Supporting Information

Three pairs of luminescent chiral coordination polymers based on Co^{II} and Cd^{II} clusters for the detection of antibiotic pesticides and enantiomeric identification

Li-Qing Zhang,[a] Xiu-Wen Wang,[a] Lei Gu,[a] Ying-Hui Yu,*[a] and Jin-Sheng Gao*[ab]

[a]School of Chemistry and Materials Science, Heilongjiang University, Harbin 150080, China

[b]Agricultural college, Heilongjiang University, Harbin 150080, China

*Corresponding author. E-mail: yuyinghui@hlju.edu.cn; gaojinsheng@hlju.edu.cn;

Tel: +86-451-86609001; Fax: +86-451-86609151.

Catalog

Section 1. Crystal structure information

Table S1. Crystal data and structure refinement for CPs **1-3**.

	1-D	**1-L**	**2-D**	**2-L**	**3-D**	**3-L**
Empirical formula	$C_{28}H_{22}Co O_{10}$	$C_{28}H_{22}Co O_{10}$	$C_{124}H_{98}Cd_6 N_{12}O_{35}$	$C_{124}H_{98}Cd_6 N_{12}O_{35}$	$C_{50}H_{40}Cd_2 N_4O_{16}$	$C_{50}H_{40}Cd_2 N_4O_{16}$
Formulaweight	577.39	577.39	2990.54	2990.54	1177.66	1177.66
Crystal system	Monoclinic	Monoclinic	Monoclinic	Monoclinic	Monoclinic	Monoclinic
Space group	$P2_1$	$P2_1$	$P2_1$	$P2_1$	$P2_1$	$P2_1$
***a* (Å)**	4.5150(10)	4.5099(10)	10.7966(4)	10.7678(12)	10.0363(3)	10.0826(9)
***b* (Å)**	20.3360(5)	20.3181(7)	42.8603(17)	43.169(5)	22.7634(8)	22.830(2)
***c* (Å)**	13.1788(4)	13.1808(5)	13.9138(6)	14.1953(16)	11.2352(3)	11.2518(9)
***α* (°)**	90	90	90	90	90	90
***β* (°)**	95.541(10)	95.614(10)	101.311(2)	102.803(4)	101.676(10)	101.852(3)
***γ* (°)**	90	90	90	90	90	90
***V* (Å^3)**	1204.38(5)	1202.00(7)	6313.5(4)	6434.5(12)	2513.68(13)	2534.8(4)
Z	2	2	2	2	2	2
D_{calc} (g.cm^{-3})	1.592	1.595	1.573	1.544	1.556	1.543
μ (mm^{-1})	0.776	0.777	1.075	1.055	0.920	0.912
F(0 0 0)	594	594	2988	2988	1184	1184
collected/unique	15713 / 5871	26224 / 5901	61623 / 30219	99283 / 31848	35969 / 12424	24662 / 11480
R(int)	0.0225	0.0235	0.0452	0.0364	0.0217	0.0459
GOF on *F*^{2}	0. 977	0.989	1.027	1.038	1.018	1.049
R_1[a],wR_2[b], [I > 2σ(I)]	0.0245 , 0.0551	0.0228, 0.0571	0.0727, 0.1870	0.0509, 0.1284	0.0342, 0.0896	0.0597, 0.1443
R_1[a],wR_2[b], (all data)	0.0277 , 0.0563	0.0241, 0.0578	0.0959, 0.1992	0.0637, 0.1348	0.0374, 0.0915	0.0940, 0.1700

[a]$R_1 = (\Sigma||Fo| - |Fc|)/\Sigma|Fo|$. [b]$wR_2 = [\Sigma w(Fo^2 - Fc^2)^2/\Sigma w(Fo^2)^2]^{1/2}$

Table S2. Selected bond distances (Å) and angles (°) for CPs **1-3**.

1-D			
Co(1)-O(4)^{I}	2.0711(11)	Co(1)-O(5)^{II}	2.0822(11)
Co(1)-O(10)^{III}	2.0878(11)	Co(1)-O(6)	2.0949(11)
Co(1)-O(9)^{IV}	2.0950(11)	Co(1)-O(1)	2.1320(11)
O(4)-Co(1)^{V}	2.0711(11)	O(5)-Co(1)^{VI}	2.0822(11)
O(9)-Co(1)^{VII}	2.0950(11)	O(10)-Co(1)^{VIII}	2.0878(11)
O(4)^{I}-Co(1)-O(5)^{II}	86.23(5	O(4)^{I}-Co(1)-O(10)^{III}	97.30(5)

$O(5)^{II}$-Co(1)-$O(10)^{III}$	176.13(5)	$O(4)^{I}$-Co(1)-O(6)	95.59(5)
$O(5)^{II}$-Co(1)-O(6)	90.88(4)	$O(10)^{III}$-Co(1)-O(6)	90.34(4)
$O(4)^{I}$-Co(1)-$O(9)^{IV}$	177.17(5)	$O(5)^{II}$-Co(1)-$O(9)^{IV}$	90.97(5)
$O(10)^{III}$-Co(1)-$O(9)^{IV}$	85.48(5)	O(6)-Co(1)-$O(9)^{IV}$	84.88(5)
$O(4)^{I}$-Co(1)-O(1)	89.26(5)	$O(5)^{II}$-Co(1)-O(1)	90.86(4)
$O(10)^{III}$-Co(1)-O(1)	87.63(4)	O(6)-Co(1)-O(1)	174.95(5)
$O(9)^{IV}$-Co(1)-O(1)	90.35(5)		

Symmetry code: I: -x+1,y+1/2,-z+1 II: -x+2,y+1/2,-z+1 III: -x-1,y-1/2,-z
IV: -x,y-1/2,-z V: -x+1,y-1/2,-z+1 VI: -x+2,y-1/2,-z+1
VII: -x,y+1/2,-z VIII: -x-1,y+1/2,-z

1-L

Co(1)-$O(4)^{I}$	2.0703(10)	Co(1)-$O(5)^{II}$	2.0793(11)
Co(1)-$O(10)^{III}$	2.0885(11)	Co(1)-O(6)	2.0928(11)
Co(1)-$O(9)^{IV}$	2.0952(10)	Co(1)-O(1)	2.1309(11)
O(4)-$Co(1)^{V}$	2.0703(10)	O(5)-$Co(1)^{VI}$	2.0793(11)
O(9)-$Co(1)^{VII}$	2.0952(10)	O(10)-$Co(1)^{VIII}$	2.0885(10)
$O(4)^{I}$-Co(1)-$O(5)^{II}$	86.22(4)	$O(4)^{I}$-Co(1)-$O(10)^{III}$	97.41(5)
$O(5)^{II}$-Co(1)-$O(10)^{III}$	176.04(5)	$O(4)^{I}$-Co(1)-O(6)	95.78(5)
$O(5)^{II}$-Co(1)-O(6)	90.89(4)	$O(10)^{III}$-Co(1)-O(6)	90.30(5)
$O(4)^{I}$-Co(1)-$O(9)^{IV}$	177.09(4)	$O(5)^{II}$-Co(1)-$O(9)^{IV}$	90.90(4)
$O(10)^{III}$-Co(1)-$O(9)^{IV}$	85.45(4)	O(6)-Co(1)-$O(9)^{IV}$	84.72(5)
O(4)I-Co(1)-O(1)	89.14(5)	$O(5)^{II}$-Co(1)-O(1)	90.85(4)
$O(10)^{III}$-Co(1)-O(1)	87.65(4)	O(6)-Co(1)-O(1)	174.88(5)
$O(9)^{IV}$-Co(1)-O(1)	90.44(5)		

Symmetry code: I : - x+1,y-1/2,-z+2 II: -x+2,y-1/2,-z+2 III: -x-1,y+1/2,-z+1
IV: -x,y+1/2,-z+1 V: -x+1,y+1/2,-z+2 VI: -x+2,y+1/2,-z+2
VII: -x,y-1/2,-z+1 VIII : -x-1,y-1/2,-z+1

2-D

Cd(1)-$O(5)^{I}$	2.214(12)	Cd(1)-O(1)	2.408(10)
Cd(1)-O(2)	2.430(9)	Cd(1)-$O(6)^{I}$	2.615(13)
Cd(2)-O(11)	2.362(10)	Cd(2)-O(4)	2.367(9)
Cd(2)-O(12)	2.492(13)	Cd(2)-O(3)	2.501(9)
Cd(3)-$O(22)^{I}$	2.224(9)	Cd(3)-O(18)	2.379(6)
Cd(3)-O(17)	2.408(8)	Cd(4)-O(13)	2.286(9)
Cd(4)-$O(10)^{II}$	2.300(9)	Cd(4)-O(19)	2.358(9)
Cd(4)-O(14)	2.520(14)	Cd(4)-O(20)	2.547(9)
Cd(5)-$O(9)^{II}$	2.210(8)	Cd(5)-O(20)	2.249(8)
Cd(5)-O(26)	2.289(11)	Cd(5)-O(25)	2.468(11)
Cd(6)-O(29)	2.334(8)	Cd(6)-$O(27)^{I}$	2.343(10)
Cd(6)-O(30)	2.355(8)	Cd(6)-$O(28)^{I}$	2.362(10)
O(5)-$Cd(1)^{II}$	2.214(12)	O(6)-$Cd(1)^{II}$	2.615(13)
O(9)-$Cd(5)^{I}$	2.210(8)	O(10)-$Cd(4)^{I}$	2.300(9)

O(22)-Cd(3)^{II}	2.224(9)	O(27)-Cd(6)^{II}	2.343(10)
O(28)-Cd(6)^{II}	2.362(10)	Cd(1)-O(1W)	2.326(10)
Cd(2)-O(2W)	2.287(8)	Cd(3)-O(3W)	2.288(11)
Cd(1)-N(2)	2.332(8)	Cd(1)-N(1)	2.377(9)
Cd(2)-N(3)	2.329(7)	Cd(2)-N(4)	2.354(8)
Cd(3)-N(5)	2.306(9)	Cd(3)-N(6)	2.363(9)
Cd(4)-N(7)	2.355(7)	Cd(4)-N(8)	2.396(8)
Cd(5)-N(9)	2.352(10)	Cd(5)-N(10)	2.298(8)
Cd(6)-N(11)	2.341(9)	Cd(6)-N(12)	2.274(9)
O(5)^{I}-Cd(1)-O(1)	144.1(4)	O(5)^{I}-Cd(1)-O(2)	89.5(4)
O(1)-Cd(1)-O(2)	54.8(3)	O(5)^{I}-Cd(1)-O(6)^{I}	50.0(5)
O(1)-Cd(1)-O(6)^{I}	121.4(5)	O(2)-Cd(1)-O(6)^{I}	85.6(4)
O(11)-Cd(2)-O(4)	114.8(4)	O(11)-Cd(2)-O(12)	53.5(3)
O(4)-Cd(2)-O(12)	87.8(4)	O(11)-Cd(2)-O(3)	75.0(4)
O(4)-Cd(2)-O(3)	52.0(4)	O(12)-Cd(2)-O(3)	89.6(4)
O(22)^{I}-Cd(3)-O(18)	149.3(3)	O(22)^{I}-Cd(3)-O(17)	96.5(3)
O(18)-Cd(3)-O(17)	54.4(2)	O(13)-Cd(4)-O(10)^{II}	93.4(4)
O(13)-Cd(4)-O(19)	95.1(3)	O(10)^{II}-Cd(4)-O(19)	90.8(4)
O(13)-Cd(4)-O(14)	52.7(4)	O(10)^{II}-Cd(4)-O(14)	143.1(3)
O(19)-Cd(4)-O(14)	79.7(4)	O(13)-Cd(4)-O(20)	145.9(3)
O(10)^{II}-Cd(4)-O(20)	80.7(3)	O(19)-Cd(4)-O(20)	51.7(3)
O(14)-Cd(4)-O(20)	117.9(4)	O(9)^{II}-Cd(5)-O(20)	87.0(3)
O(9)^{II}-Cd(5)-O(26)	95.3(4)	O(20)-Cd(5)-O(26)	148.7(3)
O(9)^{II}-Cd(5)-O(25)	103.7(4)	O(20)-Cd(5)-O(25)	95.2(3)
O(26)-Cd(5)-O(25)	53.9(3)	O(29)-Cd(6)-O(27)^{I}	132.0(3)
O(27)^{I}-Cd(6)-O(30)	91.1(3)	O(29)-Cd(6)-O(28)^{I}	111.3(4)
O(27)^{I}-Cd(6)-O(28)^{I}	52.9(3)	O(30)-Cd(6)-O(28)^{I}	120.5(4)
O(5)^{I}-Cd(1)-O(1W)	126.7(5)	O(1W)-Cd(1)-O(1)	70.8(4)
O(1W)-Cd(1)-O(2)	101.3(4)	O(1W)-Cd(1)-O(6)^{I}	78.6(5)
O(2W)-Cd(2)-O(11)	128.3(3)	O(2W)-Cd(2)-O(4)	85.5(4)
O(2W)-Cd(2)-O(12)	82.5(3)	O(2W)-Cd(2)-O(3)	137.0(4)
O(22)^{I}-Cd(3)-O(3W)	106.8(5)	O(3W)-Cd(3)-O(18)	89.7(4)
O(3W)-Cd(3)-O(17)	100.4(4)	O(5)^{I}-Cd(1)-N(2)	84.6(4)
O(1W)-Cd(1)-N(2)	145.5(4)	O(5)^{I}-Cd(1)-N(1)	98.2(4)
O(1W)-Cd(1)-N(1)	88.5(4)	O(2W)-Cd(2)-N(3)	86.6(3)
O(2W)-Cd(2)-N(4)	103.5(3)	O(22)^{I}-Cd(3)-N(5)	110.8(3)
O(3W)-Cd(3)-N(5)	87.6(4)	O(22)^{I}-Cd(3)-N(6)	94.4(4)
O(3W)-Cd(3)-N(6)	154.0(4)	O(13)-Cd(4)-N(7)	86.6(3)
O(10)^{II}-Cd(4)-N(7)	89.6(3)	O(13)-Cd(4)-N(8)	131.2(3)
O(10)^{II}-Cd(4)-N(8)	126.4(3)	O(19)-Cd(4)-N(8)	109.4(3)
O(9)^{II}-Cd(5)-N(10)	164.9(4)	O(20)-Cd(5)-N(10)	92.9(3)
O(26)-Cd(5)-N(10)	92.6(3)	O(9)^{II}-Cd(5)-N(9)	94.4(4)
O(20)-Cd(5)-N(9)	101.9(3)	O(26)-Cd(5)-N(9)	109.1(3)
O(29)-Cd(6)-N(11)	93.8(3)	N(2)-Cd(1)-N(1)	71.1(3)

N(3)-Cd(2)-N(4)	71.2(2)	N(5)-Cd(3)-N(6)	70.6(3)
N(7)-Cd(4)-N(8)	69.0(3)	N(10)-Cd(5)-N(9)	70.8(3)
N(12)-Cd(6)-N(11)	73.9(4)	N(2)-Cd(1)-O(1)	92.4(3)
N(1)-Cd(1)-O(1)	114.7(3)	N(2)-Cd(1)-O(2)	92.0(3)
N(1)-Cd(1)-O(2)	160.6(3)	N(2)-Cd(1)-O(6)^{I}	134.6(4)
N(1)-Cd(1)-O(6)^{I}	112.9(4)	N(3)-Cd(2)-O(11)	85.2(3)
N(4)-Cd(2)-O(11)	121.5(3)	N(3)-Cd(2)-O(4)	159.0(4)
N(4)-Cd(2)-O(4)	91.9(3)	N(3)-Cd(2)-O(12)	110.4(3)
N(4)-Cd(2)-O(12)	173.9(3)	N(3)-Cd(2)-O(3)	135.1(3)
N(4)-Cd(2)-O(3)	85.4(3)	N(5)-Cd(3)-O(18)	95.2(2)
N(6)-Cd(3)-O(18)	78.8(3)	N(5)-Cd(3)-O(17)	148.1(2)
N(6)-Cd(3)-O(17)	91.8(3)	N(7)-Cd(4)-O(19)	178.2(3)
N(7)-Cd(4)-O(14)	101.0(4)	N(8)-Cd(4)-O(14)	90.2(3)
N(7)-Cd(4)-O(20)	126.6(3)	N(8)-Cd(4)-O(20)	75.4(3)
N(9)-Cd(5)-O(25)	155.7(3)	N(10)-Cd(5)-O(25)	91.3(4)
N(11)-Cd(6)-O(27)^{I}	127.1(3)	N(11)-Cd(6)-O(30)	141.6(3)
N(11)-Cd(6)-O(28)^{I}	90.5(4)	N(12)-Cd(6)-O(27)^{I}	100.1(4)
N(12)-Cd(6)-O(28)^{I}	130.2(4)	N(12)-Cd(6)-O(29)	116.6(3)
N(12)-Cd(6)-O(30)	97.7(3)		
Symmetry code: I : x+1,y,z II: x-1,y,z			

2-L

Cd(1)-O(4)^{I}	2.277(5)	Cd(1)-O(2)	2.336(5)
Cd(1)-O(1)	2.355(5)	Cd(1)-O(5)^{I}	2.455(5)
Cd(2)-O(24)^{II}	2.188(5)	Cd(2)-O(12)	2.271(5)
Cd(2)-O(8)	2.336(5)	Cd(2)-O(7)	2.430(6)
Cd(3)-O(18)	2.272(4)	Cd(3)-O(12)	2.348(5)
Cd(3)-O(23)^{II}	2.360(4)	Cd(3)-O(13)	2.514(5)
Cd(3)-O(17)	2.550(5)	Cd(4)-O(9)^{I}	2.242(6)
Cd(4)-O(16)	2.372(6)	Cd(4)-O(15)	2.390(5)
Cd(5)-O(21)	2.337(6)	Cd(5)-O(29)	2.387(6)
Cd(5)-O(28)	2.515(6)	Cd(5)-O(20)	2.543(10)
Cd(6)-O(26)^{I}	2.316(13)	Cd(6)-O(32)	2.396(7)
Cd(6)-O(25)^{I}	2.439(12)	Cd(6)-O(31)	2.464(7)
Cd(4)-O(1W)	2.305(7)	Cd(6)-O(2W)	2.327(7)
Cd(5)-O(3W)	2.292(5)	Cd(1)-N(1)	2.302(6)
Cd(1)-N(2)	2.303(6)	Cd(2)-N(3)	2.312(5)
Cd(2)-N(4)	2.343(5)	Cd(3)-N(6)	2.353(5)
Cd(3)-N(5)	2.394(5)	Cd(4)-N(7)	2.326(6)
Cd(4)-N(8)	2.390(6)	Cd(5)-N(9)	2.358(5)
Cd(5)-N(10)	2.348(5)	Cd(6)-N(11)	2.345(5)
Cd(6)-N(12)	2.339(6)	O(4)-Cd(1)^{II}	2.277(5)
O(5)-Cd(1)^{II}	2.455(5)	O(9)-Cd(4)^{II}	2.242(6)
O(23)-Cd(3)^{I}	2.360(4)	O(24)-Cd(2)^{I}	2.188(5)

O(25)-Cd(6)^{II}	2.439(12)	O(26)-Cd(6)^{II}	2.316(13)
O(4)^{I}-Cd(1)-O(2)	90.3(2)	O(4)^{I}-Cd(1)-O(1)	132.0(2)
O(2)-Cd(1)-O(1)	55.18(18)	O(4)^{I}-Cd(1)-O(5)^{I}	53.8(2)
O(2)-Cd(1)-O(5)^{I}	117.7(2)	O(1)-Cd(1)-O(5)^{I}	109.80(19)
O(24)^{II}-Cd(2)-O(12)	86.24(18)	O(24)^{II}-Cd(2)-O(8)	90.96(18)
O(12)-Cd(2)-O(8)	145.68(16)	O(24)^{II}-Cd(2)-O(7)	104.1(2)
O(12)-Cd(2)-O(7)	92.41(18)	O(8)-Cd(2)-O(7)	55.17(18)
O(18)-Cd(3)-O(12)	143.18(16)	O(18)-Cd(3)-O(23)^{II}	92.50(16)
O(12)-Cd(3)-O(23)^{II}	83.96(17)	O(18)-Cd(3)-O(13)	90.59(16)
O(12)-Cd(3)-O(13)	52.68(14)	O(23)^{II}-Cd(3)-O(13)	86.86(17)
O(18)-Cd(3)-O(17)	53.45(16)	O(12)-Cd(3)-O(17)	113.73(17)
O(23)^{II}-Cd(3)-O(17)	143.02(15)	O(13)-Cd(3)-O(17)	80.33(18)
O(9)^{I}-Cd(4)-O(16)	94.2(2)	O(9)^{I}-Cd(4)-O(15)	148.5(2)
O(16)-Cd(4)-O(15)	54.61(15)	O(21)-Cd(5)-O(29)	111.1(2)
O(21)-Cd(5)-O(28)	74.5(2)	O(29)-Cd(5)-O(28)	52.0(2)
O(21)-Cd(5)-O(20)	51.8(3)	O(29)-Cd(5)-O(20)	86.1(3)
O(28)-Cd(5)-O(20)	91.3(3)	O(26)^{I}-Cd(6)-O(32)	139.2(4)
O(26)^{I}-Cd(6)-O(25)^{I}	51.6(5)	O(32)-Cd(6)-O(25)^{I}	127.4(4)
O(26)^{I}-Cd(6)-O(31)	86.4(3)	O(32)-Cd(6)-O(31)	54.4(2)
O(25)^{I}-Cd(6)-O(31)	88.1(4)	O(9)^{I}-Cd(4)-O(1W)	98.1(3)
O(1W)-Cd(4)-O(16)	102.8(3)	O(1W)-Cd(4)-O(15)	93.4(3)
O(3W)-Cd(5)-O(21)	126.0(2)	O(3W)-Cd(5)-O(29)	89.4(2)
O(3W)-Cd(5)-O(28)	141.3(2)	O(3W)-Cd(5)-O(20)	82.4(2)
O(26)^{I}-Cd(6)-O(2W)	130.1(4)	O(2W)-Cd(6)-O(32)	73.3(3)
O(2W)-Cd(6)-O(25)^{I}	78.9(5)	O(2W)-Cd(6)-O(31)	99.0(3)
O(4)^{I}-Cd(1)-N(1)	124.6(2)	O(4)^{I}-Cd(1)-N(2)	101.9(2)
O(24)^{II}-Cd(2)-N(3)	167.0(2)	O(12)-Cd(2)-N(3)	97.79(19)
O(24)^{II}-Cd(2)-N(4)	95.07(19)	O(12)-Cd(2)-N(4)	106.19(17)
O(8)-Cd(2)-N(4)	108.13(16)	O(18)-Cd(3)-N(6)	87.16(17)
O(12)-Cd(3)-N(6)	129.16(16)	O(18)-Cd(3)-N(5)	129.98(17)
O(12)-Cd(3)-N(5)	77.07(17)	O(23)^{II}-Cd(3)-N(5)	128.13(16)
O(9)^{I}-Cd(4)-N(7)	109.3(2)	O(1W)-Cd(4)-N(7)	85.2(2)
O(9)^{I}-Cd(4)-N(8)	101.6(3)	O(1W)-Cd(4)-N(8)	153.0(3)
O(16)-Cd(4)-N(8)	94.2(2)	O(15)-Cd(4)-N(8)	79.28(19)
O(3W)-Cd(5)-N(10)	100.25(18)	O(21)-Cd(5)-N(10)	126.8(2)
O(3W)-Cd(5)-N(9)	84.90(19)	O(21)-Cd(5)-N(9)	87.21(18)
O(2W)-Cd(6)-N(12)	87.3(3)	O(26)^{I}-Cd(6)-N(11)	80.5(3)
O(2W)-Cd(6)-N(11)	146.8(3)	N(1)-Cd(1)-O(2)	144.8(2)
N(2)-Cd(1)-O(2)	97.0(2)	N(1)-Cd(1)-O(1)	96.93(19)
N(2)-Cd(1)-O(1)	113.5(2)	N(1)-Cd(1)-O(5)^{I}	90.3(2)
N(2)-Cd(1)-O(5)^{I}	135.1(2)	N(3)-Cd(2)-O(8)	92.54(19)
N(3)-Cd(2)-O(7)	88.2(2)	N(4)-Cd(2)-O(7)	154.16(18)
N(6)-Cd(3)-O(23)^{II}	88.26(16)	N(6)-Cd(3)-O(13)	174.53(17)
N(5)-Cd(3)-O(13)	116.10(17)	N(6)-Cd(3)-O(17)	102.22(17)

N(5)-Cd(3)-O(17)	88.40(15)	N(7)-Cd(4)-O(16)	154.01(17)
N(7)-Cd(4)-O(15)	100.73(17)	N(9)-Cd(5)-O(28)	132.1(2)
N(9)-Cd(5)-O(29)	160.4(2)	N(9)-Cd(5)-O(20)	111.5(3)
N(10)-Cd(5)-O(20)	176.8(2)	N(10)-Cd(5)-O(28)	85.44(18)
N(10)-Cd(5)-O(29)	92.0(2)	N(11)-Cd(6)-O(32)	91.2(2)
N(12)-Cd(6)-O(25)^{I}	110.4(4)	N(11)-Cd(6)-O(25)^{I}	131.7(4)
N(12)-Cd(6)-O(31)	161.4(2)	N(11)-Cd(6)-O(31)	95.1(2)
N(12)-Cd(6)-O(32)	111.9(2)	N(1)-Cd(1)-N(2)	73.2(2)
N(3)-Cd(2)-N(4)	71.94(19)	N(6)-Cd(3)-N(5)	69.00(17)
N(7)-Cd(4)-N(8)	70.9(2)	N(10)-Cd(5)-N(9)	70.72(16)
N(12)-Cd(6)-N(11)	71.13(19)		
Symmetry code: I : x+1,y,z II : x-1,y,z			

3-D

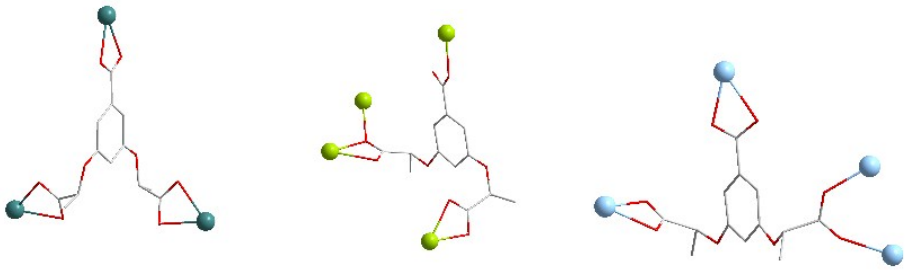
Cd(1)-O(4)^{I}	2.199(3)	Cd(1)-O(12)	2.250(3)
Cd(1)-O(2)	2.278(3)	Cd(1)-O(1)	2.524(4)
Cd(2)-O(13)	2.236(4)	Cd(2)-O(5)^{I}	2.247(3)
Cd(2)-O(10)^{I}	2.318(3)	Cd(2)-O(9)^{I}	2.382(3)
O(4)-Cd(1)^{II}	2.199(3)	O(5)-Cd(2)^{II}	2.247(3)
O(9)-Cd(2)^{II}	2.382(3)	O(10)-Cd(2)^{II}	2.318(3)
Cd(1)-N(1)	2.328(3)	Cd(1)-N(2)	2.341(3)
Cd(2)-N(3)	2.331(4)	Cd(2)-N(4)	2.341(4)
O(4)^{I}-Cd(1)-O(12)	94.98(14)	O(4)^{I}-Cd(1)-O(2)	98.88(12)
O(12)-Cd(1)-O(2)	98.28(13)	O(4)^{I}-Cd(1)-O(1)	96.61(13)
O(12)-Cd(1)-O(1)	151.15(12)	O(2)-Cd(1)-O(1)	53.83(10)
O(13)-Cd(2)-O(5)^{I}	93.3(2)	O(13)-Cd(2)-O(10)^{I}	96.78(16)
O(5)^{I}-Cd(2)-O(10)^{I}	92.64(14)	O(13)-Cd(2)-O(9)^{I}	98.94(17)
O(5)^{I}-Cd(2)-O(9)^{I}	146.51(13)	O(10)^{I}-Cd(2)-O(9)^{I}	55.13(12)
O(4)^{I}-Cd(1)-N(1)	99.62(14)	O(12)-Cd(1)-N(1)	120.51(14)
O(2)-Cd(1)-N(1)	134.90(11)	O(4)^{I}-Cd(1)-N(2)	171.15(13)
O(12)-Cd(1)-N(2)	86.70(12)	O(2)-Cd(1)-N(2)	89.45(12)
O(13)-Cd(2)-N(3)	169.27(16)	O(5)^{I}-Cd(2)-N(3)	87.80(13)
O(10)^{I}-Cd(2)-N(3)	93.83(14)	O(13)-Cd(2)-N(4)	98.8(2)
O(5)^{I}-Cd(2)-N(4)	116.85(14)	O(10)^{I}-Cd(2)-N(4)	145.51(13)
N(1)-Cd(1)-O(1)	83.37(12)	N(2)-Cd(1)-O(1)	85.88(12)
N(3)-Cd(2)-O(9)^{I}	85.85(15)	N(4)-Cd(2)-O(9)^{I}	92.03(13)
N(1)-Cd(1)-N(2)	72.17(11)	N(3)-Cd(2)-N(4)	71.30(14)
Symmetry code: I : x,y,z-1 II : x,y,z+1			

3-L

Cd(1)-O(13)	2.208(5)	Cd(1)-O(2)	2.250(6)
Cd(1)-O(15)^{I}	2.294(6)	Cd(1)-O(16)^{I}	2.521(7)
Cd(2)-O(3)	2.228(7)	Cd(2)-O(14)	2.253(6)
Cd(2)-O(8)^{II}	2.325(6)	Cd(2)-O(7)^{II}	2.399(7)

O(7)-Cd(2)^{I}	2.399(7)	O(8)-Cd(2)^{I}	2.325(6)
O(15)-Cd(1)^{II}	2.294(6)	O(16)-Cd(1)^{II}	2.521(7)
Cd(1)-N(2)	2.324(7)	Cd(1)-N(1)	2.342(7)
Cd(2)-N(3)	2.354(8)	Cd(2)-N(4)	2.325(7)
O(13)-Cd(1)-O(2)	94.8(3)	O(13)-Cd(1)-O(15)^{I}	99.0(2)
O(2)-Cd(1)-O(15)^{I}	98.3(3)	O(13)-Cd(1)-O(16)^{I}	96.8(2)
O(2)-Cd(1)-O(16)^{I}	150.6(2)	O(15)^{I}-Cd(1)-O(16)^{I}	53.2(2)
O(3)-Cd(2)-O(14)	92.6(3)	O(3)-Cd(2)-O(8)^{II}	97.0(3)
O(14)-Cd(2)-O(8)^{II}	92.5(3)	O(3)-Cd(2)-O(7)^{II}	99.8(3)
O(14)-Cd(2)-O(7)^{II}	146.6(3)	O(8)^{II}-Cd(2)-O(7)^{II}	55.5(2)
O(13)-Cd(1)-N(2)	100.2(3)	O(2)-Cd(1)-N(2)	120.7(3)
O(15)^{I}-Cd(1)-N(2)	134.4(2)	O(13)-Cd(1)-N(1)	171.2(2)
O(2)-Cd(1)-N(1)	86.3(2)	O(15)^{I}-Cd(1)-N(1)	89.5(3)
O(3)-Cd(2)-N(4)	169.4(3)	O(14)-Cd(2)-N(4)	87.7(3)
O(3)-Cd(2)-N(3)	99.9(3)	O(14)-Cd(2)-N(3)	116.7(3)
O(8)^{II}-Cd(2)-N(3)	145.2(3)	N(2)-Cd(1)-O(16)^{I}	83.7(2)
N(1)-Cd(1)-O(16)^{I}	86.4(2)	N(4)-Cd(2)-O(8)^{II}	93.6(3)
N(4)-Cd(2)-O(7)^{II}	85.5(3)	N(3)-Cd(2)-O(7)^{II}	91.6(3
N(2)-Cd(1)-N(1)	72.0(2)	N(4)-Cd(2)-N(3)	70.6(3)

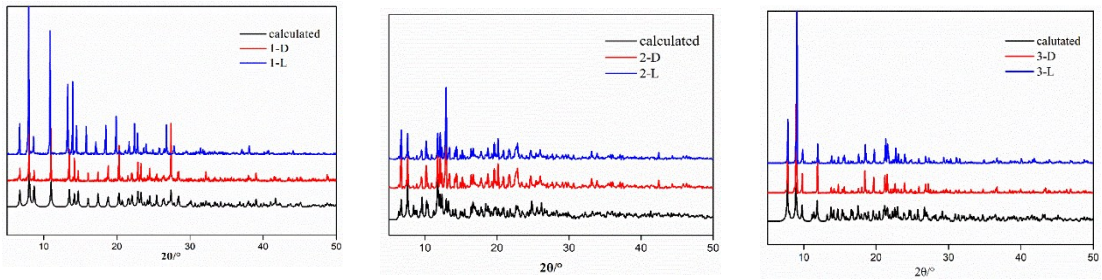
Symmetry code: I : x,y,z-1 II: x,y,z+1



(a) (b) (c)

Figure S1. Coordination modes of (1S,2S)-H_3cpba ligands in **2-L**.

Section 2. General characterizations



(a) (b) (c)

Figure S2. PXRD patterns of CPs **1-3**.

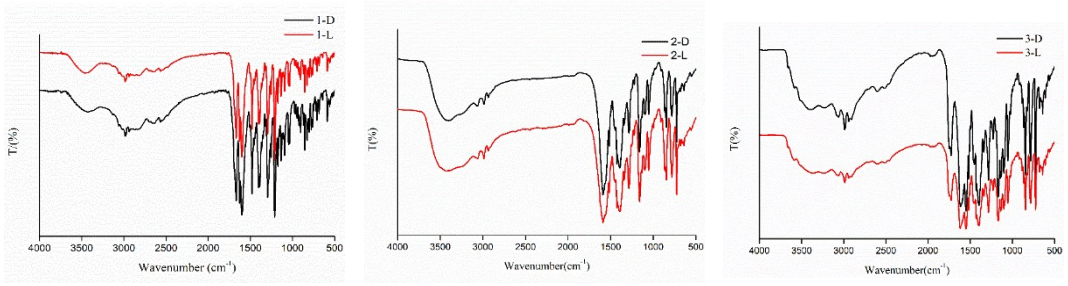


Figure S3. The IR spectra of CPs **1-3**.

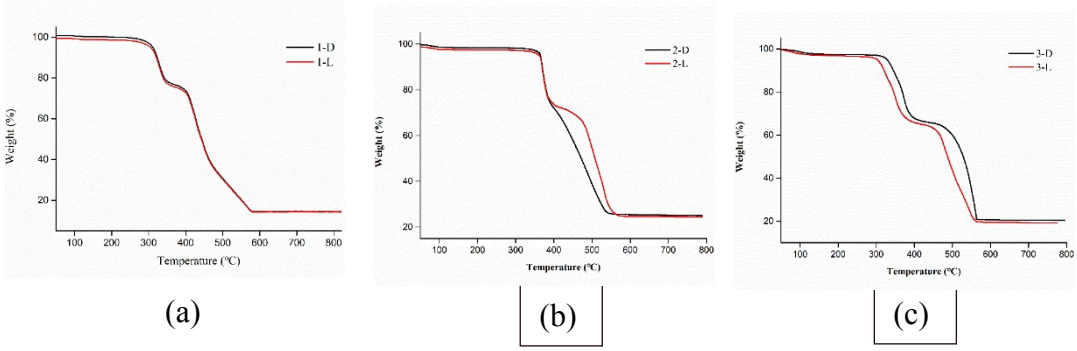
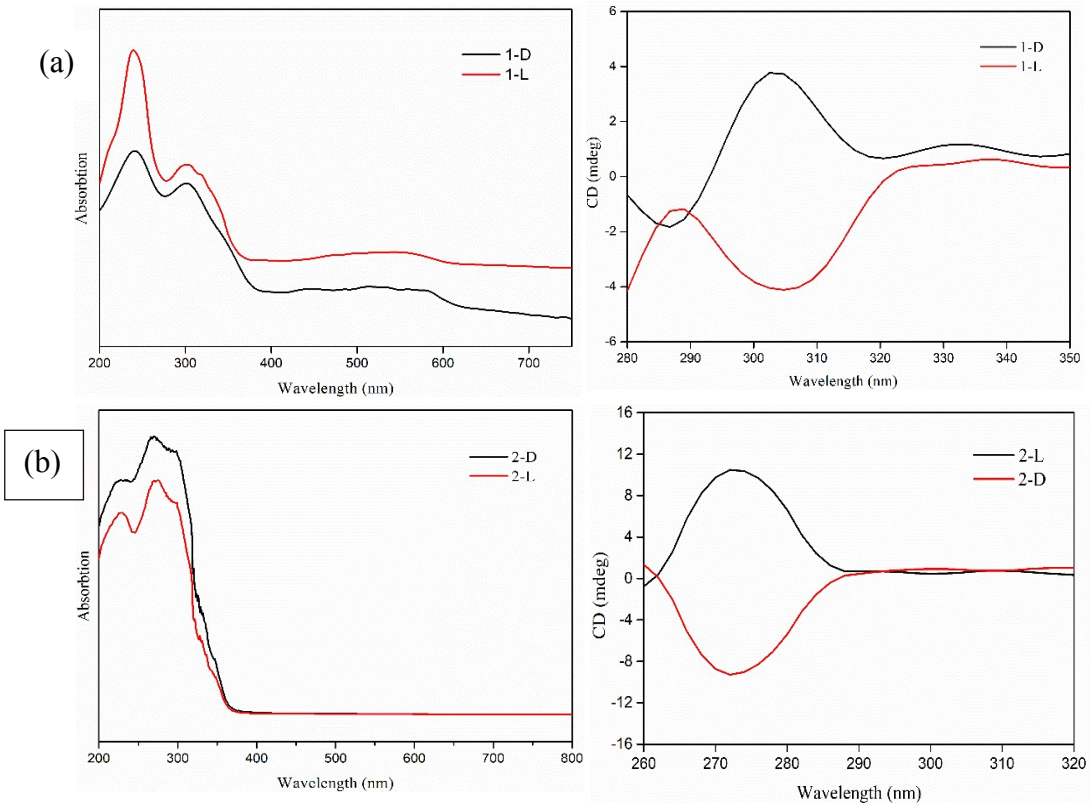


Figure S4. TGA curves of CPs **1-3**.



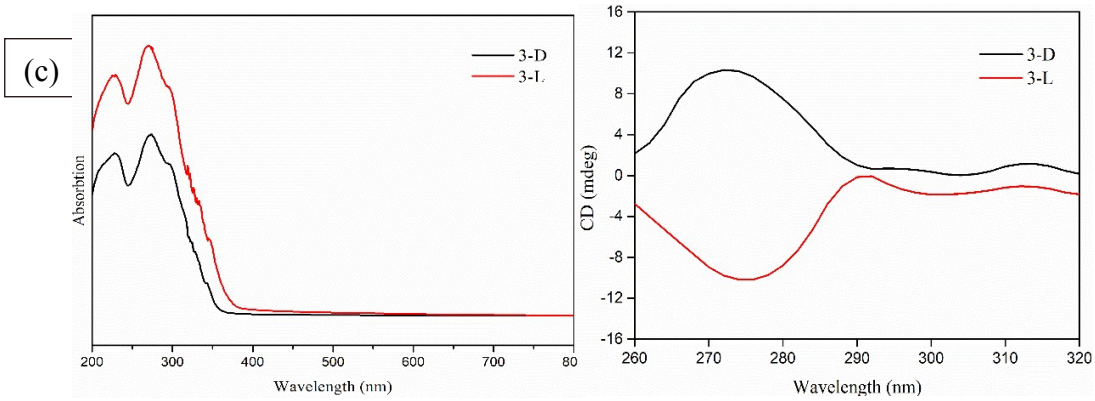


Figure S5. Solid-state UV/vis curves and circular dichroism of CPs **1-3**.

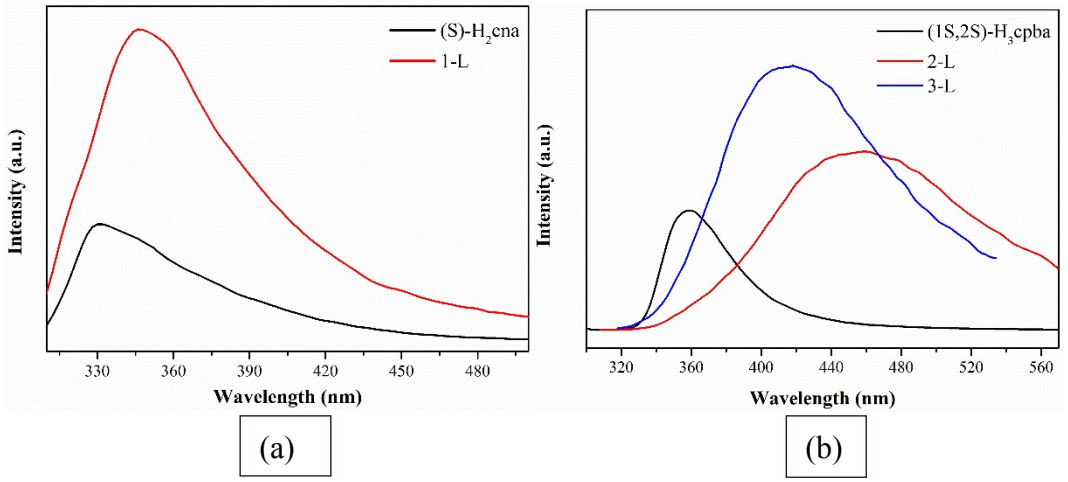
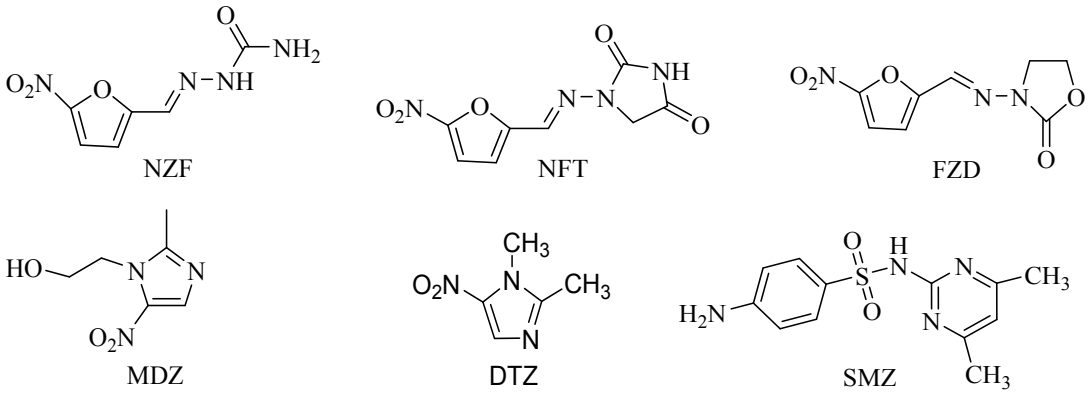


Figure S6. Solid-state photoluminescent spectra of free ligands and CPs **1-3**.

Section 3. Detection of antibiotics



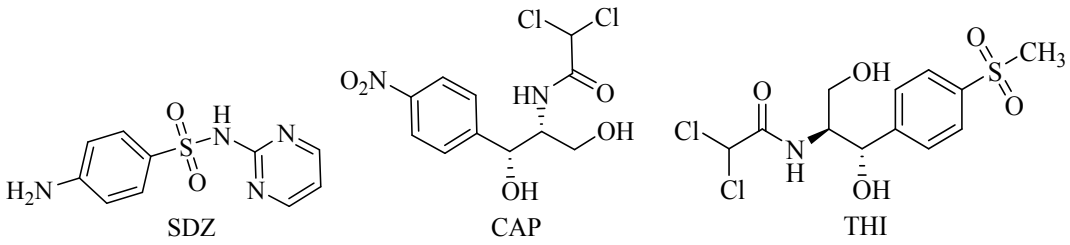


Figure S7. Chemical structures of the explored antibiotics.

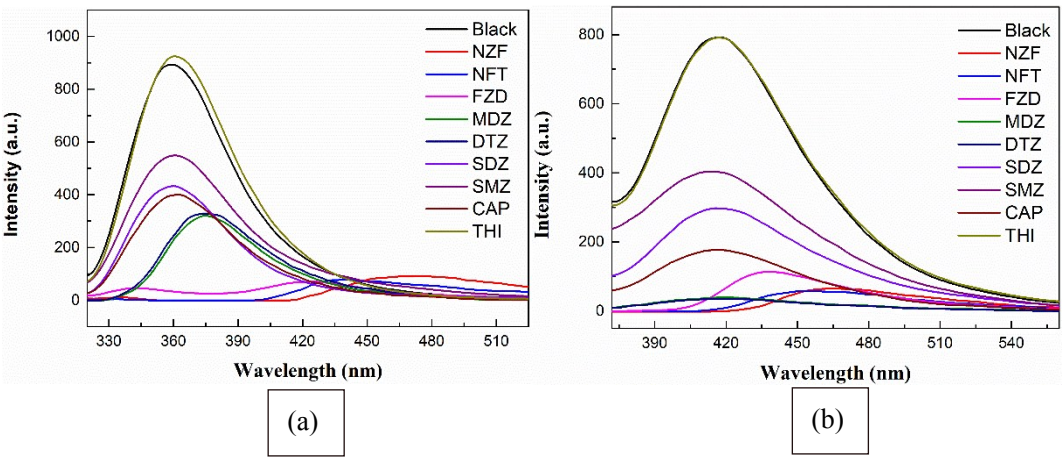


Figure S8. Luminescence intensities of **1-L**, **3-L** with the presence of 0.10 mM, 0.33 mM different antibiotics.

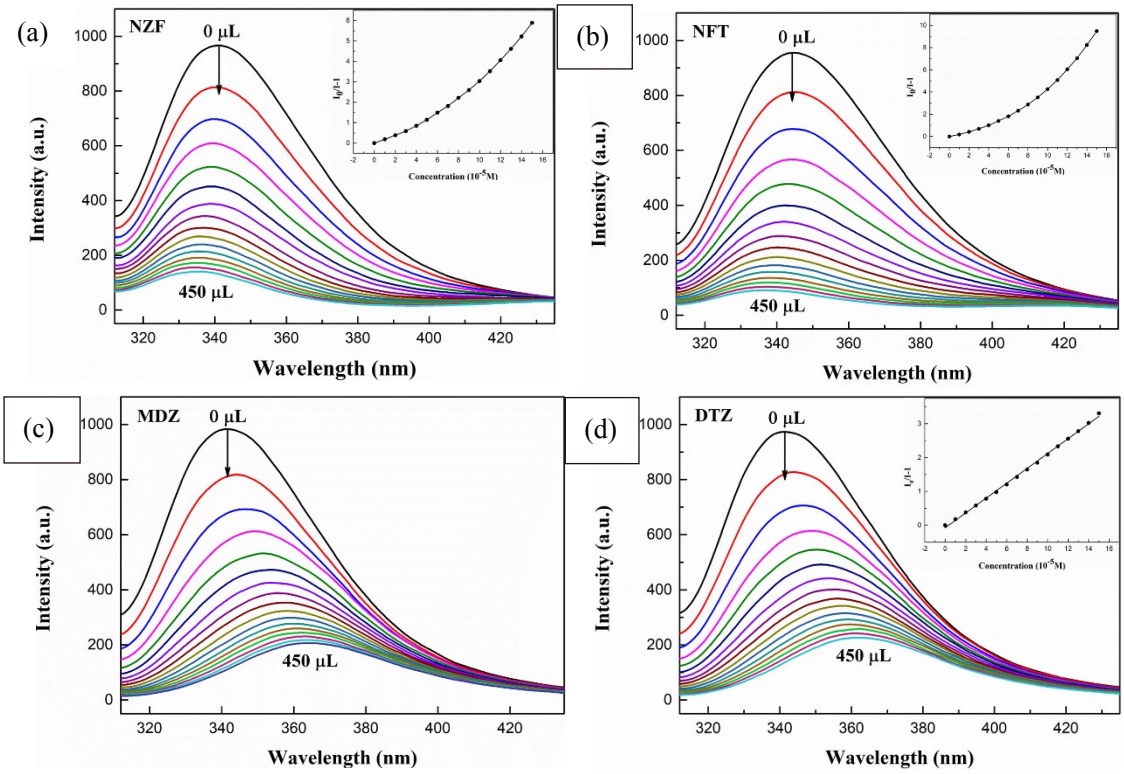


Figure S9. Effect on the fluorescence spectra of **1-L** dispersed in DMF upon the incremental addition of 450 µL (1 mM, 30 µL addition each time) of NZF (a), NFT (b), MDZ(c) and DTZ(d) respectively (inset: SV plots of corresponding antibiotic).

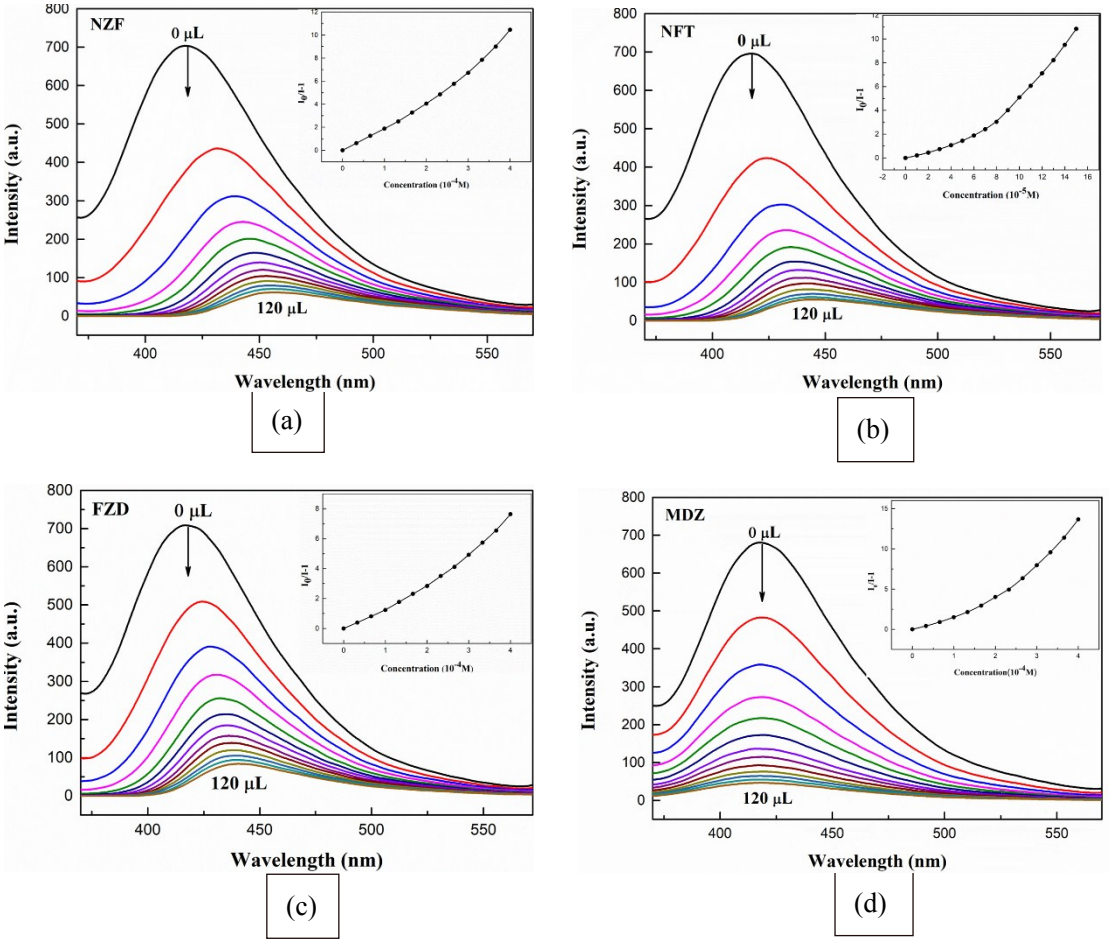


Figure S10. Effect on the fluorescence spectra of **3-L** dispersed in DMF upon the incremental addition of 120 µL (10 mM, 10 µL addition each time) of NZF (a), NFT (b), FZD (c) and MDZ (d) respectively (inset: SV plots of corresponding antibiotic).

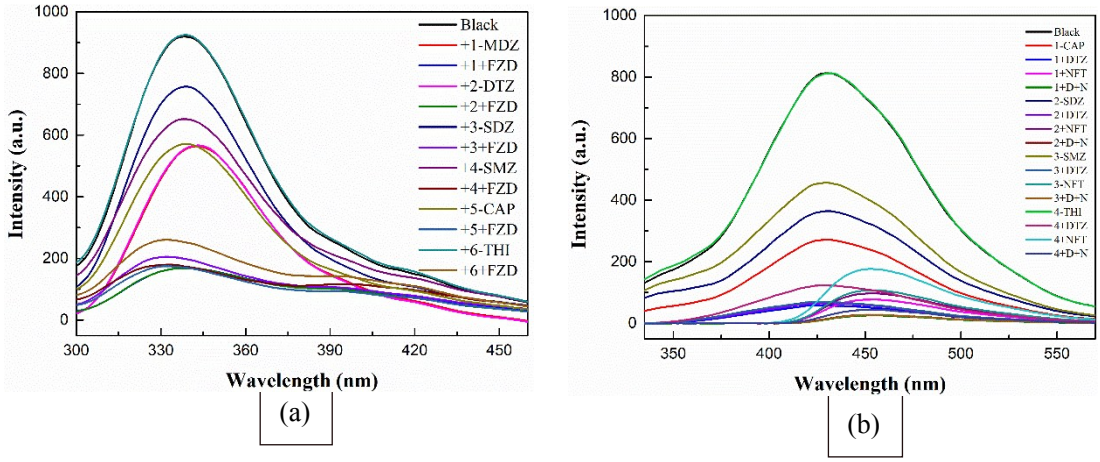


Figure S11. (a) Tracked emission spectra of a mixture of **1-L** and competing antibiotics (0.05 mM) upon the addition of FZD (0.05 mM). (b) Tracked emission spectra a

mixture of **3-L** and competing antibiotics (0.26 mM) and continuing to add NFT (0.26 mM) or MDZ (0.26 mM), and following to add MDZ (0.26 mM) or NFT (0.26 mM).

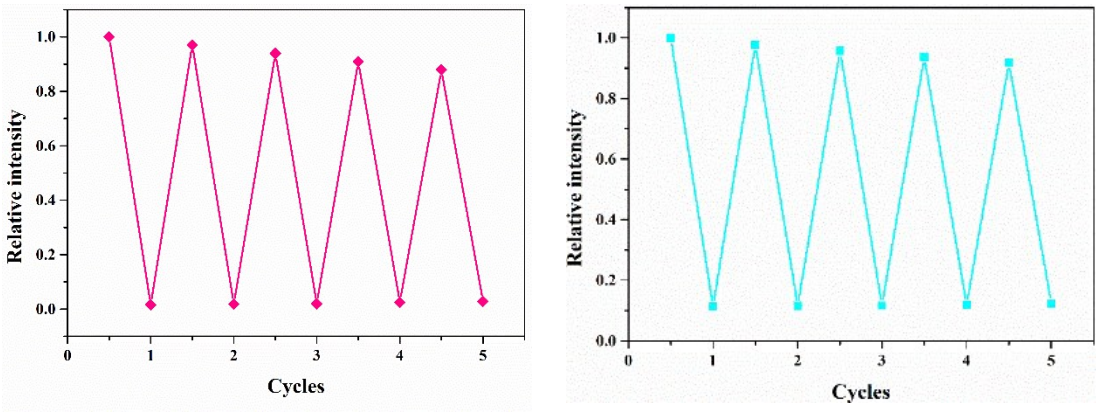


Figure S12. Recyclability test of (a) **1-L** and (b) **3-L** toward detecting the each best antibiotics.

Section 4. Detection of pesticides

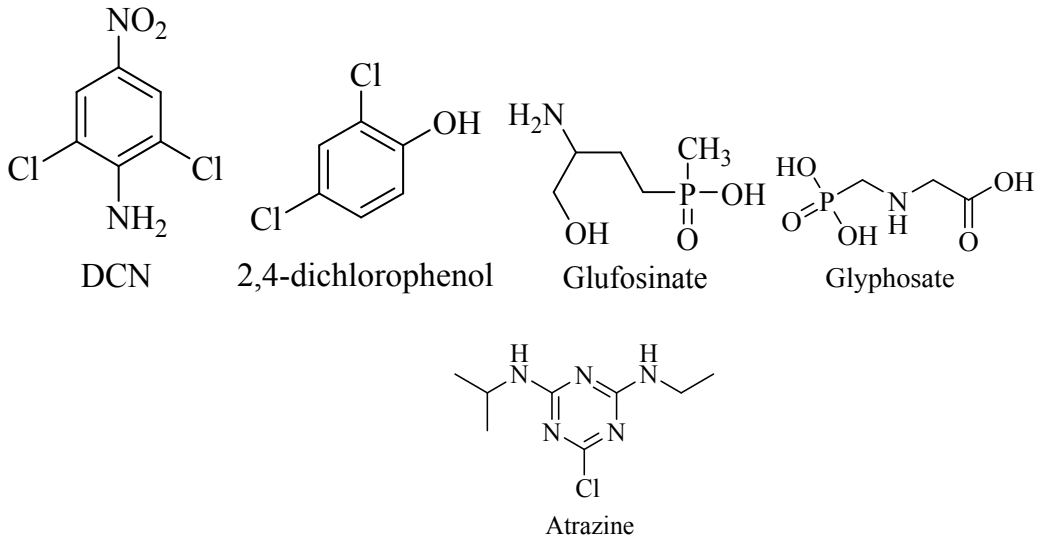


Figure S13. Chemical structures of the explored antibiotics.

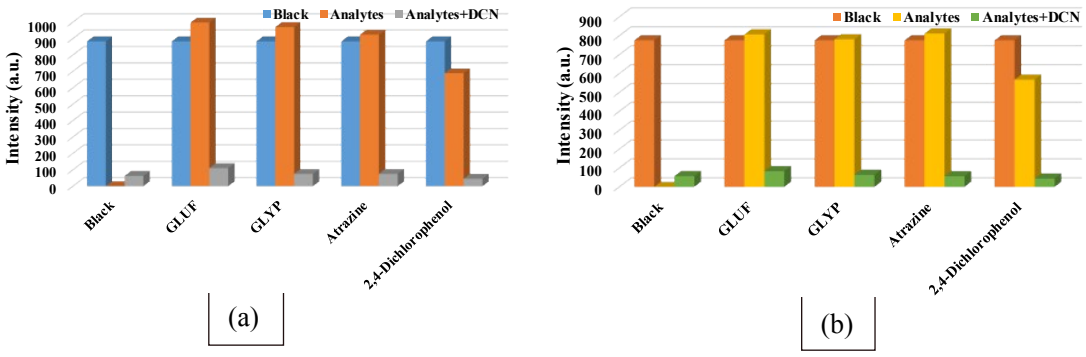
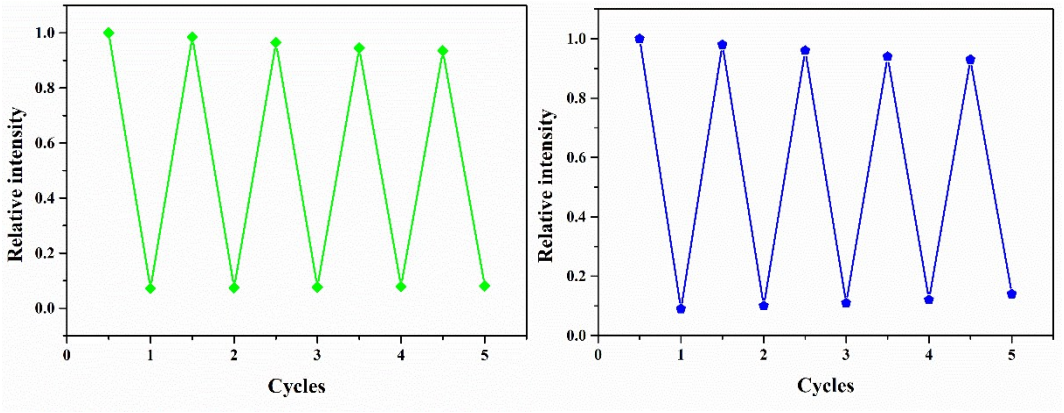


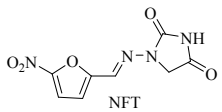
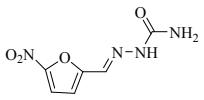
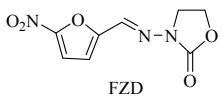
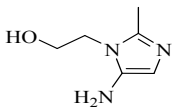
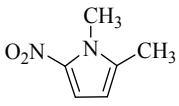
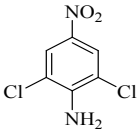
Figure S14. Tracked emission spectra of **1-L** (a), **3-L** (b) toward the competing pesticides (0.33 mM) or a mixture of competing pesticides (0.33 mM) and DCN (0.33 mM)

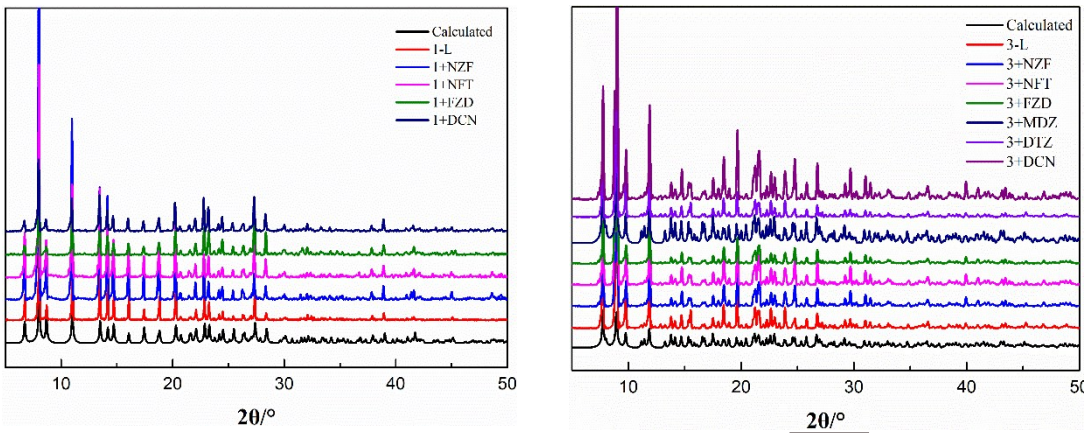


(a) (b)

Figure S15. Recyclability test of (a) **1-L** and (c) **3-L** toward detecting DCN.

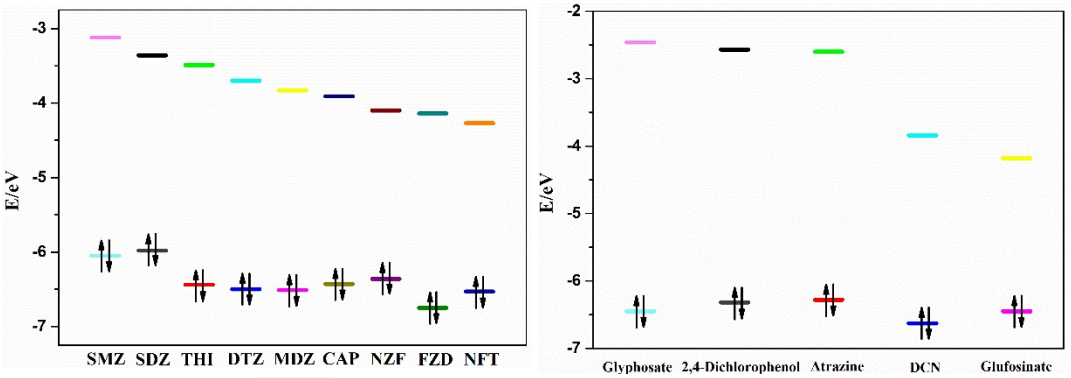
Table S3 K_{SV} and detection limits of **1-L**, **3-L** for identifiable substance

Quenchers	Ksv (M^{-1})		Detection limit (ppb)	
	1-L	**3-L**	**1-L**	**3-L**
 NFT	2.5077×10^4 (R^2=0.9848)	2.4274×10^4 (R^2=0.9864)	313	353
 NZF	2.2524×10^4 (R^2=0.9890)	2.2115×10^4 (R^2=0.9928)	290	322
 FZD	2.8752×10^4 (R^2=0.9865)	1.5465×10^4 (R^2=0.9919)	227	461
 MDZ	---	1.7588×10^4 (R^2=0.9832)	---	350
 DTZ	---	2.1745×10^4 (R^2=0.9839)	---	233
 DCN	3.0724×10^4 (R^2=0.9938)	1.2084×10^4 (R^2=0.9847)	222	616



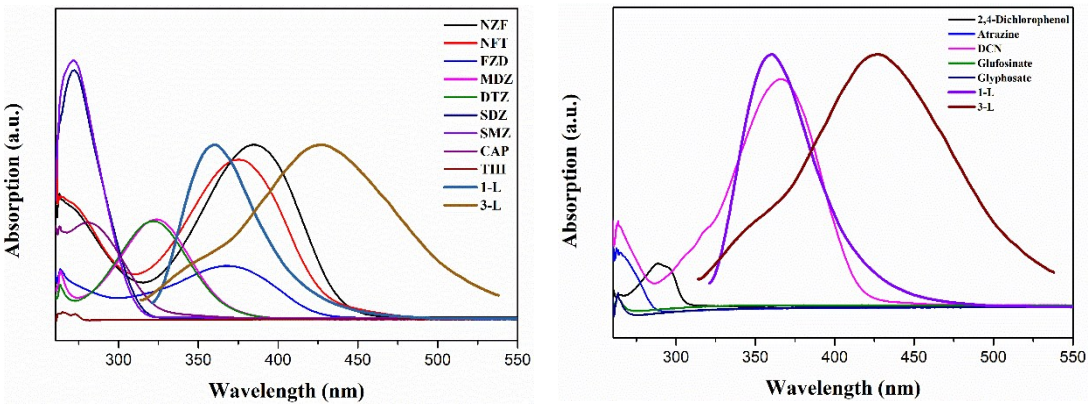
(a) (b)

Figure S16. Powder X-Ray patterns for **1-L** (a) and **3-L** (b) before/after adding identifiable substances.

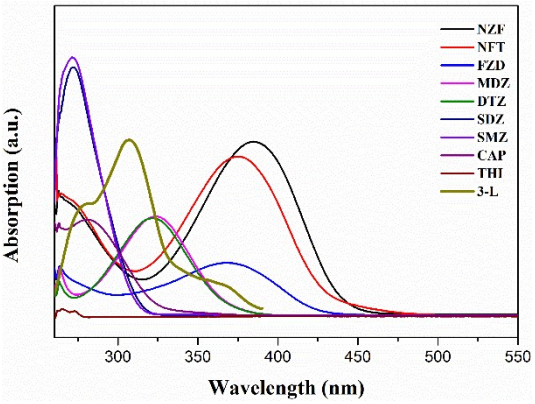


(a) (b)

Figure S17. HOMO and LUMO energies of the selected antibiotics (a) and pesticides (b) tested by electrochemical method.



(a) (b)



(c)

Figure S18. UV-vis absorption spectra of selected antibiotics (0.1 mM) (a), pesticides (0.1 mM) (b) and the normalized emission spectra of **1-L, 3-L** in DMF. (c) UV-vis absorption spectra of selected antibiotics (0.1 mM) and the normalized excitation spectra of **3-L** in DMF.

Section 5. Detection of chiral nitro aromatic compounds

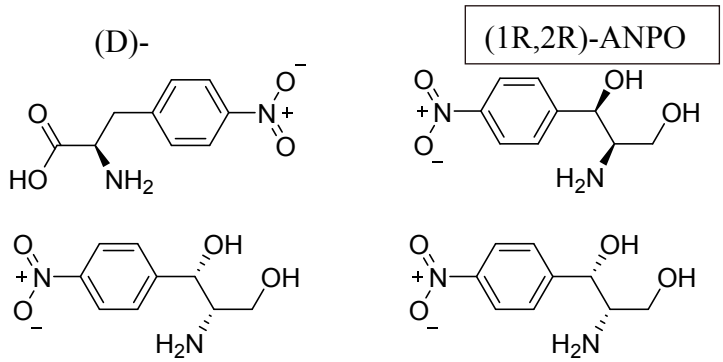
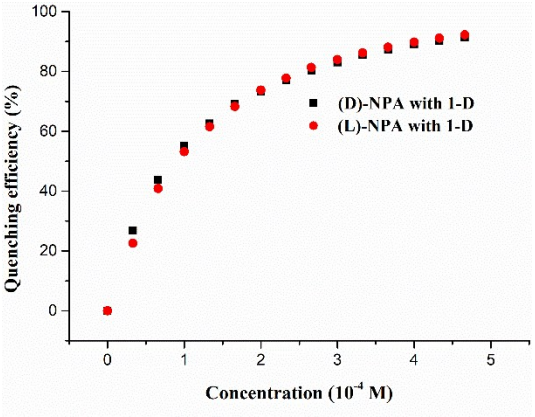
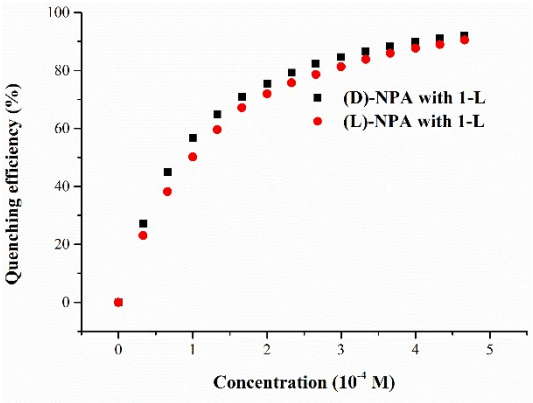


Figure S19. Chemical structures of the explored chiral nitro aromatic compounds.



(a)



(b)

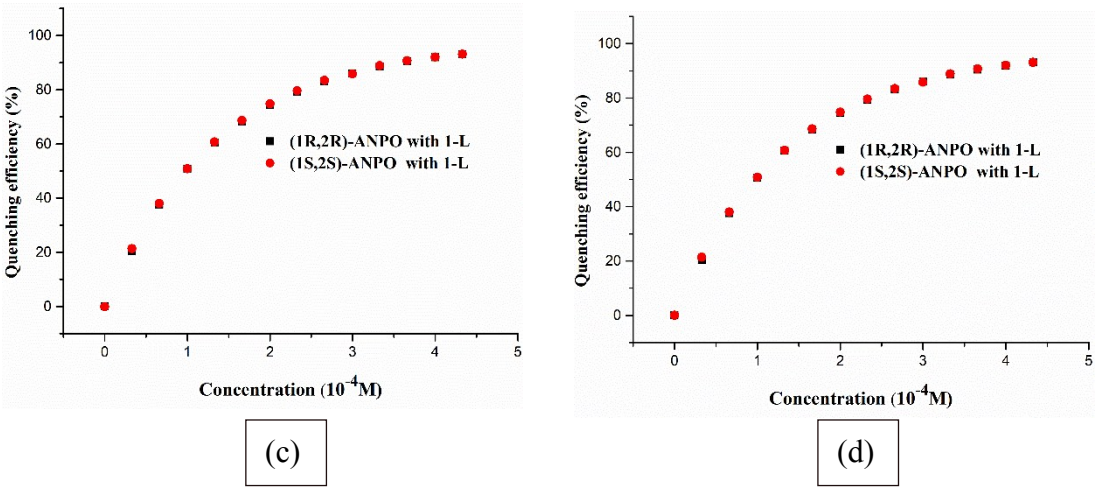


Figure S20. Luminescence quenching efficiency of (D/L)-NPA toward **1-D** (a) and **1-L** (b). Luminescence quenching efficiency of (1R,2R/1S,2S)-ANPO toward **1-D** (c) and **1-L** (d).

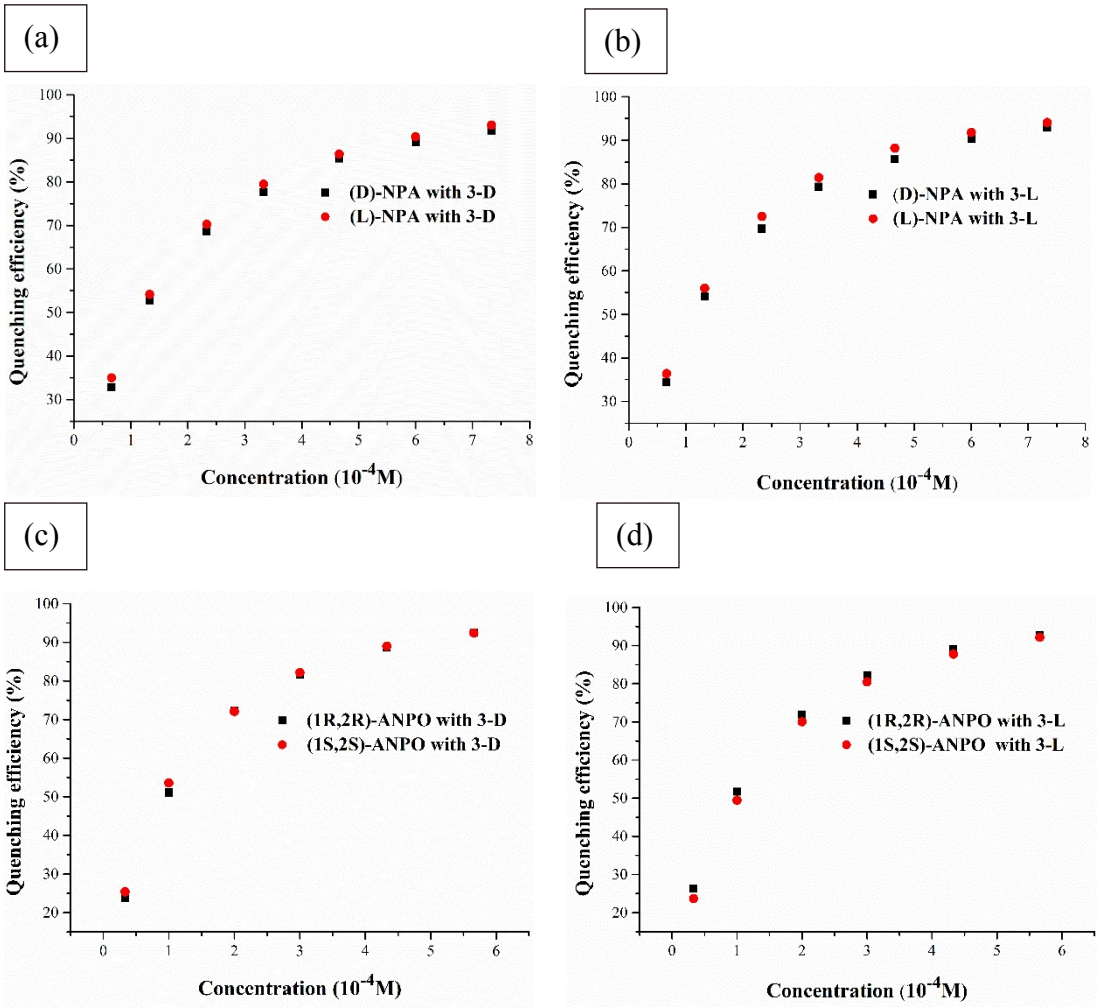
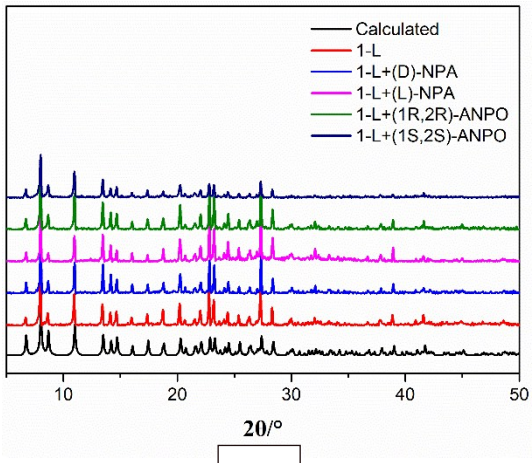
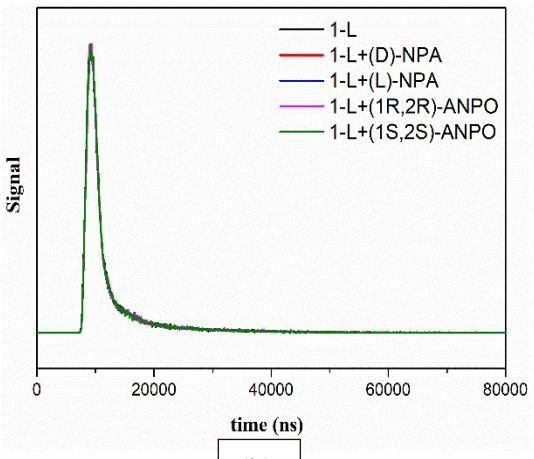


Figure S21. Luminescence quenching efficiency of (D/L)-NPA toward **3-D** (a) and **3-**

L (b). Luminescence quenching efficiency of (1R,2R/1S,2S)-ANPO toward **3-D** (c) and **3-L** (d).

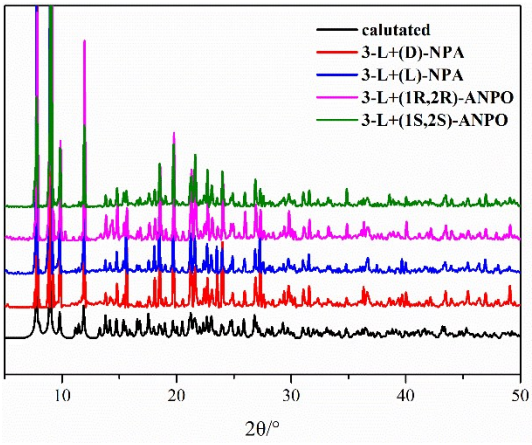


(a)

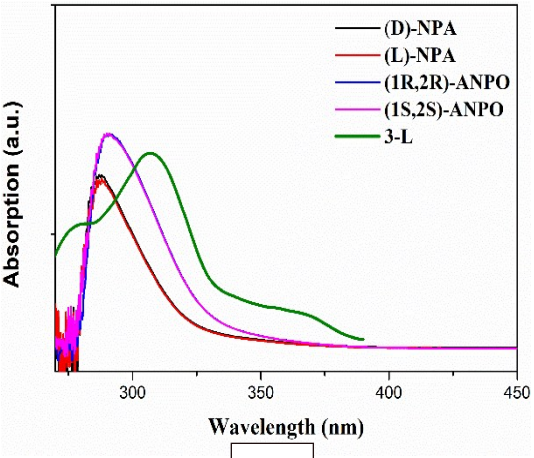


(b)

Figure S22. Powder X-Ray patterns and emission attenuation curve for **1-L** before/after adding identifiable substances.



(a)



(b)

Figure S23. Powder X-Ray patterns and UV-vis absorption spectra and the normalized excitation spectra for **3-L** before/after adding identifiable substances.