Supporting information for

A pair of 2D chiral Ag(I) enantiomers with dual chiral elements: syntheses, structures, photoluminescent and chiroptical properties

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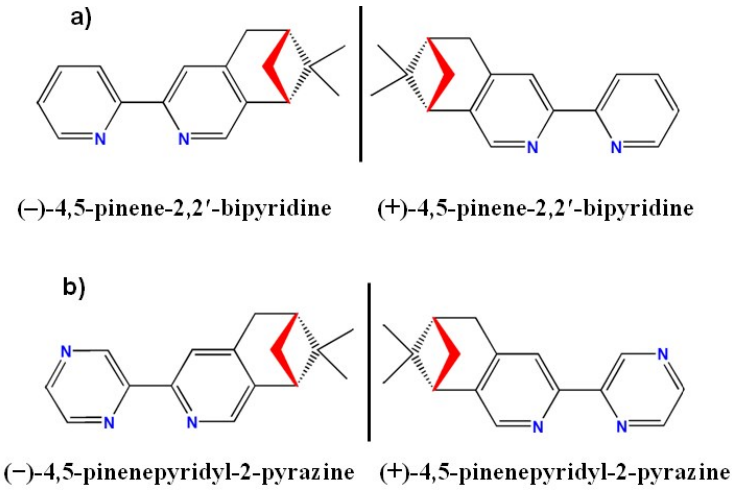
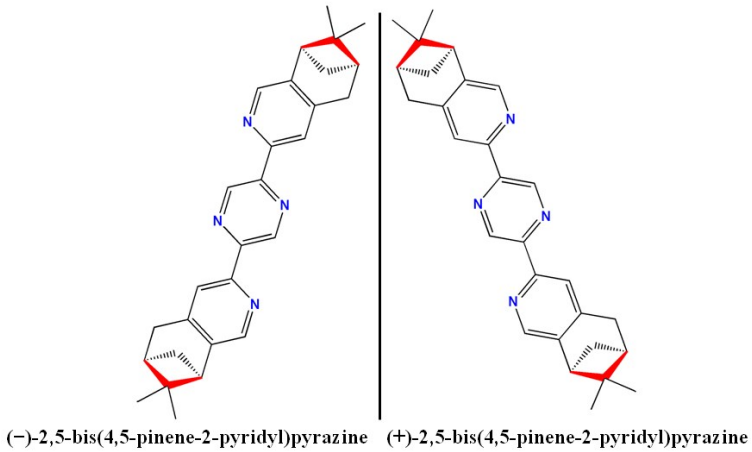


(−)-4,5-pinene-2,2′-bipyridine (+)-4,5-pinene-2,2′-bipyridine

(−)-4,5-pinenepyridyl-2-pyrazine (+)-4,5-pinenepyridyl-2-pyrazine

Scheme S1. The chemical structures of enantiopure *N*-donor chiral ligands with pinene moieties.



Scheme S2. The chemical structures of enantiopure *N*-donor bis-bidentate chiral ligands with pinene moieties.

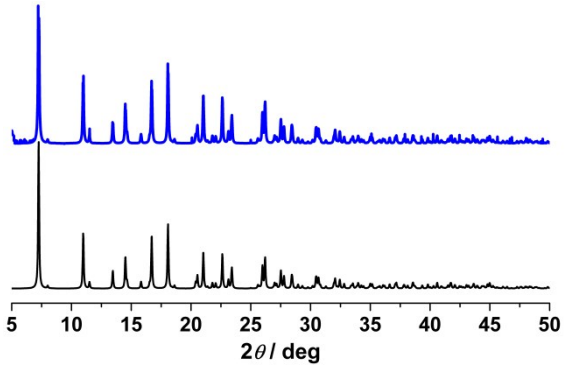


Fig. S1 Powder X-ray diffraction (PXRD) patterns of a simulation based on single crystal analysis of ***R*-1** (black) and as-synthesized ***R*-1** (blue).

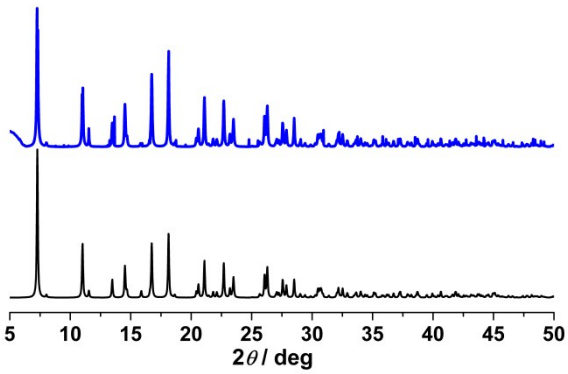


Fig. S2 Powder X-ray diffraction (PXRD) patterns of a simulation based on single crystal analysis of ***S*-1** (black) and as-synthesized ***S*-1** (blue).

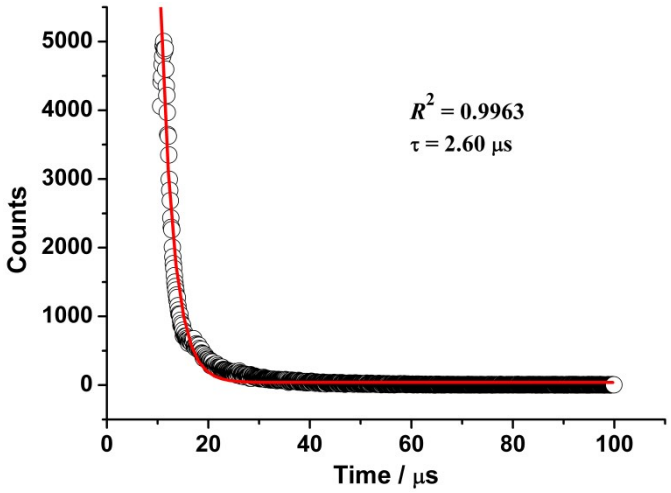


Fig. S3 Decay curves of ***R*-1** with fitted curves (red) in the solid state at room temperature.

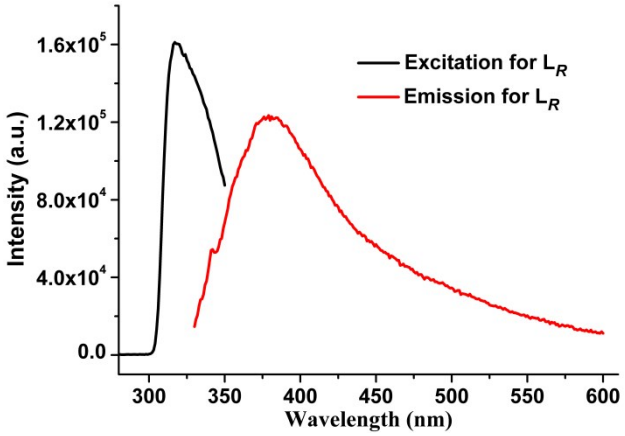


Fig. S4 The excitation and emission spectra of $\mathbf{L}_R$ in DCM (1×10^{-4} M) at room temperature.

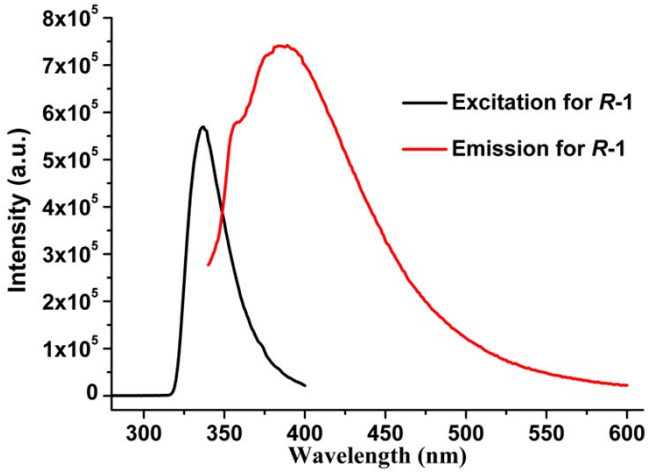


Fig. S5 The excitation and emission spectra of ***R*-1** in DCM (1×10^{-4} M) at room temperature.

Table S1. Selected bond length (Å) and angles (°) for ***R*-1**

Bond lengths			
Ag(1)–O(1)	2.610(6)	Ag(2)–O(1)	2.611(5)
Ag(1)–O(5)	2.693(6)	Ag(2)–O(5)	2.626(7)
Ag(1)–N(1)	2.182(7)	Ag(2)–N(3)	2.199(6)
Ag(1)–N(2)	2.153(7)	Ag(2)–N(4)	2.190(7)
Bond angles			
N(1)–Ag(1)–O(1)	100.7(2)	N(4)–Ag(2)–O(1)	93.1(2)
N(1)–Ag(1)–O(5)	105.4(2)	N(4)–Ag(2)–O(5)	91.5(3)
N(1)–Ag(1)–N(2)	161.0(2)	N(4)–Ag(2)–N(3)	161.7(2)
O(1)–Ag(1)–O(5)	70.17(17)	O(1)–Ag(2)–O(5)	71.2(18)
O(1)–Ag(1)–N(2)	91.5(2)	O(1)–Ag(2)–N(3)	102.8(2)
O(5)–Ag(1)–N(2)	92.4(2)	O(5)–Ag(2)–N(3)	102.2(3)

Table S2. Selected bond length (Å) and angles (°) for ***S*-1**

Bond lengths			
Ag(1)–O(5)	2.678(6)	Ag(2)–O(5)	2.603(8)
Ag(1)–O(1)	2.604(7)	Ag(2)–O(1)	2.592(6)
Ag(1)–N(1)	2.171(8)	Ag(2)–N(3)	2.193(8)
Ag(1)–N(2)	2.161(8)	Ag(2)–N(4)	2.186(8)
Bond angles			
N(1)–Ag(1)–O(5)	105.8(3)	N(4)–Ag(2)–O(5)	92.0(3)
N(1)–Ag(1)–O(1)	100.5(3)	N(4)–Ag(2)–N(3)	161.7(3)
N(1)–Ag(1)–N(2)	161.1(3)	N(4)–Ag(2)–O(1)	93.4(3)
O(5)–Ag(1)–N(2)	91.8(3)	O(5)–Ag(2)–N(3)	101.7(3)
O(1)–Ag(1)–O(5)	69.83(18)	O(1)–Ag(2)–O(5)	71.18(19)
O(1)–Ag(1)–N(2)	92.0(3)	O(1)–Ag(2)–N(3)	102.3(2)