

Table S1. Crystal Data and Structure Refinement for complexes **2a**, **3** and **10**.

Complex	2a	3	10
Empirical formula	C ₄₆ H ₈₆ N ₁₀ Nb ₂ O	C ₂₅ H ₄₉ N ₆ Nb	C ₂₇ H ₅₁ N ₆ Nb S ₂
Temperature (K)	260	260(2)	260(2)
Wavelength (Å)	0.71073	0.71073	0.71073
Cryst. Syst.	Monoclinic	Monoclinic	Monoclinic
Space group	<i>P</i> 2 ₁ /c	<i>P</i> 2 ₁ /n	<i>P</i> 2 ₁ /c
<i>a</i> (Å)	13.28(1)	22.658(5)	11.1088(4)
<i>b</i> (Å)	17.84(2)	9.502(2)	16.4664(6)
<i>c</i> (Å)	22.19(2)	17.340(4)	18.0246(7)
α (deg)	90	90	90
β (deg)	90.39(2)	128.29(1)	91.968(2)
γ (deg)	90	90	90
Volume (Å ³)	5257(9)	2930.4(11)	3295.2(2)
<i>Z</i>	4	4	4
Density (calcd) (g/cm ³)	1.240	1.194	1.243
Abs. coeff (mm ⁻¹)	0.477	0.432	0.516
<i>F</i> (000)	2088	1128	1312
Crystal size (mm ³)	0.26 x 0.21 x 0.11	0.36 x 0.21 x 0.18	0.23 x 0.19 x 0.15
Index ranges	-17 ≤ <i>h</i> ≤ 16 -23 ≤ <i>k</i> ≤ 24 -30 ≤ <i>l</i> ≤ 30	-32 ≤ <i>h</i> ≤ 32 -12 ≤ <i>k</i> ≤ 13 -24 ≤ <i>l</i> ≤ 24	-15 ≤ <i>h</i> ≤ 15 -23 ≤ <i>k</i> ≤ 18 -24 ≤ <i>l</i> ≤ 25
Reflections collected	43828	26779	27687
Independent reflections	13348 [<i>R</i> (int) = 0.2755]	8896 [<i>R</i> (int) = 0.0985]	10101 [<i>R</i> (int) = 0.0879]
Observed reflections	3932	4572	4106
Data/restraints/params.	13348 / 2 / 576	8896 / 0 / 304	10101 / 0 / 339
Goodness-of-fit on <i>F</i> ²	0.849	0.943	0.937
Extinction coef		0.0061(4)	
Final <i>R</i> indices	<i>R</i> 1 = 0.0838 w <i>R</i> 2 = 0.1742	<i>R</i> 1 = 0.0523 w <i>R</i> 2 = 0.0940	<i>R</i> 1 = 0.0690 w <i>R</i> 2 = 0.1580
Largest diff peak hole (eÅ ⁻³)	0.700 and -0.630	0.408 and -0.616	0.786 and -0.718

