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Bis[bis(trimethylsilyl)cyclopentadienyl]uranium(IV)oxide

A. Zalkin and S.M. Beshouri

March 1988

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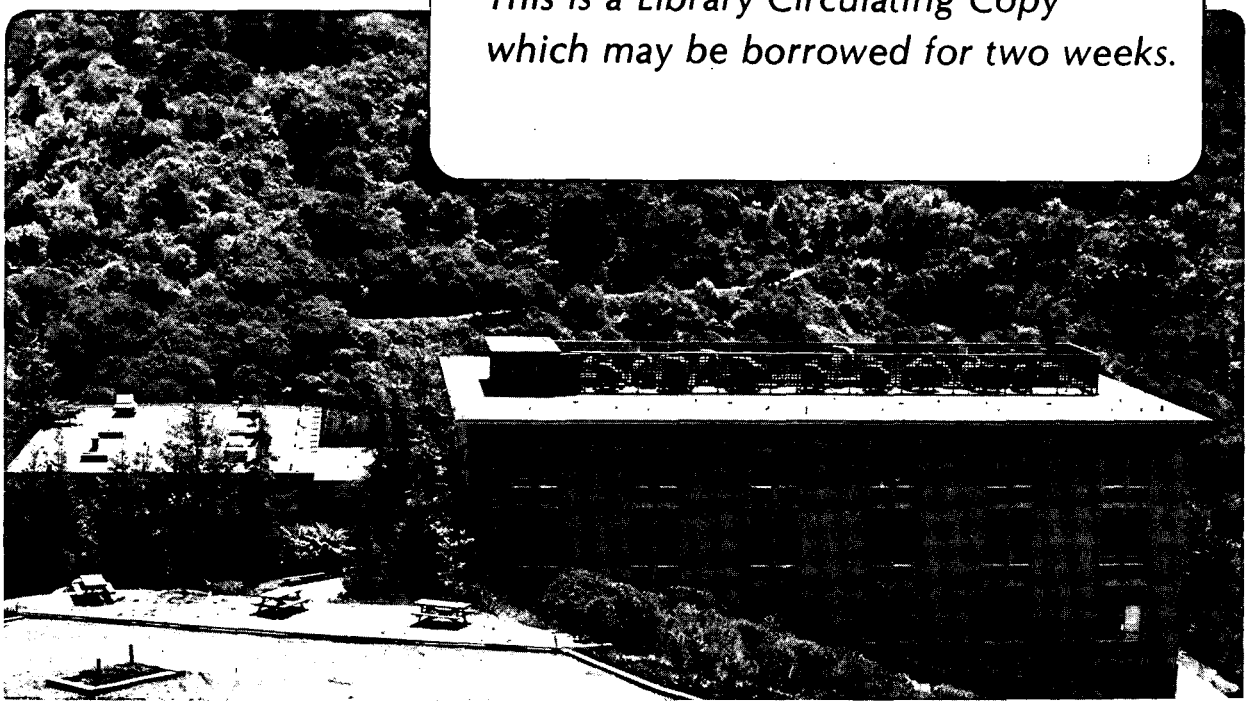

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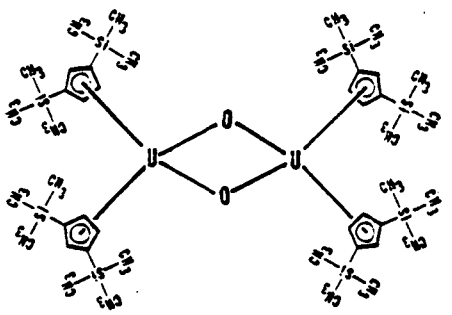
Bis[bis(trimethylsilyl)cyclopentadienyl]uranium(IV)oxide

By Allan Zalkin & Sharon M. Beshouri

Molecular & Chemical Sciences Division, Lawrence Berkeley Laboratory and Department of Chemistry, University of California, Berkeley CA 94720

Abstract. $\{[((CH_3)_3Si)_2C_5H_3]_2UO\}_2$, M_r = 1345.91, monoclinic, $P2_1/n$, a = 15.648(3), b = 15.951(3), c = 12.195(3) Å, β = 99.99(2)°, V = 2997.7 Å^3, Z = 2, D_x = 1.49 g cm^{-3}, λ(MoKα) = 0.71073 Å, μ = 53.0 cm^{-1}, F(000) = 1320, T = 296 °, R = 0.036 for 2997 [$F^2>2\sigma(F^2)$]. The dimeric complex, in which two $(Me_3Si)_2C_4H_3U$ moeities are bridge bonded by two oxygen atoms, lies on a center of symmetry. Distances are: U-O 2.096(6), 2.129(6) Å; <U-C> 2.77(3) Å; <U-Cp> 2.497(4) Å.

Experimental. The title compound was generated as a sideproduction reaction of bis(trimethylsilyl)cyclopentadienyl uranium(III) complexes with unsaturated molecules, and it is believed to be formed as a result of oxygen contamination.



A green air-sensitive crystal, 0.13 x 0.16 x 0.29 mm^3, was sealed inside a quartz capillary in an argon filled drybox. X-ray diffraction intensities (θ-2θ scans) were obtained using a modified Picker FACS-I automatic diffractometer equipped with a graphite monochromater. Cell dimensions from 23 reflections, $20° < 2\theta < 33°$; analytical absorption correction, range 1.65 to 2.43; max $\sin\theta/\lambda = 0.60$ cm^{-1}, h -18 to 18, k 0 to 18, ℓ -14 to 14; three standard reflections, 2.4%, 1.2%, 1.0% variation in standards intensities from average, intensities adjusted isotropically; 10592 data, 5304 unique (including 2307, $F^2 < 2\sigma(F^2)$), $R_{int} = 0.062$; structure solved by Patterson and Fourier methods; refined on F, 389 parameters; hydrogen atoms included with isotropic thermal parameters, methyl hydrogen atoms with distance restraints (C-H 1.00(2) Å, H-H 1.64(3) Å) and global thermal parameters; R = 0.093 (all data), R = 0.36 ($F^2 > 2\sigma(F^2)$ data), wR = 0.034, S = 1.03; $w = 4F^2[\sigma^2(F^2)+(0.035F^2)^2]^{-1}$; max (shift/$\sigma$) = 0.02; no extinction correction indicated; max. min. of ΔF synthesis 1.6 and -1.1 $eÅ^{-3}$; atomic f for neutral U, O, C, and spherical bonded H from International Tables (1974); local unpublished programs and ORTEP (Johnson, 1965).

Atomic parameters are listed in Table 1,* and distances and angles are listed in Table 2. Figure 1 shows the molecule and the numbering scheme.

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*Lists of structure factors, anisotropic thermal parameters, calculated hydrogen positions, distances and angles, and least-squares planes have been deposited with the British Library Lending Division as Supplementary Publication No. XXXXX (16 pp). Copies may be obtained through The Executive Secretary, International Union of Crystallography, 5 Abbey Square, Chester CH1 2HU, England.

Related Literature. The geometry reported here is in agreement with that of an independent, but sparsely reported, determination (Blake, Lappert, Taylor, Attwood & Zhang, 1987). The silicon atoms are from 0.3 to 0.5 Å out of the plane of the cyclopentadienyl rings and away from the uranium atoms.

Acknowledgment. Helpful discussions with Professor R. A. Andersen are appreciated. This work was supported by the Director, Office of Energy Research, Office of Basic Energy Sciences, Chemical Sciences Division of the U. S. Department of Energy under Contract No. DE-AC03-76SF-F00098.

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Blake, P. C., Lappert, M. F., Taylor, R. G., Attwood, J. L. & Zhang, H. (1987). Inorganica Chimica Acta, 139, 13-20.

International Tables for X-ray Crstallography (1974). Vol. IV; Table 2.2, pp 71-102. Birmingham: Kynoch Press.

Johnson, C. K. (1965). ORTEP. Report ORNL-3794. Oak Ridge National Laboratory, Tennessee.

Table 1. Atomic Parameters

$$B_{eq}=1/3\sum_i\sum_j B_{ij}a_i^*a_j^*\cdot a_i\cdot a_j$$

atom	x	y	z	B_{eq}
U	0.06058(2)	0.07242(2)	0.08068(3)	3.178(8)
O	0.0534(3)	-0.0568(3)	0.0363(5)	3.7(2)
Si1	0.30464(18)	0.00222(18)	0.02560(26)	4.59(9)
Si2	0.05474(19)	0.26406(17)	-0.15177(25)	4.50(9)
Si3	-0.06890(25)	0.26147(21)	0.2376(3)	6.6(1)
Si4	0.18098(20)	0.00519(19)	0.40943(24)	4.72(9)
C1	0.1614(6)	0.1175(7)	-0.0718(9)	4.0(3)
C2	0.2233(6)	0.0895(5)	0.0215(8)	3.8(3)
C3	0.2216(6)	0.1512(6)	0.1050(8)	3.7(3)
C4	0.1609(6)	0.2138(6)	0.0609(9)	4.3(3)
C5	0.1233(6)	0.1941(5)	-0.0501(8)	3.8(3)
C6	0.0767(7)	0.1429(6)	0.2942(8)	4.1(3)
C7	-0.0107(6)	0.1596(6)	0.2422(8)	4.2(3)
C8	-0.0510(6)	0.0794(8)	0.2294(8)	4.4(3)
C9	0.0079(7)	0.0170(7)	0.2706(8)	3.9(3)
C10	0.0907(6)	0.0553(5)	0.3121(7)	3.7(3)
C11	0.2727(8)	-0.0936(7)	0.0968(11)	6.8(4)
C12	0.4095(7)	0.0396(7)	0.1071(11)	6.0(4)
C13	0.3177(8)	-0.0227(8)	-0.1186(11)	6.9(4)
C14	0.0907(9)	0.3723(7)	-0.1193(11)	7.6(5)
C15	0.0710(8)	0.2363(8)	-0.2940(10)	6.7(4)
C16	-0.0639(7)	0.2548(8)	-0.1461(11)	6.6(4)
C17	-0.1744(9)	0.2561(9)	0.1453(16)	10.9(7)
C18	-0.0058(10)	0.3497(8)	0.1844(14)	9.8(6)
C19	-0.0802(19)	0.2846(13)	0.3795(14)	21.2(14)
C20	0.2892(7)	0.0471(7)	0.3902(10)	6.2(4)
C21	0.1674(10)	0.0292(9)	0.5538(10)	7.9(5)
C22	0.1729(10)	-0.1100(7)	0.3895(12)	8.1(5)

Table 2: Selected Distances(Å) and Angles(°)[a]

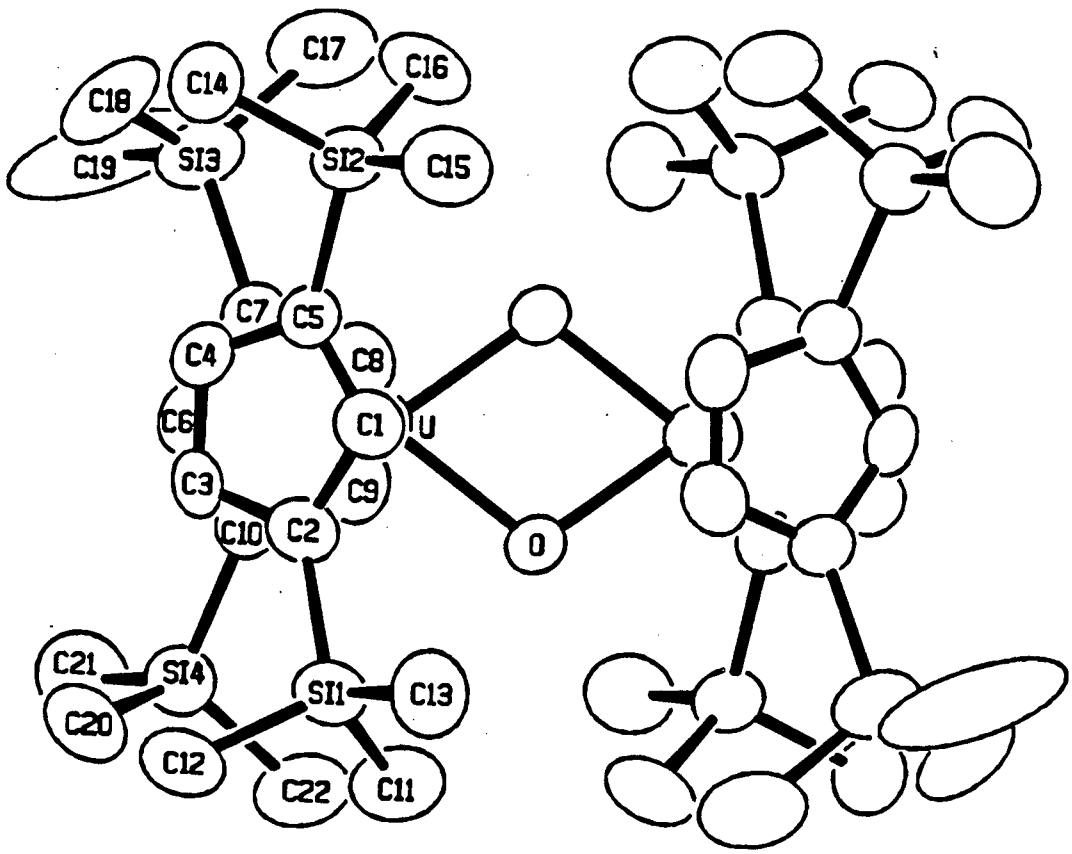
O - U	2.096(6)	C6 - U	2.806(9)
O' - U	2.129(5)	C9 - U	2.736(9)
Cp1 - U	2.499	C7 - U	2.795(9)
Cp2 - U	2.494	C8 - U	2.729(9)
C1 - U	2.735(9)	C10 - U	2.793(9)
C2 - U	2.778(8)	U - U'	3.3927(9)
C3 - U	2.784(9)	O - O'	2.520(11)
C4 - U	2.781(9)	<Si - C>	1.857(21)
C5 - U	2.796(9)		

Cp1 - U - Cp2	123.38
O - U - Cp1	115.11
O - U - Cp2	109.78
O'- U - Cp1	115.14
O'- U - Cp2	109.40
O - U - O	73.20(23)
U - O - U	106.80(23)

[a] Cp1 and Cp2 are the centroids of atoms C(1)-C(5), C(6)-C(10) respectively. Primed atoms are at -x,-y,-z.

Figure Caption

Fig. 1. ORTEP drawing; thermal ellipsoids at 50% probability level.



Supplemental Material

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Molecular & Chemical Sciences Division, Lawrence Berkeley Laboratory and Department of Chemistry, University of California, Berkeley CA 94720

Abstract. $\{[((CH_3)_3Si)_2C_5H_3]_2UO\}_2$, M_r= 1345.91, monoclinic, $P2_1/n$, a = 15.648(3), b= 15.951(3), c = 12.195(3) Å, β = 99.99(2)°, V = 2997.7 $Å^3$, Z = 2, D_x = 1.49 g cm^{-3}, λ(MoKα) = 0.71073 Å, μ = 53.0 cm^{-1}, F(000) = 1320, T = 296 °, R = 0.036 for 2997 [$F^2>2\sigma(F^2)$]. The dimeric complex, in which two $(Me_3Si)_2C_4H_3U$ moeities are bridge bonded by two oxygen atoms, lies on a center of symmetry. Distances are: U-O 2.096(6), 2.129(6) Å; <U-C> 2.77(3) Å; <U-Cp> 2.497(4) Å.

Table S1. Anisotropic Thermal Parameters[a] ($Å^2$)

Atom	B_{11}	B_{22}	B_{33}	B_{12}	B_{13}	B_{23}
U1	3.064(14)	2.916(13)	3.603(15)	-0.478(18)	0.717(10)	-0.244(20)
O	3.46(27)	3.10(29)	4.5(3)	0.15(22)	0.35(24)	-0.26(22)
Si1	3.30(13)	4.96(14)	5.55(16)	0.29(11)	0.93(12)	0.51(13)
Si2	4.74(15)	3.68(13)	5.07(16)	0.13(11)	0.85(13)	1.03(12)
Si3	7.80(22)	5.65(18)	6.44(20)	2.76(16)	1.55(17)	-0.61(15)
Si4	5.14(16)	5.01(15)	3.99(15)	0.26(12)	0.75(12)	0.22(12)
C1	3.7(5)	4.5(5)	4.0(6)	-0.4(4)	1.5(5)	1.0(5)
C2	3.1(4)	4.3(5)	4.3(5)	-0.3(3)	1.3(4)	1.4(4)
C3	3.3(4)	3.7(5)	3.8(5)	-1.1(4)	-0.1(4)	-0.3(4)
C4	4.1(5)	2.9(4)	5.8(6)	-0.4(4)	0.8(5)	0.0(4)
C5	3.7(5)	3.0(4)	4.6(5)	-0.5(4)	0.4(4)	0.4(4)
C6	4.3(5)	3.6(5)	4.3(5)	-0.3(4)	0.7(4)	-1.7(4)
C7	4.5(5)	3.8(5)	4.3(5)	0.9(4)	0.5(4)	-0.6(4)
C8	3.5(5)	5.9(6)	3.8(5)	0.0(5)	1.1(4)	-0.5(5)
C9	4.3(6)	4.4(5)	3.6(5)	-0.9(4)	2.0(4)	-0.4(4)
C10	4.1(5)	3.7(5)	3.3(4)	0.1(4)	0.7(4)	0.0(3)
C11	5.5(6)	5.9(7)	9.2(9)	-0.1(5)	2.0(6)	1.6(6)
C12	3.6(5)	6.5(6)	7.9(8)	0.7(4)	0.8(5)	0.8(6)
C13	5.7(7)	7.3(7)	7.7(8)	0.0(6)	1.3(6)	-1.4(6)
C14	9.0(8)	4.4(6)	8.1(8)	-1.1(6)	-2.1(7)	1.4(6)
C15	7.6(7)	6.8(7)	5.7(7)	0.4(6)	1.0(6)	1.7(6)
C16	3.5(5)	8.6(8)	7.4(7)	0.0(5)	0.0(5)	2.2(6)
17	5.3(8)	7.8(9)	19.3(17)	2.0(7)	1.3(10)	-0.1(10)
C18	10.9(11)	3.9(6)	14.8(13)	1.1(7)	3.1(10)	-1.0(8)
C19	41.7(34)	15.2(16)	9.1(12)	19.5(20)	10.9(19)	3.5(12)
C20	4.5(6)	7.2(7)	6.5(7)	-0.8(5)	-0.5(5)	1.3(5)
C21	9.5(9)	9.4(9)	4.9(7)	0.1(7)	1.0(7)	0.4(6)
C22	10.0(10)	5.3(6)	8.5(9)	1.9(7)	0.5(7)	1.5(6)

[a] The anisotropic temperature factor has the form: $-0.25\exp(h^2a^{*2}B_{11} + 2hka^*b^*B_{12} + \ldots)$.

Table S2. Hydrogen Positional and Thermal Parameters

Atom	x	y	z	B(Å^2)[a]
H1	0.160(4)	0.091(4)	-0.138(6)	1.6(17)
H2	0.255(4)	0.161(4)	0.180(6)	2.0(16)
H3	0.143(4)	0.259(4)	0.103(6)	1.7(16)
H4	0.117(5)	0.190(4)	0.318(6)	2.8(17)
H5	-0.114(5)	0.063(5)	0.189(7)	4.5(20)
H6	0.002(7)	-0.049(7)	0.262(9)	8.0(32)
H7	0.218(3)	-0.118(6)	0.055(6)	9.1(11)
H8	0.271(5)	-0.086(6)	0.1774(27)	9.1
H9	0.322(4)	-0.134(5)	0.092(7)	9.1
H10	0.402(7)	0.054(5)	0.185(4)	9.1
H11	0.434(6)	0.089(3)	0.072(7)	9.1
H12	0.448(5)	-0.010(3)	0.107(7)	9.1
H13	0.336(5)	0.024(4)	-0.164(7)	9.1
H14	0.263(3)	-0.048(5)	-0.158(7)	9.1
H15	0.365(4)	-0.065(4)	-0.106(8)	9.1
H16	0.1542(16)	0.376(8)	-0.114(8)	11.5(14)
H17	0.070(6)	0.380(8)	-0.048(4)	11.5
H18	0.057(5)	0.401(7)	-0.184(5)	11.5
H19	0.040(5)	0.183(3)	-0.315(9)	11.5
H20	0.1344(17)	0.231(6)	-0.294(10)	11.5
H21	0.046(6)	0.285(4)	-0.340(8)	11.5
H22	-0.085(6)	0.277(6)	-0.078(5)	11.5
H23	-0.116(5)	0.238(6)	-0.204(6)	11.5
H24	-0.039(7)	0.306(4)	-0.180(7)	11.5
H25	-0.209(7)	0.214(5)	0.180(10)	14.0(18)
H26	-0.164(9)	0.235(7)	0.072(5)	14.0
H27	-0.206(7)	0.311(4)	0.135(10)	14.0
H28	-0.032(7)	0.351(8)	0.104(3)	14.0
H29	0.0590(16)	0.347(8)	0.194(10)	14.0
H30	-0.023(7)	0.402(5)	0.222(9)	14.0
H31	-0.022(3)	0.268(7)	0.421(11)	14.0
H32	-0.127(5)	0.253(6)	0.407(13)	14.0
H33	-0.089(7)	0.3463(17)	0.383(11)	14.0
H34	0.299(7)	0.1083(15)	0.394(8)	11.0(13)
H35	0.282(7)	0.027(6)	0.311(3)	11.0
H36	0.335(5)	0.016(5)	0.439(7)	11.0
H37	0.1038(17)	0.017(6)	0.540(9)	11.0
H38	0.178(6)	0.0892(18)	0.576(9)	11.0
H39	0.198(6)	-0.009(5)	0.613(7)	11.0
H40	0.168(6)	-0.142(6)	0.318(4)	11.0
H41	0.116(3)	-0.117(7)	0.418(7)	11.0
H42	0.221(4)	-0.132(7)	0.447(6)	11.0

[a] The isotropic temperature factor has the form: $\exp\text{-}B(\sin\theta/\lambda)^2$.

Table S3. Additional Distance

atoms	d(Å)	atoms	d(Å)
C13 - Si1	1.848(12)	C11 - H9	1.01
C12 - Si1	1.863(11)	C12 - H10	1.00
C11 - Si1	1.868(11)	C12 - H11	1.00
C2 - Si1	1.881(9)	C12 - H12	1.00
C14 - Si2	1.838(12)	C13 - H13	1.00
C15 - Si2	1.850(12)	C13 - H14	1.00
C5 - Si2	1.863(9)	C13 - H15	1.00
C16 - Si2	1.876(11)	C14 - H16	0.99
C19 - Si3	1.807(16)	C14 - H17	0.98
C17 - Si3	1.831(15)	C14 - H18	0.98
C7 - Si3	1.860(10)	C15 - H19	0.99
C18 - Si3	1.896(14)	C15 - H20	1.00
C21 - Si4	1.850(12)	C15 - H21	0.99
C22 - Si4	1.856(13)	C16 - H22	1.01
C10 - Si4	1.860(9)	C16 - H23	1.01
C20 - Si4	1.873(11)	C16 - H24	1.02
C5 - C1	1.404(13)	C17 - H25	1.00
C2 - C1	1.431(13)	C17 - H26	1.00
C3 - C2	1.420(12)	C17 - H27	1.00
C4 - C3	1.418(13)	C18 - H28	1.00
C5 - C4	1.415(13)	C18 - H29	1.00
C10 - C6	1.425(12)	C18 - H30	1.01
C7 - C6	1.430(12)	C19 - H31	1.00
C8 - C7	1.422(13)	C19 - H32	1.00
C9 - C8	1.390(14)	C19 - H33	1.00
C10 - C9	1.443(12)	C20 - H34	0.99
C1 - H1	0.91(7)	C20 - H35	1.00
C3 - H2	0.99(7)	C20 - H36	0.99
C4 - H3	0.95(6)	C21 - H37	1.00
C6 - H4	0.99(7)	C21 - H38	1.00
C8 - H5	1.06(8)	C21 - H39	1.00
C9 - H6	1.05(10)	C22 - H40	1.00
C11 - H7	0.99	C22 - H41	1.01
C11 - H8	1.00	C22 - H42	1.00

Table S4. Additional Angles

atoms	angle(°)	atoms	angle(°)
C2 -Si1-C11	112.5(5)	C20-Si4-C21	107.5(6)
C2 -Si1-C12	107.9(5)	C20-Si4-C22	112.3(6)
C2 -Si1-C13	108.6(5)	C21-Si4-C22	108.3(6)
C11-Si1-C12	107.2(6)	C2 -C1 - C5	111.9(10)
C11-Si1-C13	110.4(6)	Si1-C2 - C1	127.8(8)
C12-Si1-C13	110.1(6)	Si1-C2 - C3	126.2(7)
C5 -Si2-C14	107.5(5)	C1 -C2 - C3	105.0(9)
C5 -Si2-C15	108.9(5)	C2 -C3 - C4	108.1(9)
C5 -Si2-C16	112.8(5)	C3 -C4 - C5	110.2(9)
C14-Si2-C15	109.9(6)	Si2-C5 - C1	127.6(8)
C14-Si2-C16	109.5(6)	Si2-C5 - C4	126.8(7)
C15-Si2-C16	108.3(6)	C1 -C5 - C4	104.7(9)
C7 -Si3-C17	111.2(6)	C7 -C6 - C10	111.1(9)
C7 -Si3-C18	112.2(6)	Si3-C7 - C6	127.0(8)
C7 -Si3-C19	106.2(6)	Si3-C7 - C8	125.2(8)
C17-Si3-C18	106.9(8)	C6 -C7 - C8	104.7(9)
C17-Si3-C19	111.8(11)	C7 -C8 - C9	110.5(9)
C18-Si3-C19	108.6(11)	C8 -C9 - C10	108.8(9)
C10-Si4-C20	111.7(5)	Si4-C10- C6	126.7(7)
C10-Si4-C21	108.6(5)	Si4-C10- C9	125.4(7)
C10-Si4-C22	108.3(5)	C6 -C10- C9	104.9(8)

Table S5. Least-squares Planes and Deviations from Least-squares planes

Equation of Plane #1. Atoms C(1) - C(5)

12.46682 a + 8.00973 b - 5.72472 c = 3.37294

Deviations from Plane

atom	d(Å)	atom	d(Å)
C(1)	-0.008(14)	U(1)	-2.500(5)
C(2)	0.004(12)	Si(1)	0.296(17)
C(3)	-0.000(13)	Si(2)	0.293(17)
C(4)	-0.004(14)		
C(5)	0.006(13)		

Equation of Plane #2. Atoms C(6) - C(10)

-6.62284 a + 1.43521 b + 11.72296 = 3.14100

Deviations from Plane

atom	d(Å)	atom	d(Å)
C(6)	0.004(13)	U(2)	-2.492(5)
C(7)	-0.003(13)	SI(3)	0.476(17)
C(8)	-0.000(15)	SI(4)	0.468(16)
C(9)	0.003(14)		
C(10)	-0.003(12)		

OBSERVED STRUCTURE AMPLITUDES, STANDARD DEVIATIONS, AND DIFFERENCES (ALL X 3.0)
{[(ME3SI)2C5H3]2UO)}2 F(0,0,0) = 3838

SG = Estimated standard deviation of Fob. DEL = /Fob/- /Fca/, where
Fob and Fca are the observed and calculated structure amplitudes.
F000 = 3.0 x (no. of electrons in the unit cell adjusted for dispersion and omitted atoms).
* indicates zero weighted data.

L	FOB	SG	DEL
H,K=	0,		0
2	431	8	-24
4	460	9	-21
6	716	13	-45
8	227	7	-1
10	96	26	-6
12	225	9	-1
14	91	35	5*
H,K=	0,		1
1	926	26	22
2	203	5	-1
3	325	7	-2
4	255	6	-11
5	413	9	-7
6	128	8	-2
7	330	7	-6
8	257	7	-5
9	56	61	-6*
10	91	19	-9
11	142	12	1
12	0	72	-10*
13	130	15	-12
14	0	79	-54*
H,K=	0,		2
0	666	12	18
1	513	9	17
2	752	19	13
3	504	10	2
4	153	6	-2
5	251	6	-2
6	407	9	-25
7	206	7	2
8	184	8	0
9	281	8	-6
10	167	10	1
11	123	13	8
12	129	14	0
13	65	76	11*
14	27	79	-10*
H,K=	0,		3
1	143	4	3
2	729	13	8
3	34	36	-17*
4	601	11	-1
5	77	11	-4
6	61	27	-4*
7	51	54	-2*
8	251	7	11
9	56	68	55*
10	283	8	3
11	41	71	30*
12	48	73	-10*
13	59	76	44*
14	98	33	-14*
H,K=	0,		4
0	285	7	0
1	548	10	28
2	120	6	4
3	672	12	15
4	40	49	-41*
5	328	7	0
6	125	8	-18
7	208	7	-6
8	113	13	3
9	354	8	-14
10	74	36	15*
11	148	11	10
12	66	68	37*
13	77	43	16*

L	FOB	SG	DEL
H,K=	0,		5
1	449	9	6
2	396	8	10
3	83	8	3
4	497	10	0
5	355	8	9
6	120	9	4
7	349	8	-3
8	324	8	-4
9	42	64	25*
10	191	9	3
11	108	24	-21
12	53	76	14*
13	143	14	1
H,K=	0,		6
0	794	15	30
1	232	5	1
2	185	5	6
3	365	8	-2
4	269	6	-1
5	21	54	-11*
6	394	8	3
7	102	13	-7
8	189	9	-8
9	165	10	6
10	32	68	2*
11	89	30	14*
12	182	11	7
13	40	78	12*
H,K=	0,		7
1	680	12	7
2	59	19	-2*
3	45	48	5*
4	10	52	-20*
5	497	10	8
6	116	10	2
7	460	10	-9
8	48	62	-8*
9	32	63	-3*
10	0	69	-20*
11	178	10	-1
12	50	75	46*
13	165	12	16
H,K=	0,		8
0	249	7	14
1	23	48	0*
2	311	7	3
3	280	6	-2
4	165	6	12
5	91	13	-11
6	351	8	2
7	0	66	-47*
8	225	8	5
9	98	16	-5
10	56	70	-25*
11	85	35	-8*
12	114	17	-13
H,K=	0,		9
1	327	7	3
2	391	8	0
3	100	10	-7
4	311	7	-1
5	291	7	1
6	0	65	-32*
7	193	8	-3
8	184	9	5
9	24	68	1*
10	179	10	-9
11	97	27	11

L	FOB	SG	DEL
12	62	77	18*
H,K=	0,		10
0	138	10	0
1	233	6	3
2	166	7	-3
3	369	8	6
4	59	37	10*
5	292	7	-2
6	0	66	-22*
7	144	10	7
8	59	67	56*
9	247	8	-10
10	16	73	11*
11	127	14	8
12	75	49	52*
H,K=	0,		11
1	189	7	3
2	366	8	0
3	15	61	-20*
4	348	8	-2
5	55	58	29*
6	43	66	5*
7	60	65	16*
8	278	8	7
9	0	71	-23*
10	174	11	5
11	0	75	-6*
H,K=	0,		12
0	384	9	-20
1	171	8	1
2	115	11	-2
3	325	7	-7
4	10	65	-46*
5	73	40	-1*
6	201	8	-9
7	32	70	-53*
8	67	70	-5*
9	170	10	8
10	79	24	46*
11	65	77	-12*
H,K=	0,		13
1	285	7	-1
2	106	13	-4
3	69	22	-25*
4	88	23	-7
5	209	8	0
6	46	68	8*
7	196	9	6
8	39	72	-39*
9	38	67	20*
10	79	41	2*
H,K=	0,		14
0	372	10	-8
1	15	64	-19*
2	216	8	0
3	66	38	-14*
4	114	12	3
5	5	61	-37*
6	243	8	-6
7	45	71	27*
8	133	13	9
9	59	66	39*
H,K=	0,		15
1	253	7	-3
2	163	9	4
3	0	67	-19*
4	142	11	1
5	124	13	-13
6	46	72	0*

L	FOB	SG	DEL
7	124	14	-6
8	0	75	-38*
H,K=	0,		16
0	188	12	2
1	111	14	-12
2	95	23	1
3	186	9	-9
4	78	43	21*
5	156	11	-5
6	91	30	-5*
7	61	74	-11*
H,K=	0,		17
1	29	70	23*
2	154	11	-8
3	55	71	11*
4	175	10	0
5	0	72	-7*
6	28	75	18*
H,K=	0,		18
0	0	86	-45*
1	61	67	-38*
2	0	72	-13*
3	200	9	10
4	39	74	23*
H,K=	1,		0
-13	292	9	22
-11	156	10	21
-9	293	8	-3
-7	446	10	-13
-5	245	6	-2
-3	579	11	-18
1	620	11	-29
3	551	10	-39
5	672	12	-20
7	281	7	-17
9	44	68	-31*
11	110	15	-11
13	146	13	29
H,K=	1,		1
-14	117	18	0
-13	14	78	3*
-12	180	11	-6
-11	107	15	7
-10	63	32	9*
-9	126	12	-7
-8	260	7	-8
-7	141	8	-3
-6	423	9	-27
-5	508	10	-18
-4	227	5	6
-3	81	14	26
-2	461	8	-1
-1	7	28	1*
1	564	19	15
2	178	5	10
3	173	7	0
4	399	8	-9
5	142	6	-5
6	654	12	-28
7	214	7	-12
8	273	7	-4
9	193	9	-5
10	134	12	4
11	15	70	-16*
12	193	10	6
13	88	43	26*
14	58	78	9*
H,K=	1,		2
-14	0	80	-59*

L	FOB	SG	DEL
-13	126	15	5
-12	135	13	26
-11	141	12	17
-10	252	8	2
-9	99	15	8
-8	147	9	-12
-7	323	7	-8
-6	131	7	-6
-5	130	7	-6
-4	557	10	-17
-3	515	10	-7
-2	352	7	5
-1	545	10	26
0	439	8	15
1	237	5	0
2	759	21	9
3	111	9	3
4	429	9	-10
5	415	9	-13
6	215	6	-5
7	217	7	-7
8	365	8	-7
9	51	69	7*
10	158	11	1
11	139	12	-1
12	0	74	-17*
13	67	76	44*
14	131	15	23
H,K=	1,		3
-14	34	78	19*
-13	37	76	10*
-12	30	74	-11*
-11	246	8	4
-10	54	65	10*
-9	359	8	-3
-8	22	64	-28*
-7	76	22	18*
-6	47	54	11*
-5	319	7	-11
-4	38	48	-3*
-3	535	10	2
-2	91	7	21
-1	235	5	13
0	269	6	9
1	711	13	16
2	126	6	14
3	563	24	-3
4	204	5	7
5	19	48	-7*
6	243	6	-3
7	248	7	-2
8	124	11	6
9	317	8	-12
10	17	70	6*
11	84	31	-6*
12	74	26	12*
13	95	21	-6
H,K=	1,		4
-14	23	80	-36*
-13	24	76	10*
-12	164	11	31
-11	38	71	-2*
-10	312	8	6
-9	61	69	37*
-8	242	7	-3
-7	214	7	5
-6	228	6	-11
-5	210	6	8
-4	639	12	5

L	FOB	SG	DEL
-3	48	25	6*
-2	327	7	4
-1	433	8	22
0	244	5	10
1	114	5	17
H,K=	1,		7
2	660	12	13
3	136	5	1
4	416	8	0
5	98	9	5
6	82	13	-7
7	144	9	4
8	405	9	-3
9	56	64	28*
10	214	9	11
11	79	35	-5*
12	0	74	-35*
13	85	36	40*
H,K=	1,		5
-13	48	78	41*
-12	129	14	12
-11	162	11	-5
-10	64	64	11*
-9	240	8	7
-8	249	8	-8
-7	141	9	5
-6	327	7	2
-5	411	9	-7
-4	0	49	-19*
-3	319	7	-7
-2	429	8	4
-1	151	5	6
0	566	10	18
1	204	5	7
2	0	44	-26*
3	487	9	2
4	349	8	5
5	228	6	9
6	193	7	-5
7	286	7	4
8	50	67	21*
9	296	8	3
10	123	13	-3
11	13	72	-47*
12	114	16	6
13	88	37	-8*
H,K=	1,		6
-13	158	13	3
-12	75	45	26*
-11	77	49	8*
-10	149	10	11
-9	159	10	16
-8	61	56	2*
-7	366	8	-7
-6	97	11	-4
-5	305	7	3
-4	216	5	-6
-3	186	5	0
-2	114	6	-10
-1	712	13	19
0	292	6	14
H,K=	1,		9
1	742	13	24
2	293	6	-5
3	239	6	9
4	88	9	10
5	431	9	3
6	125	9	-6
7	287	7	-8
8	146	10	3
9	71	38	4*

L	FOB	SG	DEL
10	84	30	-8*
11	184	10	7
12	59	73	53*
13	162	13	5
H,K=	1,		7
-13	42	72	33*
-12	105	28	-20
-11	0	74	-6*
-10	9	69	-27*
-9	33	69	17*
-8	411	9	-5
-7	62	63	38*
-6	376	8	-3
-5	164	7	-9
-4	32	51	7*
-3	38	44	15*
-2	693	13	11
-1	159	5	5
0	613	11	9
1	20	46	-12*
2	173	5	7
3	10	49	-11*
4	381	8	7
5	98	11	1
6	365	8	1
7	0	65	-2*
8	87	18	2
9	30	69	21*
10	221	8	13
11	55	73	45*
12	180	11	8
13	49	71	47*
H,K=	1,		8
-13	76	53	-26*
-12	64	69	9*
-11	56	67	-9*
-10	106	15	10
-9	66	45	-28*
-8	16	69	-53*
-7	403	9	-4
-6	79	23	-1*
-5	275	7	-5
-4	144	7	-2
-3	260	6	0
-2	288	6	6
-1	595	11	-9
0	52	33	-1*
1	344	8	0
2	424	9	11
3	42	48	-19*
4	211	6	6
5	346	8	5
6	34	62	9*
7	275	7	-4
8	139	11	-2
9	73	34	-5*
10	86	20	-17
11	197	10	11
12	24	76	23*
H,K=	1,		9
-12	84	50	3*
-11	155	12	7
-10	55	71	-11*
-9	184	9	-3
-8	189	9	9
-7	54	59	6*
-6	240	7	2
-5	206	7	1
-4	33	57	-24*

L	FOB	SG	DEL
-3	440	9	2
-2	237	6	-1
-1	28	51	17*
0	429	9	1
1	385	8	7
2	27	53	15*
3	513	10	7
4	209	7	2
5	7	61	-24*
6	123	11	7
7	194	8	0
8	73	35	10*
9	192	9	-10
10	64	73	-26*
11	46	75	-19*
12	93	32	12*
H,K=	1,		10
-12	90	34	3*
-11	33	74	15*
-10	208	9	0
-9	34	69	7*
-8	229	8	-2
-7	55	66	30*
-6	172	9	5
-5	93	14	-6
-4	458	10	-1
-3	0	58	-49*
-2	241	6	-5
-1	120	8	3
0	160	7	10
1	169	7	-3
2	421	9	1
3	0	58	-20*
4	264	7	4
5	0	64	-26*
6	66	57	46*
7	46	66	31*
8	298	8	-2
9	21	65	-20*
10	167	10	23
11	43	74	19*
12	0	77	-23*
H,K=	1,		11
-11	135	21	-22
-10	39	65	27*
-9	204	9	-3
-8	50	68	30*
-7	85	25	15*
-6	60	62	-12*
-5	364	8	0
-4	53	57	-15*
-3	346	8	-7
-2	0	59	-18*
-1	130	9	10
0	206	7	-5
1	355	8	-10
2	32	59	8*
3	341	8	1
4	123	11	-4
5	110	13	10
6	155	10	-5
7	230	8	9
8	0	70	-35*
9	199	9	-4
10	13	74	-2*
11	41	75	14*
H,K=	1,		12
-11	17	77	-38*
-10	175	11	14

L	FOB	SG	DEL
-9	48	72	-39*
-8	94	25	-4
-7	176	9	6
-6	51	61	-16*
-5	48	60	-12*
-4	278	7	-4
-3	109	12	-11
-2	249	7	-2
-1	248	7	-7
0	88	21	-27
1	159	8	-1
2	274	7	-10
3	218	7	1
4	162	9	-1
5	230	8	5
6	117	12	-7
7	126	12	-4
8	143	12	-3
9	41	73	22*
10	96	27	26
H,K= 1, 13			
-10	68	61	29*
H,K= 1, 17			
-9	110	15	16
-8	163	10	13
-7	47	69	13*
-6	252	8	2
-5	33	66	-40*
-4	40	63	32*
-3	132	11	-1
-2	302	7	-4
-1	38	57	35*
0	271	7	-4
1	120	11	1
2	62	64	30*
3	120	11	7
4	223	7	4
H,K= 1, 18			
5	58	67	-17*
6	306	8	3
7	30	71	-26*
8	102	17	9
9	92	19	15
10	82	42	-27*
H,K= 1, 14			
-9	53	76	-39*
-8	64	71	36*
-7	217	9	-2
-6	56	69	21*
-5	117	13	-9
-4	49	65	44*
-3	175	9	-4
-2	41	64	0*
-1	346	8	-8
0	0	64	-21*
1	145	10	-13
2	57	65	-17*
3	112	12	-13
4	33	59	-9*
5	296	8	-12
6	57	70	50*
7	142	13	-18
8	0	73	-35*
9	40	69	-7*
H,K= 1, 15			
-8	130	14	12
-7	55	73	52*
-6	156	11	-11
-5	74	38	-37*
-4	42	68	11*
-3	115	13	-15
-2	148	10	-6
-1	58	60	1*
0	291	8	-10
1	158	9	-3
2	45	67	-5*
3	158	10	-4

L	FOB	SG	DEL
4	188	9	-3
5	32	72	-40*
6	175	10	0
7	37	74	-15*
8	75	59	22*
H,K= 1, 16			
-7	84	23	-4
-6	98	18	10
-5	60	36	-16*
-4	232	8	13
-3	47	63	-13*
-2	75	31	0*
-1	129	12	-9
0	113	13	9
1	77	42	-16*
H,K= 2, 2			
2	190	9	-12
3	0	71	-51*
4	130	13	-15
5	130	13	14
6	0	74	-27*
7	0	77	-61*
H,K= 1, 17			
-6	0	74	-14*
-5	152	12	6
-4	53	72	22*
-3	167	11	-14
-2	44	70	16*
-1	27	70	-7*
0	24	69	18*
1	165	10	-4
2	0	72	-32*
3	205	9	2
4	34	72	23*
5	53	67	0*
6	55	68	23*
H,K= 1, 18			
-4	124	15	-13
-3	39	73	32*
-2	132	13	6
-1	55	72	2*
0	67	29	3*
1	73	41	8*
2	194	10	0
3	25	67	21*
4	114	15	17
H,K= 2, 0			
-14	149	14	10
-12	141	12	10
-10	230	8	13
-8	376	8	-2
-6	377	8	-12
-4	482	9	-8
-2	137	5	-2
0	791	14	31
2	512	10	4
4	519	10	-14
6	361	8	-23
8	0	66	-28*
10	197	9	3
12	184	10	11
H,K= 2, 1			
-14	29	80	20*
-13	182	11	7
-12	47	69	-36*
-11	52	70	2*
-10	125	14	-6
-9	335	8	-5
-8	51	64	18*
-7	532	11	-15
-6	227	6	-1
-5	360	8	-8
-4	320	7	-18
-3	549	10	-19
-2	243	5	1
-1	874	16	48

L	FOB	SG	DEL
0	371	7	12
1	81	5	9
2	285	6	-2
3	457	9	-18
4	27	50	-9*
5	590	11	-39
6	11	55	-23*
7	161	8	-10
8	328	8	-10
9	222	8	-8
10	71	37	18*
11	235	8	8
12	51	73	19*
13	95	20	29
H,K= 2, 2			
-14	88	38	5*
-13	93	32	7*
-12	49	74	30*
-11	253	8	6
-10	68	48	17*
-9	176	9	-10
-8	256	7	2
-7	101	11	-6
-6	245	6	-6
-5	616	12	-24
-4	175	5	10
-3	279	6	7
-2	411	8	21
-1	141	4	8
0	113	4	2
1	805	25	22
2	80	9	23
3	487	9	1
4	281	6	1
5	152	6	-2
6	265	6	-8
7	385	8	-3
8	76	20	-5
9	235	8	-10
10	155	11	-2
11	46	70	34*
12	137	13	11
13	127	15	17
H,K= 2, 3			
-14	0	79	-17*
-13	66	70	20*
-12	224	9	5
-11	40	71	23*
-10	349	8	6
-9	138	12	7
-8	61	50	-12*
-7	190	7	-1
-6	347	7	-12
-5	134	7	3
-4	662	12	29
-3	0	47	-25*
-2	473	9	17
-1	252	5	13
0	698	13	34
1	282	6	10
2	860	27	5
3	214	5	-4
4	212	5	3
5	251	6	5
6	468	10	-10
7	50	62	-2*
8	367	8	1
9	107	15	6
10	122	19	-18
11	98	25	1
12	87	33	-2*
13	47	70	44*
H,K= 2, 4			
-14	78	50	16*
-13	90	35	3*

L	FOB	SG	DEL
-12	31	76	-5*
-11	272	8	2
-10	66	57	47*
-9	297	8	2
-8	95	22	-18
-7	46	60	-20*
-6	104	9	14
-5	634	12	2
-4	103	7	9
-3	555	10	19
-2	250	5	2
0	125	5	21
1	719	19	22
2	168	5	8
3	424	8	11
4	126	7	7
5	134	7	10
6	128	9	3
7	383	8	2
8	69	37	23*
9	281	8	1
10	88	29	-4*
11	59	70	40*
12	30	68	1*
13	153	13	12
H,K= 2, 5			
-13	121	16	21
-12	124	15	3
-11	44	64	41*
-10	210	9	4
-9	138	12	3
-8	114	13	-2
-7	166	8	10
-6	202	6	-5
-5	79	11	-9
-4	549	10	10
-3	328	7	0
-2	39	40	-5*
-1	403	8	9
0	263	6	5
1	212	5	1
2	513	10	14
3	274	6	4
4	130	7	5
5	280	6	-1
6	188	7	-9
7	184	8	7
8	421	9	-3
9	74	38	2*
10	0	70	-71*
11	86	31	13*
12	140	13	32
13	96	21	36
H,K= 2, 6			
-13	38	79	13*
-12	148	13	5
-11	63	67	-29*
-10	133	12	19
-9	97	25	3
-8	353	8	1
-7	54	63	-29*
-6	236	6	1
-5	122	8	-14
-4	269	6	-5
-3	64	17	-25
-2	681	12	10
-1	49	22	1*
0	679	12	15
1	155	5	0
2	94	8	1
3	156	6	3
4	658	12	26
5	114	9	-3
6	384	8	4
7	155	9	5

L	FOB	SG	DEL
8	23	70	-19*
9	88	19	18
10	208	9	10
11	53	73	47*
12	143	13	19
13	35	79	-18*
H,K= 2, 7			
-13	127	16	4
-12	47	75	32*
-11	54	65	46*
-10	19	70	17*
-9	181	9	5
-8	49	68	17*
-7	308	7	-2
-6	44	60	6*
-5	0	56	-19*
-4	105	9	-7
-3	486	9	3
-2	74	16	-16
-1	675	12	12
0	0	43	-26*
1	259	6	-4
2	22	48	-9*
3	330	7	12
4	0	54	-11*
5	467	10	-3
6	102	18	-17
7	234	7	5
8	78	32	17*
9	124	13	-4
10	0	71	-5*
11	217	9	17
12	49	75	41*
H,K= 2, 8			
-13	67	72	32*
-12	102	19	8
-11	45	75	-56*
-10	0	70	-50*
-9	94	16	3
-8	324	8	0
-7	122	12	2
-6	287	7	3
-5	138	8	7
-4	232	6	-2
-3	273	6	6
-2	804	15	11
-1	116	7	5
0	446	9	4
1	383	8	6
2	67	13	-3
3	379	8	1
4	491	10	16
5	100	12	-4
6	317	7	9
7	217	8	3
8	39	68	13*
9	129	12	0
10	216	9	13
11	52	74	48*
12	89	35	-19*
H,K= 2, 9			
-12	111	27	-18
-11	54	75	47*
-10	157	11	2
-9	112	14	-12
-8	36	68	-5*
-7	96	22	1
-6	254	7	6
-5	45	56	-5*
-4	292	7	-5
-3	231	6	8
-2	155	7	-6
-1	335	7	0
0	316	7	6
1	255	6	2

L	FOB	SG	DEL
2	502	10	7
3	119	9	-4
4	153	8	2
5	219	7	3
6	229	8	9
7	130	12	16
8	233	8	13
9	62	65	-24*
10	76	61	-22*
11	26	69	-22*
12	63	77	13*
H,K= 2, 10			
-12	17	80	-30*
-11	195	10	7
-10	56	72	43*
-9	165	10	3
-8	39	68	-16*
-7	88	17	30
-6	54	59	28*
-5	462	10	6
-4	183	7	1
-3	306	7	-1
-2	144	7	5
-1	148	7	4
0	270	6	-1
1	500	10	-5
2	37	58	-5*
3	281	7	2
4	150	9	11
5	31	64	4*
6	65	40	36*
H,K= 2, 11			
-11	0	70	-2*
-10	180	10	4
-9	107	16	7
-8	62	69	-8*
-7	156	10	5
-6	227	8	10
-5	50	66	-7*
-4	392	8	2
-3	0	61	-16*
-2	94	13	-9
-1	59	34	1*
0	235	7	-3
1	94	13	-11
2	359	8	1
H,K= 2, 12			
-11	137	14	9
-10	92	30	-2*
-9	119	14	14
-8	155	11	-14
-7	84	27	-15*
-6	169	9	3
-5	212	8	-2
-4	42	60	-20*
H,K= 2, 13			
-3	183	8	9
-2	142	9	0
-1	40	62	-11*
0	189	7	2
1	249	7	9
2	103	13	-7

L	FOB	SG	DEL
3	242	7	-5
4	189	8	1
5	114	13	2
6	157	10	-5
7	180	10	0
8	31	71	27*
9	104	17	12
10	57	77	-18*
H,K= 2, 13			
-10	78	58	22*
-9	164	11	1
-8	29	72	21*
-7	270	8	-6
-6	34	63	-36*
-5	88	17	-1
-4	62	66	-14*
-3	289	7	1
-2	27	59	-29*
-1	321	8	-10
0	129	10	13
1	29	64	9*
2	53	66	-38*
3	201	8	-10
H,K= 2, 14			
-9	43	75	39*
-8	207	10	6
-7	0	73	-11*
-6	168	10	-7
-5	35	66	28*
-4	0	68	-84*
-3	0	66	-17*
-2	277	7	-5
-1	0	65	-25*
0	199	8	-6
1	58	64	40*
2	29	66	-62*
3	0	65	-29*
4	262	8	-5
5	8	69	-6*
6	179	10	0
7	62	71	54*
H,K= 2, 15			
-8	43	75	31*
-7	183	10	5
-6	83	33	-22*
-5	52	72	-14*
-4	101	22	-13
-3	156	10	2
-2	69	34	27*
-1	252	8	3
0	120	12	-5
1	90	16	-3
2	146	11	-12
3	197	9	-3
4	0	71	-43*
5	211	9	4
6	51	74	-19*
7	51	73	8*
8	63	76	-3*
H,K= 2, 16			
-7	46	67	16*
-6	64	73	-14*
-5	200	9	-2
-4	59	69	51*
-3	84	30	-20*
-2	103	15	5

L	FOB	SG	DEL
-1	85	27	17*
0	95	23	2
1	205	8	1
2	56	62	46*
3	111	14	-1
4	115	14	5
5	24	72	7*
6	28	75	-26*
7	126	15	13
H,K= 2, 17			
-6	126	15	-1
-5	39	75	2*
-4	216	9	-3
-3	55	71	25*
-2	20	70	-25*
-1	30	70	-26*
0	153	11	-14
1	46	70	23*
2	219	9	2
3	15	64	-4*
4	83	32	11*
5	0	74	-22*
H,K= 2, 18			
-4	53	74	33*
-3	133	13	8
-2	74	68	5*
-1	0	72	-18*
0	76	39	12*
1	170	11	3
2	0	74	-7*
3	147	13	0
4	56	74	4*
H,K= 3, 0			
-13	115	25	3
-11	38	72	-11*
-9	437	9	-6
-7	265	7	-5
-5	41	48	-4*
-3	608	11	-14
-1	624	11	10
1	478	9	-10
3	619	11	-28
5	435	9	-19
7	58	40	1*
9	354	8	-9
11	202	9	-14
13	47	58	4*
H,K= 3, 1			
-14	121	18	1
-13	63	71	-6*
-12	76	37	65*
-11	121	14	-3
-10	272	8	10
-9	0	69	-14*
-8	334	8	2
-7	34	59	9*
-6	186	6	-5
-5	585	11	-6
-4	645	12	-33
-3	44	45	15*
-2	710	13	13
-1	272	6	6
0	355	7	25
1	476	27	2
2	540	31	14
3	68	17	4
4	503	10	-21
5	168	6	0
6	74	15	-7
7	153	8	-13
8	244	8	-6
9	139	12	0
10	242	8	2
11	34	65	-7*
12	84	35	-1*

L	FOB	SG	DEL	L	FOB	SG	DEL	L	FOB	SG	DEL	L	FOB	SG	DEL	L	FOB	SG	DEL	L	FOB	SG	DEL	L	FOB	SG	DEL	L	FOB	SG	DEL
13	87	49	11*	1	328	7	11	-8	365	8	-1	-11	38	74	34*	-6	53	62	-23*	-1	137	12	-5	0	146	5	12	-12	171	12	13
H,K=	3,	2		2	500	9	-3	-7	38	63	-6*	-10	112	23	-14	-5	94	15	11	0	0	71	-5*	1	262	15	-9	-11	154	12	12
-14	0	74	-44*	3	85	9	5	-6	182	7	7	-9	84	29	-5*	-4	200	8	-20	1	218	9	-1	2	379	18	-2	-10	99	24	-10
-13	67	69	21*	4	192	6	13	-5	74	14	18	-8	0	67	-53*	-3	68	45	33*	2	48	72	14*	3	169	6	2	-9	338	8	0
-12	199	10	4	5	116	9	-3	-4	225	6	4	-7	35	67	16*	-2	362	8	-11	3	86	33	-18*	4	389	8	-11	-8	231	8	-3
-11	34	72	-8*	6	411	9	1	-3	0	50	-36*	-6	344	8	0	-1	50	60	-24*	4	13	72	4*	5	265	6	-9	-7	211	7	1
-10	215	9	0	7	45	65	-18*	-2	645	12	-5	-5	92	15	-10	0	139	10	0	5	46	76	-33*	6	115	10	3	-6	282	7	-1
-9	192	9	-3	8	341	8	-11	-1	114	7	3	-4	397	8	-3	1	127	11	17	H,K=	3,	18		7	304	7	-20	-5	171	6	1
-8	117	12	-11	9	40	70	-4*	0	229	5	7	-3	127	9	3	2	146	10	-12	-4	106	18	-12	8	156	10	0	-4	356	8	12
-7	313	7	-4	10	0	69	-16*	1	24	44	3*	-2	111	10	-3	3	0	66	-61*	-3	49	74	2*	9	0	70	-58*	-3	568	11	21
-6	435	9	-18	11	13	74	-34*	2	368	8	7	-1	48	56	38*	4	208	8	1	-2	62	72	48*	10	134	12	-1	-2	397	8	-3
-5	54	17	14*	12	159	12	-3	3	31	52	26*	0	414	9	-5	5	89	26	-25*	-1	45	66	19*	11	137	12	15	-1	338	7	7
-4	451	9	12	13	31	70	25*	4	624	12	11	1	64	26	14*	6	116	14	-4	0	157	11	1	12	0	74	-12*	0	440	18	3
-3	527	10	1	H,K=	3,	5		5	0	61	-23*	2	382	8	-2	7	91	29	10*	1	0	73	-13*	13	104	29	-22	1	118	6	-3
-2	118	6	20	-14	106	20	29	6	322	8	8	3	173	8	7	8	70	73	8*	2	178	10	9	H,K=	4,	3		2	111	7	-4
-11	088	20	33	-13	110	19	9	7	0	67	-5*	4	106	12	3	9	52	73	37*	3	39	75	-19*	-14	102	22	23	3	510	10	-5
0	634	11	31	-12	17	77	-37*	8	103	15	0	5	51	51	16*	H,K=	3,	14		H,K=	4,	0		-13	54	70	43*	4	302	7	-8
1	95	7	11	-11	186	10	0	9	73	24	-13*	6	232	8	2	-9	164	12	0	-14	126	24	5	-12	238	9	20	5	187	7	2
2	353	7	0	-10	97	26	-29	10	269	8	14	7	40	67	13*	-8	0	73	-8*	-12	66	67	29*	-11	22	73	15*	6	253	7	-9
3	179	5	3	-9	71	40	-4*	11	0	75	-5*	8	247	8	-2	-7	162	11	-2	-10	346	8	11	-10	163	11	13	7	134	11	-2
4	26	51	-9*	-8	256	7	-2	12	109	18	-3	9	0	72	-14*	-6	0	70	-34*	-8	280	7	2	-9	32	70	-27*	8	166	10	3
5	373	8	-12	-7	135	9	3	H,K=	3,	8		10	0	75	-17*	-5	33	68	-23*	-6	33	57	-48*	-8	226	8	-4	9	281	8	0
6	342	7	-11	-6	191	6	5	-13	100	22	-8	11	14	77	-21*	-4	24	66	13*	-4	954	17	-8	-7	86	14	-7	10	67	50	12*
7	56	62	5*	-5	590	11	-5	-12	99	30	0*	H,K=	3,	11		-3	262	7	-5	-2	550	10	-19	-6	645	12	-15	11	83	36	-10*
8	322	8	-7	-4	230	6	1	-11	19	75	-55*	-11	173	12	1	-2	35	65	0*	0	17	47	-20*	-5	188	6	-2	12	166	12	24
9	149	11	-3	-3	255	6	3	-10	89	19	2	-10	115	15	2	-1	304	7	-5	2	666	12	-14	-4	210	5	-3	H,K=	4,	6	
10	47	62	28*	-2	435	8	28	-9	218	8	-8	-9	65	50	16*	0	33	63	28*	4	667	12	-27	-3	229	5	9	-13	67	80	-12*
11	186	10	3	-1	490	9	17	-8	53	69	1*	-8	95	16	-7	1	19	65	9*	6	51	59	-39*	-2	255	6	6	-12	19	77	-20*
12	74	29	-30*	0	213	5	-2	-7	267	7	-2	-7	142	11	0	2	33	65	-14*	8	321	8	-13	-1	30	39	-5*	-11	45	67	-40*
13	57	77	55*	1	462	9	7	-6	252	7	-9	-6	28	66	22*	3	207	8	-3	10	266	8	-6	0	655	17	22	-10	252	8	1
H,K=	3,	3		2	195	5	0	-5	147	8	3	-5	370	8	-1	4	0	67	-44*	12	0	74	-17*	1	41	45	-14*	-9	0	72	-10*
-14	0	80	-25*	3	104	8	-1	-4	139	7	3	-4	109	12	0	5	216	9	-4	H,K=	4,	1		2	324	7	9	-8	321	8	-9
-13	171	12	16	4	536	10	5	-3	462	9	-2	-3	99	12	1	6	44	71	-12*	-14	59	81	-4*	3	43	45	12*	-7	220	7	-1
-12	0	76	-13*	5	283	7	-1	-2	0	51	-19*	-2	20	60	-20*	7	52	67	35*	-13	0	79	-30*	4	237	6	1	-6	33	53	29*
-11	289	8	2	6	256	7	-2	-1	414	8	7	-1	230	7	-1	8	0	76	-5*	-12	63	77	-22*	5	121	9	6	-5	174	7	-7
-10	118	14	30	7	313	7	1	0	276	6	0	0	92	13	-3	9	148	19	3	-11	110	23	-5	6	503	33	-9	-4	408	9	-2
-9	155	10	-1	8	57	69	26*	1	303	7	0	1	336	7	-7	H,K=	3,	15		-10	63	67	-1*	7	62	47	-15*	-3	62	19	0*
-8	127	11	3	9	142	11	8	2	260	6	-2	2	48	56	37*	-8	151	12	0	-9	284	8	7	8	197	9	-13	-2	591	11	16
-7	366	8	-12	10	148	12	-16	3	444	9	6	3	141	9	16	-7	77	38	-5*	-8	152	10	-7	9	69	39	18*	-1	180	5	0
-6	50	43	34*	11	83	37	-26*	4	46	53	13*	4	78	26	29*	-6	36	71	-6*	-7	44	60	8*	10	106	15	13	0	22	46	-9*
-5	625	12	-6	12	86	38	3*	5	327	8	8	5	152	10	-10	-5	122	13	6	-6	108	10	-7	11	40	72	34*	1	209	5	3
-4	231	5	1	13	136	14	21	6	212	8	-1	6	0	67	-16*	-4	184	9	-9	-5	407	9	-3	12	166	12	-3	2	311	7	1
-3	474	9	15	H,K=	3,	6		7	30	69	-2*	7	250	8	3	-3	51	60	40*	-4	276	6	-3	13	57	76	41*	3	37	48	21*
-2	371	7	7	-13	107	27	-9	8	124	12	4	8	44	71	-15*	-2	195	9	-19	-3	728	13	-18	H,K=	4,	4		4	455	10	5
-1	197	5	5	-12	64	69	6*	9	165	10	-4	9	141	13	1	-1	16	66	-39*	-2	43	44	-7*	-14	0	82	-6*	5	184	7	-4
0	356	7	16	-11	60	72	-19*	10	25	73	14*	10	87	31	32*	0	110	13	-1	-1	513	10	25	-13	186	12	11	6	30	64	15*
1	984	21	25	-10	111	14	14	11	142	13	12	11	19	78	-45*	1	163	9	9	0	295	6	-1	-12	62	78	-11*	7	179	9	4
2	150	5	4	-9	344	8	5	12	62	70	17*	H,K=	3,	12		2	82	29	-20*	1	229	23	-5	-11	216	9	12	8	224	8	1
3	394	8	14	-8	34	67	8*	H,K=	3,	9		-11	29	76	-3*	3	31	68	-7*	2	175	5	-2	-10	111	15	26	9	29	69	7*
4	148	6	4	-7	236	7	3	-12	69	78	3*	-10	104	26	-10	4	229	8	7	3	550	33	-32	-9	35	72	-36*	10	196	10	-14
5	432	22	4	-6	156	7	4	-11	124	22	-33	-9	158	11	-2	5	12	73	-34*	4	239	6	-2	-8	64	45	2*	11	55	76	-15*
6	55	58	0*	-5	112	9	-1	-10	75	49	-9*	-8	77	31	17*	6	45	72	7*	5	340	7	-23	-7	406	8	-2	12	83	24	41
7	489	10	-18	-4	146	6	-1	-9	86	27	0*	-7	167	10	-3	7	86	22	3	6	33	59	-33*	-6	68	25	-31*	H,K=	4,	7	
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9	121	13	-6	-2	60	18	-12*	-7	252	8	-1	-5	50	65	41*	H,K=	3,	16		8	112	14	-27	-4	37	50	-22*	-12	38	76	35*
10	56	62	16*	-1	227	5	-2	-6	145	10	-2	-4	111	13	-1	-7	77	56	15*	9	221	8	-7	-3	12	47	-2*	-11	178	10	15
11	65	65	-16*	0	339	7	5	-5	289	7	-2	-3	255	7	-11	-6	151	11	15	10	0	70	-49*	-2	147	5	1	-10	0	70	-11*
12	10	75	-11*	1	45	38	12*	-4	207	7	-5	-2	21	63	7*	-5	0	72	-8*	11	138	12	6	-1	591	11	4	-9	337	8	0
13	152	13	10	2	228	5	0	-3	175	7	4	-1	233	7	-7	-4	192	9	-1	12	79	39	4*	0	146	5	9	-8	27	69	5*
H,K=	3,	4		3	709	13	6	-2	253	6	-5	0	244	7	-7	-3	148	11	4	13	48	77	15*	1	524	10	15	-7	273	7	-2
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-12	243	9	22	6	252	7	-4	1	407	9	1	3	215	8	0	0	188	9	-5	-13	171	12	29	4	71	13	4	-4	175	6	4
-11	92	28	27*	7	53	65	16*	2	133	8	-5	4	41	65	30*	1	63	68	47*	-12	58	69	24*	5	429	9	-5	-3	642	12	9
-10	240	9	-9	8	68	46	-37*	3	218	6	-8	5	171	9	-4	2	168	10	-12	-11	186	10	-1	6	29	62	21*	-2	83	10	6
-9	56	70	11*	9	243	8	14	4	413	9	6	6	222	8	5	3	125	13	20	-10	206	9	17	7	365	8	0	-1	351	8	0
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L	FOB	SG	DEL	L	FOB	SG	DEL	L	FOB	SG	DEL	L	FOB	SG	DEL	L	FOB	SG	DEL	L	FOB	SG	DEL	L	FOB	SG	DEL	L	FOB	SG	DEL
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10	16	73	13*	7	237	8	3	-7	0	71	-49*	-1	103	6	-3	-6	67	24	9*	-13	49	79	41*	8	46	54	0*	10	89	23	2
11	151	13	2	8	32	63	17*	-6	43	68	34*	1	588	11	1	-5	381	8	-10	-12	117	16	32	9	218	9	6	H,K=	5,	12	
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H,K=	4,	8		10	41	74	31*	-4	280	8	-5	5	131	8	-1	-3	374	8	-8	-10	42	71	-8*	11	61	76	3*	-10	61	39	33*
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-11	81	35	13*	-11	0	77	-18*	-1	20	65	17*	11	53	65	-6*	0	121	6	3	-7	45	63	33*	-11	46	68	-31*	-7	0	69	-4*
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-9	55	68	34*	-9	0	72	-56*	1	58	60	-17*	H,K=	5,	1		2	211	5	6	-5	400	9	0	-9	80	30	-14*	-5	154	9	-1
-8	181	9	-4	-8	163	10	-3	2	264	8	-4	-14	123	17	40	3	135	7	5	-4	37	54	14*	-8	34	52	-9*	-4	0	66	-9*
-7	219	8	-4	-7	38	67	29*	3	0	68	-36*	-13	85	26	3*	4	142	7	4	-3	752	14	8	-7	323	8	4	-3	225	7	-7
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-2	359	8	-9	-2	209	7	2	8	143	13	17	-8	197	8	-6	9	98	16	2	2	18	51	7*	-2	135	8	-2	2	0	66	-31*
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2	350	8	2	2	232	7	-7	-6	92	27	-13*	-4	648	12	-25	H,K=	5,	4		6	175	9	-3	2	170	7	8	6	217	8	13
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4	312	7	6	4	218	8	7	-4	8	69	-18*	-2	588	11	8	-13	61	72	35*	8	51	69	46*	4	121	11	7	8	80	36	15*
5	172	8	5	5	84	28	-16*	-3	212	8	-7	-1	189	5	-6	-12	165	12	0	9	267	8	7	5	211	8	1	9	108	18	-5
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12	60	77	8*	-11	82	62	-16*	4	0	71	-10*	6	45	61	28*	-5	214	6	-1	-11	18	74	-9*	H,K=	5,	10		-5	58	67	-19*
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4	117	11	7	7	192	9	1	6	56	76	55*	-5	340	7	0	H,K=	5,	5		7	73	49	6*	5	33	69	18*	-7	45	70	29*
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6	328	8	10	9	64	73	59*	-6	163	11	4	-3	346	7	10	-12	89	34	-1*	9	64	31	16*	7	0	70	-32*	-5	189	9	-9
7	76	32	-1*	10	67	74	-37*	-5	50	74	18*	-2	298	6	-3	-11	96	19	-11	10	112	23	-9	8	94	18	-3	-4	46	67	9*
8	137	12	8	H,K=	4,	13		-4	111	15	1	-1	95	6	9	-10	213	9	1	11	24	75	15*	9	0	75	-73*	-3	193	8	-11
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10	67	68	13*	-9	127	14	2	-2	91	28	-10*	1	678	25	3	-8	62	69	-40*	H,K=	5,	8		H,K=	5,	11		-1	48	58	25*
11	0	77	-39*	-8	52	65	32*	-1	53	72	14*	2	154	6	11	-7	320	7	-12	-13	47	79	24*	-11	81	53	-11*	0	19	64	-17*
H,K=	4,	10		-7	69	46	-15*	0	214	9	-6	3	396	8	-14	-6	264	6	-1	-12	72	55	-4*	-10	54	74	2*	1	251	8	-2
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-9	37	70	-12*	-3	307	7	5	4	24	68	-27*	7	171	9	0	-2	423	8	9	-8	138	11	4	-6	18	67	0*	5	53	72	15*
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1	421	9	-6	7	41	71	15*	-13	0	79	-43*	-12	0	77	-14*	8	184	9	0	2	78	20	-5	4	154	10	7	-3	39	70	-28*
2	58	60	-10*	8	54	67	24*	-11	188	10	11	-11	143	12	6	9	53	62	43*	3	435	10	1	5	334	8	5	-2	94	24	-13
3	44	61	24*	9	134	14	15	-9	385	9	5	-10	70	43	23*	10	118	14	15	4	0	62	-39*	6	28	68	2*	-1	94	25	-27
4	71	31	10*	H,K=	4,	14		-7	59	61	-2*	-9	177	10	5	11	147	13	3	5	107	13	-2	7	155	11	1	0	123	12	1
5	295	8	4	-9	0	76	-18*	-5	575	11	-10	-8	148	10	8	12	41	76	8*	6	186	9	18	8	57	66	4*	1	140	11	-15

L	FOB	SG	DEL	L	FOB	SG	DEL	L	FOB	SG	DEL	L	FOB	SG	DEL	L	FOB	SG	DEL	L	FOB	SG	DEL	L	FOB	SG	DEL	L	FOB	SG	DEL
2	197	9	1	7	338	8	-27	-2	30	46	20*	-7	148	10	-9	-6	98	15	6	4	76	44	-21*	9	138	11	-2	2	33	54	13*
3	69	39	63*	8	0	69	-46*	-1	740	13	22	-6	127	10	-4	-5	66	36	9*	5	81	43	-1*	11	48	74	-18*	3	509	29	-10
4	180	11	-13	9	211	8	-6	0	152	5	4	-5	436	10	-13	-4	129	10	6	6	45	72	17*	H,K=	7,	1		4	7	61	-30*
5	89	31	-11*	10	102	16	7	1	211	5	7	-4	51	56	40*	-3	223	7	-3	7	193	10	-2	-14	94	25	37	5	304	21	-5
6	0	76	-30*	11	63	73	58*	2	394	8	-3	-3	316	7	3	-2	50	60	14*	8	34	76	17*	-13	59	73	-16*	6	39	68	-7*
7	64	77	-24*	12	84	33	21*	3	354	7	-1	-2	6	53	-6*	-1	451	10	2	H,K=	6,	14		-12	183	11	3	7	72	37	-13*
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-3	99	17	1	-10	214	9	16	9	136	12	-1	4	48	62	24*	5	359	8	8	-4	238	8	-9	-6	490	10	-13	H,K=	7,	4	
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H,K=	5,	17		0	75	9	6	-8	357	8	-12	-11	0	76	-6*	-8	245	8	-3	6	152	11	31	4	46	58	43*	-4	282	6	3
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-2	143	6	-5	-11	57	65	16*	10	62	74	-31*	9	105	17	8	-5	251	8	4	-9	157	12	13	-7	282	7	-15	-11	182	10	8
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L	FOB	SG	DEL	L	FOB	SG	DEL	L	FOB	SG	DEL	L	FOB	SG	DEL	L	FOB	SG	DEL	L	FOB	SG	DEL	L	FOB	SG	DEL	L	FOB	SG	DEL
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3	51	62	31*	6	121	13	-16	0	47	67	1*	4	232	7	-8	1	265	6	-5	-1	335	7	2	4	63	28	10*	1	51	70	43*
4	109	13	-3	7	58	64	36*	1	250	8	-4	5	196	8	0	2	57	58	-6*	0	0	59	-26*	5	209	9	5	2	186	9	9
5	120	13	-18	8	98	27	-8	2	0	70	-4*	6	80	20	-3	3	442	9	-1	1	422	9	4	6	0	71	-10*	3	0	72	-38*
6	286	8	8	9	74	43	73*	3	171	10	6	7	260	8	1	4	64	41	7*	2	0	63	-4*	7	103	25	18	4	63	65	6*
7	45	68	37*	H,K=	7,	11		4	74	50	55*	8	117	13	1	5	239	8	-14	3	93	15	9	8	23	69	3*	5	0	75	-8*
8	259	8	9	-11	0	77	-22*	5	107	17	-1	9	48	65	2*	6	117	14	-8	4	0	68	-10*	9	161	12	8	6	183	11	23
9	73	63	51*	-10	41	75	29*	6	39	75	3*	10	83	21	27	7	131	12	-15	5	324	8	11	H,K=	8,	11		H,K=	8,	15	
10	0	75	-44*	-9	192	10	-6	7	148	14	-6	11	88	21	8	8	50	71	-37*	6	74	46	37*	-11	41	75	32*	-7	103	27	-11
11	63	40	58*	-8	49	70	45*	H,K=	7,	15		H,K=	8,		2	9	222	9	0	7	314	8	2	-10	157	13	-15	-6	24	74	14*
H,K=	7,	8		-7	225	8	-4	-7	85	22	17	-13	0	84	-44*	10	50	74	45*	8	35	66	13*	-9	63	66	31*	-5	133	13	-13
-12	56	70	27*	-6	103	14	-5	-6	200	9	4	-12	106	20	-2	11	123	16	5	9	57	52	18*	-8	204	9	-4	-4	89	28	13*
-11	217	10	-2	-5	38	66	-32*	-5	56	71	38*	-11	119	16	19	H,K=	8,	5		10	8	69	0*	-7	53	69	25*	-3	0	73	-15*
-10	72	41	15*	-4	128	11	-4	-4	174	10	-2	-10	135	13	7	-13	138	16	15	H,K=	8,	8		-6	0	68	-1*	-2	128	13	3
-9	42	63	-24*	-3	250	7	0	-3	141	12	-6	-9	307	8	1	-12	0	80	-22*	-12	118	18	-13	-5	0	66	-35*	-1	203	9	0
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-5	310	7	-5	1	36	65	9*	1	55	70	37*	-5	166	8	-9	-8	268	8	2	-8	133	12	-13	-1	70	33	-3*	3	52	66	42*
-4	116	11	-7	2	38	65	10*	2	107	16	0	-4	131	8	-6	-7	255	8	3	-7	81	29	-10*	0	52	58	37*	4	90	32	-11*
-3	55	58	2*	3	269	7	3	3	74	42	-6*	-3	413	9	-3	-6	52	64	34*	-6	312	8	0	1	131	10	13	5	84	39	6*
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0	119	9	-8	6	31	71	-21*	6	121	16	16	0	407	9	-3	-3	28	56	-18*	-3	221	7	2	4	252	8	-1	-4	50	66	29*
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4	168	9	5	H,K=	7,	12		-4	43	66	-33*	4	104	13	-1	1	261	6	6	1	30	62	-27*	8	178	11	19	0	172	10	22
5	171	9	11	-10	86	35	-9*	-3	77	37	7*	5	180	9	-12	2	299	7	2	2	239	7	-1	H,K=	8,	12		1	66	67	2*
6	116	14	-12	-9	61	67	9*	-2	170	10	-5	6	236	8	-22	3	57	62	18*	3	176	9	6	-10	43	76	-2*	2	50	67	-3*
7	225	8	5	-8	135	13	-4	-1	36	71	-16*	7	36	70	-21*	4	319	7	-3	4	107	14	2	-9	145	13	6	3	150	13	7
8	52	70	41*	-7	54	65	-44*	0	111	15	-4	8	105	15	11	5	253	8	-3	5	145	10	15	-8	88	29	20*	H,K=	8,	17	
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10	73	49	-9*	-5	211	8	-14	2	46	72	-12*	10	113	15	43	7	236	8	8	7	46	63	39*	-6	160	10	-11	-1	0	74	-21*
H,K=	7,	9		-4	136	10	-12	3	0	74	-34*	11	106	18	10	8	225	9	-7	8	156	11	28	-5	52	52	-22*	0	0	75	-25*
-12	78	48	4*	-3	165	9	4	4	178	11	11	H,K=	8,		3	9	0	75	-57*	9	81	37	21*	-4	111	13	-5	H,K=	9,	0	
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-10	120	14	9	-1	110	12	-1	-4	49	73	46*	-12	64	79	25*	11	44	78	-15*	H,K=	8,	9		-2	117	12	-2	-11	115	26	8
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-8	64	67	35*	1	225	7	1	-2	0	73	-18*	-10	252	9	2	-13	60	75	47*	-11	62	70	-29*	0	281	7	6	-7	344	8	4
-7	195	8	3	2	150	10	-7	-1	149	12	-4	-9	56	67	54*	-12	185	12	13	-10	165	11	-2	1	118	12	0	-5	200	8	-12
-6	173	9	-5	3	92	23	-22	0	0	73	-9*	-8	292	8	-3	-11	34	78	-17*	-9	58	69	45*	2	137	11	15	-3	217	7	-4
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-4	203	7	5	5	50	70	14*	2	0	76	-22*	-6	121	11	6	-9	68	46	-41*	-7	166	9	-2	4	31	63	-2*	1	334	7	-11
-3	326	8	-9	6	40	71	4*	H,K=	8,	0		-5	37	59	23*	-8	96	17	8	-6	14	67	9*	5	16	72	-15*	3	245	7	-4

L	FOB	SG	DEL	L	FOB	SG	DEL	L	FOB	SG	DEL	L	FOB	SG	DEL	L	FOB	SG	DEL	L	FOB	SG	DEL	L	FOB	SG	DEL	L	FOB	SG	DEL
5	318	8	-15	5	40	69	16*	5	252	8	6	H,K=	9,	10		6	193	11	14	-12	55	75	18*	-11	57	77	35*	-5	164	9	1
7	216	8	-13	6	156	10	18	6	23	71	-19*	-11	0	79	-8*	H,K=	9,	14		-11	184	12	13	-10	211	9	20	-4	191	8	5
9	37	71	31*	7	171	10	-12	7	186	10	-2	-10	191	11	2	-7	183	11	-2	-10	54	69	33*	-9	91	30	-24*	-3	185	8	-9
11	104	18	10	8	0	71	-32*	8	76	42	-2*	-9	82	46	20*	-6	37	74	26*	-9	174	11	27	-8	75	38	-15*	-2	457	10	13
H,K=	9,	1		9	187	10	-5	9	0	75	-21*	-8	178	10	-1	-5	64	68	-30*	-8	217	9	1	-7	172	10	0	-1	46	64	20*
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-7	84	31	-3*	-10	249	9	-3	-8	280	8	-10	-1	111	12	16	2	28	71	4*	-1	0	58	-26*	0	181	8	1	6	187	10	0
-6	372	8	-4	-9	0	72	-30*	-7	52	68	15*	0	57	65	-24*	3	60	74	36*	0	48	61	-5*	1	224	7	5	7	90	33	-9*
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-4	102	12	8	-7	188	9	-12	-5	84	18	-4	2	282	8	6	5	188	11	13	2	0	65	-9*	3	60	69	-9*	9	42	70	-12*
-3	131	9	-5	-6	137	11	-12	-4	44	63	-19*	3	38	60	21*	H,K=	9,	15		3	237	8	-9	4	35	70	-21*	H,K=	10,	9	
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2	200	7	-7	-1	119	8	1	1	45	62	25*	8	190	11	20	-2	129	13	2	8	70	44	54*	9	48	76	5*	-7	76	34	8*
3	157	9	-15	0	196	6	0	2	96	22	-13	H,K=	9,	11		-1	49	73	3*	9	131	14	-11	10	38	78	-7*	-6	165	10	-8
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4	213	8	-5	2	16	63	-5*	5	262	8	16	-3	65	66	11*	H,K=	10,	1		H,K=	10,	4		-10	52	67	39*	1	290	7	7
5	207	8	-11	3	303	7	-10	6	25	71	16*	-2	175	9	1	-13	183	13	27	-13	85	45	35*	-9	150	12	-8	2	53	67	34*
6	57	70	14*	4	146	11	-6	7	158	11	13	-1	160	9	-8	-12	72	83	19*	-12	44	81	15*	-8	0	70	-3*	3	208	9	9
7	155	10	-7	5	118	14	2	8	85	34	10*	0	101	15	-7	-11	46	73	7*	-11	216	11	13	-7	262	8	-12	4	59	65	2*
8	161	11	-16	6	140	12	-8	9	54	69	9*	1	149	10	7	-10	118	17	6	-10	0	77	-10*	-6	61	62	53*	5	0	67	-16*
9	54	66	17*	7	202	9	-2	H,K=	9,	9		2	190	9	7	-9	257	9	19	-9	179	10	-2	-5	45	66	-11*	6	43	75	27*
10	107	24	-6	8	39	72	23*	-11	144	14	3	3	104	16	22	-8	53	77	5*	-8	100	23	8	-4	68	34	3*	7	181	11	13
11	22	76	-40*	9	171	11	2	-10	49	68	-4*	4	127	13	20	-7	427	10	-9	-7	49	71	1*	-3	338	8	-9	8	0	78	-20*
H,K=	9,	3		10	61	69	7*	-9	178	10	-1	5	122	15	-6	-6	127	13	-10	-6	110	14	-17	-2	12	64	-26*	H,K=	10,	11	
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-11	201	10	20	-11	81	40	-5*	-6	166	9	-9	H,K=	9,	13		-3	252	7	-11	-3	273	7	10	1	185	8	2	-8	0	75	-50*
-10	50	74	6*	-10	99	28	-24	-5	180	9	-12	-9	78	39	27*	-2	0	60	-36*	-2	201	7	-3	2	71	33	58*	-7	83	33	-9*
-9	289	8	3	-9	133	12	6	-4	37	65	13*	-8	127	15	-16	-1	494	23	1	-1	90	12	17	3	140	11	8	-6	114	22	-30
-8	0	74	-20*	-8	46	63	-20*	-3	336	8	2	-7	41	74	32*	0	83	15	-5	0	111	11	-9	4	33	61	-15*	-5	77	21	2
-7	54	69	11*	-7	320	8	-5	-2	141	10	-8	-6	169	11	-12	1	110	12	0	1	346	8	2	5	260	8	6	-4	255	8	-5
-6	55	60	-1*	-6	70	38	-7*	-1	121	11	9	-5	92	18	2	2	131	10	-11	2	66	25	-2*	6	83	21	44	-3	47	66	27*
-5	218	7	-4	-5	380	8	1	0	219	8	-3	-4	53	54	5*	3	291	8	-8	3	224	8	-5	7	141	12	19	-2	62	46	-10*
-4	28	59	-16*	-4	217	7	-2	1	242	7	-1	-3	94	17	5	4	0	71	-89*	4	0	70	-38*	8	17	76	-19*	-1	46	59	-7*
-3	447	9	2	-3	41	59	19*	2	0	66	-6*	-2	180	9	1	5	296	8	-17	5	37	68	21*	9	76	77	11*	0	149	10	-10
-2	104	9	-3	-2	163	7	9	3	248	8	9	-1	0	70	-17*	6	44	69	13*	6	51	64	-29*	H,K=	10,	8		1	61	67	9*
-1	91	10	11	-1	462	10	-2	4	123	12	-5	0	210	8	8	7	93	26	-25	7	242	8	3	-11	91	33	0*	2	224	8	-1
0	184	7	-5	0	99	12	-16	5	107	14	23	1	88	28	-19*	8	149	11	0	8	0	74	-7*	-10	45	77	-7*	3	111	15	8
1	385	19	5	1	456	10	2	6	54	72	-9*	2	98	24	-2	9	91	30	-23*	9	153	12	-2	-9	69	49	3*	4	95	19	-10
2	58	50	-21*	2	230	7	10	7	120	15	19	3	32	73	-41*	10	26	67	-7*	10	86	35	29*	-8	224	8	1	5	76	44	-5*
3	369	25	-14	3	121	12	-7	8	29	76	10*	4	113	16	7	H,K=	10,	2		H,K=	10,	5		-7	35	69	-14*	6	65	76	-25*
4	63	45	-13*	4	52	69	-15*	9	116	17	4	5	35	77	15*	-13	118	19	53	-12	32	82	-66*	-6	178	9	-13	7	0	76	-25*

L	FOB	SG	DEL
H,K= 10, 12			
-9	88	34	20*
-8	141	13	14
-7	0	74	-52*
-6	115	15	0
-5	134	12	-18
-4	46	68	0*
-3	146	10	15
-2	112	13	6
-1	55	68	15*
0	118	13	-15
1	192	9	-3
2	0	70	-18*
3	188	10	19
4	139	13	13
5	59	69	12*
6	66	78	-25*
H,K= 10, 13			
-8	0	75	-2*
-7	219	9	1
-6	56	74	-3*
-5	66	55	-10*
-4	63	63	19*
-3	123	13	-10
-2	40	63	0*
-1	201	9	-12
0	81	32	-23*
1	0	72	-47*
2	60	72	-26*
3	77	38	-14*
4	0	75	-6*
5	174	12	-3
H,K= 10, 14			
-7	50	75	28*
-6	158	12	3
-5	54	72	26*
-4	47	72	8*
-3	0	71	-59*
-2	166	11	-17
-1	12	72	-29*
0	144	12	-7
1	0	72	-5*
2	37	72	10*
3	55	74	10*
4	152	13	-1
H,K= 10, 15			
-5	62	73	19*
-4	104	17	7
-3	89	30	-16*
-2	94	18	17
-1	177	10	1
0	42	74	-12*
1	55	67	-7*
2	102	27	7
H,K= 10, 16			
-2	22	74	-54*
-1	50	74	47*
H,K= 11, 0			
-13	110	33	6*
-11	50	75	9*
-9	307	9	32
-7	283	9	4
-5	16	71	2*
-3	395	9	3
-1	521	11	15
1	240	8	1
3	315	8	-12
5	256	8	-10
7	22	71	-16*
9	155	12	-7
H,K= 11, 1			
-13	81	86	34*
-12	68	74	54*
-11	76	66	-5*
-10	173	12	2

L	FOB	SG	DEL
-9	53	76	18*
-8	279	9	11
-7	68	56	34*
-6	106	16	5
-5	239	8	-4
-4	254	8	1
-3	86	26	-27*
-2	465	10	-2
-1	152	9	-2
0	207	8	-2
1	151	10	4
2	87	18	-21
3	79	32	-23*
4	242	8	-11
5	71	55	12*
6	76	23	-13*
7	95	18	-20
8	87	32	-11*
9	0	75	-73*
10	129	14	9
H,K= 11, 2			
-12	146	16	17
-11	0	82	-31*
-10	146	14	5
-9	133	14	9
-8	54	73	30*
-7	249	9	-4
-6	281	8	-6
-5	31	62	12*
-4	247	8	-2
-3	221	7	-1
-2	51	55	-12*
-1	358	8	6
0	289	7	-8
1	37	67	-36*
2	290	8	-4
3	116	13	9
4	51	63	30*
5	134	12	-4
6	176	10	-4
7	23	71	1*
8	168	11	-4
9	117	15	3
H,K= 11, 3			
-12	0	84	-13*
-11	212	11	4
-10	0	79	-73*
-9	93	30	4*
-8	107	21	31
-7	196	9	-9
-6	0	73	-5*
-5	363	8	-4
-4	71	34	-11*
-3	257	7	6
-2	85	14	-5
-1	152	9	-4
0	52	64	21*
1	445	10	-8
2	47	69	7*
3	210	9	1
4	47	69	34*
5	167	10	11
6	69	26	30*
7	245	9	-1
8	72	45	11*
9	64	68	-10*
H,K= 11, 4			
-12	157	15	0
-11	0	81	-2*
-10	158	13	-5
-9	36	74	19*
-8	0	71	-21*
-7	68	44	4*
-6	297	8	-16
-5	42	63	-9*

L	FOB	SG	DEL
-4	350	8	-3
-3	53	58	1*
-2	14	55	9*
-1	73	18	-1
0	315	7	3
1	143	10	2
2	340	8	-12
3	49	68	37*
4	46	67	36*
5	56	63	-10*
6	177	10	-1
7	34	72	-1*
8	197	10	5
9	70	51	62*
H,K= 11, 5			
-12	58	77	-25*
-11	171	12	24
-10	47	71	-29*
-9	0	75	-69*
-8	149	11	3
-7	95	25	-13
-6	139	11	-5
-5	324	8	-11
-4	141	10	0
-3	119	11	1
-2	193	8	-2
-1	204	7	5
0	175	8	-7
1	259	7	6
2	103	22	5
3	85	28	4*
4	228	8	10
5	80	32	-8*
6	121	14	-7
7	159	12	-5
8	68	75	36*
9	62	77	-8*
H,K= 11, 6			
-12	64	82	1*
-11	20	78	-3*
-10	46	77	-24*
-9	227	9	1
-8	23	69	17*
-7	154	10	2
-6	51	70	-42*
-5	68	36	-14*
-4	57	67	-22*
-3	331	7	-1
-2	56	63	34*
-1	212	7	-2
0	105	14.	-12
1	54	66	28*
2	149	10	19
3	325	8	15
4	58	69	31*
5	194	9	3
6	121	15	1
7	46	73	19*
8	53	75	-11*
9	98	29	14*
H,K= 11, 7			
-11	39	78	37*
-10	89	35	-23*
-9	27	75	18*
-8	235	9	-6
-7	0	63	-7*
-6	139	11	5
-5	86	17	-6
-4	242	7	-5
-3	40	59	34*
-2	437	10	6
-1	23	64	11*
0	172	9	-1
1	36	60	3*
2	203	8	-3

L	FOB	SG	DEL
3	47	63	4*
4	292	8	11
5	51	72	7*
6	189	10	4
7	24	74	19*
8	63	75	20*
H,K= 11, 8			
-11	32	78	-13*
-10	69	70	-8*
-9	147	13	-11
-8	27	71	-16*
-7	163	10	-7
-6	132	12	-16
-5	114	12	4
-4	119	12	-16
-3	294	7	3
-2	36	65	31*
-1	263	7	4
0	150	9	9
1	77	20	2
2	130	12	-6
3	219	8	2
4	18	70	-4*
5	215	9	9
6	59	68	-20*
7	0	77	-35*
8	74	55	17*
H,K= 11, 9			
-10	71	76	3*
-9	75	27	8*
-8	108	16	1
-7	119	14	-7
-6	0	70	-76*
-5	227	8	-2
-4	133	11	18
-3	97	14	-8
-2	188	8	6
-1	46	65	-25*
0	122	12	7
1	284	8	4
2	101	15	4
3	94	27	-6
4	226	9	16
5	86	30	27*
6	103	27	19
7	152	13	9
H,K= 11, 10			
-10	95	35	-28*
-9	54	75	17*
-8	0	66	-6*
-7	37	71	24*
-6	205	9	-3
-5	0	69	-31*
-4	241	8	-10
-3	31	65	7*
-2	61	64	28*
-1	42	59	35*
0	223	8	3
1	55	39	19*
2	203	9	-3
3	62	67	-18*
4	52	72	48*
5	0	75	-29*
6	105	28	-23
7	30	78	17*
H,K= 11, 11			
-9	32	77	-23*
-8	27	74	-47*
-7	64	73	-28*
-6	55	70	43*
-5	231	8	-6
-4	48	63	-5*
-3	86	27	-23*
-2	35	61	-3*
-1	162	10	8

L	FOB	SG	DEL
0	91	17	12
1	210	9	2
2	46	70	38*
3	106	16	-9
4	63	74	41*
5	86	34	13*
6	64	76	48*
H,K= 11, 12			
-8	38	69	5*
-7	92	32	-32*
-6	152	11	0
-5	28	72	0*
-4	90	18	12
-3	144	11	-7
-2	54	68	44*
-1	159	10	-6
0	174	10	-9
1	74	38	2*
2	135	13	4
3	110	16	14
4	0	76	-11*
5	111	17	7
H,K= 11, 13			
-7	0	77	-28*
-6	49	67	-27*
-5	50	73	-27*
-4	114	15	7
-3	37	65	26*
-2	231	8	2
-1	0	72	-60*
0	104	16	9
1	72	44	-20*
2	56	75	-13*
3	37	74	32*
4	134	14	7
H,K= 11, 14			
-6	41	74	19*
-5	0	73	-22*
-4	0	73	-21*
-3	180	10	-1
-2	46	67	-19*
-1	212	9	5
0	67	72	62*
1	0	74	-6*
2	65	74	13*
3	131	15	-3
H,K= 11, 15			
-3	62	67	4*
-2	152	12	12
-1	50	73	34*
0	75	44	-9*
H,K= 12, 0			
-12	0	86	-22*
-10	223	11	21
-8	228	10	7
-6	96	29	-8*
-4	422	9	-1
-2	502	11	8
0	63	50	32*
2	266	8	2
4	324	8	-14
6	13	71	-29*
8	125	15	-12
H,K= 12, 1			
-12	63	87	-1*
-11	99	37	21*
-10	83	44	30*
-9	167	12	7
-8	48	69	3*
-7	64	68	-33*
-6	120	15	-4
-5	215	9	-22
-4	134	12	-12
-3	374	8	-10
-2	115	11	-6

L	FOB	SG	DEL
-1	251	8	-2
0	219	8	8
1	71	52	23*
2	90	18	7
3	265	8	-2
4	63	70	-5*
5	157	10	1
6	34	72	-61*
7	66	71	55*
8	53	74	-23*
9	92	32	-12*
H,K= 12, 2			
-12	0	86	-8*
-11	164	14	16
-10	97	34	-11*
-9	44	77	34*
-8	113	16	-2
-7	197	10	-4
-6	0	72	-42*
-5	261	8	-6
-4	283	8	-14
-3	19	67	-26*
-2	301	7	1
-1	262	8	-15
0	37	61	4*
1	288	8	-6
2	204	9	0
3	67	70	-2*
4	133	12	-13
5	166	10	-12
6	51	72	4*
7	161	11	-11
8	49	74	-28*
9	45	75	14*
H,K= 12, 3			
-12	203	12	22
-11	31	83	20*
-10	98	35	-19*
-9	50	76	22*
-8	126	14	13
-7	31	72	2*
-6	378	9	-11
-5	70	45	-3*
-4	141	11	-10
-3	128	11	9
-2	116	11	1
-1	35	66	10*
0	360	8	2
1	75	22	34*
2	256	8	-1
3	49	69	10*
4	73	24	-19*
5	50	71	31*
6	213	9	-5
7	62	73	35*
8	73	51	-40*
9	25	77	17*
H,K= 12, 4			
-12	6	78	-6*
-11	192	12	17
-10	53	70	22*
-9	0	69	-14*
-8	62	73	30*
-7	238	8	10
-6	102	16	-4
-5	329	8	-7
-4	0	68	-14*
-3	36	65	-8*
-2	48	63	11*
-1	306	7	5
0	61	67	41*
1	325	8	-5
2	51	70	3*
3	41	68	3*
4	57	68	25*

L	FOB	SG	DEL
5	154	11	-1
6	62	73	32*
7	183	11	1
8	0	77	-12*
H,K= 12, 5			
-11	83	28	23*
-10	51	72	-23*
-9	177	11	-6
-8	83	34	-22*
-7	121	13	10
-6	206	8	5
-5	86	27	11*
-4	169	9	4
-3	205	8	1
-2	196	8	-2
-1	112	12	4
0	236	8	2
1	85	27	9*
2	114	14	1
3	224	9	1
4	121	14	5
5	53	68	-55*
6	109	17	-16
7	56	76	10*
8	82	41	-6*
H,K= 12, 6			
-11	74	55	19*
-10	169	12	0
-9	38	75	34*
-8	183	10	1
-7	114	15	0
-6	47	68	16*
-5	53	61	-5*
-4	202	8	-11
-3	20	65	-9*
-2	213	8	-4
-1	115	12	-4
0	54	61	-9*
1	105	14	15
2	197	9	9
3	0	71	-21*
4	236	9	11
5	87	33	-16*
6	60	74	-1*
7	70	70	-18*
8	94	31	4*
H,K= 12, 7			
-11	125	17	16
-10	0	78	-17*
-9	223	10	-7
-8	54	72	42*
-7	160	11	2
-6	0	69	-3*
-5	149	10	7
-4	104	14	2
-3	349	8	0
-2	23	59	17*
-1	185	8	4
0	24	65	-21*
1	164	9	3
2	0	69	-52*
3	281	8	4
4	68	71	33*
5	131	14	-3
6	38	75	22*
7	62	69	11*
H,K= 12, 8			
-10	115	26	-34
-9	0	77	-4*
-8	142	13	-13
-7	85	32	-7*
-6	61	63	4*
-5	94	25	-17
-4	195	8	4
-3	0	67	-12*

L	FOB	SG	DEL
-2	219	8	-5
-1	31	66	-35*
0	37	66	-26*
1	153	10	-8
2	190	9	1
3	31	66	-19*
4	169	11	1
5	60	76	9*
6	63	39	0*
7	69	71	-15*
H,K= 12, 9			
-10	47	79	-21*
-9	165	12	2
-8	50	73	-22*
-7	89	29	-11*
-6	192	10	-8
-5	104	15	16
-4	86	27	-18*
-3	170	9	-4
-2	28	69	-54*
-1	58	61	-11*
0	226	8	7
1	66	47	-15*
2	164	11	1
3	189	10	21
4	64	74	14*
5	78	41	16*
6	170	12	17
H,K= 12, 10			
-9	0	76	-3*
-8	48	75	11*
-7	142	13	9
-6	60	72	45*
-5	217	9	-9
-4	46	63	28*
-3	0	69	-32*
-2	31	67	-3*
-1	212	8	9
0	56	69	13*
1	218	9	-11
2	54	71	29*
3	0	68	-26*
4	37	75	-11*
5	93	34	-27*
6	69	77	47*
H,K= 12, 11			
-8	77	45	-3*
-7	0	75	-9*
-6	183	10	-13
-5	12	64	10*
-4	146	11	-5
-3	68	42	-12*
-2	90	18	-6
-1	69	41	10*
0	240	8	2
1	15	74	-61*
2	125	14	8
3	37	74	1*
4	86	34	18*
5	69	35	0*
H,K= 12, 12			
-7	46	78	-65*
-6	24	67	12*
-5	132	13	9
-4	130	13	5
-3	12	72	10*
-2	188	10	7
-1	138	12	21
0	35	72	-24*
1	142	12	14
2	73	48	-6*
3	68	68	59*
4	124	17	-16
H,K= 12, 13			
-6	79	25	1*

L	FOB	SG	DEL	L	FOB	SG	DEL	L	FOB	SG	DEL	L	FOB	SG	DEL	L	FOB	SG	DEL	L	FOB	SG	DEL	L	FOB	SG	DEL	L	FOB	SG	DEL
-5	81	48	2*	-6	69	44	61*	H,K= 13, 7				-1	227	9	0	-11	46	85	-3*	-9	150	18	54	-7	150	14	22	4	206	10	1
-4	46	73	41*	-5	202	9	-6	-10	168	13	-11	0	32	72	19*	-10	55	82	13*	-8	70	52	62*	-5	332	9	3	5	30	77	22*
-3	181	10	-5	-4	44	68	-1*	-9	41	77	39*	1	147	12	13	-9	46	80	-1*	-7	36	75	-9*	-3	206	8	3	H,K= 15, 5			
-2	0	74	-38*	-3	139	10	16	-8	76	27	-13*	2	0	74	-64*	-8	166	13	-18	-6	0	72	-30*	-1	157	11	7	-9	145	14	15
-1	152	12	-7	-2	43	58	16*	-7	59	72	39*	3	0	76	-50*	-7	0	76	-18*	-5	191	9	-4	1	210	9	1	-8	47	77	23*
0	39	74	-24*	-1	276	8	-1	-6	66	72	-24*	4	88	38	-9*	-6	222	9	-10	-4	0	70	-19*	3	89	21	-8	-7	128	15	-14
1	85	33	27*	0	73	37	34*	-5	72	32	49*	H,K= 13, 12				-5	50	62	4*	-3	213	8	2	5	69	31	7*	-6	0	77	-103*
2	45	76	33*	1	196	9	-14	-4	284	8	4	-6	136	14	-23	-4	53	69	2*	-2	34	66	17*	H,K= 15, 1				-5	0	72	-27*
3	162	12	16	2	102	16	-1	-3	53	60	26*	-5	76	39	5*	-3	57	60	-14*	-1	0	70	-6*	-10	114	32	1	-4	144	11	-13
H,K= 12, 14				3	17	69	-17*	-2	205	8	-2	-4	44	72	39*	-2	277	7	4	0	24	69	3*	-9	73	84	-18*	-3	126	12	-11
-4	184	11	0	4	78	36	-7*	-1	23	66	9*	-3	98	18	-20	-1	45	69	7*	1	215	9	0	-8	57	82	15*	-2	0	69	-6*
-3	35	74	19*	5	180	10	-6	0	40	60	17*	-2	101	17	6	0	174	9	6	2	53	74	35*	-7	14	82	-84*	-1	155	10	10
-2	196	10	10	6	35	71	3*	1	0	69	-37*	-1	38	66	11*	1	47	69	-7*	3	197	10	0	-6	254	9	1	0	151	12	0
-1	0	75	-4*	7	155	12	-7	2	219	9	-5	0	130	14	3	2	60	71	45*	4	53	75	52*	-5	66	60	27*	1	15	66	0*
0	0	76	-31*	8	48	76	23*	3	45	73	23*	1	63	74	-28*	3	53	64	-5*	5	0	76	-19*	-4	207	9	-1	2	168	11	2
1	43	69	-4*	H,K= 13, 4				4	131	13	14	2	0	70	-21*	4	174	11	-22	H,K= 14, 8				-3	38	68	-9*	3	135	21	-8
H,K= 13, 0				-11	32	84	-14*	5	0	75	-8*	3	135	15	8	5	57	74	36*	-9	72	78	23*	-2	62	67	34*	4	68	76	17*
-11	121	31	-19	-10	0	80	-28*	6	60	69	36*	H,K= 13, 13				6	151	13	-9	-8	0	78	-11*	-1	120	13	20	5	121	23	-12
-9	216	11	10	-9	44	79	-5*	7	47	70	40*	-4	164	11	15	7	18	77	-37*	-7	70	49	-12*	0	161	11	-5	H,K= 15, 6			
-7	42	75	0*	-8	142	13	-29	H,K= 13, 8				-3	35	75	-16*	H,K= 14, 4				-6	138	13	-6	1	36	72	21*	-9	59	72	-20*
-5	284	8	6	-7	64	33	19*	-10	45	78	17*	-2	159	11	20	-10	53	82	-20*	-5	34	72	-28*	2	133	13	-11	-8	73	54	-9*
-3	307	8	-9	-6	246	8	1	-9	139	14	-6	-1	68	47	24*	-9	147	14	8	-4	243	8	7	3	33	68	-38*	-7	76	77	-6*
-1	44	62	16*	-5	37	70	-32*	-8	0	76	-73*	0	36	74	-11*	-8	41	77	18*	-3	79	44	-23*	4	39	74	34*	-6	60	74	-1*
1	257	8	4	-4	71	35	-25*	-7	39	74	-8*	1	21	75	7*	-7	217	9	5	-2	63	69	-1*	5	87	22	9	-5	188	10	-4
3	347	8	-6	-3	130	11	2	-6	87	30	-12*	H,K= 14, 0				-6	66	67	3*	-1	70	71	-11*	6	120	16	18	-4	9	70	-45*
5	77	37	-6*	-2	239	7	-2	-5	161	10	-6	-10	212	12	17	-5	110	15	8	0	141	12	7	H,K= 15, 2				-3	75	49	-22*
7	86	34	-10*	-1	137	11	6	-4	51	67	32*	-8	149	14	6	-4	117	13	-11	1	76	24	16*	-10	87	53	-12*	-2	108	15	-5
H,K= 13, 1				0	277	8	11	-3	266	8	-1	-6	149	13	-8	-3	137	11	-4	2	249	9	18	-9	41	81	3*	-1	146	11	-1
-11	62	85	11*	1	42	64	-7*	-2	90	17	4	-4	248	8	4	-2	46	65	2*	3	47	75	13*	-8	169	13	0	0	9	73	-10*
-10	191	12	12	2	110	14	10	-1	130	11	6	-2	170	8	13	-1	264	8	-6	4	42	77	-10*	-7	122	17	-4	1	213	9	8
-9	0	81	-37*	3	60	64	-1*	0	118	13	-5	0	201	9	-1	0	0	69	-52*	5	85	37	10*	-6	90	36	-16*	2	58	68	-2*
-8	149	14	-11	4	170	11	-13	1	107	15	-14	2	233	8	3	1	110	15	2	H,K= 14, 9				-5	185	11	-11	3	78	27	-22*
-7	112	16	17	5	46	73	22*	2	35	66	-32*	4	115	15	-1	2	107	23	-24	-8	112	18	-23	-4	61	73	-39*	4	10	77	-39*
-6	47	67	-32*	6	157	12	-19	3	189	10	10	6	65	70	-38*	3	157	12	0	-7	41	69	-12*	-3	154	11	0	5	51	76	15*
-5	69	47	1*	7	55	74	25*	4	21	74	-3*	H,K= 14, 1				4	49	74	12*	-6	136	13	2	-2	215	9	7	H,K= 15, 7			
-4	284	8	12	8	57	76	-3*	5	49	76	-3*	-11	213	12	22	5	193	11	-12	-5	116	21	-24	-1	50	63	-3*	-8	58	76	45*
-3	0	70	-12*	H,K= 13, 5				6	96	32	2*	-10	49	79	18*	6	55	75	47*	-4	39	71	22*	0	87	19	9	-7	67	75	63*
-2	243	8	6	-11	62	74	-9*	H,K= 13, 9				-9	170	13	10	7	88	31	16*	-3	90	29	-20*	1	158	11	14	-6	138	13	-6
-1	206	8	5	-10	153	14	9	-9	77	43	24*	-8	92	35	-7*	H,K= 14, 5				-2	190	9	3	2	75	59	-1*	-5	24	71	11*
0	128	12	5	-9	69	77	-4*	-8	48	69	-7*	-7	59	78	39*	-10	46	81	7*	-1	37	71	-2*	3	97	29	-5*	-4	190	9	-3
1	84	29	-4*	-8	59	75	-3*	-7	138	13	-11	-6	43	58	-9*	-9	68	80	-27*	0	145	12	3	4	136	14	-11	-3	0	71	-18*
2	318	8	-6	-7	169	10	-3	-6	76	39	-16*	-5	251	9	-7	-8	172	11	9	1	94	28	-8*	5	86	35	22*	-2	29	69	15*
3	49	71	10*	-6	81	21	2	-5	142	12	4	-4	56	69	51*	-7	0	75	-39*	2	19	74	9*	6	90	33	12*	-1	34	70	15*
4	249	8	7	-5	121	13	-1	-4	151	11	-17	-3	233	8	2	-6	83	32	-26*	3	87	36	-4*	H,K= 15, 3				0	199	10	1
5	100	26	-16	-4	249	7	0	-3	106	15	-4	-2	78	29	-23*	-5	171	10	-5	4	77	80	-33*	-10	0	85	-6*	1	46	74	10*
6	70	48	56*	-3	51	59	2*	-2	48	70	-44*	-1	23	69	-42*	-4	12	67	-6*	H,K= 14, 10				-9	181	13	10	2	244	9	11
7	71	74	18*	-2	145	10	-2	-1	170	10	2	0	80	33	-27*	-3	188	9	-1	-7	179	11	6	-8	59	73	23*	3	35	77	27*
8	123	15	0	-1	241	7	4	0	47	69	15*	1	252	8	7	-2	185	8	2	-6	90	30	-11*	-7	186	11	-3	4	14	77	-15*
H,K= 13, 2				0	0	67	-8*	1	180	10	7	2	47	71	37*	-1	26	68	13*	-5	67	71	-7*	-6	73	47	-22*	H,K= 15, 8			
-11	116	21	3	1	150	11	-4	2	100	17	25	3	219	9	4	0	171	10	10	-4	67	54	8*	-5	61	71	41*	-8	82	53	2*
-10	37	82	2*	2	151	11	7	3	0	75	-27*	4	110	16	2	1	134	13	-7	-3	119	20	-6	-4	29	72	-45*	-7	114	24	-2
-9	84	27	0*	3	59	65	-16*	4	0	76	-53*	5	0	74	-33*	2	29	73	21*	-2	55	71	42*	-3	238	8	-9	-6	55	76	-14*
-8	132	15	10	4	104	17	-10	5	137	14	7	6	53	68	-11*	3	177	10	11	-1	240	8	14	-2	0	69	-8*	-5	154	11	15
-7	68	56	58*	5	153	12	-6	H,K= 13, 10				7	140	14	-5	4	189	10	10	0	43	73	-39*	-1	216	9	2	-4	0	72	-20*
-6	234	9	-10	6	0	75	-9*	-8	115	25	-27	H,K= 14, 2				5	56	75	1*	1	103	26	7	0	38	69	10*	-3	40	70	-9*
-5	133	13	-16	7	84	25	-12*	-7	53	73	46*	-11	45	79	1*	6	132	14	9	2	20	67	-15*	1	79	33	57*	-2	106	23	2
-4	59	70	30*	H,K= 13, 6				-6	189	10	6	-10	121	30	-1	H,K= 14, 6				3	107	26	8	2	39	74	28*	-1	150	11	15
-3	169	9	1	-10	63	78	58*	-5	42	73	-36*	-9	124	17	17	-10	169	13	14	H,K= 14, 11				3	183	11	-2	0	45	67	-24*
-2	204	8	1	-9	187	11	-10	-4	77	33	-8*	-8	41	79	0*	-9	32	79	-12*	-6	73	58	-54*	4	0	76	-16*	1	190	11	-4
-1	75	33	66*	-8	86	43	15*	-3	94	17	24	-7	217	10	18	-8	41	69	-12*	-5	53	74	30*	5	131	21	-21	2	16	77	-8*
0	260	8	5	-7	22	72	-18*	-2	189	9	4	-6	48	66	-12*	-7	77	40	-29*	-4	54	73	20*	6	46	70	17*	3	96	32	10*
1	197	9	1	-6	101	22	9	-1	57	63	25*	-5	46	67	-20*	-6	178	10	6	-3	33	73	-32*	H,K= 15, 4				H,K= 15, 9			
2	94	25	20	-5	203	8	2	0	250	8	11	-4	138	12	-13	-5	29	69	-9*	-2	168	11	-4	-9	25	81	6*	-7	111	17	-9
3	200	9	-11	-4	25	67	-2*	1	0	72	-22*	-3	143	11	2	-4	297	8	-4	-1	0	74	-15*	-8	200	11	-9	-6	102	18	-12
4	149	12	-12	-3	326	8	-1	2	98	18	13	-2	76	35	-23*	-3	45	62	-33*	0	177	10	24	-7	49	76	29*	-5	13	74	-53*
5	73	53	16*	-2	96	21	-7	3	44	74	13*	-1	225	8	-3	-2	100	15	2	1	42	75	2*	-6	63	75	-30*	-4	92	28	5*
6	149	12	-18	-1	102	14	-7	4	111	26	-7	0	32	63	-27*	-1	60	69	-39*	2	49	76	21*	-5	38	72	25*	-3	138	13	-12
7	60	67	25*	0	73	32	-3*	5	44	78	33*	1	59	64	-7*	0	165	10	-3	H,K= 14, 12				-4	107	15	3	-2	35	72	-1*
8	26	76	-19*	1	119	13	12	H,K= 13, 11				2	209	9	5	1	0	72	-36*	-4	78	41	-19*	-3	41	68	29*	-1	141	13	-6
H,K= 13, 3				2	55	69	52*	-7	163	12	-14	3	115	15	-7	2	253	9	10	-3	89	33	-29*	-2	257	8	-5	0	155	12	5
-11	137	17	-3	3	257	8	6	-6	58	73	27*	4	44	74	-13*	3	41	75	-28*	-2	59	73	1*	-1	44	69	29*	1	59	68	25*
-10	0	82	-31*	4	64	66	-18*	-5	115	15	-13	5	152	12	-11	4	117	17	-8	-1	116	16	0	0	31	75	-65*	2	118	17	10
-9	77	29	1*	5	100	18	9	-4	31	71	-19*	6	25	58	-32*	5	89	33	11*	0	57	74	1*	1	90	20	22	3	88	36	-10*
-8	49	76	5*	6	96	30	-3*	-3	60	69	19*	7	25	77	-38*	6	61	69	2*	H,K= 15, 0				2	72	49	-34*	H,K= 15, 10			
-7	256	9	-12	7	90	34	2*	-2	34	67	-13*	H,K= 14, 3				H,K= 14, 7				-9	84	50	-1*	3	62	68	-1*	-5	46	67	9*

L	FOB	SG	DEL	L	FOB	SG	DEL	L	FOB	SG	DEL	L	FOB	SG	DEL	L	FOB	SG	DEL	L	FOB	SG	DEL	L	FOB	SG	DEL
-4	41	75	-27*	1	14	76	-56*	1	47	76	19*	0	45	80	15*												
-3	32	73	-10*	2	41	75	0*	2	108	26	21	1	51	70	-3*												
-2	177	11	1	3	179	11	-2	3	60	79	-15*	H,K= 18, 2															
-1	79	38	6*	4	60	76	54*	H,K= 17, 2				-5	128	17	4												
0	101	28	-4	H,K= 16, 5				-7	76	84	-34*	-4	68	79	44*												
1	56	76	16*	-8	132	16	3	-6	51	79	19*	-3	108	26	-5												
H,K= 15, 11				-7	96	34	-14*	-5	15	79	-7*	-2	9	79	-76*												
-3	99	29	-26*	-6	53	75	48*	-4	143	14	0	-1	50	77	43*												
-2	45	75	20*	-5	126	14	-12	-3	31	76	-40*	0	42	80	-12*												
-1	157	12	18	-4	118	14	1	-2	128	15	-16	H,K= 18, 3															
H,K= 16, 0				-3	17	71	-28*	-1	92	32	-32*	-5	32	80	30*												
-8	83	31	-2*	-2	142	12	3	0	61	67	43*	-4	155	13	2												
-6	254	10	-3	-1	121	14	15	1	98	30	31*	-3	0	74	-27*												
-4	143	12	7	0	66	32	38*	2	93	35	-31*	-2	51	71	-39*												
-2	112	14	15	1	109	17	12	3	0	80	-8*	-1	60	78	37*												
0	297	9	19	2	93	22	-14	H,K= 17, 3				0	70	81	-37*												
2	123	16	-2	3	48	68	38*	-7	86	37	40*	H,K= 18, 4															
4	58	75	39*	4	127	16	0	-6	64	79	36*	-4	52	75	22*												
H,K= 16, 1				H,K= 16, 6				-5	129	15	9	-3	115	16	-6												
-9	45	86	22*	-7	41	77	1*	-4	51	76	45*	-2	97	20	24												
-8	82	84	-10*	-6	146	13	-15	-3	220	9	-4	-1	0	80	-20*												
-7	158	14	8	-5	52	73	24*	-2	41	72	-16*																
-6	81	65	74*	-4	172	10	16	-1	59	77	-20*																
-5	183	11	17	-3	48	65	-35*	0	61	76	-9*																
-4	54	66	-12*	-2	9	71	-39*	1	135	14	0																
-3	76	33	23*	-1	64	72	42*	2	44	76	39*																
-2	58	73	-20*	0	159	12	-5	3	149	14	-9																
-1	170	11	4	1	93	30	45*	H,K= 17, 4																			
0	48	68	5*	2	72	78	-7*	-7	0	83	-77*																
1	182	11	-14	3	65	69	3*	-6	77	46	2*																
2	45	67	3*	H,K= 16, 7				-5	67	67	12*																
3	84	37	-3*	-7	156	13	-18	-4	158	12	-20																
4	63	76	-13*	-6	54	76	49*	-3	69	72	55*																
5	58	71	-10*	-5	188	10	5	-2	139	13	-7																
H,K= 16, 2				-4	48	72	25*	-1	67	75	44*																
-9	140	17	3	-3	0	72	-34*	0	71	58	29*																
-8	46	84	-49*	-2	46	71	30*	1	40	76	3*																
-7	101	32	-12*	-1	143	13	-4	2	158	13	4																
-6	173	12	6	0	0	75	-33*	H,K= 17, 5																			
-5	51	76	-12*	1	193	11	21	-6	114	26	-2																
-4	73	46	13*	2	33	79	27*	-5	137	13	14																
-3	161	11	-14	H,K= 16, 8				-4	55	73	5*																
-2	66	74	-15*	-6	153	12	3	-3	143	12	11																
-1	120	15	-10	-5	0	74	-19*	-2	32	74	-38*																
0	158	11	19	-4	71	50	-20*	-1	33	76	8*																
1	60	74	22*	-3	132	13	16	0	100	29	-6																
2	136	14	5	-2	33	73	-27*	1	84	40	-8*																
3	129	15	-7	-1	59	75	-23*	2	59	79	34*																
4	17	77	-1*	0	139	13	10	H,K= 17, 6																			
5	106	18	16	1	0	79	-3*	-6	50	76	26*																
H,K= 16, 3				2	106	29	2	-5	147	13	-7																
-9	41	83	36*	H,K= 16, 9				-4	49	67	-5*																
-8	155	15	-4	-5	80	53	-17*	-3	35	67	27*																
-7	38	79	0*	-4	118	22	22	-2	0	73	-38*																
-6	53	71	13*	-3	58	73	54*	-1	175	11	6																
-5	49	73	17*	-2	167	11	6	0	58	76	19*																
-4	169	11	10	-1	92	34	-20*	1	133	16	-4																
-3	21	70	4*	0	42	76	12*	H,K= 17, 7																			
-2	259	9	-6	H,K= 17, 0				-4	72	75	10*																
-1	65	65	2*	-7	158	15	12	-3	25	73	9*																
0	37	74	9*	-5	114	18	6	-2	114	23	-6																
1	63	74	1*	-3	50	71	3*	-1	0	76	-26*																
2	160	12	6	-1	244	9	12	0	139	14	-8																
3	0	76	-33*	1	149	14	-20	H,K= 18, 0																			
4	154	13	-8	3	70	76	44*	-6	168	14	13																
H,K= 16, 4				H,K= 17, 1				-4	44	75	32*																
-8	54	81	32*	-8	59	86	-30*	-2	155	12	7																
-7	119	17	14	-7	24	85	-18*	0	185	12	9																
-6	63	76	39*	-6	190	12	18	H,K= 18, 1																			
-5	114	15	14	-5	45	73	-35*	-6	61	82	8*																
-4	0	72	-22*	-4	39	78	2*	-5	0	82	-60*																
-3	210	9	-7	-3	72	43	4*	-4	59	79	-24*																
-2	24	64	-5*	-2	158	12	11	-3	114	16	13																
-1	122	15	-13	-1	0	76	-42*	-2	0	76	-19*																
0	64	74	38*	0	230	10	10	-1	170	13	-3																

LAWRENCE BERKELEY LABORATORY
TECHNICAL INFORMATION DEPARTMENT
UNIVERSITY OF CALIFORNIA
BERKELEY, CALIFORNIA 94720