

Supporting Information

“Light harvesting properties of some new heteroleptic dithiocarbamate-diamine/diimine complexes of Ni, Pd and Pt studied as photosensitizer in dye-sensitized TiO₂ solar cells”

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Table S1. Selected Bond lengths and bond angles for complexes **1**, **4** and **6**.

Figure S1. Crystal packing in complex **1**, viewed along the c axis (the hydrogen atoms bonded to carbon have been omitted for clarity).

Figure S2. Channels formed by the solvent molecules (large spheres) in complex **1**.

Figure S3. Crystal packing in complex **4**, viewed along c axis (hydrogen atoms have been omitted for clarity).

Figure S4. Crystal packing in Complex **6**, viewed along c axis.

Figure S5. Cyclic voltammograms of palladium complexes **4-6**.

Figure S6. Cyclic voltammograms of platinum complexes **7-9**.

Table S1 Selected bond lengths and bond angles for complexes **1**, **4** and **6**

Bond lengths (Å)

	1 (M=Ni), xx=42		4 (M=Pd), xx=42		6 (M=Pd), xx=34
	A	B	A	B	
M–N(31)	1.914(4)	1.912(3)	2.017(11)	2.055(11)	2.107(11)
M–N(xx)	1.904(4)	1.905(4)	2.085(11)	2.096(12)	2.089(11)
M–S(11)	2.176(1)	2.158(2)	2.257(4)	2.276(4)	2.270(3)
M–S(12)	2.168(1)	2.176(1)	2.272(4)	2.271(4)	2.282(3)
S(11)–C(13)	1.735(5)	1.742(5)	1.714(14)	1.758(14)	1.736(12)
S(12)–C(13)	1.741(5)	1.713(5)	1.734(14)	1.729(15)	1.729(12)
C(13)–N(14)	1.293(6)	1.304(7)	1.294(15)	1.310(16)	1.289(16)
N(14)–S(15)	1.643(4)	1.655(4)	1.633(11)	1.637(11)	1.626(10)

Bond angles (°)

N(31)–M–N(xx)	84.2(2)	84.2(2)	80.6(5)	79.2(5)	85.2(5)
N(31)–M–S(11)	99.0(1)	97.5(1)	101.7(3)	103.5(4)	99.5(3)
N(31)–M–S(12)	177.0(1)	175.4(1)	175.8(3)	177.9(3)	175.2(3)
N(xx)–M–S(11)	174.1(1)	175.6(1)	175.6(3)	176.3(3)	174.0(3)
N(xx)–M–S(12)	97.9(1)	99.8(1)	102.5(4)	102.0(4)	99.6(4)
S(11)–M–S(12)	78.88(5)	78.57(5)	75.4(1)	75.2(1)	75.7(1)

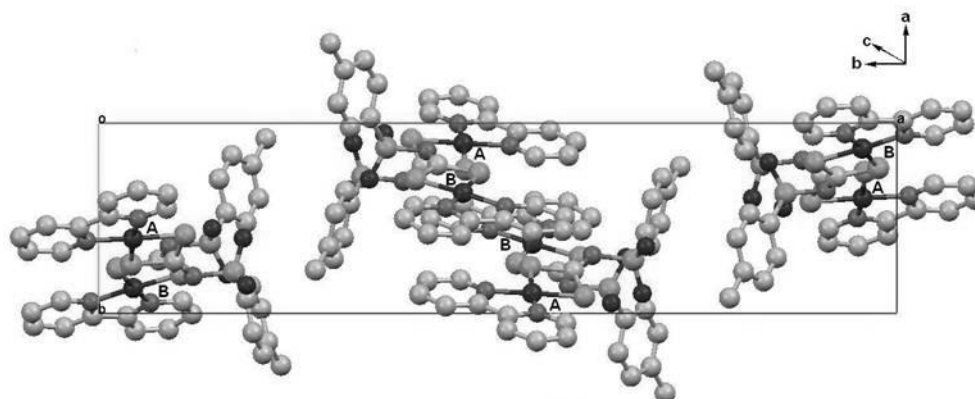


Fig. S1 Crystal packing in complex **1**, viewed along the *c* axis.

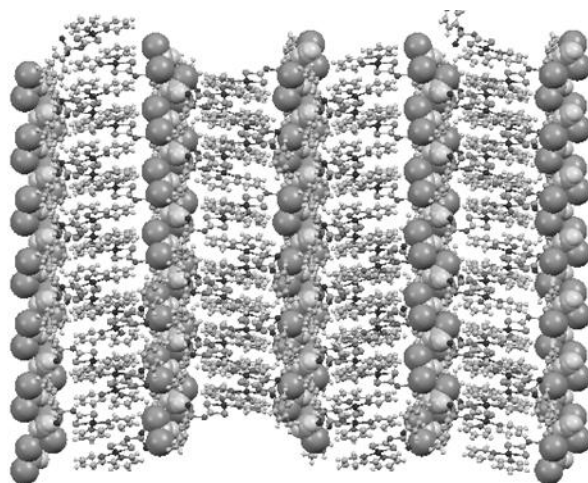


Fig. S2 Channels formed by the solvent molecules (large spheres) in complex **1**.

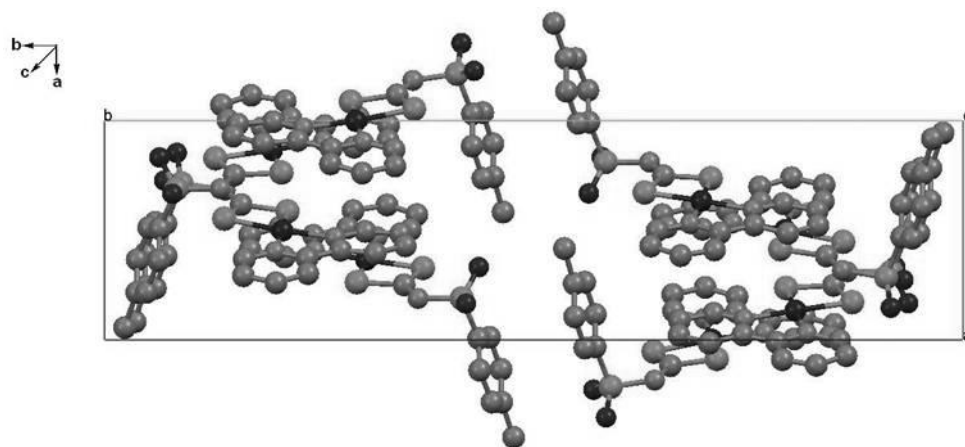


Fig. S3 Crystal packing in complex **4**, viewed along c axis (hydrogen atoms have been deleted for clarity).

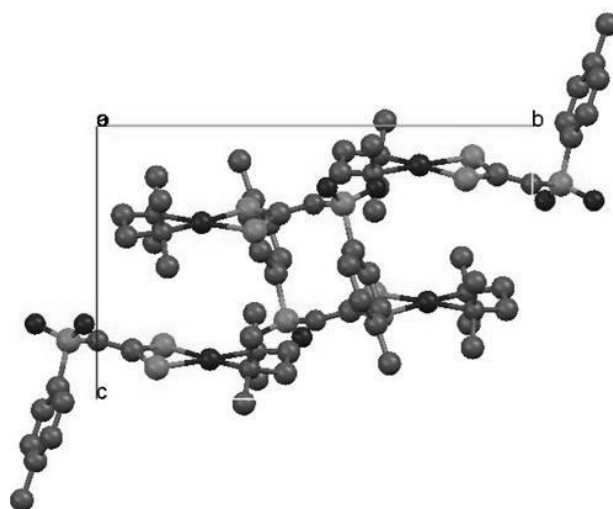


Fig. S4 Crystal packing in Complex **6**, viewed along c axis.

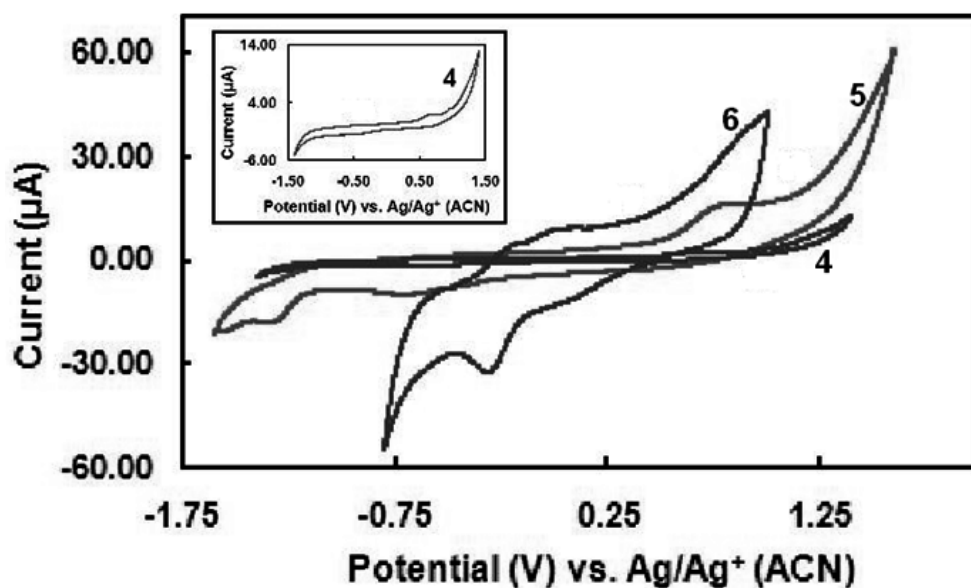


Fig. S5 Cyclic voltammograms of palladium complexes 4, 5 and 6 (for clarity expanded CV for complex 4 is shown in inset).

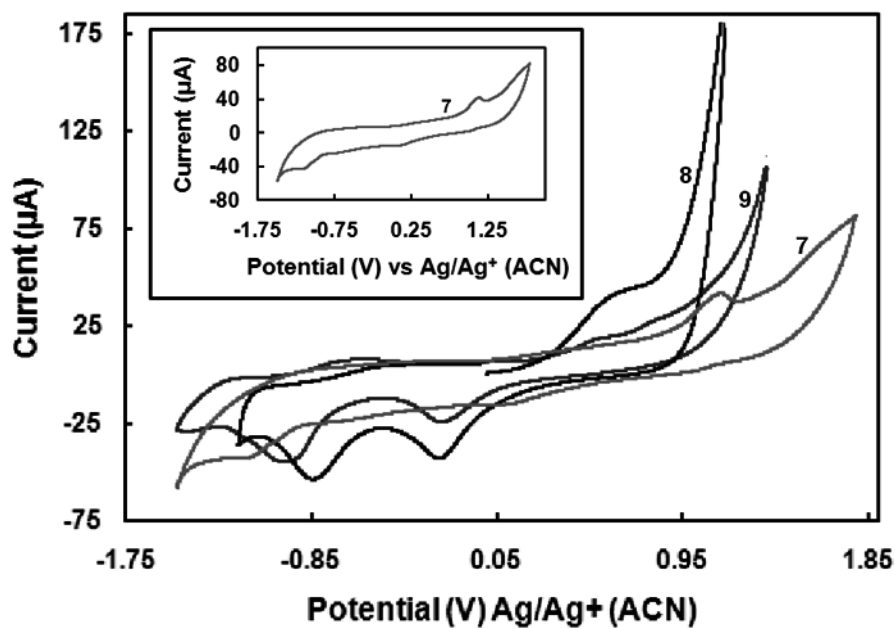


Fig. S6 Cyclic voltammograms of platinum complexes 7, 8 and 9 (for clarity expanded CV for complex 7 is shown in inset).