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SUPPORTING INFORMATION

Title: Modified Bipyridines: 5,5'-Diamino-2,2'-bipyridine Metal Complexes Assembled into Multidimensional Networks via Hydrogen Bonding and π–π Stacking Interactions
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Supporting information

Modified Bipyridines: 5,5'-Diamino-2,2'-bipyridine Metal Complexes Assembled into Multidimensional Networks via Hydrogen Bonds and π–π Stacking Interactions

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Details of the hydrogen bonding networks in the reported X-ray structures

Table 1. Hydrogen bonding interactions in $[Ni(\mathbf{5})_3](SCN)_2$ (**18**)

D-H···A	D-H [Å]	H···A [Å]	D···A [Å]	D-H···A [°]
N71-H712···S1	0.83(3)	2.71(3)	3.524(3)	169(2)
N72-H722···S2#1	0.87(3)	2.62(3)	3.480(3)	176(2)
N73-H731···S1#2	0.86(2)	2.51(2)	3.370(3)	172(2)
N74-H742···N2#3	0.83(3)	2.23(3)	3.055(4)	172(2)
N75-H752···N1#1	0.88(3)	2.09(3)	2.963(3)	168(3)
N76-H761···N2#4	0.86(3)	2.30(3)	3.146(4)	167(2)
N76-H762···S2#5	0.89(2)	2.80(2)	3.668(3)	164(2)

symmetry equivalent positions: #1 = x+1, y+1, z; #2 = -x+1, -y+1, -z+1; #3 = -x+2, -y+1, -z; #4 = -x+1, -y+1, -z; #5 = x, y+1, z

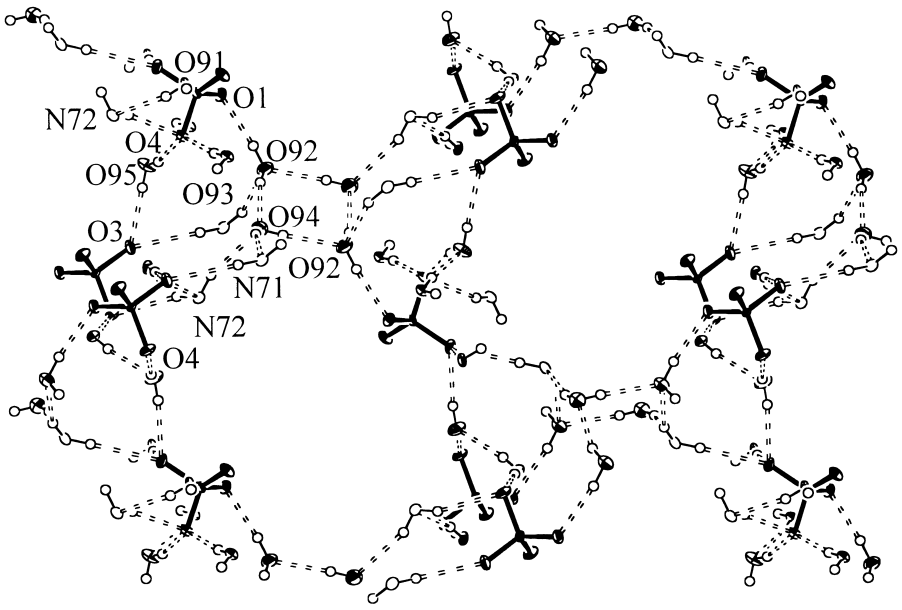

Figure 1. Hydrogen bonding network in $^{1}_{\infty}[Cu(\mu\text{-}SO_4)(\mathbf{5})(H_2O)_2] \cdot 3\ H_2O$ (**19**) viewed approximately along *a*. The π-interacting double strands run within the open channels formed (along *a*, perpendicular to the paper plane). The nitrogen atoms of the amino groups are drawn as empty ellipsoids only. Due to space requirements only part of the atom positions are labelled and symmetry operations are not shown

Table 2. Hydrogen bonding interactions in $^{1}_{\infty}[Cu(\mu\text{-}SO_4)(\mathbf{5})(H_2O)_2] \cdot 3\ H_2O$ (**19**)

D-H···A	D-H [Å]	H···A [Å]	D···A [Å]	D-H···A [°]
N71-H711···O92#2	0.91(3)	2.14(3)	3.011(2)	160(2)
N71-H712···O3#2	0.82(3)	2.29(3)	3.101(2)	169(3)
N72-H721···O4#4	0.85(3)	2.25(3)	3.049(2)	156(2)
N72-H722···O94#5	0.82(3)	2.39(3)	3.097(2)	145(3)
O91-H911···O3	0.83(3)	1.82(3)	2.654(2)	174(3)
O91-H912···N72#6	0.77(3)	2.08(3)	2.835(2)	166(3)
O92-H921···O94#7	0.85(4)	1.93(4)	2.737(2)	158(3)
O92-H922···O1#4	0.84(4)	1.94(4)	2.779(2)	171(3)
O93-H931···O95	0.72(3)	1.98(3)	2.692(2)	172(3)
O93-H932···O4#8	0.84(3)	1.90(3)	2.727(2)	170(2)
O94-H941···N71#9	0.76(4)	2.27(4)	3.009(3)	163(4)
O94-H942···O92#3	0.77(4)	1.98(4)	2.751(2)	175(4)
O95-H951···O4	0.84(3)	2.04(3)	2.859(2)	163(2)
O95-H952···O3#6	0.75(4)	2.08(4)	2.801(2)	161(4)

symmetry equivalent positions: #2 = -x+0.5, y+0.5, -z+0.5; #3 = -x+1, -y, -z+1; #4 = x-0.5, -y-0.5, z-0.5; #5 = x+1, y, z; #6 = x-0.5, -y-0.5, z-1.5; #7 = -x+1.5, y+0.5, -z+0.5; #8 = x-1, y, z; #9 = -x+0.5, y-0.5, -z+0.5

Table 3. Hydrogen bonding in $[CuCl_2(\mathbf{5})]$ (**20**)

D-H···A	D-H [Å]	H···A [Å]	D···A [Å]	D-H···A [°]
N7-H71···Cl#1	0.685	2.799	3.422	152.54
N71-H72···Cl#2	0.755	2.858	3.541	151.75

symmetry equivalent positions: #1 = -x+0.5, y-0.5, -z+1.5; #2 = x-0.5, -y+0.5, z-0.5.

Table 4. Hydrogen bonding interactions in $[Zn(\mathbf{5})_3](NO_3)_2 \cdot 2\ H_2O$ (**22**)

D-H···A	D-H [Å]	H···A [Å]	D···A [Å]	D-H···A [°]
N51-H51B···O91	0.880(4)	2.258(4)	3.048(6)	149.3(3)
N51-H51A···O91#15	0.879(4)	2.326(4)	3.051(5)	139.8(3)
N52-H52A···O91#4	0.880(5)	2.445(4)	3.038(6)	125.1(3)
N52-H52B···O5#4	0.881(5)	2.302(5)	3.061(7)	144.4(4)
N53-H53A···O2#6	0.882(4)	2.128(4)	2.923(5)	149.7(3)
N53-H53B···O4	0.879(5)	2.069(5)	2.889(7)	154.9(3)
N54-H54A···O1#7	0.881(4)	2.326(4)	3.148(6)	155.3(4)
N54-H54A···O2#7	0.881(4)	2.456(5)	3.217(6)	144.9(3)
N54-H54B···O2#9	0.879(5)	2.177(4)	3.029(6)	163.2(3)
N55-H55A···O6#15	0.880(4)	2.457(6)	3.114(7)	131.9(3)
N55-H55B···O1#15	0.878(4)	2.146(4)	3.004(5)	165.5(3)
N56-H56A···O6#14	0.880(4)	2.137(6)	3.010(7)	171.5(4)
O91-H911···O92	0.908(19)	1.881(19)	2.657(7)	142.1(19)
O91-H912···O5	0.89(2)	2.34(2)	2.901(6)	120.9(19)
O92-H921···O3	0.83(4)	2.31(5)	2.742(8)	113(3)
O92-H922···O4#12	0.82(3)	2.36(4)	2.892(8)	123(4)

symmetry equivalent positions: #4 = -y-0.25, -x+0.75, z-0.25; #6 = -x+1, -y+0.5, z; #7 = -y+0.25, x-0.25, z-0.25; #9 = -x+1, -y+1, -z; #12 = -y+1.25, x+0.25, -z+0.25; #14 = x, y+0.5, -z; #15 = y-0.25, -x+1.25, -z+0.25

Table 5. Hydrogen bonding in $^1{}_\infty[Cd(\mu\text{-}Cl)_2(\mathbf{5})] \cdot 2\ H_2O$ (**25**)

D-H···A	D-H [Å]	H···A [Å]	D···A [Å]	D-H···A [°]
N2-H21···O#2	0.999(7)	2.044(13)	2.993(18)	157.8(4)
N2-H22···O	0.999(7)	2.161(13)	2.978(18)	137.9(4)
O-H31···N2#4	1.002(7)	1.837(11)	2.835(17)	174.14(19)
O-H32···Cl	1.049(7)	2.266(13)	3.312(19)	174.7(2)

symmetry equivalent positions: #2 = -x+0.5, y+0.5, z; #4 = -x+0.5, -y+0.5, z+0.5; #6 = -x, -y, 1-z.