Electronic Supplementary Material (ESI) for Dalton Transactions.

Electronic Supporting Information Materials

A new class of nickel(II) oxyquinoline-bipyridine complexes as potent anticancer agents induces apoptosis and autophagy in A549/DDP tumor cells through mitophagy pathways

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Table S1. Crystal data and structure refinement details for **Ni1-Ni5**.

complexes	**Ni1**	**Ni2**	**Ni3**	**Ni4**	**Ni5**
Formula	$C_{34}H_{24}Cl_4N_4NiO_2$	$C_{45}H_{32}Cl_4N_4NiO_3$	$C_{30}H_{22}Cl_2N_4NiO_4$	$C_{34}H_{24}Cl_4N_4NiO_2$	$C_{32}H_{24}Cl_4N_4NiO_2$
Formula weight	721.08	877.24	632.12	721.08	697.06
Temperature/K	150.0	150.15	293(2)	293(2)	150.0
Crystal system	triclinic	monoclinic	orthorhombic	triclinic	triclinic
Space group	*P*-1	$P2_1$	*Pbcn*	*P*-1	*P*-1
a/Å	9.375(1)	14.3136(3)	15.894(1)	10.612(1)	8.9012(2)
b/Å	12.701(1)	15.6216(3)	9.851(1)	10.649(1)	11.3885(2)
c/Å	14.455(1)	17.4536(4)	18.155(1)	15.429(1)	15.2431(3)
α/°	82.985(3)	90	90	89.319(2)	77.0354(7)
β/°	80.795(3)	96.765(1)	90	73.567(2)	86.1617(8)
γ/°	76.224(3)	90	90	70.849(2)	75.3260(8)
Volume/Å^3	1643.9(2)	3875.48(14)	2842.5(2)	1573.4(2)	1456.62(5)
Z	2	2	4	2	2
ρ_{calc} g/cm^3	1.457	1.504	1.477	1.522	1.589
μ/mm^{-1}	0.953	3.653	0.914	0.995	4.656
F(000)	736.0	1800	1296	736	712
Crystal size/mm	0.36 × 0.29 × 0.16	0.26 × 0.21 × 0.12	0.13 × 0.09 × 0.07	0.26 × 0.21 × 0.14	0.35 × 0.26 × 0.14
λ/ Å	0.71073	1.54178	0.71073	0.71073	1.54178
2θ range /°	4.188 to 53.264	5.098 to 149.372	6.62 to 55.08	5.90 to 55.04	5.95 to 149.788
Ref. meas./Indep.	45463,6804	21163,12711	42013,3272	33634, 7227	15179, 5868
R_{int}	0.0665,	0.0262	0.1405	0.0561	0.0327
R_{sigma}	0.0416	0.0432	0.0731	0.0611	0.0446
Goof	1.069	1.002	1.035	1.029	1.075
R_1 [$I \geqq 2\sigma(I)$]^a	0.0453	0.0618	0.0676	0.0480	0.0612
wR_2 [all data]^b	0.1057	0.1556	0.1466	0.1319	0.1631
Δρ(max, min)/e Å^{-3}	0.37/-0.28	0.566/-0.223	0.582/-0.456	0.509/-0.592	0.674/-0.384

^{a} $R_1 = \Sigma\,||F_o| - |F_c||/\Sigma|F_o|$; ^{b} $wR_2 = [\Sigma w(F_o^2 - F_c^2)^2/\Sigma w(F_o^2)^2]^{1/2}$.

Table S2. Crystal data and structure refinement details for **Ni6-Ni10**.

complexes	**Ni6**	**Ni7**	**Ni8**	**Ni9**	**Ni10**
Formula	$C_{30}H_{24}N_4NiO_6$	$C_{33}H_{28}N_4NiO_5$	$C_{31}H_{24}N_4NiO_5$	$C_{30}H_{24}N_4NiO_4$	$C_{43}H_{32}N_4NiO_5$
Formula weight	595.22	619.30	591.25	563.22	743.43
Temperature/K	298(2)	298(2)	293(2)	293(2)	298(2)
Crystal system	monoclinic	triclinic	triclinic	triclinic	monoclinic
Space group	*C*2/c	*P*-1	*P*-1	*P*-1	$P2_1$/n
a/Å	18.9427(10)	10.6007(8)	10.442(2)	8.823(1)	16.869(4)
b/Å	9.0321(6)	11.7034(10)	10.492(2)	10.996(1)	11.170(2)
c/Å	31.3833(15)	12.3657(9)	12.933(2)	14.068(1)	20.248(4)
α/°	90.00	85.752(6)	96.981(6)	94.630(5)	90.00
β/°	90.266(5)	75.849(6)	90.412(6)	104.322(5)	112.069(6)
γ/°	90.00	76.634(7)	107.475(6)	96.494(5)	90.00
Volume/Å^3	5369.4(5)	1447.04(19)	1340.1(4)	1305.55(14)	3535.9(13)
Z	8	2	2	2	4
ρ_{calc} g/cm^3	1.473	1.421	1.465	1.433	1.397
μ/mm^{-1}	0.775	0.720	0.773	0.771	0.602
F(000)	2464.0	644.0	612.0	536	1544.0
Crystal size/mm	0.22 × 0.17 × 0.11	0.25 × 0.12 × 0.08	0.26 × 0.21 × 0.13	0.25 × 0.22 × 0.18	0.25 × 0.16 × 0.11
λ/ Å	0.71073	0.71073	0.71073	0.71073	0.71073
2θ range /°	6.76 to 50.02	6.80 to 50.2	6.354 to 55.026	6.66 to 58.564	6.06 to 50.2
Ref. meas./Indep.	15311,4732	9161, 5131	28336,6154	9591	47087,6289
R_{int}	0.0673	0.0256,	0.0591	5984	0.0443
R_{sigma}	0.0752	0.0531	0.0671	0.0342	0.0290
Goof	1.001	1.005	1.014	0.0739	0.995
R_1 [$I \geqq 2\sigma (I)$]^a	0.061	0.0442	0.0482	0.0547	0.0335
wR_2 [all data]^b	0.1645	0.1005	0.1017	0.1339	0.0916
Δρ(max, min)/e Å^{-3}	0.608/-0.496	0.332/-0.425	0.342/-0.289	0.623/-0.640	0.245/-0.282

^{a} $R_1 = \Sigma\ ||F_o| - |F_c||/\Sigma|F_o|$; ^{b} $wR_2 = [\Sigma w(F_o^2 - F_c^2)^2/\Sigma w(F_o^2)^2]^{½}$.

Table S3. Crystal data and structure refinement details for **Ni11-Ni15**.

complexes	**Ni11**	**Ni12**	**Ni13**	**Ni14**	**Ni15**
Formula	$C_{30.25}H_{18.75}Cl_2N_4NiO_{4.25}$	$C_{28}H_{20}N_4NiO_4$	$C_{42}H_{24}I_4N_4NiO_2$	$C_{46}H_{36}Cl_4N_4NiO_4$	$C_{32.5}H_{31.5}Cl_4N_4NiO_{4.5}$
Formula weight	635.85	535.19	1182.98	909.31	750.63
Temperature/K	298(2)	273.15	293(2)	150.0	150(2)
Crystal system	monoclinic	orthorhombic	monoclinic	monoclinic	triclinic
Space group	$P2_1$/c	*Pbca*	$P2_1$/c	$P2_1$/c	*P*-1
a/Å	10.3453(5)	14.859(3)	11.0868(3)	19.181(1)	10.507(6)
b/Å	31.1403(14)	10.639(2)	23.1713(8)	15.320(1)	12.004(7)

c/Å	16.4048(8)	29.850(5)	15.8154(5)	14.774(1)	13.598(6)
α/°	90.00	90	90	90	78.615(16)
β/°	93.229(2)	90	107.8680(10)	110.760(2)	73.00(2)
γ/°	90.00	90	90	90	86.013(18)
Volume/Å^3	5276.5(4)	4718.8(14)	3866.9(2)	4059.6(3)	1607.6(15)
Z	4	8	4	4	2
ρ_{calc} g/cm^3	1.601	1.507	2.032	1.488	1.551
μ/mm^{-1}	0.986	0.867	3.737	0.792	0.983
F(000)	2594.0	2208.0	2240.0	1872.0	773.0
Crystal size/mm	0.27 × 0.22 × 0.17	0.26 × 0.21 × 0.05	0.24 × 0.21 × 0.12	0.36 × 0.21 × 0.15	0.36 × 0.21 × 0.15
λ/ Å	0.71073	0.71073	0.71073	0.71073	0.71073
2θ range /°	5.8 to 50.2	6.11 to 55.892	5.872 to 55.124	4.022 to 52.792	4.06 to 50.02
Ref. meas./Indep.	96187,9384	71898,5547	61402,8928	66978,8295	30494, 5665
R_{int}	0.1081	0.1166	0.0458	0.0891	0.0959
R_{sigma}	0.0657	0.0712	0.0364	0.0437	0.0636
Goof	0.996	1.019	1.017	1.097	1.005
R_1 [$I \geqq 2\sigma(I)$][a]	0.0479	0.0499	0.0432	0.0524	0.0557
wR_2 [all data][b]	0.1019	0.0970	0.1000	0.1353	0.1714
Δρ(max, min)/e Å^{-3}	0.44/-0.30	0.27/-0.32	2.48/-2.13	0.47/-0.57	1.370/0.628

[a] $R_1 = \Sigma ||F_o| - |F_c||/\Sigma|F_o|$; [b] $wR_2 = [\Sigma w(F_o^2 - F_c^2)^2/\Sigma w(F_o^2)^2]^{½}$.

Table S4. Crystal data and structure refinement details for **Ni16-Ni19**.

complexes	**Ni16**	**Ni17**	**Ni18**	**Ni19**
Formula	$C_{31.5}H_{22}Cl_4N_4NiO_{3.5}$	$C_{28}H_{16}Cl_2I_2N_4NiO_2$	$C_{37}H_{36}Cl_2I_2N_4NiO_3$	$C_{35}H_{36}N_4NiO_5$
Formula weight	713.04	823.86	968.11	651.39
Temperature/K	150.15	150.15	150.0	150.0
Crystal system	triclinic	orthorhombic	orthorhombic	monoclinic
Space group	P-1	$Pbca$	$Pbcn$	$P2_1/n$
a/Å	12.6484(8)	15.3688(4)	27.0578(7)	11.7481(4)
b/Å	20.5153(15)	16.0251(3)	11.1058(3)	21.2938(8)
c/Å	23.4843(17)	22.4547(6)	24.7350(7)	12.5553(4)
α/°	98.674(3)	90	90	90
β/°	92.536(2)	90	90	92.0463(15)
γ/°	95.017(2)	90	90	90
Volume/Å^3	5990.8(7)	5530.3(2)	7432.8(3)	3138.85(19)
Z	2	8	8	4
ρ_{calc} g/cm^3	1.581	1.979	1.730	1.378
μ/mm^{-1}	1.048	3.162	2.369	0.667
F(000)	2904.0	3168.0	3824.0	1368.0

Crystal size/mm	0.36 × 0.26 × 0.18	0.35 × 0.25 × 0.12	0.36 × 0.21 × 0.14	0.34 × 0.25 × 0.18
λ/ Å	0.71073	0.71073	0.71073	0.71073
2θ range /°	3.77 to 52.8	4.10 to 52.78	4.29 to 52.74	4.66 to 50.20
Ref. meas./Indep.	130866,24472	95667, 5647	80300,7591	73248,5556
R_{int}	0.1054	0.0792	0.1208	0.0756
R_{sigma}	0.0694	0.0253	0.0511	0.0274
Goof	1.047	1.059	1.228	1.004
R_1 [$I \geqq 2\sigma(I)$][a]	0.0587	0.0519	0.0708	0.0526
wR_2 [all data][b]	0.1572	0.1458	0.1524	0.1349
Δρ(max, min)/e Å^{-3}	0.852/-0.452	1.424/-1.102	0.718/-1.093	0.490/-0.642

[a] $R_1 = \Sigma\,||F_o| - |F_c||/\Sigma|F_o|$; [b] $wR_2 = [\Sigma w(F_o^2 - F_c^2)^2/\Sigma w(F_o^2)^2]^{½}$.

Table S5. Crystal data and structure refinement details for **Ni20-Ni22**.

complexes	**Ni20**	**Ni21**	**Ni22**
Formula	$C_{30}H_{26}Cl_2N_4NiO_4$	$C_{32}H_{30}Cl_2N_4NiO_4$	$C_{32}H_{30}Cl_2N_4NiO_6$
Formula weight	636.16	664.21	696.21
Temperature/K	293(2)	293(2)	293(2)
Crystal system	orthorhombic	triclinic	triclinic
Space group	*Pbcn*	*P*-1	*P*-1
a/Å	15.942(3)	10.6177(5)	10.482(2)
b/Å	9.5116(15)	11.7231(5)	11.840(3)
c/Å	18.694(3)	13.7986(6)	14.351(3)
α/°	90	87.0040(10)	89.092(7)
β/°	90	71.3220(10)	72.122(7)
γ/°	90	71.0630(10)	69.927(7)
Volume/Å^3	2834.6(8)	1536.46(12)	1584.1(6)
Z	4	2	2
ρ_{calc} g/cm^3	1.491	1.436	1.460
μ/mm^{-1}	0.917	0.849	0.832
F(000)	1312.0	688.0	720.0
Crystal size/mm	0.26 × 0.21 × 0.14	0.32 × 0.22 × 0.11	0.30 × 0.22 × 0.10
λ/ Å	0.71073	0.71073	0.71073
2θ range /°	6.62 to 55.11	6.056 to 55.058	6.04 to 54.968
Ref. meas./Indep.	41773,3265	30530,7051	33159,7257
R_{int}	0.1012	0.0472	0.0376
R_{sigma}	0.0521	0.0530	0.0378
Goof	1.004	1.019	1.028
R_1 [$I \geqq 2\sigma(I)$][a]	0.0589	0.0465	0.0433
wR_2 [all data][b]	0.1513	0.1088	0.1078
Δρ(max, min)/e Å^{-3}	0.761/-0.408	0.316/-0.280	0.574/-0.626

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

Table S6. Selected bond lengths (Å) for **Ni1-Ni22**.

complexes	Atom	Atom	Length/Å	Atom	Atom	Length/Å
Ni1	Ni1	O1	2.0161(19)	Ni1	N2	2.159(2)
	Ni1	O2	2.0245(19)	Ni1	N4	2.093(2)
	Ni1	N3	2.074(2)	Ni1	N1	2.192(2)
Ni2	Ni2	O4	2.032(5)	Ni1	N3	2.089(6)
	Ni2	O3	2.012(5)	Ni1	O1	2.016(6)
	Ni2	N7	2.098(5)	Ni1	N2	2.162(6)
	Ni2	N5	2.188(6)	Ni1	N4	2.061(5)
	Ni2	N6	2.162(6)	Ni1	O2	2.013(5)
	Ni2	N8	2.084(6)	Ni1	N1	2.158(6)
Ni3	Ni1	$O1^1$	2.037(2)	Ni1	N1	2.077(3)
	Ni1	O1	2.037(2)	Ni1	N2	2.100(3)
	Ni1	$N1^1$	2.077(3)	Ni1	$N2^1$	2.100(3)
Ni4	Ni1	O1	1.9776(18)	Ni1	N1	2.183(2)
	Ni1	O2	1.9782(18)	Ni1	N4	2.186(2)
	Ni1	N3	2.330(2)	Ni1	N2	2.139(2)
Ni5	Ni1	O1	2.0246(16)	Ni1	N4	2.099(2)
	Ni1	N3	2.105(2)	Ni1	N1	2.158(2)
	Ni1	O2	2.0338(16)	Ni1	N2	2.164(2)
Ni6	Ni1	O5	2.071(3)	Ni1	N4	2.090(3)
	Ni1	N3	2.075(4)	Ni1	N2	2.098(3)
	Ni1	O3	2.086(3)	Ni1	N1	2.109(3)
Ni7	Ni1	O1	2.0532(19)	Ni1	N3	2.085(2)
	Ni1	O4	2.073(2)	Ni1	N2	2.087(2)
	Ni1	N1	2.076(2)	Ni1	N4	2.100(2)
Ni8	Ni1	O1	2.0708(17)	Ni1	N7	2.0906(19)
	Ni1	O3	2.0572(17)	Ni1	N9	2.1085(19)
	Ni1	N6	2.1061(19)	Ni1	N13	2.078(2)
Ni9	Ni1	O2	2.0595(19)	Ni1	N2	2.086(2)
	Ni1	O3	2.069(2)	Ni1	N3	2.085(2)
	Ni1	N1	2.103(2)	Ni1	N4	2.084(2)
Ni10	Ni1	O1	2.0639(14)	Ni1	N2	2.0817(17)
	Ni1	O3	2.0731(15)	Ni1	N3	2.0951(17)
	Ni1	N1	2.0790(17)	Ni1	N4	2.1018(17)
Ni11	Ni1	O3	2.051(2)	Ni1	N4	2.082(3)
	Ni1	O1	2.067(2)	Ni1	N1	2.113(3)

	Ni1	N3	2.081(3)	Ni1	N2	2.119(3)
Ni12	Ni1	O2	2.0765(18)	Ni1	N4	2.092(2)
	Ni1	O3	2.0635(18)	Ni1	N3	2.085(2)
	Ni1	N2	2.073(2)	Ni1	N1	2.112(2)
Ni13	Ni1	O2	2.049(3)	Ni1	N1	2.085(4)
	Ni1	O1	2.058(3)	Ni1	N2	2.068(4)
	Ni1	N3	2.099(4)	Ni1	N4	2.098(4)
Ni14	Ni1	O1	2.064(2)	Ni1	N1	2.093(2)
	Ni1	O2	2.033(2)	Ni1	N3	2.134(2)
	Ni1	N4	2.141(2)	Ni1	N2	2.099(2)
Ni15	Ni1	N2	2.067(4)	Ni1	O2	2.078(3)
	Ni1	O1	2.070(3)	Ni1	N4	2.081(4)
	Ni1	N3	2.078(4)	Ni1	N1	2.089(4)
Ni16	Ni3	O5	2.049(3)	Ni2	N6	2.063(4)
	Ni3	O6	2.059(3)	Ni2	N7	2.091(4)
	Ni3	N9	2.069(4)	Ni2	N5	2.067(4)
	Ni3	N11	2.102(4)	Ni2	O4	2.049(3)
	Ni3	N12	2.086(4)	Ni2	O3	2.061(3)
	Ni3	N10	2.071(4)	Ni2	N8	2.078(4)
	Ni1	O1	2.062(3)	Ni4	O7	2.069(3)
	Ni1	N4	2.084(3)	Ni4	O8	2.059(3)
	Ni1	O2	2.043(3)	Ni4	N13	2.062(4)
	Ni1	N1	2.068(4)	Ni4	N16	2.075(3)
	Ni1	N2	2.073(4)	Ni4	N14	2.059(3)
	Ni1	N3	2.082(4)	Ni4	N15	2.084(4)
Ni17	Ni1	O1	2.038(4)	Ni1	O2	2.046(4)
	Ni1	N3	2.081(5)	Ni1	N1	2.084(5)
	Ni1	N4	2.068(5)	Ni1	N2	2.077(5)
Ni18	Ni1	O1	2.083(5)	Ni1	N1	2.069(6)
	Ni1	O2	2.058(5)	Ni1	N3	2.093(6)
	Ni1	N2	2.077(6)	Ni1	N4	2.063(6)
Ni19	Ni1	O2	2.0237(18)	Ni1	N3	2.095(2)
	Ni1	O1	2.0152(18)	Ni1	N1	2.168(2)
	Ni1	N4	2.114(2)	Ni1	N2	2.145(2)
Ni20	Ni1	$O1^1$	2.037(2)	Ni1	N2	2.087(3)
	Ni1	O1	2.037(2)	Ni1	N1	2.080(3)
	Ni1	$N2^1$	2.087(3)	Ni1	$N1^1$	2.080(3)
Ni21	Ni1	O2	2.0467(17)	Ni1	N1	2.083(2)
	Ni1	O1	2.0466(17)	Ni1	N3	2.070(2)

	Ni1	N4	2.0905(19)	Ni1	N2	2.073(2)
	Ni1	O5	2.0516(16)	Ni1	N3	2.0640(18)
Ni22	Ni1	O4	2.0584(17)	Ni1	N1	2.0776(19)
	Ni1	N4	2.0928(18)	Ni1	N2	2.0852(19)

Symmetry codes: (1) 1-x, y,1/2-z for **Ni3**; (1) 1-x,+y,3/2- z for **Ni20**

Table S7. Selected bond angles (°) for **Ni1**.

Complexes	Atom	Atom	Atom	Angle/°	Atom	Atom	Atom	Angle/°
Ni1	O1	Ni1	O2	177.44(7)	O2	Ni1	N1	97.83(8)
	O1	Ni1	N3	90.87(8)	N3	Ni1	N2	168.13(8)
	O1	Ni1	N2	100.04(8)	N3	Ni1	N4	79.51(9)
	O1	Ni1	N4	95.34(8)	N3	Ni1	N1	96.76(8)
	O1	Ni1	N1	79.62(8)	N2	Ni1	N1	89.86(8)
	O2	Ni1	N3	89.18(8)	N4	Ni1	N2	94.71(8)
	O2	Ni1	N2	80.13(8)	N4	Ni1	N1	173.74(9)
	O2	Ni1	N4	87.19(8)				
Ni2	O4	Ni2	N7	92.5(2)	N3	Ni1	N2	167.8(2)
	O4	Ni2	N5	104.7(2)	N3	Ni1	N1	98.9(2)
	O4	Ni2	N6	79.9(2)	O1	Ni1	N3	86.9(2)
	O4	Ni2	N8	87.6(2)	O1	Ni1	N2	102.7(2)
	O3	Ni2	O4	174.9(2)	O1	Ni1	N4	89.3(2)
	O3	Ni2	N7	82.7(2)	O1	Ni1	N1	80.7(3)
	O3	Ni2	N5	79.6(2)	N4	Ni1	N3	79.3(2)
	O3	Ni2	N6	102.4(2)	N4	Ni1	N2	93.1(2)
	O3	Ni2	N8	89.6(2)	N4	Ni1	N1	170.0(3)
	N7	Ni2	N5	159.6(2)	O2	Ni1	N3	89.3(2)
	N7	Ni2	N6	95.8(2)	O2	Ni1	O1	175.2(2)
	N6	Ni2	N5	97.8(2)	O2	Ni1	N2	80.7(2)
	N8	Ni2	N7	78.6(2)	O2	Ni1	N4	87.2(2)
	N8	Ni2	N5	91.2(2)	O2	Ni1	N1	102.7(3)
	N8	Ni2	N6	166.1(2)	N1	Ni1	N2	90.2(2)
Ni3	$O1^{i}$	Ni1	O1	96.87(14)	O1	Ni1	N2	92.53(11)
	O1	Ni1	$N1^{i}$	94.50(12)	$N1^{i}$	Ni1	N1	173.12(18)
	O1	Ni1	N1	80.91(12)	$N1^{i}$	Ni1	$N2^{i}$	93.77(12)
	$O1^{i}$	Ni1	$N1^{i}$	80.90(12)	N1	Ni1	N2	93.77(12)
	$O1^{i}$	Ni1	N1	94.50(12)	N1	Ni1	$N2^{i}$	91.54(12)
	$O1^{i}$	Ni1	N2	168.35(11)	$N1^{i}$	Ni1	N2	91.54(12)
	O1	Ni1	$N2^{i}$	168.35(11)	N2	Ni1	$N2^{i}$	79.06(16)
	$O1^{i}$	Ni1	$N2^{i}$	92.53(11)				

Ni4	O1	Ni1	O2	176.59(7)	O2	Ni1	N2	89.37(8)
	O1	Ni1	N3	77.39(8)	N1	Ni1	N3	159.59(8)
	O1	Ni1	N1	82.22(8)	N1	Ni1	N4	103.87(8)
	O1	Ni1	N4	103.20(8)	N4	Ni1	N3	81.73(8)
	O1	Ni1	N2	87.34(8)	N2	Ni1	N3	99.52(8)
	O2	Ni1	N3	104.05(8)	N2	Ni1	N1	78.64(9)
	O2	Ni1	N1	96.28(8)	N2	Ni1	N4	169.37(9)
	O2	Ni1	N4	80.11(8)				
Ni5	O2	Ni1	N4	90.13(7)	O1	Ni1	N3	91.33(7)
	O2	Ni1	N1	100.75(8)	O1	Ni1	O2	178.33(7)
	O2	Ni1	N2	80.09(7)	O1	Ni1	N4	88.71(7)
	N4	Ni1	N3	78.11(8)	O1	Ni1	N1	80.24(7)
	N4	Ni1	N1	166.60(8)	O1	Ni1	N2	101.11(7)
	N4	Ni1	N2	90.37(8)	N3	Ni1	N1	94.47(8)
	N1	Ni1	N2	99.14(8)	N3	Ni1	N2	162.90(8)
	O2	Ni1	N3	87.26(7)				
Ni6	O5	Ni1	N3	90.00(14)	O3	Ni1	N2	92.98(13)
	O5	Ni1	O3	166.61(12)	N4	Ni1	N2	92.68(13)
	N3	Ni1	O3	80.37(14)	O5	Ni1	N1	89.83(14)
	O5	Ni1	N4	80.55(13)	N3	Ni1	N1	94.09(14)
	N3	Ni1	N4	97.43(14)	O3	Ni1	N1	100.06(14)
	O3	Ni1	N4	91.42(14)	N4	Ni1	N1	164.95(15)
	O5	Ni1	N2	98.05(14)	N2	Ni1	N1	77.15(13)
	N3	Ni1	N2	168.01(14)				
Ni7	O1	Ni1	O4	168.36(7)	N1	Ni1	N2	96.27(9)
	O1	Ni1	N1	90.87(9)	N3	Ni1	N2	91.68(8)
	O4	Ni1	N1	80.56(9)	O1	Ni1	N4	92.80(8)
	O1	Ni1	N3	97.34(8)	O4	Ni1	N4	95.65(9)
	O4	Ni1	N3	92.16(9)	N1	Ni1	N4	94.23(9)
	N1	Ni1	N3	169.40(9)	N3	Ni1	N4	78.75(9)
	O1	Ni1	N2	80.63(9)	N2	Ni1	N4	167.68(9)
	O4	Ni1	N2	92.42(9)				
Ni8	O1	Ni1	N6	92.28(7)	O3	Ni1	N13	90.70(8)
	O1	Ni1	N7	91.05(7)	N6	Ni1	N9	78.97(8)
	O1	Ni1	N9	95.77(7)	N7	Ni1	N6	93.47(7)
	O1	Ni1	N13	80.39(8)	N7	Ni1	N9	169.98(8)
	O3	Ni1	O1	167.18(7)	N13	Ni1	N6	166.68(8)
	O3	Ni1	N6	98.18(7)	N13	Ni1	N7	97.75(8)
	O3	Ni1	N7	80.98(7)	N13	Ni1	N9	90.64(8)
	O3	Ni1	N9	93.50(7)				

Ni9	O2	Ni1	O3	166.41(8)	O3	Ni1	N4	80.19(9)
	O2	Ni1	N1	89.85(8)	N2	Ni1	N1	77.74(9)
	O2	Ni1	N2	99.67(8)	N3	Ni1	N1	164.84(9)
	O2	Ni1	N3	80.51(8)	N3	Ni1	N2	92.29(9)
	O2	Ni1	N4	90.14(9)	N4	Ni1	N1	93.03(9)
	O3	Ni1	N1	100.11(9)	N4	Ni1	N2	166.41(10)
	O3	Ni1	N2	91.52(9)	N4	Ni1	N3	98.62(9)
	O3	Ni1	N3	91.45(9)				
Ni10	O1	Ni1	O3	168.84(6)	N1	Ni1	N3	170.22(6)
	O1	Ni1	N1	80.97(6)	N2	Ni1	N3	92.23(6)
	O3	Ni1	N1	91.57(6)	O1	Ni1	N4	93.65(6)
	O1	Ni1	N2	91.93(6)	O3	Ni1	N4	94.94(6)
	O3	Ni1	N2	80.71(6)	N1	Ni1	N4	92.28(6)
	N1	Ni1	N2	97.16(6)	N2	Ni1	N4	169.68(6)
	O1	Ni1	N3	96.04(6)	N3	Ni1	N4	78.56(6)
	O3	Ni1	N3	92.63(6)				
Ni11	O3	Ni1	O1	167.75(10)	N3	Ni1	N1	164.74(11)
	O3	Ni1	N3	91.39(12)	N4	Ni1	N1	93.88(11)
	O1	Ni1	N3	80.68(11)	O3	Ni1	N2	92.22(11)
	O3	Ni1	N4	80.74(12)	O1	Ni1	N2	97.20(10)
	O1	Ni1	N4	91.14(11)	N3	Ni1	N2	90.84(12)
	N3	Ni1	N4	98.51(11)	N4	Ni1	N2	168.38(12)
	O3	Ni1	N1	99.40(11)	N1	Ni1	N2	78.07(12)
	O1	Ni1	N1	90.24(10)	O5	Ni2	N7	80.91(11)
	O5	Ni2	O7	167.61(9)	O7	Ni2	N5	96.62(10)
	N7	Ni2	O7	91.51(10)	N8	Ni2	N5	92.12(11)
	O5	Ni2	N8	90.90(11)	O5	Ni2	N6	102.47(10)
	N7	Ni2	N8	98.95(11)	N7	Ni2	N6	92.65(11)
	O7	Ni2	N8	80.55(11)	O7	Ni2	N6	87.57(10)
	O5	Ni2	N5	92.62(10)	N8	Ni2	N6	163.56(11)
	N7	Ni2	N5	167.22(11)	N5	Ni2	N6	77.92(11)
Ni12	O2	Ni1	N4	92.40(8)	N2	Ni1	O2	80.77(8)
	O2	Ni1	N3	90.08(8)	N2	Ni1	N4	166.93(9)
	O2	Ni1	N1	95.51(8)	N2	Ni1	N3	97.93(8)
	O3	Ni1	O2	166.61(7)	N2	Ni1	N1	91.48(9)
	O3	Ni1	N2	90.82(8)	N4	Ni1	N1	78.02(9)
	O3	Ni1	N4	97.77(8)	N3	Ni1	N4	93.18(8)
	O3	Ni1	N3	80.71(8)	N3	Ni1	N1	169.73(9)
	O3	Ni1	N1	95.11(8)				
Ni13	O2	Ni1	O1	169.13(13)	O1	Ni1	N4	88.72(14)

	O2	Ni1	N3	87.06(14)	N1	Ni1	N3	96.87(15)
	O2	Ni1	N1	91.89(14)	N1	Ni1	N4	166.33(15)
	O2	Ni1	N2	80.68(14)	N2	Ni1	N3	164.63(15)
	O2	Ni1	N4	100.51(14)	N2	Ni1	N1	92.78(15)
	O1	Ni1	N3	100.56(14)	N2	Ni1	N4	94.88(15)
	O1	Ni1	N1	79.58(14)	N4	Ni1	N3	78.21(15)
	O1	Ni1	N2	92.91(14)				
Ni14	O1	Ni1	N4	87.62(9)	O2	Ni1	N2	80.57(9)
	O1	Ni1	N1	79.83(10)	N1	Ni1	N4	166.67(10)
	O1	Ni1	N3	90.48(9)	N1	Ni1	N3	97.95(10)
	O1	Ni1	N2	93.70(9)	N1	Ni1	N2	83.06(10)
	O2	Ni1	O1	172.50(9)	N3	Ni1	N4	77.54(9)
	O2	Ni1	N4	98.31(9)	N2	Ni1	N4	102.36(9)
	O2	Ni1	N1	94.58(9)	N2	Ni1	N3	175.80(9)
	O2	Ni1	N3	95.27(9)				
Ni15	N2	Ni1	O1	91.99(15)	N3	Ni1	N4	78.73(16)
	N2	Ni1	N3	96.74(16)	O2	Ni1	N4	96.09(14)
	O1	Ni1	N3	92.37(15)	N2	Ni1	N1	92.05(16)
	N2	Ni1	O2	80.35(15)	O1	Ni1	N1	80.02(15)
	O1	Ni1	O2	170.86(12)	N3	Ni1	N1	168.58(15)
	N3	Ni1	O2	93.46(15)	O2	Ni1	N1	95.19(15)
	N2	Ni1	N4	174.12(15)	N4	Ni1	N1	92.93(15)
	O1	Ni1	N4	91.94(15)				
Ni16	O1	Ni1	N4	91.21(13)	O4	Ni2	O3	169.65(12)
	O1	Ni1	N1	80.56(13)	O4	Ni2	N8	92.28(13)
	O1	Ni1	N2	92.09(13)	O4	Ni2	N6	80.85(13)
	O1	Ni1	N3	93.43(14)	O4	Ni2	N7	93.97(13)
	O2	Ni1	O1	171.27(12)	O4	Ni2	N5	91.24(13)
	O2	Ni1	N4	96.19(12)	O3	Ni2	N8	94.71(13)
	O2	Ni1	N1	94.23(14)	O3	Ni2	N6	92.56(13)
	O2	Ni1	N2	81.12(12)	O3	Ni2	N7	94.70(13)
	O2	Ni1	N3	92.46(14)	O3	Ni2	N5	80.81(13)
	N1	Ni1	N4	94.32(14)	N8	Ni2	N7	80.51(16)
	N1	Ni1	N2	92.93(14)	N6	Ni2	N8	172.33(14)
	N1	Ni1	N3	171.42(14)	N6	Ni2	N7	96.46(15)
	N2	Ni1	N4	172.44(14)	N6	Ni2	N5	90.71(15)
	N2	Ni1	N3	93.41(14)	N5	Ni2	N8	92.87(16)
	N3	Ni1	N4	79.60(14)	N5	Ni2	N7	171.72(16)
	O5	Ni3	O6	168.17(12)	O7	Ni4	N16	91.83(12)
	O5	Ni3	N9	81.15(12)	O7	Ni4	N15	96.50(13)

	O5	Ni3	N11	94.08(13)	O8	Ni4	O7	171.94(12)
	O5	Ni3	N12	92.23(13)	O8	Ni4	N13	93.99(13)
	O5	Ni3	N10	90.57(12)	O8	Ni4	N16	94.48(12)
	O6	Ni3	N9	91.15(13)	O8	Ni4	N14	81.23(12)
	O6	Ni3	N11	95.45(13)	O8	Ni4	N15	89.54(13)
	O6	Ni3	N12	96.42(13)	N13	Ni4	O7	80.29(13)
	O6	Ni3	N10	80.53(13)	N13	Ni4	N16	96.57(14)
	N9	Ni3	N11	94.22(15)	N13	Ni4	N15	175.24(14)
	N9	Ni3	N12	170.41(15)	N16	Ni4	N15	79.95(15)
	N9	Ni3	N10	91.07(14)	N14	Ni4	O7	93.06(12)
	N12	Ni3	N11	79.25(17)	N14	Ni4	N13	90.37(14)
	N10	Ni3	N11	173.43(15)	N14	Ni4	N16	172.10(14)
	N10	Ni3	N12	95.96(17)	N14	Ni4	N15	93.33(14)
Ni17	O1	Ni1	N3	95.71(17)	N4	Ni1	N2	91.54(18)
	O1	Ni1	N4	173.05(17)	O2	Ni1	N3	168.63(17)
	O1	Ni1	O2	94.86(15)	O2	Ni1	N4	91.05(17)
	O1	Ni1	N1	80.63(17)	O2	Ni1	N1	97.39(17)
	O1	Ni1	N2	93.03(17)	O2	Ni1	N2	80.62(17)
	N3	Ni1	N1	88.48(18)	N2	Ni1	N3	94.62(18)
	N4	Ni1	N3	78.70(19)	N2	Ni1	N1	173.21(18)
	N4	Ni1	N1	95.00(18)				
Ni18	O1	Ni1	N3	98.3(2)	N2	Ni1	N3	169.6(2)
	O2	Ni1	O1	170.37(19)	N1	Ni1	O1	79.9(2)
	O2	Ni1	N2	80.2(2)	N1	Ni1	N2	92.4(2)
	O2	Ni1	N1	95.9(2)	N1	Ni1	N3	93.4(2)
	O2	Ni1	N3	90.6(2)	N4	Ni1	O1	93.9(2)
	O2	Ni1	N4	91.6(2)	N4	Ni1	N2	97.4(2)
	N2	Ni1	O1	91.2(2)	N4	Ni1	N1	168.5(2)
	N4	Ni1	N3	77.8(2)				
Ni19	O2	Ni1	N4	91.38(8)	O1	Ni1	N2	102.23(8)
	O2	Ni1	N3	87.91(8)	N4	Ni1	N1	165.88(9)
	O2	Ni1	N1	102.05(8)	N4	Ni1	N2	92.74(8)
	O2	Ni1	N2	80.45(8)	N3	Ni1	N4	79.21(9)
	O1	Ni1	O2	176.71(7)	N3	Ni1	N1	96.75(8)
	O1	Ni1	N4	86.61(8)	N3	Ni1	N2	165.71(8)
	O1	Ni1	N3	89.16(8)	N2	Ni1	N1	93.76(8)
	O1	Ni1	N1	79.77(8)				
	$O1^{ii}$	Ni1	O1	95.39(14)	O1	Ni1	N1	80.77(10)
	$O1^{ii}$	Ni1	$N2^{ii}$	93.40(10)	N2	Ni1	$N2^{ii}$	78.39(15)
	O1	Ni1	$N2^{ii}$	169.75(10)	$N1^{1}$	Ni1	$N2^{ii}$	93.32(10)

Ni20	O1ii	Ni1	N2	169.75(10)	N1ii	Ni1	N2	93.47(10)
	O1	Ni1	N2	93.39(10)	N1	Ni1	N2	93.32(10)
	O1ii	Ni1	N1	93.30(10)	N1	Ni1	N2ii	93.47(10)
	O1ii	Ni1	N1ii	80.77(10)	N1	Ni1	N1ii	171.24(15)
	O1	Ni1	N1ii	93.30(10)				
Ni21	O2	Ni1	N4	91.13(7)	O1	Ni1	N2	96.26(8)
	O2	Ni1	N1	95.20(7)	N1	Ni1	N4	95.63(8)
	O2	Ni1	N3	92.31(7)	N3	Ni1	N4	78.25(8)
	O2	Ni1	N2	80.38(7)	N3	Ni1	N1	170.41(8)
	O1	Ni1	O2	174.38(7)	N3	Ni1	N2	95.65(8)
	O1	Ni1	N4	92.68(7)	N2	Ni1	N4	169.40(8)
	O1	Ni1	N1	80.32(7)	N2	Ni1	N1	91.48(8)
	O1	Ni1	N3	92.50(7)				
Ni22	O5	Ni1	O4	173.54(6)	O4	Ni1	N2	96.37(7)
	O5	Ni1	N4	91.59(7)	N3	Ni1	N4	78.30(7)
	O5	Ni1	N3	92.64(7)	N3	Ni1	N1	170.67(7)
	O5	Ni1	N1	94.22(7)	N3	Ni1	N2	96.71(7)
	O5	Ni1	N2	79.90(7)	N1	Ni1	N4	95.18(7)
	O4	Ni1	N4	92.58(7)	N1	Ni1	N2	90.71(7)
	O4	Ni1	N3	93.04(7)	N2	Ni1	N4	170.00(7)
	O4	Ni1	N1	80.49(7)				

Symmetry codes: (i) 1-x, y,1/2-z; (ii) 1-x,+y,3/2- z.

Table S8. IC_{50} (μM) values determined by MTT assay of H-La1−H-La7 and Lb1−Lb12 against HL-7702, A549 and A549/DDP cells for 24 h.

	A549	A549/DDP	HL-7702
H-La1	>50	>50	>50
H-La2	>50	>50	>50
H-La3	>50	>50	>50
H-La4	>50	>50	>50
H-La5	>50	>50	>50
H-La6	>50	>50	>50
H-La7	>50	>50	>50
Lb1	>50	>50	>50
Lb2	>50	>50	>50
Lb3	>50	>50	>50

Lb4	>50	>50	>50
Lb5	>50	>50	>50
Lb6	>50	>50	>50
Lb7	>50	>50	>50
Lb8	>50	>50	>50
Lb9	>50	>50	>50
Lb10	>50	>50	>50
Lb11	>50	>50	>50

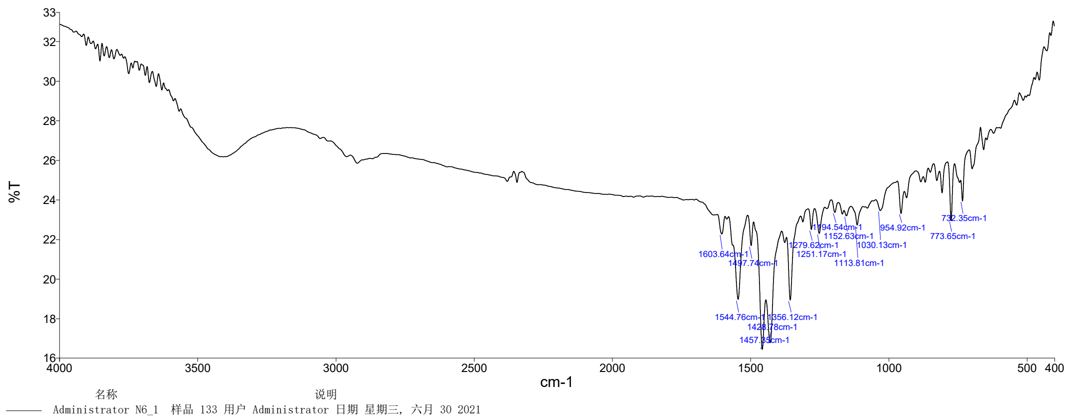


Figure S1. IR (KBr) spectra of complex **Ni1**.

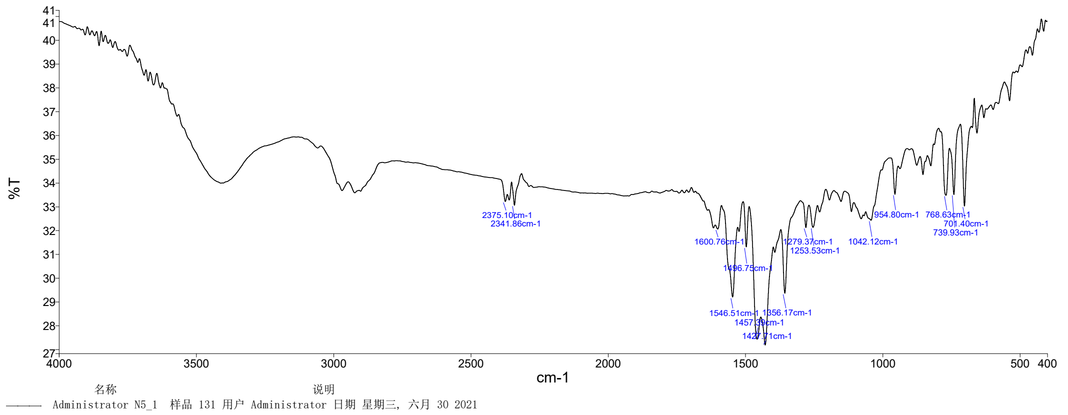


Figure S2. IR (KBr) spectra of complex **Ni2**.

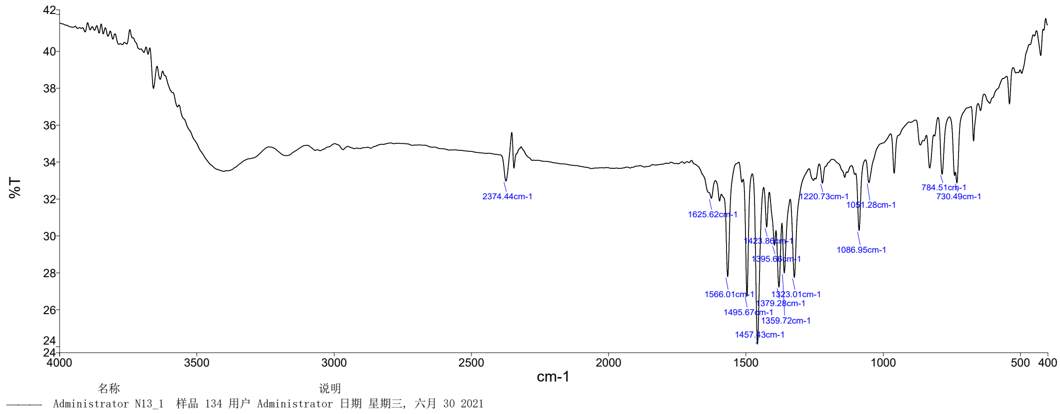


Figure S3. IR (KBr) spectra of complex **Ni3**.

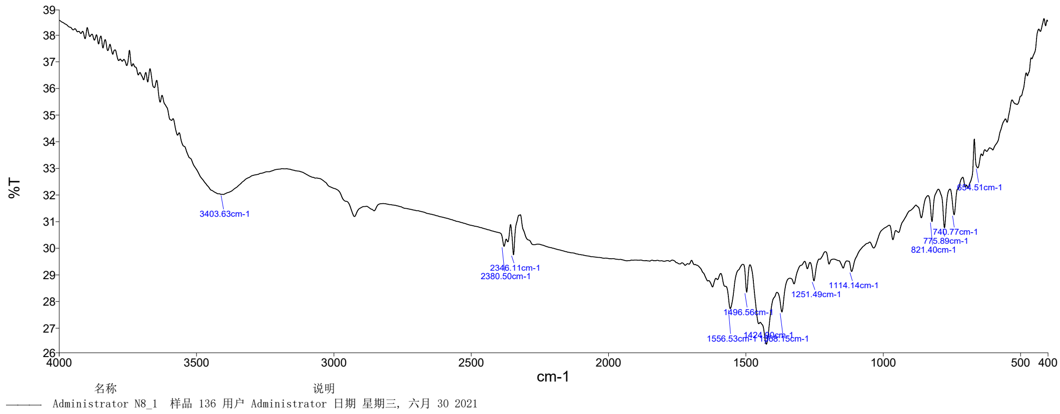


Figure S4. IR (KBr) spectra of complex **Ni4**.

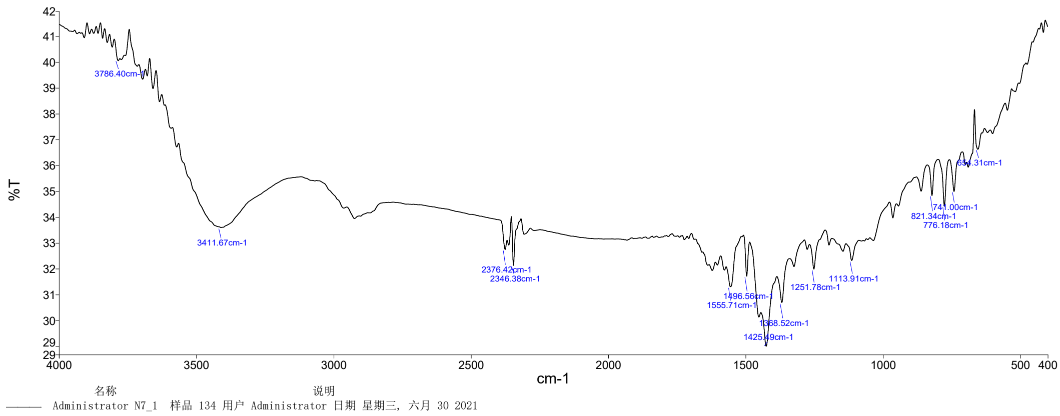


Figure S5. IR (KBr) spectra of complex **Ni5**.

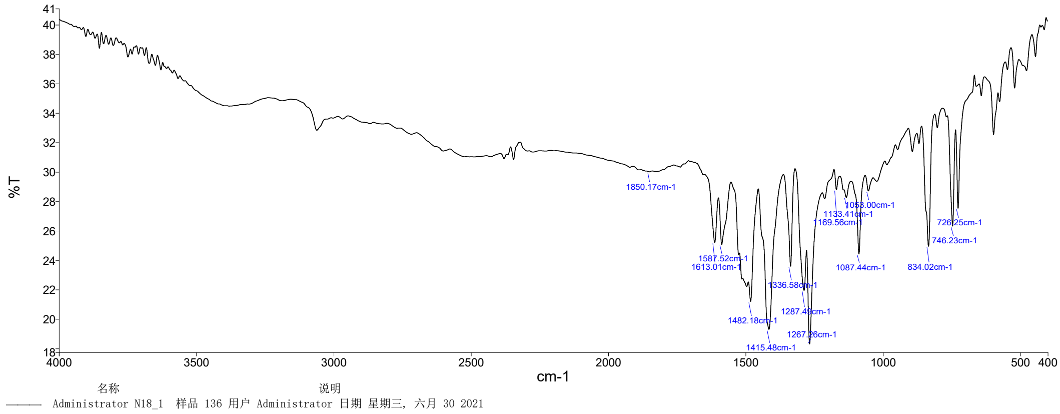


Figure S6. IR (KBr) spectra of complex **Ni8**.

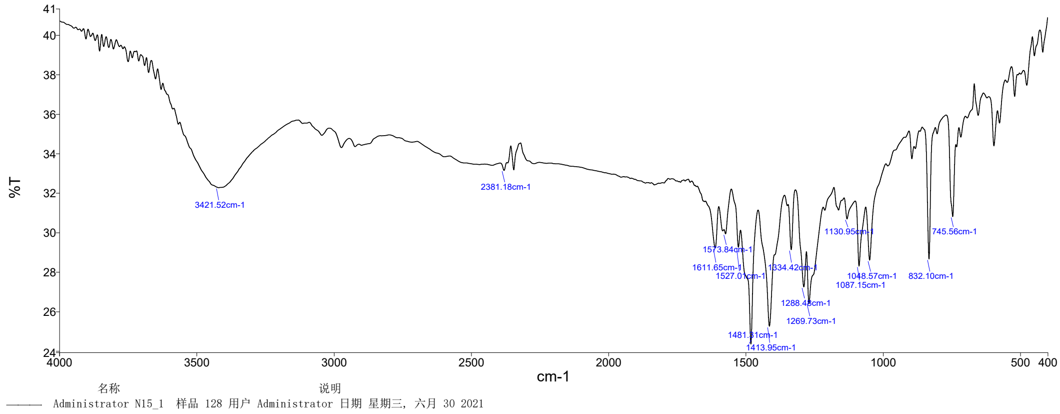


Figure S7. IR (KBr) spectra of complex **Ni9**.

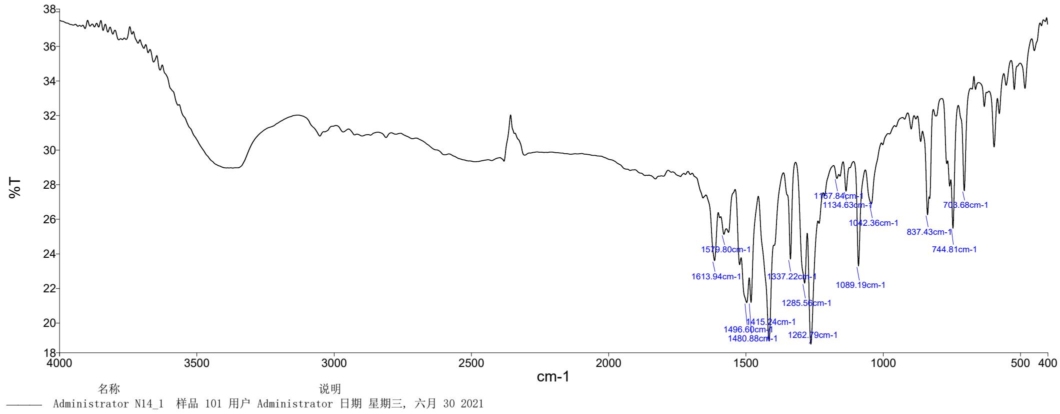


Figure S8. IR (KBr) spectra of complex **Ni10**.

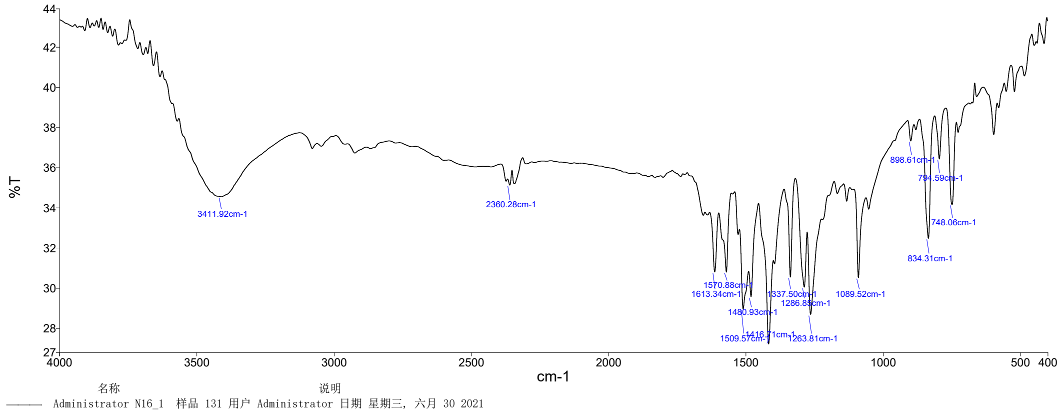


Figure S9. IR (KBr) spectra of complex **Ni11**.

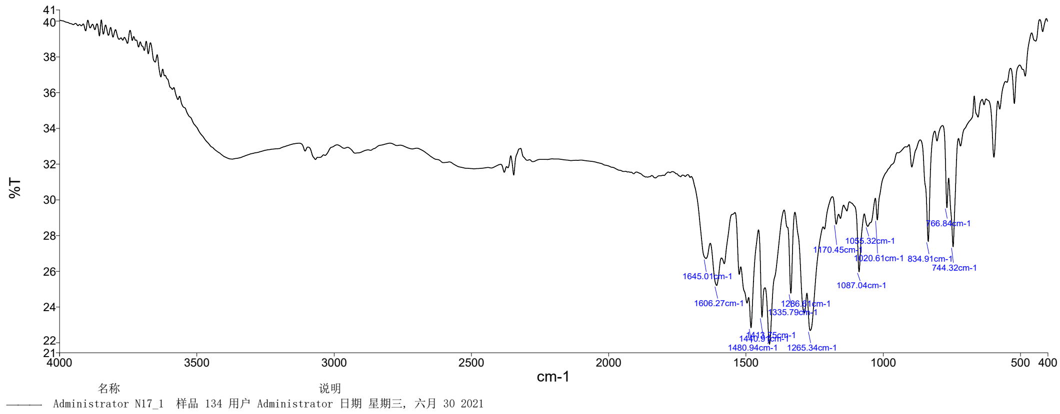


Figure S10. IR (KBr) spectra of complex **Ni12**.

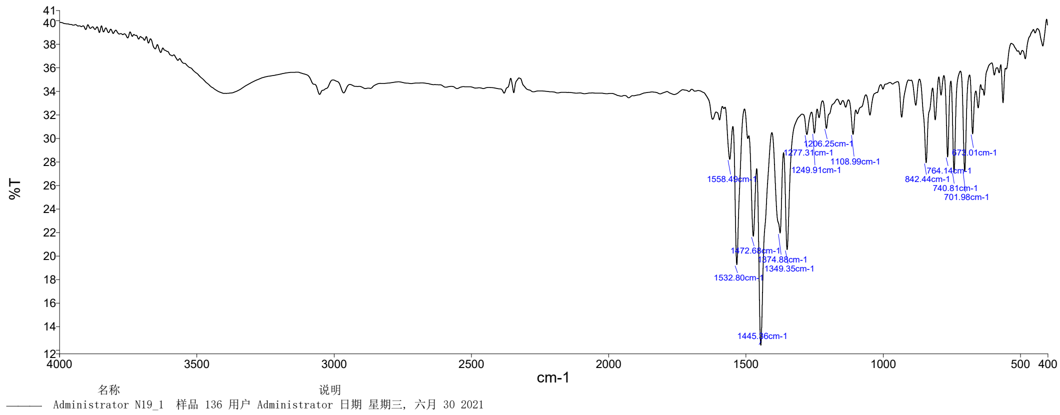


Figure S11. IR (KBr) spectra of complex **Ni13**.

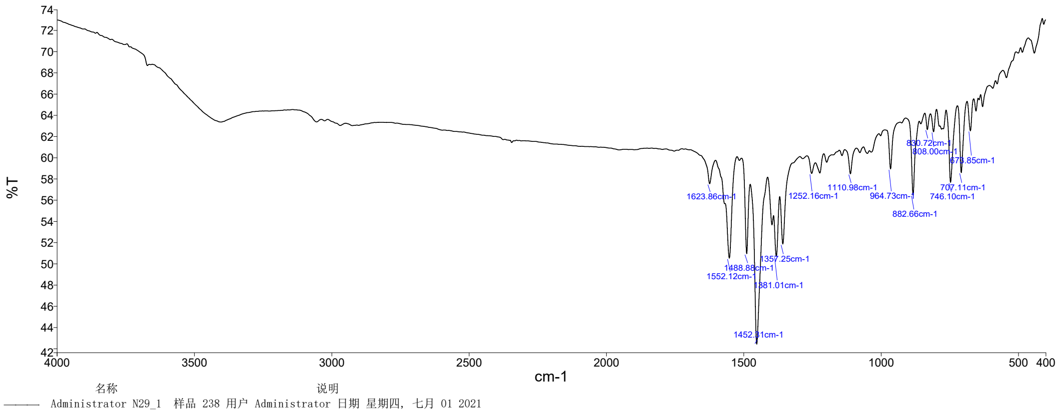


Figure S12. IR (KBr) spectra of complex **Ni14**.

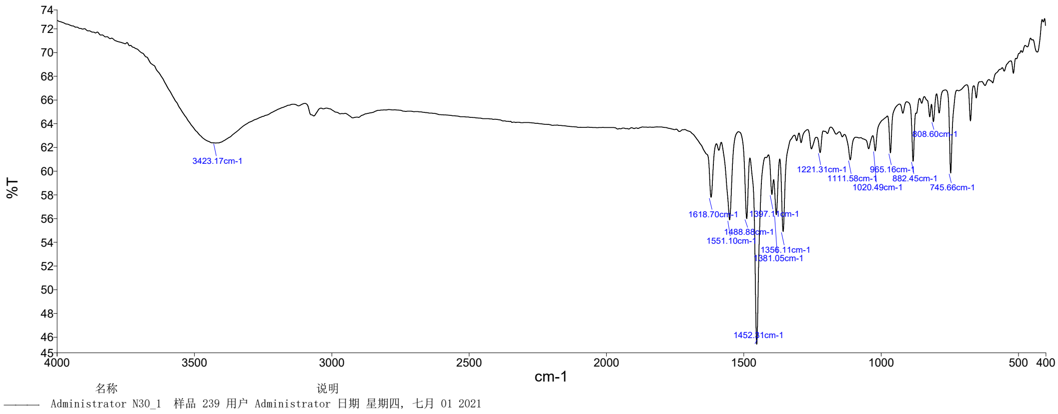


Figure S13. IR (KBr) spectra of complex **Ni15**.

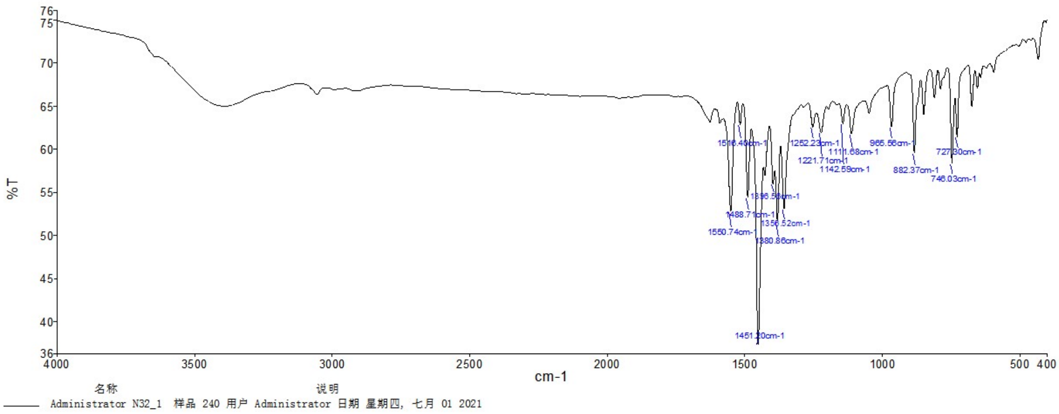


Figure S14. IR (KBr) spectra of complex **Ni16**.

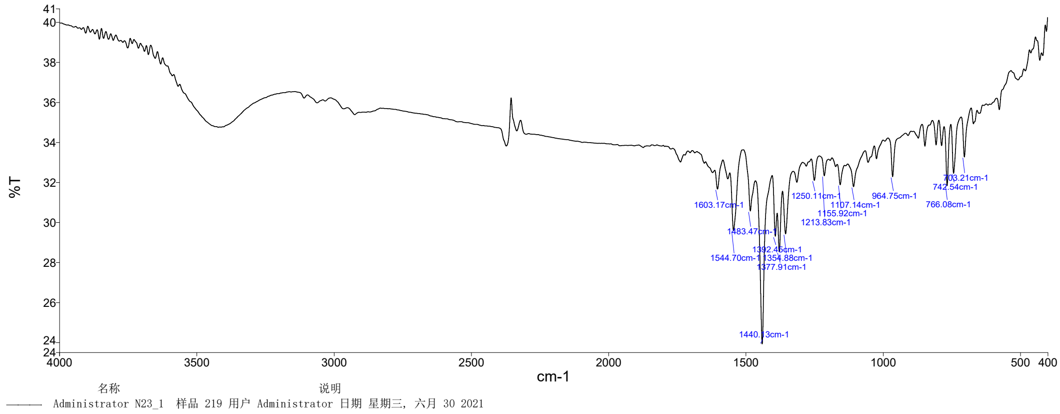


Figure S15. IR (KBr) spectra of complex **Ni17**.

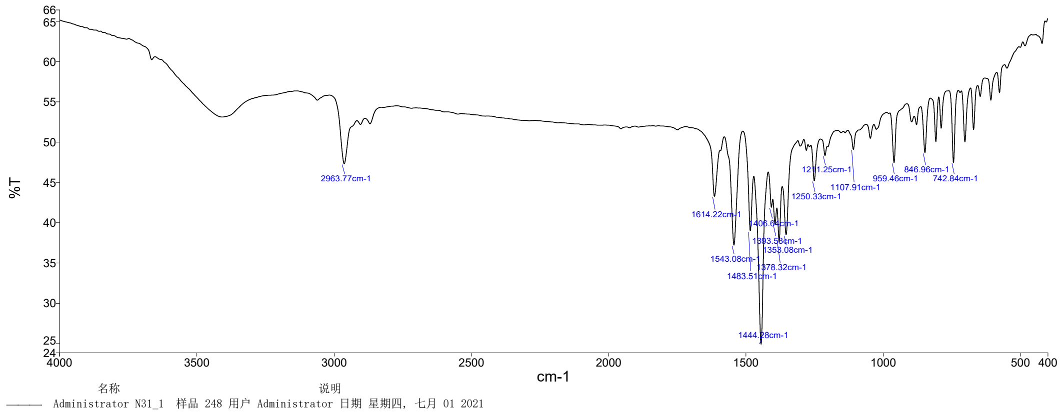


Figure S16. IR (KBr) spectra of complex **Ni18**.

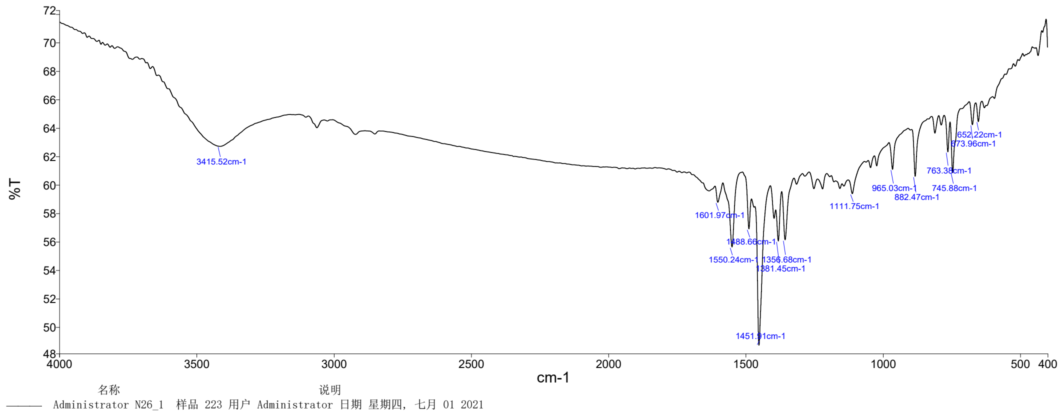


Figure S17. IR (KBr) spectra of complex **Ni19**.

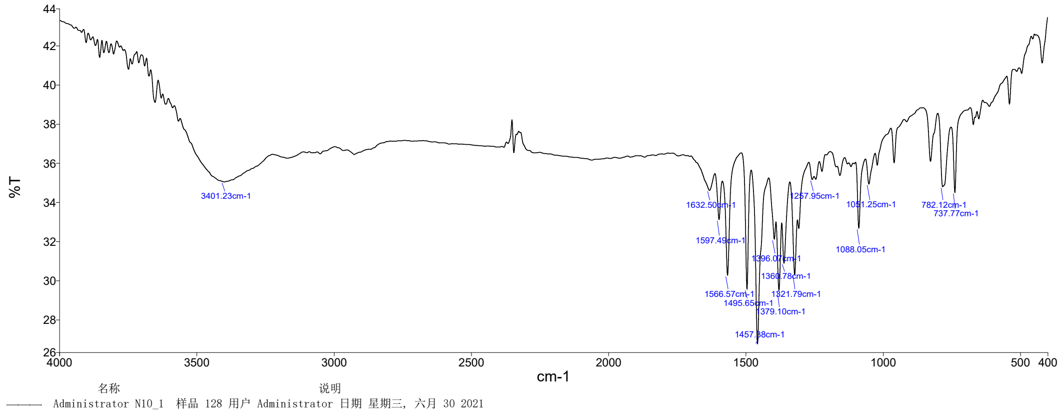


Figure S18. IR (KBr) spectra of complex **Ni20**.

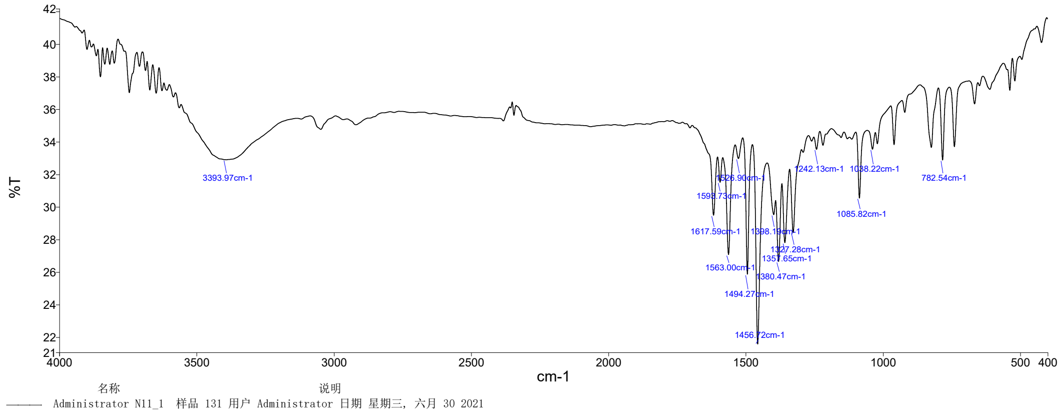


Figure S19. IR (KBr) spectra of complex **Ni21**.

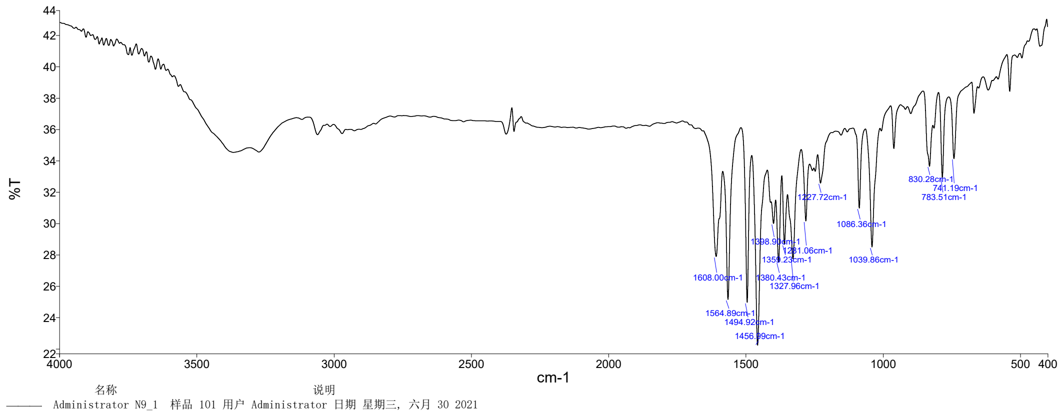


Figure S20. IR (KBr) spectra of complex **Ni22**.

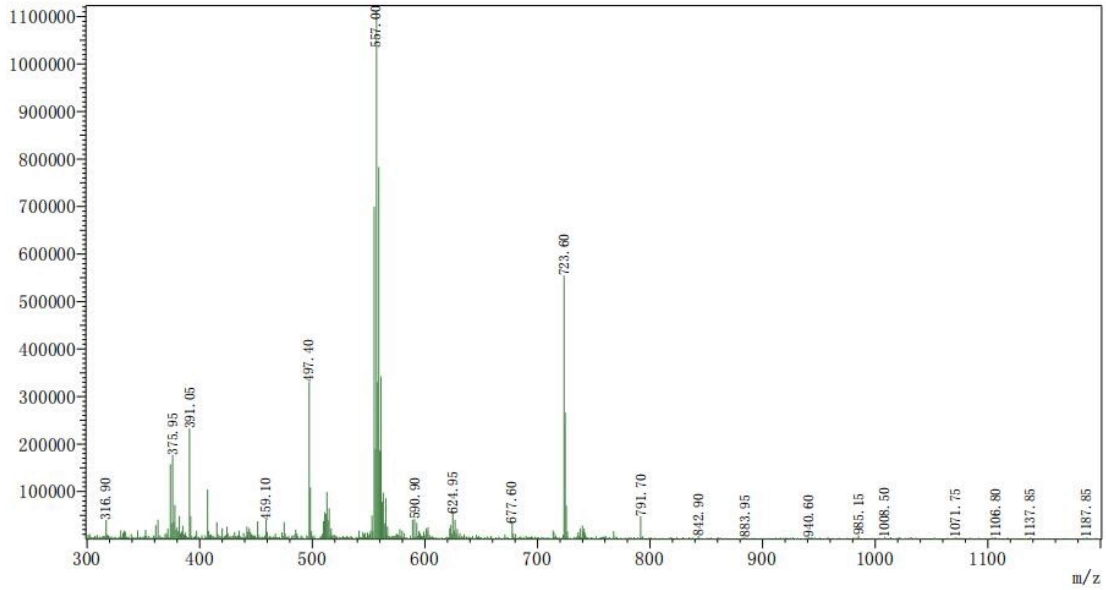


Figure S21. The mass spectra of **Ni1** (2×10^{-5} M) in Tris-HCl buffer solution (containing 5% DMSO) for 0 h.

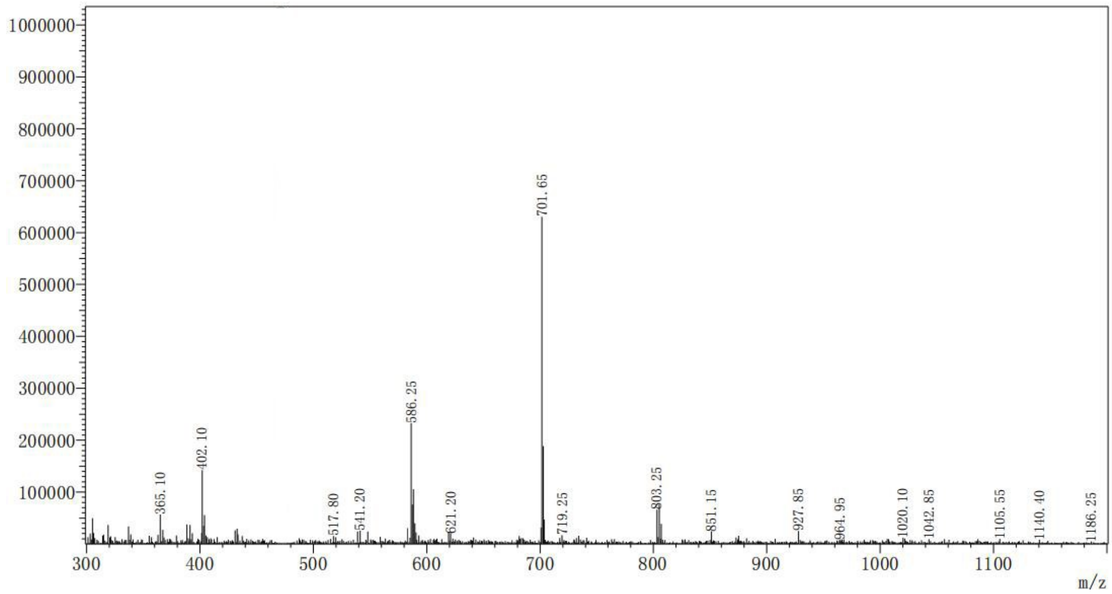


Figure S22. The mass spectra of **Ni2** (2×10^{-5} M) in Tris-HCl buffer solution (containing 5% DMSO) for 0 h.

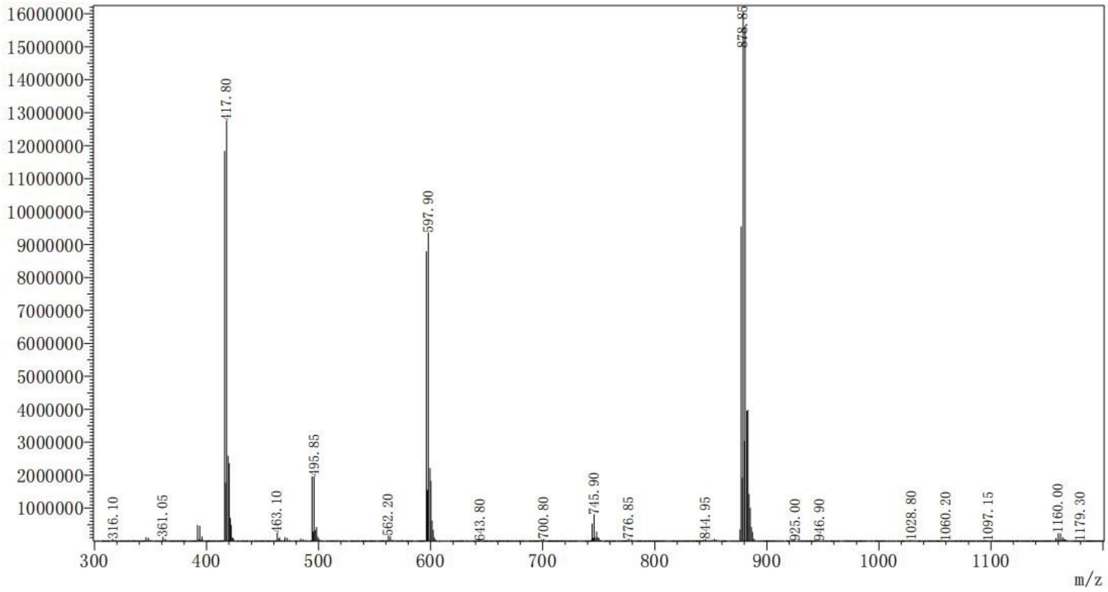


Figure S23. The mass spectra of **Ni3** (2×10^{-5} M) in Tris-HCl buffer solution (containing 5% DMSO) for 0 h.

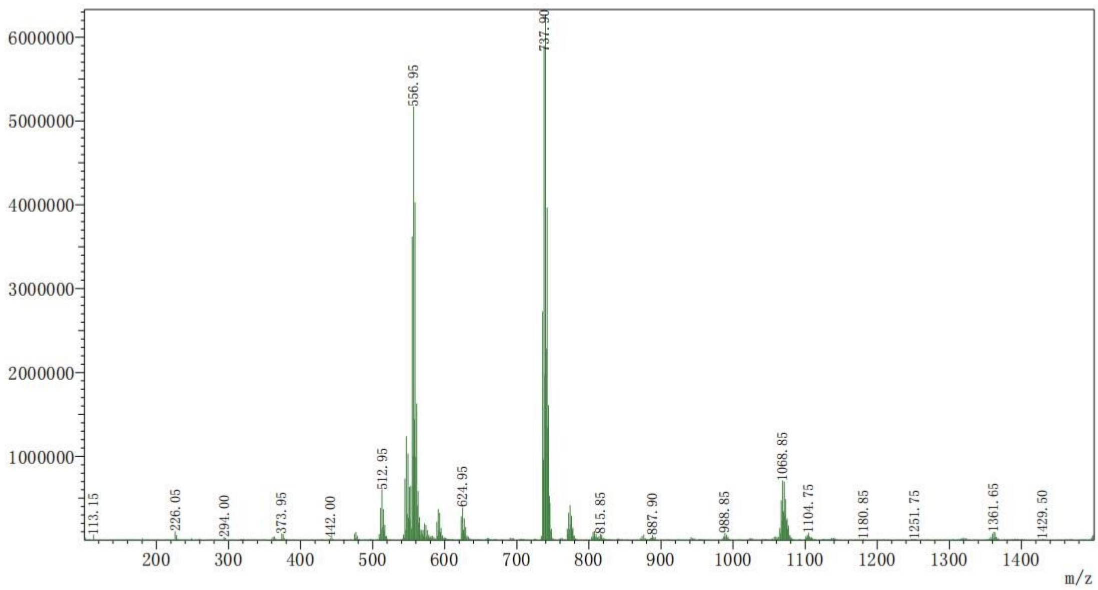


Figure S24. The mass spectra of **Ni4** (2×10^{-5} M) in Tris-HCl buffer solution (containing 5% DMSO) for 0 h.

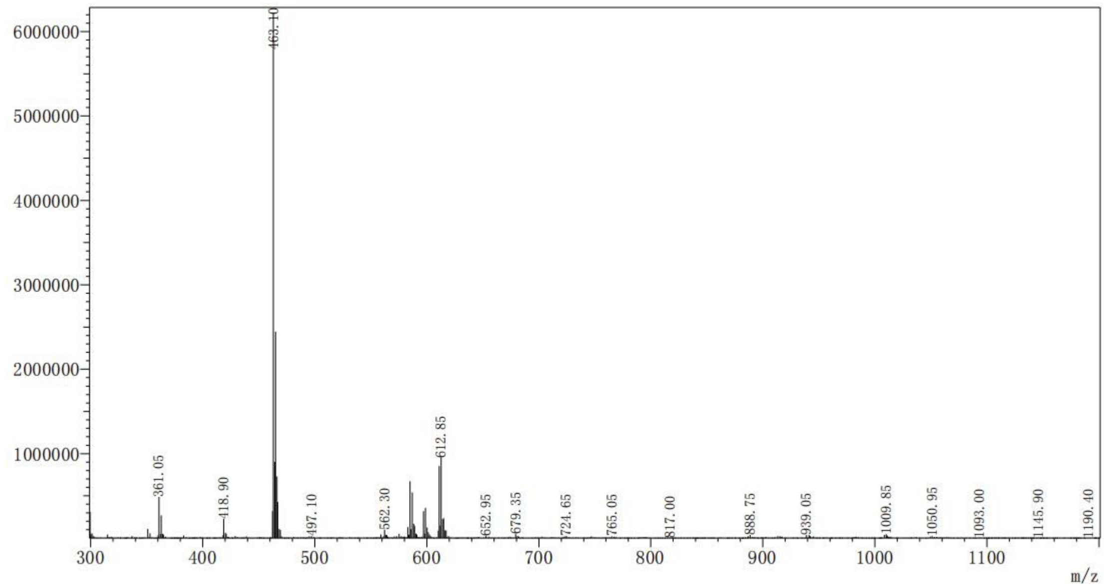


Figure S25. The mass spectra of **Ni8** (2×10^{-5} M) in Tris-HCl buffer solution (containing 5% DMSO) for 0 h.

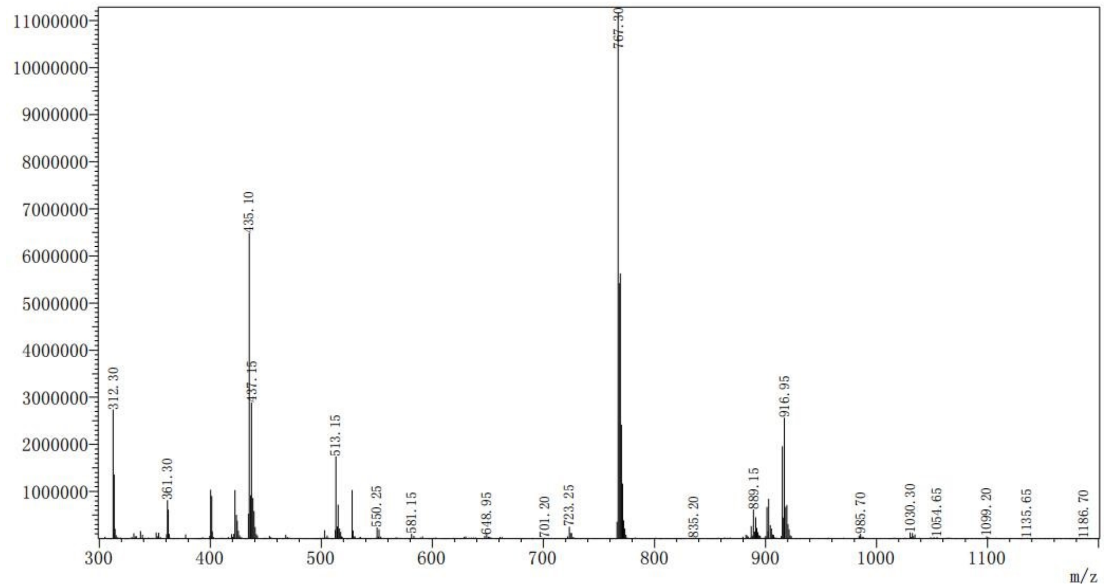


Figure S26. The mass spectra of **Ni10** (2×10^{-5} M) in Tris-HCl buffer solution (containing 5% DMSO) for 0 h.

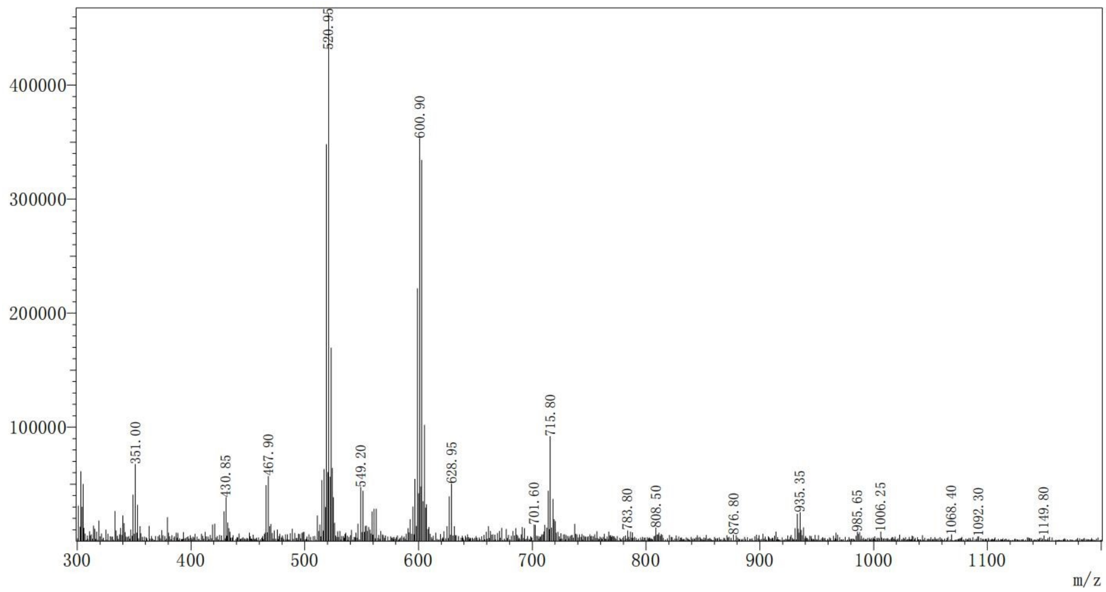


Figure S27. The mass spectra of **Ni11** (2×10^{-5} M) in Tris-HCl buffer solution (containing 5% DMSO) for 0 h.

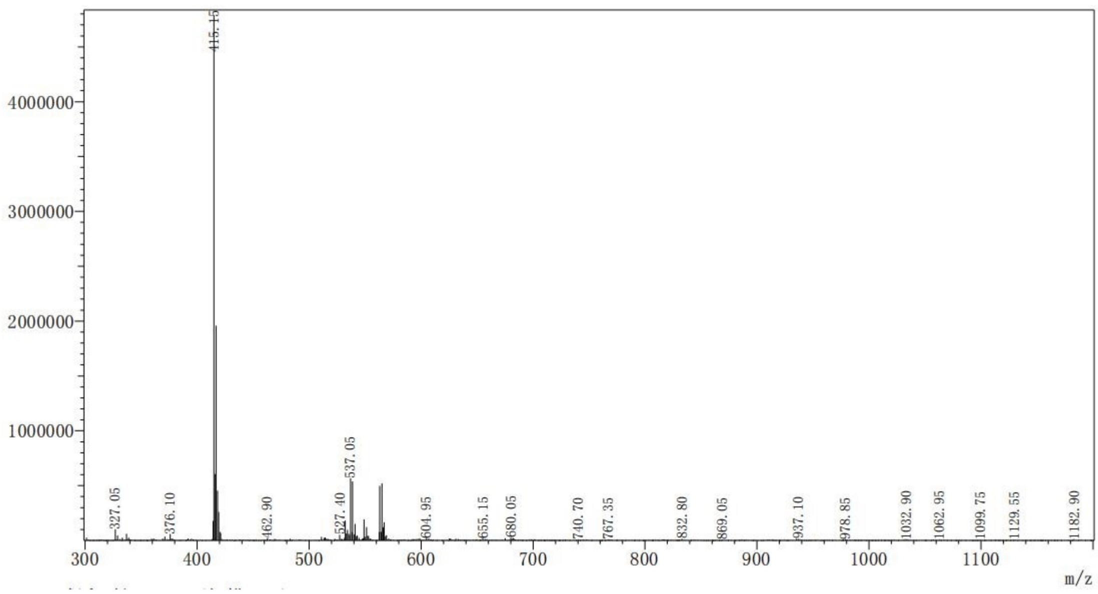


Figure S28. The mass spectra of **Ni12** (2×10^{-5} M) in Tris-HCl buffer solution (containing 5% DMSO) for 0 h.

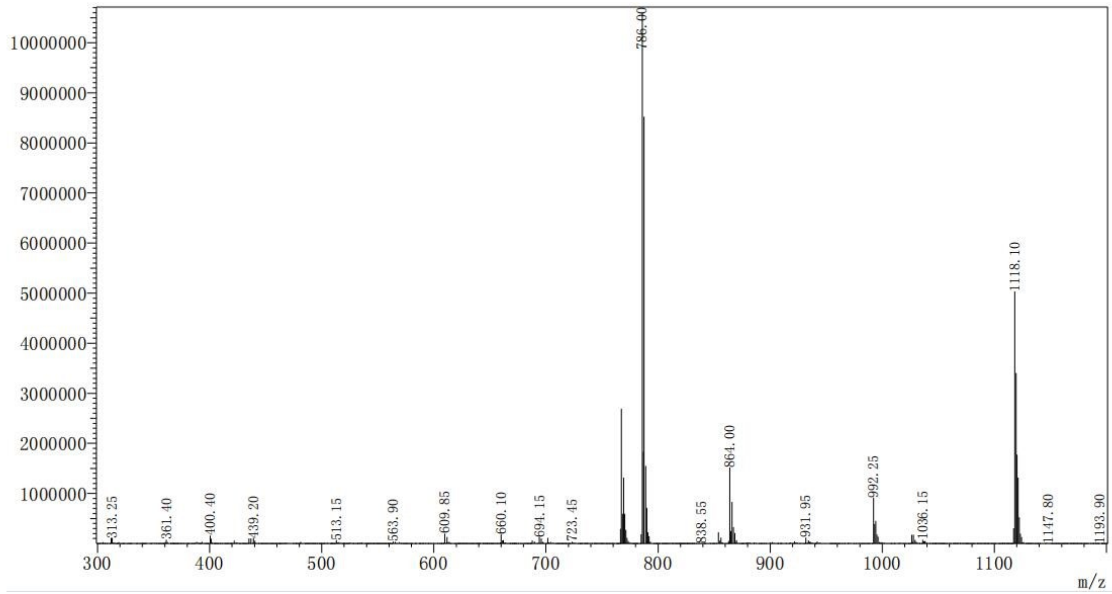


Figure S29. The mass spectra of **Ni13** (2×10^{-5} M) in Tris-HCl buffer solution (containing 5% DMSO) for 0 h.

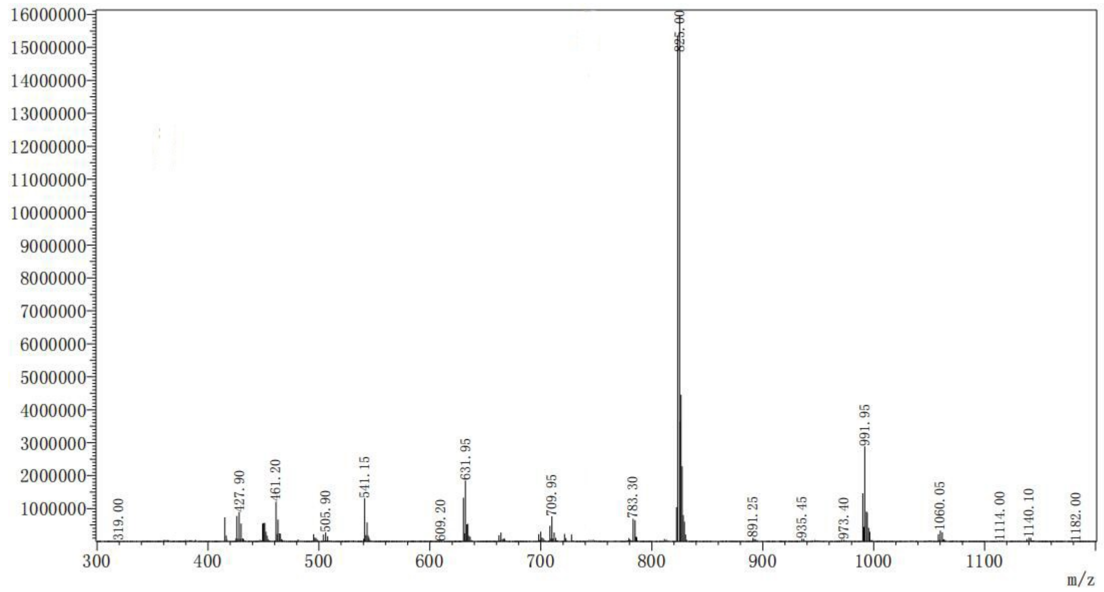


Figure S30. The mass spectra of **Ni14** (2×10^{-5} M) in Tris-HCl buffer solution (containing 5% DMSO) for 0 h.

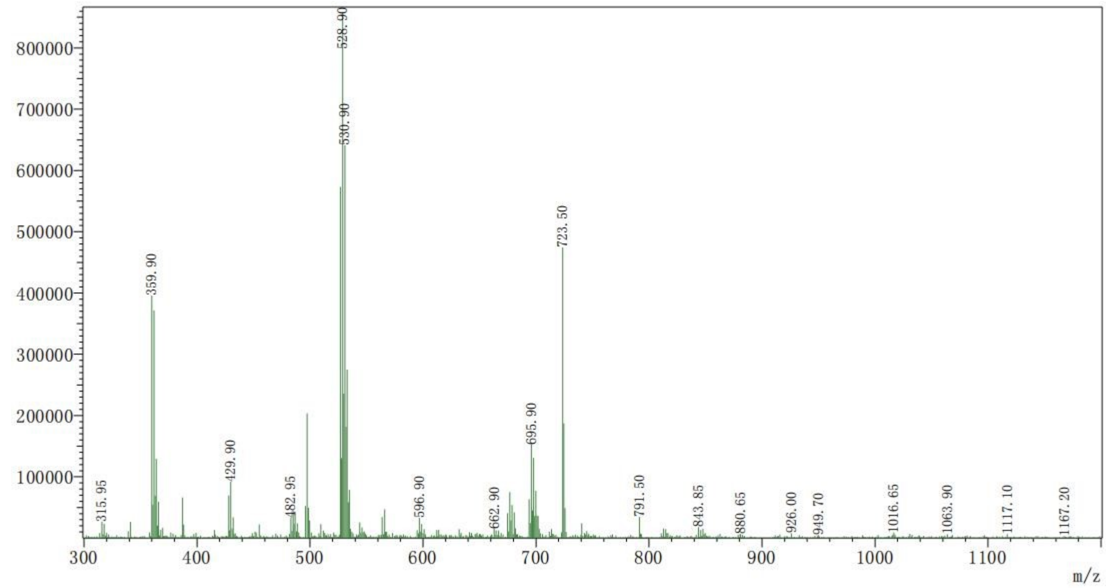


Figure S31. The mass spectra of **Ni15** (2×10^{-5} M) in Tris-HCl buffer solution (containing 5% DMSO) for 0 h.

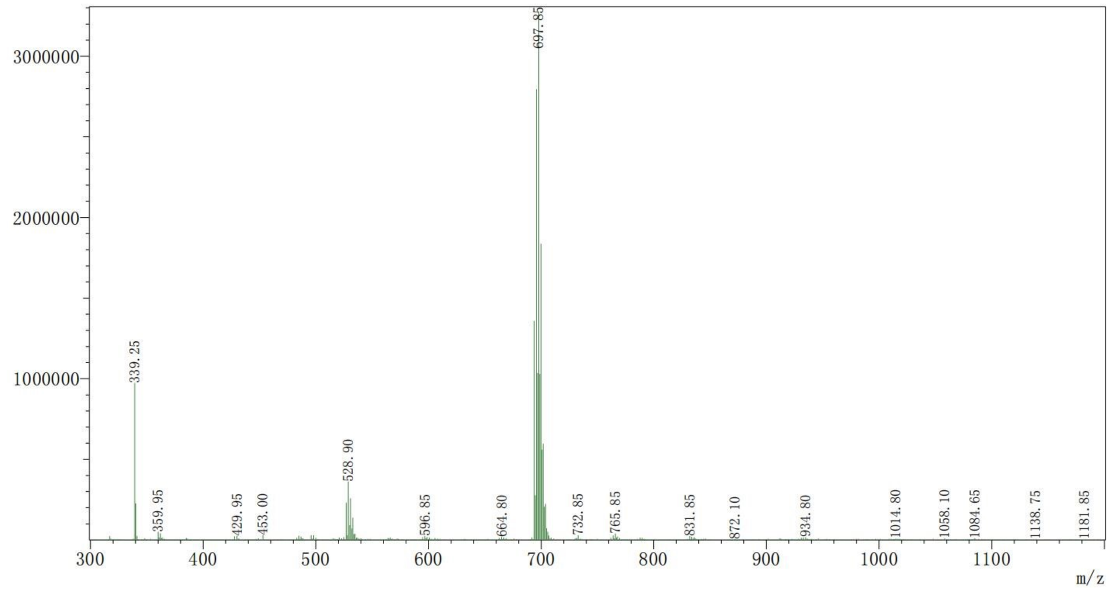


Figure S32. The mass spectra of **Ni16** (2×10^{-5} M) in Tris-HCl buffer solution (containing 5% DMSO) for 0 h.

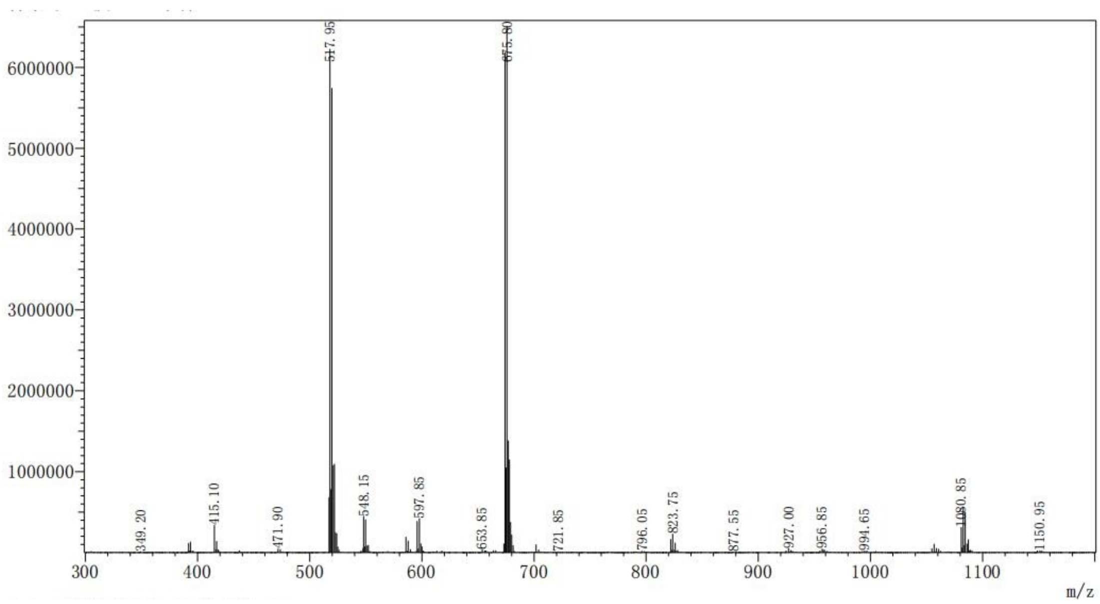


Figure S33. The mass spectra of **Ni17** (2×10^{-5} M) in Tris-HCl buffer solution (containing 5% DMSO) for 0 h.

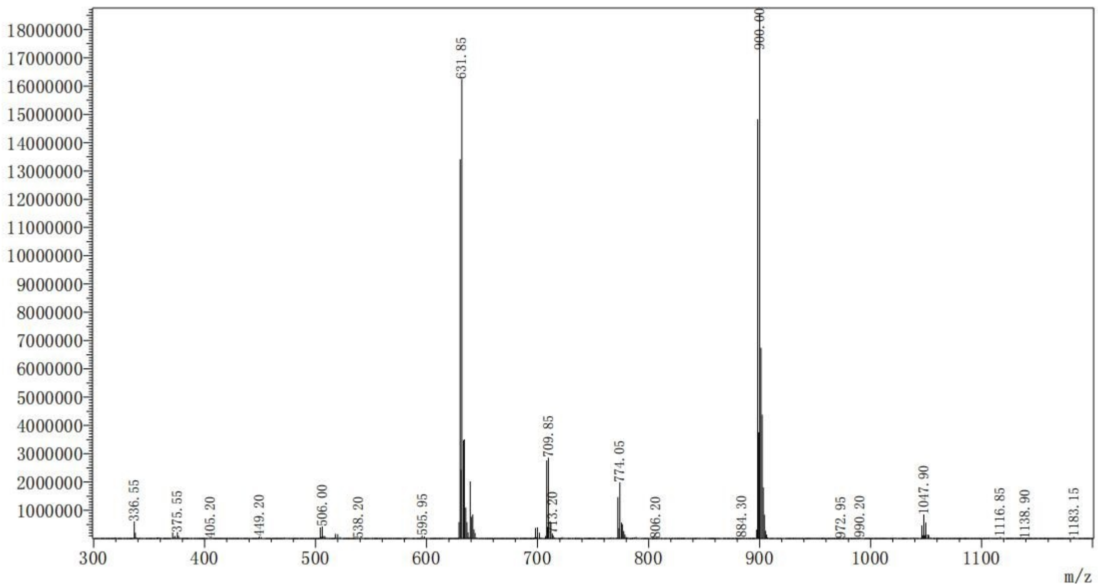


Figure S34. The mass spectra of **Ni18** (2×10^{-5} M) in Tris-HCl buffer solution (containing 5% DMSO) for 0 h.

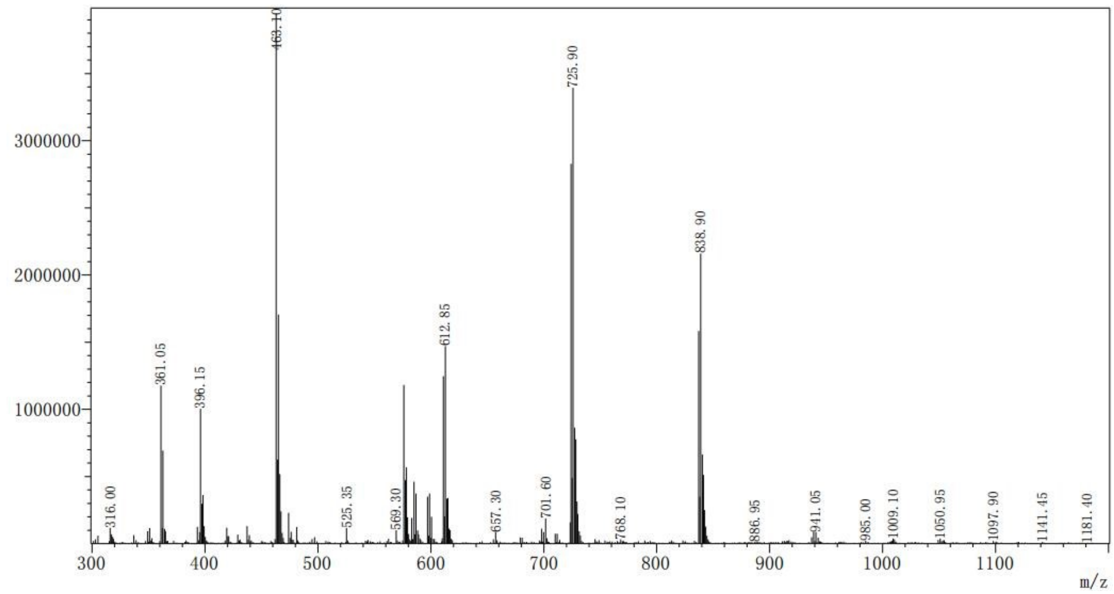


Figure S35. The mass spectra of **Ni19** (2×10^{-5} M) in Tris-HCl buffer solution (containing 5% DMSO) for 0 h.

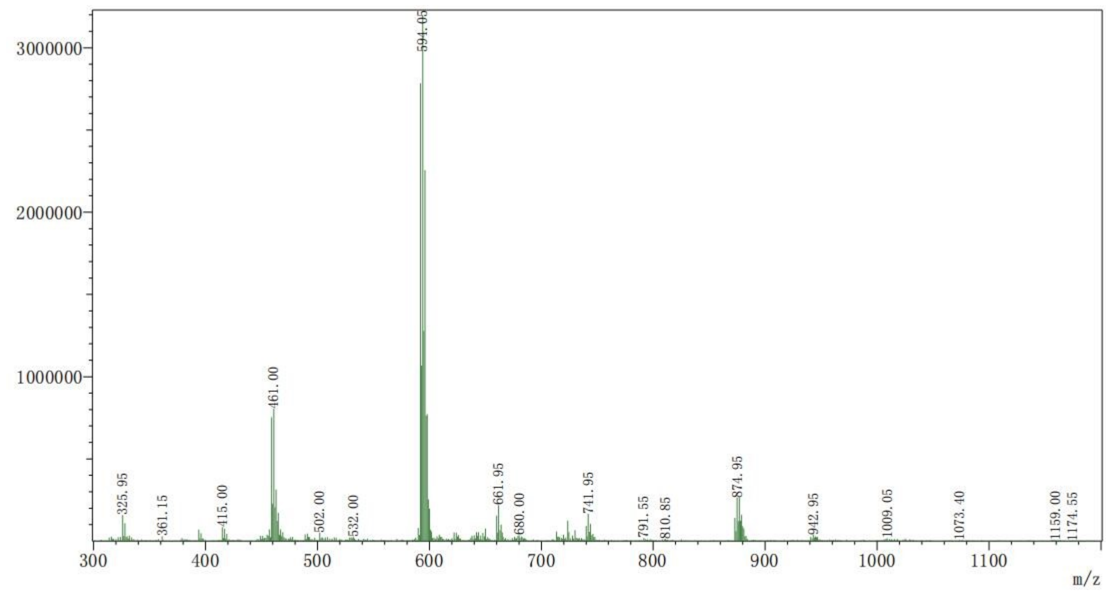


Figure S36. The mass spectra of **Ni20** (2×10^{-5} M) in Tris-HCl buffer solution (containing 5% DMSO) for 0 h.

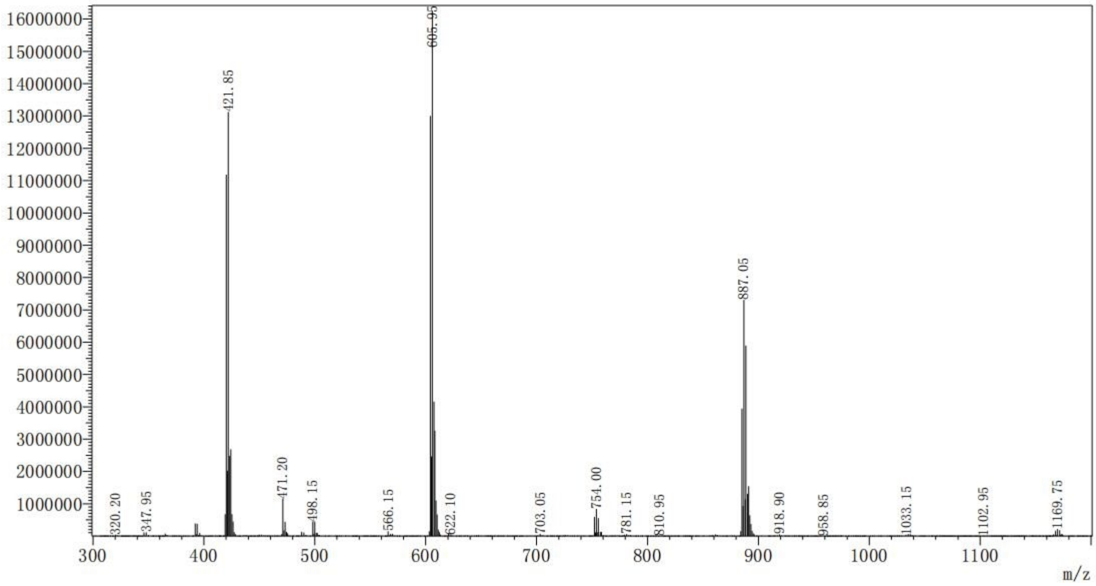


Figure S37. The mass spectra of **Ni21** (2×10^{-5} M) in Tris-HCl buffer solution (containing 5% DMSO) for 0 h.

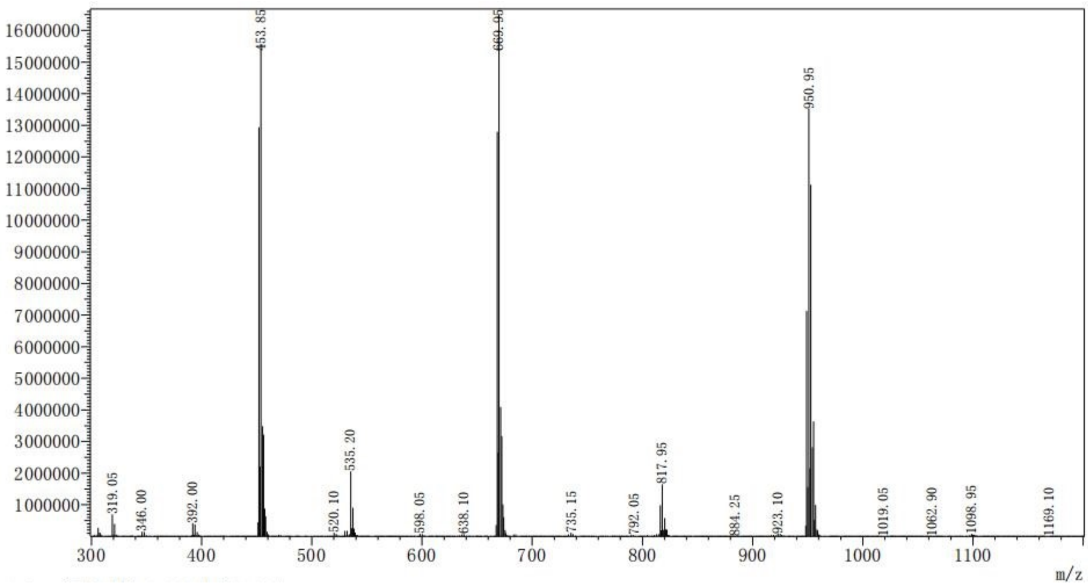


Figure S38. The mass spectra of **Ni22** (2×10^{-5} M) in Tris-HCl buffer solution (containing 5% DMSO) for 0 h.

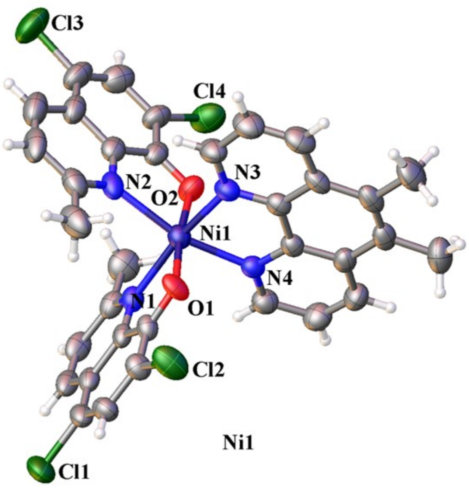


Figure S39. The molecular structures of **Ni1**.

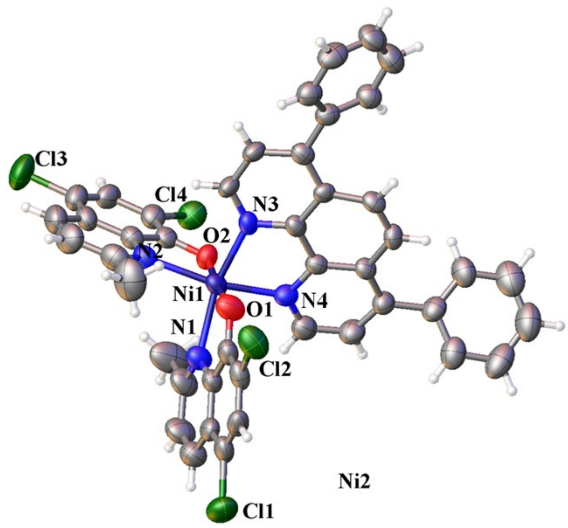


Figure S40. The molecular structures of **Ni2**, omitted the solvent molecules.

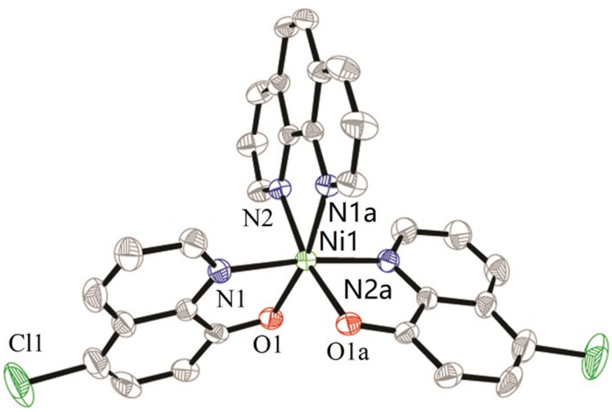


Figure S41. The molecular structures of **Ni3**, Omitted the H-atoms and solvent molecules.

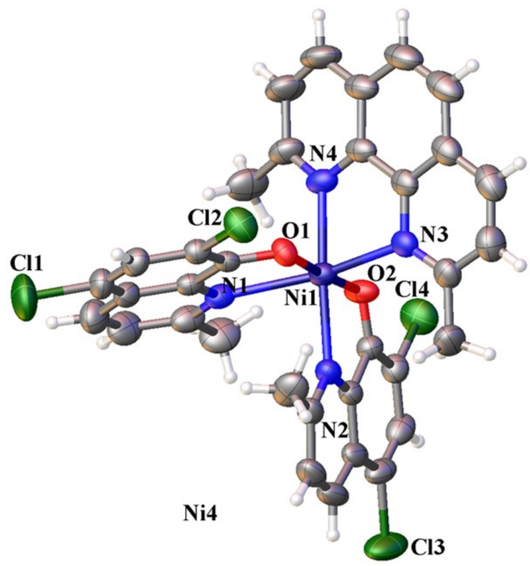


Figure S42. The molecular structures of **Ni4**.

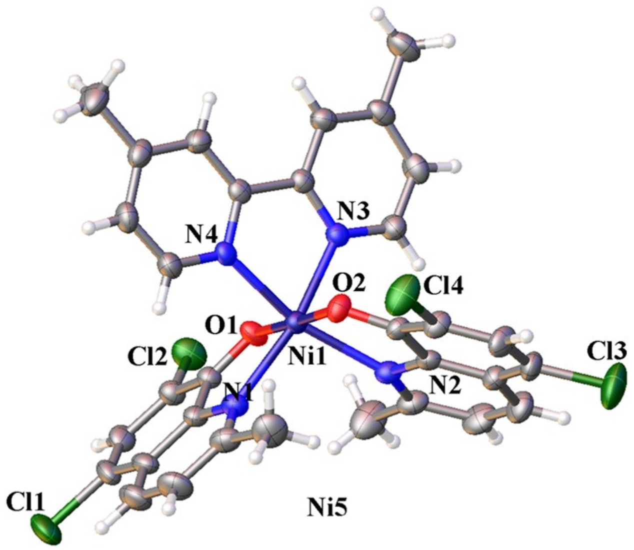


Figure S43. The molecular structures of **Ni5**.

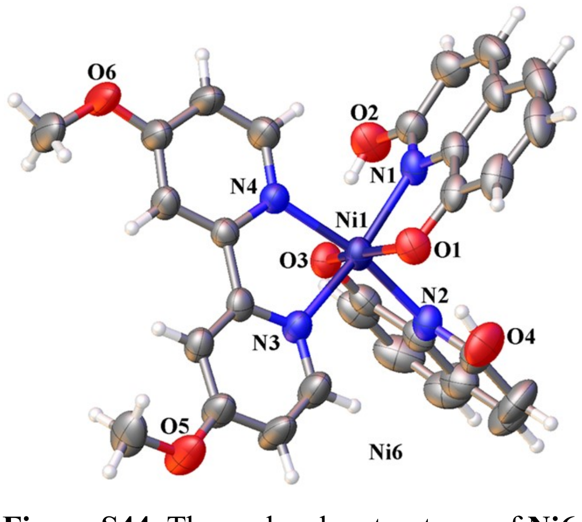


Figure S44. The molecular structures of **Ni6**.

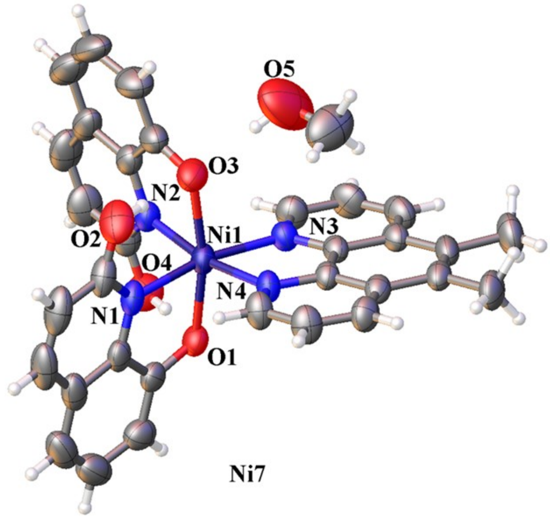


Figure S45. The molecular structures of **Ni7**.

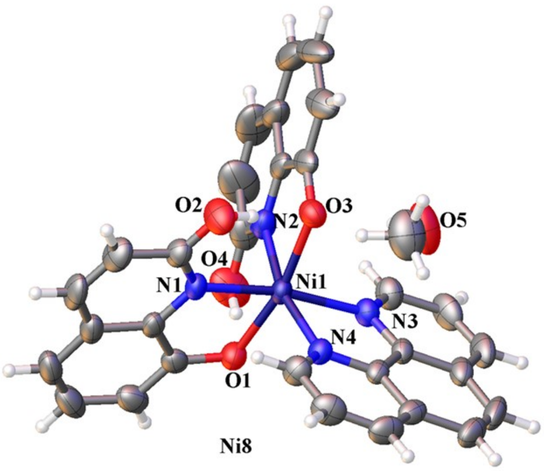


Figure S46. The molecular structures of **Ni8**.

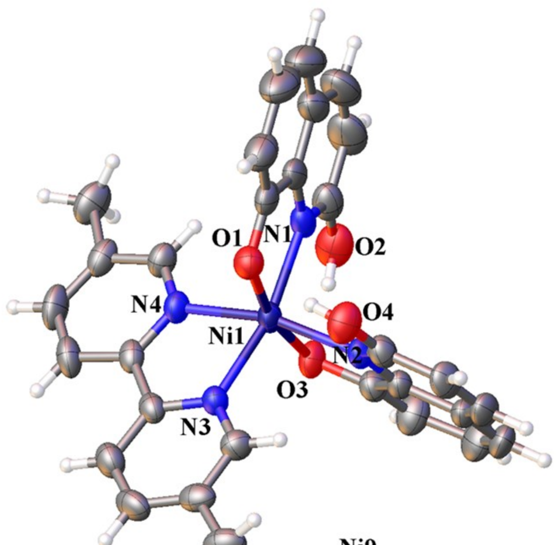
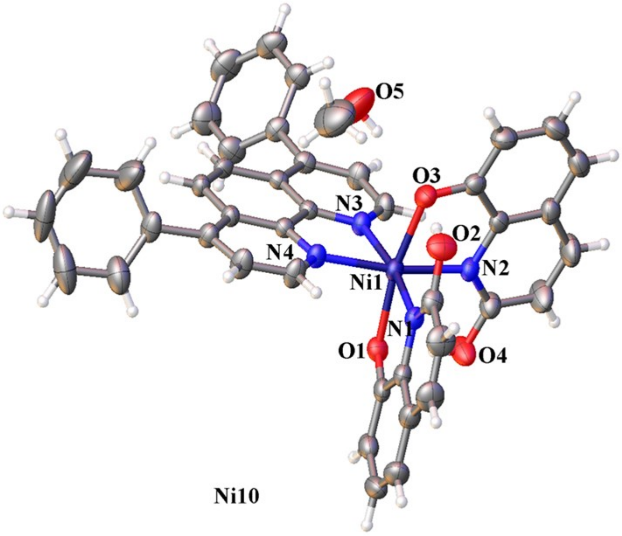
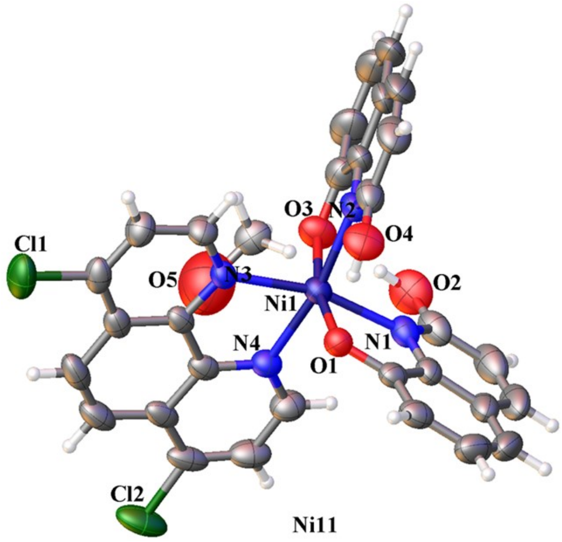


Figure S47. The molecular structures of **Ni9**.



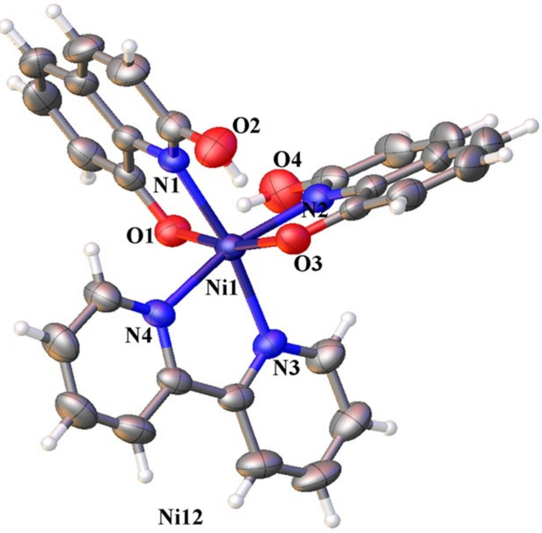
Ni10

Figure S48. The molecular structures of **Ni10**.



Ni11

Figure S49. The molecular structures of **Ni11**.



Ni12

Figure S50. The molecular structures of **Ni12**.

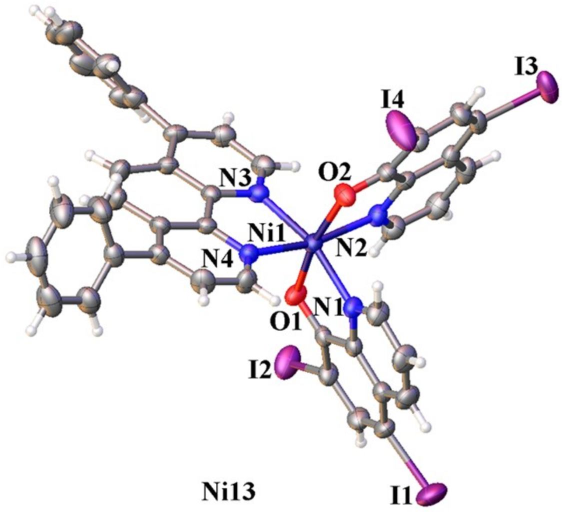


Figure S51. The molecular structures of **Ni13**.

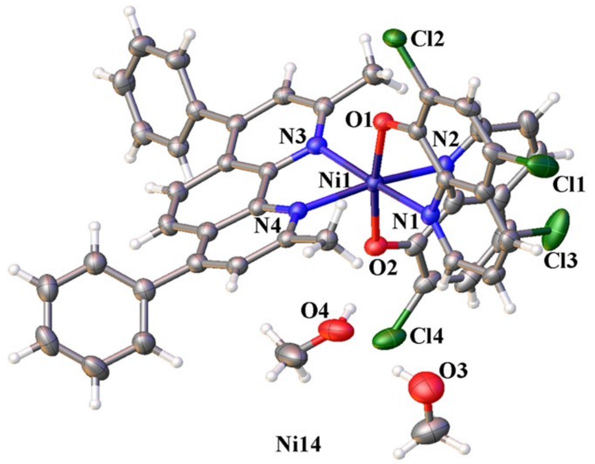


Figure S52. The molecular structures of **Ni14**.

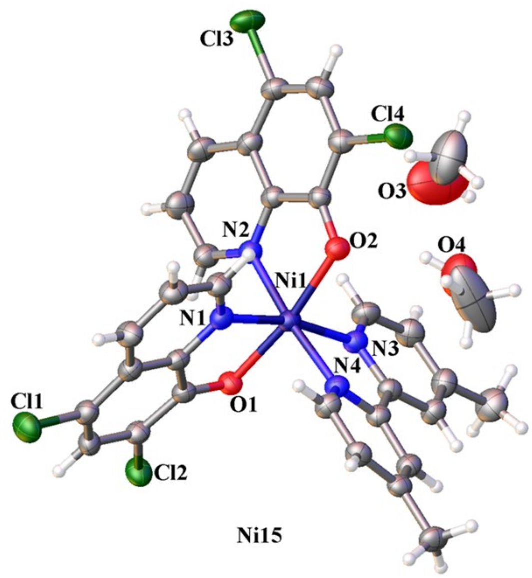


Figure S53. The molecular structures of **Ni15**.

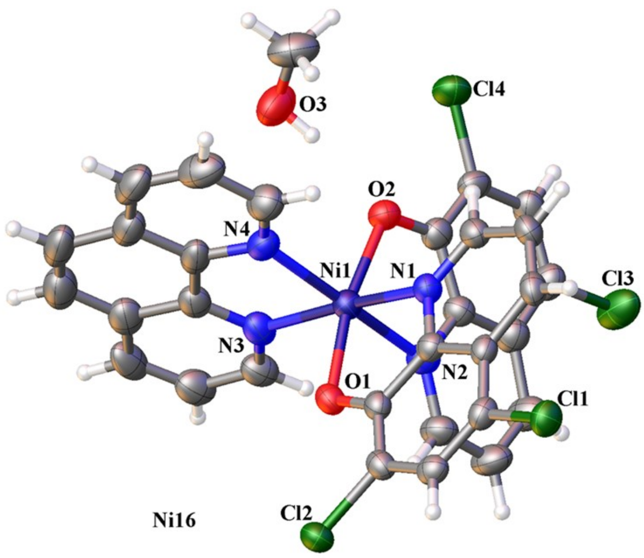


Figure S54. The molecular structures of **Ni16**.

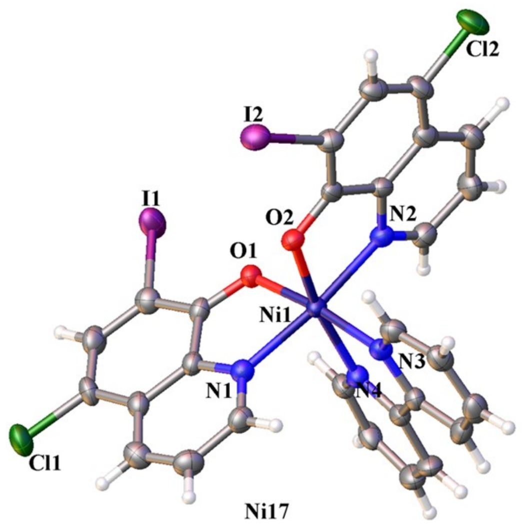


Figure S55. The molecular structures of **Ni17**.

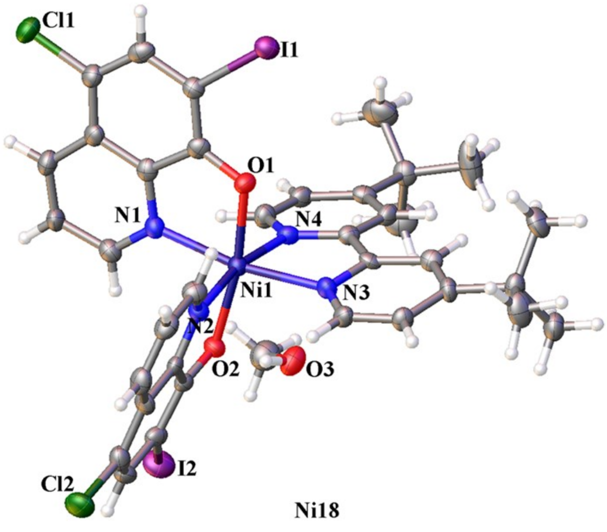


Figure S56. The molecular structures of **Ni18**.

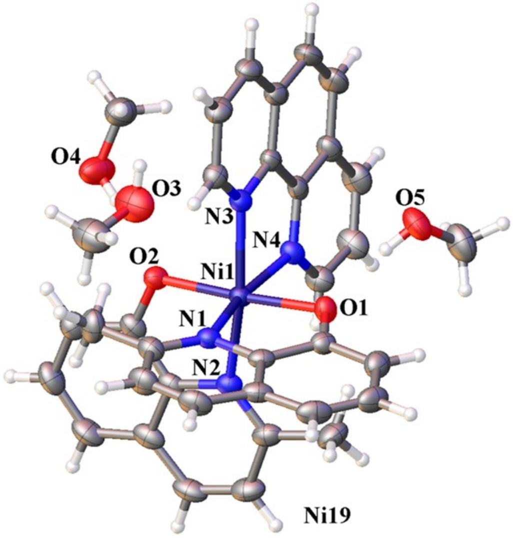


Figure S57. The molecular structures of **Ni19**.

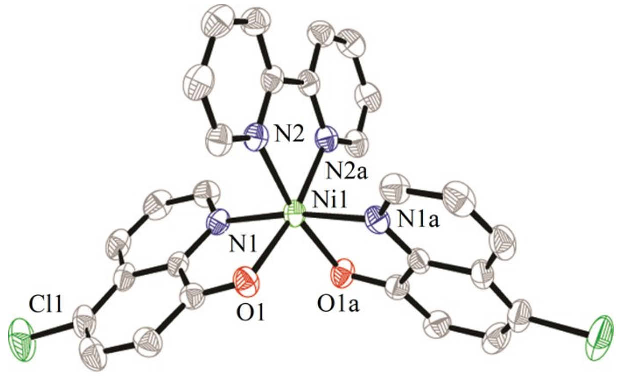


Figure S58. The molecular structures of **Ni20**. Omitted the H-atoms and solvent molecules.

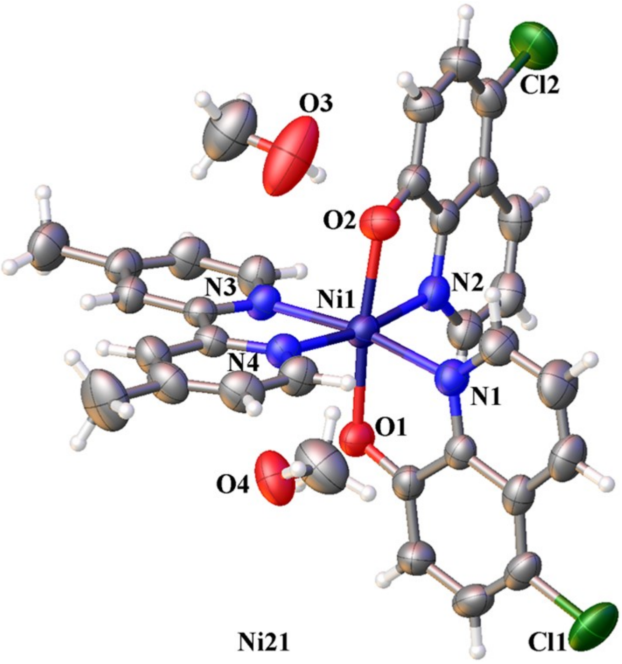


Figure S59. The molecular structures of **Ni21**.

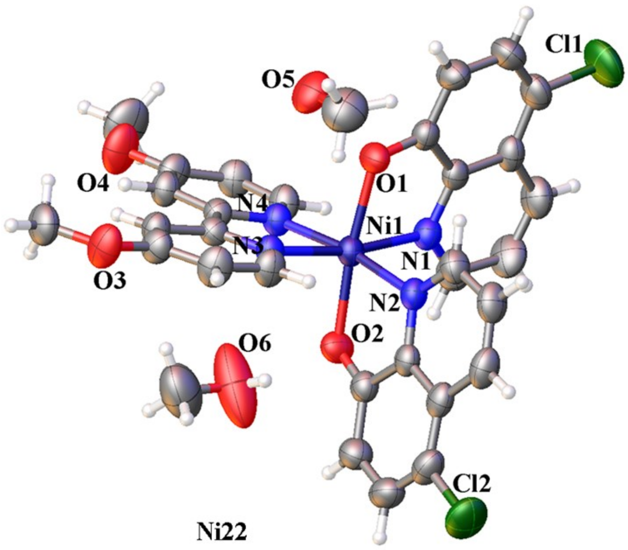


Figure S60. The molecular structures of **Ni22**.

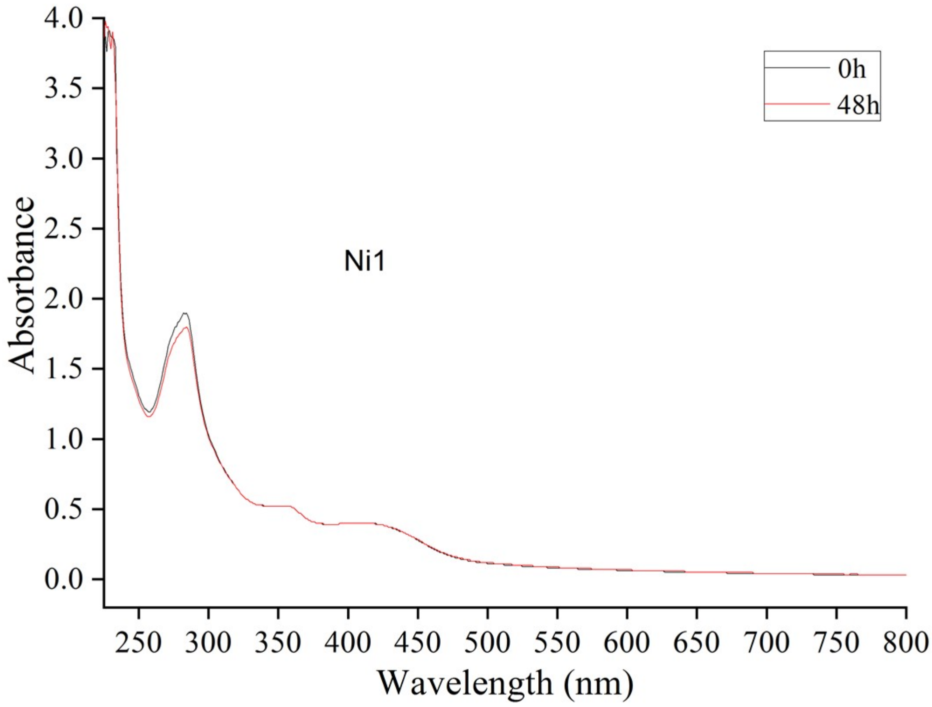


Figure S61. UV-Vis absorption spectra of **Ni1** (2.0×10^{-5} M) in Tris-NaCl solution in the time course 0 h and 48 h, respectively.

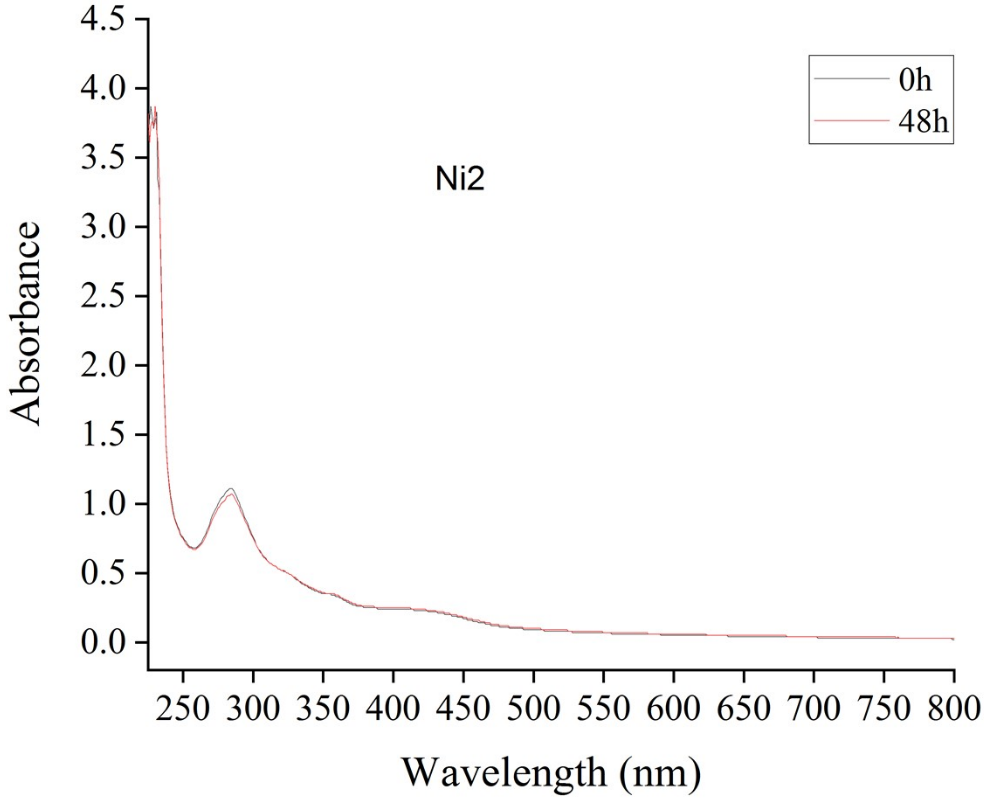


Figure S62. UV-Vis absorption spectra of **Ni2** (2.0×10^{-5} M) in Tris-NaCl solution in the time course 0 h and 48 h, respectively.

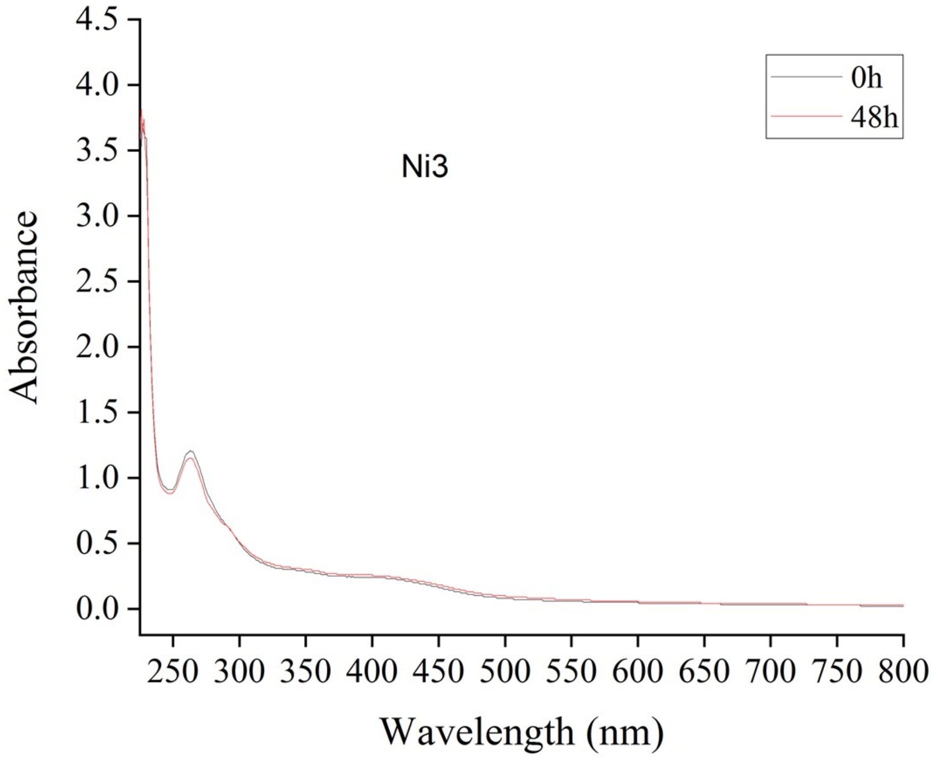


Figure S63. UV-Vis absorption spectra of **Ni3** (2.0×10^{-5} M) in Tris-NaCl solution in the time course 0 h and 48 h, respectively.

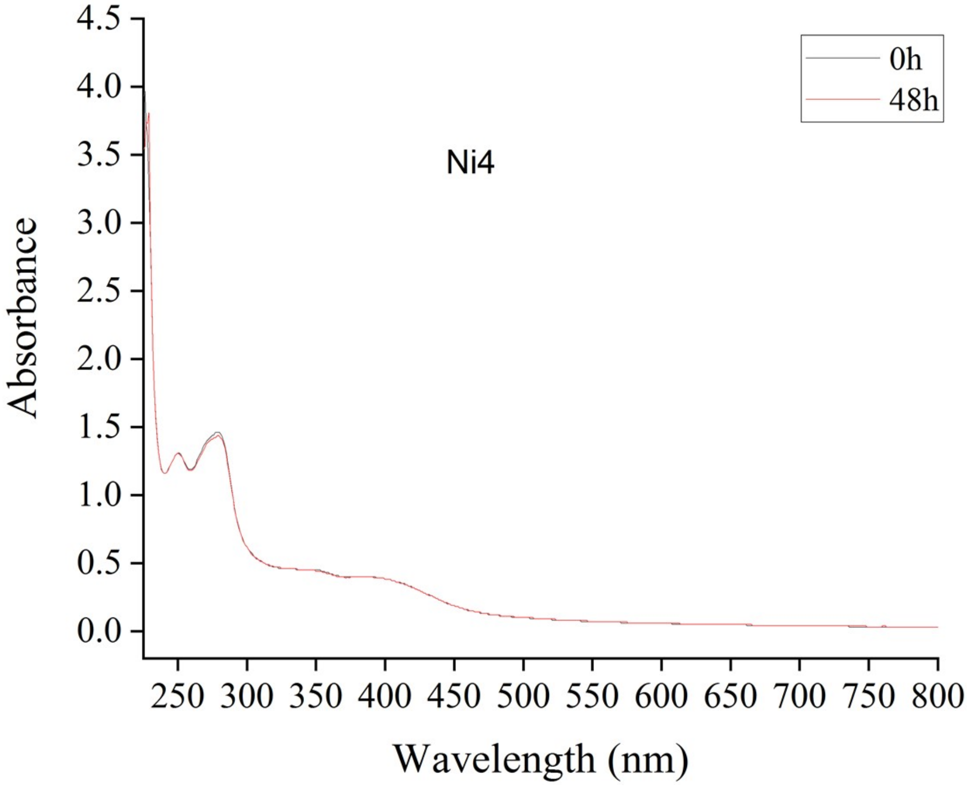


Figure S64. UV-Vis absorption spectra of **Ni4** (2.0×10^{-5} M) in Tris-NaCl solution in the time course 0 h and 48 h, respectively.

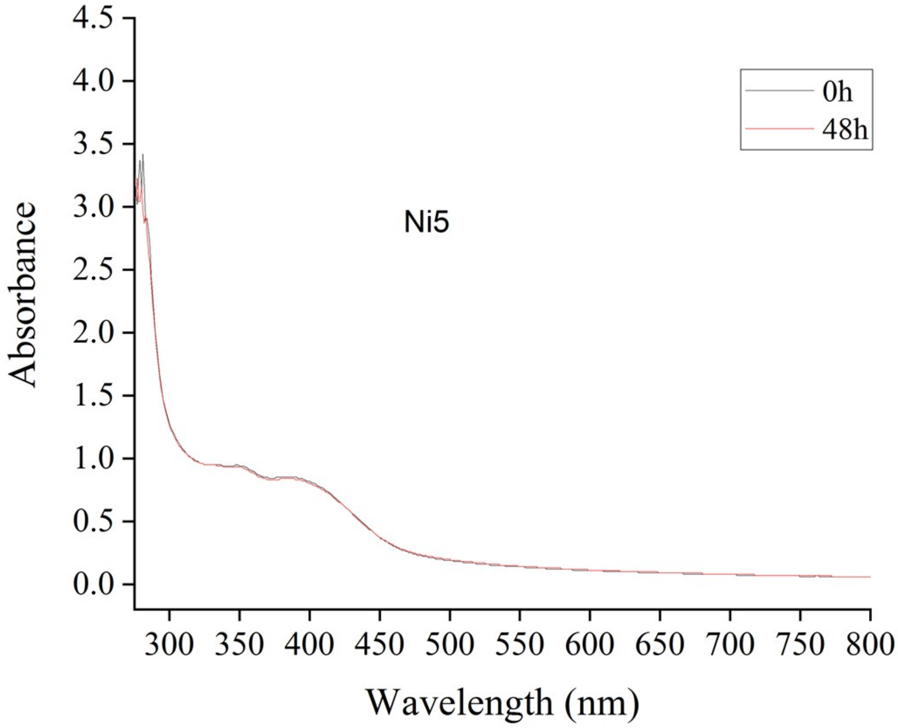


Figure S65. UV-Vis absorption spectra of **Ni5** (2.0×10^{-5} M) in Tris-NaCl solution in the time course 0 h and 48 h, respectively.

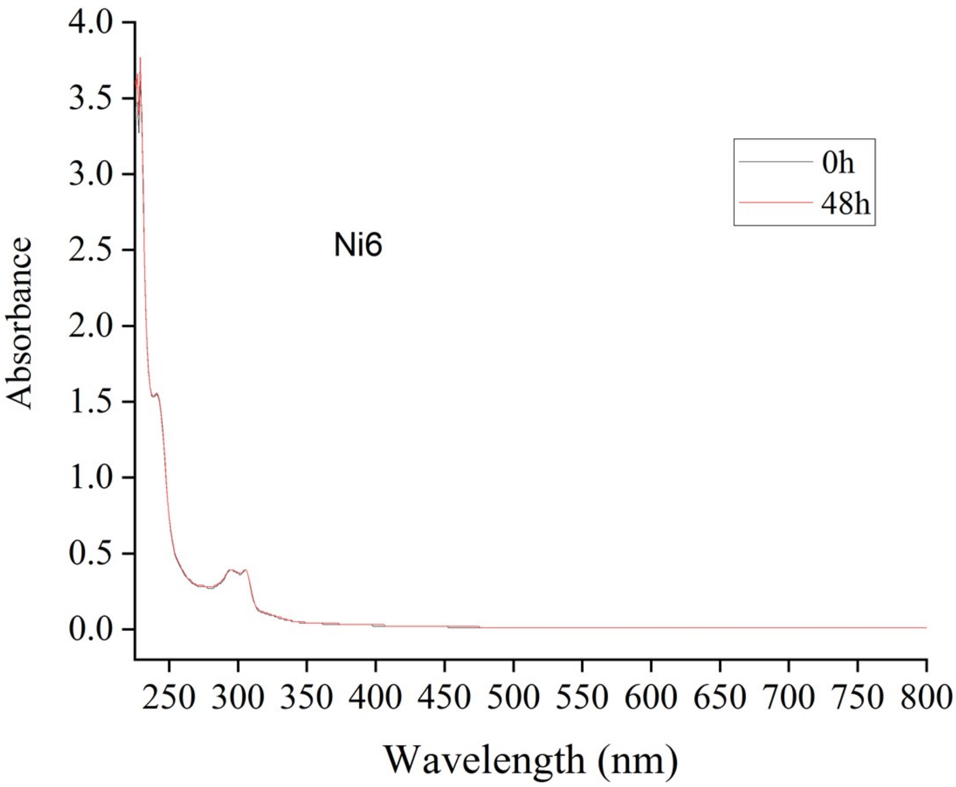


Figure S66. UV-Vis absorption spectra of **Ni6** (2.0×10^{-5} M) in Tris-NaCl solution in the time course 0 h and 48 h, respectively.

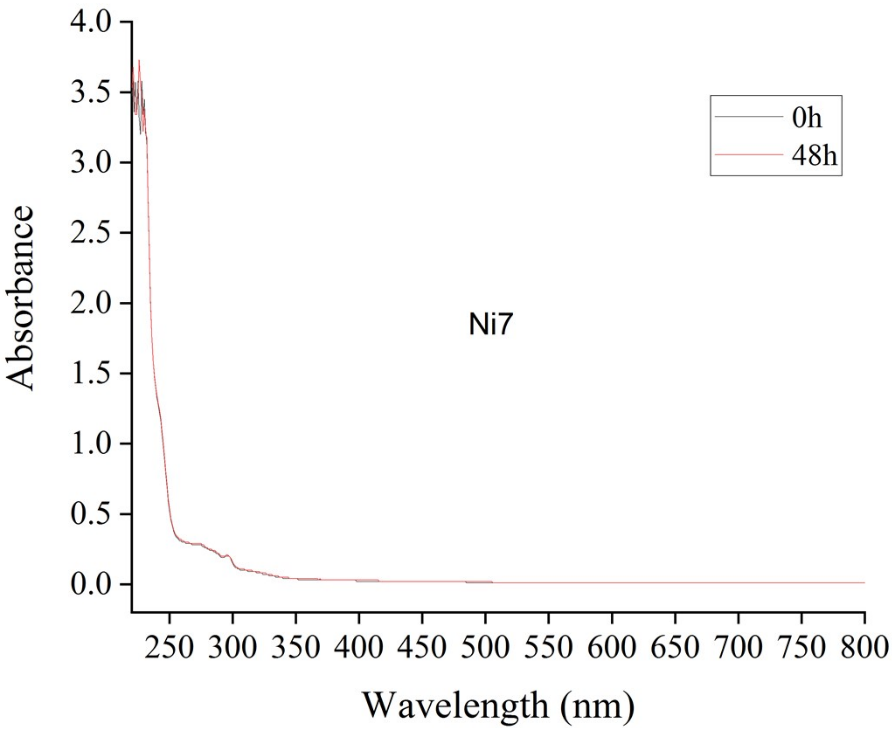


Figure S67. UV-Vis absorption spectra of **Ni7** (2.0×10^{-5} M) in Tris-NaCl solution in the time course 0 h and 48 h, respectively.

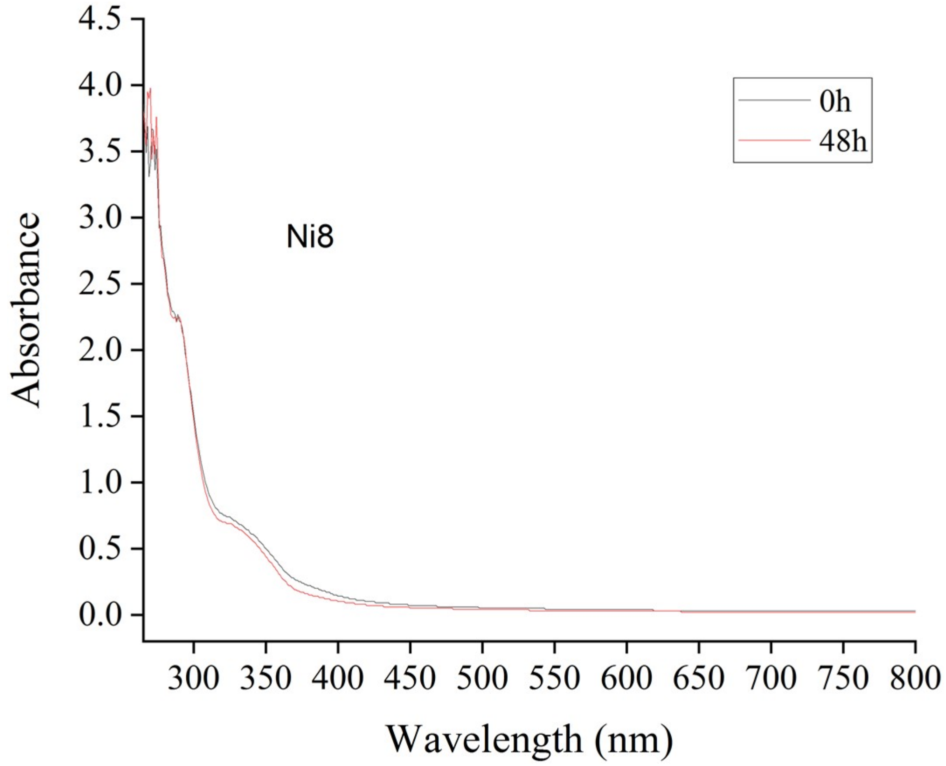


Figure S68. UV-Vis absorption spectra of **Ni8** (2.0×10^{-5} M) in Tris-NaCl solution in the time course 0 h and 48 h, respectively.

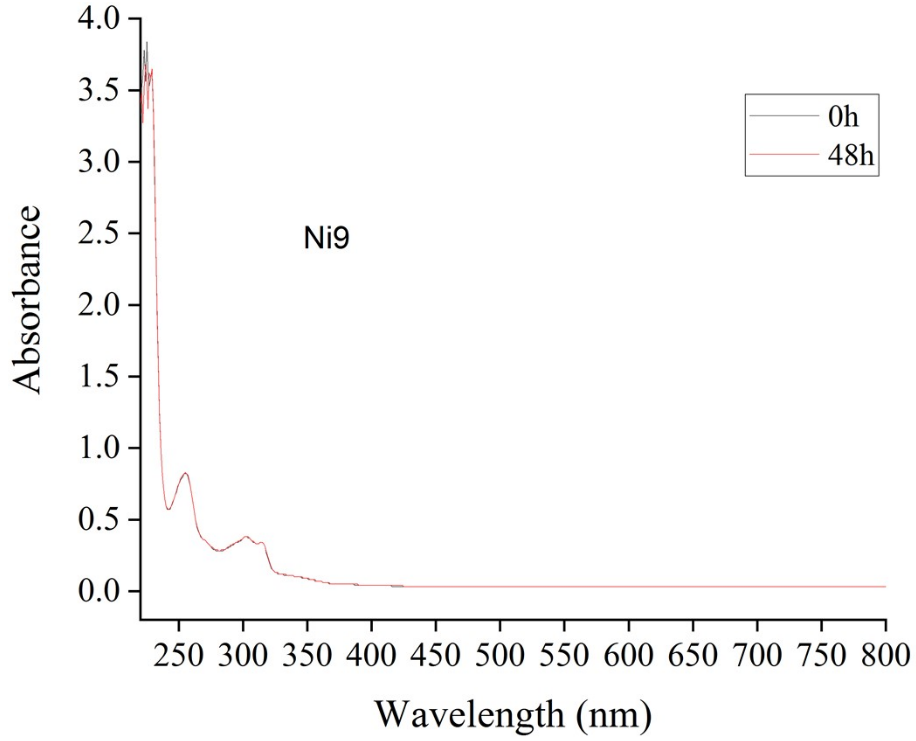


Figure S69. UV-Vis absorption spectra of **Ni9** (2.0×10^{-5} M) in Tris-NaCl solution in the time course 0 h and 48 h, respectively.

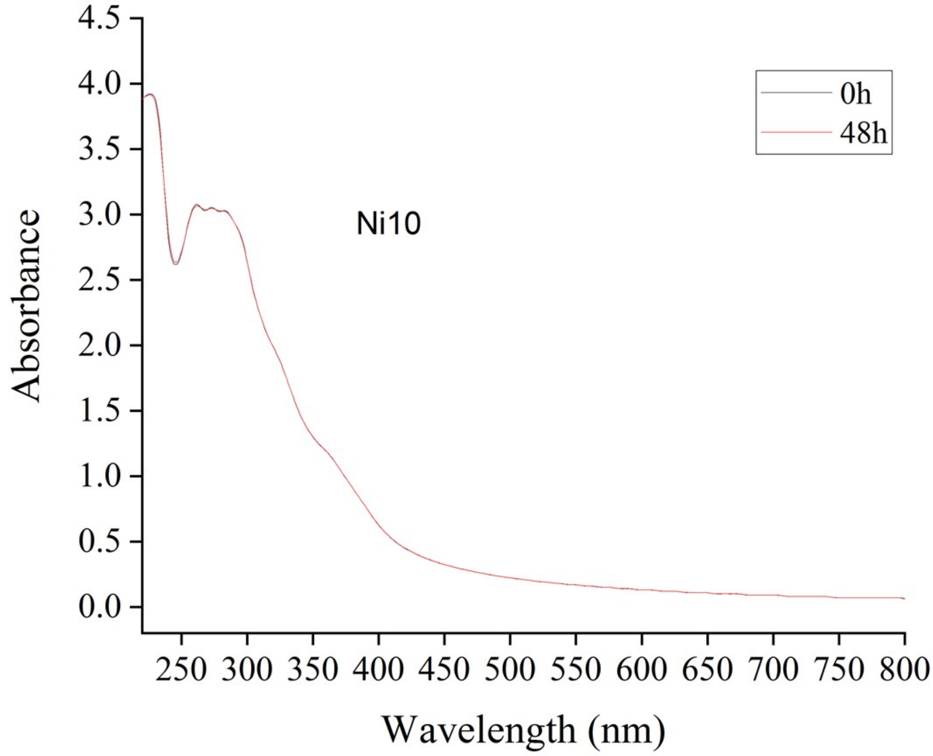


Figure S70. UV-Vis absorption spectra of **Ni10** (2.0×10^{-5} M) in Tris-NaCl solution in the time course 0 h and 48 h, respectively.

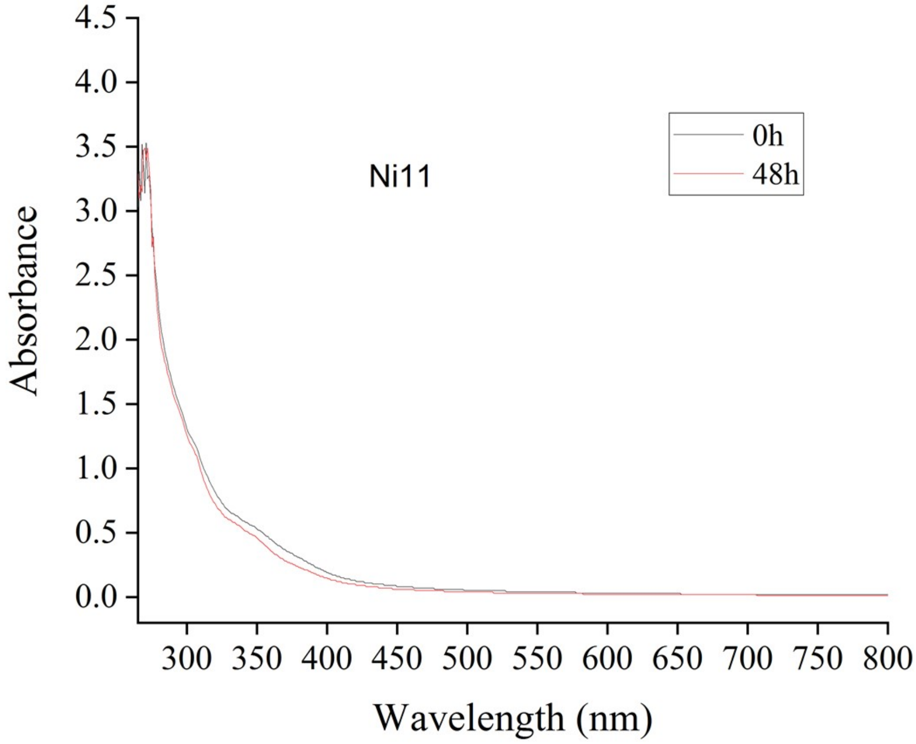


Figure S71. UV-Vis absorption spectra of **Ni11** (2.0×10^{-5} M) in Tris-NaCl solution in the time course 0 h and 48 h, respectively.

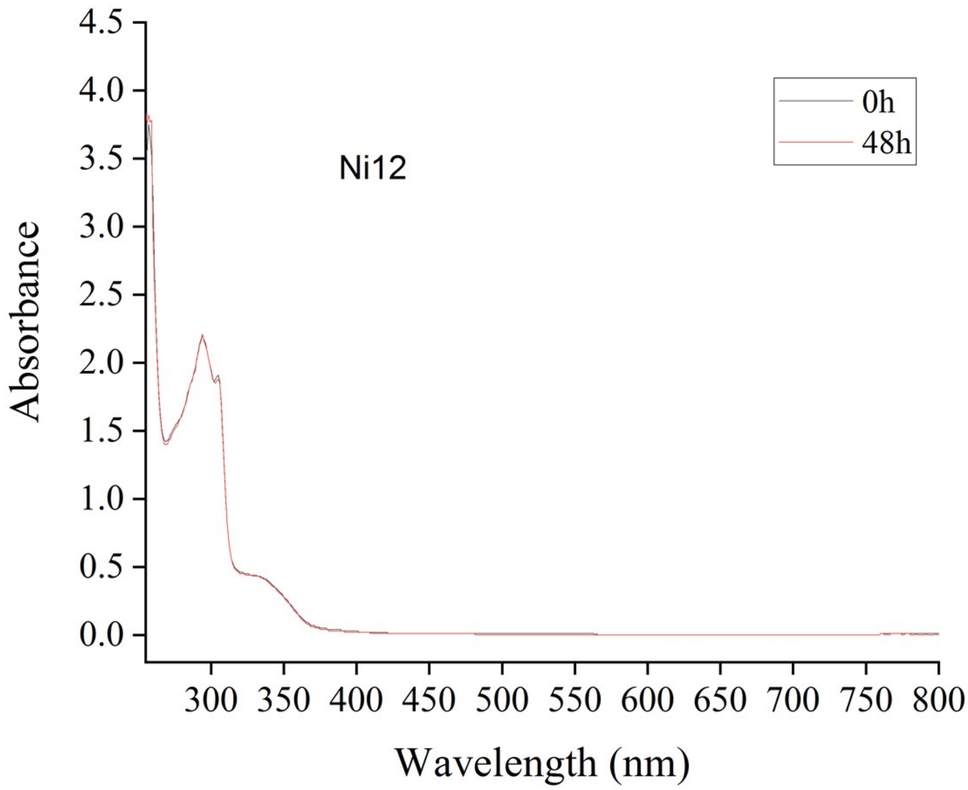


Figure S72. UV-Vis absorption spectra of **Ni12** (2.0×10^{-5} M) in Tris-NaCl solution in the time course 0 h and 48 h, respectively.

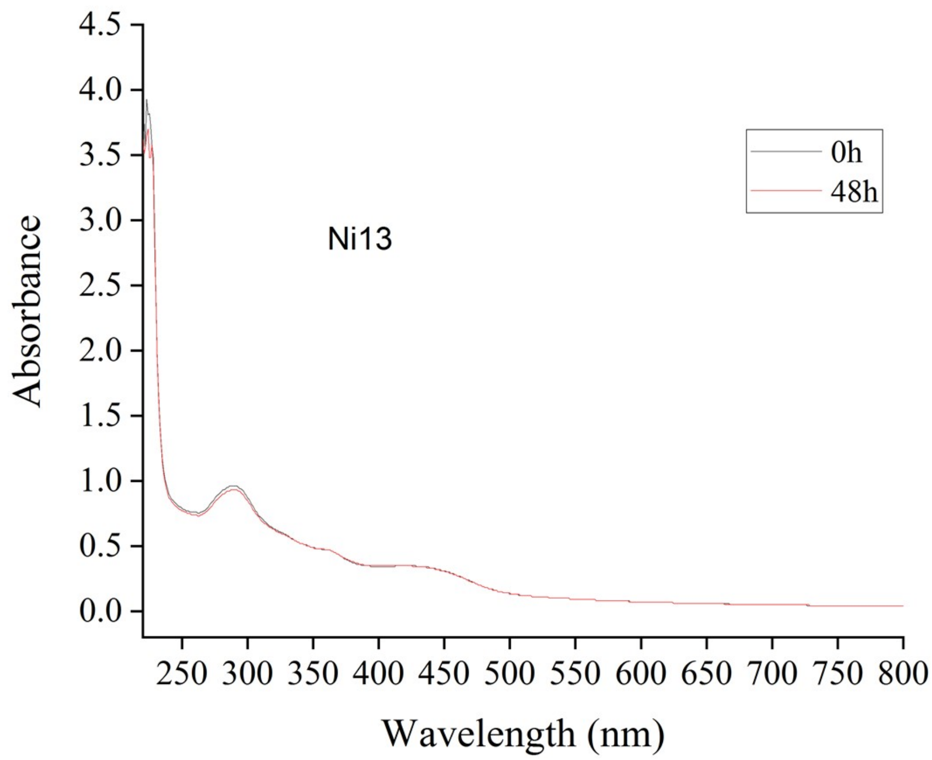


Figure S73. UV-Vis absorption spectra of **Ni13** (2.0×10^{-5} M) in Tris-NaCl solution in the time course 0 h and 48 h, respectively.

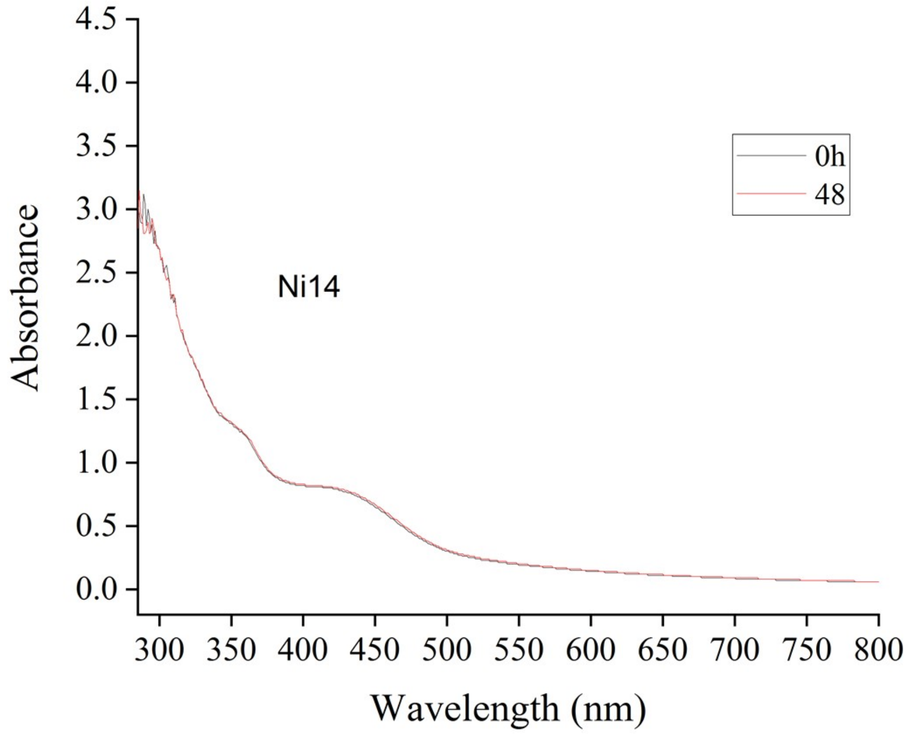


Figure S74. UV-Vis absorption spectra of **Ni14** (2.0×10^{-5} M) in Tris-NaCl solution in the time course 0 h and 48 h, respectively.

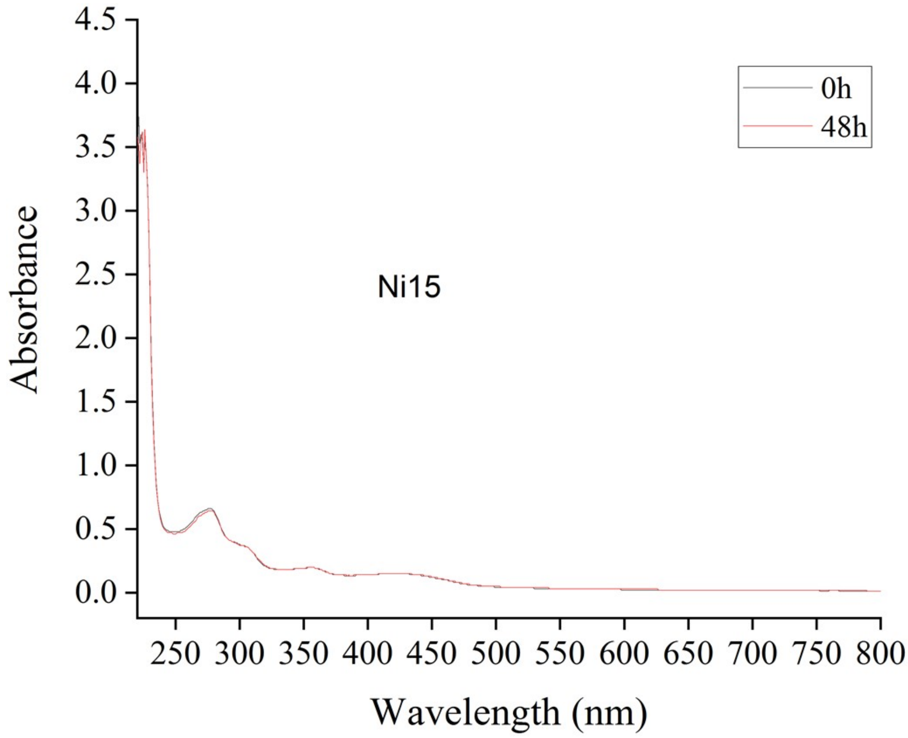


Figure S75. UV-Vis absorption spectra of **Ni15** (2.0×10^{-5} M) in Tris-NaCl solution in the time course 0 h and 48 h, respectively.

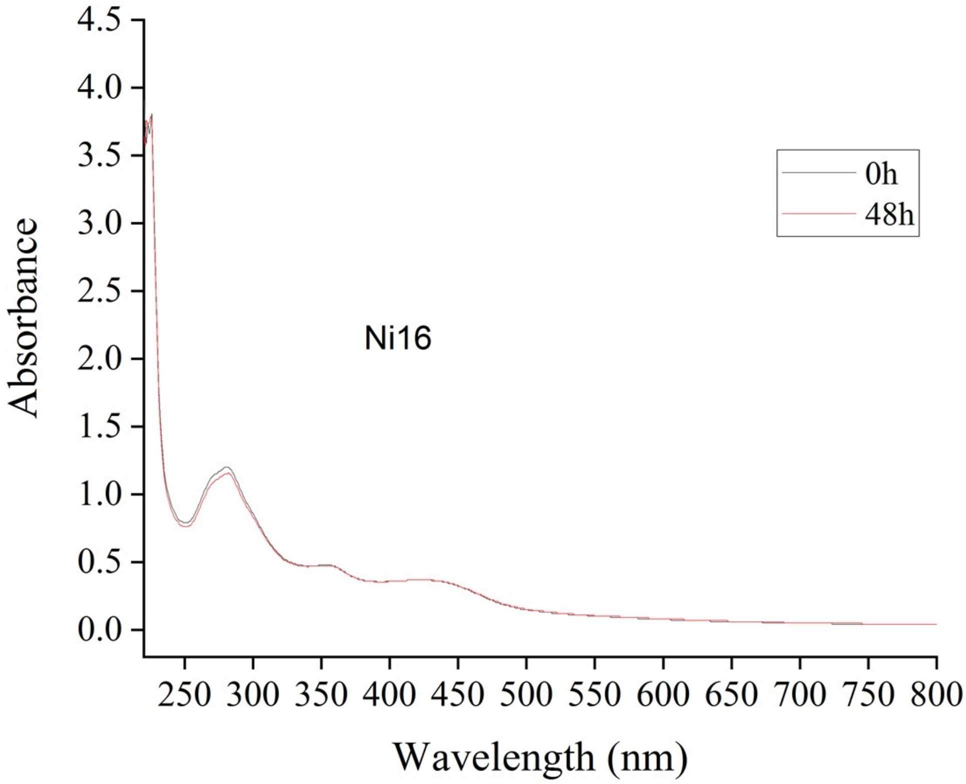


Figure S76. UV-Vis absorption spectra of **Ni16** (2.0×10^{-5} M) in Tris-NaCl solution in the time course 0 h and 48 h, respectively.

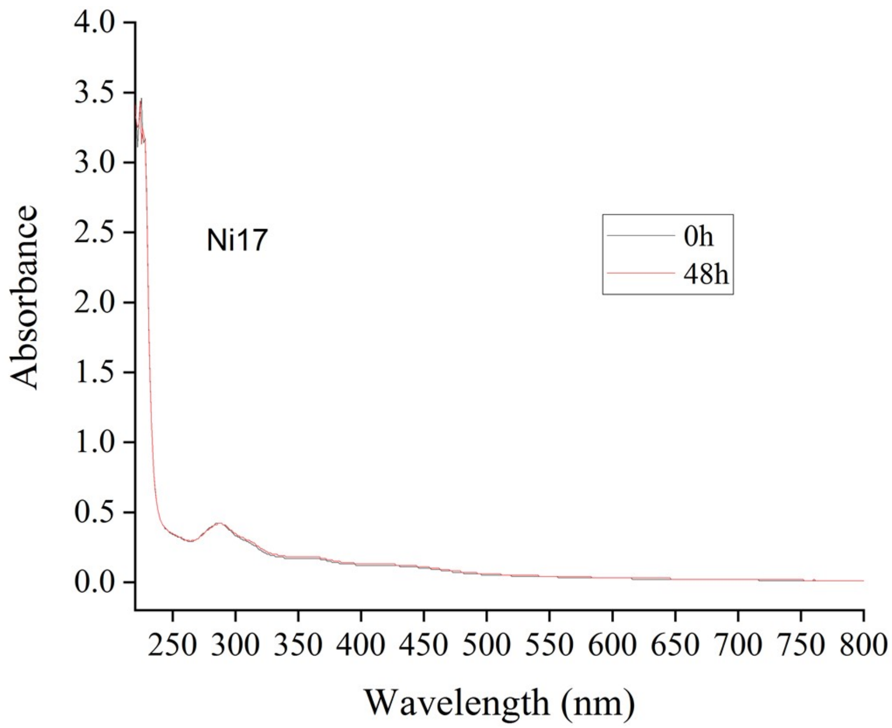


Figure S77. UV-Vis absorption spectra of **Ni17** (2.0×10^{-5} M) in Tris-NaCl solution in the time course 0 h and 48 h, respectively.

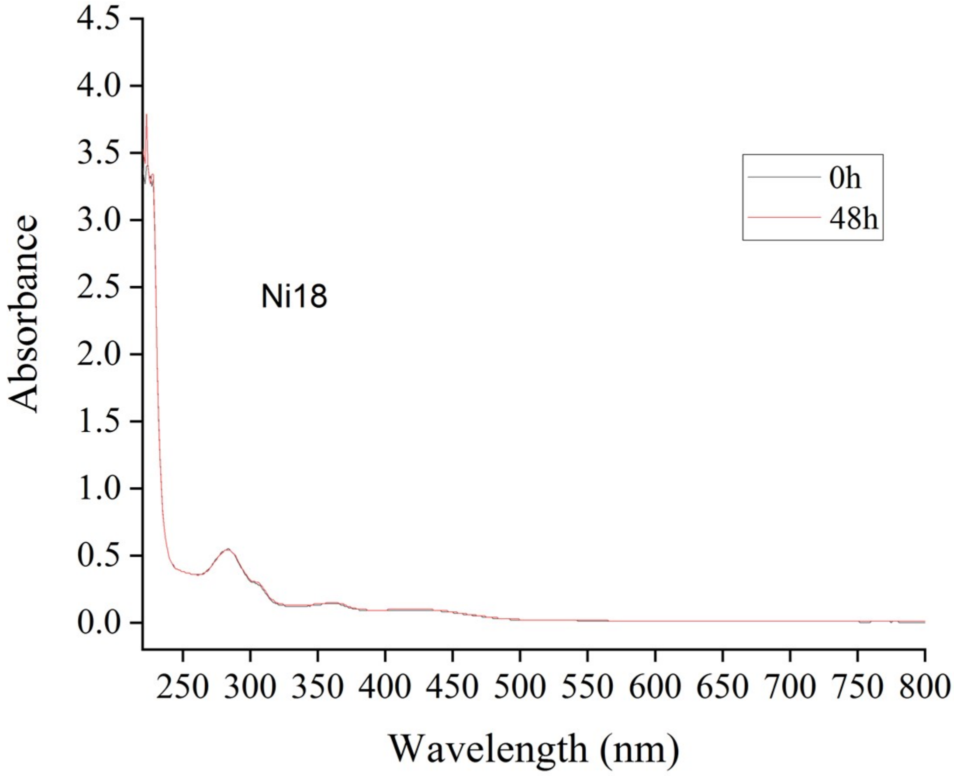


Figure S78. UV-Vis absorption spectra of **Ni18** (2.0×10^{-5} M) in Tris-NaCl solution in the time course 0 h and 48 h, respectively.

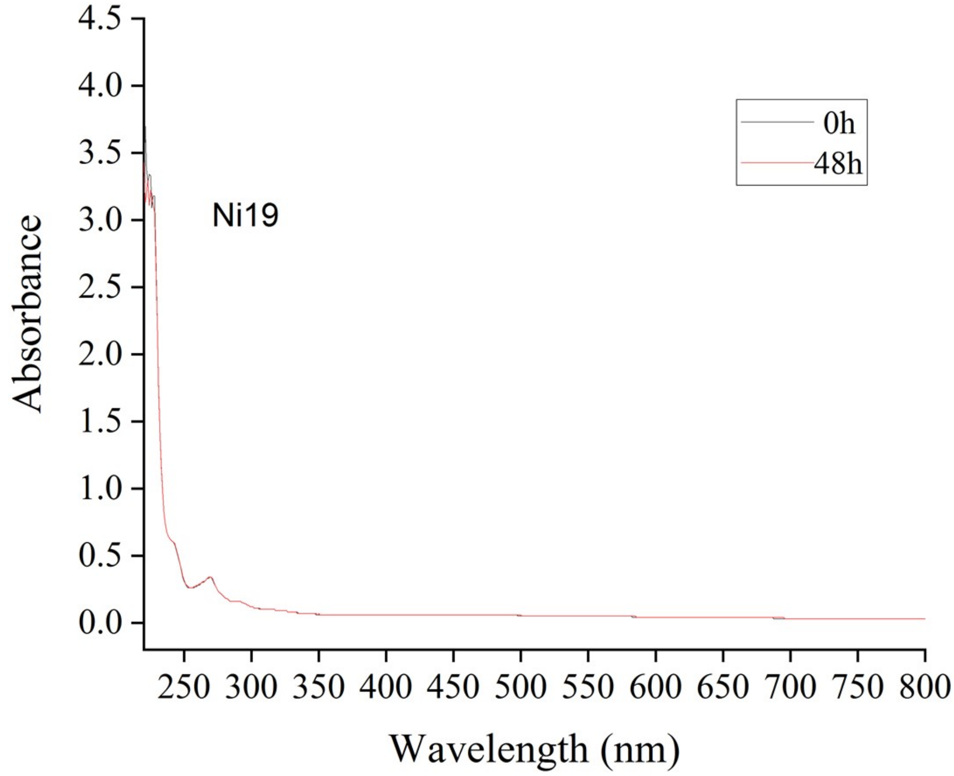


Figure S79. UV-Vis absorption spectra of **Ni19** (2.0×10^{-5} M) in Tris-NaCl solution in the time course 0 h and 48 h, respectively.

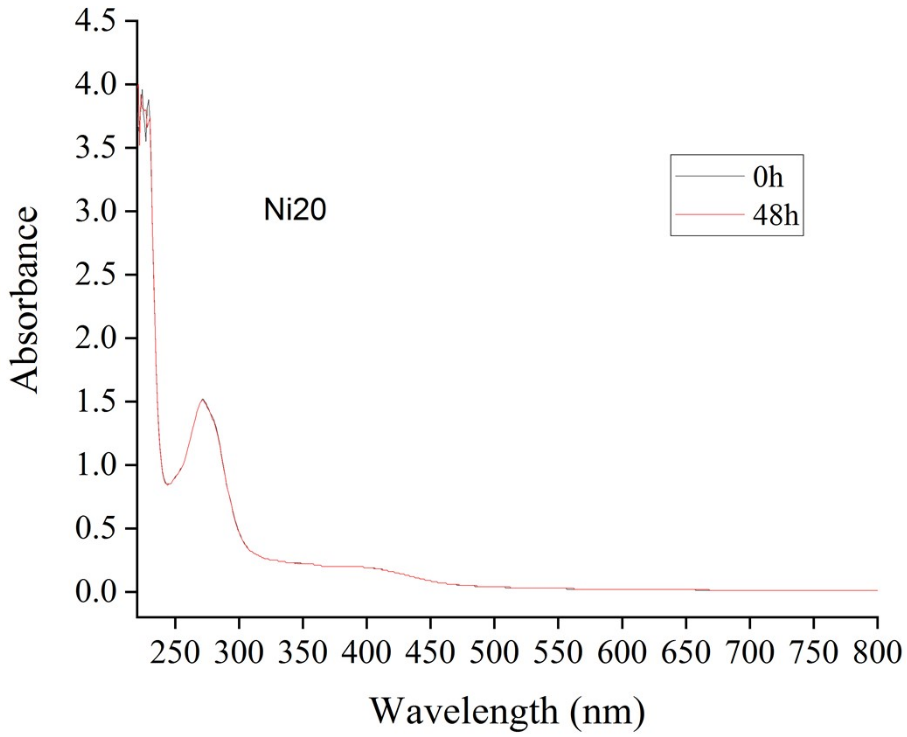


Figure S80. UV-Vis absorption spectra of **Ni20** (2.0×10^{-5} M) in Tris-NaCl solution in the time course 0 h and 48 h, respectively.

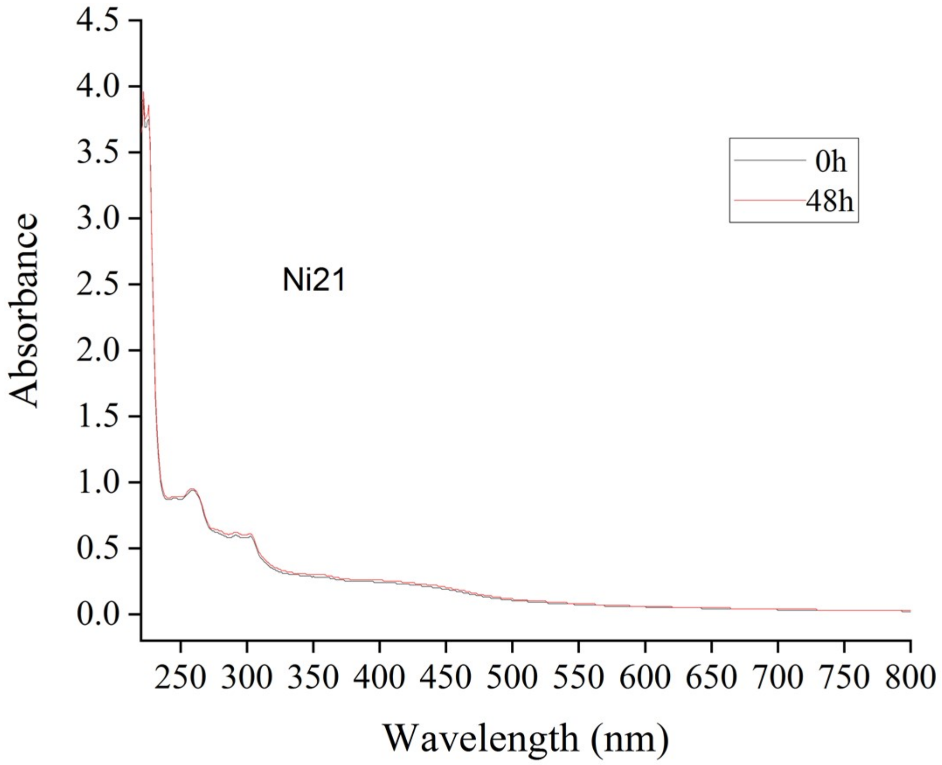


Figure S81. UV-Vis absorption spectra of **Ni21** (2.0×10^{-5} M) in Tris-NaCl solution in the time course 0 h and 48 h, respectively.

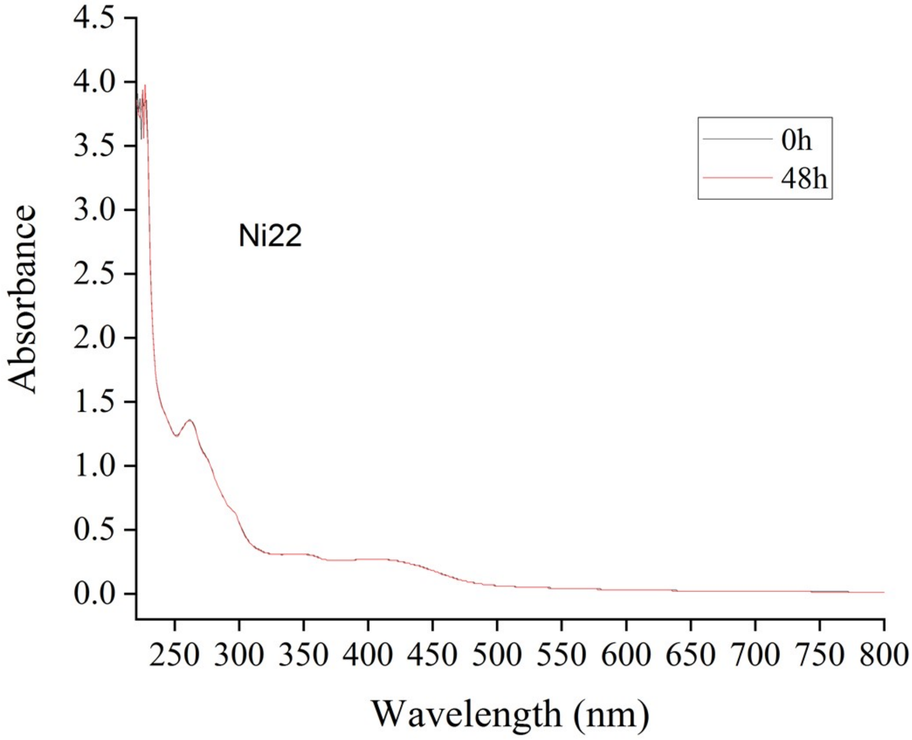


Figure S82. UV-Vis absorption spectra of **Ni22** (2.0×10^{-5} M) in Tris-NaCl solution in the time course 0 h and 48 h, respectively.