

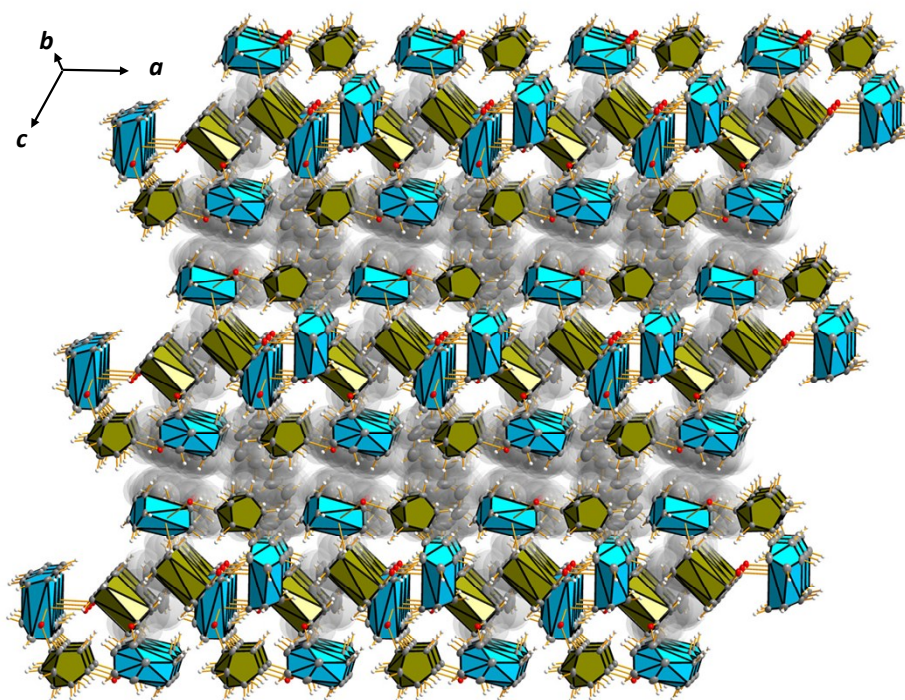
## ESI

### Macrocycles Containing 1,1'-Ferrocenyl Diselenolato Ligands on Group 14 Metalloenes

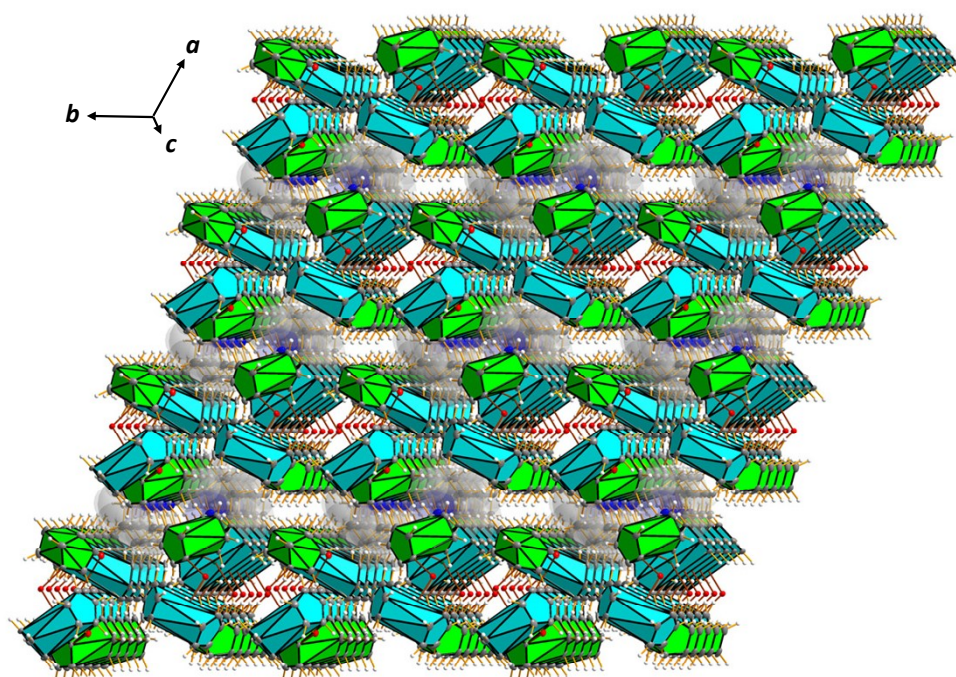
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**Table S1.** Selected bond lengths (Å) and angles (°) in **1-3** and **5**.

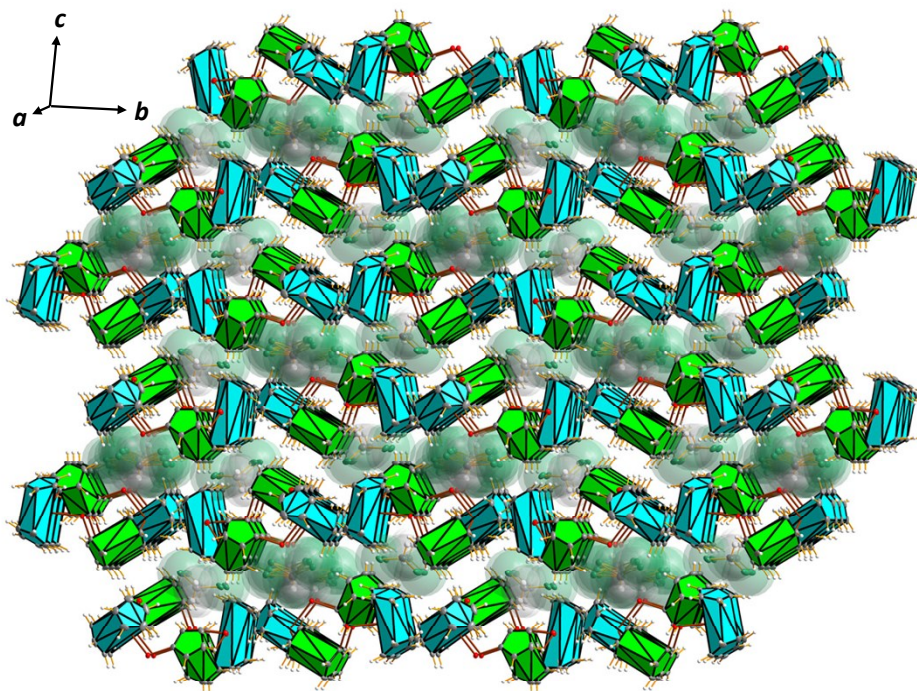
Parameter	<b>1</b>	<b>2</b>	<b>3</b>	<b>5</b>
	M = Ti	M = Zr	M = Hf	M = Hf
M1-Se1	2.5471(11)	2.6434(11)	2.6219(5)	2.6438(11)
M1-Se3	2.5242(12)	2.6396(12)	2.6145(5)	2.6180(10)
M2-Se2	2.5414(11)	2.6284(15)	2.6197(5)	2.6368(11)
M2-Se4	2.5517(10)	2.6521(14)	2.6301(5)	2.6253(10)
Se1-M1-Se3	97.80(4)	102.52(4)	102.947(16)	98.53(3)
Se2-M2-Se4	99.40(4)	100.98(5)	101.800(16)	98.37(3)
M1-Se1-C111	108.33(14)	105.1(2)	107.63(13)	104.5(3)
C111-Se1-M1-Se3	61.7(3)	63.5(3)	58.41(14)	61.29(2)
C211-Se3-M1-Se1	62.0(3)	63.7(3)	63.32(14)	59.97(2)
Se1-C111	1.907(4)	1.918(7)	1.918(4)	1.923(8)
Se2-C121	1.907(4)	1.907(7)	1.913(4)	1.902(8)
Se3-C211	1.902(4)	1.908(7)	1.912(5)	1.906(9)
Se4-C221	1.904(5)	1.921(7)	1.916(5)	1.894(9)
M1-Se3-C211	107.94(13)	103.3(2)	105.95(13)	106.6(3)
M2-Se2-C121	107.34(14)	105.8(2)	105.94(13)	107.5(3)
M2-Se4-C221	107.74(14)	105.1(2)	107.28(13)	104.5(2)
C121-Se2-M2-Se4	61.3(3)	65.9(3)	61.55(13)	59.04(2)
C221-Se4-M2-Se2	60.7(3)	63.6(3)	56.46(15)	61.46(2)



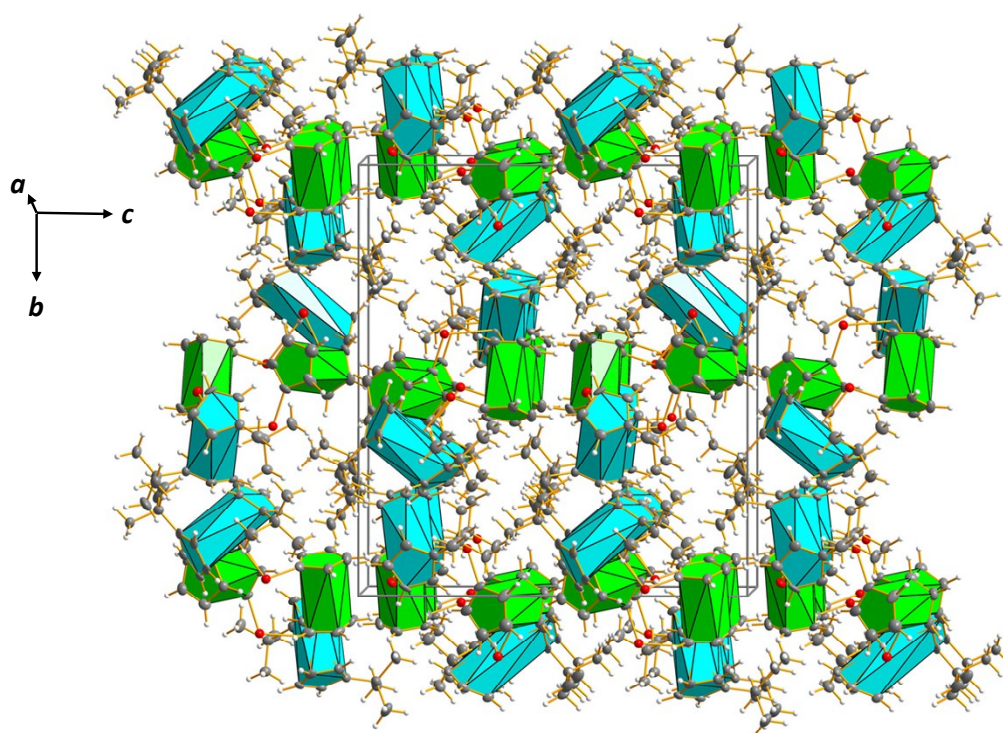
**Figure S1.** Packing of complexes in  $1:3\text{CH}_3\text{C}_6\text{H}_5$  into quasi-2D layers. The  $\text{Fe}(\text{C}_5\text{H}_4\text{Se})_2$  polyhedra have been shown in green and the  $\text{Ti}(\text{C}_5\text{H}_5)_2$  polyhedra in light blue. The solvent molecules have been displayed in grey using van der Waals-surfaces.



**Figure S2.** Packing of complexes in  $2:\text{C}_2\text{H}_4\text{O}$  into quasi-2D layers. The  $\text{Fe}(\text{C}_5\text{H}_4\text{Se})_2$  polyhedra have been shown in green and the  $\text{Zr}(\text{C}_5\text{H}_5)_2$  polyhedra in light blue. The solvent molecules have been displayed in grey using van der Waals-surfaces.



**Figure S3.** Packing of complexes in  $3:1.90\text{CH}_2\text{Cl}_2$  into quasi-2D layers. The  $\text{Fe}(\text{C}_5\text{H}_4\text{Se})_2$  polyhedra have been shown in green and the  $\text{Hf}(\text{C}_5\text{H}_5)_2$  polyhedra in light blue. The solvent molecules have been displayed in grey using van der Waals-surfaces.



**Figure S4.** Weak  $\text{H}\cdots\text{Se}$  hydrogen bonds link the macrocyclic complexes of **5** into a three-dimensional network. The  $\text{Fe}(\text{C}_5\text{H}_4\text{Se})_2$  polyhedra have been shown in green and the  $\text{Hf}(\text{C}_5\text{H}_4\text{tBu})_2$  polyhedra in light blue.

## References

- 1 G. M. Sheldrick, *Acta Crystallogr. A*, 2008, **64**, 112–122.
- 2 G. M. Sheldrick, *Acta Crystallogr. Sect. C Struct. Chem.*, 2015, **71**, 3–8.
- 3 J. J. Bishop, A. Davison, M. L. Katcher, D. W. Lichtenberg, R. E. Merrill and J. C. Smart, *J. Organomet. Chem.*, 1971, **27**, 241–249.
- 4 R. Broussier, A. Abdulla and B. Gautheron, *J. Organomet. Chem.*, 1987, **332**, 165–173.
- 5 R. C. Burns, M. J. Collins, R. J. Gillespie and G. J. Schrobilgen, *Inorg. Chem.*, 1986, **25**, 4465–4469.