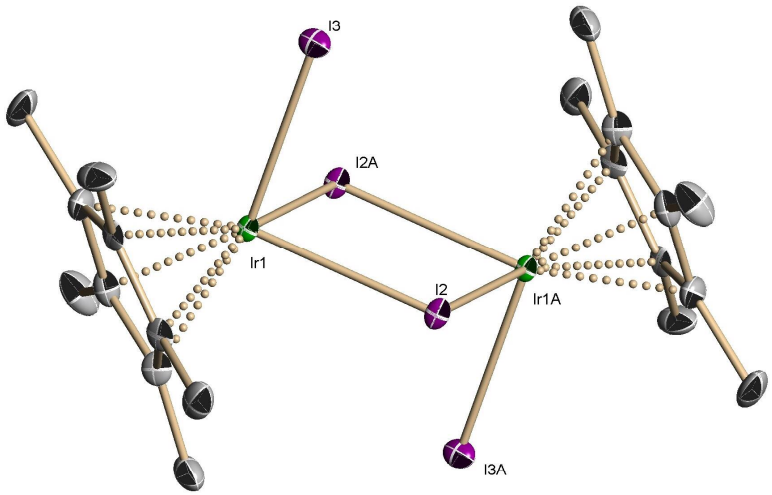
Supporting Information

X-Ray analysis

Pentamethylcyclopentadienyliridium(III)iodide dimmer **(1b)**



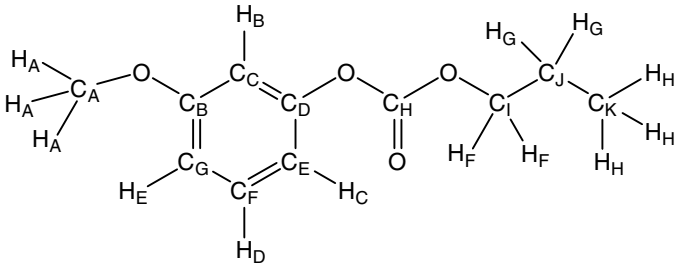
Atom1	Atom2	Length
C4	C7	1.418
C4	C7	1.418
C5	C11	1.42
C5	C11	1.42
C4	C6	1.433
C4	C6	1.433
C5	C6	1.452
C5	C6	1.452
C5	C13	1.469
C5	C13	1.469
C7	C11	1.474
C7	C11	1.474

Number	Object1	Object2	Object3	Angle
1	I3	Ir1	I2	90.4
2	I2	Ir1	I3	90.4
3	I2	Ir1	I2	82.65
4	I2	Ir1	I2	82.65

C4	C12	1.479
C4	C12	1.479
C6	C14	1.49
C6	C14	1.49
C7	C8	1.496
C7	C8	1.496
C10	C11	1.499
C10	C11	1.499
Cl3	C9	1.74
Cl1	C9	1.748
Cl2	C9	1.766
Ir1	C11	2.155
Ir1	C11	2.155
Ir1	C6	2.159
Ir1	C6	2.159
Ir1	C5	2.166
Ir1	C5	2.166
Ir1	C7	2.173
Ir1	C7	2.173
Ir1	C4	2.176
Ir1	C4	2.176
Ir1	I3	2.703
Ir1	I3	2.703
I2	Ir1	2.711
Ir1	I2	2.711
Ir1	I2	2.714
Ir1	I2	2.714

NMR (300 MHz, $CDCl_3$ solvent, reference = $SiMe_4$)

3-Methoxyphenylpropyl carbonate, **16**.

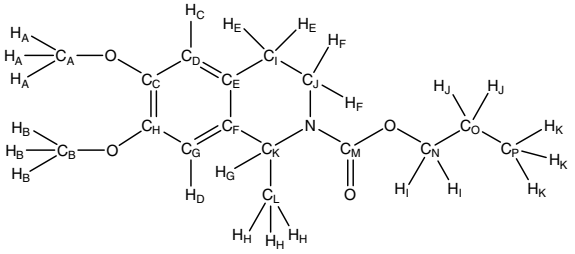


Proton I.D.	Peak Multiplicity	Chemical Shift / ppm	No. of Protons	Coupling Constant / Hz
A	Singlet	3.8	3	N.A.
B,C and E	Multiplet	6.73-6.80	3	N.A.
D	Multiplet	7.24-7.27	1	N.A.
F	Triplet	4.19-4.21-4.23	2	6
G	Sextet	1.71-1.74-1.76-1.79-1.81-1.83	2	7
H	Triplet	0.99-1.01-1.03	3	6

Carbon I.D.	A	B	C	D	E	F	G	H	I	J	K
Chemical Shift / ppm	55.8	160.9	107.5	152.5	113.7	130.2	112.2	154.0	70.8	22.4	10.6

The assignments of carbons C, E, F and G were arbitrary.

NMR: Carbamate product, **(17)** (300 MHz, $CDCl_3$ solvent, reference $SiMe_4$).



Proton I.D.	Peak Multiplicity	Chemical Shift / ppm	No. of Protons	Coupling Constant / Hz
A and B	Two Singlets	3.85 and 3.86	2*3	N.A.
C and D	Singlet	6.59	2	N.A.
E	Triplet	2.60-2.61-2.63	1	3.45
E	Triplet	2.66-2.67-2.68	1	3.45
F	Broad Multiplet	3.10-3.35	1	N.A.
F	Broad Multiplet	4.15-4.30	1	N.A.
H	Doublet	1.43-1.46	3	6.6
I	Multiplet	4.05-4.15	2	N.A.
J	Sextet	1.63-1.65-1.67-1.70-1.72-1.75	2	7.14
K	Triplet	0.95-0.97-1.00	3	7.35

Carbon I.D.	A/B	A/B	C+H	D/G	E/F	E/F	D/G	H	I	J*	J*	K	L*	L*	M	N	O	P
Chemical Shift / ppm	56.3	56.4	148.0	110.1	126.5	126.1	111.8	153.9	28.9	37.6	38.0	50.4	37.6	38.0	155.8	67.3	22.8	10.9

* Two peaks due to amide resonance