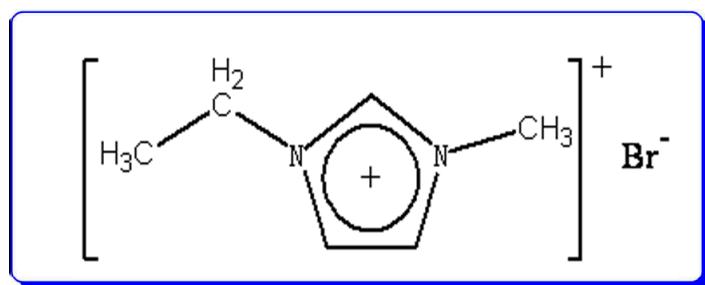


Supporting Information

Preparation of Polyoxometalates in Ionic Liquids by Ionothermal Synthesis

Shiwei Lin,^{a,b} Wenli Liu,^a Yangguang Li,^{*,a} Qiong Wu,^a Enbo Wang^{*,a} and Zhiming Zhang^a



Scheme S1 Structure of the ILs [Emim]Br.

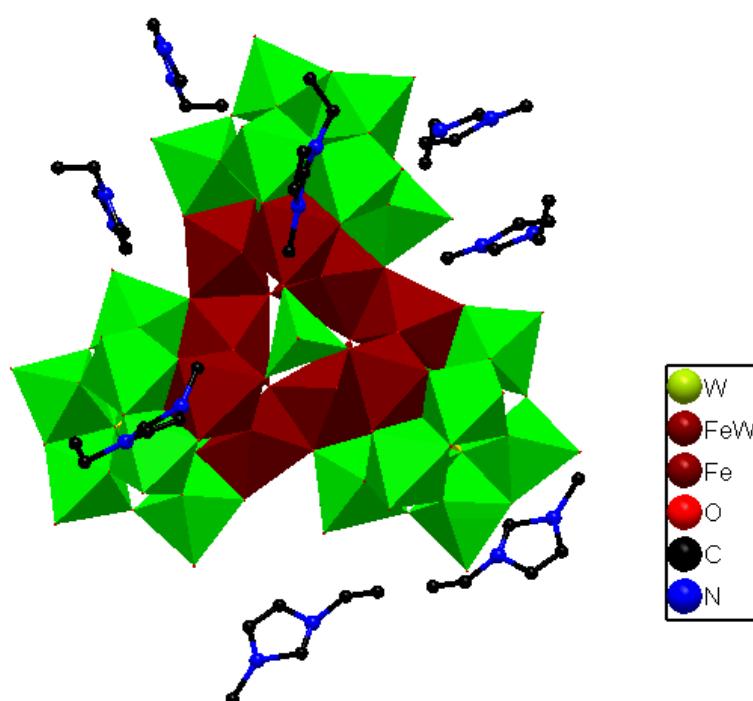


Fig. S1 Polyhedral and ball-and-stick representation of **1**.

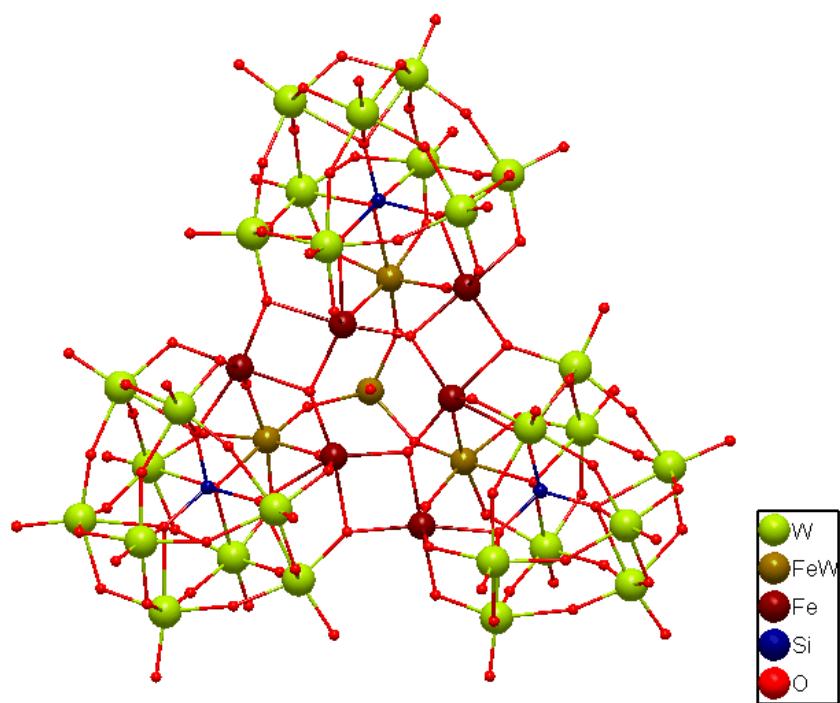


Fig. S2 Ball-and-stick representation of **1a**.

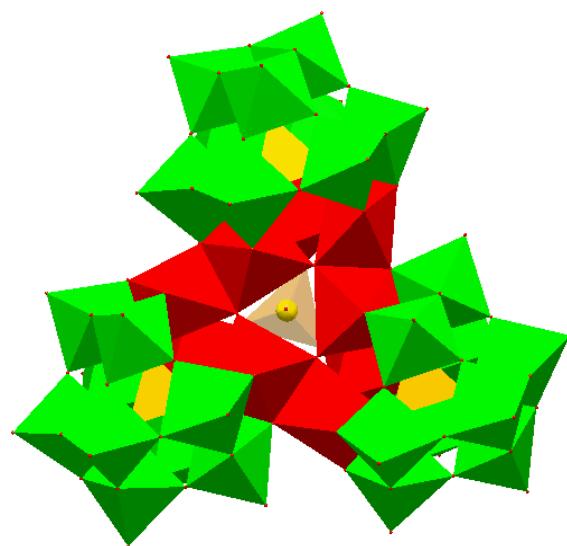


Fig. S3 Polyhedral representations of **1a**.

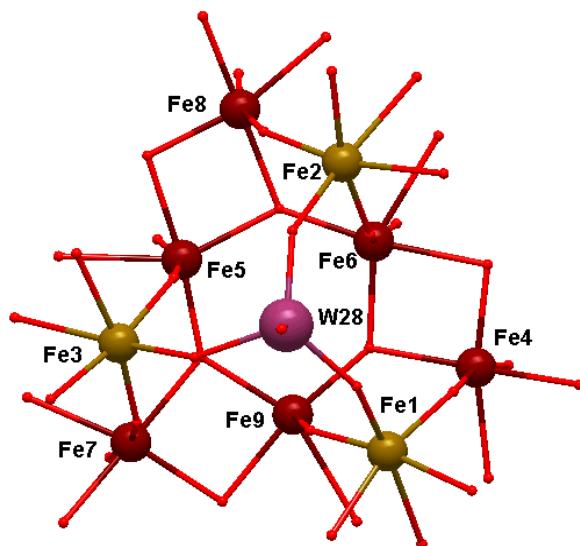


Fig. S4 Ball-and-stick representations of the {WFe₉} cluster in **1a**.

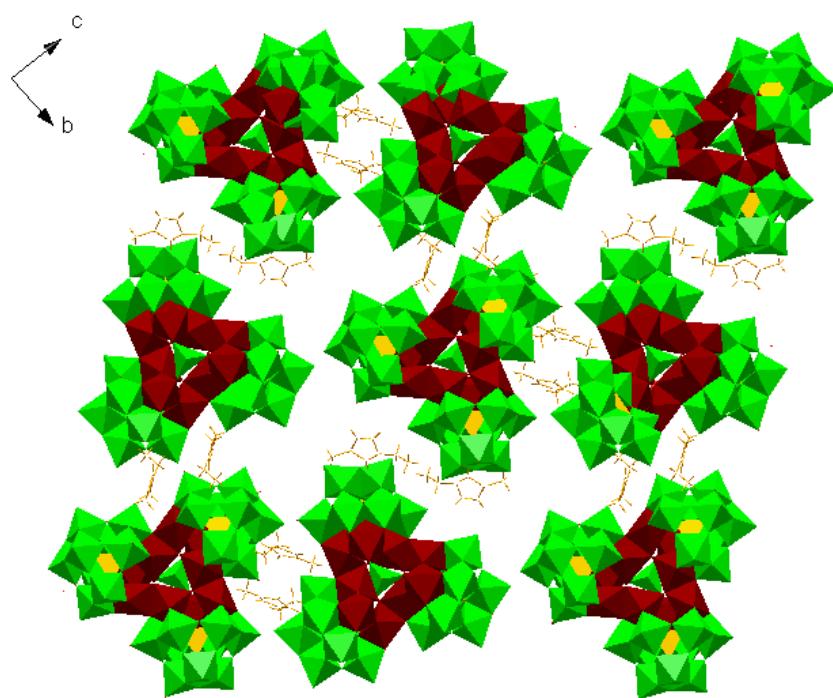


Fig. S5 The packing arrangement of **1** viewed along *a*-axis, Na⁺ and water molecules are omitted for clarity.

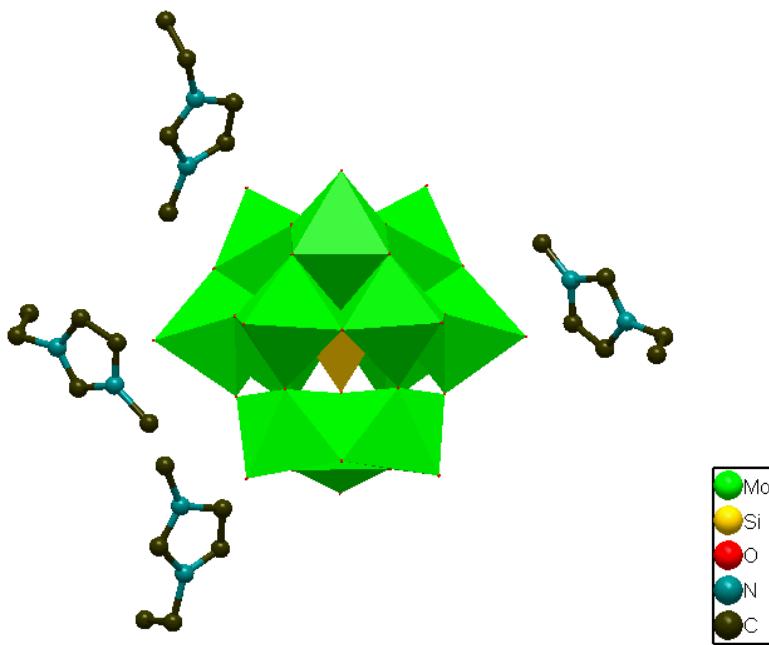


Fig. S6 Polyhedral and ball-and-stick representation of **2**.

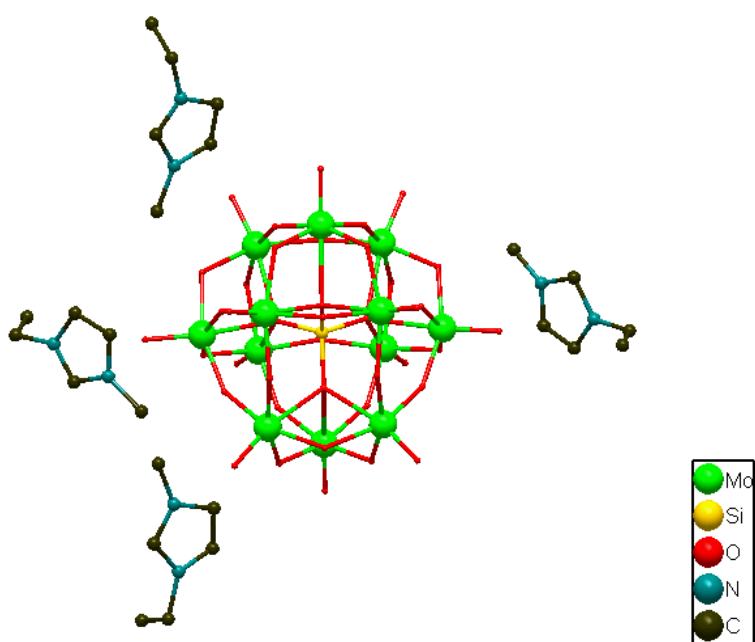


Fig. S7 Ball-and-stick representation of **2**.

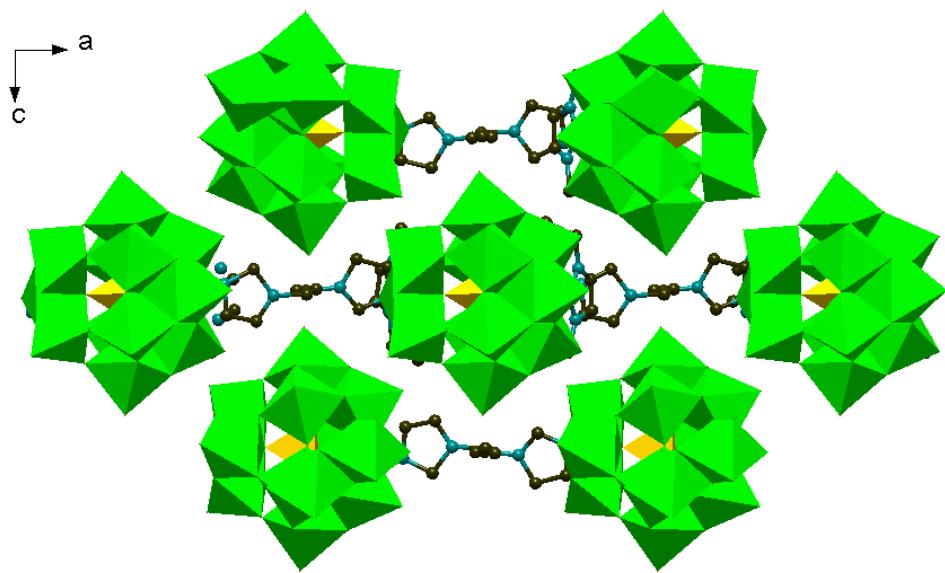


Fig. S8 The packing arrangement of **2** viewed along b-axis, water molecules are omitted for clarity.

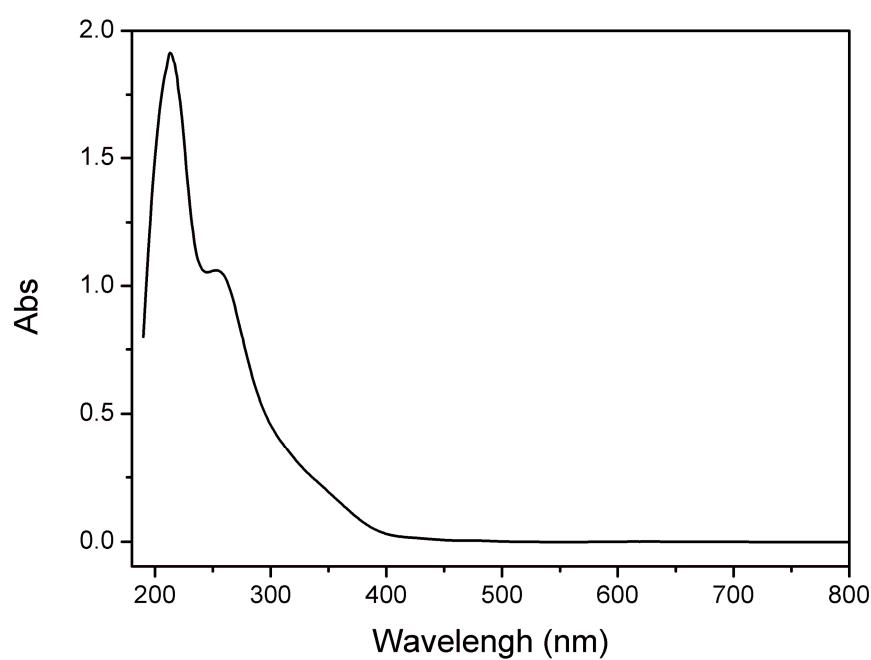


Fig. S9 UV-vis spectrum of **1**.

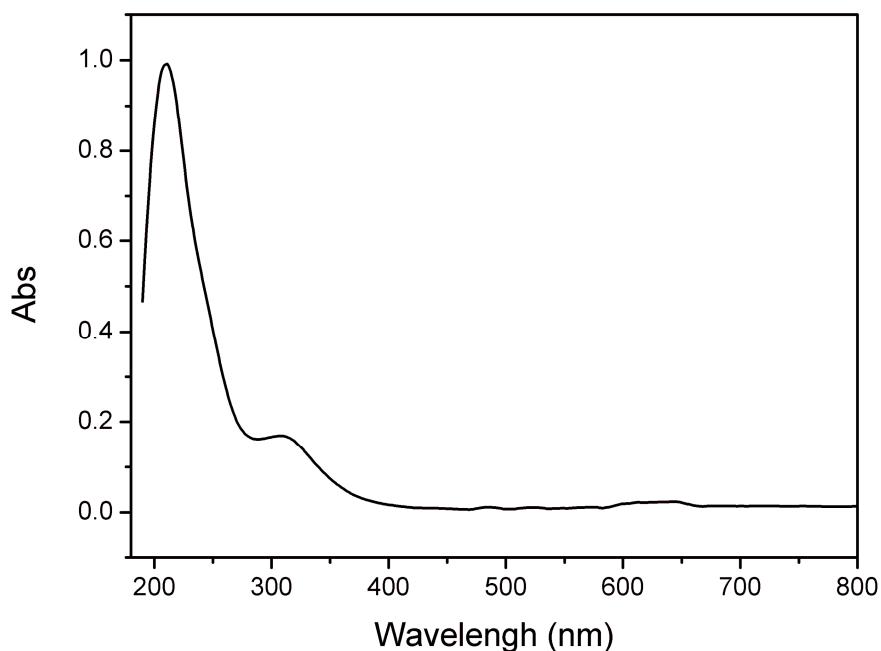


Fig. S10 UV-vis spectrum of **2**.

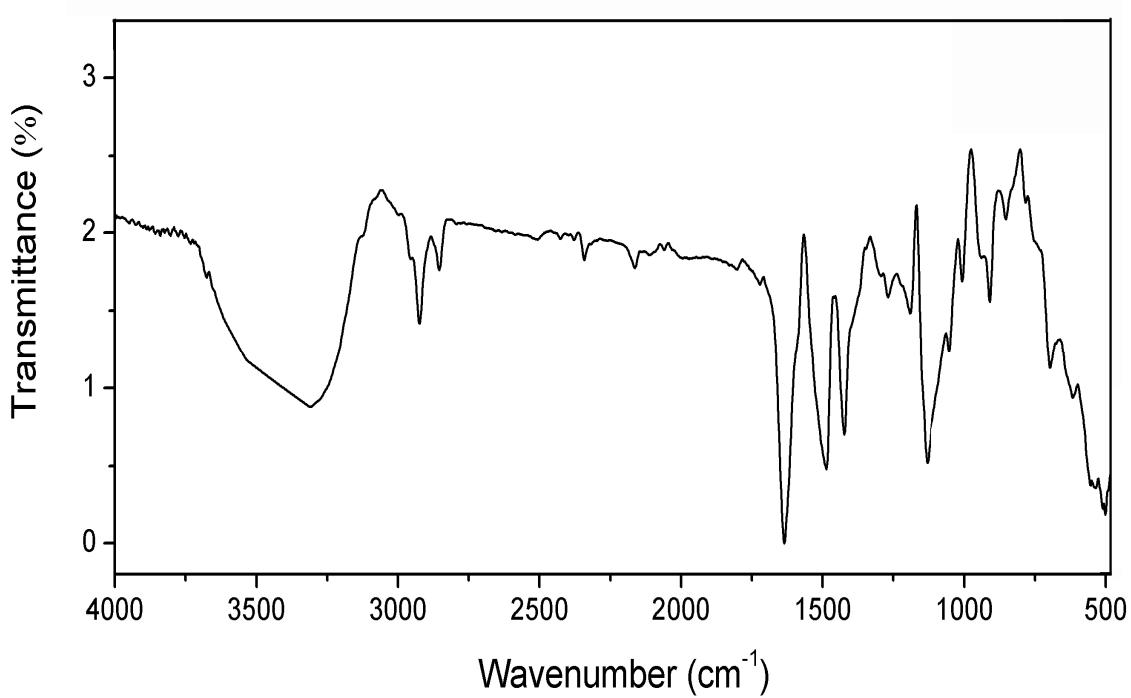


Fig. S11 IR spectrum of **1**.

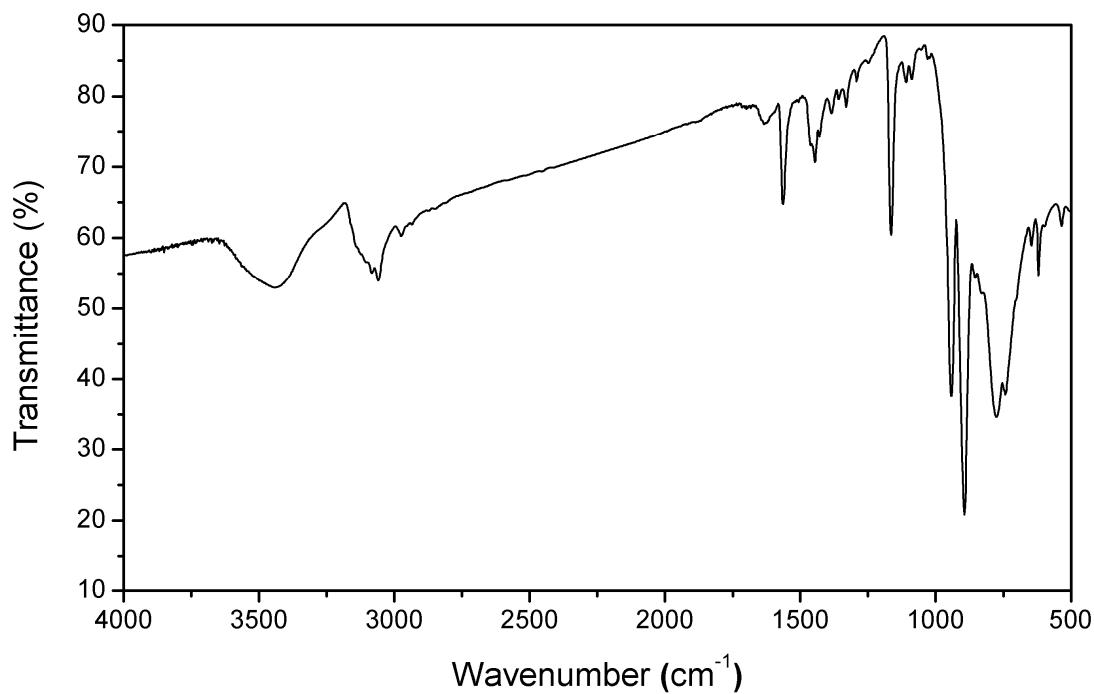


Fig. S12 IR spectrum of **2**.

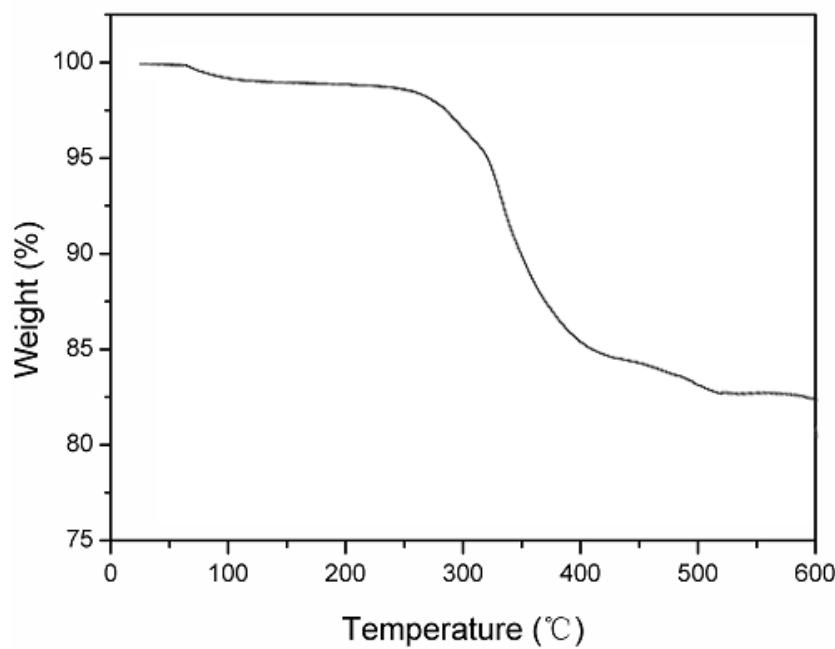


Fig. S13 Thermogravimetric curve of **1**.

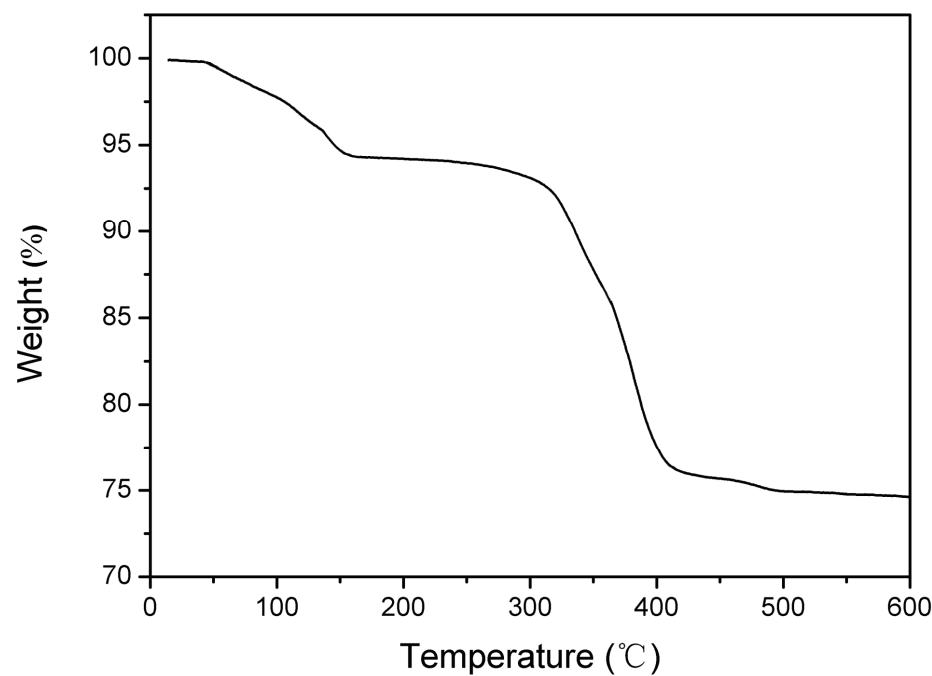


Fig. S14 Thermogravimetric curve of **2**.

Table S1 Crystal data and structure refinements for **1** and **2**.

	1	2
Empirical formula	C ₄₈ H ₁₁₈ W ₂₈ Fe ₉ Si ₃ Na ₉ N ₁₆ O ₁₂₃	C ₂₄ H ₇₂ Mo ₁₂ SiN ₈ O ₅₂
<i>M</i>	8791.92	2484.22
λ/Å	0.71073	0.71073
T/K	150(2)	150(2)
Crystal dimensions/mm	0.23 × 0.21 × 0.19	0.16 × 0.13 × 0.12
Crystal system	Triclinic	Orthorhombic
Space group	P-1	P2(1)2(1)2(1)
a/Å	15.302 (3)	15.056(3)
b/Å	23.309 (5)	16.167(3)
c/Å	27.828 (6)	26.572(5)
α/°	86.24(3)	90.00
β/°	89.04(3)	90.00
γ/°	89.28(3)	90.00
V/Å ³	9902 (3)	6468(2)
Z	2	4
Dc/Mg m ⁻³	2.949	2.547
F(000)	7824	4976
θ Range/°	3.20 ~ 25.00	3.07 ~ 25.00
Reflections collected / unique	61688 / 31581	46487 / 11353
Rint	0.1257	0.0756
Data/restraints/parameters	31581 / 513 / 1601	11353 / 48 / 766
R ₁ (I > 2σ(I)) ^a	0.0857	0.0593
wR ₂ (all data) ^b	0.213	0.1591
Goodness-of-fit on F ²	0.936	1.055
Δρ _{max, min} / e Å ⁻³	4.618, -3.534	1.666, -0.803
CCDC No.	712657	714994

^aR₁ = $\sum ||F_0| - |F_C|| / \sum |F_0|$; ^bwR₂ = $\sum [w(F_0^2 - F_C^2)^2] / \sum [w(F_0^2)^2]^{1/2}$

Table S2 Selected bond lengths (\AA) and angles ($^\circ$) for W and Si centers in **1**.

W(1)-O(93)	1.6981(19)	W(2)-O(25)	1.6872(18)	W(3)-O(28)	1.6994(17)
W(1)-O(63)	1.84(2)	W(2)-O(107)	1.8462(2)	W(3)-O(35)	1.7842(19)
W(1)-O(71)	1.8638(18)	W(2)-O(83)	1.8602(2)	W(3)-O(15)	1.8571(2)
W(1)-O(115)	1.9290(18)	W(2)-O(68)	1.9832(2)	W(3)-O(14)	1.8727(2)
W(1)-O(86)	1.9752(2)	W(2)-O(81)	2.0200(2)	W(3)-O(32)	1.9435(2)
W(1)-O(78)	2.3107(17)	W(2)-O(21)	2.4282(2)	W(3)-O(18)	2.3841(16)
W(4)-O(45)	1.6578(18)	W(5)-O(13)	1.7474(2)	W(6)-O(22)	1.7008(2)
W(4)-O(114)	1.6947(18)	W(5)-O(81)	1.8068(2)	W(6)-O(24)	1.8222(18)
W(4)-O(41)	1.8191(2)	W(5)-O(12)	1.8793(19)	W(6)-O(80)	1.8380(2)
W(4)-O(68)	1.8428(2)	W(5)-O(32)	1.9325(19)	W(6)-O(4)	1.9258(2)
W(4)-O(14)	2.0023(2)	W(5)-O(19)	1.9517(2)	W(6)-O(23)	2.0189(18)
W(4)-O(21)	2.3863(2)	W(5)-O(18)	2.3381(16)	W(6)-O(66)	2.2695(2)
W(7)-O(8)	1.7602(3)	W(8)-O(70)	1.7648(18)	W(9)-O(51)	1.6710()
W(7)-O(86)	1.8747(2)	W(8)-O(77)	1.8455(16)	W(9)-O(50)	1.8515(2)
W(7)-O(47)	1.8967(18)	W(8)-O(88)	1.9082(17)	W(9)-O(116)	1.9039(2)
W(7)-O(76)	1.9356(2)	W(8)-O(30)	1.9156(19)	W(9)-O(6)	1.9418(3)
W(7)-O(40)	1.9728(2)	W(8)-O(36)	2.0615(2)	W(9)-O(106)	1.9525(3)
W(7)-O(46)	2.3403(2)	W(8)-O(97)	2.3784(17)	W(9)-O(108)	2.4031(17)
W(10)-O(39)	1.7156(16)	W(11)-O(100)	1.6957(3)	W(12)-O(69)	1.6246(2)
W(10)-O(98)	1.7245(3)	W(11)-O(36)	1.8117(2)	W(12)-O(33)	1.7395(16)
W(10)-O(90)	1.8253(19)	W(11)-O(99)	1.8605(2)	W(12)-O(5)	1.8393(19)
W(10)-O(94)	1.9579(17)	W(11)-O(35)	2.0520(18)	W(12)-O(106)	1.8917(2)
W(10)-O(116)	2.0461(2)	W(11)-O(114)	2.1202(18)	W(12)-O(10)	2.0679(2)
W(10)-O(79)	2.4004(2)	W(11)-O(97)	2.3776(18)	W(12)-O(108)	2.4057(18)
W(13)-O(31)	1.7802(2)	W(14)-O(2)	1.7701(2)	W(15)-O(105)	1.6553(3)
W(13)-O(19)	1.8674(19)	W(14)-O(54)	1.8472(2)	W(15)-O(23)	1.8132(19)
W(13)-O(9)	1.8932(18)	W(14)-O(49)	1.8886(19)	W(15)-O(40)	1.9195(2)
W(13)-O(88)	1.9416(19)	W(14)-O(30)	1.9152(19)	W(15)-O(42)	1.9552(2)
W(13)-O(15)	1.9945(18)	W(14)-O(9)	1.9336(19)	W(15)-O(101)	1.9584(2)
W(13)-O(18)	2.3292(17)	W(14)-O(103)	2.3621(19)	W(15)-O(46)	2.3634(2)
W(16)-O(34)	1.7775(2)	W(17)-O(16)	1.6922(3)	W(18)-(67)	1.7128(2)
W(16)-O(57)	1.9210(2)	W(17)-O(104)	1.8655(18)	W(18)-(20)	1.7550(2)
W(16)-O(58)	1.9223(3)	W(17)-O(49)	1.9352(18)	W(18)-O(101)	1.8704(2)
W(16)-O(82)	1.9311(18)	W(17)-O(83)	1.9628(2)	W(18)-O(55)	1.9552(2)
W(16)-O(39)	2.2392(15)	W(17)-O(12)	1.9843(19)	W(18)-O(80)	1.9890(2)
W(16)-O(79)	2.2943(2)	W(17)-O(103)	2.4087(2)	W(18)-O(89)	2.4152(2)
Si(1)-O(97)	1.5873(2)	Si(2)-O(109)	1.5807(2)	Si(3)-O(89)	1.5320(2)
Si(1)-O(103)	1.5947(2)	Si(2)-O(79)	1.6519(2)	Si(3)-O(46)	1.6505(2)
Si(1)-O(21)	1.6180(2)	Si(2)-O(108)	1.6630(19)	Si(3)-O(78)	1.6734(18)

Si(1)-O(18)	1.6343(17)	Si(2)-O(37)	1.6924(17)	Si(3)-O(66)	1.7663(3)
O(93)-W(1)-O(63)	90.5(9)	O(25)-W(2)-O(107)	104.86(9)	O(28)-W(3)-O(35)	103.34(10)
O(93)-W(1)-O(71)	103.1(9)	O(25)-W(2)-O(83)	102.47(9)	O(28)-W(3)-O(15)	97.49(910)
O(63)-W(1)-O(71)	103.4(9)	O(25)-W(2)-O(68)	100.65(8)	O(28)-W(3)-O(14)	102.94(10)
O(93)-W(1)-O(115)	103.4(9)	O(25)-W(2)-O(81)	100.59(9)	O(28)-W(3)-O(32)	98.14(9)
O(63)-W(1)-O(115)	158.9(8)	O(25)-W(2)-O(21)	172.41(9)	O(28)-W(3)-O(18)	167.98(10)
O(45)-W(4)-O(114)	102.03(10)	O(13)-W(5)-O(81)	107.3(11)	O(22)-W(6)-O(24)	105.01(9)
O(45)-W(4)-O(41)	101.54(10)	O(81)-W(5)-O(12)	102.6(10)	O(22)-W(6)-O(80)	102.37(9)
O(114)-W(4)-O(41)	91.8(8)	O(13)-W(5)-O(32)	89.3(9)	O(24)-W(6)-O(80)	91.3(9)
O(114)-W(4)-O(68)	156.6(10)	O(13)-W(5)-O(32)	98.7(10)	O(22)-W(6)-O(4)	98.76()
O(41)-W(4)-O(68)	91.5(9)	O(81)-W(5)-O(32)	87.1(9)	O(22)-W(6)-O(66)	100.5(11)
O(8)-W(7)-O(86)	102.12(10)	O(70)-W(8)-O(77)	101.84(8)	O(51)-W(9)-O(50)	99.65(10)
O(8)-W(7)-O(47)	102.18(11)	O(70)-W(8)-O(88)	100.57(8)	O(51)-W(9)-O(116)	101.63(10)
O(86)-W(7)-O(76)	90.1(9)	O(77)-W(8)-O(88)	157.4(7)	O(50)-W(9)-O(116)	81.5(9)
O(47)-W(7)-O(76)	158.0(8)	O(70)-W(8)-O(30)	102.9(9)	O(51)-W(9)-O(6)	102.5(10)
O(86)-W(7)-O(40)	158.5(9)	O(88)-W(8)-O(30)	87.0(8)	O(116)-W(9)-O(6)	89.5(8)
O(39)-W(10)-O(98)	90.91(10)	O(100)-W(11)-O(36)	98.26(11)	O(69)-W(12)-O(33)	103.76(9)
O(39)-W(10)-O(90)	96.93(8)	O(100)-W(11)-O(99)	99.24(11)	O(69)-W(12)-O(5)	102.79(10)
O(98)-W(10)-O(90)	104.6(10)	O(99)-W(11)-O(35)	159.6(9)	O(69)-W(12)-O(5)	102.8(10)
O(39)-W(10)-O(94)	81.0(7)	O(100)-W(11)-O(114)	102.4(9)	O(33)-W(12)-O(5)	94.5(8)
O(90)-W(10)-O(94)	157.3(8)	O(36)-W(11)-O(114)	154.8(9)	O(69)-W(12)-O(106)	98.0(11)
O(97)-Si(1)-O(103)	10769(10)	O(109)-Si(2)-O(79)	111.04(12)	O(89)-Si(3)-O(46)	107.95(12)
O(97)-Si(1)-O(21)	105.54(12)	O(109)-Si(2)-O(108)	113.28(11)	O(89)-Si(3)-O(78)	109.34(12)
O(97)-Si(1)-O(18)	111.80(10)	O(109)-Si(2)-O(37)	110.70(10)	O(89)-Si(3)-O(66)	111.24(11)
O(103)-Si(1)-O(21)	110.68(12)	O(79)-Si(2)-O(108)	108.31(9)	O(46)-Si(3)-O(78)	109.24(12)

Table S3 Selected bond lengths (Å) and angles (°) for Fe centers in **1**.

Fe(1)-O(60)	1.8488(2)	Fe(2)-O(3)	1.8644(2)	Fe(3)-O(27)	1.9166(3)
Fe(1)-O(85)	1.8570(2)	Fe(2)-O(91)	1.9437(3)	Fe(3)-O(96)	1.9337(19)
Fe(1)-O(48)	1.8987(2)	Fe(2)-O(64)	1.9743(19)	Fe(3)-O(7)	1.9550(18)
Fe(1)-O(104)	1.9917(2)	Fe(2)-O(20)	2.0390(2)	Fe(3)-O(26)	2.0209(19)
Fe(1)-O(54)	1.9921(2)	Fe(2)-O(17)	2.0600(2)	Fe(3)-O(11)	2.1071(2)
Fe(1)-O(103)	2.2631(18)	Fe(2)-O(89)	2.3471(2)	Fe(3)-O(37)	2.1903(16)
Fe(4)-O(113)	1.9412(17)	Fe(5)-O(59)	1.8687(3)	Fe(6)-O(102)	1.8464(2)
Fe(4)-O(41)	1.9752(19)	Fe(5)-O(26)	1.9021(2)	Fe(6)-O(64)	1.9544(2)
Fe(4)-O(107)	2.0013(2)	Fe(5)-O(90)	1.9757(2)	Fe(6)-O(71)	1.9928(18)
Fe(4)-O(84)	2.0910(17)	Fe(5)-O(102)	2.0163(2)	Fe(6)-O(84)	2.0161(18)
Fe(4)-O(85)	2.0913(2)	Fe(5)-O(82)	2.0736(18)	Fe(6)-O(113)	2.1409(15)
Fe(4)-O(21)	2.1167(2)	Fe(5)-O(79)	2.2601(19)	Fe(6)-O(78)	2.2907(18)
Fe(7)-O(7)	1.9368(19)	Fe(8)-O(82)	1.9026(2)	Fe(9)-O(84)	1.873(17)

Fe(7)-O(33)	1.9810(19)	Fe(8)-O(24)	1.9760(18)	Fe(9)-O(59)	1.99(3)
Fe(7)-O(50)	1.9825(2)	Fe(8)-O(38)	1.9916(19)	Fe(9)-O(48)	2.03(2)
Fe(7)-O(77)	2.0028(17)	Fe(8)-O(3)	2.0073(2)	Fe(9)-O(99)	2.06(2)
Fe(7)-O(59)	2.0672(3)	Fe(8)-O(102)	2.0476(19)	Fe(9)-O(99)	2.06(2)
Fe(7)-O(108)	2.0716(18)	Fe(8)-O(66)	2.0677(2)	Fe(9)-O(99)	2.06(2)
O(60)-Fe(1)-O(85)	97.60(10)	O(3)-Fe(2)-O(91)	99.38(10)	O(27)-Fe(3)-O(96)	91.62(9)
O(60)-Fe(1)-O(48)	94.68(10)	O(3)-Fe(2)-O(64)	91.55(9)	O(27)-Fe(3)-O(7)	101.54(8)
O(60)-Fe(1)-O(104)	96.89(10)	O(3)-Fe(2)-O(20)	88.72(9)	O(27)-Fe(3)-O(26)	98.30(9)
O(60)-Fe(1)-O(54)	96.54(10)	O(3)-Fe(2)-O(17)	164.27(10)	O(27)-Fe(3)-O(11)	92.40(8)
O(60)-Fe(1)-O(103)	171.03(10)	O(3)-Fe(2)-O(89)	89.52(9)	O(27)-Fe(3)-O(37)	163.87(7)
O(113)-Fe(4)-O(41)	93.75(8)	O(59)-Fe(5)-O(26)	89.97(11)	O(102)-Fe(6)-O(64)	90.64(9)
O(113)-Fe(4)-O(107)	90.98(8)	O(59)-Fe(5)-O(90)	94.19(11)	O(102)-Fe(6)-O(71)	93.96(8)
O(113)-Fe(4)-O(84)	87.29(7)	O(59)-Fe(5)-O(102)	106.18(10)	O(102)-Fe(6)-O(84)	105.89(8)
O(113)-Fe(4)-O(85)	96.52(8)	O(59)-Fe(5)-O(82)	172.68(10)	O(102)-Fe(6)-O(113)	171.77(8)
O(113)-Fe(4)-O(21)	166.55(7)	O(59)-Fe(5)-O(79)	102.04(10)	O(102)-Fe(6)-O(78)	101.45(8)
O(7)-Fe(7)-O(33)	88.54(7)	O(82)-Fe(8)-O(24)	95.11(7)	O(84)-Fe(9)-O(59)	106.05(10)
O(7)-Fe(7)-O(50)	171.53(8)	O(82)-Fe(8)-O(38)	98.22(8)	O(84)-Fe(9)-O(48)	90.80(9)
O(7)-Fe(7)-O(77)	95.27(8)	O(82)-Fe(8)-O(3)	95.13(9)	O(84)-Fe(9)-O(99)	92.82(8)
O(7)-Fe(7)-O(59)	87.44(9)	O(82)-Fe(8)-O(102)	84.26(8)	O(84)-Fe(9)-O(77)	169.71(8)
O(7)-Fe(7)-O(108)	91.66(9)	O(82)-Fe(8)-O(66)	166.15(9)	O(84)-Fe(9)-O(97)	100.23(7)

Table S4 Selected bond lengths (Å) and angles (°) for Mo and Si centers in **2**.

Mo(1)-O(23)	1.677(8)	Mo(2)-O(20)	1.666(8)	Mo(3)-O(6)	1.668(6)
Mo(1)-O(17)	1.853(7)	Mo(2)-O(5)	1.873(7)	Mo(3)-O(29)	1.871(6)
Mo(1)-O(28)	1.907(8)	Mo(2)-O(11)	1.910(6)	Mo(3)-O(11)	1.902(7)
Mo(1)-O(16)	1.933(8)	Mo(2)-O(24)	1.922(7)	Mo(3)-O(39)	1.924(7)
Mo(1)-O(7)	1.939(7)	Mo(2)-O(19)	1.924(7)	Mo(3)-O(36)	1.954(7)
Mo(1)-O(13)	2.378(6)	Mo(2)-O(2)	2.323(6)	Mo(3)-O(4)	2.331(6)
Mo(4)-O(3)	1.678(7)	Mo(5)-O(9)	1.675(6)	Mo(6)-O(33)	1.672(8)
Mo(4)-O(26)	1.886(8)	Mo(5)-O(30)	1.884(7)	Mo(6)-O(34)	1.867(7)
Mo(4)-O(31)	1.903(7)	Mo(5)-O(24)	1.918(8)	Mo(6)-O(32)	1.885(7)
Mo(4)-O(38)	1.931(7)	Mo(5)-O(21)	1.924(7)	Mo(6)-O(27)	1.915(7)
Mo(4)-O(36)	1.932(7)	Mo(5)-O(17)	1.945(6)	Mo(6)-O(35)	1.956(8)
Mo(4)-O(4)	2.355(6)	Mo(5)-O(2)	2.374(5)	Mo(6)-O(14)	2.370(7)
Mo(7)-O(8)	1.681(7)	Mo(8)-O(37)	1.681(6)	Mo(9)-O(22)	1.657(7)
Mo(7)-O(1)	1.878(7)	Mo(8)-O(27)	1.867(7)	Mo(9)-O(5)	1.910(8)
Mo(7)-O(31)	1.911(7)	Mo(8)-O(15)	1.879(7)	Mo(9)-O(35)	1.932(8)
Mo(7)-O(7)	1.922(7)	Mo(8)-O(38)	1.947(7)	Mo(9)-O(29)	1.941(6)
Mo(7)-O(18)	1.929(8)	Mo(8)-O(39)	1.957(8)	Mo(9)-O(25)	1.948(8)
Mo(7)-O(13)	2.354(6)	Mo(8)-O(4)	2.349(6)	Mo(9)-O(14)	2.310(7)

Mo(10)-O(12)	1.682(7)	Mo(11)-O(40)	1.688(8)	Mo(12)-O(10)	1.675(6)
Mo(10)-O(1)	1.920(7)	Mo(11)-O(15)	1.924(7)	Mo(12)-O(28)	1.897(8)
Mo(10)-O(26)	1.934(7)	Mo(11)-O(16)	1.925(7)	Mo(12)-O(30)	1.899(7)
Mo(10)-O(21)	1.936(7)	Mo(11)-O(34)	1.928(7)	Mo(12)-O(25)	1.927(8)
Mo(10)-O(19)	1.944(7)	Mo(11)-O(18)	1.946(7)	Mo(12)-O(32)	1.965(7)
Mo(10)-O(2)	2.355(6)	Mo(11)-O(13)	2.387(6)	Mo(12)-O(14)	2.356(6)
Si(1)-O(13)	1.585(7)	O(13)-Si(1)-O(2)	111.0(3)	O(13)-Si(1)-O(14)	111.4(3)
Si(1)-O(2)	1.624(6)	O(13)-Si(1)-O(4)	110.4(3)	O(2)-Si(1)-O(14)	107.6(4)
Si(1)-O(4)	1.630(6)	O(2)-Si(1)-O(4)	107.9(3)	O(4)-Si(1)-O(14)	108.5(3)
Si(1)-O(14)	1.631(6)	O(20)-Mo(2)-O(11)	101.7(4)	O(6)-Mo(3)-O(29)	102.2(4)
O(28)-Mo(1)-O(16)	86.5(3)	O(24)-Mo(2)-O(2)	73.7(3)	O(39)-Mo(3)-O(4)	73.5(3)
O(28)-Mo(1)-O(7)	157.8(3)	O(20)-Mo(2)-O(2)	169.5(4)	O(29)-Mo(3)-O(11)	86.8(3)
O(16)-Mo(1)-O(13)	72.6(3)	O(5)-Mo(2)-O(2)	87.2(3)	O(6)-Mo(3)-O(4)	167.9(3)
O(23)-Mo(1)-O(16)	100.6(4)	O(20)-Mo(2)-O(5)	100.2(4)	O(29)-Mo(3)-O(4)	87.4(3)
O(23)-Mo(1)-O(13)	170.0(3)	O(11)-Mo(2)-O(2)	86.1(3)	O(11)-Mo(3)-O(39)	160.2(3)
O(26)-Mo(4)-O(31)	87.4(3)	O(24)-Mo(5)-O(21)	88.3(3)	O(34)-Mo(6)-O(27)	86.6(3)
O(3)-Mo(4)-O(38)	97.8(4)	O(9)-Mo(5)-O(17)	101.2(3)	O(32)-Mo(6)-O(27)	158.6(3)
O(36)-Mo(4)-O(4)	73.6(2)	O(24)-Mo(5)-O(2)	72.6(3)	O(33)-Mo(6)-O(35)	97.2(4)
O(38)-Mo(4)-O(36)	87.6(3)	O(24)-Mo(5)-O(17)	158.3(3)	O(33)-Mo(6)-O(14)	166.9(3)
O(3)-Mo(4)-O(4)	167.7(3)	O(9)-Mo(5)-O(2)	170.0(3)	O(35)-Mo(6)-O(14)	72.5(3)
O(31)-Mo(7)-O(7)	159.4(3)	O(27)-Mo(8)-O(39)	90.1(3)	O(22)-Mo(9)-O(14)	168.1(4)
O(8)-Mo(7)-O(18)	99.4(3)	O(15)-Mo(8)-O(4)	87.9(3)	O(5)-Mo(9)-O(35)	160.7(3)
O(1)-Mo(7)-O(18)	158.9(3)	O(38)-Mo(8)-O(4)	73.6(2)	O(22)-Mo(9)-O(29)	101.7(4)
O(8)-Mo(7)-O(13)	169.3(3)	O(39)-Mo(8)-O(4)	72.6(3)	O(29)-Mo(9)-O(14)	87.5(3)
O(18)-Mo(7)-O(13)	73.4(3)	O(27)-Mo(8)-O(4)	86.2(3)	O(25)-Mo(9)-O(14)	73.5(3)
O(26)-Mo(10)-O(21)	159.0(3)	O(16)-Mo(11)-O(13)	72.6(3)	O(10)-Mo(12)-O(28)	102.2(3)
O(1)-Mo(10)-O(19)	158.9(3)	O(34)-Mo(11)-O(13)	84.7(3)	O(10)-Mo(12)-O(30)	105.4(4)
O(12)-Mo(10)-O(2)	168.4(4)	O(18)-Mo(11)-O(13)	72.3(3)	O(28)-Mo(12)-O(30)	89.0(3)
O(21)-Mo(10)-O(2)	73.9(3)	O(15)-Mo(11)-O(16)	157.9(3)	O(10)-Mo(12)-O(14)	166.9(3)
O(19)-Mo(10)-O(2)	72.8(3)	O(40)-Mo(11)-O(13)	170.3(4)	O(32)-Mo(12)-O(14)	72.3(3)