

Supplementary Information

Critical behavior of the quasi-two-dimensional semiconducting ferromagnet CrSiTe₃

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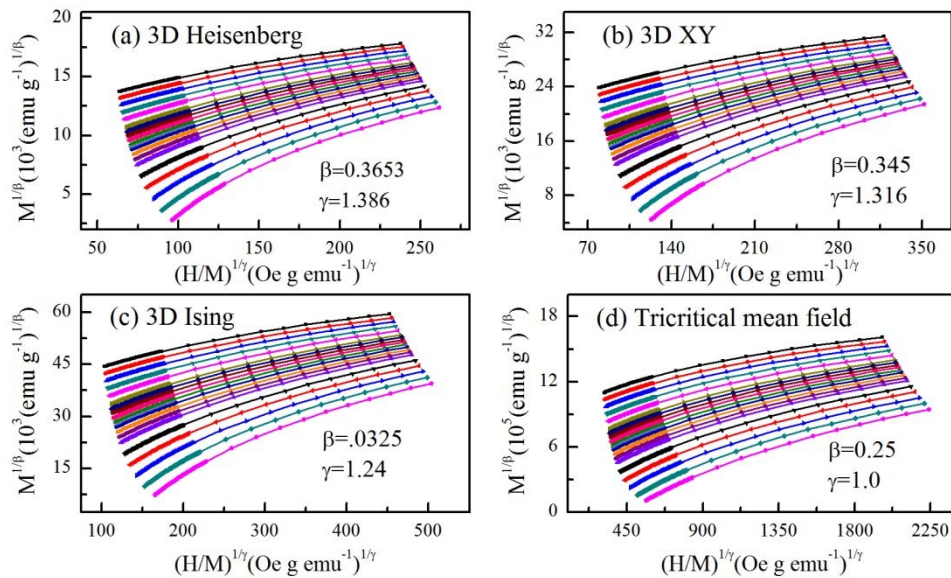


Figure S1. The isotherms replotted as $M^{1/\beta}$ vs. $(H/M)^{1/\gamma}$ with (a) 3D-Heisenberg model; (b) 3D-XY model; (c) 3D-Ising model; (d) tricritical mean-field model.

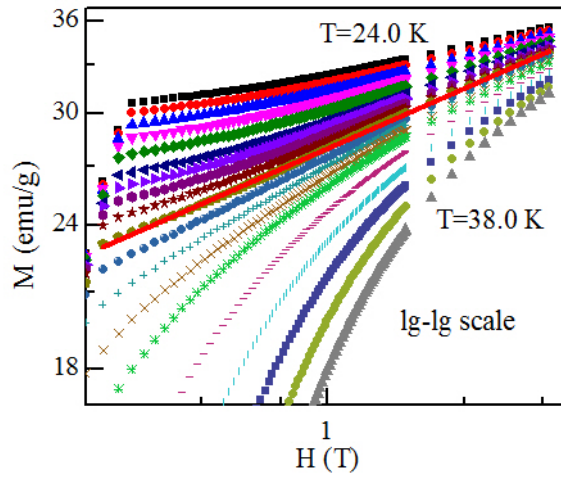


Figure S2. The isotherms replotted in lg-lg scale. The red solid line represents the fitting result to MH data at 31.0 K.

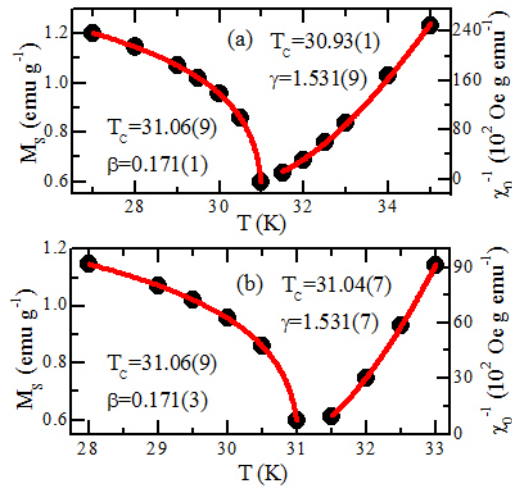


Figure 2. Temperature variation in spontaneous magnetization $M_s(T)$ (left axis) and inverse initial susceptibility $\chi_0^{-1}(T)$ (right axis) which are obtained from the high-field extrapolation of modified Arrott plot. The red solid lines represent the fitting to Eqs. 1 and 2 with **(a)** $\Delta T/T_c = 0.15$ and **(b)** $\Delta T/T_c = 0.10$, respectively.

$\Delta T/T_C$		β	γ	T_C (K)
0.20	$T < T_C$	0.170 ± 0.008		31.06 ± 0.09
	$T > T_C$		1.532 ± 0.001	30.83 ± 0.09
0.15	$T < T_C$	0.171 ± 0.001		31.06 ± 0.09
	$T > T_C$		1.531 ± 0.009	30.93 ± 0.01
0.10	$T < T_C$	0.171 ± 0.003		31.06 ± 0.09
	$T > T_C$		1.531 ± 0.007	31.04 ± 0.07

Table I. The critical exponents and the critical temperature of CrSiTe₃ determined by MAP technique with different $\Delta T/T_C$ values.