Table S1 [SUPPORTING INFORMATION]. Crystal data and summary of data collection and structure refinement methods used for Co(II)(L-treonine)$_2$(H_2O)$_2$.

Formula	$CoC_8H_{20}N_2O_8$
Color/shape	pink/hexagon
Formula weight	331.19
Space group	$C222_1$
Temp., °C	293
Cell constants	
a, Å	5.843(5)
b, Å	10.120(10)
c, Å	22.36(3)
α=β=γ, deg	90
Cell volume, Å ^{3}	1322(3)
Formula units/unit cell	4
D_{calc}, g cm^{-3}	1.664
μ_{calc}, cm^{-1}	1.335
Diffractometer/scan	Siemens R3m/omega
Radiation, monochromator	$Mo_{K\alpha}$ (0.71069Å) / graphite
Crystal dimens., mm	0.40, 0.38, 0.10
# of standard reflections/decay	2 / <2%
Reflections measured	890
2θ range, deg	3.64-50.00
Range of *h*, *k*, *l*	0-6; 0-12; 0-26
Reflections observed [$F_o \geq 4\sigma(F_o)$]	686
Structure solution	Direct methods, SHELXS-97 [a]
Structure refinement	Least squares on F^2, SHELXL-97 [b]
N° of parameters varied	108
Weights	$w=1/[\sigma^2(Fo^2)+(0.0673P)^2]$, $P=(Fo^2+2Fc^2)/3$
GOF	0.97
$R=\sum\|\|Fo\|-\|Fc\|\|/\sum\|Fo\|$	0.052
$wR2=[\Sigma[w(Fo^2-Fc^2)^2]/\Sigma[w(Fo^2)^2]]^{½}$	0.109
Largest diff. peak and hole	0.44/-0.49

a) G. M. Sheldrick, SHELXS-97. Program for Structure Resolution. Univ. of Göttingen, Germany, 1997.
b) G. M. Sheldrick, SHELXL-97. Program for Structure Refinement. Univ. of Göttingen, Germany, 1997.

Table S2 [SUPPORTING INFORMATION]. Atomic coordinates and equivalent isotropic displacement parameters [$Å^2$] for Co(II)(L-treonine)$_2$(H_2O)$_2$. (U(eq): one third of the trace of the orthogonalized U_{ij} tensor)

	x	y	z	U(eq)
Co(1)	-1.0000	0.2330(1)	0.2500	0.024(1)
O(1)	-0.8312(11)	0.0829(5)	0.2977(3)	0.034(2)
O(2)	-0.7963(11)	-0.0118(6)	0.3872(4)	0.037(2)
O(3)	-1.3370(13)	-0.0191(6)	0.3922(3)	0.030(2)
N(1)	-1.2044(12)	0.2213(7)	0.3288(3)	0.026(2)
C(1)	-0.8893(14)	0.0688(7)	0.3528(3)	0.020(2)
C(2)	-1.0747(12)	0.1587(7)	0.3776(3)	0.020(2)
C(3)	-1.2254(14)	0.0879(8)	0.4223(3)	0.023(2)
C(4)	-1.3942(15)	0.1753(8)	0.4530(4)	0.035(2)
O(1W)	-0.7705(13)	0.3741(6)	0.2826(3)	0.043(2)

Table S3 [SUPPORTING INFORMATION]. Bond lengths and angles [Å, °] for Co(II)(L-treonine)$_2$(H_2O)$_2$

Co(1)-O(1W)	2.090(6)
Co(1)-O(1W)#1	2.090(6)
Co(1)-O(1)#1	2.103(6)
Co(1)-O(1)	2.103(6)
Co(1)-N(1)	2.133(7)
Co(1)-N(1)#1	2.133(7)
O(1)-C(1)	1.284(9)
O(2)-C(1)	1.248(10)
O(3)-C(3)	1.432(10)
N(1)-C(2)	1.471(9)
C(1)-C(2)	1.519(10)
C(2)-C(3)	1.513(10)
C(3)-C(4)	1.492(11)
O(1W)-Co(1)-O(1)#1	166.3(2)
O(1W)#1-Co(1)-O(1)	166.3(2)
N(1)-Co(1)-N(1)#1	173.6(4)
O(1W)-Co(1)-O(1W)#1	93.8(4)
O(1)#1-Co(1)-O(1)	87.4(3)
O(1W)-Co(1)-O(1)	90.9(3)
O(1W)#1-Co(1)-O(1)#1	90.9(3)
O(1W)-Co(1)-N(1)	96.2(3)
O(1W)#1-Co(1)-N(1)#1	96.2(3)
O(1W)#1-Co(1)-N(1)	88.1(3)
O(1W)-Co(1)-N(1)#1	88.1(3)
O(1)-Co(1)-N(1)#1	96.7(3)
O(1)#1-Co(1)-N(1)	96.7(3)
O(1)-Co(1)-N(1)	78.6(2)
O(1)#1-Co(1)-N(1)#1	78.6(2)
O(2)-C(1)-O(1)	123.3(8)
O(2)-C(1)-C(2)	118.5(7)
O(1)-C(1)-C(2)	118.2(7)
N(1)-C(2)-C(3)	113.2(6)
N(1)-C(2)-C(1)	110.8(6)
C(3)-C(2)-C(1)	111.9(6)
O(3)-C(3)-C(4)	111.3(7)
O(3)-C(3)-C(2)	108.2(6)
C(4)-C(3)-C(2)	114.1(7)

Symmetry transformations used to generate equivalent atoms:

#1 -x-2,y,-z+1/2

Table S4 [SUPPORTING INFORMATION]. Anisotropic displacement parameters [$Å^2$] for Co(II)(L-treonine)$_2$(H_2O)$_2$. (The anisotropic displacement factor exponent takes the form: -2π2[(ha*)2U11 + +2hka*b*U12])

	U11	U22	U33	U23	U13	U12
Co(1)	0.028(1)	0.021(1)	0.023(1)	0.000	0.007(1)	0.000
O(1)	0.034(4)	0.031(3)	0.037(3)	-0.002(3)	0.007(3)	0.008(3)
O(2)	0.026(4)	0.034(4)	0.050(4)	0.010(3)	-0.003(3)	0.011(3)
O(3)	0.024(4)	0.027(4)	0.038(4)	-0.005(3)	0.005(4)	0.000(3)
N(1)	0.026(4)	0.025(3)	0.029(3)	0.003(3)	0.000(3)	0.004(4)
C(1)	0.014(4)	0.020(4)	0.026(4)	-0.003(3)	0.009(3)	-0.003(4)
C(2)	0.010(4)	0.027(4)	0.023(4)	-0.003(3)	0.004(3)	0.004(3)
C(3)	0.020(5)	0.027(4)	0.022(4)	-0.006(3)	0.003(4)	-0.005(4)
C(4)	0.031(5)	0.043(5)	0.031(4)	-0.012(4)	0.013(4)	-0.003(4)
O(1W)	0.061(5)	0.038(4)	0.029(3)	-0.008(3)	0.011(4)	-0.023(4)

Table S5 [SUPPORTING INFORMATION]. Hydrogen coordinates and isotropic displacement parameters ($Å^2$ x 10^3) for Co(II)(L-treonine)$_2$(H_2O)$_2$.

	x	y	z	U(eq)
H(3)	-1.460(15)	-0.005(7)	0.391(3)	0.02(2)
H(1A)	-1.329(12)	0.174(7)	0.320(4)	0.05(3)
H(1B)	-1.234(13)	0.302(7)	0.342(4)	0.06(3)
H(2A)	-0.9968	0.2297	0.3993	0.024
H(3A)	-1.1257	0.0499	0.4530	0.027
H(4A)	-1.4865	0.1235	0.4796	0.045
H(4B)	-1.4904	0.2169	0.4237	0.045
H(4C)	-1.3142	0.2418	0.4753	0.045
H(1WA)	-0.763(17)	0.393(8)	0.322(3)	0.056
H(1WB)	-0.717(16)	0.438(7)	0.259(3)	0.056

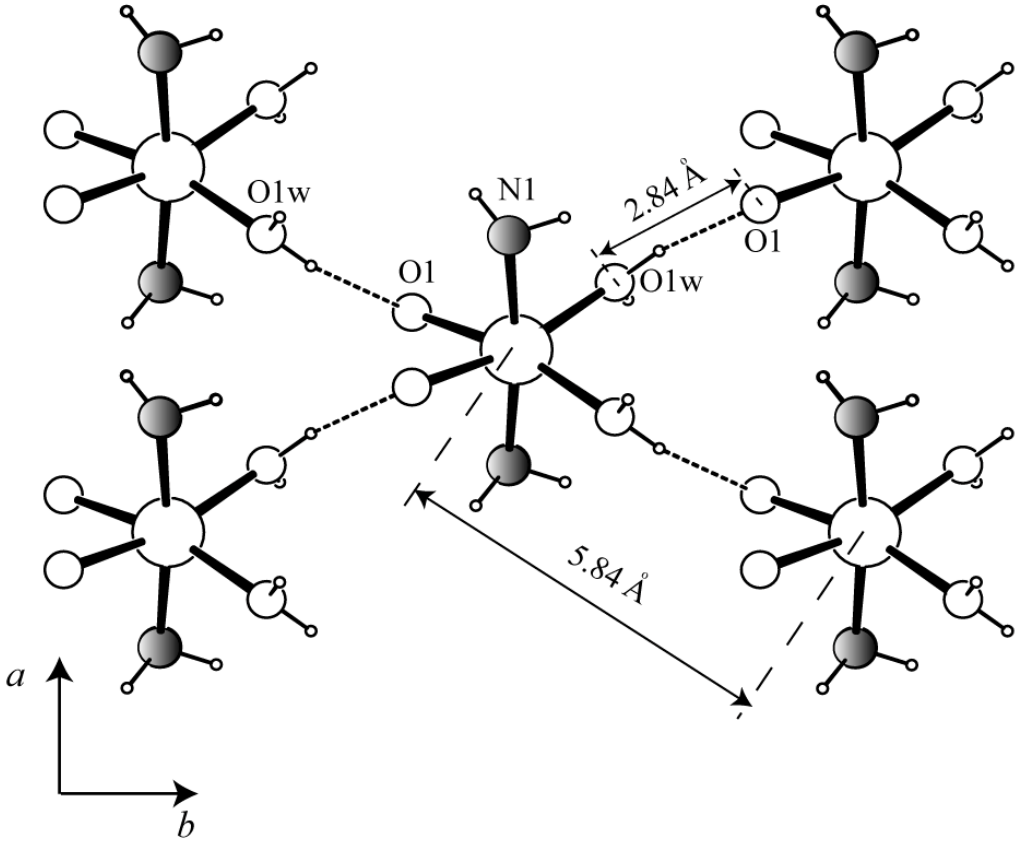

Figure S1: Layer of Co(II) ions in the structure of Co(L-Thr)$_2$. The H−bonds supporting the Co−Co exchange interaction within the layer are shown.

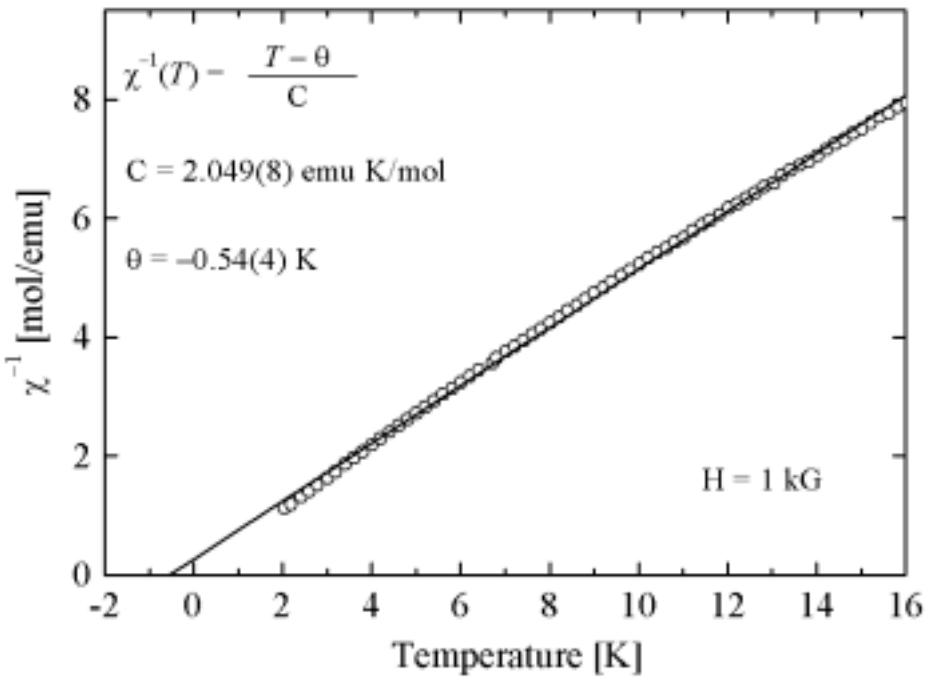

Figure S2: Curie Plot $\chi^{-1}(T)$ vs. T of a powder sample of Co(L–thr)$_2$. The experimental values of the magnetic susceptibility were calculated from magnetization data obtained with a field of 1 kG. The solid line shows the best fit with the Curie–Weiss law.