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Supporting Information

Diverse Architectures and Luminescent Properties of Two Novel Copper(I) Coordination Polymers Assembled from 2,6-Bis[3-(pyrid-4-yl)-1,2,4-triazolyl]pyridine Ligands

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1. PXRD patterns of complexes **1** and **2**.

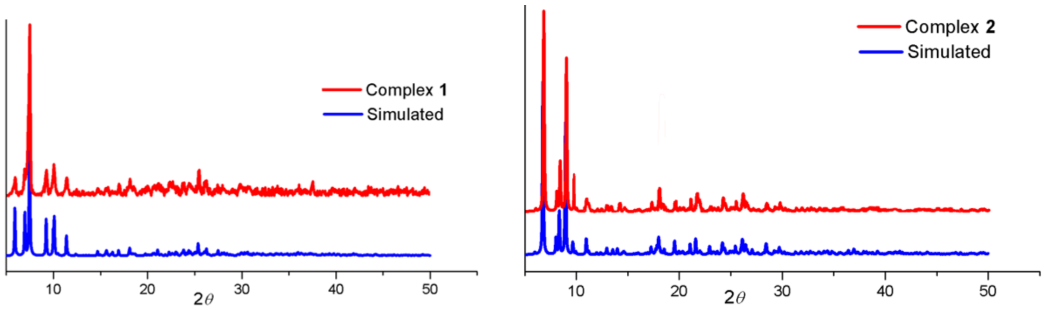

Figure S1. PXRD experimental and calculated patterns for complexes.

2. TGA curves for complexes **1** and **2**.

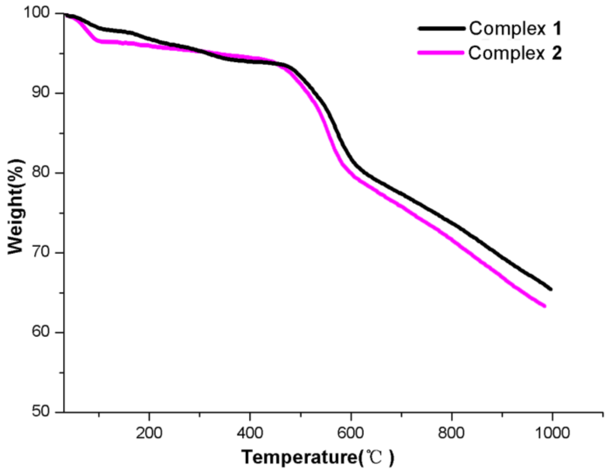

Figure S2. TGA curves for complexes **1** and **2**.

3. Diffuse reflectance spectra of the complexes **1** and **2** in the solid state.

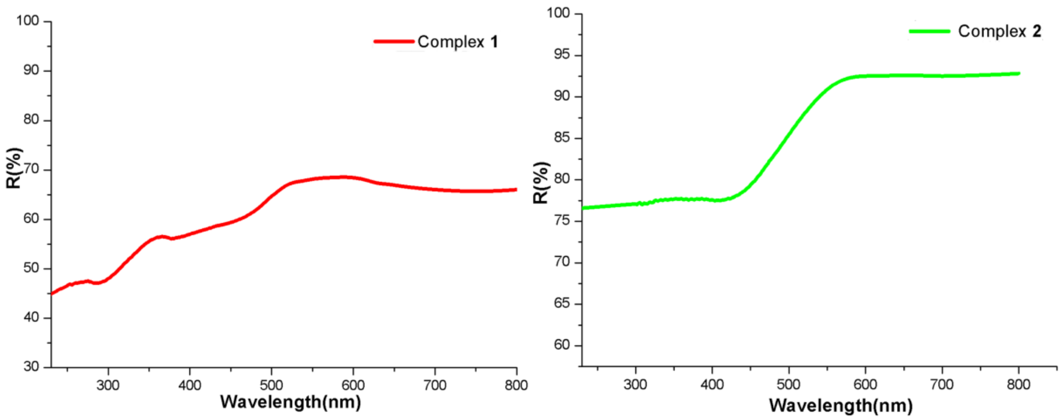

Figure S3. Diffuse reflectance spectra of the complexes **1** and **2** in the solid state.

4. CIE-1931 chromaticity diagram for H_2bptp, **1** and **2.**

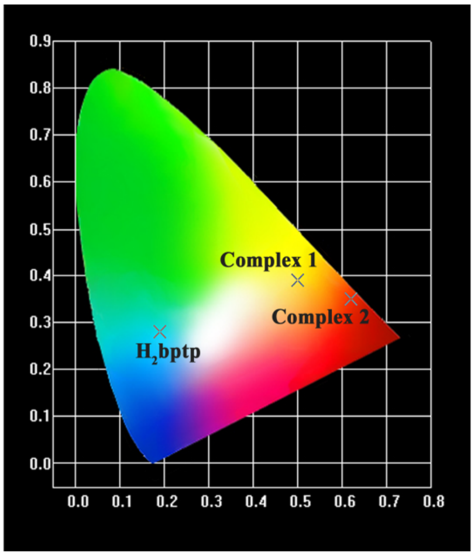

Figure S4. CIE-1931 chromaticity diagram showing the blue, yellow and orange-red luminescence at 298 K for H_2bptp, **1** and **2**, respectively. CIE coordinates are calculated using the software GoCIE, obtained from http://www.geocities.com/krjustin/gocie.html, accessed in 2010.

5. Solid-state emission spectra of the H_2bpt at 298 K.

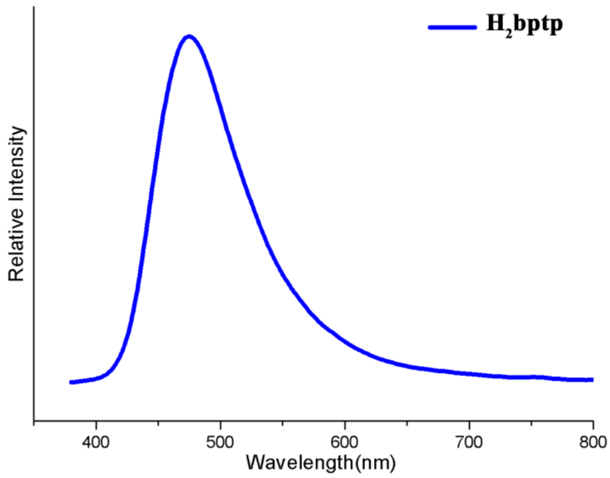

Figure S5. Solid state emission spectra of free H_2bptp ligand.

6. Selected bond lengths (Å) and angles (º) for complexes **1** and **2**.

Table S1. Selected Bond Lengths (Å) and Angles (º) for Complexes.

Complex **1**			
Cu1—N21	1.881 (3)	Cu4—Cu5	2.9932 (9)
Cu1—N4	1.905 (3)	Cu5—N8	1.880 (3)
Cu1—N5	2.374 (3)	Cu5—N25	1.890 (3)
Cu2—N31	1.880 (3)	Cu6—N16	1.868 (3)
Cu2—N12	1.888 (3)	Cu6—N35	1.878 (3)
Cu2—Cu1	2.9047 (10)	Cu6—Cu5	2.9259 (11)
Cu2—Cu4	3.0386 (9)	Cu6—Cu3	2.9261 (9)
Cu3—N7	1.886 (3)	Cu7—N17	1.966 (3)

Cu3—N13	1.888 (3)	Cu7—N26	2.007 (3)
Cu3—N14	2.455 (3)	Cu7—N1^{i}	2.051 (3)
Cu3—Cu4	2.5466 (9)	Cu8—N30	1.941 (3)
Cu3—Cu1	3.0240 (10)	Cu8—N3	1.959 (3)
Cu4—N34	1.887 (3)	Cu8—N28^{ii}	2.036 (3)
Cu4—N22	1.890 (3)		
N21—Cu1—N4	155.98 (14)	Cu6—Cu3—Cu1	157.94 (2)
N21—Cu1—N5	126.58 (12)	N34—Cu4—N22	167.05 (13)
N4—Cu1—N5	76.34 (12)	N34—Cu4—Cu3	94.37 (10)
N21—Cu1—Cu2	92.50 (10)	N22—Cu4—Cu3	96.87 (10)
N4—Cu1—Cu2	79.58 (10)	N34—Cu4—Cu5	88.59 (9)
N5—Cu1—Cu2	119.18 (8)	N22—Cu4—Cu5	87.48 (9)
N21—Cu1—Cu3	92.16 (9)	Cu3—Cu4—Cu5	78.03 (3)
N4—Cu1—Cu3	106.97 (10)	N34—Cu4—Cu2	100.90 (9)
N5—Cu1—Cu3	62.02 (8)	N22—Cu4—Cu2	87.67 (9)
Cu2—Cu1—Cu3	73.55 (3)	Cu3—Cu4—Cu2	78.41 (2)
N31—Cu2—N12	172.64 (13)	Cu5—Cu4—Cu2	155.18 (2)
N31—Cu2—Cu1	89.82 (11)	N8—Cu5—N25	163.63 (14)
N12—Cu2—Cu1	89.24 (10)	N8—Cu5—Cu6	93.30 (10)
N31—Cu2—Cu4	91.82 (10)	N25—Cu5—Cu6	80.35 (10)
N12—Cu2—Cu4	94.91 (9)	N8—Cu5—Cu4	91.12 (9)
Cu1—Cu2—Cu4	73.34 (2)	N25—Cu5—Cu4	101.39 (9)
N7—Cu3—N13	160.21 (13)	Cu6—Cu5—Cu4	73.62 (2)
N7—Cu3—N14	100.84 (13)	N16—Cu6—N35	172.95 (13)
N13—Cu3—N14	76.81 (12)	N16—Cu6—Cu5	87.86 (11)
N7—Cu3—Cu4	94.86 (10)	N35—Cu6—Cu5	92.71 (10)
N13—Cu3—Cu4	98.54 (10)	N16—Cu6—Cu3	95.32 (10)
N14—Cu3—Cu4	142.96 (8)	N35—Cu6—Cu3	91.57 (9)
N7—Cu3—Cu6	91.56 (10)	Cu5—Cu6—Cu3	73.58 (3)
N13—Cu3—Cu6	104.94 (10)	N17—Cu7—N26	122.91 (12)
N14—Cu3—Cu6	65.88 (7)	N17—Cu7—N1^{i}	121.23 (13)
Cu4—Cu3—Cu6	80.47 (2)	N26—Cu7—N1^{i}	115.67 (12)
N7—Cu3—Cu1	83.07 (10)	N30—Cu8—N3	126.65 (13)
N13—Cu3—Cu1	85.35 (9)	N30—Cu8—N28^{ii}	120.89 (14)
N14—Cu3—Cu1	136.13 (7)	N3—Cu8—N28^{ii}	110.80 (14)
Cu4—Cu3—Cu1	78.70 (3)		

Symmetry codes: (i) x, 1+y, z; (ii) 2-x, -y, 1-z; (iii) x, -1+y, z.

Complex **2**			
Cu1—N15^{iii}	1.932 (6)	Cu3—N7	2.089 (6)
Cu1—N2	1.950 (6)	Cu4—N4^{i}	1.944 (6)
Cu1—N5	2.315 (7)	Cu4—N12	1.967 (7)
Cu2—N6	1.892 (8)	Cu4—N9^{ii}	2.038 (7)

Cu2—N13^{iii}	1.903 (7)	Cu5—C39^{iv}	1.868 (8)
Cu2—Cu1	2.701 (2)	Cu5—N10^{v}	2.015 (8)
Cu3—N19	1.870 (8)	Cu5—N18	2.084 (8)
Cu3—N17	1.973 (7)		
N15^{iii}—Cu1—N2	146.0 (3)	N19—Cu3—N17	145.2 (3)
N15^{iii}—Cu1—N5	125.8 (3)	N19—Cu3—N7	114.7 (3)
N2—Cu1—N5	78.5 (2)	N17—Cu3—N7	100.0 (3)
N15^{iii}—Cu1—Cu2	99.6 (2)	N4^{i}—Cu4—N12	136.9 (3)
N2—Cu1—Cu2	111.4 (2)	N4^{i}—Cu4—N9^{ii}	115.8 (3)
N5—Cu1—Cu2	72.24 (17)	N12—Cu4—N9^{ii}	106.0 (3)
N6—Cu2—N13^{iii}	167.4 (3)	C39^{iv}—Cu5—N10^{v}	138.1 (3)
N6—Cu2—Cu1	87.5 (2)	C39^{iv}—Cu5—N18	120.3 (3)
N13^{iii}—Cu2—Cu1	99.8 (2)	N10^{v}—Cu5—N18	100.5 (3)

Symmetry codes: (i) -1+x, y, 1+z; (ii) -1+x, y, z; (iii) -x, 1-y, 1-z; (iv) -x, 2-y, 1-z; (v) -1-x, 1-y, 2-z.

7. Photoluminescent data of complexes **1** and **2**.

Table S2. Photoluminescent data of complexes **1** and **2**.

Complex **1**			
T/K	λ_{ex}/nm	λ_{em}/nm	τ/s
298	380	623	$6.975\times e^{-8}$(51.53%[a]) $4.189\times e^{-7}$(48.47%[a])
10	380	623	$1.078\times e^{-5}$(80.14%[a]) $1.172\times e^{-6}$(19.86%[a])
Complex 2			
298	380	673	$1.084\times e^{-6}$
10	380	650	$1.325\times e^{-5}$(88.98%[a]) $3.110\times e^{-6}$(11.02%[a])

[a] Biexponential decay.