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Contrasting reactivity of mono-TMP versus bis-TMP (2,2,6,6-tetramethylpiperidide) lithium aluminates towards polydentate Lewis bases: Cocomplexation versus deprotonation

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SUPPLEMENTARY MATERIAL

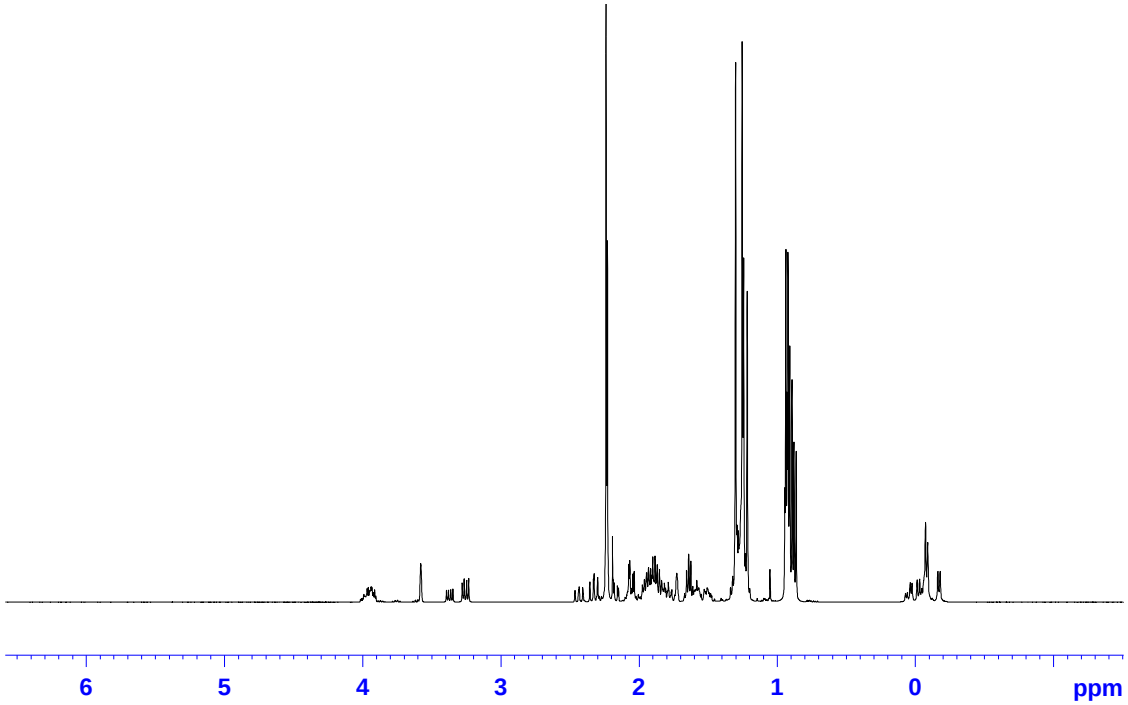

Figure S1 ^{1}H NMR spectrum of complex **1C**

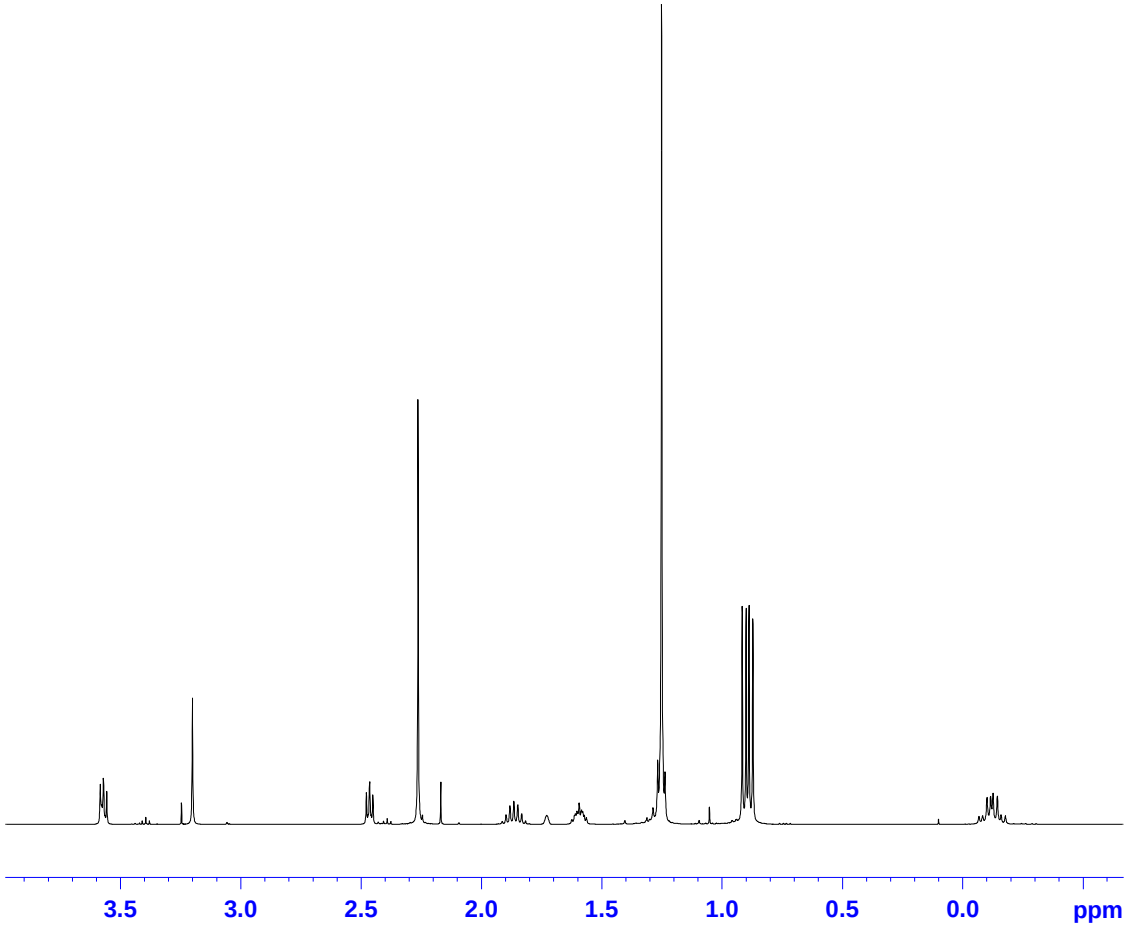

Figure S2 ^{1}H NMR spectrum of complex **1D**

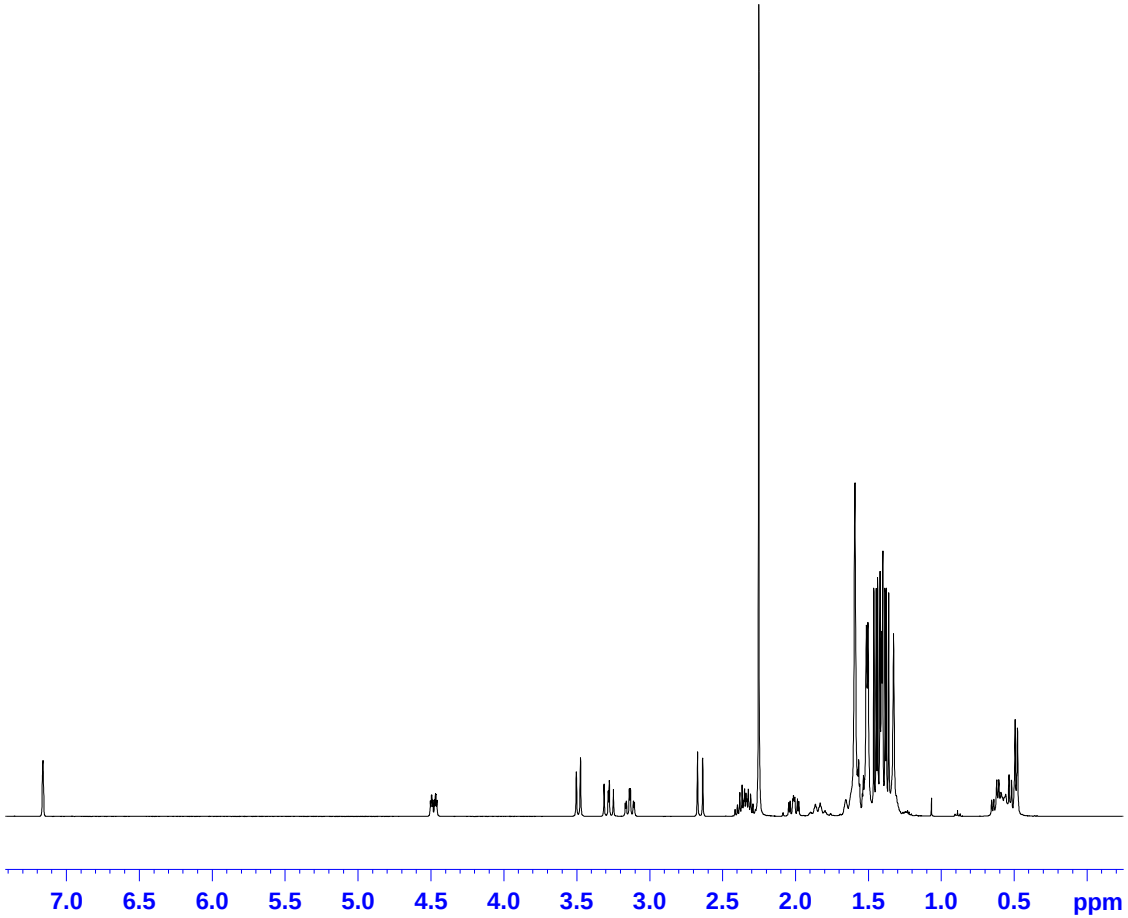

Figure S3 ^{1}H NMR spectrum of complex **1E**

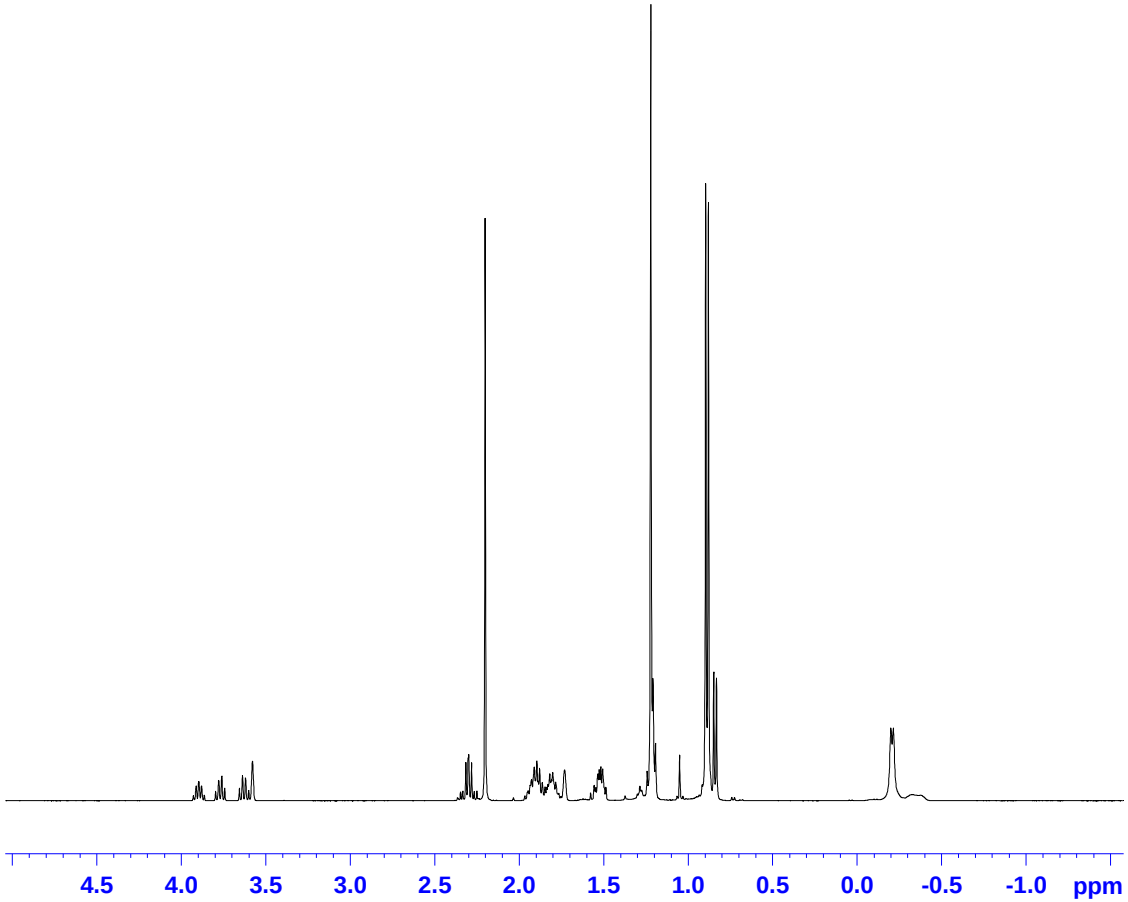

Figure S4 ^{1}H NMR spectrum of complex **2C**

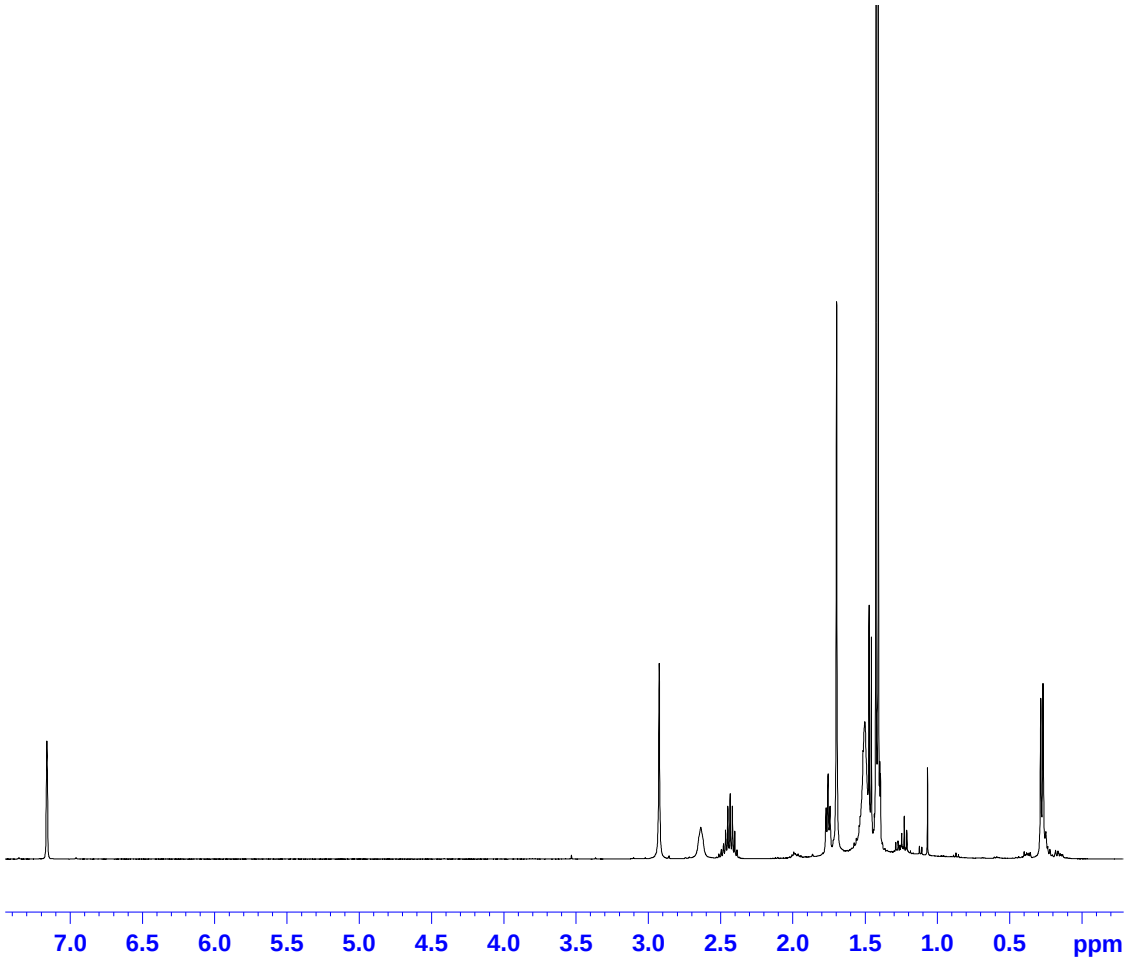

Figure S5 ^{1}H NMR spectrum of complex **2D**

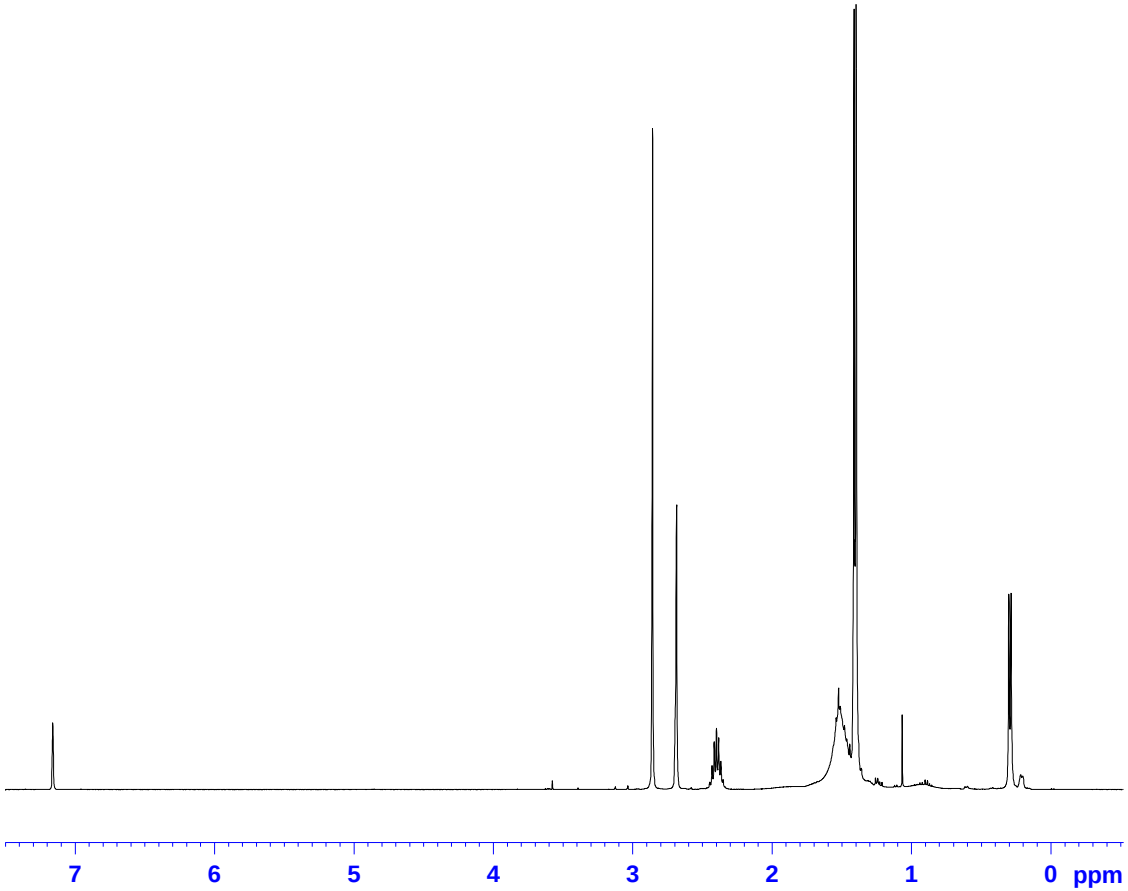

Figure S6 ^{1}H NMR spectrum of complex **2F**

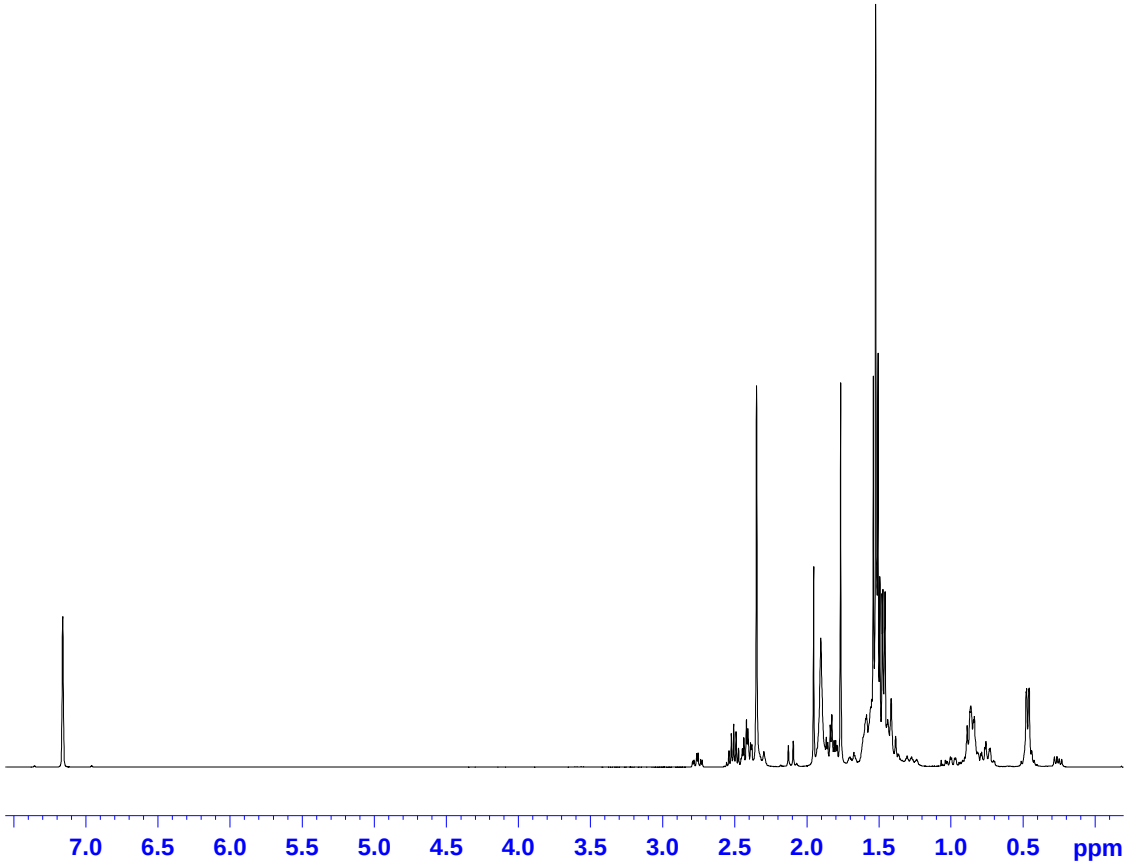

Figure S7 ^{1}H NMR spectrum of complex **2H**

	1C	**1D**	**1E**	**2C**	**2D**	**2F**	**2H**
Empirical formula	$C_{24}H_{50}AlLiN_2O$	$C_{22}H_{48}AlLiN_2O$	$C_{25}H_{55}AlLiN_3O$	$C_{28}H_{60}AlLiN_2O$	$C_{26}H_{58}AlLiN_2O$	$C_{25}H_{55}AlLiNO_2$	$C_{28}H_{60}AlLiN_4$
Mol. Mass	416.58	390.54	447.64	474.70	448.66	435.62	486.72
Crystal system	triclinic	monoclinic	orthorhombic	monoclinic	triclinic	monoclinic	orthorhombic
Space group	P-1	P 2_1/n	Pmn2_1	P 2_1/c	P-1	Cc	P$2_12_12_1$
a [Å]	9.4546(5)	14.2282(5)	12.8948(8)	11.0214(3)	10.9349(4)	9.5982(3)	11.5071(2)
b [Å]	10.4989(3)	10.5076(4)	11.0717(5)	17.0744(4)	17.4597(7)	18.7837(7)	13.3712(3)
c [Å]	14.9340(6)	16.7736(7)	10.1824(5)	17.1403(5)	17.8521(8)	16.1448(6)	19.9303(6)
α [°]	72.798(3)	90	90	90	118.629(4)	90	90
β [°]	87.420(4)	90.171(5)	90	106.104(3)	90.683(3)	99.987(3)	90
γ [°]	69.720(4)	90	90	90	97.080(3)	90	90
V [Å^3]	1325.6(2)	2507.71(17)	1453.71(13)	3098.93(17)	2959.1(2)	2866.64(18)	3066.55(13)
Z	2	4	2	4	4	4	4
Measured reflections	26903	9718	5099	16787	30177	6393	17148
Unique reflections	5179	5330	2513	7289	12880	4179	7145
R_{int}	0.0317	0.0278	0.0365	0.0271	0.0521	0.0229	0.0213
Obs. reflns. [$I > 2\sigma(I)$]	4215	4448	2041	5283	6838	3728	6282
GooF	1.043	1.023	1.041	1.019	1.026	1.027	1.048
R [on *F*, obs reflns only]	0.0921	0.0435	0.0472	0.0549	0.0931	0.0472	0.0446
wR [on F^2, all data]	0.2583	0.0961	0.1208	0.1441	0.2907	0.1173	0.1053
Largest diff. peak/hole [e Å^{-3}]	1.827/-0.825*	0.208/-0.156	0.385/-0.210	0.412/-0.346	1.210/-0.402	0.684/-0.277	0.329/-0.238

Table S1 Crystallographic data and refinement details for complexes **1C**, **1D**, **1E**, **2C**, **2D**, **2F** and **2H**. * The residual electron density peak is sited close to the disordered C_4O ring.