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Supporting Information

Magnetic relaxation in two chain-like Zn_2Dy_2 Schiff base coordination polymers bridged by tetraoxolene and its one-electron reduced radical

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Table S1. Continuous shape measures calculation for Dy1 atom in **1**.

Dy1 structure

EP-9	1 D9h	Enneagon
OPY-9	2 C8v	Octagonal pyramid
HBPY-9	3 D7h	Heptagonal bipyramid
JTC-9	4 C3v	Johnson triangular cupola J3
JCCU-9	5 C4v	Capped cube J8
CCU-9	6 C4v	Spherical-relaxed capped cube
JCSAPR-9	7 C4v	Capped square antiprism J10
CSAPR-9	8 C4v	Spherical capped square antiprism
JTCTPR-9	9 D3h	Tricapped trigonal prism J51
TCTPR-9	10 D3h	Spherical tricapped trigonal prism
JTDIC-9	11 C3v	Tridiminished icosahedron J63
HH-9	12 C2v	Hula-hoop
MFF-9	13 Cs	Muffin

Structure [ML9]	EP-9	OPY-9	HBPY-9	JTC-9	JCCU-9	CCU-9	JCSAPR-9	CSAPR-9	JTCTPR-9	TCTPR-9	JTDIC-9	HH-9	**MFF-9**
ABOXIY,	36.639,	22.989,	18.848,	15.565,	10.777,	9.076,	1.640,	1.147,	3.407,	1.777,	12.575,	9.054,	0.983

Table S2. Continuous shape measures calculation for Dy2 atom in **1**.

Dy2 structure

EP-9	1 D9h	Enneagon
OPY-9	2 C8v	Octagonal pyramid
HBPY-9	3 D7h	Heptagonal bipyramid
JTC-9	4 C3v	Johnson triangular cupola J3
JCCU-9	5 C4v	Capped cube J8
CCU-9	6 C4v	Spherical-relaxed capped cube
JCSAPR-9	7 C4v	Capped square antiprism J10
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JTCTPR-9	9 D3h	Tricapped trigonal prism J51
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Structure [ML9]	EP-9	OPY-9	HBPY-9	JTC-9	JCCU-9	CCU-9	JCSAPR-9	CSAPR-9	JTCTPR-9	TCTPR-9	JTDIC-9	HH-9	**MFF-9**
ABOXIY,	35.080,	23.099,	17.937,	15.686,	11.046,	9.393,	2.433,	1.795,	3.713,	2.698,	13.592,	7.728,	1.261

Table S3. Continuous shape measures calculation for Dy1 atom in **2**.

Dy1 structure

EP-9	1 D9h	Enneagon
OPY-9	2 C8v	Octagonal pyramid
HBPY-9	3 D7h	Heptagonal bipyramid
JTC-9	4 C3v	Johnson triangular cupola J3
JCCU-9	5 C4v	Capped cube J8
CCU-9	6 C4v	Spherical-relaxed capped cube
JCSAPR-9	7 C4v	Capped square antiprism J10
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Structure [ML9]	EP-9	OPY-9	HBPY-9	JTC-9	JCCU-9	CCU-9	JCSAPR-9	CSAPR-9	JTCTPR-9	TCTPR-9	JTDIC-9	HH-9	**MFF-9**
ABOXIY,	36.361,	23.009,	18.393,	15.770,	10.589,	9.526,	1.567,	1.092,	3.288,	1.750,	12.605,	9.342,	1.019

Table S4. Continuous shape measures calculation for Dy2 atom in **2**.

Dy2 structure

EP-9	1 D9h	Enneagon
OPY-9	2 C8v	Octagonal pyramid
HBPY-9	3 D7h	Heptagonal bipyramid
JTC-9	4 C3v	Johnson triangular cupola J3
JCCU-9	5 C4v	Capped cube J8
CCU-9	6 C4v	Spherical-relaxed capped cube
JCSAPR-9	7 C4v	Capped square antiprism J10
CSAPR-9	8 C4v	Spherical capped square antiprism
JTCTPR-9	9 D3h	Tricapped trigonal prism J51
TCTPR-9	10 D3h	Spherical tricapped trigonal prism
JTDIC-9	11 C3v	Tridiminished icosahedron J63
HH-9	12 C2v	Hula-hoop
MFF-9	13 Cs	Muffin

Structure [ML9]	EP-9	OPY-9	HBPY-9	JTC-9	JCCU-9	CCU-9	JCSAPR-9	CSAPR-9	JTCTPR-9	TCTPR-9	JTDIC-9	HH-9	**MFF-9**
ABOXIY,	36.361,	23.009,	18.393,	15.770,	10.589,	9.526,	1.567,	1.092,	3.288,	1.750,	12.605,	9.342,	1.305

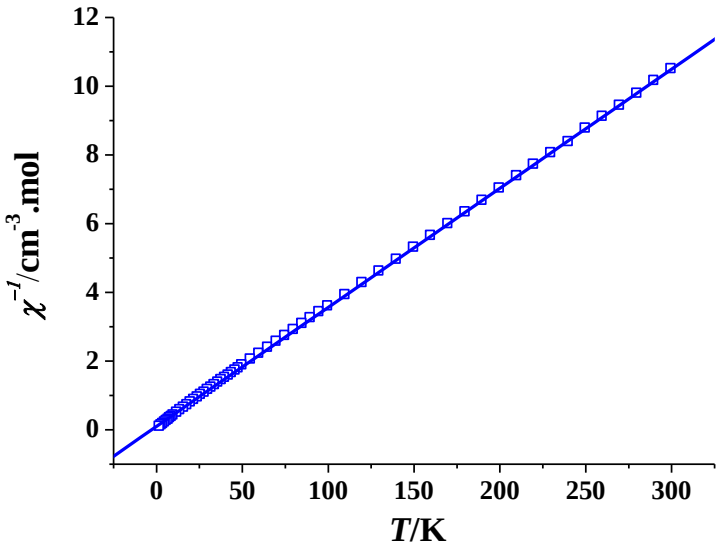

Fig. S1. $1/\chi$ versus T plot of **1.**

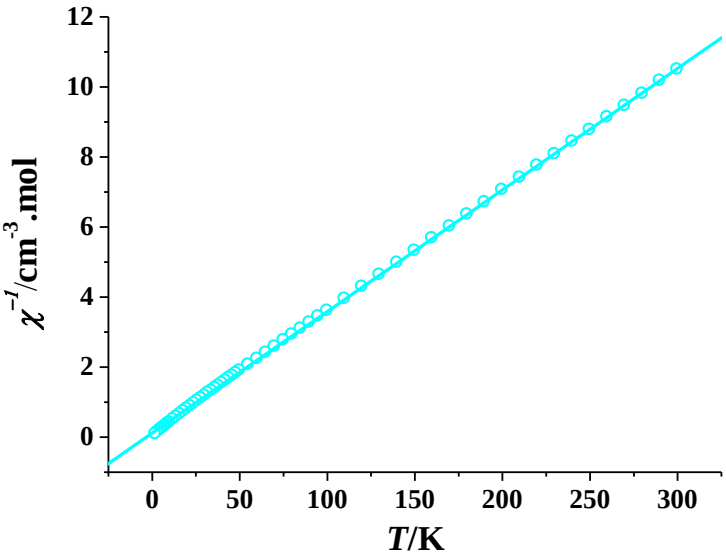

Fig. S2. $1/\chi$ versus T plot of **2.**

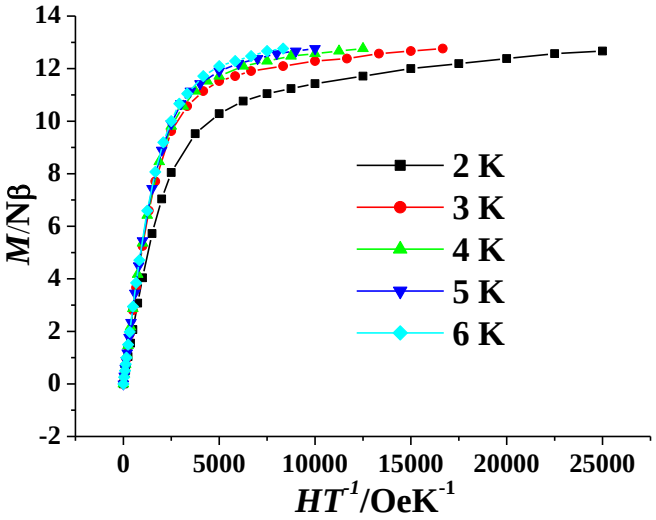

Fig. S3. *M* versus *H*/*T* plots at 2-6 K of **1**.

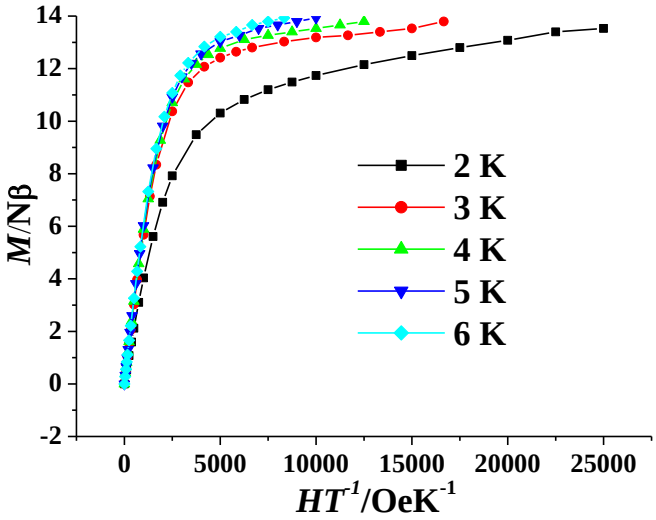

Fig. S4. *M* versus *H*/*T* plots at 2-6 K of **2**.

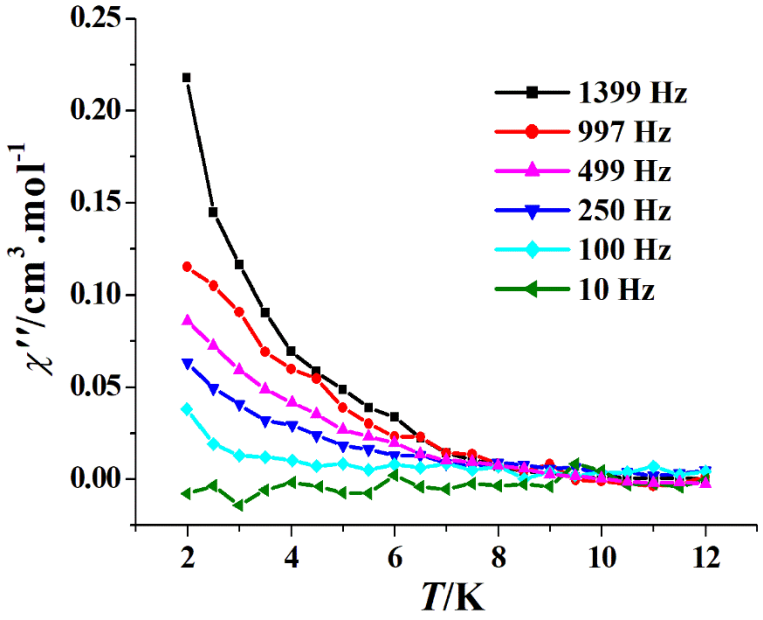

Fig. S5. Temperature dependence of χ'' for **1** under zero dc field.

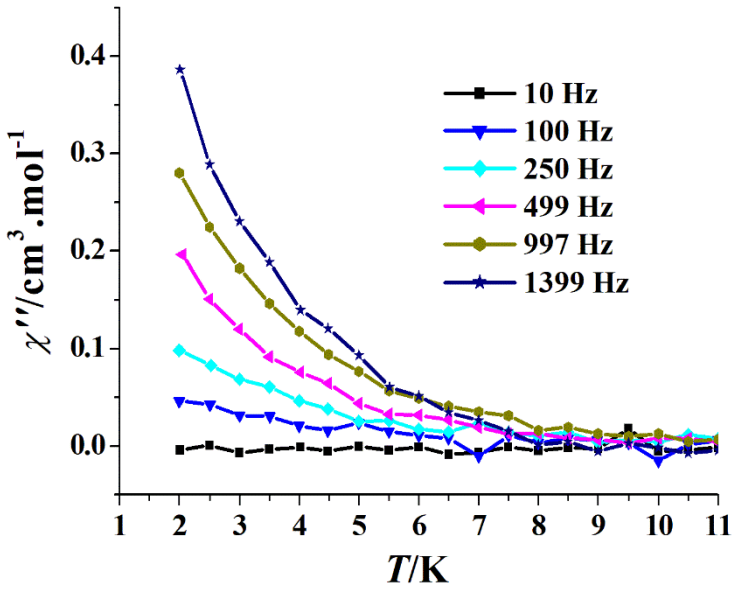

Fig. S6. Temperature dependence of χ'' for **2** under zero dc field.

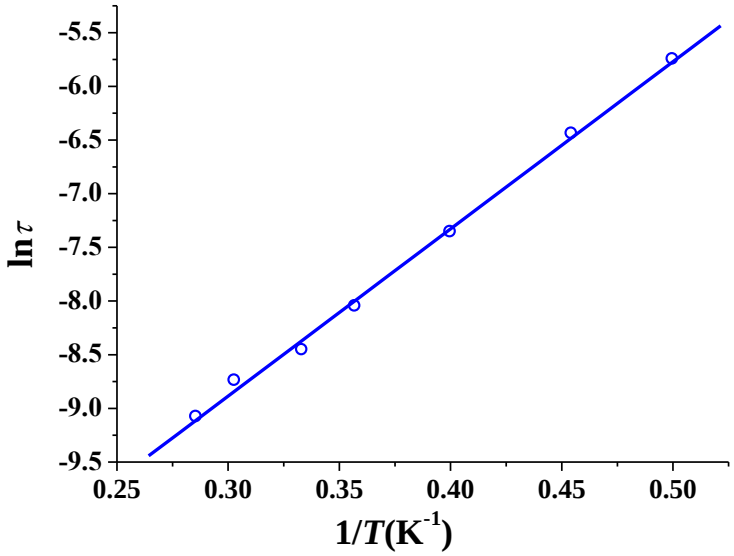

Fig. S7. Plot of ln(τ) versus 1/T for **1** (H_{dc} = 1500 Oe), the solid line represents the best fitting with the Arrhenius law.

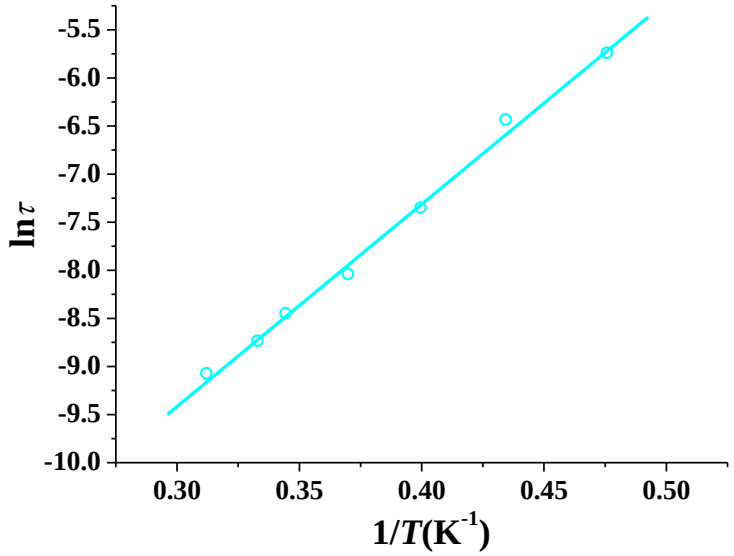

Fig. S8. Plot of ln(τ) versus 1/T for **2** (H_{dc} = 1500 Oe), the solid line represents the best fitting with the Arrhenius law.

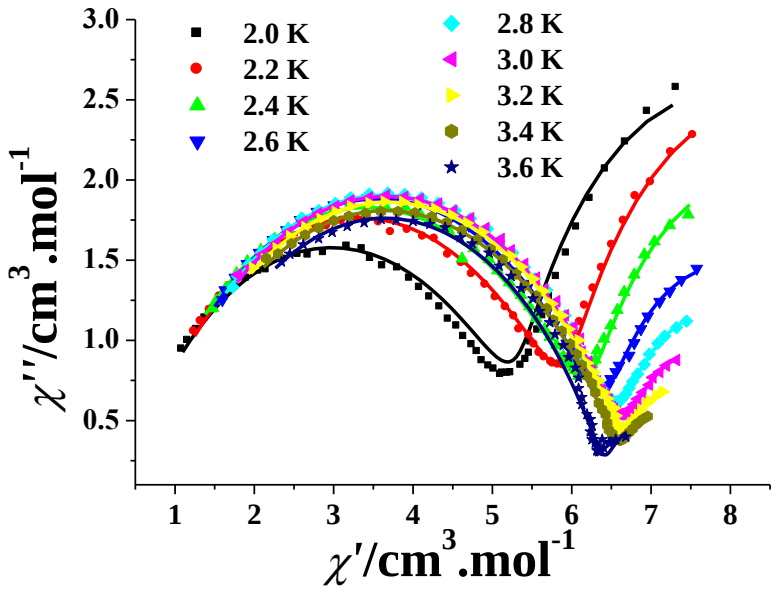

Fig. S9. Cole-Cole plots at 2.0-3.6 K for **1** (H_{dc} = 1500 Oe and H_{ac} = 2.5 Oe), the solid lines represent the best fitting with the sum of two modified Debye functions.

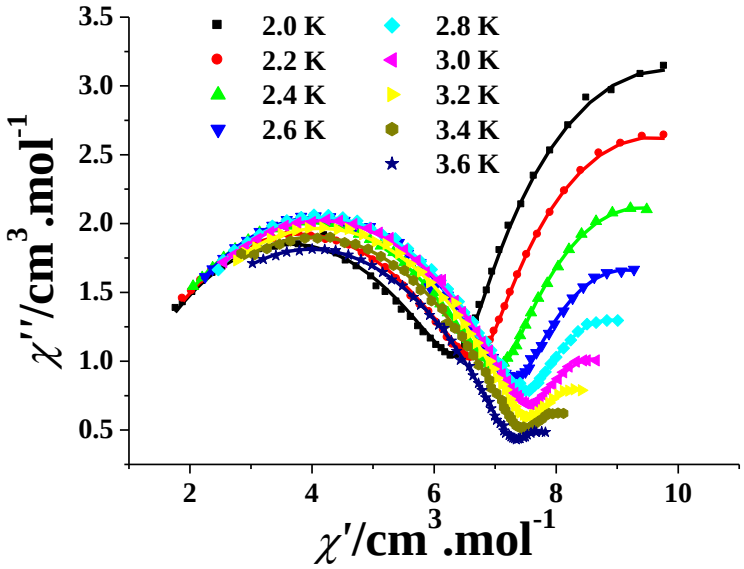

Fig. S10. Cole-Cole plots at 2.0-3.6 K for **2** (H_{dc} = 1500 Oe and H_{ac} = 2.5 Oe), the solid lines represent the best fitting with the sum of two modified Debye functions.

Table S5. Linear combination of two modified Debye model fitting parameters from 2.0 K to 3.6 K of **1** at 1500 Oe.

T(K)	χ_2(cm^3.mol^{-1})	χ_1(cm^3.mol^{-1})	χ_0(cm^3.mol^{-1})	τ_1(s)	α_1	τ_2(s)	α_2
2.0	11.10054	5.28038	0.32256	0.21202	0.00737	0.00074	0.31356
2.2	10.49602	5.40027	0.42377	0.25053	0.02296	0.00071	0.29922
2.4	10.44035	4.4324	0.38549	0.26156	0.02995	0.00062	0.30714
2.6	9.38677	3.24554	0.46696	0.20775	0.0098	0.00059	0.30184
2.8	8.96897	2.70296	0.48632	0.22236	0.01498	0.00053	0.30564
3.0	8.49696	2.19058	0.50371	0.22516	0.00687	0.00047	0.31094
3.2	8.17045	1.89678	0.54327	0.25232	0.00014	0.00042	0.31828
3.4	7.68757	1.52191	0.57166	0.23717	0.00009	0.00036	0.3244
3.6	7.30255	1.49754	0.58971	0.26036	0.00003	0.00032	0.29545

Table S6. Linear combination of two modified Debye model fitting parameters from 2.0 K to 3.6 K of **2** at 1500 Oe.

T(K)	χ_2(cm^3.mol^{-1})	χ_1(cm^3.mol^{-1})	χ_0(cm^3.mol^{-1})	τ_1(s)	α_1	τ_2(s)	α_2
2.0	13.13252	6.76395	0.39132	0.16448	0.03753	0.00048	0.33663
2.2	12.39254	5.70179	0.39942	0.15192	0.03681	0.00046	0.34127
2.4	11.72278	4.80594	0.45508	0.15776	0.05377	0.00043	0.33503
2.6	11.00678	3.8953	0.50343	0.15506	0.05967	0.00041	0.33864
2.8	10.37649	3.13763	0.51235	0.15715	0.06738	0.00037	0.34752
3.0	9.90424	2.65131	0.4995	0.17512	0.10641	0.00033	0.35474
3.2	9.27892	2.1066	0.53543	0.16297	0.08714	0.00029	0.36275
3.4	8.82681	1.67405	0.44631	0.1713	0.10873	0.00025	0.37857
3.6	8.35111	1.38775	0.48582	0.16695	0.10285	0.00022	0.38923