Realizing cuprous iodide hybrid materials with long luminescence lifetimes and high internal quantum yields by aggregation-induced emission

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Supporting Information

Table S1. Selected bond lengths (Å) and bond angles (°) of Complex 1

Bond	Dist.	Bond	Dist.	Bond	Dist.
Cu2-N1	2.6762(6)	Cu2-P4	2.2816(13)	P3-C3	1.827(5)
Cu2-P3	2.2683(12)	Cu2-N1	2.069(4)	N1-C17	1.324(6)
Angle	(°)	Angle	(°)	Angle	(°)
P3-Cu2-I1	107.81(4)	P4-Cu2-P3	123.64(5)	N1-Cu2-P3	108.39(12)
P4-Cu2-I1	107.30(4)	N1-Cu2-I1	101.81(12)	N1-Cu2-P4	105.78(12)

Table S2. Selected bond lengths (Å) and bond angles (°) of Complex 2

Bond	Dist.	Bond	Dist.	Bond	Dist.
Cu2-I1	2.7074(6)	Cu2-P3	2.2773(11)	Cu2-P4	2.296(12)
Cu2-N2	2.077(3)	P3-C4	1.820(4)	P4-C3	1.815(4)
Angle	(°)	Angle	(°)	Angle	(°)
P3-Cu2-I1	103.05(3)	P3-Cu2-P4	123.38(4)	P4-Cu2-I1	106.38(3)
N2-Cu2-I1	102.58(10)	N2-Cu2-P3	115.34(10)	C4-P3-C22	105.0(2)

Table S3. Selected bond lengths (Å) and bond angles (°) of Complex 3

Bond	Dist.	Bond	Dist.	Bond	Dist.
Cu2-I1	2.6791(4)	Cu2-P3	2.2876(8)	Cu2-P4	2.2768(8)
Cu2-N1	2.061(3)	P3-C19	1.832(3)	P4-C1	1.828(3)
Angle	(°)	Angle	(°)	Angle	(°)
P3-Cu2-I1	107.08(2)	P4-Cu2-I1	105.31(2)	P4-Cu2-P3	123.46(3)
N1-Cu2-I1	107.37(9)	N1-Cu2-P3	105.07(8)	N1-Cu2-P4	107.71(8)

Table S4. Selected bond lengths (Å) and bond angles (°) of Complex 4

Bond	Dist.	Bond	Dist.	Bond	Dist.
Cu1-I1	2.6664(3)	Cu1-P2	2.2842(6)	Cu1-P1	2.2837(5)
Cu1-N1	2.0690(19)	P2-C7	1.815(2)	P2-C13	1.833(2)
Angle	(°)	Angle	(°)	Angle	(°)
P2-Cu1-I1	106.402(16)	P1-Cu1-I1	104.04(16)	P1-Cu1-P2	123.82(2)
N1-Cu1-I1	112.23(7)	N1-Cu1-P2	104.56(7)	N1-Cu1-P1	105.88(6)

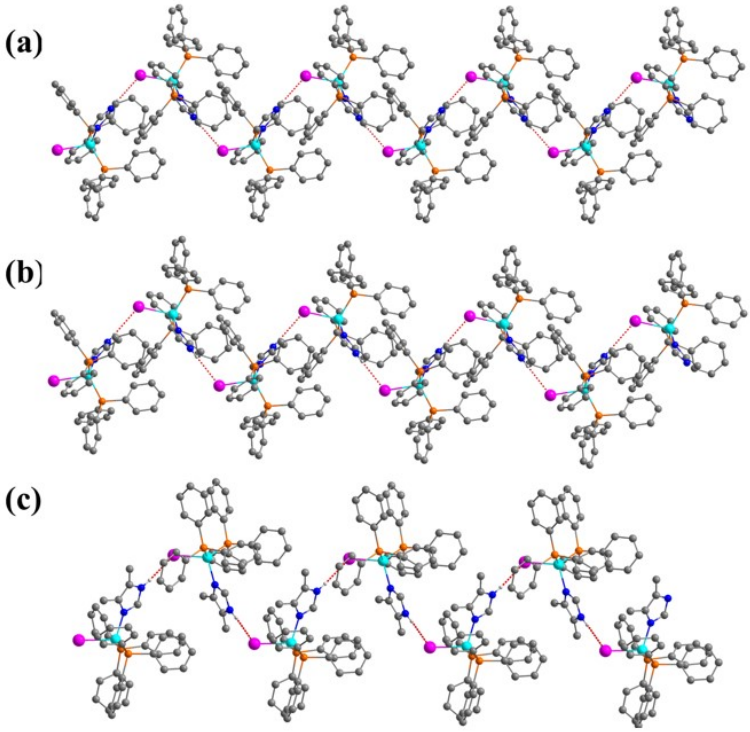

Fig.S1 (a) The one-dimensional chain structure of **complex 1.** (b) The one-dimensional chain structure of **complex 2.** (c) The one-dimensional chain structure of **complex 3.**

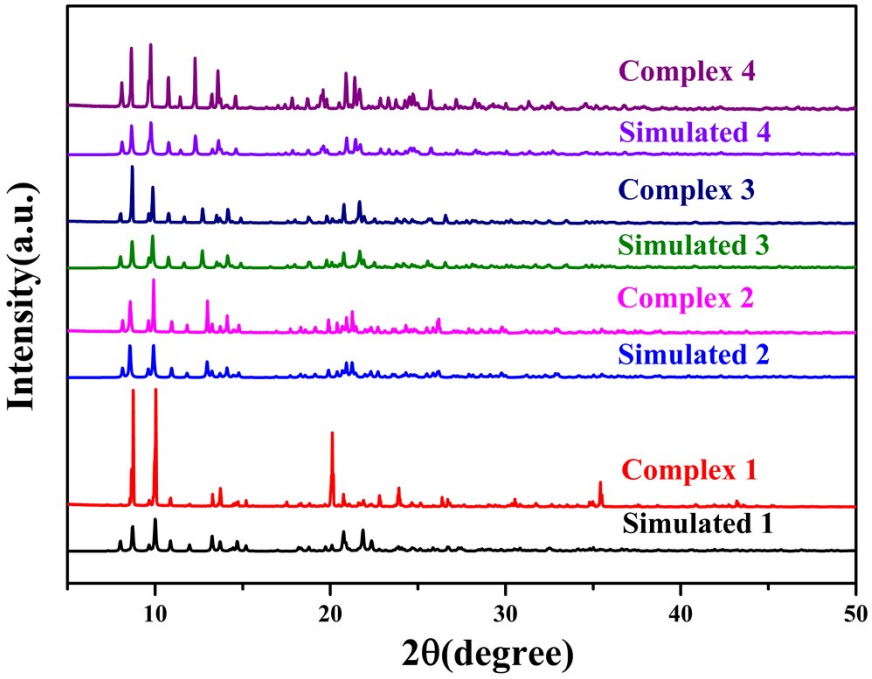

Fig. S2 PXRD pattern of **Complex1-4**

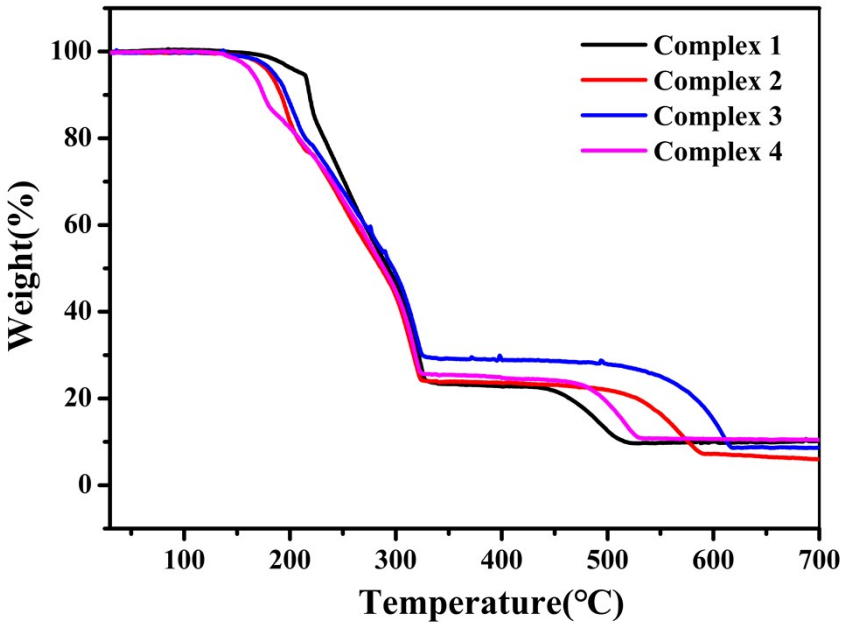

Fig.S3 .TG curves of **complexes 1-4**

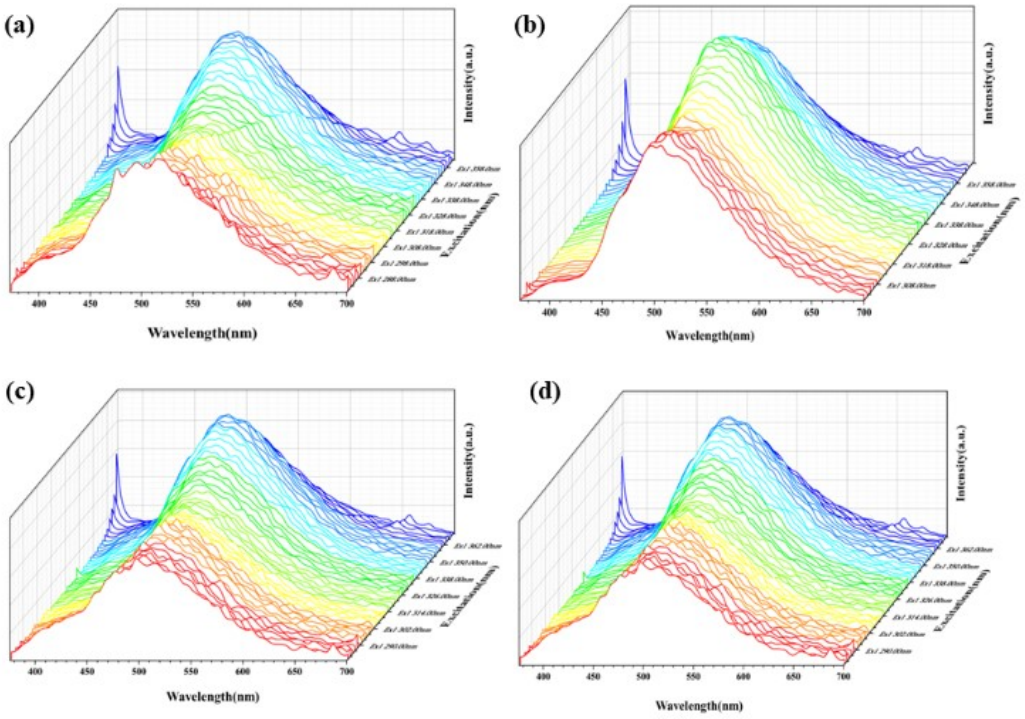

Fig .S4 The excitation-dependent Photoluminescence spectra of complexes **1**(a),**2**(b),**3**(c) and **4**(d)

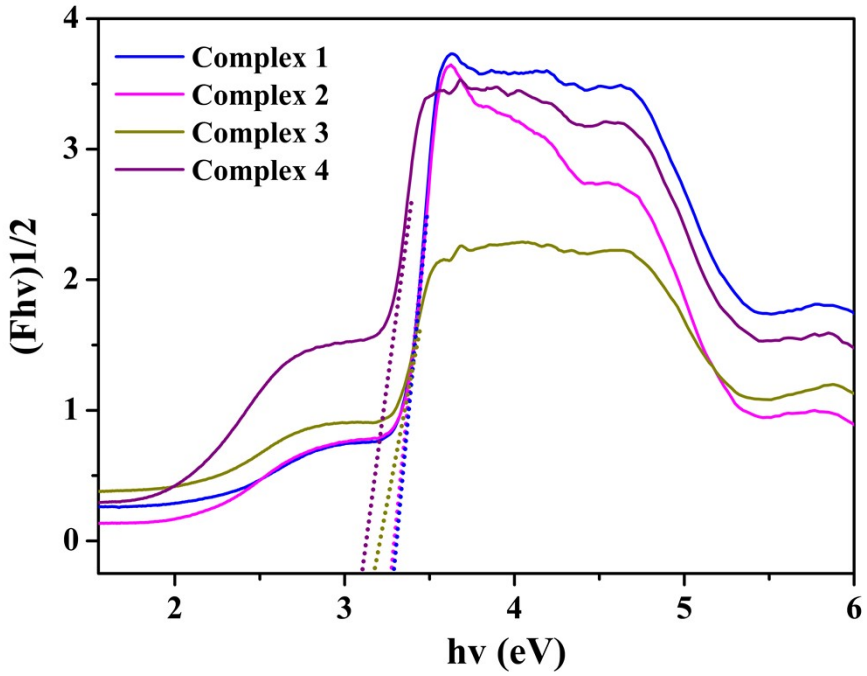

Fig. S5. Optical absorption spectra of Complexes **1-4**

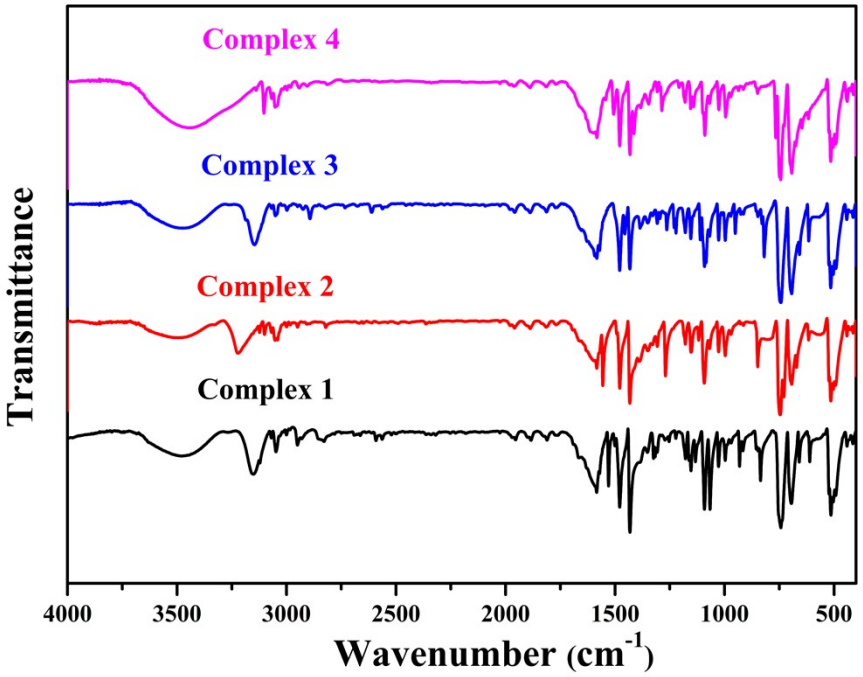

Fig. S6. Infrared Spectroscopy of Complexs **1-4**