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Supporting information for article:

Synthesis, crystal structure and study of the crystal packing in the complex bis(4-aminopyridine- κN^1)dichloridocobalt(II)

Olga Carolina Sanchez Montilva, Federico Movilla, Maricel Gabriela Rodriguez and Florencia Di Salvo

Supporting information

S1. Figures

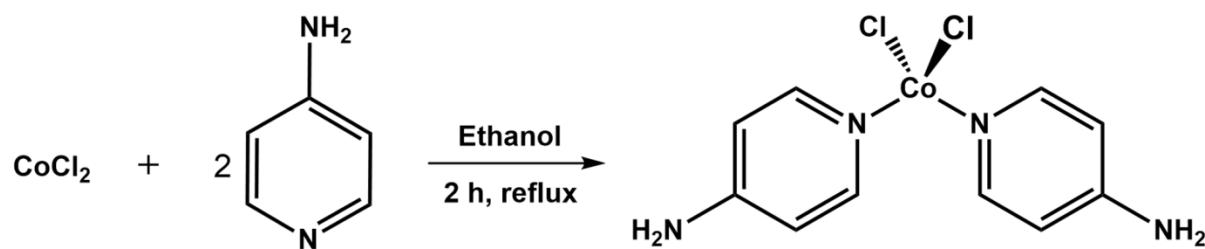


Figure S1 Reaction of cobalt chloride(II) with 4-aminopyridine to yield dichloro-bis(4-aminopyridine)cobalt(II)

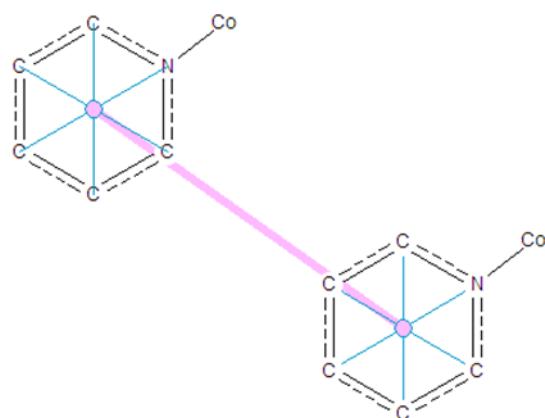


Figure S2 Criteria used in the search run at the CSD to analyse intermolecular interactions between coordinated pyridines.

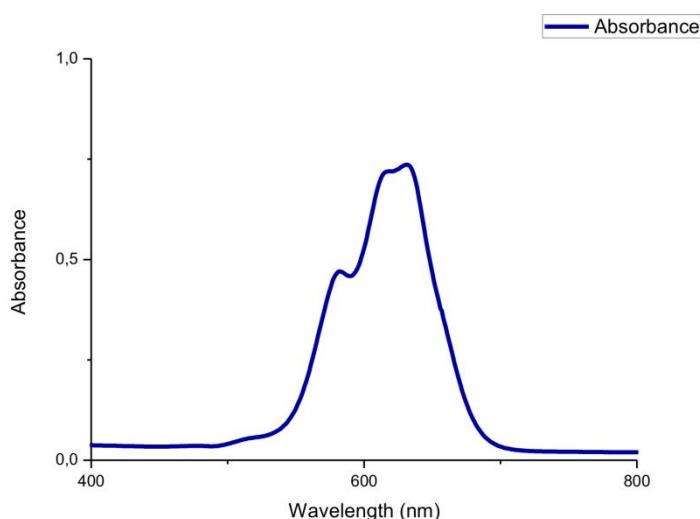


Figure S3 Visible spectrum of $\text{Co}(\text{4-aminopyridine})_2\text{Cl}_2$ in acetone; the observed bands correspond to the ${}^4A_2 \rightarrow {}^4T_1(P)$ transitions expected for a Co(II) tetrahedral complex.

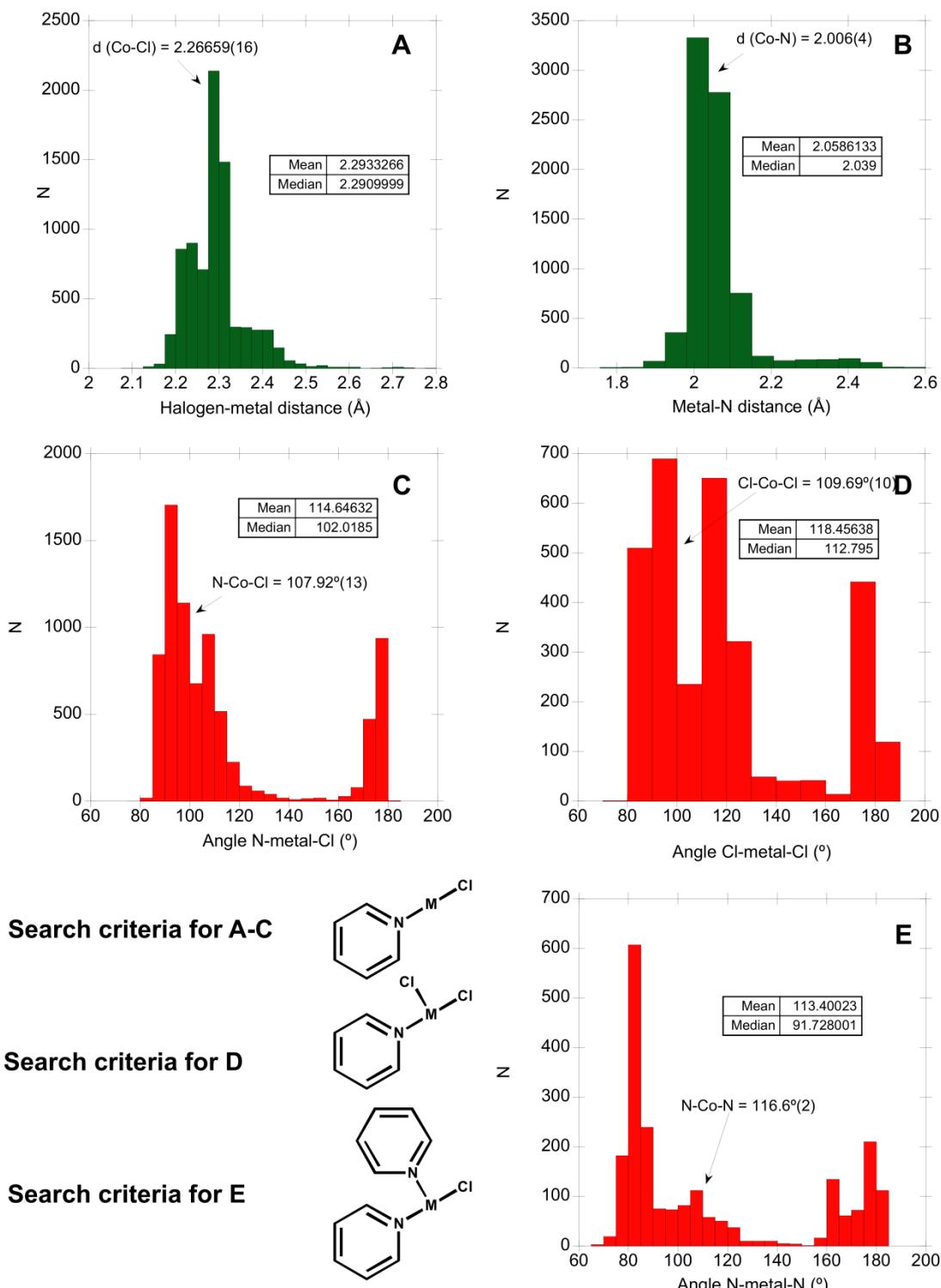


Figure S4 Statistical results of the search performed at the CSD considering pyridine as ligand.

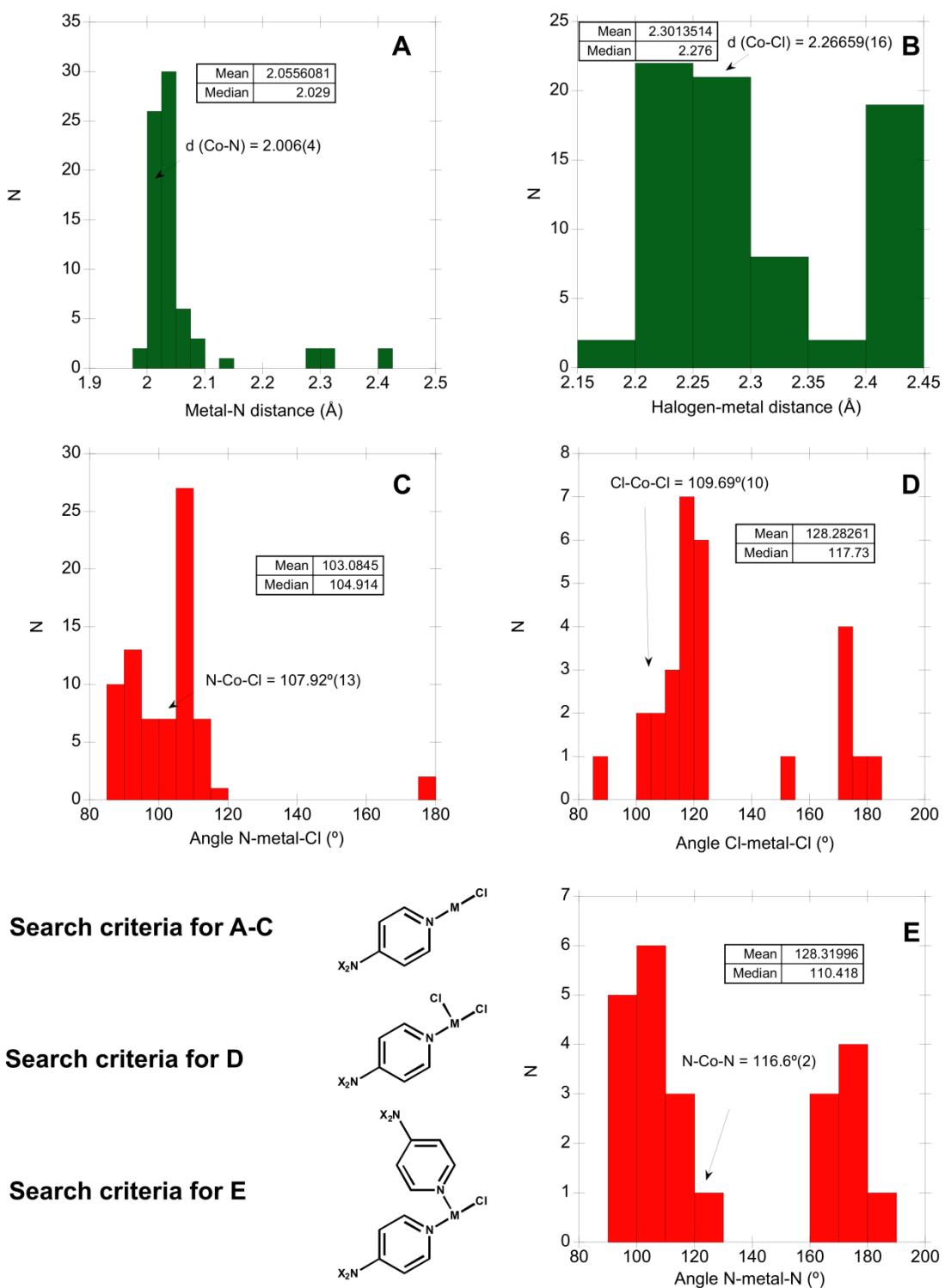
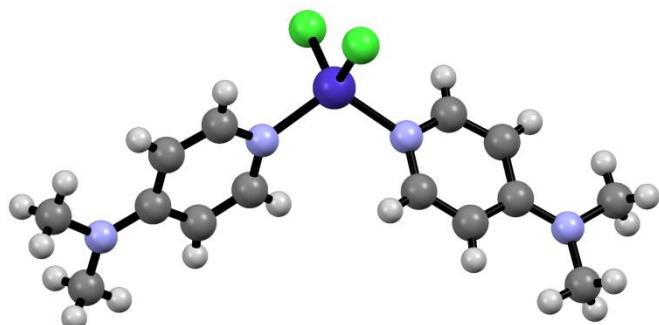
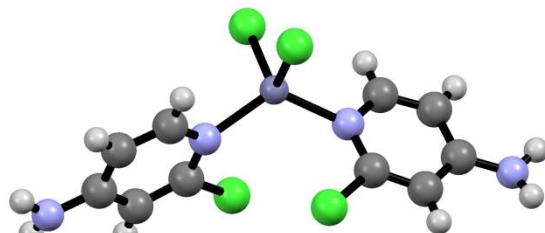


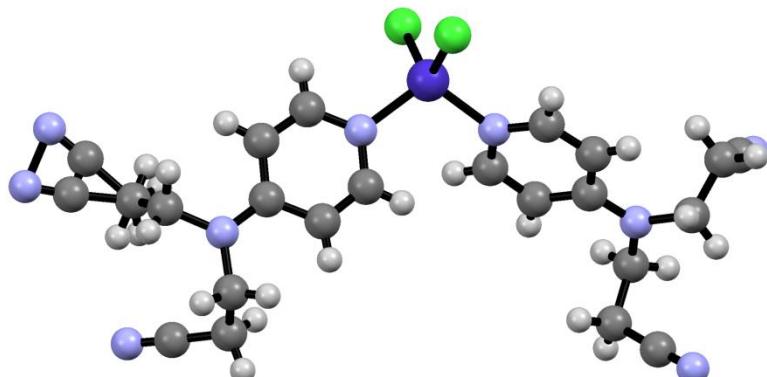
Figure S5 Statistical results of the search performed at the CSD considering 4-NX₂-pyridine (X = H and/or Cl) as ligand.



DODNUG: dichloro-bis(4-dimethylaminopyridine)cobalt(II)



RIRKUZ: dichloro-bis(4-amino-2-chloropyridine)zinc(II)



XINZOL: dichloro-bis(3,3'-(pyridin-4-yl)imino)dipropanenitrile-cobalt(II)

Figure S6 Crystal structures obtained from the CSD searches related to the title complex.

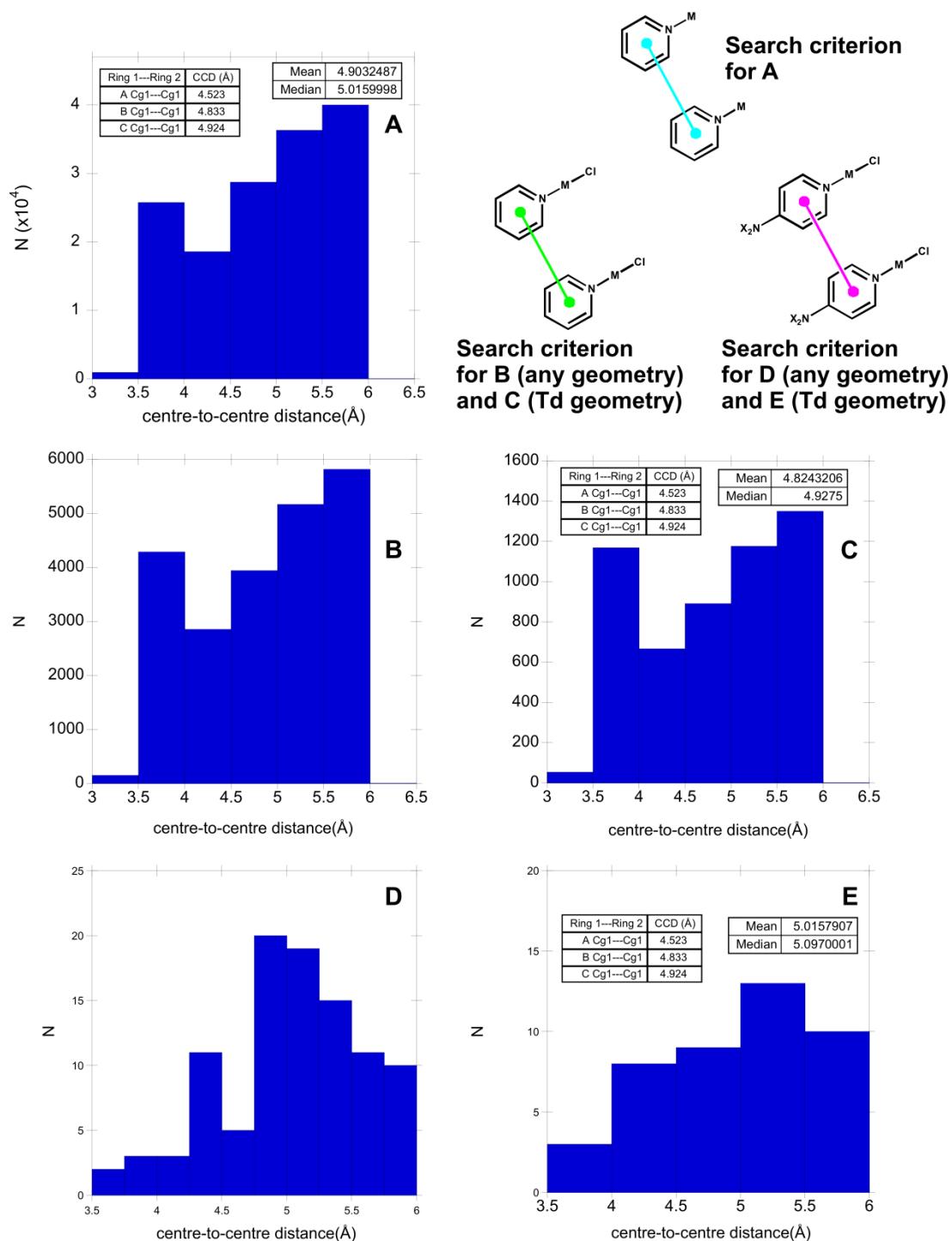


Figure S7 Statistical results obtained when intermolecular interactions between coordinated pyridines are analysed at the CSD.

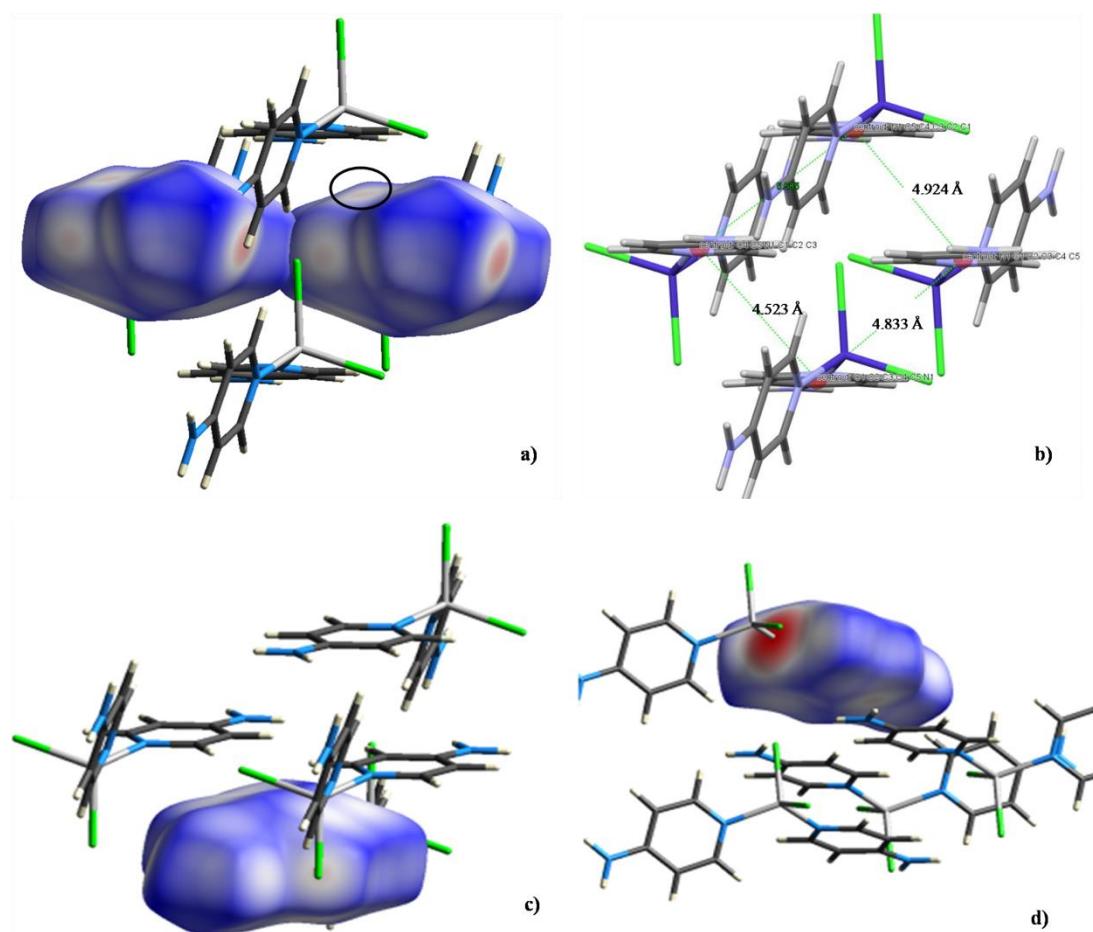


Figure S8 HS plot of the complementary molecules of the dimers showed in figure 6. a) $\pi - \pi$ interaction with the CCD = 4.924 Å (centre-to-centre distances), the only one of the three dimers showing a (light) red dot associated with an interaction according to HS analysis criteria. b) Scheme showing the three different π -interactions in $\text{Co}(4\text{-aminopyridine})_2\text{Cl}_2$. c) and d) HS plots of the complementary molecule of the dimers which HS plots do not show any red dot (CCD = 4.524 Å and 4.832 Å).

S2. Tables

Table S1 Selected geometric parameters (\AA , $^\circ$).

C1—C2	1.365 (7)	Co1—N1 ⁱ	2.006 (4)
C2—C3	1.382 (8)	Co1—N1	2.006 (4)
C3—C4	1.409 (7)	N1—C1	1.340 (6)
C5—C4	1.361 (7)	N1—C5	1.353 (7)
Co1—Cl1	2.2659 (16)	N2—C3	1.347 (6)
Co1—Cl1 ⁱ	2.2659 (16)		

Cl1 ⁱ —Co1—Cl1	109.69 (10)	C3—C2—C1	120.3 (5)
N1 ⁱ —Co1—N1	116.6 (2)	C2—C3—N2	122.3 (5)
Cl1 ⁱ —Co1—N1	107.92(13)	C4—C3—N2	121.3 (6)
C1—N1—C5	116.2 (5)	C4—C3—C2	116.4 (5)
C4—C5—N1	123.5 (5)	C3—C4—C5	119.8 (5)
C2—C1—N1	123.8 (6)		

Symmetry code(s): (i) $-x+1, y, -z+3/2$.