:44+32;72	
188	E+0-1L6+4t2 76:38+38;76 Or D-1L6-30s 76:45+31;71 Or S001xL5+2h3 76:44+25+14/2;70 Or DE-1L6-30s 76:51+25;67	E+0-1L6+4t2 76:38+38;76	E+0-1L6+4t2 76:38+38;76
189	D-1L6-28s 76:46+30;71 Or S001xL5+2t5-4s 76:45+24+14/2;69 Or DE-1L6-28s 76:52+24;67	S001xL5+4t3+2s 78:42+36;76	
190	D-1L6-26s 76:47+29;70 Or S001xL5+2t5-2s 76:46+23+14/2;69 Or DE-1L6-26s 76:53+23;66	E+0-1L6+4t2+4s 78:39+39;78	E+0-1L6+4t2+4s 78:39+39;78
191	D-1L6-24s 76:48+28;70 Or S001xL5+2t5 76:47+22+14/2;68 Or DE-1L6-24s 76:54+22;66	S112L4-24s 3 stripes 78:40+38;78	
192	D-1L6-22s 77:49+28;70 Or S001xL5+2t5+2s 77:47+23+14/2;69 Or DE-1L6-22s 77:55+22;66	E+0-1L6+4t3-4s 78:39+39;78	E+0-1L6+4t3-4s 78:39+39;78

A	Overall Least Surface	Low Dipole Least Surface	Zero Dipole Least Surface
193	D-1L6-20s 77:50+27;70 Or S001L5+2h3 77:50+20+14/2;67 Or DE-1L6-20s 77:56+21;66	S001xL5+4h2+2t2 81:43+38;80	
194	D-1L6-18s 77:51+26;69 Or S001L5+2t6-4s 77:51+19+14/2;67 Or S001xL5+2h3 77:50+20+14/2;67 Or DE-1L6-18s 77:57+20;65	E+0-1L6+4t3 78:39+39;78	E+0-1L6+4t3 78:39+39;78
195	D-1L6-16s 77:52+25;68 Or S001xL5+2t6-4s 77:51+19+14/2;67 Or S001L5+2t6-2s 77:52+18+14/2;66 Or DE-1L6-16s 77:58+19;64	S001xL5+4t4-8s+2t2 81:45+36;78	
196	D-1L6-14s 77:53+24;68 Or S001xL5+2t6-2s 77:52+18+14/2;66 Or S001L5+2t6 77:53+17+14/2;65 Or DE-1L6-14s 77:59+18;64	E+0-1L6+4h2 Or E+0-1L6+4t3+4s 80:40+40;80 Pretty: E+0+2L5-8s 80:47+33;76	E+0-1L6+4h2 Or E+0-1L6+4t3+4s 80:40+40;80
197	D-1L6-12s 77:54+23;67 Or S001xL5+2t6 77:53+17+14/2;65 Or DE-1L6-12s 77:60+17;63	S001xL5+4t4-4s+2t2 81:47+34;77	
198	D-1L6-10s 78:55+23;68 Or S001xL5+2t6+2s 78:53+18+14/2;67 Or DE-1L6-10s 78:61+17;64	E+0-1L6+4t4-8s 80:40+40;80	E+0-1L6+4t4-8s 80:40+40;80
199	D-1L6-8s 78:56+22;67 Or DE-1L6-8s 78:62+16;63	S002L5-22s 80:~43+37;78	
200	D-1L6-6s 78:57+21;66 Or DE-1L6-6s 78:63+15;62	E+0-1L6+4t4-4s 80:40+40;80	E+0-1L6+4t4-4s 80:40+40;80
201	D-1L6-4s 78:58+20;66 Or DE-1L6-4s 78:64+14;62	S002L5-18s 81:~43+38;80	

A	Overall Least Surface	Low Dipole Least Surface	Zero Dipole Least Surface
202	D-1L6-2s 78:59+19;65 Or DE-1L6-2s 78:65+13;61	E+0-1L6+4t4 80:40+40;80	E+0-1L6+4t4 80:40+40;80
203	S000L6-2t6 (D-1L6 or S111L5+2h5a) 78:60+18;64 (++ axis) Or E-1-1L7-2t7 (DE-1L6) 78:66+12;60 (++ axis)	S002L5-14s 81:~44+37;79	
204	D-1L6+2s 79:60+19;66 Or DE-1L6+2s 79:66+13;62	E+0-1L6+4t4+4s 82:41+41;82	E+0-1L6+4t4+4s 82:41+41;82
205	D-1L6+4s 80:60+20;67 Or DE-1L6+4s 80:66+14;63	S002L5-10s 82:45+37;80	
206	D-1L6+2t2 80:59+21;68 Or DE-1L6+2t2 80:65+15;64	E+0-1L6+4h3 82:41+41;82	E+0-1L6+4h3 82:41+41;82
207	S112xL5 Or E+0+3oL6 Or D-1L6+2t2+2s 81:59+22;69 Or DE-1L6+2t2+2s 81:65+16;65	S002L5-6s 82:47+35;78	
208	D-1L6+2t3-2s 81:58+23;70 Or DE-1L6+2t3-2s 81:64+17;66 ++ axis	E+0-1L6+4t5-8s 82:41+41;82	E+0-1L6+4t5-8s 82:41+41;82
209	D-1L6+2t3 81:57+24;70 Or DE-1L6+2t3 81:63+18;66 both ++ & z-axis	S011L6-14s 82:47+35;78	
210	E+0-1L6+4t5-4s 82:41+41;82 Or S011L6-12s 82:48+34;78 Or S002L5 82:50+32;76 Or D-1L6+2t3+2s Or D-1L6+2h2 82:57+25;72 Or DE-1L6+2h2 Or DE-1L6+2t3+2s 82:64+18;67 z-axis	E+0-1L6+4t5-4s 82:41+41;82	Pretty: E+0-1L5+8h2 88:44+44;88 E+0-1L6+4t5-4s 82:41+41;82

A	Overall Least Surface	Low Dipole Least Surface	Zero Dipole Least Surface
211	S011L6-10s 82:49+33;77 Or S002L5+2s 82:51+31;76 Or D-1L6+2t4-4s 82:56+26;72 Or DE-1L6+2t4-4s 82:65+17;66	S011L6-12s+2s 83:48+35;79	
212	E+0-1L6+4t5 82:41+41;82 Or S002xL5 Or D-1L6+2t4-2s 82:55+27;73 Or DE-1L6+2t4-2s 82:66+16;66 Or H001xL6 82:?	E+0-1L6+4t5 82:41+41;82	E+0-1L6+4t5 82:41+41;82
213	DE-1L6+2t4 82:54+28;74 Or D-1L7+2t4 82:67+15;65	S000L6-22s 84:46+38;82	
214	S011L6-4s 83:52+31;76 Or D-1L6+2t4+2s 83:54+29;75 Or DE-1L6+2t4+2s 83:68+15;66	E+0-1L6+4t5+4s 84:42+42;84	E+0-1L6+4t5+4s 84:42+42;84
215	S011L6-2s Or D-1L6+2h3 83:53+30;76 Or DE-1L66+2h3 83:69+14;65	S000L6-18s 84:46+38;82	
216	D-1L6+2t5-4s 83:52+31;76 Or S011L6 83:54+29;75 (++ axis) Or DE-1L6+2t5-4s 83:70+13;64	E+0-1L6+4t6-16s 84:42+42;84	E+0-1L6+4t6-16s 84:42+42;84
217	D-1L6+2t5-2s 83:51+32;77 Or S011L6+2s 83:55+28;74 Or DE-1L6-2s+2t5 83:71+12;64	S000L6-14s 84:46+38;82	
218	D-1L6+2t5 (S000L6-12s stripe) 83:50+33;78 Or S011xL6 83:56+27;74 Or DE-1L6+2t5 83:72+11;63	E+0-1L6+4t6-12s 84:42+42;84	E+0-1L6+4t6-12s 84:42+42;84

A	Overall Least Surface	Low Dipole Least Surface	Zero Dipole Least Surface
219	S000L6-2V-2s 84:46+38;82 Or S011xL6+2s 84:41+31+24/2;81 Or D-1L6+2t5+2s 84:50+34;79 Or DE-1L6+2t5+2s 84:73+11;64	S000L6-2V-2s 84:46+38;82	
220	E+0-1L6+4t6-8s 84:42+42;84 Or S000L6-2V 84:45+39;82	E+0-1L6+4t6-8s 84:42+42;84	E+0-1L6+4t6-8s 84:42+42;84
221	S000L6-6s 84:46+38;82	S000L6-6s 84:46+38;82	
222	E+0-1L6+4t6-4s (T001L6-4s) 84:42+42;84 Or S000L6-4s 84:45+39;82	E+0-1L6+4t6-4s (T001L6-4s) 84:42+42;84	E+0-1L6+4t6-4s (T001L6-4s) 84:42+42;84
223	S000L6-2s 84:46+38;82	S000L6-2s 84:46+38;82	
224	E+0-1L6+4t6 (T001L6) Dipole 84:42+42;84 Bond (280@6+160@3 +8@2)/2=1088 Or S000L6 Dipole 84:45+39;82 Bond (280@6+168@3)/2=1092 Or DE-1L6+2t6 (E-1-1L7-14s stripe) 84:78+6;60	Pretty: S000L6 Dipole 84:45+39;82 Bond (280@6 +168@3)/2=1092 Or E+0-1L6+4t6 (T001L6) Dipole 84:42+42;84 Bond (280@6+160@3 +8@2)/2=1088	E+0-1L6+4t6 (T001L6) Dipole 84:42+42;84 Bond (280@6+160@3 +8@2)/2=1088
225	S000L6+2s 85:46+39;83 Or E-1-1L7-6V-2s 85:79+6;61	S000L6+2s 85:46+39;83	
226	E-1-1L7-6V 85:80+5;60	T001L6+4s 86:43+43;86	T001L6+4s 86:43+43;86
227	E-1-1L7-4V 85:81+4;60	S000L6+2t2 86:48+38;83	
228	E-1-1L7-2V-2s 85:82+3;59	S000L6+2t2+2s Or DT1L6-22s 2stripes 87:46+41;85	T001L6+8s 88:44+44;88
229	E-1-1L7-2V 85:83+2;58	S000L6+2t3-2s 87:47+40;85	
230	E-1-1L7-2s 85:84+1;58	S000L6+2t3 87:48+39;84	T001L6+4t2 88:44+44;88
231	E-1-1L7 85:85+0;57	S000L6+2t3+2s Or S000L6+2h2 Or DT1L6-16s 88:49+39;85	
232	E-1-1L7+2s 86:85+1;58	S000L6+2t4-4s Or DT1L6-14s 88:50+38;84	Pretty: E+0-1L6+4t5+4t4 Or T001L6+4t2+4s 90:45+45;90

A	Overall Least Surface	Low Dipole Least Surface	Zero Dipole Least Surface
233	E-1-1L7+2t2-2s 87:83+4;61 Or E-1-1L7+4s 87:85+2;60	S000L6+2t4-2s Or Pretty: DT1L6-12s stripe 88:51+37;84	
234	E-1-1L7+(2t3-2s) (add pentets) 87:82+5;62 Or E-1-1L7+2t2 87:84+3;60	DT1L6-12s+2s elsewhere 89:51+38;85	T001L6+4t3-4s 90:45+45;90
235	E-1-1L7+2t3-2V 88:80+8;64 Or E-1-1L7+(2t3-2s)+2s 88:82+6;63 Or E-1-1L7+2t2+2s 88:84+4;62	DT1L6-12s+4s elsewhere 90:51+39;86	
236	E-1-1L7+2t3-2s (add sextets, drop 2 vertices) 88:81+7;64 E-1-1L7+(2t3-2s) (add pentets) 88:83+5;62	Pretty: S000L6+8t2 92:48+44;91 Or T001L6+4t3 90:45+45;90	T001L6+4t3 90:45+45;90
237	E-1-1L7+2t3 88:82+6;64	DT1L6-12s+2t2+2s 91:50+41;88	
238	DT1L6-2s Or S000L6+(2t5-2s) 89:56+33;82 E-1-1L7+2t4-4V 89:76+13;68 Or E-1-1L7+(2t4-2s)-2V 89:78+11;67 Or E-1-1L7+(2t4-4s)-2s 89:80+9;66 Or (E-1-1L7+2t3+2s Or E-1-1L7+2h2) 89:82+7;64	DT1L6-12s+(2t3-2s) 91:49+42;89	E+1+2L5-4s Or T001L6+4t3+4s Or T001L6+4h2 92:46+46;92
239	DT1L6 Or S000L6+2t5 89:57+32;81 E-1-1L7+2t4-2V 89:77+12;68 Or E-1-1L7+(2t4-2s)-2s 89:79+10;66 Or E-1-1L7+(2t4-4s) 89:81+8;66	DT1L6-12s+2t3 91:48+43;90	
240	E-1-1L7+2t4-2s 89:78+11;67 Or E-1-1L7+(2t4-2s) 89:80+9;66	E+1+2L5 92:46+46;92	E+1+2L5 Or T001L6+4t4-8s 92:46+46;92
241	E-1-1L7+2t4 89:79+10;67	DT1L6-12s+(2t4-4s) 92:47+45;92	

A	Overall Least Surface	Low Dipole Least Surface	Zero Dipole Least Surface
242	S001xL7-2t7-4s 90:60+30;80 Or E-1-1L7+2t5-4V 90:71+19;73 Or E-1-1L7+(2t5-2s)-2V-2s 90:73+17;72 Or(E-1-1L7+(2t5-4s)-2V Or E-1-1L7+2h3-2s 90:77+13;70 Or E-1-1L7+2t4+2s 90:79+11;67	E+1+2xL5 92:46+46;92	E+1+2xL5 Or T001L6+4t4-4s 92:46+46;92
243	S001xL7-2t7-4s 90:61+29;80 Or E-1-1L7+2t5-2V-2s 90:72+18;72 Or E-1-1L7+(2t5-2s)-2V 90:74+16;71 Or E-1-1L7+(2t5-4s)-2s 90:76+14;70 Or E-1-1L7+2h3 90:78+12;68	DT1L6-12s+2t4 92:47+45;92	
244	S001xL7-2t7-2s 90:62+28;79 Or E-1-1L7+2t5-2V 90:73+17;72 Or E-1-1L7+(2t5-2s)-2s 90:75+15;70 Or E-1-1L7+(2t5-4s) 90:77+13;70	T001L6+4t4 92:46+46;92	Pretty: E+0-1L6+4t5+4t4+8t2 98:49+49;98 T001L6+4t4 92:46+46;92
245	S001xL7-2t7 90:63+27;78 Or E-1-1L7+2t5-2s 90:74+16;71 Or E-1-1L7+(2t5-2s) 90:76+14;70	S1E+2L6-2s 93:53+40;89	
246	E-1-1L7+2t5 90:75+15;70	Pretty: S111L6-48s+2t3 93:47+46;93?	E-1+2L6-16s Or T001L6+4t4+4s 94:47+47;94
247	E-1-1L7+2t6-4V-2s 91:65+26;78 Or E-1-1L7+(2t6-2s)-4V 91:67+24;77 Or E-1-1L7+(2t6-4s)-2V-2s 91:69+22;76 Or E-1-1L7+2h4-2V 91:71+20;74 Or E-1-1L7+2t5+2s 91:75+16;71	DT1L6-4s+2t4 93:49+44;92	

A	Overall Least Surface	Low Dipole Least Surface	Zero Dipole Least Surface
248	E-1-1L7+2t6-4V 91:66+25;78 Or E-1-1L7+(2t6-2s)-2V-2s 91:68+23;76 Or E-1-1L7+(2t6-4s)-2V 91:70+21;75 Or E-1-1L7+2h4-2s 91:72+19;74	DT1L6-2s+2t4 93:50+43;91	E-1+2L6-12s Or T001L6+4h3 94:47+47;94
249	E-1-1L7+2t6-2V-2s 91:67+24;77 Or E-1-1L7+(2t6-2s)-2V 91:69+22;76 Or E-1-1L7+(2t6-4s)-2s 91:71+20;74 Or E-1-1L7+2h4 91:73+18;73	S111L6-30s 3 stripes 93:48+45;92 DT1L6+2t4 93:51+42;90	
250	E-1-1L7+2t6-2V 91:68+23;76 Or E-1-1L7+(2t6-2s)-2s 91:70+21;75 Or E-1-1L7+(2t6-4s) 91:72+19;74	E-1+2L6-8s 94:47+47;94	E-1+2L6-8s Or T001L6+4t5-8s 94:47+47;94
251	E-1-1L7+2t6-2s 91:69+22;76 Or E-1-1L7+(2t6-2s) 91:71+20;74	DT1L6-2s+2t4+2t2 95:49+46;94	
252	S000L6+2t7 (DS001L7) Or E-1-1L7+2t6 (DS011L7) 91:70+21;75	Pretty S000L6+8h2 100:53+47;98 Or E-1+2L6-4s 94:47+47;94	E-1+2L6-4s Or T001L6+4t5-4s 94:47+47;94
253	E-1-1L7+2t6+2s 92:70+22;75	S012L6-8s 95:45+37+26/22;93	
254	E-1-1L7+2t6+2t2-2s 93:68+25;79 Or E-1-1L7+2t6+4s 93:70+23;78	E-1+2L6 94:47+47;94	E-1+2L6 Or T001L6+4t5 94:47+47;94
255	E-1-1L7+2t6+(2t3-2s) 93:67+26;80 Or E-1-1L7+2t2 93:69+24;78	S012L6-4s 95:47+35+26/2;91	
256	E-1-1L7+2t6+2t3-2V 94:65+29;82 Or E-1-1L7+2t6+(2t3-2s)+2s 94:67+27;81 Or E-1-1L7+2t6+2t2+2s 94:69+25;80	E-1+2L6+4s (equator) Or E+0+1L6-20s 96:48+48;96	Pretty: E+0-1L6+4t5+4t4+8t3 102:51+51;102 E+0+1L6-20s 96:48+48;96
257	E-1-1L7+2t6+2t3-2s 94:66+28;82	S111L6-14s 96:~50+46;95	
258	E-1-1L7+2t6+2t3 94:67+27;81	E-1+2L6+8s (equator) Or E+0+1L6-16s 96:48+48;96	E+0+1L6-16s 96:48+48;96

A	Overall Least Surface	Low Dipole Least Surface	Zero Dipole Least Surface
259	S111L6-10s stripe 95:55+40;90 Or S012L6+4s 95:51+31+26/2;89 Or E-1-1L7+2t6+2t4-4V 95:61+34;86 Or E-1-1L7+2t6+(2t4-2s)-2V 95:63+32;85 Or E-1-1L7+2t6+(2t4-4s)-2s 95:65+30;84 Or (E-1-1L7+2t6+2t3+2s Or E-1-1L7+2h2) 95:67+28;82	Pretty: S222L6-66s 100:51+49;100 S111L6-10s 96:55+41;92	
260	S001L6-24s 2 stripes 95:54+41;91 z-axis Or S012xL6 95:52+30+26/2;88 Or E-1-1L7+2t6+2t4-2V 95:62+33;86 Or E-1-1L7+2t6+(2t4-2s)-2s 95:64+31;84 Or E-1-1L7+2t6+(2t4-4s) 95:66+29;83	S001L6-24s 2 stripes 95:54+41;91 z-axis	E+0+1L6-12s 96:48+48;96
261	E-1-1L7+2t6+2t4-2s 95:63+32;85 Or E-1-1L7+2t6+(2t4-2s) 95:65+30;84	S001L6-22s 96:54+42;92 z-axis 96:47+42+14/2;95 y-axis	
262	E-1-1L7+2t6+2t4 95:64+31;84	Pretty: S222L6-60s 100:52+48;99 E-1+2L6+16s (equator) Or E+0+1L6-2V 96:48+48;96	E+0+1L6-2V 96:48+48;96
263	S001L6-18s stripe 96:51+45;94 ++ axis 96:52+44;94 z-axis 96:49+40+14/2;93 y-axis E-1-1L7+2t6+2t5-4V 96:56+40;91 Or E-1-1L7+2t6+(2t5-2s)-2V-2s 96:58+38;90 Or S111L6-2s 96:59+37;89 Or E-1-1L7+2t6+(2t5-4s)-2V 96:60+36;88 Or E-1-1L7+2t6+2h3-2s 96:62+34;87 Or E-1-1L7+2t6+2t4+2s 96:64+32;86	S001L6-18s stripe 96:51+45;94 ++ axis 96:52+44;94 z-axis 96:49+40+14/2;93 y-axis	

A	Overall Least Surface	Low Dipole Least Surface	Zero Dipole Least Surface
264	E-1+2L6+20s (equator) Or E+0+1L6-4s 96:48+48;96 Or E-1-1L7+2t6+2t5-2V-2s 96:57+39;90 Or E-1-1L7+2t6+(2t5-2s)-2V 96:59+37;89 Or S111L6 96:60+36;88 Or E-1-1L7+2t6+(2t5-4s)-2s 96:61+35;88 Or E-1-1L7+2t6+2h3 96:63+33;86	Pretty S000L6+8t4 100:57+43;96 Or E-1+2L6+20s (equator) Or E+0+1L6-4s 96:48+48;96	Pretty: E+0-1L6+4t5+8t4+4t3 104:52+52;104 Or E+0+1L6-4s 96:48+48;96
265	S001L6-14s stripe 96:51+38+14/2;92 y-axis Or E-1-1L7+2t6+2t5-2V 96:58+38;90 Or E-1-1L7+2t6+(2t5-2s)-2s 96:60+36;88 Or S111L6+2s vertex 96:61+35;88 Or E-1-1L7+2t6+(2t5-4s) 96:62+34;87	Pretty: S222L6-54s 6 stripes 100:55+45;97 Or S001L6-14s stripe 96:51+38+14/2;92 y-axis	
266	E+0+1L6(S000L6+4t6 or T001L6+4t6) 96:48+48;96 Or S001L6-12s stripe 96:54+42;92 ++ axis 96:52+37+14/2;91 y-axis Or E-1-1L7+2t6+2t5-2s Or S111L6+4s 96:59+37;89 Or E-1-1L7+2t6+(2t5-2s) 96:61+35;88	E+0+1L6(S000L6+4t6 or T001L6+4t6) 96:48+48;96	E+0+1L6(S000L6+4t6 or T001L6+4t6) 96:48+48;96
267	E-1-1L7+2t6+2t5 Or S111xL6 96:60+36;88	S001L6-10s 97:55+42;93	
268	E-1-1L7+4t6-4V-2s (S001L6-8s) 97:56+41;92 (++ axis) Or E-1-1L7+(4t6-2s)-4V 97:52+45;95 Or E-1-1L7+(4t6-4s)-2V-2s 97:54+43;94 Or E-1-1L7+2t6+2h4-2V 97:56+41;92 Or E-1-1L7+(2t6-2s)+2h4-2s 97:58+39;91 Or E-1-1L7+(2t6-4s)+2h4 Or E-1-1L7+2t6+2t5+2s Or S111xL6+2s 97:60+37;90	E+0-1L7-6V-8s 98:49+49;98	E+0-1L7-6V-8s 98:49+49;98

A	Overall Least Surface	Low Dipole Least Surface	Zero Dipole Least Surface
269	E-1-1L7+4t6-4V (S001L6-6s) 97:51+46;96 z-axis Or E-1-1L7+(4t6-2s)-2V-2s 97:53+44;94 Or E-1-1L7+(4t6-4s)-2V 97:55+42;93 Or E-1-1L7+2t6+2h4-2s 97:57+40;92 Or E-1-1L7+(2t6-2s)+2h4 97:59+38;90	S001L6-12s+2t2 98:53+45;96 ++ axis 98:51+40+14/2;95 y-axis	
270	E-1-1L7+4t6-2V-2s (S001L6-4s) 97:52+45;94 Or E-1-1L7+(4t6-2s)-2V 97:54+43;94 Or E-1-1L7+(4t6-4s)-2s 97:56+41;92 Or E-1-1L7+2t6+2h4 97:58+39;91	E+0-1L7-6V-4s 98:49+49;98	E+0-1L7-6V-4s 98:49+49;98
271	E-1-1L7+4t6-2V (S001L6-2s) 97:53+44;94 Or E-1-1L7+(4t6-2s)-2s 97:55+42;93 Or E-1-1L7+(4t6-4s) 97:57+40;92	S001L6-12s+2t3-2s 99:52+47;98 ++ axis 99:50+42+14/2;97 y-axis 99:53+46;97 z-axis	
272	E-1-1L7+4t6-2s (S001L6) 97:54+43;94 z axis 97:60+37;90 ++ axis Or E-1-1L7+(4t6-2s) 97:62+35;88	E+0-1L7-6V 98:49+49;98	E+0-1L7-6V 98:49+49;98
273	E-1-1L7+4t6 (S001xL6) 97:55+42;93 z axis 97:61+36;89 ++ axis	S001L6-12s+2t3+2s Or S001L6-12s+2h2 100:55+45;97 z-axis	
274	E+0-1L7-4V 98:49+49;98 Or S001xL6+2s 98:55+43;94	E+0-1L7-4V 98:49+49;98	E+0-1L7-4V 98:49+49;98
275	S001L6+2t2 99:59+40;93 Or S001xL6+4s 99:61+38;92	S001L6-12s+2t4-2s 100:57+43;96	
276	E+0-1L7-8s (4V (small) Or 2V (large)) 98:49+49;98	E+0-1L7-8s (4V (small) Or 2V (large)) 98:49+49;98	E+0-1L7-8s (4V (small) Or 2V (large)) 98:49+49;98
277	S001xL6+2t2+2s 100:60+40;94 ++ axis	S001L6-12s+(2t4-4s)+2t2 102:57+45;98	
278	E+0-1L7-2V 98:49+49;98	E+0-1L7-2V 98:49+49;98	E+0-1L7-2V 98:49+49;98

A	Overall Least Surface	Low Dipole Least Surface	Zero Dipole Least Surface
279	S001xL6+2t3 100:51+42+14/2;97 y-axis 100:58+42;95 ++ axis	Pretty: S111L6+6t3-6s 105:54+51;104 Or Pretty: E-1-1L7+8h3 105:57+48;102 Or S001L6+4t2+2s 102:58+44;98	
280	E+0-1L7 (T001L6+4t7) Dipole 98:49+49;98 Bond (364@6+168@3 +28@2)/2=1372	E+0-1L7 (T001L6+4t7) Dipole 98:49+49;98 Bond (364@6+168@3 +28@2)/2=1372	E+0-1L7 (T001L6+4t7) (Pretty) Dipole 98:49+49;98 Bond (364@6+168@3 +28@2)/2=1372
281	S001xL6+2t4-4s 101:53+41+14/2;97 y-axis 101:57+44;97 ++ axis Or S001L6+2t4-2s 101:54+40+14/2;97	S001xL6+2t4-4s 101:53+41+14/2;97 y-axis 101:57+44;97 ++ axis	
282	E+0-1L7+4s 100:50+50;100	E+0-1L7+4s 100:50+50;100	E+0-1L7+4s 100:50+50;100
283	S001xL6+2t4 101:55+39+14/2;96 y-axis	S001L6+2t4+2s 102:54+41+14/2;98 y-axis 102:54+48;100 z-axis 102:58+44;98 ++ axis	
284	E+0-1L7+8s 102:51+51;102	Pretty S000L6+8t5 104:58+46;100 Or E+0-1L7+8s 102:51+51;102	E+0-1L7+8s 102:51+51;102
285	S001xL6+2h3 102:57+38+14/2;96 Or S001L6+2t5-4s 102:58+37+14/2;95	Pretty: S111xL6+6t3 105:54+51;104 Or S001xL6+4t3 103:54+49;102 z-axis 103:58+45;99 ++ axis	
286	E+0-1L7+4t2 102:51+51;102	E+0-1L7+4t2 102:51+51;102	E+0-1L7+4t2 102:51+51;102
287	S001xL6+2t5-2s 102:59+36+14/2;95 Or S001L6+2t5 102:60+35+14/2;94	S001xL6+2t4-4s+2t3 104:56+48;102 z-axis 104:57+47;101 ++ axis	
288	S001xL6+2t5 102:60+35+14/2;94	Pretty: S111L6+6h2 108:57+51;106 E+0-1L7+4t2+4s 104:52+52;104	E+0-1L7+4t2+4s 104:52+52;104
289	S001L6+2t6-8s 103:58+38+14/2;96 Or S001xL6+2t5+2s 103:60+36+14/2;95	S001xL6+2t4+2t3 104:58+46;100 z-axis 104:56+48;102 ++ axis	
290	S001xL6+2t6-8s 103:58+38+14/2;96 Or S001L6+2h4a 103:59+37+14/2;96	E+0-1L7+4t3-4s 104:52+52;104	E+0-1L7+4t3-4s 104:52+52;104
291	S001xL6+2h4a 103:59+37+14/2;96 Or S001L6+2t6-4s 103:60+36+14/2;95	S011L6-72s 6 stripes 105:~54+51;105	

A	Overall Least Surface	Low Dipole Least Surface	Zero Dipole Least Surface
292	S001xL6+2t6-4s 103:60+36+14/2;95 Or S001L6+2t6-2s 103:61+35+14/2;94	E+0-1L7+4t3 104:52+52;104	Pretty: E+0-1L7+8t2 106:53+53;106 E+0-1L7+4t3 104:52+52;104
293	S001xL6+2t6-2s 103:61+35+14/2;94 Or S001L6+2t6 103:62+34+14/2;94	S011L6-68s 106:~53+53;106	
294	S001xL6+2t6 103:62+34+14/2;94	E+0-1L7+4h2 Or E+0-1L7+4t3+4s 106:53+53;106	E+0-1L7+4h2 Or E+0-1L7+4t3+4s 106:53+53;106
295	S001xL6+2t6+2s 104:62+35+14/2;95	S011L6-64s 106: 55+51;106	
296	D-1L7-24s Or DE-1L7-24s 105:75+30;90 S001L6+2t6+2t2 105:61+37+14/2;97 S001xL6+2t6+4s 105:62+36+14/2;97	E+0-1L7+4t4-8s 106:53+53;106	E+0-1L7+4t4-8s 106:53+53;106
297	D-1L7-22s Or DE-1L7-22s 105: 76+29;90 Or S001L6x+2t6+2t2 105:61+37+14/2;97	S011L6-60s 5 stripes 106:57+49;104	
298	D-1L7-20s Or DE-1L7-20s 105:77+28;89	E+0-1L7+4t4-4s 106:53+53;106	E+0-1L7+4t4-4s 106:53+53;106
299	D-1L7-18s Or DE-1L7-18s 105:78+27;88	S011L6-56s 107:~54+53;107	
300	D-1L7-16s Or DE-1L7-16s 105:79+26;88	E+0-1L7+4t4 106:53+53;106	E+0-1L7+4t4 106:53+53;106
301	D-1L7-14s Or DE-1L7-14s 105:80+25;87	S011L6-52s 107:~54+53;107	
302	D-1L7-12s Or DE-1L7-12s 105:81+24;86	E+0-1L7+4t4+4s 108:54+54;108	E+0-1L7+4t4+4s 108:54+54;108
303	D-1L7-10s Or DE-1L7-10s 105:82+23;86	S011L6-48s 4 stripes 107:~54+53;107?	
304	D-1L7-8s Or DE-1L7-8s 105:83+22;85	Pretty E+0-1L7+8t3 110:55+55;110 Or E+0-1L7+4h3 108:54+54;108	E+0-1L7+4h3 108:54+54;108
305	D-1L7-6s Or DE-1L7-6s 105:84+21;84	Pretty S001xL6+4t4+4t3 111:56+55;111 Or S011L7-44s 108:56+52;107	
306	D-1L7-4s Or DE-1L7-4s 105:85+20;84	E+0-1L7+4t5-8s 108:54+54;108	E+0-1L7+4t5-8s 108:54+54;108

A	Overall Least Surface	Low Dipole Least Surface	Zero Dipole Least Surface
307	D-1L7-2s Or DE-1L7-2s 105:86+19;83	S011L7-40s 108:58+50;106	
308	S000L7-2t7 (D-1L7) Or E-1-1L8-2t8 (DE-1L7) 105:87+18;82 (++ axis)	E+0-1L7+4t5-4s 108:54+54;108	Pretty: E+0-1L7 +8h2 114:57+57 E+0-1L7+4t5-4s 108:54+54;108
309	D-1L7+2s Or DE-1L7+2s 106:87+19;84	S011L6-36s 3 stripes 108:60+48;104	
310	D-1L7+2t2-2s Or DE-1L7+2t2-2s 107:86+21;86 Or D-1L7+4s Or DE-1L7+4s 107:87+20;85	E+0-1L7+4t5 108:54+54;108	E+0-1L7+4t5 108:54+54;108

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