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Supplemental Material for

Anisotropic thermal expansion and electronic transitions in the Co_3BO_5 ludwigite

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Table S1. Co_3BO_5 crystal lattice parameters

Temperature, K	*a*, Å	*b*, Å	*c*, Å	*V*, Å^3
300	9.3063(4)	11.9487(3)	2.96590(14)	329.80(2)
350	9.3044(3)	11.9548(4)	2.96925(13)	330.28(2)
400	9.2997(4)	11.9639(4)	2.97473(14)	330.97(2)
450	9.2851(5)	11.9846(6)	2.98665(14)	332.35(3)
500	9.2676(3)	12.0141(4)	3.00240(12)	334.29(2)
550	9.2535(3)	12.0479(5)	3.01890(7)	336.56(2)
600	9.2515(2)	12.0860(2)	3.02512(8)	338.25(1)
650	9.2529(2)	12.1291(2)	3.03012(7)	340.07(1)
700	9.2556(2)	12.1706(3)	3.03517(14)	341.90(2)
750	9.2595(2)	12.2065(2)	3.04035(6)	343.64(1)
800	9.2632(2)	12.2337(2)	3.04502(7)	345.07(1)
850	9.2679(3)	12.2545(2)	3.04900(14)	346.29(2)
900	9.2728(2)	12.2706(2)	3.05255(7)	347.33(1)
950	9.2780(2)	12.2850(3)	3.05606(8)	348.33(1)
1000	9.2834(2)	12.2966(2)	3.05938(5)	349.24(1)

Table S2. The fit parameters of the the second-order polynomials $y=b0+b1\cdot T+b2\cdot T^2$ of approximation of temperature dependencies of unit cell parameters of Co_3BO_5.

	T=296-550 K	*T*=550-1000 K
a (Å)	9.244±0.034 (4.474±1.66)·10^{-4} (-7.878±1.927)·10^{-7}	9.264±0.005 (-8.417±1.346)·10^{-5} (1.035±0.084)·10^{-7}
b (Å)	12.089±0.017 (-9.359±0.863)·10^{-4} (1.568±0.102)·10^{-6}	11.176±0.034 (2.12±0.08)·10^{-3} (-1.002±0.053)·10^{-6}
c (Å)	3.023±0.013 (-4.101±0.595)·10^{-4} (7.339±0.677)·10^{-7}	2.932±0.002 (1.957±0.047)·10^{-4} (-6.839±0.299) ·10^{-8}
V (Å^3)	338.05±0.95 -0.057±0.005 (9.882±0.535) ·10^{-5}	303.85±1.27 0.076±0.003 (-3.026±0.204)·10^{-5}

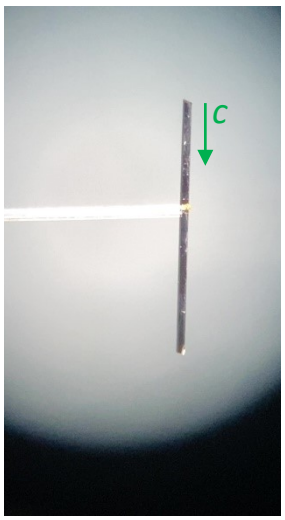

Fig. S1. Photo of Co_3BO_5 single crystal. The needle's length is ~5 mm.