

**Conformational-directing chiral groups in bis(naphthaldiminato)nickel(II) complexes. A rare example of 16 crystallographic independent units (Z')**

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SUPPLEMENTARY MATERIAL

**Table 1S.** Bis(naphthaldiminato)Ni(II) complexes retrieved in CCDC,  $\gamma$  = dihedral angle ( $^{\circ}$ ) between the naphthaldiminate mean planes,  $\theta_1, \theta_2$  = dihedral angles ( $^{\circ}$ ) between ligand and coordination plane  $N_2O_2$

	REFCODE	$\gamma$ complex 1	$\theta_1, \theta_2$	$\gamma$ complex 2	$\theta_1, \theta_2$
1	NEGQUO	0.034	22.51, 22.51		
2	AVOKON	0.020	28.19, 28.19		
3	ESAYAA	0.040	20.36, 20.36		
4	EXAZIM	0.028	3.721, 3.721		
5	FALJEH	0.020	18.68, 18.68		
6	FEBVUD	0.000	1.48, 1.48		
7	FUMCEX	87.822	tetrahedral conformation		
8	GEJJIP	0.000	18.01, 18.01	0.020	23.02, 23.02
9	KASYIN	0.000	3.98, 3.98		
10	KATVIM	0.000	15.30, 15.30		
11	LIHQIE	0.000	14.82, 14.82		
12	LIHQIE01	0.000	17.83, 17.83		
13	LINZOZ	0.020	1.77, 1.77		
14	LINZUF	0.028	6.15, 6.15		
15	MOQKOT	0.020	4.30, 4.30		
16	NUTJUH	0.040	2.40, 2.40		
17	ODAXEX	0.028	27.60, 27.60		
18	ODAXEX01	0.034	3.07, 3.07		
19	OPEPEG	0.028	24.67, 24.67		
20	PANSEE	0.000	39.57, 39.57	0.028	23.48, 23.48
21	PANSII	0.000	39.36, 39.36		
22	PANSOO	0.000	36.54, 36.54		
23	PANSUU	0.028	40.80, 40.80		
24	PANTAB	7.001	36.53, 43.35		
25	PANTEF	0.000	39.53, 39.53		
26	PANTIJ	0.000	2.56, 2.56		
27	RIWDOQ	0.000	16.08, 16.08		
28*	RUWLUS	41.164	21.52, 19.66	23.634	15.95, 7.99
29*	RUWMAZ	41.322	19.84, 21.50	23.764	16.09, 7.96
30	SIPFIG	0.028	23.04, 23.04		
31	SIPFIG01	0.028	16.16, 16.16		
32	SIPFIG03	0.028	25.32, 25.32		
33	SIPFIG04	0.000	16.36, 16.36		
34	SIPFIG05	17.028	14.95, 2.60	0.048	2.56, 2.56
35	TOBTUB	0.028	30.23, 30.23		
36	TONHAF	0.000	1.74, 1.74	0.040	4.45, 4.45
37	TONSOG	0.000	27.12, 27.12		
38	TONSOG01	88.145	tetrahedral conformation		
39	TONSOG02	0.028	27.12, 27.12		
40	UNOJOX	0.028	23.17, 23.17		
41	UNOJOX01	0.020	23.16, 23.16		
42	VAJWIP	0.028	3.00, 3.00	0.000	17.98, 17.98
43	YALBAO	0.040	17.98, 17.98		
44	YOWPIJ	0.028	6.04, 6.04	0.000	12.20, 12.20
45	YOXWIS	0.020	38.98, 38.98		
46	YOXWIS01	5.307	39.32, 36.89		
47	ZUZQOA	0.000	13.15, 13.15		

\* imino N atom bearing a chiral R group

**Table 2S.**Coordination bond distances (Å) for the 16 independent complexes of **2**

Ni1-O1	1.8522(10)	Ni1-N2	1.8841(12)
Ni1-O2	1.8575(10)	Ni1-N1	1.8861(12)
Ni2-O3	1.8538(10)	Ni2-N4	1.8875(12)
Ni2-O4	1.8544(10)	Ni2-N3	1.8963(12)
Ni3-O6	1.8553(10)	Ni3-N6	1.8818(12)
Ni3-O5	1.8593(10)	Ni3-N5	1.8971(12)
Ni4-O8	1.8507(10)	Ni4-N8	1.8901(12)
Ni4-O7	1.8565(10)	Ni4-N7	1.9038(12)
Ni5-O9	1.8557(10)	Ni5-N10	1.8842(12)
Ni5-O10	1.8560(10)	Ni5-N9	1.8931(12)
Ni6-O11	1.8530(10)	Ni6-N12	1.8854(12)
Ni6-O12	1.8552(10)	Ni6-N11	1.9025(12)
Ni7-O14	1.8514(11)	Ni7-N14	1.8903(13)
Ni7-O13	1.8517(11)	Ni7-N13	1.8988(13)
Ni8-O16	1.8549(10)	Ni8-N16	1.8835(12)
Ni8-O15	1.8578(10)	Ni8-N15	1.8979(12)
Ni9-O18	1.8541(10)	Ni9-N17	1.8856(12)
Ni9-O17	1.8569(10)	Ni9-N18	1.8963(12)
Ni10-O19	1.8532(10)	Ni10-N19	1.8889(12)
Ni10-O20	1.8533(10)	Ni10-N20	1.8967(12)
Ni11-O21	1.8532(10)	Ni11-N21	1.8873(12)
Ni11-O22	1.8553(10)	Ni11-N22	1.9028(12)
Ni12-O24	1.8504(10)	Ni12-N23	1.8831(12)
Ni12-O23	1.8559(11)	Ni12-N24	1.8842(12)
Ni13-O25	1.8544(11)	Ni13-N25	1.8847(12)
Ni13-O26	1.8553(10)	Ni13-N26	1.8960(12)
Ni14-O27	1.8495(11)	Ni14-N27	1.8830(13)
Ni14-O28	1.8582(10)	Ni14-N28	1.9013(13)
Ni15-O29	1.8523(10)	Ni15-N29	1.8895(12)
Ni15-O30	1.8530(10)	Ni15-N30	1.8986(12)
Ni16-O32	1.8478(10)	Ni16-N31	1.8806(12)
Ni16-O31	1.8571(10)	Ni16-N32	1.8845(12)
Range from 1.8478(10) (Ni16-O32) to 1.8593(10) (Ni3-O5)		Range from 1.8806(12) (Ni16-N31) to 1.9038(12) (Ni4-N7)	
Mean value 1.854		Mean value 1.891	

**Table 3S.** Dihedral angles ( $^{\circ}$ ) between naphthaldiminate mean planes ( $\gamma$ ) and between each naphthaldiminate with  $N_2O_2$  donor set ( $\theta$ )

$\gamma$ ligand1/ligand2	$\theta_1$ lig1/coord-plane	$\theta_2$ lig2/coord-plane
<b>Complex 1</b>		
1.69(6)	26.92(6)	27.31(6)
<b>Complex 2</b>		
87.71(4)	43.18(4)	44.63(4)
88.56(4)	46.08(4)	42.55(4)
86.27(4)	52.54(4)	41.58(4)
87.47(4)	53.08(4)	39.72(4)
88.85(4)	46.20(4)	42.86(4)
87.37(4)	46.80(4)	40.70(4)
89.92(4)	47.73(4)	42.43(4)
85.97(4)	53.01(4)	41.30(4)
89.47(4)	41.77(4)	47.85(4)
88.29(4)	41.63(4)	46.83(4)
88.61(4)	40.11(4)	51.49(4)
89.36(4)	44.84(4)	44.56(4)
87.07(4)	40.36(4)	46.75(4)
72.31(4)	41.04(5)	31.66(4)
69.52(4)	36.56(5)	33.10(4)
65.21(4)	31.76(5)	33.51(4)
Mean = 84.50	Mean = 43.07 Range 31.66(4) - 53.08(4)	