Electronic Supplementary Information for Dalton Transactions

Supplementary Table:

Table S1 Secondary interactions for the complexes 1c, 2b, 4 and 5

1c.

Pt…Pt Contacts

Contacts	Distance
Pt1 → Pt1^{i}	3.699(1)

Symmetry code: (i)=-x,-y,1-z;

2b.

π… π interaction

Ring(i) → Ring(j)	Dihedral angle(i,j)	Distance between cg(i) & cg(j)	⊥ Distance between cg(i) & cg(j)
Ring1 → Ring2^{i}	1.34	3.606	3.253
Ring1 → Ring2^{ii}	1.34	4.153	3.301

Metal…π interaction

M → Ring(i)	Distance between Metal & cg(i)	⊥ Distance Metal to ring(i)
Pt1 → Ring2^{i}	3.606	3.253
Pt1 → Ring2^{ii}	4.153	3.301

Symmetry code: (i)= 1-x,1-y,1-z; (ii) = 2-x,1-y,1-z;
Ring1=N11-C11-C12-C13-C14-C15; Ring2=C16-C17-C18-C19-C20-C21

4.

π… π interaction

Ring1 → Ring2^{i}	2.77	3.774	4.063
Ring1 → Ring2^{ii}	2.77	3.774	4.063

Br…Br Contacts

Contacts	Distance
Br1 → Br2^{iii}	3.598(1)
Br2 → Br1^{iv}	3.598(1)
Br3 → Br3^{v}	3.399(1)

Symmetry code: (i)=x,1+y,z; (ii) = x,-1+y,z; (iii)= 2-x,-1/2+y,1/2-z;
(iv) 2-x,1/2+y,1/2-z; (v)= 1-x,1-y,-z
Ring1=N1-C1-C2-C3-C4-C5; Ring2=C6-C7-C8-C9-C10-C11

5.

π…π interaction

Ring1 → Ring2^{i}	10.26	4.178	3.307
Ring2 → Ring1^{ii}	10.26	4.178	3.307
Ring1 → Ring2^{iii}	2.16	4.225	3.451

Symmetry code: (i)=1/2-x,-1/2+y,1/2-z; (ii)=1/2-x,1/2+y,1/2-z; (iii)= -x,-y,-z
Ring1=N1-C1-C2-C3-C4-C5; Ring2=C6-C7-C8-C9-C10-C11

Supplementary Figure Captions:

Colour Scheme for Fig. S1,S2,S4 and S5: Pt- Green, C- Black, N- Blue, Cl- Yellow, Br- Violet and I- Orange.

Fig. S1: A supramolecular dimer of $[PtCl_2(L^{1c})]$ **1c** formed by π...π interaction.

Fig.S2: 1D supramolecular chain of $[PtCl(L^{2b})]$ **2b** constructed by π...π, Pt…π interaction running along b axis.

Fig. S3: ORTEP and atom numbering scheme for $[PtBr_3(L^{2a})]$, **4**. Hydrogen atoms are omitted for clarity.

Fig. S4: A 2D sheet of $[PtBr_3(L^{2a})]$ **4** constructed from π-stacking and Br….Br contacts viewing down *ac* diagonal.

Fig. S5: A dimeric unit of $[PtClI_2(L^{2a})]$ **5** constructed by π...π stacking interaction.

Fig. S6: Segmented cyclic voltammogram of $[PtCl_2(L^{1a})]$ **1a** (- - -), $[PtCl(L^{2a})]$ **2a** (—) and $[PtClI_2(L^{2a})]$ **5** (– – –).

Fig. S7: UV-Vis spectra of **1a** (-.-.-.) in dimethyl formamide, **2a** (- - -) and **5** (—) in dichloromethane.

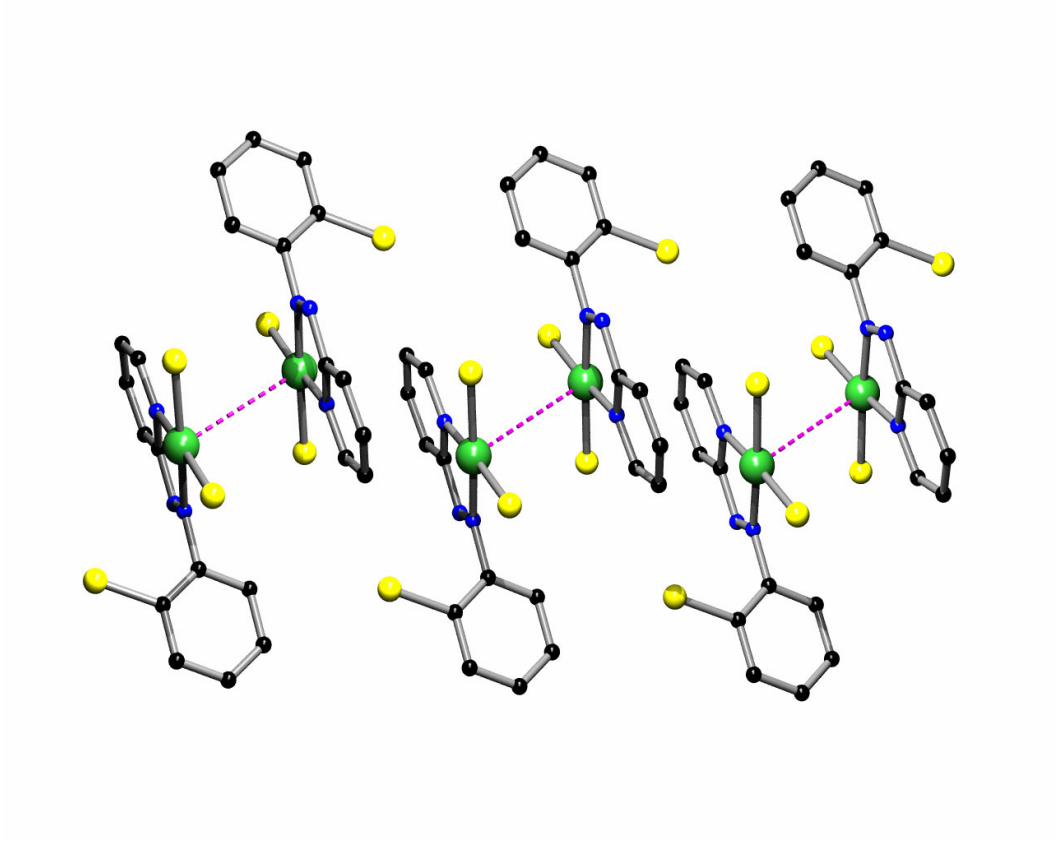

Fig. S1

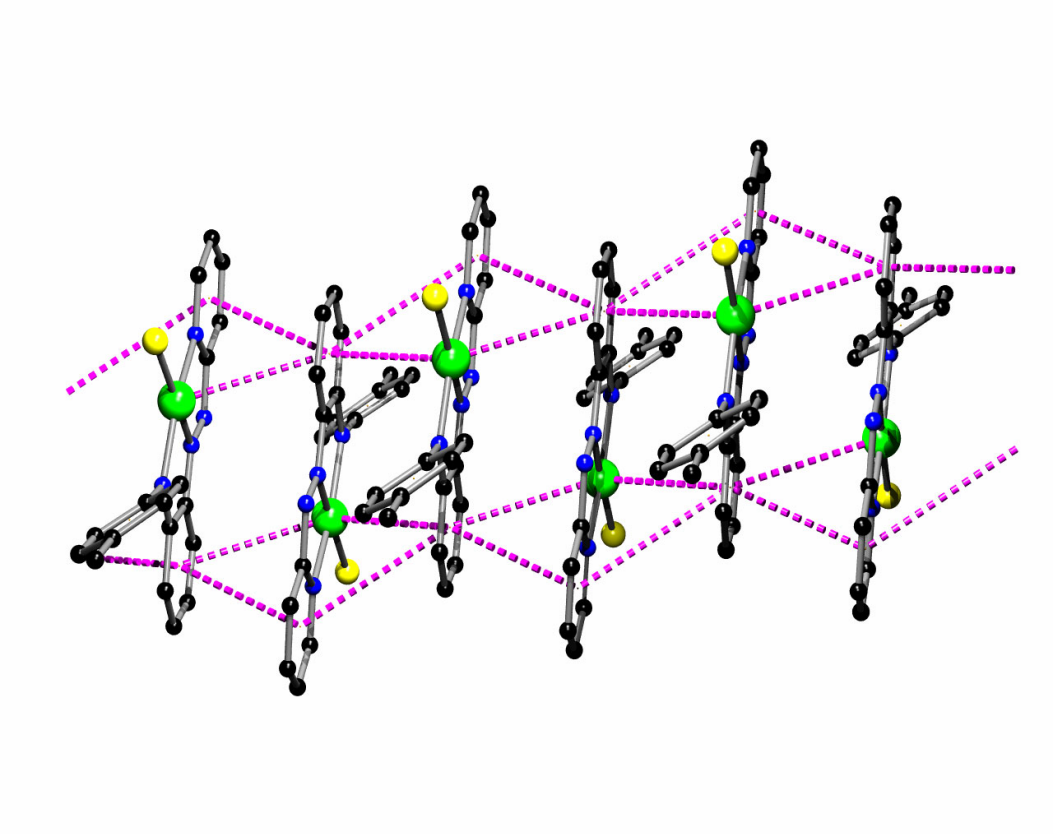

Fig. S2

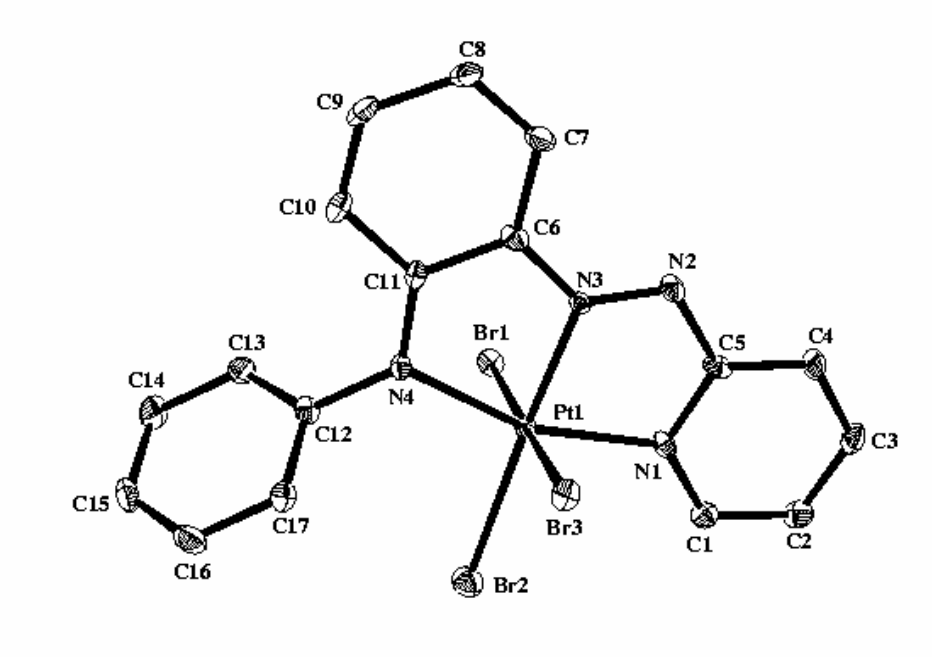
C8
C9
C7
C10
C6
N2
C11
N3
Br1
C5
C4
C13
C14
N4
Pt1
C12
C3
N1
C15
C17
Br3
C1
C2
C16
Br2

Fig. S3

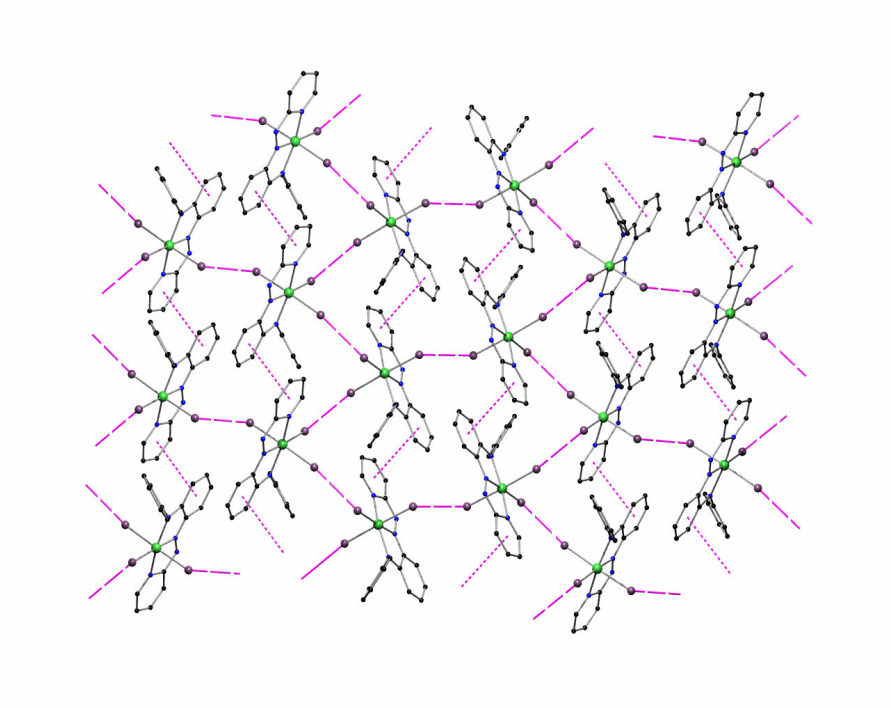

Fig. S4

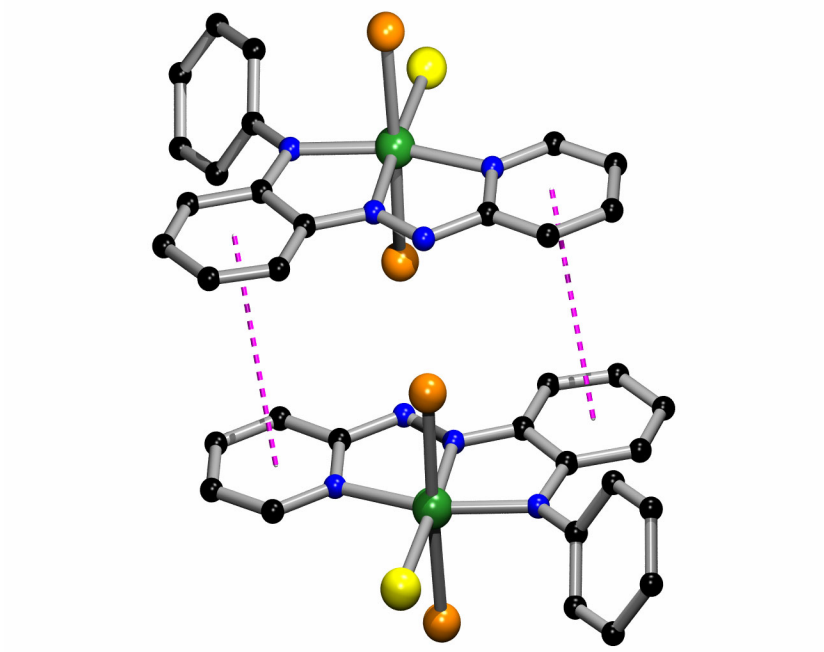

Fig. S5

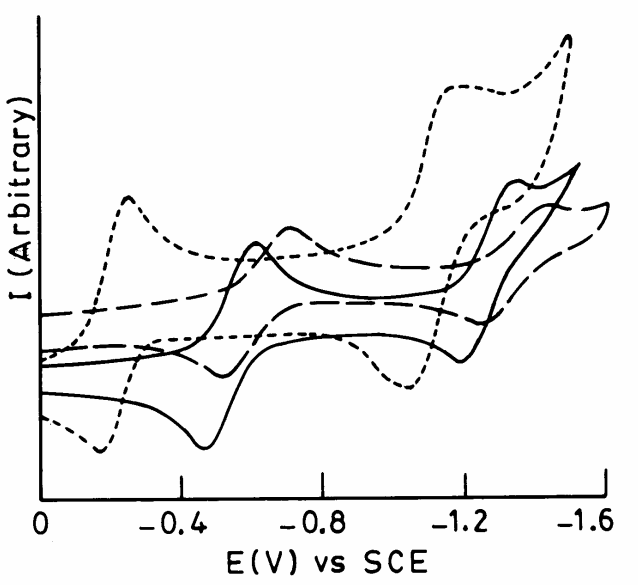

Fig. S6

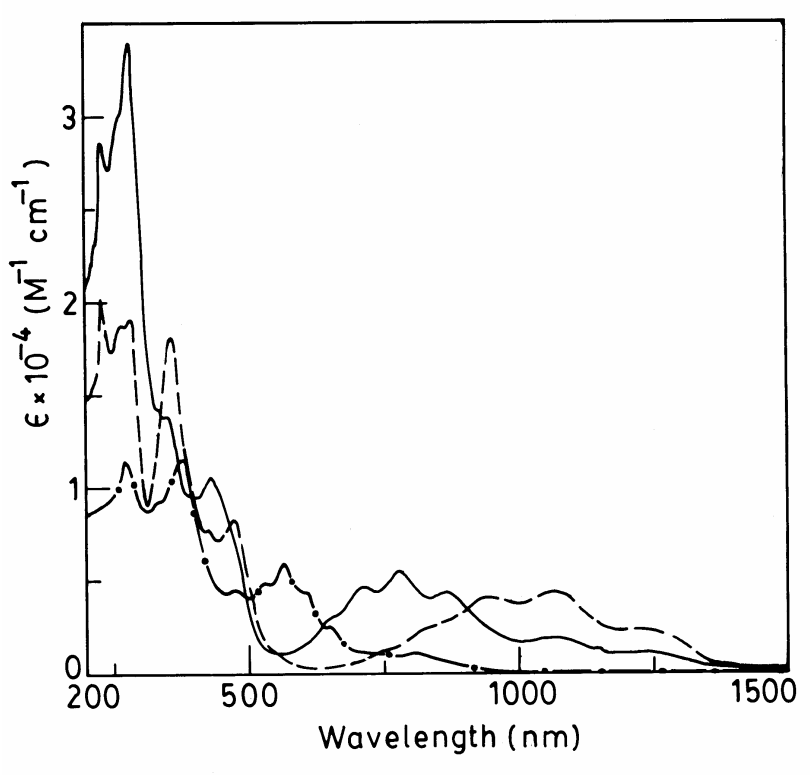
3
2
1
0
$\epsilon \times 10^{-4}$ (M^{-1} cm^{-1})
200
500
1000
1500
Wavelength (nm)

Fig. S7