SUPPORTING INFORMATION

Zr(IV)-Monosubstituted Keggin Type Dimeric Polyoxometalates: Synthesis, Characterization, Catalysis of H₂O₂-based Oxidations, and Theoretical Study

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Figure S1. Packing diagrams of compound **2** viewed down the *a*-axis (left) and *c*-axis (right).

Figure S2. Potentiometric titration curves for **1** and **2** (0.025 mmol) in MeCN (5 mL) with 0.8 M TBAOH/MeOH. The potentials are relative to a standard Ag/AgCl electrode.

Figure S3. IR spectra (1200-2000 and 3000-4000 cm⁻¹) of Zr-POMs in nujol: (n-Bu₄N)₇H[$\{PW_{11}O_{39}Zr(\mu-OH)\}_2$] (**1**), (n-Bu₄N)₈[$\{PW_{11}O_{39}Zr(\mu-OH)\}_2$] (**2**), and (n-Bu₄N)₉[$\{PW_{11}O_{39}Zr\}_2(\mu-OH)(\mu-O)$] (**3**).

Figure S4. Solid-state Raman spectra of **1-3**.

Figure S5. ³¹P NMR spectra of **1** (0.05 M) as a function of added H₂O to an initially dried MeCN solution at 20 °C.

Figure S6. Combination of polyhedral and “ball-and-stick” views for the two calculated isomers of [$\{PW_{11}O_{39}Zr(\mu-OH)\}_2$]⁸⁻ anion, **2** and **2b**. The point symmetry of the frameworks is C_s and C_{2v} for **2** and **2b**, respectively.

Table S1. Bond lengths [Å] for **2**.

Table S2. Atomic coordinates ($\times 10^4$) and equivalent isotropic displacement parameters (Å² $\times 10^3$) for **2**. U(eq) is defined as one third of the trace of the orthogonalized U^{ij} tensor.

Table S3. Anisotropic displacement parameters (Å² $\times 10^3$) for **2**. The anisotropic displacement factor exponent takes the form: $-2\pi^2[h^2 a^{*2}U^{11} + \dots + 2 h k a^* b^* U^{12}]$

Figure S1. Packing diagrams of compound **2** viewed down the *a*-axis (left) and *c*-axis (right).

Figure S2. Potentiometric titration curves for **1** and **2** (0.025 mmol) in MeCN (5 mL) with 0.8 M TBAOH/MeOH. The potentials are relative to a standard Ag/AgCl electrode.

Figure S3. IR spectra (1200-2000 and 3000-4000 cm^{-1}) of Zr-POMs in nujol: $(\text{n-Bu}_4\text{N})_7\text{H}[\{\text{PW}_{11}\text{O}_{39}\text{Zr}(\mu\text{-OH})\}_2]$ (**1**), $(\text{n-Bu}_4\text{N})_8[\{\text{PW}_{11}\text{O}_{39}\text{Zr}(\mu\text{-OH})\}_2]$ (**2**), and $(\text{n-Bu}_4\text{N})_9[\{\text{PW}_{11}\text{O}_{39}\text{Zr}\}_2(\mu\text{-OH})(\mu\text{-O})]$ (**3**).

Figure S4. Solid-state Raman spectra of **1-3**.

I/I= 1:1 for a,
b and c

Figure S5. ^{31}P NMR spectra of **1** (0.05 M) as a function of added H_2O to an initially dried MeCN solution at 20 °C.

Figure S6. Combination of polyhedral and “ball-and-stick” views for the two calculated isomers of $[\{\text{PW}_{11}\text{O}_{39}\text{Zr}(\mu\text{-OH})\}_2]^{8-}$ anion, **2** and **2b**. The point symmetry of the frameworks is C_s and C_{2v} for **2** and **2b**, respectively.

Table S1. Bond lengths [Å] for **2**.

Zr(1)-O(11)	2.031(16)
Zr(1)-O(12)	2.080(14)
Zr(1)-O(13)	2.062(14)
Zr(1)-O(14)	2.089(15)
Average	2.07(3)
Zr(1)-O(111)	2.061(14)
Zr(1)-O(111)#1	2.127(14)
Zr(1)-Zr(1)#1	3.568(3)
P(1)-O(1)	1.517(16)
P(1)-O(2)	1.568(16)
P(1)-O(3)	1.533(14)
P(1)-O(4)	1.529(15)
Average	1.54(2)
O(1)-Zr(1)	2.708(15)
O(1)-W(3)	2.436(13)
O(1)-W(2)	2.485(16)
O(2)-W(9)	2.416(14)
O(2)-W(8)	2.481(16)
O(2)-W(11)	2.482(16)
O(3)-W(6)	2.443(14)
O(3)-W(10)	2.474(13)
O(3)-W(4)	2.495(15)
O(4)-W(5)	2.421(15)
O(4)-W(7)	2.462(14)
Average	2.46(4)
W(1)-O(10)	1.705(11)
W(2)-O(20)	1.689(13)
W(3)-O(30)	1.677(12)

W(4)-O(40)	1.692(12)
W(5)-O(50)	1.704(13)
W(6)-O(60)	1.650(13)
W(7)-O(70)	1.687(15)
W(8)-O(80)	1.693(12)
W(9)-O(90)	1.666(13)
W(10)-O(100)	1.690(12)
W(11)-O(110)	1.696(12)

Average	1.69(2)
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W(1)-O(11)	1.829(17)
W(1)-O(26)	1.845(14)
W(1)-O(21)	1.905(16)
W(1)-O(31)	1.964(14)
W(2)-O(12)	1.829(14)
W(2)-O(23)	1.905(14)
W(2)-O(32)	1.939(14)
W(2)-O(22)	1.947(16)
W(3)-O(13)	1.802(15)
W(3)-O(24)	1.886(16)
W(3)-O(33)	1.950(15)
W(3)-O(23)	1.963(15)
W(4)-O(14)	1.776(16)
W(4)-O(26)	1.913(14)
W(4)-O(34)	1.927(15)
W(4)-O(25)	1.938(12)
W(5)-O(22)	1.800(15)
W(5)-O(21)	1.890(17)
W(5)-O(42)	1.896(14)
W(5)-O(41)	1.938(18)
W(6)-O(25)	1.887(12)
W(6)-O(44)	1.895(12)
W(6)-O(24)	1.902(16)
W(6)-O(45)	1.913(13)
W(7)-O(46)	1.863(15)
W(7)-O(31)	1.873(13)
W(7)-O(41)	1.905(18)

W(7)-O(51)	1.929(14)
W(8)-O(32)	1.834(15)
W(8)-O(52)	1.872(17)
W(8)-O(43)	1.874(15)
W(8)-O(42)	1.886(14)
W(9)-O(33)	1.817(16)
W(9)-O(44)	1.902(12)
W(9)-O(43)	1.921(15)
W(9)-O(53)	1.931(14)
W(10)-O(34)	1.841(14)
W(10)-O(46)	1.895(14)
W(10)-O(45)	1.909(13)
W(10)-O(54)	1.928(14)
W(11)-O(54)	1.865(14)
W(11)-O(51)	1.879(15)
W(11)-O(53)	1.902(15)
W(11)-O(52)	1.925(16)
Min	1.776
Max	1.964
Average	1.89(9)

Symmetry transformations used to generate equivalent atoms:

#1 -x+1,-y,-z+2

Table S2. Atomic coordinates ($\times 10^4$) and equivalent isotropic displacement parameters ($\text{\AA}^2 \times 10^3$) for **2**. U(eq) is defined as one third of the trace of the orthogonalized U^{ij} tensor.

	x	y	z	U(eq)
W(1)	6860(1)	881(1)	10570(1)	42(1)
Zr(1)	4899(1)	375(1)	9902(1)	32(1)
P(1)	4579(4)	1174(1)	9734(4)	43(1)
O(1)	4194(10)	892(3)	9314(10)	63(4)
O(2)	3954(10)	1420(3)	9175(11)	66(4)
O(3)	4531(9)	1191(3)	10715(9)	56(4)
O(4)	5577(10)	1225(3)	9730(10)	59(4)
W(2)	4083(1)	762(1)	7713(1)	32(1)
W(3)	2611(1)	719(1)	9064(1)	42(1)
W(4)	5375(1)	845(1)	11930(1)	29(1)
W(5)	6078(1)	1223(1)	8384(1)	35(1)
W(6)	3095(1)	1144(1)	11107(1)	31(1)
W(7)	6576(1)	1631(1)	10426(1)	32(1)
W(8)	3781(1)	1518(1)	7539(1)	32(1)
W(9)	2290(1)	1472(1)	8884(1)	35(1)
W(10)	5071(1)	1591(1)	11796(1)	28(1)
O(10)	7974(8)	752(2)	10967(7)	35(3)
W(11)	4257(1)	1927(1)	9573(1)	41(1)
O(11)	6175(11)	559(4)	10179(11)	86(6)
O(12)	4601(10)	476(3)	8517(10)	63(4)
O(13)	3487(10)	455(3)	9578(9)	59(4)
O(14)	5081(11)	543(4)	11207(11)	75(5)
O(20)	3790(10)	600(3)	6677(9)	57(4)
O(21)	6803(14)	991(4)	9358(11)	84(5)
O(22)	5315(11)	929(3)	7925(10)	63(4)
O(23)	2920(9)	703(3)	7918(10)	60(4)
O(24)	2663(12)	846(4)	10245(11)	77(5)
O(25)	4072(8)	907(3)	11810(9)	45(3)
O(26)	6478(10)	895(4)	11594(10)	69(5)
O(30)	1629(8)	525(3)	8731(8)	50(3)
O(31)	7140(10)	1282(3)	10843(8)	56(4)
O(32)	3653(9)	1139(3)	7287(11)	64(4)

O(33)	2153(11)	1096(3)	8641(10)	65(4)
O(34)	5565(9)	1242(3)	12208(10)	59(4)
O(40)	5792(10)	707(3)	13004(8)	53(4)
O(41)	6578(11)	1534(4)	9221(11)	80(5)
O(42)	5077(10)	1468(3)	7766(11)	67(4)
O(43)	2654(11)	1506(4)	7800(11)	74(5)
O(44)	2465(9)	1397(3)	10147(8)	46(3)
O(45)	3848(9)	1459(3)	11698(9)	48(3)
O(46)	6141(9)	1644(3)	11430(10)	65(4)
O(50)	6779(10)	1232(3)	7712(10)	65(4)
O(51)	5555(10)	1883(3)	9836(10)	61(4)
O(52)	4108(12)	1834(4)	8312(12)	83(5)
O(53)	2986(11)	1815(3)	9307(10)	68(4)
O(54)	4416(11)	1840(3)	10801(10)	68(5)
O(60)	2408(10)	1116(3)	11745(10)	62(4)
O(70)	7478(11)	1861(4)	10747(11)	73(5)
O(80)	3442(10)	1679(3)	6496(9)	54(4)
O(90)	1203(10)	1600(4)	8514(10)	67(4)
O(100)	5312(9)	1805(3)	12726(9)	60(4)
N(100)	1763(13)	-137(4)	6838(14)	64(5)
O(110)	4136(8)	2283(3)	9523(8)	41(3)
O(111)	5390(10)	6(3)	9509(10)	58(4)
C(111)	1458(14)	-396(6)	6174(16)	74(8)
C(112)	1850(18)	-670(5)	6669(17)	73(7)
C(113)	1580(18)	-928(6)	5978(19)	83(8)
C(114)	1973(18)	-1197(6)	6485(18)	85(8)
C(121)	2825(14)	-100(5)	7159(14)	54(5)
C(122)	3240(15)	-77(5)	6386(15)	63(6)
C(123)	4316(15)	-37(5)	6790(16)	67(7)
C(124)	4746(17)	-22(6)	6013(17)	76(7)
C(131)	1258(15)	80(5)	6115(17)	63(6)
C(132)	1410(18)	373(6)	6527(16)	75(7)
C(133)	794(16)	565(5)	5744(12)	68(7)
C(134)	937(18)	877(6)	6084(18)	85(8)
C(141)	1588(17)	-147(6)	7758(17)	72(7)
C(142)	561(19)	-185(7)	7599(18)	90(9)
C(143)	506(17)	-192(7)	8610(20)	97(10)
C(144)	-497(18)	-235(7)	8630(20)	102(10)

N(200)	4622(14)	1133(5)	4742(11)	70(6)
C(211)	5125(16)	975(5)	5605(16)	67(6)
C(212)	5981(17)	816(6)	5465(16)	73(7)
C(213)	6476(17)	651(6)	6371(19)	78(8)
C(214)	7307(17)	487(5)	6290(18)	81(8)
C(221)	5309(17)	1344(5)	4524(18)	72(7)
C(222)	5680(20)	1554(6)	5300(20)	88(8)
C(223)	6190(20)	1775(6)	4970(20)	91(9)
C(224)	6020(20)	2065(6)	5320(19)	92(9)
C(231)	3780(18)	1288(6)	4887(17)	79(8)
C(232)	3240(19)	1458(6)	4031(17)	86(8)
C(233)	2409(17)	1614(7)	4225(17)	86(9)
C(234)	1885(17)	1788(6)	3355(17)	77(7)
C(241)	4253(17)	925(5)	3942(15)	68(7)
C(242)	3560(19)	720(5)	4169(17)	76(7)
C(243)	3200(20)	514(5)	3320(20)	82(8)
C(244)	2478(17)	302(6)	3545(18)	86(9)
N(300)	9669(13)	1432(5)	10119(13)	73(6)
C(311)	9409(15)	1362(5)	10971(14)	59(6)
C(312)	10202(17)	1199(5)	11705(12)	65(7)
C(313)	9875(19)	1131(6)	12525(17)	80(8)
C(314)	10625(18)	970(7)	13254(16)	86(9)
C(321)	10542(15)	1629(5)	10364(16)	60(6)
C(322)	10404(17)	1902(5)	10844(17)	67(6)
C(323)	11267(18)	2082(6)	11020(20)	81(8)
C(324)	11170(20)	2353(7)	11537(18)	94(10)
C(331)	8798(14)	1580(6)	9510(17)	72(7)
C(332)	8952(17)	1690(6)	8631(17)	78(8)
C(333)	8045(17)	1835(6)	8009(18)	80(8)
C(334)	8020(20)	1837(6)	7018(19)	95(9)
C(341)	9953(15)	1189(5)	9645(15)	57(6)
C(342)	9146(16)	966(5)	9355(16)	65(6)
C(343)	9419(19)	724(6)	8832(19)	82(8)
C(344)	8672(18)	502(7)	8625(19)	89(9)
N(400)	1416(15)	2365(4)	6706(13)	75(6)
C(411)	483(17)	2510(5)	6576(16)	64(6)
C(412)	40(20)	2434(6)	7290(20)	94(10)
C(413)	-894(18)	2594(6)	7020(20)	88(9)

C(414)	-1429(19)	2555(6)	7702(19)	86(8)
C(421)	1297(19)	2041(6)	6672(18)	82(8)
C(422)	560(20)	1929(6)	5809(16)	83(8)
C(423)	460(20)	1616(6)	5790(20)	96(9)
C(424)	-260(20)	1506(7)	4950(20)	116(12)
C(431)	1719(17)	2473(6)	5898(15)	73(7)
C(432)	2676(19)	2340(6)	5956(19)	79(8)
C(433)	2966(18)	2457(6)	5167(17)	74(7)
C(434)	3882(19)	2330(6)	5160(20)	95(9)
C(441)	2151(16)	2436(5)	7616(14)	63(6)
C(442)	2298(18)	2761(5)	7682(19)	77(7)
C(443)	3034(19)	2846(7)	8599(19)	90(9)
C(444)	3180(20)	3168(6)	8680(19)	90(9)

Table S3. Anisotropic displacement parameters ($\text{\AA}^2 \times 10^3$) for **2**. The anisotropic displacement factor exponent takes the form: $-2\pi^2 [h^2 a^{*2} U^{11} + \dots + 2 h k a^* b^* U^{12}]$

	U ¹¹	U ²²	U ³³	U ²³	U ¹³	U ¹²
W(1)	24(1)	70(1)	30(1)	-11(1)	5(1)	18(1)
Zr(1)	53(1)	22(1)	19(1)	-3(1)	9(1)	-4(1)
P(1)	58(3)	17(2)	50(3)	-2(2)	12(2)	0(2)
O(1)	50(8)	67(11)	73(10)	27(8)	23(7)	-5(7)
O(2)	54(9)	67(11)	86(11)	-2(9)	36(8)	-1(8)
O(3)	55(8)	56(10)	56(9)	-12(7)	17(7)	-5(7)
O(4)	55(9)	55(10)	63(9)	-10(7)	13(7)	-8(7)
W(2)	46(1)	31(1)	16(1)	-2(1)	8(1)	0(1)
W(3)	43(1)	45(1)	29(1)	2(1)	1(1)	-22(1)
W(4)	33(1)	37(1)	15(1)	-1(1)	4(1)	0(1)
W(5)	35(1)	47(1)	29(1)	4(1)	21(1)	9(1)
W(6)	30(1)	39(1)	29(1)	2(1)	15(1)	2(1)
W(7)	22(1)	36(1)	38(1)	-5(1)	9(1)	-6(1)
W(8)	38(1)	34(1)	21(1)	8(1)	7(1)	-2(1)
W(9)	20(1)	42(1)	39(1)	7(1)	4(1)	7(1)
W(10)	35(1)	24(1)	23(1)	-5(1)	7(1)	4(1)
O(10)	33(6)	40(7)	33(6)	4(5)	12(5)	4(5)
W(11)	64(1)	24(1)	48(1)	5(1)	35(1)	4(1)
O(11)	66(10)	142(17)	61(10)	-62(11)	34(8)	-29(10)
O(12)	65(9)	75(11)	52(9)	17(8)	22(7)	16(8)
O(13)	66(9)	78(11)	44(8)	1(7)	33(7)	-2(8)
O(14)	65(10)	99(14)	68(10)	-30(9)	32(8)	-14(9)
O(20)	58(9)	68(10)	41(8)	-4(7)	10(6)	16(7)
O(21)	120(15)	74(12)	56(10)	-2(9)	26(10)	6(11)
O(22)	80(11)	46(9)	70(10)	0(8)	31(8)	6(8)
O(23)	48(8)	58(10)	68(10)	19(8)	11(7)	5(7)
O(24)	92(12)	72(12)	60(10)	-11(9)	13(9)	-16(10)
O(25)	36(7)	37(8)	58(8)	-4(6)	8(6)	-2(6)
O(26)	49(9)	95(13)	67(10)	-35(9)	25(7)	-25(8)
O(30)	41(7)	69(10)	33(7)	-7(6)	2(6)	-15(7)
O(31)	78(10)	52(9)	34(7)	7(6)	10(7)	26(8)
O(32)	31(7)	49(9)	104(12)	3(8)	10(7)	2(6)

O(33)	92(11)	65(10)	52(9)	23(8)	42(8)	-6(9)
O(34)	44(8)	65(10)	67(9)	17(8)	14(7)	17(7)
O(40)	64(9)	45(8)	34(7)	6(6)	-6(6)	5(7)
O(41)	75(11)	71(12)	78(12)	17(9)	3(9)	15(9)
O(42)	63(10)	40(9)	100(12)	22(8)	30(9)	16(7)
O(43)	67(10)	99(14)	66(10)	-15(9)	35(8)	-8(9)
O(44)	58(8)	45(8)	36(7)	1(6)	15(6)	4(6)
O(45)	42(7)	43(8)	54(8)	2(6)	8(6)	8(6)
O(46)	47(8)	79(11)	69(10)	36(9)	19(7)	12(8)
O(50)	64(10)	77(11)	67(10)	-3(8)	40(8)	18(8)
O(51)	65(9)	59(10)	56(9)	20(7)	14(7)	10(8)
O(52)	87(12)	88(13)	86(12)	-27(10)	45(10)	-26(10)
O(53)	77(11)	65(11)	68(10)	-18(8)	32(8)	-26(9)
O(54)	87(11)	71(11)	61(9)	31(8)	44(9)	31(9)
O(60)	57(9)	69(11)	67(10)	3(8)	32(8)	-3(8)
O(70)	71(10)	83(12)	64(10)	3(9)	20(8)	-30(9)
O(80)	61(9)	58(9)	50(8)	23(7)	26(7)	-1(7)
O(90)	46(8)	94(13)	53(9)	-2(8)	3(7)	17(8)
O(100)	47(8)	67(10)	56(9)	-36(8)	6(7)	0(7)
N(100)	56(11)	63(13)	75(13)	-1(11)	24(10)	-1(10)
O(110)	39(7)	43(8)	37(7)	14(6)	8(5)	-1(6)
O(111)	70(9)	41(8)	70(10)	12(7)	33(8)	14(7)
C(111)	33(11)	120(20)	68(16)	18(16)	19(11)	-5(13)
C(112)	70(16)	77(19)	64(16)	-11(14)	11(13)	2(14)
C(113)	69(16)	77(19)	100(20)	21(16)	22(15)	-29(14)
C(114)	79(18)	90(20)	78(18)	-22(16)	18(15)	-7(16)
C(121)	54(13)	49(13)	61(13)	7(10)	19(10)	19(10)
C(122)	53(13)	72(17)	65(15)	-7(12)	20(11)	-13(12)
C(123)	58(14)	70(17)	76(16)	-17(13)	29(12)	-24(12)
C(124)	61(15)	71(18)	92(19)	5(14)	20(14)	-8(13)
C(131)	47(12)	59(15)	81(16)	-16(13)	20(11)	-9(11)
C(132)	79(17)	90(20)	52(14)	3(13)	21(12)	1(15)
C(133)	68(15)	100(20)	16(9)	1(11)	-6(9)	-6(14)
C(134)	75(18)	120(30)	71(17)	-4(17)	36(14)	3(17)
C(141)	79(17)	73(18)	76(17)	25(14)	40(14)	15(14)
C(142)	100(20)	120(30)	77(18)	-9(17)	57(16)	-14(18)
C(143)	47(15)	110(30)	130(30)	30(20)	29(16)	-2(15)
C(144)	72(19)	140(30)	100(20)	10(20)	42(17)	5(18)

N(200)	75(12)	122(18)	24(8)	10(10)	32(8)	2(12)
C(211)	71(16)	68(17)	66(15)	-2(13)	31(13)	-9(13)
C(212)	72(16)	90(20)	66(16)	-9(14)	36(13)	-12(14)
C(213)	64(16)	80(20)	90(20)	10(16)	36(14)	11(14)
C(214)	64(16)	69(18)	92(19)	11(15)	3(14)	6(13)
C(221)	66(15)	68(17)	78(17)	4(14)	17(13)	-7(13)
C(222)	85(19)	80(20)	90(20)	3(17)	18(16)	-3(16)
C(223)	100(20)	90(20)	80(20)	-22(17)	39(17)	-6(18)
C(224)	100(20)	100(20)	90(20)	21(18)	43(17)	-11(18)
C(231)	73(17)	100(20)	65(16)	19(15)	22(13)	15(15)
C(232)	87(19)	100(20)	60(16)	-14(15)	7(14)	10(17)
C(233)	54(14)	130(30)	61(16)	-2(16)	5(12)	14(16)
C(234)	73(17)	81(19)	75(17)	11(14)	24(14)	8(14)
C(241)	71(15)	88(19)	49(13)	17(13)	27(12)	13(14)
C(242)	100(20)	70(18)	65(15)	-17(13)	45(15)	-6(15)
C(243)	100(20)	48(15)	110(20)	14(15)	51(18)	6(14)
C(244)	66(16)	120(30)	75(18)	-3(17)	24(14)	22(16)
N(300)	54(12)	112(18)	68(13)	5(12)	41(10)	4(11)
C(311)	52(13)	74(16)	50(12)	18(11)	17(10)	-4(11)
C(312)	91(17)	82(17)	22(10)	6(10)	19(10)	-21(14)
C(313)	92(19)	90(20)	64(16)	-18(15)	36(15)	-3(16)
C(314)	79(18)	130(30)	54(15)	17(16)	30(13)	-16(17)
C(321)	62(14)	57(15)	74(15)	15(12)	41(12)	25(12)
C(322)	70(15)	61(16)	67(15)	-2(12)	19(12)	-1(13)
C(323)	75(18)	80(20)	100(20)	20(17)	56(16)	30(15)
C(324)	100(20)	120(30)	68(17)	11(17)	34(16)	-29(19)
C(331)	36(12)	85(19)	91(19)	14(15)	16(12)	0(12)
C(332)	70(16)	80(20)	79(18)	12(15)	25(14)	32(14)
C(333)	68(16)	90(20)	85(19)	20(15)	29(14)	-12(14)
C(334)	120(20)	70(20)	90(20)	-14(16)	26(18)	-8(18)
C(341)	53(13)	63(15)	72(15)	2(12)	45(11)	-3(11)
C(342)	64(14)	62(16)	70(15)	23(12)	23(12)	-14(12)
C(343)	85(19)	80(20)	83(19)	10(16)	35(16)	6(16)
C(344)	75(18)	120(30)	83(19)	-14(18)	44(15)	-10(17)
N(400)	98(16)	57(13)	54(12)	-3(10)	4(11)	15(12)
C(411)	78(16)	52(14)	68(15)	8(12)	33(13)	-7(12)
C(412)	100(20)	90(20)	100(20)	50(18)	51(18)	40(18)
C(413)	74(18)	71(19)	130(30)	13(17)	53(18)	25(15)

C(414)	82(19)	90(20)	90(20)	-11(16)	36(16)	-5(16)
C(421)	87(19)	90(20)	82(19)	-14(16)	40(16)	0(16)
C(422)	90(20)	100(20)	47(14)	5(14)	10(13)	4(17)
C(423)	100(20)	56(18)	120(30)	-6(17)	21(19)	3(16)
C(424)	120(30)	130(30)	140(30)	-40(20)	90(20)	-20(20)
C(431)	77(17)	90(20)	49(14)	2(13)	16(12)	-19(14)
C(432)	90(20)	72(18)	90(20)	18(15)	60(16)	3(15)
C(433)	83(18)	73(18)	75(17)	1(14)	37(14)	-4(14)
C(434)	90(20)	80(20)	140(30)	16(19)	70(20)	-2(16)
C(441)	62(14)	90(19)	39(11)	21(12)	17(10)	5(13)
C(442)	80(18)	48(15)	100(20)	-4(14)	22(15)	1(13)
C(443)	76(18)	110(30)	90(20)	-11(18)	28(16)	3(17)
C(444)	100(20)	90(20)	80(20)	-24(16)	26(16)	-29(17)