Supporting Information

The heat capacity, thermodynamic functions, and magnetic properties of barium-lanthanum-samarium tungstates

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Table A1. The atomic coordinates of unit cell of the samples

$Ba(La_{0.99}Sm_{0.01})_2WO_7$						$Ba(La_{0.97}Sm_{0.03})_2WO_7$					
atom	Wyckof	*x*	*y*	*z*	occupancy	atom	Wyckof	*x*	*y*	*z*	occupancy
Sr	4e	0.4911	0.1359	0.4871	1	Ba	4e	0.4721	0.1267	0.5149	1
La1	4e	0.2004	0.0808	0.9878	0.99	La1	4e	0.1969	0.0900	0.0007	0.97
Sm1	4e				0.01	Sm1	4e				0.03
La2	4e	0.0704	0.8776	0.4897	0.99	La2	4e	0.0780	0.8759	0.4717	0.97
Sm2	4e				0.01	Sm2	4e				0.03
W	4e	0.2865	0.3341	0.4624	1	W	4e	0.2943	0.3345	0.4653	1
O1	4e	0.5016	0.3345	0.4450	1	O1	4e	0.4929	0.3492	0.4586	1
O2	4e	0.0655	0.3222	0.4566	1	O2	4e	0.0488	0.3296	0.4460	1
O3	4e	0.3011	0.4279	0.7434	1	O3	4e	0.2793	0.4267	0.7481	1
O4	4e	0.2647	0.2593	0.1715	1	O4	4e	0.2432	0.2614	0.1781	1
O5	4e	0.3221	0.4631	0.2657	1	O5	4e	0.3275	0.4532	0.2429	1
O6	4e	0.2397	0.1954	0.6291	1	O6	4e	0.2493	0.2158	0.6367	1
O7	4e	0.0035	0.0068	0.2539	1	O7	4e	0.0217	0.0130	0.2482	1
R_p=11.37%; R_{wp}=19.67%						R_p=10.24%; R_{wp}=16.71%					

Table A2. Smoothing polynomial coefficients of the molar heat capacity of $Ba(La_{0.99}Sm_{0.01})_2WO_7$

Temperature range / K	Polynomial coefficients			
	a_0	a_1	a_2	a_3
from 5 to 6	8.5380	−4.8812	0.91124	$-5.4041\cdot10^{-2}$
from 6 to 8	−2.0706	0.56088	$-2.8181\cdot10^{-2}$	$4.3654\cdot10^{-4}$
from 8 to 12	0.43297	$-5.8487\cdot10^{-2}$	$1.1141\cdot10^{-2}$	$3.0324\cdot10^{-4}$
from 12 to 18	8.3420	−1.6062	0.10538	$-1.3911\cdot10^{-3}$
from 18 to 30	10.326	−1.6234	$9.1336\cdot10^{-2}$	$-9.0104\cdot10^{-4}$
from 30 to 50	−18.537	1.0284	$1.0599\cdot10^{-2}$	$-8.3659\cdot10^{-5}$
from 50 to 90	−41.092	2.1915	$-8.6925\cdot10^{-3}$	$1.7015\cdot10^{-5}$
from 90 to 140	−18.987	1.5560	$-2.9771\cdot10^{-3}$	$1.5528\cdot10^{-6}$
from 140 to 200	−190.02	4.7215	$-2.2297\cdot10^{-2}$	$4.0366\cdot10^{-5}$
from 200 to 260	−284.23	5.2848	$-2.0433\cdot10^{-2}$	$2.8743\cdot10^{-5}$
from 260 to 320	−1785.3	19.673	$-6.4684\cdot10^{-2}$	$7.1519\cdot10^{-5}$

Table A3. Smoothing polynomial coefficients of the molar heat capacity of $Ba(La_{0.97}Sm_{0.03})_2WO_7$

Temperature range / K	Polynomial coefficients			
	a_0	a_1	a_2	a_3
from 5 to 6	10.172	−5.7796	1.0761	$-6.4077\cdot10^{-2}$
from 6 to 8	−7.9897	3.1293	−0.39494	$1.7731\cdot10^{-2}$
from 8 to 12	−1.9383	0.62854	$-5.3139\cdot10^{-2}$	$2.2632\cdot10^{-3}$
from 12 to 18	5.2916	−0.9545	$5.9934\cdot10^{-2}$	$-3.6342\cdot10^{-4}$
from 18 to 30	14.448	−2.2312	0.11896	$-1.2763\cdot10^{-3}$
from 30 to 50	−24.922	1.5615	$-2.7500\cdot10^{-3}$	$2.8931\cdot10^{-5}$
from 50 to 90	−71.695	3.5399	$-2.7049\cdot10^{-2}$	$9.7732\cdot10^{-5}$
from 90 to 140	−52.580	2.4596	$-1.0725\cdot10^{-2}$	$2.3544\cdot10^{-5}$
from 140 to 200	−192.73	4.7539	$-2.2198\cdot10^{-2}$	$3.9523\cdot10^{-5}$
from 200 to 260	73.420	0.13713	$4.1349\cdot10^{-3}$	$-9.9769\cdot10^{-6}$
from 260 to 320	−258.22	4.5317	$-1.5134\cdot10^{-2}$	$1.7979\cdot10^{-5}$

Table A4. Experimental data on the specific heat capacity of $Ba(La_{0.99}Sm_{0.01})_2WO_7$ sample.

T / K	C_p / J·g^{-1}·K^{-1}	T / K	C_p / J·g^{-1}·K^{-1}	T / K	C_p / J·g^{-1}·K^{-1}	T / K	C_p / J·g^{-1}·K^{-1}
Series 1		8.9167	0.001415	40.802	0.05005	192.69	0.25585
4.7407	0.0001886	9.2684	0.001520	42.767	0.05423	195.91	0.25904
4.9506	0.0002023	9.6228	0.001636	44.732	0.05818	199.22	0.26055
5.1540	0.0002777	Series 3		46.699	0.06186	202.48	0.26387
5.3648	0.0003619	4.3782	0.0001638	48.669	0.06551	205.74	0.26707
5.5804	0.0004750	4.6635	0.0001921	50.638	0.06976	209.02	0.26996
5.8128	0.0004367	4.7743	0.0001534	52.610	0.07411	212.33	0.27225
6.0430	0.0005578	4.8845	0.0001823	54.584	0.07848	215.67	0.27437
6.3704	0.0006534	4.9949	0.0001901	56.563	0.08169	219.05	0.27693
6.7904	0.0008151	5.1070	0.0002441	58.547	0.08453	229.52	0.27996
7.2144	0.0009550	5.2237	0.0002952	60.531	0.08938	233.09	0.28608
7.6456	0.001083	5.3453	0.0003487	62.514	0.09333	240.36	0.28779
8.0820	0.001205	5.4723	0.0003706	64.501	0.09685	244.09	0.29111
8.5205	0.001324	5.6020	0.0004149	66.492	0.10026	247.78	0.29490
8.9646	0.001436	5.7340	0.0004585	68.487	0.10340	251.47	0.29566
9.4110	0.001576	5.8712	0.0004795	70.483	0.10664	255.48	0.29808
9.8569	0.001711	6.0112	0.0005306	72.979	0.11148	259.21	0.29912
10.538	0.002022	6.2914	0.0006209	75.986	0.11655	Series 6	
11.455	0.002374	6.7062	0.0007815	79.002	0.12163	113.45	0.17040
12.377	0.002781	7.1167	0.0009205	82.032	0.12640	117.58	0.17582
13.302	0.003283	7.5443	0.001042	Series 5		120.71	0.17986
14.227	0.003927	7.9756	0.001170	97.109	0.14837	123.84	0.18386
15.152	0.004766	8.4159	0.001292	101.20	0.15429	126.98	0.18781
16.082	0.005599	8.8598	0.001413	104.28	0.15918	130.12	0.19147
17.020	0.006476	9.3056	0.001534	107.38	0.16296	133.27	0.19524
17.958	0.007667	9.7536	0.001681	110.48	0.16729	136.42	0.19903
18.897	0.008768	10.203	0.001836	113.59	0.17115	139.57	0.20276
19.842	0.009853	10.885	0.002156	116.70	0.17565	142.72	0.20615
21.262	0.01197	11.803	0.002522	119.82	0.17923	145.88	0.20970
23.147	0.01463	12.726	0.002952	122.94	0.18316	149.04	0.21329
Series 2		13.651	0.003511	126.06	0.18768	152.20	0.21704
4.6631	0.0001976	14.576	0.004236	129.19	0.19095	155.38	0.22077
4.7732	0.0001584	15.502	0.005104	132.32	0.19466	158.57	0.22345
4.8826	0.0001893	16.436	0.005894	135.45	0.19914	161.74	0.22584
4.9931	0.0002064	17.375	0.006971	138.58	0.20278	164.94	0.22982
5.1081	0.0002426	18.313	0.008110	141.72	0.20630	168.11	0.23145
5.2206	0.0002709	19.256	0.009178	144.86	0.20976	171.28	0.23378
5.3367	0.0003287	20.204	0.01029	148.01	0.21306	174.44	0.23797
5.4617	0.0003684	21.623	0.01247	151.14	0.21629	177.61	0.24101
5.5899	0.0004126	23.511	0.01542	154.27	0.21925	180.78	0.24211
5.7226	0.0004328	25.414	0.01851	157.42	0.22428	183.94	0.24579
5.8593	0.0004707	27.326	0.02220	160.58	0.22744	187.10	0.24897
5.9992	0.0005183	29.249	0.02601	163.76	0.23031	190.26	0.25147
6.2315	0.0006236	31.184	0.02988	166.95	0.23336	193.42	0.25445
6.5567	0.0007215	33.131	0.03374	170.15	0.23621	196.57	0.25776
6.8733	0.0008377	35.083	0.03779	173.37	0.23903	199.71	0.26075
7.2047	0.0009421	37.040	0.04194	176.59	0.24130	202.85	0.26359
7.5406	0.001041	39.002	0.04636	179.82	0.24348	205.99	0.26408
7.8799	0.001133	Series 4		183.04	0.24654	209.13	0.26575
8.2211	0.001224	36.416	0.04034	186.26	0.24936	212.24	0.26786
8.5671	0.001320	38.837	0.04569	189.48	0.25237	215.32	0.26990

T / K	C_p / J·g^{-1}·K^{-1}
218.41	0.27158
227.60	0.27837
230.61	0.28092
233.62	0.28287
236.58	0.28445
239.54	0.28655
242.47	0.28759
245.38	0.29057
257.10	0.29898
263.17	0.30279
266.24	0.30515
269.33	0.30550
272.41	0.30771
275.48	0.30989
281.66	0.31277
287.87	0.31561
290.97	0.31713
Series 7	
85.198	0.13002
89.259	0.13648
92.315	0.14134
95.385	0.14575
98.455	0.15020
101.53	0.15443
104.62	0.15869
107.72	0.16313
110.83	0.16701
113.93	0.17121
117.05	0.17522
120.17	0.17971
123.31	0.18333
126.44	0.18771
129.59	0.19146
132.74	0.19472
135.92	0.19869
139.06	0.20218
142.22	0.20559
145.37	0.20898
148.52	0.21320
151.69	0.21605
154.85	0.21922
158.00	0.22331
161.18	0.22602
164.36	0.22812
167.52	0.23184
170.69	0.23372
173.84	0.23751
177.01	0.23992

T / K	C_p / J·g^{-1}·K^{-1}
180.17	0.24314
183.34	0.24537
186.51	0.24783
189.66	0.25080
192.81	0.25444
195.96	0.25637
199.11	0.25930
202.25	0.26209
205.40	0.26395
208.55	0.26719
211.70	0.26927
214.84	0.26930
217.93	0.27174
221.00	0.27644
224.07	0.27624
227.12	0.27818
230.14	0.28079
236.32	0.28513
239.55	0.28690
242.75	0.29053
245.94	0.29522
284.74	0.31307
287.75	0.31519
290.76	0.31630
293.78	0.31669
296.80	0.31726
299.83	0.31739
302.88	0.31769
305.93	0.31854
308.98	0.31897
312.04	0.31967
315.09	0.32268
Series 8	
137.88	0.20126
142.05	0.20586
145.22	0.20943
148.40	0.21235
151.56	0.21578
154.72	0.21872
157.88	0.22237
161.05	0.22650
164.22	0.22759
167.38	0.23086
170.53	0.23462
173.69	0.23736
176.85	0.24000
180.01	0.24237
183.15	0.24576

T / K	C_p / J·g^{-1}·K^{-1}
186.30	0.24757
189.43	0.24904
192.55	0.25401
195.66	0.25709
198.78	0.25926
201.89	0.26201
205.00	0.26486
208.10	0.26707
211.21	0.26980
214.30	0.27292
217.39	0.27099
220.44	0.27348
223.47	0.27529
226.49	0.27731
229.49	0.27953
232.46	0.28186
235.42	0.28413
238.25	0.28563
241.16	0.28818
253.00	0.29489
255.81	0.29612
258.61	0.29744
261.38	0.29898
264.14	0.30160
278.82	0.31254
281.88	0.31369
284.91	0.31247
287.97	0.31378
291.04	0.31441
294.11	0.31561
306.11	0.32079
Series 9	
139.86	0.20351
144.03	0.20814
147.21	0.21190
150.38	0.21511
153.56	0.21873
156.75	0.22203
159.93	0.22561
163.13	0.22807
166.32	0.23038
169.51	0.23311
172.70	0.23554
175.89	0.23848
179.07	0.24319
182.28	0.24550
185.48	0.24807
188.69	0.25191

T / K	C_p / J·g^{-1}·K^{-1}
191.94	0.25444
195.16	0.25725
198.39	0.25896
201.62	0.26191
204.86	0.26547
208.11	0.26900
211.38	0.26924
214.64	0.27183
217.90	0.27370
221.16	0.27731
247.42	0.29092
250.89	0.29155
254.31	0.29525
257.76	0.29966
261.18	0.30292
264.59	0.30582
268.03	0.30839
271.48	0.30935
274.96	0.31015
278.48	0.31138
282.03	0.31262
285.60	0.31363
289.22	0.31446
292.88	0.31685
296.66	0.31620
300.81	0.31666
304.63	0.31866
308.50	0.31988
312.41	0.32126
316.37	0.32234
320.36	0.32342
Series 10	
191.91	0.25245
196.00	0.25512
199.30	0.25856
202.63	0.26219
205.96	0.26535
209.28	0.26800
212.61	0.27131
215.94	0.27468
229.42	0.28286
232.86	0.28464
236.33	0.28545
239.82	0.28819
243.34	0.29113
247.10	0.29375
250.73	0.29729
254.42	0.30023

Table A5. Experimental data on the specific heat capacity of $Ba(La_{0.97}Sm_{0.03})_2WO_7$ sample.

T / K	C_p / J·g^{-1}·K^{-1}	T / K	C_p / J·g^{-1}·K^{-1}	T / K	C_p / J·g^{-1}·K^{-1}	T / K	C_p / J·g^{-1}·K^{-1}
Series 1		9.6651	0.001676	49.443	0.06832	200.35	0.26143
4.7782	0.0001955	Series 3		51.415	0.07283	203.21	0.26414
4.9862	0.0002378	4.3785	0.0001609	53.388	0.07760	206.06	0.26674
5.1911	0.0003028	4.5863	0.0001722	55.363	0.08172	208.90	0.26957
5.4045	0.0003566	4.7133	0.0001917	57.344	0.08452	211.73	0.27234
5.6239	0.0004299	4.8441	0.0001843	59.329	0.08837	214.57	0.27477
5.8502	0.0005078	4.9735	0.0002145	61.313	0.09296	217.43	0.27693
6.0824	0.0005887	5.1038	0.0002547	63.297	0.09709	220.31	0.27907
6.4104	0.0007185	5.2370	0.0002995	65.289	0.10029	223.20	0.28101
6.8312	0.0008544	5.3701	0.0003482	67.281	0.10379	226.11	0.28283
7.2567	0.0009884	5.5065	0.0004072	69.277	0.10725	228.92	0.28309
7.6905	0.001088	5.6459	0.0004271	71.772	0.11227	231.87	0.28505
8.1299	0.001237	5.7881	0.0004683	74.775	0.11704	234.81	0.28719
8.5749	0.001363	5.9315	0.0005010	77.789	0.12202	237.76	0.28905
9.0206	0.001510	6.0797	0.0005796	80.812	0.12703	240.70	0.29132
9.4676	0.001633	6.3637	0.0007007	Series 5		243.65	0.29307
9.9125	0.001773	6.7847	0.0008510	83.202	0.12825	278.93	0.30779
10.594	0.002054	7.2126	0.0009707	87.185	0.13468	282.45	0.30928
11.510	0.002403	7.6390	0.001088	90.231	0.13949	286.01	0.31067
12.433	0.002836	8.0787	0.001213	93.287	0.14419	289.59	0.31196
13.357	0.003335	8.5222	0.001352	96.349	0.14876	293.20	0.31355
14.280	0.003942	8.9683	0.001496	99.415	0.15357	296.85	0.31513
15.203	0.004700	9.4169	0.001623	102.49	0.15775	300.52	0.31670
16.132	0.005575	9.8677	0.001755	105.57	0.16215	304.23	0.31822
17.070	0.006526	10.551	0.002035	108.67	0.16605	307.97	0.31994
18.009	0.007666	11.471	0.002366	111.76	0.17053	311.74	0.32203
18.950	0.008737	12.391	0.002812	114.86	0.17430	315.55	0.32406
19.897	0.009759	13.314	0.003291	117.96	0.17836	319.41	0.32594
21.318	0.01221	14.237	0.003901	121.07	0.18247	Series 6	
23.204	0.01517	15.159	0.004663	124.17	0.18635	80.997	0.12461
Series 2		16.087	0.005514	127.28	0.19010	84.970	0.13129
4.3703	0.0001521	17.023	0.006482	130.39	0.19394	88.011	0.13618
4.5713	0.0002102	17.962	0.007649	133.50	0.19764	91.062	0.14109
4.6942	0.0001740	18.904	0.008701	136.61	0.20143	94.125	0.14578
4.8200	0.0001582	19.850	0.009683	139.71	0.20561	97.196	0.15035
4.9393	0.0002024	21.269	0.01214	142.81	0.20912	100.28	0.15469
5.0661	0.0002446	23.158	0.01504	145.91	0.21245	103.36	0.15893
5.1933	0.0003011	25.062	0.01844	149.00	0.21591	106.45	0.16321
5.3232	0.0003436	26.973	0.02215	152.09	0.21968	109.55	0.16726
5.4574	0.0003637	28.896	0.02603	155.17	0.22287	112.64	0.17191
5.5890	0.0004305	30.830	0.02996	158.25	0.22632	115.75	0.17558
5.7272	0.0004649	32.773	0.03400	161.34	0.22898	118.86	0.17964
5.8693	0.0005131	34.722	0.03817	164.43	0.23038	121.97	0.18360
6.0126	0.0005706	36.678	0.04231	167.51	0.23474	125.08	0.18737
6.2467	0.0006647	38.638	0.04666	170.58	0.23576	128.20	0.19122
6.5732	0.0007760	Series 4		173.64	0.23962	131.34	0.19496
6.9026	0.0008809	33.290	0.03499	176.68	0.24289	134.45	0.19886
7.2260	0.0009728	35.678	0.04000	179.72	0.24273	137.57	0.20323
7.5642	0.001053	37.641	0.04424	182.68	0.24544	140.70	0.20610
7.9063	0.001162	39.606	0.04861	185.69	0.24872	143.82	0.20965
8.2534	0.001270	41.571	0.05287	188.65	0.25184	146.93	0.21280
8.6027	0.001383	43.536	0.05697	191.60	0.25644	150.05	0.21628
8.9547	0.001499	45.503	0.06070	194.54	0.25639	153.15	0.22078
9.3083	0.001604	47.472	0.06436	197.46	0.25921	156.26	0.22357

T / K	C_p / J·g^{-1}·K^{-1}
159.38	0.22703
162.48	0.23014
165.59	0.23192
168.69	0.23467
171.78	0.23915
174.86	0.24157
177.94	0.24204
180.99	0.24474
184.05	0.24927
187.09	0.25088
190.13	0.25169
193.15	0.25454
196.14	0.25863
199.10	0.26085
202.04	0.26319
204.97	0.26592
210.83	0.27038
213.77	0.27314
216.70	0.27582
219.63	0.27819
222.58	0.27990
225.53	0.28170
228.39	0.28274
231.36	0.28523
234.33	0.28757
259.68	0.29771
262.64	0.30004
265.60	0.30123
268.56	0.30271
271.51	0.30385
274.46	0.30517
277.30	0.30672
280.27	0.30795
283.24	0.30925
286.21	0.31014
289.19	0.31145
292.17	0.31269
295.15	0.31400
298.13	0.31507
301.12	0.31635
304.10	0.31747
307.09	0.31878
310.08	0.32007
313.07	0.32107
316.07	0.32219
319.07	0.32353
322.07	0.32485
Series 7	
133.23	0.19708
137.28	0.20177
140.43	0.20555
143.58	0.20911
146.73	0.21283

T / K	C_p / J·g^{-1}·K^{-1}
149.87	0.21708
153.03	0.22044
156.20	0.22277
159.36	0.22597
162.51	0.22905
165.68	0.23247
168.85	0.23477
172.01	0.23741
175.17	0.24138
178.34	0.24409
181.50	0.24627
184.69	0.24789
187.84	0.25193
190.99	0.25412
194.14	0.25734
197.27	0.25966
200.41	0.26252
203.54	0.26489
206.69	0.26776
209.84	0.26889
212.99	0.27113
216.14	0.27381
235.46	0.28950
238.75	0.29209
242.05	0.29322
245.37	0.29366
248.70	0.29506
252.02	0.29734
255.36	0.29903
258.72	0.30031
262.11	0.30163
265.51	0.30337
268.94	0.30446
280.51	0.30862
284.09	0.31008
287.71	0.31083
291.66	0.31216
295.34	0.31329
299.05	0.31553
302.79	0.31811
306.57	0.32053
310.38	0.32111
314.25	0.32265
Series 8	
105.14	0.16121
109.19	0.16644
112.30	0.17062
115.41	0.17485
118.53	0.17878
121.66	0.18267
124.79	0.18720
127.93	0.19069
131.07	0.19433

T / K	C_p / J·g^{-1}·K^{-1}
134.21	0.19886
137.36	0.20221
140.51	0.20567
143.65	0.20907
146.80	0.21253
149.95	0.21661
153.10	0.21944
156.28	0.22300
159.44	0.22594
162.60	0.22946
165.78	0.23252
168.96	0.23446
172.12	0.23804
175.30	0.23959
178.46	0.24432
181.63	0.24681
184.80	0.24721
187.97	0.24938
191.12	0.25268
194.26	0.25814
197.40	0.25991
200.54	0.26243
203.67	0.26517
206.81	0.26692
209.95	0.26947
213.10	0.27170
216.25	0.27324
219.40	0.27523
222.55	0.27739
225.70	0.27949
228.83	0.28130
231.96	0.28418
258.17	0.29762
261.61	0.29984
265.07	0.30202
268.60	0.30192
272.11	0.30363
275.65	0.30466
279.22	0.30603
282.81	0.30746
286.43	0.30808
290.07	0.31000
293.74	0.31222
297.51	0.31292
301.24	0.31461
305.00	0.31663
308.80	0.31924
312.63	0.32171
316.86	0.32329
320.79	0.32615
Series 9	
80.341	0.12348
84.318	0.13009

T / K	C_p / J·g^{-1}·K^{-1}
87.357	0.13513
90.409	0.13966
93.460	0.14430
96.523	0.14897
99.597	0.15344
102.68	0.15808
105.77	0.16203
108.86	0.16661
111.97	0.17041
115.07	0.17487
118.19	0.17850
121.30	0.18288
124.43	0.18692
127.57	0.19032
130.73	0.19462
133.87	0.19792
137.01	0.20167
140.14	0.20621
143.28	0.20965
146.42	0.21304
149.57	0.21634
152.71	0.21899
155.85	0.22203
158.99	0.22539
162.13	0.22881
165.27	0.23226
168.42	0.23528
171.57	0.23797
174.71	0.24052
177.85	0.24290
Series 10	
173.94	0.24086
178.08	0.24393
181.46	0.24689
184.86	0.25002
188.27	0.25330
191.69	0.25589
195.13	0.25845
198.58	0.26226
209.10	0.27039
212.68	0.27335
216.29	0.27502
241.66	0.29124
244.78	0.29206
247.90	0.29334
251.02	0.29433
254.13	0.29543
257.25	0.29659
293.93	0.31332
298.23	0.31463
302.57	0.31620
306.95	0.31798
311.37	0.32039

Table A6. Data on the magnetic properties of $Ba(La_{0.97}Sm_{0.03})_2WO_7$ sample in ZFC mode at 0.5 T

T / K	H / Oe	M / emu	χ_{spec} / $cm^3 \cdot g^{-1}$	χ_{para} / mol^{-1}	$1/\chi_{para}$	$\chi_{para}T$	μ^2_{eff}	μ_{eff} / μ_B
1.99969	4999.605	$9.1219 \cdot 10^{-5}$	$4.5773 \cdot 10^{-7}$	$1.5702 \cdot 10^{-2}$	63.6845	0.03140	0.25120	0.50120
3.00006	4999.605	$5.5946 \cdot 10^{-5}$	$2.8073 \cdot 10^{-7}$	$1.1504 \cdot 10^{-2}$	86.9286	0.03451	0.27609	0.52545
3.99993	4999.605	$3.8028 \cdot 10^{-5}$	$1.9082 \cdot 10^{-7}$	$9.3708 \cdot 10^{-3}$	106.714	0.03748	0.29986	0.54760
4.99998	4999.605	$2.7207 \cdot 10^{-5}$	$1.3652 \cdot 10^{-7}$	$8.0827 \cdot 10^{-3}$	123.720	0.04041	0.32331	0.56860
5.99999	4999.605	$1.9933 \cdot 10^{-5}$	$1.0002 \cdot 10^{-7}$	$7.2169 \cdot 10^{-3}$	138.564	0.04330	0.34641	0.58857
6.99983	4999.605	$1.4755 \cdot 10^{-5}$	$7.4041 \cdot 10^{-8}$	$6.6005 \cdot 10^{-3}$	151.504	0.04620	0.36962	0.60796
7.99996	4999.605	$1.0867 \cdot 10^{-5}$	$5.4531 \cdot 10^{-8}$	$6.1377 \cdot 10^{-3}$	162.928	0.04910	0.39281	0.62675
9.00005	4999.605	$7.8335 \cdot 10^{-6}$	$3.9308 \cdot 10^{-8}$	$5.7766 \cdot 10^{-3}$	173.113	0.05199	0.41592	0.64491
10.0001	4999.605	$5.4456 \cdot 10^{-6}$	$2.7326 \cdot 10^{-8}$	$5.4923 \cdot 10^{-3}$	182.072	0.05492	0.43939	0.66286
11.0001	4999.605	$3.4285 \cdot 10^{-6}$	$1.7204 \cdot 10^{-8}$	$5.2522 \cdot 10^{-3}$	190.396	0.05777	0.46220	0.67985
12.0000	4999.605	$1.8024 \cdot 10^{-6}$	$9.0444 \cdot 10^{-9}$	$5.0587 \cdot 10^{-3}$	197.681	0.06070	0.48563	0.69687
13.0000	4999.605	$4.0196 \cdot 10^{-7}$	$2.0170 \cdot 10^{-9}$	$4.8919 \cdot 10^{-3}$	204.418	0.06360	0.50876	0.71328
14.0000	4999.605	$-7.8169 \cdot 10^{-7}$	$-3.9225 \cdot 10^{-9}$	$4.7511 \cdot 10^{-3}$	210.480	0.06651	0.53212	0.72946
15.0000	4999.605	$-1.7866 \cdot 10^{-6}$	$-8.9651 \cdot 10^{-9}$	$4.6314 \cdot 10^{-3}$	215.916	0.06947	0.55577	0.74550
16.0000	4999.605	$-2.7042 \cdot 10^{-6}$	$-1.3570 \cdot 10^{-8}$	$4.5222 \cdot 10^{-3}$	221.131	0.07236	0.57884	0.76082
17.0000	4999.605	$-3.4950 \cdot 10^{-6}$	$-1.7538 \cdot 10^{-8}$	$4.4281 \cdot 10^{-3}$	225.832	0.07528	0.60222	0.77603
18.0000	4999.605	$-4.1706 \cdot 10^{-6}$	$-2.0928 \cdot 10^{-8}$	$4.3476 \cdot 10^{-3}$	230.009	0.07826	0.62606	0.79124
19.0001	4999.605	$-4.8373 \cdot 10^{-6}$	$-2.4274 \cdot 10^{-8}$	$4.2683 \cdot 10^{-3}$	234.286	0.08110	0.64878	0.80547
20.0003	4999.605	$-5.4166 \cdot 10^{-6}$	$-2.7180 \cdot 10^{-8}$	$4.1993 \cdot 10^{-3}$	238.133	0.08399	0.67190	0.81970
21.0001	4999.605	$-5.9450 \cdot 10^{-6}$	$-2.9832 \cdot 10^{-8}$	$4.1364 \cdot 10^{-3}$	241.754	0.08687	0.69492	0.83362
22.0000	4999.605	$-6.4241 \cdot 10^{-6}$	$-3.2236 \cdot 10^{-8}$	$4.0794 \cdot 10^{-3}$	245.134	0.08975	0.71797	0.84733
23.0000	4999.605	$-6.8389 \cdot 10^{-6}$	$-3.4317 \cdot 10^{-8}$	$4.0300 \cdot 10^{-3}$	248.138	0.09269	0.74152	0.86112
24.0000	4999.605	$-7.2574 \cdot 10^{-6}$	$-3.6417 \cdot 10^{-8}$	$3.9802 \cdot 10^{-3}$	251.243	0.09553	0.76420	0.87419
25.0000	4999.605	$-7.6112 \cdot 10^{-6}$	$-3.8193 \cdot 10^{-8}$	$3.9381 \cdot 10^{-3}$	253.930	0.09845	0.78762	0.88748
25.9999	4999.605	$-7.9665 \cdot 10^{-6}$	$-3.9976 \cdot 10^{-8}$	$3.8958 \cdot 10^{-3}$	256.687	0.10129	0.81032	0.90018
26.9999	4999.605	$-8.2862 \cdot 10^{-6}$	$-4.1580 \cdot 10^{-8}$	$3.8577 \cdot 10^{-3}$	259.219	0.10416	0.83327	0.91284
27.9999	4999.605	$-8.5595 \cdot 10^{-6}$	$-4.2951 \cdot 10^{-8}$	$3.8252 \cdot 10^{-3}$	261.424	0.10711	0.85684	0.92566
28.9999	4999.605	$-8.8117 \cdot 10^{-6}$	$-4.4217 \cdot 10^{-8}$	$3.7952 \cdot 10^{-3}$	263.492	0.11006	0.88048	0.93834
29.9999	4999.605	$-9.0275 \cdot 10^{-6}$	$-4.5299 \cdot 10^{-8}$	$3.7695 \cdot 10^{-3}$	265.287	0.11308	0.90468	0.95115
30.0000	4999.605	$-9.0314 \cdot 10^{-6}$	$-4.5319 \cdot 10^{-8}$	$3.7690 \cdot 10^{-3}$	265.319	0.11307	0.90457	0.95109
34.9996	4999.605	$-1.0145 \cdot 10^{-5}$	$-5.0908 \cdot 10^{-8}$	$3.6365 \cdot 10^{-3}$	274.993	0.12727	1.01820	1.00906
39.9986	4999.605	$-1.1014 \cdot 10^{-5}$	$-5.5269 \cdot 10^{-8}$	$3.5330 \cdot 10^{-3}$	283.045	0.14132	1.13052	1.06326
44.9966	4999.605	$-1.1625 \cdot 10^{-5}$	$-5.8336 \cdot 10^{-8}$	$3.4603 \cdot 10^{-3}$	288.995	0.15570	1.24560	1.11606
49.9932	4999.605	$-1.2127 \cdot 10^{-5}$	$-6.0851 \cdot 10^{-8}$	$3.4006 \cdot 10^{-3}$	294.067	0.17001	1.36005	1.16621
54.9888	4999.605	$-1.2542 \cdot 10^{-5}$	$-6.2937 \cdot 10^{-8}$	$3.3511 \cdot 10^{-3}$	298.410	0.18427	1.47418	1.21416
59.9850	4999.605	$-1.2776 \cdot 10^{-5}$	$-6.4110 \cdot 10^{-8}$	$3.3233 \cdot 10^{-3}$	300.909	0.19935	1.59477	1.26284
64.9814	4999.605	$-1.2991 \cdot 10^{-5}$	$-6.5186 \cdot 10^{-8}$	$3.2978 \cdot 10^{-3}$	303.237	0.21429	1.71434	1.30933
69.9785	4999.605	$-1.3304 \cdot 10^{-5}$	$-6.6757 \cdot 10^{-8}$	$3.2605 \cdot 10^{-3}$	306.702	0.22816	1.82532	1.35104
74.9718	4999.605	$-1.3578 \cdot 10^{-5}$	$-6.8133 \cdot 10^{-8}$	$3.2278 \cdot 10^{-3}$	309.805	0.24200	1.93597	1.39139
79.9688	4999.605	$-1.3903 \cdot 10^{-5}$	$-6.9765 \cdot 10^{-8}$	$3.1891 \cdot 10^{-3}$	313.564	0.25503	2.04025	1.42837
84.9634	4999.605	$-1.4124 \cdot 10^{-5}$	$-7.0875 \cdot 10^{-8}$	$3.1628 \cdot 10^{-3}$	316.176	0.26872	2.14978	1.46621
89.9588	4999.605	$-1.4321 \cdot 10^{-5}$	$-7.1863 \cdot 10^{-8}$	$3.1394 \cdot 10^{-3}$	318.536	0.28241	2.25931	1.50310
94.9538	4999.605	$-1.4478 \cdot 10^{-5}$	$-7.2649 \cdot 10^{-8}$	$3.1207 \cdot 10^{-3}$	320.439	0.29632	2.37059	1.53967
99.9506	4999.605	$-1.4674 \cdot 10^{-5}$	$-7.3635 \cdot 10^{-8}$	$3.0973 \cdot 10^{-3}$	322.860	0.30958	2.47663	1.57373
104.944	4999.605	$-1.4800 \cdot 10^{-5}$	$-7.4264 \cdot 10^{-8}$	$3.0824 \cdot 10^{-3}$	324.421	0.32348	2.58785	1.60868
109.943	4999.605	$-1.4964 \cdot 10^{-5}$	$-7.5089 \cdot 10^{-8}$	$3.0628 \cdot 10^{-3}$	326.495	0.33674	2.69390	1.64131
114.942	4999.605	$-1.5082 \cdot 10^{-5}$	$-7.5683 \cdot 10^{-8}$	$3.0488 \cdot 10^{-3}$	328.003	0.35043	2.80343	1.67435
119.940	4999.605	$-1.5187 \cdot 10^{-5}$	$-7.6209 \cdot 10^{-8}$	$3.0363 \cdot 10^{-3}$	329.352	0.36417	2.91337	1.70686
124.937	4999.605	$-1.5328 \cdot 10^{-5}$	$-7.6916 \cdot 10^{-8}$	$3.0195 \cdot 10^{-3}$	331.182	0.37724	3.01796	1.73723
129.937	4999.605	$-1.5425 \cdot 10^{-5}$	$-7.7402 \cdot 10^{-8}$	$3.0080 \cdot 10^{-3}$	332.450	0.39085	3.12678	1.76827
134.936	4999.605	$-1.5510 \cdot 10^{-5}$	$-7.7829 \cdot 10^{-8}$	$2.9978 \cdot 10^{-3}$	333.575	0.40451	3.23611	1.79892

T / K	H / Oe	M / emu	χ_{spec} / cm^3·g^{-1}	χ_{para} / mol^{-1}	$1/\chi_{para}$	$\chi_{para}T$	μ^2_{eff}	μ_{eff} / μ_B
139.933	4999.605	$-1.5591\cdot10^{-5}$	$-7.8233\cdot10^{-8}$	$2.9882\cdot10^{-3}$	334.644	0.41815	3.34523	1.82900
144.932	4999.605	$-1.5771\cdot10^{-5}$	$-7.9138\cdot10^{-8}$	$2.9668\cdot10^{-3}$	337.066	0.42998	3.43984	1.85468
149.933	4999.605	$-1.5839\cdot10^{-5}$	$-7.9482\cdot10^{-8}$	$2.9586\cdot10^{-3}$	337.994	0.44359	3.54876	1.88381
154.931	4999.605	$-1.5890\cdot10^{-5}$	$-7.9736\cdot10^{-8}$	$2.9526\cdot10^{-3}$	338.686	0.45745	3.65957	1.91300
159.928	4999.605	$-1.5996\cdot10^{-5}$	$-8.0268\cdot10^{-8}$	$2.9400\cdot10^{-3}$	340.137	0.47019	3.76149	1.93946
164.928	4999.605	$-1.6077\cdot10^{-5}$	$-8.0674\cdot10^{-8}$	$2.9303\cdot10^{-3}$	341.257	0.48330	3.86636	1.96631
169.927	4999.605	$-1.6148\cdot10^{-5}$	$-8.1031\cdot10^{-8}$	$2.9219\cdot10^{-3}$	342.246	0.49650	3.97203	1.99300
174.926	4999.605	$-1.6203\cdot10^{-5}$	$-8.1307\cdot10^{-8}$	$2.9153\cdot10^{-3}$	343.013	0.50997	4.07974	2.01984
179.921	4999.605	$-1.6273\cdot10^{-5}$	$-8.1659\cdot10^{-8}$	$2.9070\cdot10^{-3}$	343.999	0.52303	4.18423	2.04554
184.925	4999.605	$-1.6369\cdot10^{-5}$	$-8.2137\cdot10^{-8}$	$2.8957\cdot10^{-3}$	345.345	0.53548	4.28382	2.06974
189.922	4999.605	$-1.6398\cdot10^{-5}$	$-8.2284\cdot10^{-8}$	$2.8921\cdot10^{-3}$	345.764	0.54928	4.39427	2.09625
194.925	4999.605	$-1.6473\cdot10^{-5}$	$-8.2662\cdot10^{-8}$	$2.8832\cdot10^{-3}$	346.837	0.56201	4.49606	2.12039
199.922	4999.605	$-1.6550\cdot10^{-5}$	$-8.3049\cdot10^{-8}$	$2.8740\cdot10^{-3}$	347.946	0.57458	4.59663	2.14398
204.923	4999.605	$-1.6638\cdot10^{-5}$	$-8.3491\cdot10^{-8}$	$2.8635\cdot10^{-3}$	349.219	0.58680	4.69443	2.16666
209.921	4999.605	$-1.6716\cdot10^{-5}$	$-8.3879\cdot10^{-8}$	$2.8543\cdot10^{-3}$	350.347	0.59918	4.79345	2.18939
214.921	4999.605	$-1.6707\cdot10^{-5}$	$-8.3837\cdot10^{-8}$	$2.8553\cdot10^{-3}$	350.223	0.61367	4.90935	2.21570
219.922	4999.605	$-1.6784\cdot10^{-5}$	$-8.4219\cdot10^{-8}$	$2.8462\cdot10^{-3}$	351.340	0.62595	5.00761	2.23777
224.922	4999.605	$-1.6859\cdot10^{-5}$	$-8.4597\cdot10^{-8}$	$2.8373\cdot10^{-3}$	352.448	0.63817	5.10536	2.25950
229.922	4999.605	$-1.6956\cdot10^{-5}$	$-8.5083\cdot10^{-8}$	$2.8258\cdot10^{-3}$	353.887	0.64970	5.19763	2.27983
234.919	4999.605	$-1.6940\cdot10^{-5}$	$-8.5002\cdot10^{-8}$	$2.8277\cdot10^{-3}$	353.648	0.66427	5.31418	2.30525
239.916	4999.605	$-1.7034\cdot10^{-5}$	$-8.5475\cdot10^{-8}$	$2.8165\cdot10^{-3}$	355.055	0.67572	5.40573	2.32502
244.919	4999.605	$-1.7056\cdot10^{-5}$	$-8.5584\cdot10^{-8}$	$2.8139\cdot10^{-3}$	355.382	0.68917	5.51336	2.34805
249.919	4999.605	$-1.7094\cdot10^{-5}$	$-8.5777\cdot10^{-8}$	$2.8093\cdot10^{-3}$	355.961	0.70210	5.61678	2.36997
254.919	4999.605	$-1.7162\cdot10^{-5}$	$-8.6121\cdot10^{-8}$	$2.8011\cdot10^{-3}$	356.997	0.71406	5.71252	2.39009
259.924	4999.605	$-1.7166\cdot10^{-5}$	$-8.6138\cdot10^{-8}$	$2.8007\cdot10^{-3}$	357.049	0.72798	5.82383	2.41326
264.917	4999.605	$-1.7186\cdot10^{-5}$	$-8.6237\cdot10^{-8}$	$2.7984\cdot10^{-3}$	357.348	0.74134	5.93074	2.43531
269.916	4999.605	$-1.7252\cdot10^{-5}$	$-8.6568\cdot10^{-8}$	$2.7905\cdot10^{-3}$	358.354	0.75321	6.02569	2.45473
274.921	4999.605	$-1.7264\cdot10^{-5}$	$-8.6629\cdot10^{-8}$	$2.7891\cdot10^{-3}$	358.540	0.76678	6.13423	2.47674
279.920	4999.605	$-1.7341\cdot10^{-5}$	$-8.7016\cdot10^{-8}$	$2.7799\cdot10^{-3}$	359.724	0.77815	6.22521	2.49504
284.918	4999.605	$-1.7360\cdot10^{-5}$	$-8.7111\cdot10^{-8}$	$2.7776\cdot10^{-3}$	360.018	0.79140	6.33120	2.51619
289.920	4999.605	$-1.7363\cdot10^{-5}$	$-8.7128\cdot10^{-8}$	$2.7772\cdot10^{-3}$	360.070	0.80518	6.44141	2.53799
294.914	4999.605	$-1.7454\cdot10^{-5}$	$-8.7581\cdot10^{-8}$	$2.7665\cdot10^{-3}$	361.467	0.81588	6.52705	2.55481
299.923	4999.605	$-1.7464\cdot10^{-5}$	$-8.7636\cdot10^{-8}$	$2.7652\cdot10^{-3}$	361.637	0.82935	6.63478	2.57581
304.916	4999.605	$-1.7477\cdot10^{-5}$	$-8.7697\cdot10^{-8}$	$2.7637\cdot10^{-3}$	361.828	0.84271	6.74166	2.59647
309.921	4999.605	$-1.7589\cdot10^{-5}$	$-8.8260\cdot10^{-8}$	$2.7504\cdot10^{-3}$	363.585	0.85240	6.81922	2.61136
314.921	4999.605	$-1.7631\cdot10^{-5}$	$-8.8472\cdot10^{-8}$	$2.7454\cdot10^{-3}$	364.250	0.86457	6.91659	2.62994
319.918	4999.605	$-1.7687\cdot10^{-5}$	$-8.8752\cdot10^{-8}$	$2.7387\cdot10^{-3}$	365.132	0.87617	7.00935	2.64752
324.920	4999.605	$-1.7863\cdot10^{-5}$	$-8.9638\cdot10^{-8}$	$2.7177\cdot10^{-3}$	367.957	0.88304	7.06431	2.65788
329.917	4999.605	$-1.8000\cdot10^{-5}$	$-9.0321\cdot10^{-8}$	$2.7015\cdot10^{-3}$	370.164	0.89127	7.13017	2.67024
334.920	4999.605	$-1.8203\cdot10^{-5}$	$-9.1341\cdot10^{-8}$	$2.6773\cdot10^{-3}$	373.508	0.89669	7.17349	2.67834
339.916	4999.605	$-1.8350\cdot10^{-5}$	$-9.2081\cdot10^{-8}$	$2.6598\cdot10^{-3}$	375.975	0.90409	7.23274	2.68938
344.914	4999.605	$-1.8565\cdot10^{-5}$	$-9.3157\cdot10^{-8}$	$2.6342\cdot10^{-3}$	379.619	0.90858	7.26864	2.69604
349.919	4999.605	$-1.8713\cdot10^{-5}$	$-9.3902\cdot10^{-8}$	$2.6165\cdot10^{-3}$	382.184	0.91558	7.32463	2.70641
354.918	4999.605	$-1.8906\cdot10^{-5}$	$-9.4868\cdot10^{-8}$	$2.5936\cdot10^{-3}$	385.558	0.92053	7.36424	2.71371
359.916	4999.605	$-1.9065\cdot10^{-5}$	$-9.5666\cdot10^{-8}$	$2.5747\cdot10^{-3}$	388.395	0.92667	7.41340	2.72276
364.917	4999.605	$-1.9266\cdot10^{-5}$	$-9.6675\cdot10^{-8}$	$2.5508\cdot10^{-3}$	392.039	0.93082	7.44653	2.72883
369.917	4999.605	$-1.9389\cdot10^{-5}$	$-9.7294\cdot10^{-8}$	$2.5361\cdot10^{-3}$	394.308	0.93814	7.50513	2.73955
374.916	4999.605	$-1.9535\cdot10^{-5}$	$-9.8025\cdot10^{-8}$	$2.5188\cdot10^{-3}$	397.022	0.94432	7.55457	2.74856
379.918	4999.605	$-1.9672\cdot10^{-5}$	$-9.8711\cdot10^{-8}$	$2.5025\cdot10^{-3}$	399.605	0.95074	7.60588	2.75788
384.917	4999.605	$-1.9909\cdot10^{-5}$	$-9.9902\cdot10^{-8}$	$2.4742\cdot10^{-3}$	404.169	0.95237	7.61893	2.76024
389.914	4999.605	$-2.0036\cdot10^{-5}$	$-1.0054\cdot10^{-7}$	$2.4591\cdot10^{-3}$	406.660	0.95882	7.67056	2.76958
394.914	4999.605	$-2.0136\cdot10^{-5}$	$-1.0104\cdot10^{-7}$	$2.4472\cdot10^{-3}$	408.626	0.96644	7.73155	2.78057
399.922	4999.605	$-2.0275\cdot10^{-5}$	$-1.0174\cdot10^{-7}$	$2.4306\cdot10^{-3}$	411.423	0.97205	7.77638	2.78862

Table A7. Data on the magnetic properties of $Ba(La_{0.97}Sm_{0.03})_2WO_7$ sample in FCC mode at 0.5 T

T / K	H / Oe	M / emu	χ_{spec} / $cm^3 \cdot g^{-1}$	χ_{para} / mol^{-1}	$1/\chi_{para}$	$\chi_{para}T$	μ^2_{eff}	μ_{eff} / μ_B
399.989	4999.605	$-2.0310 \cdot 10^{-5}$	$-1.0192 \cdot 10^{-7}$	$2.4264 \cdot 10^{-3}$	412.126	0.97055	7.76440	2.78647
394.600	4999.605	$-2.0177 \cdot 10^{-5}$	$-1.0125 \cdot 10^{-7}$	$2.4423 \cdot 10^{-3}$	409.446	0.96374	7.70992	2.77667
389.877	4999.605	$-2.0024 \cdot 10^{-5}$	$-1.0048 \cdot 10^{-7}$	$2.4605 \cdot 10^{-3}$	406.415	0.95931	7.67445	2.77028
384.659	4999.605	$-1.9894 \cdot 10^{-5}$	$-9.9828 \cdot 10^{-8}$	$2.4760 \cdot 10^{-3}$	403.880	0.95241	7.61926	2.76030
379.880	4999.605	$-1.9748 \cdot 10^{-5}$	$-9.9092 \cdot 10^{-8}$	$2.4934 \cdot 10^{-3}$	401.055	0.94720	7.57761	2.75275
374.918	4999.605	$-1.9729 \cdot 10^{-5}$	$-9.8999 \cdot 10^{-8}$	$2.4956 \cdot 10^{-3}$	400.700	0.93566	7.48526	2.73592
369.794	4999.605	$-1.9519 \cdot 10^{-5}$	$-9.7945 \cdot 10^{-8}$	$2.5207 \cdot 10^{-3}$	396.723	0.93212	7.45698	2.73075
364.767	4999.605	$-1.9477 \cdot 10^{-5}$	$-9.7736 \cdot 10^{-8}$	$2.5256 \cdot 10^{-3}$	395.944	0.92126	7.37008	2.71479
359.764	4999.605	$-1.9414 \cdot 10^{-5}$	$-9.7418 \cdot 10^{-8}$	$2.5331 \cdot 10^{-3}$	394.765	0.91133	7.29068	2.70013
354.767	4999.605	$-1.9165 \cdot 10^{-5}$	$-9.6170 \cdot 10^{-8}$	$2.5628 \cdot 10^{-3}$	390.204	0.90918	7.27345	2.69693
349.785	4999.605	$-1.9070 \cdot 10^{-5}$	$-9.5692 \cdot 10^{-8}$	$2.5741 \cdot 10^{-3}$	388.487	0.90038	7.20303	2.68385
344.790	4999.605	$-1.8958 \cdot 10^{-5}$	$-9.5129 \cdot 10^{-8}$	$2.5875 \cdot 10^{-3}$	386.480	0.89213	7.13702	2.67152
339.794	4999.605	$-1.8697 \cdot 10^{-5}$	$-9.3821 \cdot 10^{-8}$	$2.6185 \cdot 10^{-3}$	381.901	0.88974	7.11794	2.66795
334.797	4999.605	$-1.8632 \cdot 10^{-5}$	$-9.3493 \cdot 10^{-8}$	$2.6263 \cdot 10^{-3}$	380.770	0.87926	7.03410	2.65219
329.809	4999.605	$-1.8522 \cdot 10^{-5}$	$-9.2945 \cdot 10^{-8}$	$2.6393 \cdot 10^{-3}$	378.895	0.87045	6.96360	2.63886
324.811	4999.605	$-1.8429 \cdot 10^{-5}$	$-9.2476 \cdot 10^{-8}$	$2.6504 \cdot 10^{-3}$	377.304	0.86087	6.88698	2.62431
319.813	4999.605	$-1.8313 \cdot 10^{-5}$	$-9.1892 \cdot 10^{-8}$	$2.6642 \cdot 10^{-3}$	375.343	0.85205	6.81644	2.61083
314.823	4999.605	$-1.8082 \cdot 10^{-5}$	$-9.0735 \cdot 10^{-8}$	$2.6917 \cdot 10^{-3}$	371.516	0.84740	6.77920	2.60369
309.832	4999.605	$-1.7996 \cdot 10^{-5}$	$-9.0305 \cdot 10^{-8}$	$2.7019 \cdot 10^{-3}$	370.112	0.83713	6.69704	2.58786
304.842	4999.605	$-1.7944 \cdot 10^{-5}$	$-9.0045 \cdot 10^{-8}$	$2.7081 \cdot 10^{-3}$	369.268	0.82553	6.60423	2.56987
299.854	4999.605	$-1.7860 \cdot 10^{-5}$	$-8.9623 \cdot 10^{-8}$	$2.7181 \cdot 10^{-3}$	367.908	0.81502	6.52018	2.55347
294.866	4999.605	$-1.7725 \cdot 10^{-5}$	$-8.8944 \cdot 10^{-8}$	$2.7342 \cdot 10^{-3}$	365.742	0.80621	6.44970	2.53963
289.869	4999.605	$-1.7557 \cdot 10^{-5}$	$-8.8100 \cdot 10^{-8}$	$2.7542 \cdot 10^{-3}$	363.083	0.79836	6.38684	2.52722
284.869	4999.605	$-1.7523 \cdot 10^{-5}$	$-8.7932 \cdot 10^{-8}$	$2.7582 \cdot 10^{-3}$	362.558	0.78572	6.28576	2.50714
279.866	4999.605	$-1.7466 \cdot 10^{-5}$	$-8.7643 \cdot 10^{-8}$	$2.7650 \cdot 10^{-3}$	361.660	0.77384	6.19069	2.48811
274.868	4999.605	$-1.7327 \cdot 10^{-5}$	$-8.6945 \cdot 10^{-8}$	$2.7816 \cdot 10^{-3}$	359.506	0.76457	6.11657	2.47317
269.870	4999.605	$-1.7274 \cdot 10^{-5}$	$-8.6679 \cdot 10^{-8}$	$2.7879 \cdot 10^{-3}$	358.694	0.75237	6.01894	2.45335
264.878	4999.605	$-1.7177 \cdot 10^{-5}$	$-8.6195 \cdot 10^{-8}$	$2.7994 \cdot 10^{-3}$	357.221	0.74150	5.93197	2.43556
259.889	4999.605	$-1.7190 \cdot 10^{-5}$	$-8.6258 \cdot 10^{-8}$	$2.7979 \cdot 10^{-3}$	357.412	0.72714	5.81714	2.41187
254.886	4999.605	$-1.7184 \cdot 10^{-5}$	$-8.6226 \cdot 10^{-8}$	$2.7986 \cdot 10^{-3}$	357.317	0.71333	5.70665	2.38886
249.896	4999.605	$-1.7012 \cdot 10^{-5}$	$-8.5363 \cdot 10^{-8}$	$2.8191 \cdot 10^{-3}$	354.722	0.70448	5.63586	2.37400
244.894	4999.605	$-1.6962 \cdot 10^{-5}$	$-8.5115 \cdot 10^{-8}$	$2.8250 \cdot 10^{-3}$	353.983	0.69182	5.53459	2.35257
239.894	4999.605	$-1.6949 \cdot 10^{-5}$	$-8.5048 \cdot 10^{-8}$	$2.8266 \cdot 10^{-3}$	353.783	0.67808	5.42465	2.32909
234.897	4999.605	$-1.6924 \cdot 10^{-5}$	$-8.4926 \cdot 10^{-8}$	$2.8295 \cdot 10^{-3}$	353.420	0.66464	5.31713	2.30589
229.905	4999.605	$-1.6783 \cdot 10^{-5}$	$-8.4219 \cdot 10^{-8}$	$2.8463 \cdot 10^{-3}$	351.339	0.65437	5.23495	2.28800
224.903	4999.605	$-1.6721 \cdot 10^{-5}$	$-8.3905 \cdot 10^{-8}$	$2.8537 \cdot 10^{-3}$	350.423	0.64180	5.13444	2.26593
219.918	4999.605	$-1.6673 \cdot 10^{-5}$	$-8.3664 \cdot 10^{-8}$	$2.8594 \cdot 10^{-3}$	349.720	0.62884	5.03071	2.24292
214.920	4999.605	$-1.6536 \cdot 10^{-5}$	$-8.2975 \cdot 10^{-8}$	$2.8758 \cdot 10^{-3}$	347.733	0.61806	4.94449	2.22362
209.917	4999.605	$-1.6500 \cdot 10^{-5}$	$-8.2796 \cdot 10^{-8}$	$2.8800 \cdot 10^{-3}$	347.221	0.60456	4.83650	2.19920
204.924	4999.605	$-1.6465 \cdot 10^{-5}$	$-8.2619 \cdot 10^{-8}$	$2.8842 \cdot 10^{-3}$	346.714	0.59105	4.72838	2.17448
199.920	4999.605	$-1.6319 \cdot 10^{-5}$	$-8.1887 \cdot 10^{-8}$	$2.9016 \cdot 10^{-3}$	344.640	0.58008	4.64068	2.15422
194.926	4999.605	$-1.6295 \cdot 10^{-5}$	$-8.1765 \cdot 10^{-8}$	$2.9045 \cdot 10^{-3}$	344.298	0.56616	4.52924	2.12820
189.927	4999.605	$-1.6157 \cdot 10^{-5}$	$-8.1073 \cdot 10^{-8}$	$2.9209 \cdot 10^{-3}$	342.362	0.55475	4.43803	2.10666
184.937	4999.605	$-1.6141 \cdot 10^{-5}$	$-8.0993 \cdot 10^{-8}$	$2.9228 \cdot 10^{-3}$	342.139	0.54053	4.32426	2.07948
179.945	4999.605	$-1.6104 \cdot 10^{-5}$	$-8.0807 \cdot 10^{-8}$	$2.9272 \cdot 10^{-3}$	341.625	0.52673	4.21386	2.05277
174.942	4999.605	$-1.5954 \cdot 10^{-5}$	$-8.0055 \cdot 10^{-8}$	$2.9450 \cdot 10^{-3}$	339.555	0.51521	4.12168	2.03019
169.952	4999.605	$-1.5930 \cdot 10^{-5}$	$-7.9937 \cdot 10^{-8}$	$2.9478 \cdot 10^{-3}$	339.232	0.50099	4.00791	2.00198
164.953	4999.605	$-1.5759 \cdot 10^{-5}$	$-7.9076 \cdot 10^{-8}$	$2.9683 \cdot 10^{-3}$	336.897	0.48962	3.91699	1.97914
159.964	4999.605	$-1.5728 \cdot 10^{-5}$	$-7.8921 \cdot 10^{-8}$	$2.9719 \cdot 10^{-3}$	336.480	0.47541	3.80324	1.95019
154.963	4999.605	$-1.5551 \cdot 10^{-5}$	$-7.8035 \cdot 10^{-8}$	$2.9929 \cdot 10^{-3}$	334.120	0.46379	3.71035	1.92623
149.978	4999.605	$-1.5574 \cdot 10^{-5}$	$-7.8150 \cdot 10^{-8}$	$2.9902 \cdot 10^{-3}$	334.422	0.44847	3.58775	1.89414

T / K	H / Oe	M / emu	χ_{spec} / $cm^3 \cdot g^{-1}$	χ_{para} / mol^{-1}	$1/\chi_{para}$	$\chi_{para}T$	μ^2_{eff}	μ_{eff} / μ_B
144.982	4999.605	$-1.5447 \cdot 10^{-5}$	$-7.7514 \cdot 10^{-8}$	$3.0053 \cdot 10^{-3}$	332.746	0.43571	3.48571	1.86701
139.980	4999.605	$-1.5402 \cdot 10^{-5}$	$-7.7288 \cdot 10^{-8}$	$3.0107 \cdot 10^{-3}$	332.151	0.42144	3.37148	1.83616
134.891	4999.605	$-1.5237 \cdot 10^{-5}$	$-7.6460 \cdot 10^{-8}$	$3.0303 \cdot 10^{-3}$	329.999	0.40876	3.27010	1.80834
130.017	4999.605	$-1.5231 \cdot 10^{-5}$	$-7.6428 \cdot 10^{-8}$	$3.0311 \cdot 10^{-3}$	329.916	0.39409	3.15274	1.77559
124.928	4999.605	$-1.5091 \cdot 10^{-5}$	$-7.5724 \cdot 10^{-8}$	$3.0478 \cdot 10^{-3}$	328.109	0.38075	3.04600	1.74528
120.026	4999.605	$-1.5031 \cdot 10^{-5}$	$-7.5426 \cdot 10^{-8}$	$3.0548 \cdot 10^{-3}$	327.348	0.36666	2.93329	1.71268
114.950	4999.605	$-1.4868 \cdot 10^{-5}$	$-7.4606 \cdot 10^{-8}$	$3.0743 \cdot 10^{-3}$	325.279	0.35339	2.82711	1.68140
109.976	4999.605	$-1.4677 \cdot 10^{-5}$	$-7.3647 \cdot 10^{-8}$	$3.0970 \cdot 10^{-3}$	322.889	0.34060	2.72479	1.65069
104.940	4999.605	$-1.4626 \cdot 10^{-5}$	$-7.3394 \cdot 10^{-8}$	$3.1030 \cdot 10^{-3}$	322.264	0.32563	2.60508	1.61402
99.9855	4999.605	$-1.4416 \cdot 10^{-5}$	$-7.2338 \cdot 10^{-8}$	$3.1281 \cdot 10^{-3}$	319.685	0.31276	2.50210	1.58180
95.0228	4999.605	$-1.4318 \cdot 10^{-5}$	$-7.1849 \cdot 10^{-8}$	$3.1397 \cdot 10^{-3}$	318.503	0.29834	2.38673	1.54491
90.0493	4999.605	$-1.4061 \cdot 10^{-5}$	$-7.0558 \cdot 10^{-8}$	$3.1703 \cdot 10^{-3}$	315.425	0.28549	2.28389	1.51125
85.0466	4999.605	$-1.3852 \cdot 10^{-5}$	$-6.9510 \cdot 10^{-8}$	$3.1952 \cdot 10^{-3}$	312.971	0.27174	2.17392	1.47442
80.0396	4999.605	$-1.3702 \cdot 10^{-5}$	$-6.8756 \cdot 10^{-8}$	$3.2131 \cdot 10^{-3}$	311.230	0.25717	2.05738	1.43436
75.0236	4999.605	$-1.3290 \cdot 10^{-5}$	$-6.6687 \cdot 10^{-8}$	$3.2622 \cdot 10^{-3}$	306.546	0.24474	1.95791	1.39925
69.9967	4999.605	$-1.2886 \cdot 10^{-5}$	$-6.4660 \cdot 10^{-8}$	$3.3102 \cdot 10^{-3}$	302.093	0.23171	1.85364	1.36149
64.9823	4999.605	$-1.2323 \cdot 10^{-5}$	$-6.1837 \cdot 10^{-8}$	$3.3772 \cdot 10^{-3}$	296.103	0.21946	1.75566	1.32502
59.9708	4999.605	$-1.1785 \cdot 10^{-5}$	$-5.9134 \cdot 10^{-8}$	$3.4413 \cdot 10^{-3}$	290.586	0.20638	1.65103	1.28492
54.9835	4999.605	$-1.1082 \cdot 10^{-5}$	$-5.5610 \cdot 10^{-8}$	$3.5249 \cdot 10^{-3}$	283.695	0.19381	1.55050	1.24519
49.9806	4999.605	$-1.0360 \cdot 10^{-5}$	$-5.1985 \cdot 10^{-8}$	$3.6109 \cdot 10^{-3}$	276.938	0.18048	1.44381	1.20159
44.9780	4999.605	$-9.4607 \cdot 10^{-6}$	$-4.7473 \cdot 10^{-8}$	$3.7179 \cdot 10^{-3}$	268.966	0.16723	1.33780	1.15663
39.9773	4999.605	$-8.5493 \cdot 10^{-6}$	$-4.2900 \cdot 10^{-8}$	$3.8264 \cdot 10^{-3}$	261.341	0.15297	1.22376	1.10624
34.9801	4999.605	$-7.3078 \cdot 10^{-6}$	$-3.6670 \cdot 10^{-8}$	$3.9742 \cdot 10^{-3}$	251.622	0.13902	1.11215	1.05458
29.9885	4999.605	$-5.7697 \cdot 10^{-6}$	$-2.8952 \cdot 10^{-8}$	$4.1573 \cdot 10^{-3}$	240.541	0.12467	0.99737	0.99868
29.9826	4999.605	$-5.7534 \cdot 10^{-6}$	$-2.8870 \cdot 10^{-8}$	$4.1592 \cdot 10^{-3}$	240.428	0.12470	0.99764	0.99882
29.0002	4999.605	$-5.5411 \cdot 10^{-6}$	$-2.7805 \cdot 10^{-8}$	$4.1845 \cdot 10^{-3}$	238.977	0.12135	0.97081	0.98530
28.0000	4999.605	$-5.1330 \cdot 10^{-6}$	$-2.5757 \cdot 10^{-8}$	$4.2331 \cdot 10^{-3}$	236.234	0.11853	0.94821	0.97376
27.0000	4999.605	$-4.7354 \cdot 10^{-6}$	$-2.3762 \cdot 10^{-8}$	$4.2804 \cdot 10^{-3}$	233.622	0.11557	0.92457	0.96155
26.0000	4999.605	$-4.2555 \cdot 10^{-6}$	$-2.1354 \cdot 10^{-8}$	$4.3375 \cdot 10^{-3}$	230.545	0.11278	0.90221	0.94985
25.0001	4999.605	$-3.7707 \cdot 10^{-6}$	$-1.8921 \cdot 10^{-8}$	$4.3953 \cdot 10^{-3}$	227.518	0.10988	0.87905	0.93758
24.0000	4999.605	$-3.2122 \cdot 10^{-6}$	$-1.6119 \cdot 10^{-8}$	$4.4617 \cdot 10^{-3}$	224.128	0.10708	0.85665	0.92556
23.0001	4999.605	$-2.6872 \cdot 10^{-6}$	$-1.3484 \cdot 10^{-8}$	$4.5242 \cdot 10^{-3}$	221.032	0.10406	0.83246	0.91239
21.9999	4999.605	$-2.0488 \cdot 10^{-6}$	$-1.0281 \cdot 10^{-8}$	$4.6002 \cdot 10^{-3}$	217.381	0.10120	0.80964	0.89980
21.0001	4999.605	$-1.3942 \cdot 10^{-6}$	$-6.9962 \cdot 10^{-9}$	$4.6781 \cdot 10^{-3}$	213.760	0.09824	0.78593	0.88653
20.0000	4999.605	$-6.1728 \cdot 10^{-7}$	$-3.0975 \cdot 10^{-9}$	$4.7706 \cdot 10^{-3}$	209.616	0.09541	0.76330	0.87367
19.0001	4999.605	$1.9886 \cdot 10^{-7}$	$9.9787 \cdot 10^{-10}$	$4.8678 \cdot 10^{-3}$	205.433	0.09249	0.73990	0.86018
18.0000	4999.605	$1.0724 \cdot 10^{-6}$	$5.3812 \cdot 10^{-9}$	$4.9718 \cdot 10^{-3}$	201.136	0.08949	0.71593	0.84613
16.9999	4999.605	$2.0740 \cdot 10^{-6}$	$1.0407 \cdot 10^{-8}$	$5.0910 \cdot 10^{-3}$	196.426	0.08655	0.69237	0.83209
16.0000	4999.605	$3.2062 \cdot 10^{-6}$	$1.6089 \cdot 10^{-8}$	$5.2258 \cdot 10^{-3}$	191.360	0.08361	0.66890	0.81786
15.0000	4999.605	$4.4323 \cdot 10^{-6}$	$2.2241 \cdot 10^{-8}$	$5.3717 \cdot 10^{-3}$	186.160	0.08058	0.64461	0.80287
14.0000	4999.605	$5.9038 \cdot 10^{-6}$	$2.9625 \cdot 10^{-8}$	$5.5469 \cdot 10^{-3}$	180.282	0.07766	0.62125	0.78819
13.0001	4999.605	$7.5637 \cdot 10^{-6}$	$3.7954 \cdot 10^{-8}$	$5.7445 \cdot 10^{-3}$	174.081	0.07468	0.59743	0.77293
11.9999	4999.605	$9.5024 \cdot 10^{-6}$	$4.7683 \cdot 10^{-8}$	$5.9752 \cdot 10^{-3}$	167.358	0.07170	0.57362	0.75738
11.0000	4999.605	$1.1785 \cdot 10^{-5}$	$5.9136 \cdot 10^{-8}$	$6.2469 \cdot 10^{-3}$	160.079	0.06872	0.54973	0.74144
10.0000	4999.605	$1.4444 \cdot 10^{-5}$	$7.2480 \cdot 10^{-8}$	$6.5635 \cdot 10^{-3}$	152.358	0.06563	0.52508	0.72462
9.00001	4999.605	$1.7734 \cdot 10^{-5}$	$8.8990 \cdot 10^{-8}$	$6.9551 \cdot 10^{-3}$	143.779	0.06260	0.50077	0.70765
8.00001	4999.605	$2.1772 \cdot 10^{-5}$	$1.0925 \cdot 10^{-7}$	$7.4358 \cdot 10^{-3}$	134.485	0.05949	0.47589	0.68985
6.99982	4999.605	$2.6919 \cdot 10^{-5}$	$1.3508 \cdot 10^{-7}$	$8.0484 \cdot 10^{-3}$	124.248	0.05634	0.45070	0.67134
5.99973	4999.605	$3.3663 \cdot 10^{-5}$	$1.6892 \cdot 10^{-7}$	$8.8512 \cdot 10^{-3}$	112.979	0.05310	0.42484	0.65180
4.99992	4999.605	$4.2915 \cdot 10^{-5}$	$2.1535 \cdot 10^{-7}$	$9.9526 \cdot 10^{-3}$	100.476	0.04976	0.39810	0.63095
4.00011	4999.605	$5.6369 \cdot 10^{-5}$	$2.8286 \cdot 10^{-7}$	$1.1554 \cdot 10^{-2}$	86.5498	0.04622	0.36974	0.60806
2.99991	4999.605	$7.7772 \cdot 10^{-5}$	$3.9026 \cdot 10^{-7}$	$1.4102 \cdot 10^{-2}$	70.9129	0.04230	0.33843	0.58175
2.00034	4999.605	$1.1796 \cdot 10^{-4}$	$5.9190 \cdot 10^{-7}$	$1.8885 \cdot 10^{-2}$	52.9517	0.03778	0.30221	0.54974

Table A8. Data on the magnetic properties of $Ba(La_{0.97}Sm_{0.03})_2WO_7$ sample in ZFC mode at 1 T

T / K	H / Oe	M / emu	χ_{spec} / $cm^3 \cdot g^{-1}$	χ_{para} / mol^{-1}	$1/\chi_{para}$	$\chi_{para}T$	μ^2_{eff}	μ_{eff} / μ_B
1.99954	9999.700	$2.0380 \cdot 10^{-4}$	$5.1130 \cdot 10^{-7}$	$1.6973 \cdot 10^{-2}$	58.9183	0.03394	0.27150	0.52106
3.00029	9999.700	$1.2941 \cdot 10^{-4}$	$3.2467 \cdot 10^{-7}$	$1.2546 \cdot 10^{-2}$	79.7098	0.03764	0.30112	0.54875
4.00005	9999.700	$9.0679 \cdot 10^{-5}$	$2.2750 \cdot 10^{-7}$	$1.0240 \cdot 10^{-2}$	97.6531	0.04096	0.32769	0.57245
5.00019	9999.700	$6.6918 \cdot 10^{-5}$	$1.6789 \cdot 10^{-7}$	$8.8262 \cdot 10^{-3}$	113.299	0.04413	0.35306	0.59419
6.00015	9999.700	$5.0989 \cdot 10^{-5}$	$1.2792 \cdot 10^{-7}$	$7.8782 \cdot 10^{-3}$	126.933	0.04727	0.37816	0.61495
6.99992	9999.700	$3.9581 \cdot 10^{-5}$	$9.9304 \cdot 10^{-8}$	$7.1993 \cdot 10^{-3}$	138.903	0.05039	0.40315	0.63494
7.99990	9999.700	$3.0973 \cdot 10^{-5}$	$7.7706 \cdot 10^{-8}$	$6.6869 \cdot 10^{-3}$	149.546	0.05349	0.42796	0.65418
8.99993	9999.700	$2.4285 \cdot 10^{-5}$	$6.0928 \cdot 10^{-8}$	$6.2889 \cdot 10^{-3}$	159.010	0.05660	0.45280	0.67290
10.0001	9999.700	$1.8953 \cdot 10^{-5}$	$4.7550 \cdot 10^{-8}$	$5.9716 \cdot 10^{-3}$	167.461	0.05972	0.47773	0.69118
10.9999	9999.700	$1.4564 \cdot 10^{-5}$	$3.6540 \cdot 10^{-8}$	$5.7104 \cdot 10^{-3}$	175.120	0.06281	0.50251	0.70888
12.0000	9999.700	$1.0823 \cdot 10^{-5}$	$2.7154 \cdot 10^{-8}$	$5.4877 \cdot 10^{-3}$	182.225	0.06585	0.52682	0.72582
13.0000	9999.700	$7.6186 \cdot 10^{-6}$	$1.9114 \cdot 10^{-8}$	$5.2970 \cdot 10^{-3}$	188.787	0.06886	0.55089	0.74222
14.0001	9999.700	$4.8602 \cdot 10^{-6}$	$1.2193 \cdot 10^{-8}$	$5.1328 \cdot 10^{-3}$	194.825	0.07186	0.57488	0.75821
15.0000	9999.700	$2.3557 \cdot 10^{-6}$	$5.9102 \cdot 10^{-9}$	$4.9838 \cdot 10^{-3}$	200.651	0.07476	0.59805	0.77334
16.0001	9999.700	$2.9843 \cdot 10^{-7}$	$7.4871 \cdot 10^{-10}$	$4.8613 \cdot 10^{-3}$	205.705	0.07778	0.62225	0.78883
17.0001	9999.700	$-1.6197 \cdot 10^{-6}$	$-4.0636 \cdot 10^{-9}$	$4.7472 \cdot 10^{-3}$	210.652	0.08070	0.64562	0.80350
18.0001	9999.700	$-3.3633 \cdot 10^{-6}$	$-8.4380 \cdot 10^{-9}$	$4.6434 \cdot 10^{-3}$	215.359	0.08358	0.66865	0.81771
19.0002	9999.700	$-4.9561 \cdot 10^{-6}$	$-1.2434 \cdot 10^{-8}$	$4.5486 \cdot 10^{-3}$	219.848	0.08642	0.69140	0.83150
20.0003	9999.700	$-6.4570 \cdot 10^{-6}$	$-1.6200 \cdot 10^{-8}$	$4.4593 \cdot 10^{-3}$	224.252	0.08919	0.71349	0.84469
21.0002	9999.700	$-7.7977 \cdot 10^{-6}$	$-1.9563 \cdot 10^{-8}$	$4.3795 \cdot 10^{-3}$	228.337	0.09197	0.73576	0.85776
22.0000	9999.700	$-8.9753 \cdot 10^{-6}$	$-2.2518 \cdot 10^{-8}$	$4.3094 \cdot 10^{-3}$	232.051	0.09481	0.75846	0.87089
23.0000	9999.700	$-1.0210 \cdot 10^{-5}$	$-2.5615 \cdot 10^{-8}$	$4.2359 \cdot 10^{-3}$	236.076	0.09743	0.77941	0.88284
24.0001	9999.700	$-1.1175 \cdot 10^{-5}$	$-2.8037 \cdot 10^{-8}$	$4.1785 \cdot 10^{-3}$	239.322	0.10028	0.80227	0.89569
25.0000	9999.700	$-1.2078 \cdot 10^{-5}$	$-3.0301 \cdot 10^{-8}$	$4.1248 \cdot 10^{-3}$	242.439	0.10312	0.82495	0.90827
26.0001	9999.700	$-1.3046 \cdot 10^{-5}$	$-3.2731 \cdot 10^{-8}$	$4.0671 \cdot 10^{-3}$	245.874	0.10575	0.84596	0.91976
27.0000	9999.700	$-1.3824 \cdot 10^{-5}$	$-3.4683 \cdot 10^{-8}$	$4.0208 \cdot 10^{-3}$	248.706	0.10856	0.86850	0.93193
27.9999	9999.700	$-1.4642 \cdot 10^{-5}$	$-3.6736 \cdot 10^{-8}$	$3.9721 \cdot 10^{-3}$	251.754	0.11122	0.88975	0.94327
28.9998	9999.700	$-1.5308 \cdot 10^{-5}$	$-3.8406 \cdot 10^{-8}$	$3.9325 \cdot 10^{-3}$	254.292	0.11404	0.91233	0.95516
29.9997	9999.700	$-1.5978 \cdot 10^{-5}$	$-4.0086 \cdot 10^{-8}$	$3.8926 \cdot 10^{-3}$	256.895	0.11678	0.93423	0.96655
30.0001	9999.700	$-1.5966 \cdot 10^{-5}$	$-4.0056 \cdot 10^{-8}$	$3.8933 \cdot 10^{-3}$	256.848	0.11680	0.93441	0.96665
34.9996	9999.700	$-1.8750 \cdot 10^{-5}$	$-4.7042 \cdot 10^{-8}$	$3.7276 \cdot 10^{-3}$	268.266	0.13047	1.04373	1.02163
39.9984	9999.700	$-2.0815 \cdot 10^{-5}$	$-5.2223 \cdot 10^{-8}$	$3.6047 \cdot 10^{-3}$	277.413	0.14418	1.15347	1.07400
44.9966	9999.700	$-2.2299 \cdot 10^{-5}$	$-5.5945 \cdot 10^{-8}$	$3.5164 \cdot 10^{-3}$	284.379	0.15823	1.26582	1.12509
49.9926	9999.700	$-2.3291 \cdot 10^{-5}$	$-5.8433 \cdot 10^{-8}$	$3.4574 \cdot 10^{-3}$	289.233	0.17285	1.38276	1.17591
54.9886	9999.700	$-2.3770 \cdot 10^{-5}$	$-5.9635 \cdot 10^{-8}$	$3.4289 \cdot 10^{-3}$	291.637	0.18855	1.50841	1.22817
59.9853	9999.700	$-2.3946 \cdot 10^{-5}$	$-6.0076 \cdot 10^{-8}$	$3.4184 \cdot 10^{-3}$	292.531	0.20506	1.64045	1.28080
64.9806	9999.700	$-2.4579 \cdot 10^{-5}$	$-6.1665 \cdot 10^{-8}$	$3.3808 \cdot 10^{-3}$	295.792	0.21968	1.75747	1.32570
69.9776	9999.700	$-2.5937 \cdot 10^{-5}$	$-6.5072 \cdot 10^{-8}$	$3.2999 \cdot 10^{-3}$	303.038	0.23092	1.84736	1.35918
74.9711	9999.700	$-2.7202 \cdot 10^{-5}$	$-6.8245 \cdot 10^{-8}$	$3.2247 \cdot 10^{-3}$	310.110	0.24176	1.93405	1.39070
79.9682	9999.700	$-2.8232 \cdot 10^{-5}$	$-7.0829 \cdot 10^{-8}$	$3.1634 \cdot 10^{-3}$	316.120	0.25297	2.02375	1.42258
84.9631	9999.700	$-2.8840 \cdot 10^{-5}$	$-7.2354 \cdot 10^{-8}$	$3.1272 \cdot 10^{-3}$	319.777	0.26569	2.12556	1.45793
89.9581	9999.700	$-2.9396 \cdot 10^{-5}$	$-7.3751 \cdot 10^{-8}$	$3.0940 \cdot 10^{-3}$	323.203	0.27833	2.22667	1.49220
94.9555	9999.700	$-2.9706 \cdot 10^{-5}$	$-7.4528 \cdot 10^{-8}$	$3.0756 \cdot 10^{-3}$	325.138	0.29205	2.33637	1.52852
99.9491	9999.700	$-3.0197 \cdot 10^{-5}$	$-7.5760 \cdot 10^{-8}$	$3.0464 \cdot 10^{-3}$	328.258	0.30448	2.43587	1.56073
104.945	9999.700	$-3.0466 \cdot 10^{-5}$	$-7.6435 \cdot 10^{-8}$	$3.0304 \cdot 10^{-3}$	329.994	0.31802	2.54417	1.59504
109.942	9999.700	$-3.0844 \cdot 10^{-5}$	$-7.7384 \cdot 10^{-8}$	$3.0079 \cdot 10^{-3}$	332.461	0.33069	2.64554	1.62651
114.941	9999.700	$-3.1047 \cdot 10^{-5}$	$-7.7893 \cdot 10^{-8}$	$2.9958 \cdot 10^{-3}$	333.803	0.34434	2.75470	1.65973
119.938	9999.700	$-3.1292 \cdot 10^{-5}$	$-7.8508 \cdot 10^{-8}$	$2.9812 \cdot 10^{-3}$	335.434	0.35756	2.86049	1.69130
124.937	9999.700	$-3.1601 \cdot 10^{-5}$	$-7.9283 \cdot 10^{-8}$	$2.9628 \cdot 10^{-3}$	337.517	0.37016	2.96131	1.72085
129.937	9999.700	$-3.1866 \cdot 10^{-5}$	$-7.9948 \cdot 10^{-8}$	$2.9470 \cdot 10^{-3}$	339.324	0.38293	3.06343	1.75027
134.933	9999.700	$-3.2019 \cdot 10^{-5}$	$-8.0331 \cdot 10^{-8}$	$2.9380 \cdot 10^{-3}$	340.372	0.39643	3.17142	1.78085

T / K	H / Oe	M / emu	χ_{spec} / $cm^3 \cdot g^{-1}$	χ_{para} / mol^{-1}	$1/\chi_{para}$	$\chi_{para}T$	μ^2_{eff}	μ_{eff} / μ_B
139.933	9999.700	$-3.2164 \cdot 10^{-5}$	$-8.0696 \cdot 10^{-8}$	$2.9293 \cdot 10^{-3}$	341.378	0.40991	3.27924	1.81087
144.931	9999.700	$-3.2519 \cdot 10^{-5}$	$-8.1586 \cdot 10^{-8}$	$2.9082 \cdot 10^{-3}$	343.857	0.42149	3.37189	1.83627
149.931	9999.700	$-3.2646 \cdot 10^{-5}$	$-8.1904 \cdot 10^{-8}$	$2.9006 \cdot 10^{-3}$	344.752	0.43490	3.47916	1.86525
154.928	9999.700	$-3.2768 \cdot 10^{-5}$	$-8.2210 \cdot 10^{-8}$	$2.8934 \cdot 10^{-3}$	345.617	0.44826	3.58612	1.89370
159.926	9999.700	$-3.2968 \cdot 10^{-5}$	$-8.2712 \cdot 10^{-8}$	$2.8815 \cdot 10^{-3}$	347.045	0.46082	3.68658	1.92005
164.927	9999.700	$-3.3125 \cdot 10^{-5}$	$-8.3106 \cdot 10^{-8}$	$2.8721 \cdot 10^{-3}$	348.174	0.47369	3.78953	1.94667
169.926	9999.700	$-3.3226 \cdot 10^{-5}$	$-8.3359 \cdot 10^{-8}$	$2.8661 \cdot 10^{-3}$	348.905	0.48703	3.89622	1.97388
174.923	9999.700	$-3.3400 \cdot 10^{-5}$	$-8.3795 \cdot 10^{-8}$	$2.8558 \cdot 10^{-3}$	350.167	0.49954	3.99632	1.99908
179.922	9999.700	$-3.3541 \cdot 10^{-5}$	$-8.4150 \cdot 10^{-8}$	$2.8473 \cdot 10^{-3}$	351.204	0.51230	4.09841	2.02445
184.923	9999.700	$-3.3669 \cdot 10^{-5}$	$-8.4470 \cdot 10^{-8}$	$2.8398 \cdot 10^{-3}$	352.143	0.52514	4.20109	2.04966
189.920	9999.700	$-3.3796 \cdot 10^{-5}$	$-8.4790 \cdot 10^{-8}$	$2.8322 \cdot 10^{-3}$	353.085	0.53789	4.30309	2.07439
194.922	9999.700	$-3.3901 \cdot 10^{-5}$	$-8.5052 \cdot 10^{-8}$	$2.8260 \cdot 10^{-3}$	353.863	0.55084	4.40673	2.09922
199.923	9999.700	$-3.4019 \cdot 10^{-5}$	$-8.5350 \cdot 10^{-8}$	$2.8189 \cdot 10^{-3}$	354.749	0.56356	4.50849	2.12332
204.920	9999.700	$-3.4115 \cdot 10^{-5}$	$-8.5589 \cdot 10^{-8}$	$2.8132 \cdot 10^{-3}$	355.464	0.57649	4.61189	2.14753
209.921	9999.700	$-3.4129 \cdot 10^{-5}$	$-8.5625 \cdot 10^{-8}$	$2.8124 \cdot 10^{-3}$	355.571	0.59038	4.72300	2.17325
214.921	9999.700	$-3.4258 \cdot 10^{-5}$	$-8.5949 \cdot 10^{-8}$	$2.8047 \cdot 10^{-3}$	356.545	0.60279	4.82229	2.19597
219.919	9999.700	$-3.4300 \cdot 10^{-5}$	$-8.6054 \cdot 10^{-8}$	$2.8022 \cdot 10^{-3}$	356.865	0.61625	4.93002	2.22037
224.922	9999.700	$-3.4426 \cdot 10^{-5}$	$-8.6371 \cdot 10^{-8}$	$2.7947 \cdot 10^{-3}$	357.824	0.62858	5.02867	2.24247
229.921	9999.700	$-3.4485 \cdot 10^{-5}$	$-8.6518 \cdot 10^{-8}$	$2.7912 \cdot 10^{-3}$	358.270	0.64175	5.13401	2.26584
234.921	9999.700	$-3.4476 \cdot 10^{-5}$	$-8.6495 \cdot 10^{-8}$	$2.7917 \cdot 10^{-3}$	358.200	0.65584	5.24670	2.29057
239.917	9999.700	$-3.4514 \cdot 10^{-5}$	$-8.6592 \cdot 10^{-8}$	$2.7894 \cdot 10^{-3}$	358.495	0.66923	5.35387	2.31384
244.920	9999.700	$-3.4485 \cdot 10^{-5}$	$-8.6517 \cdot 10^{-8}$	$2.7912 \cdot 10^{-3}$	358.268	0.68362	5.46898	2.33859
249.918	9999.700	$-3.4539 \cdot 10^{-5}$	$-8.6654 \cdot 10^{-8}$	$2.7880 \cdot 10^{-3}$	358.686	0.69676	5.57406	2.36094
254.923	9999.700	$-3.4581 \cdot 10^{-5}$	$-8.6758 \cdot 10^{-8}$	$2.7855 \cdot 10^{-3}$	359.004	0.71008	5.68066	2.38341
259.920	9999.700	$-3.4515 \cdot 10^{-5}$	$-8.6592 \cdot 10^{-8}$	$2.7894 \cdot 10^{-3}$	358.497	0.72503	5.80022	2.40836
264.920	9999.700	$-3.4511 \cdot 10^{-5}$	$-8.6583 \cdot 10^{-8}$	$2.7896 \cdot 10^{-3}$	358.469	0.73903	5.91225	2.43151
269.919	9999.700	$-3.4543 \cdot 10^{-5}$	$-8.6664 \cdot 10^{-8}$	$2.7877 \cdot 10^{-3}$	358.716	0.75246	6.01968	2.45350
274.914	9999.700	$-3.4493 \cdot 10^{-5}$	$-8.6538 \cdot 10^{-8}$	$2.7907 \cdot 10^{-3}$	358.330	0.76721	6.13768	2.47743
279.922	9999.700	$-3.4548 \cdot 10^{-5}$	$-8.6675 \cdot 10^{-8}$	$2.7875 \cdot 10^{-3}$	358.751	0.78027	6.24215	2.49843
284.917	9999.700	$-3.4512 \cdot 10^{-5}$	$-8.6586 \cdot 10^{-8}$	$2.7896 \cdot 10^{-3}$	358.477	0.79480	6.35839	2.52158
289.921	9999.700	$-3.4474 \cdot 10^{-5}$	$-8.6490 \cdot 10^{-8}$	$2.7919 \cdot 10^{-3}$	358.185	0.80942	6.47533	2.54467
294.918	9999.700	$-3.4596 \cdot 10^{-5}$	$-8.6795 \cdot 10^{-8}$	$2.7846 \cdot 10^{-3}$	359.117	0.82123	6.56985	2.56317
299.915	9999.700	$-3.4584 \cdot 10^{-5}$	$-8.6767 \cdot 10^{-8}$	$2.7853 \cdot 10^{-3}$	359.030	0.83535	6.68278	2.58511
304.924	9999.700	$-3.4803 \cdot 10^{-5}$	$-8.7316 \cdot 10^{-8}$	$2.7722 \cdot 10^{-3}$	360.719	0.84532	6.76258	2.60050
309.916	9999.700	$-3.5092 \cdot 10^{-5}$	$-8.8041 \cdot 10^{-8}$	$2.7551 \cdot 10^{-3}$	362.968	0.85384	6.83072	2.61356
314.922	9999.700	$-3.5289 \cdot 10^{-5}$	$-8.8534 \cdot 10^{-8}$	$2.7434 \cdot 10^{-3}$	364.517	0.86394	6.91153	2.62898
319.917	9999.700	$-3.5483 \cdot 10^{-5}$	$-8.9022 \cdot 10^{-8}$	$2.7318 \cdot 10^{-3}$	366.062	0.87394	6.99154	2.64415
324.921	9999.700	$-3.5811 \cdot 10^{-5}$	$-8.9845 \cdot 10^{-8}$	$2.7123 \cdot 10^{-3}$	368.697	0.88127	7.05013	2.65521
329.920	9999.700	$-3.5997 \cdot 10^{-5}$	$-9.0312 \cdot 10^{-8}$	$2.7012 \cdot 10^{-3}$	370.210	0.89117	7.12937	2.67009
334.919	9999.700	$-3.6292 \cdot 10^{-5}$	$-9.1050 \cdot 10^{-8}$	$2.6837 \cdot 10^{-3}$	372.625	0.89881	7.19048	2.68151
339.919	9999.700	$-3.6335 \cdot 10^{-5}$	$-9.1159 \cdot 10^{-8}$	$2.6811 \cdot 10^{-3}$	372.983	0.91135	7.29081	2.70015
344.946	9999.700	$-3.6581 \cdot 10^{-5}$	$-9.1775 \cdot 10^{-8}$	$2.6665 \cdot 10^{-3}$	375.027	0.91979	7.35831	2.71262
349.917	9999.700	$-3.6580 \cdot 10^{-5}$	$-9.1775 \cdot 10^{-8}$	$2.6665 \cdot 10^{-3}$	375.026	0.93305	7.46438	2.73210
354.922	9999.700	$-3.6759 \cdot 10^{-5}$	$-9.2224 \cdot 10^{-8}$	$2.6558 \cdot 10^{-3}$	376.530	0.94261	7.54091	2.74607
359.912	9999.700	$-3.6796 \cdot 10^{-5}$	$-9.2315 \cdot 10^{-8}$	$2.6537 \cdot 10^{-3}$	376.836	0.95509	7.64072	2.76419
364.917	9999.700	$-3.6923 \cdot 10^{-5}$	$-9.2635 \cdot 10^{-8}$	$2.6461 \cdot 10^{-3}$	377.918	0.96560	7.72479	2.77935
369.917	9999.700	$-3.7138 \cdot 10^{-5}$	$-9.3174 \cdot 10^{-8}$	$2.6333 \cdot 10^{-3}$	379.754	0.97410	7.79278	2.79156
374.917	9999.700	$-3.7295 \cdot 10^{-5}$	$-9.3568 \cdot 10^{-8}$	$2.6239 \cdot 10^{-3}$	381.106	0.98376	7.87007	2.80537
379.917	9999.700	$-3.7347 \cdot 10^{-5}$	$-9.3699 \cdot 10^{-8}$	$2.6208 \cdot 10^{-3}$	381.557	0.99570	7.96562	2.82234
384.916	9999.700	$-3.7660 \cdot 10^{-5}$	$-9.4483 \cdot 10^{-8}$	$2.6022 \cdot 10^{-3}$	384.284	1.00164	8.01314	2.83075
389.919	9999.700	$-3.7765 \cdot 10^{-5}$	$-9.4746 \cdot 10^{-8}$	$2.5960 \cdot 10^{-3}$	385.210	1.01223	8.09781	2.84567
394.915	9999.700	$-3.8004 \cdot 10^{-5}$	$-9.5346 \cdot 10^{-8}$	$2.5818 \cdot 10^{-3}$	387.333	1.01958	8.15660	2.85598
399.920	9999.700	$-3.8265 \cdot 10^{-5}$	$-9.6001 \cdot 10^{-8}$	$2.5662 \cdot 10^{-3}$	389.678	1.02628	8.21028	2.86536

Table A9. Data on the magnetic properties of $Ba(La_{0.97}Sm_{0.03})_2WO_7$ sample in FCC mode at 1 T

T / K	H / Oe	M / emu	χ_{spec} / $cm^3 \cdot g^{-1}$	χ_{para} / mol^{-1}	$1/\chi_{para}$	$\chi_{para}T$	μ^2_{eff}	μ_{eff} / μ_B
399.987	9999.700	$-3.8341 \cdot 10^{-5}$	$-9.6193 \cdot 10^{-8}$	$2.5617 \cdot 10^{-3}$	390.368	1.02464	8.19712	2.86306
394.646	9999.700	$-3.8092 \cdot 10^{-5}$	$-9.5567 \cdot 10^{-8}$	$2.5765 \cdot 10^{-3}$	388.121	1.01681	8.13450	2.85210
389.875	9999.700	$-3.7904 \cdot 10^{-5}$	$-9.5095 \cdot 10^{-8}$	$2.5877 \cdot 10^{-3}$	386.441	1.00889	8.07108	2.84096
384.917	9999.700	$-3.7612 \cdot 10^{-5}$	$-9.4363 \cdot 10^{-8}$	$2.6051 \cdot 10^{-3}$	383.863	1.00275	8.02197	2.83231
379.776	9999.700	$-3.7586 \cdot 10^{-5}$	$-9.4297 \cdot 10^{-8}$	$2.6066 \cdot 10^{-3}$	383.634	0.98994	7.91955	2.81417
374.810	9999.700	$-3.7514 \cdot 10^{-5}$	$-9.4117 \cdot 10^{-8}$	$2.6109 \cdot 10^{-3}$	383.008	0.97860	7.82877	2.79799
369.803	9999.700	$-3.7183 \cdot 10^{-5}$	$-9.3287 \cdot 10^{-8}$	$2.6306 \cdot 10^{-3}$	380.139	0.97281	7.78248	2.78971
364.823	9999.700	$-3.7163 \cdot 10^{-5}$	$-9.3238 \cdot 10^{-8}$	$2.6318 \cdot 10^{-3}$	379.971	0.96013	7.68107	2.77147
359.839	9999.700	$-3.7090 \cdot 10^{-5}$	$-9.3052 \cdot 10^{-8}$	$2.6362 \cdot 10^{-3}$	379.338	0.94860	7.58878	2.75477
354.860	9999.700	$-3.6752 \cdot 10^{-5}$	$-9.2205 \cdot 10^{-8}$	$2.6563 \cdot 10^{-3}$	376.468	0.94260	7.54083	2.74606
349.757	9999.700	$-3.6619 \cdot 10^{-5}$	$-9.1872 \cdot 10^{-8}$	$2.6642 \cdot 10^{-3}$	375.351	0.93181	7.45449	2.73029
344.888	9999.700	$-3.6342 \cdot 10^{-5}$	$-9.1178 \cdot 10^{-8}$	$2.6806 \cdot 10^{-3}$	373.045	0.92452	7.39618	2.71959
339.914	9999.700	$-3.6174 \cdot 10^{-5}$	$-9.0756 \cdot 10^{-8}$	$2.6906 \cdot 10^{-3}$	371.659	0.91458	7.31668	2.70494
334.826	9999.700	$-3.5690 \cdot 10^{-5}$	$-8.9542 \cdot 10^{-8}$	$2.7195 \cdot 10^{-3}$	367.721	0.91054	7.28434	2.69895
329.809	9999.700	$-3.5551 \cdot 10^{-5}$	$-8.9191 \cdot 10^{-8}$	$2.7278 \cdot 10^{-3}$	366.600	0.89964	7.19715	2.68275
324.816	9999.700	$-3.5335 \cdot 10^{-5}$	$-8.8651 \cdot 10^{-8}$	$2.7406 \cdot 10^{-3}$	364.884	0.89019	7.12151	2.66862
319.816	9999.700	$-3.5170 \cdot 10^{-5}$	$-8.8237 \cdot 10^{-8}$	$2.7504 \cdot 10^{-3}$	363.581	0.87963	7.03701	2.65274
314.838	9999.700	$-3.4769 \cdot 10^{-5}$	$-8.7230 \cdot 10^{-8}$	$2.7743 \cdot 10^{-3}$	360.454	0.87345	6.98760	2.64341
309.838	9999.700	$-3.4586 \cdot 10^{-5}$	$-8.6771 \cdot 10^{-8}$	$2.7852 \cdot 10^{-3}$	359.044	0.86295	6.90363	2.62748
304.850	9999.700	$-3.4427 \cdot 10^{-5}$	$-8.6373 \cdot 10^{-8}$	$2.7946 \cdot 10^{-3}$	357.829	0.85194	6.81553	2.61066
299.858	9999.700	$-3.4359 \cdot 10^{-5}$	$-8.6202 \cdot 10^{-8}$	$2.7987 \cdot 10^{-3}$	357.311	0.83921	6.71365	2.59107
294.869	9999.700	$-3.4251 \cdot 10^{-5}$	$-8.5930 \cdot 10^{-8}$	$2.8051 \cdot 10^{-3}$	356.489	0.82715	6.61718	2.57239
289.876	9999.700	$-3.3919 \cdot 10^{-5}$	$-8.5098 \cdot 10^{-8}$	$2.8249 \cdot 10^{-3}$	353.997	0.81887	6.55093	2.55948
284.874	9999.700	$-3.3838 \cdot 10^{-5}$	$-8.4894 \cdot 10^{-8}$	$2.8297 \cdot 10^{-3}$	353.393	0.80611	6.44889	2.53947
279.870	9999.700	$-3.3683 \cdot 10^{-5}$	$-8.4505 \cdot 10^{-8}$	$2.8389 \cdot 10^{-3}$	352.244	0.79453	6.35627	2.52116
274.877	9999.700	$-3.3637 \cdot 10^{-5}$	$-8.4391 \cdot 10^{-8}$	$2.8417 \cdot 10^{-3}$	351.908	0.78110	6.24883	2.49977
269.883	9999.700	$-3.3409 \cdot 10^{-5}$	$-8.3818 \cdot 10^{-8}$	$2.8552 \cdot 10^{-3}$	350.233	0.77058	6.16465	2.48287
264.885	9999.700	$-3.3179 \cdot 10^{-5}$	$-8.3240 \cdot 10^{-8}$	$2.8689 \cdot 10^{-3}$	348.561	0.75994	6.07951	2.46567
259.888	9999.700	$-3.3154 \cdot 10^{-5}$	$-8.3177 \cdot 10^{-8}$	$2.8704 \cdot 10^{-3}$	348.380	0.74599	5.96793	2.44293
254.892	9999.700	$-3.3052 \cdot 10^{-5}$	$-8.2923 \cdot 10^{-8}$	$2.8765 \cdot 10^{-3}$	347.650	0.73318	5.86548	2.42188
249.898	9999.700	$-3.3066 \cdot 10^{-5}$	$-8.2958 \cdot 10^{-8}$	$2.8756 \cdot 10^{-3}$	347.751	0.71861	5.74890	2.39769
244.899	9999.700	$-3.2973 \cdot 10^{-5}$	$-8.2726 \cdot 10^{-8}$	$2.8811 \cdot 10^{-3}$	347.084	0.70559	5.64473	2.37586
239.896	9999.700	$-3.2875 \cdot 10^{-5}$	$-8.2478 \cdot 10^{-8}$	$2.8870 \cdot 10^{-3}$	346.378	0.69258	5.54068	2.35386
234.907	9999.700	$-3.3057 \cdot 10^{-5}$	$-8.2936 \cdot 10^{-8}$	$2.8762 \cdot 10^{-3}$	347.685	0.67563	5.40505	2.32488
229.903	9999.700	$-3.2939 \cdot 10^{-5}$	$-8.2638 \cdot 10^{-8}$	$2.8832 \cdot 10^{-3}$	346.834	0.66286	5.30290	2.30280
224.910	9999.700	$-3.2954 \cdot 10^{-5}$	$-8.2678 \cdot 10^{-8}$	$2.8823 \cdot 10^{-3}$	346.948	0.64825	5.18601	2.27728
219.911	9999.700	$-3.2831 \cdot 10^{-5}$	$-8.2368 \cdot 10^{-8}$	$2.8896 \cdot 10^{-3}$	346.066	0.63546	5.08368	2.25470
214.914	9999.700	$-3.2728 \cdot 10^{-5}$	$-8.2110 \cdot 10^{-8}$	$2.8957 \cdot 10^{-3}$	345.334	0.62233	4.97868	2.23130
209.921	9999.700	$-3.2717 \cdot 10^{-5}$	$-8.2082 \cdot 10^{-8}$	$2.8964 \cdot 10^{-3}$	345.254	0.60802	4.86416	2.20548
204.926	9999.700	$-3.2741 \cdot 10^{-5}$	$-8.2142 \cdot 10^{-8}$	$2.8950 \cdot 10^{-3}$	345.424	0.59326	4.74608	2.17855
199.924	9999.700	$-3.2468 \cdot 10^{-5}$	$-8.1458 \cdot 10^{-8}$	$2.9112 \cdot 10^{-3}$	343.498	0.58202	4.65619	2.15782
194.926	9999.700	$-3.2489 \cdot 10^{-5}$	$-8.1511 \cdot 10^{-8}$	$2.9100 \cdot 10^{-3}$	343.646	0.56723	4.53783	2.13022
189.933	9999.700	$-3.2428 \cdot 10^{-5}$	$-8.1356 \cdot 10^{-8}$	$2.9136 \cdot 10^{-3}$	343.215	0.55339	4.42716	2.10408
184.933	9999.700	$-3.2198 \cdot 10^{-5}$	$-8.0780 \cdot 10^{-8}$	$2.9273 \cdot 10^{-3}$	341.611	0.54135	4.33084	2.08107
179.949	9999.700	$-3.2115 \cdot 10^{-5}$	$-8.0571 \cdot 10^{-8}$	$2.9323 \cdot 10^{-3}$	341.035	0.52766	4.22125	2.05457
174.948	9999.700	$-3.1804 \cdot 10^{-5}$	$-7.9791 \cdot 10^{-8}$	$2.9508 \cdot 10^{-3}$	338.896	0.51623	4.12983	2.03220
169.955	9999.700	$-3.1999 \cdot 10^{-5}$	$-8.0281 \cdot 10^{-8}$	$2.9391 \cdot 10^{-3}$	340.237	0.49952	3.99614	1.99904
164.958	9999.700	$-3.1730 \cdot 10^{-5}$	$-7.9606 \cdot 10^{-8}$	$2.9552 \cdot 10^{-3}$	338.391	0.48748	3.89982	1.97480
159.963	9999.700	$-3.1722 \cdot 10^{-5}$	$-7.9585 \cdot 10^{-8}$	$2.9556 \cdot 10^{-3}$	338.336	0.47279	3.78235	1.94483
154.956	9999.700	$-3.1382 \cdot 10^{-5}$	$-7.8732 \cdot 10^{-8}$	$2.9759 \cdot 10^{-3}$	336.035	0.46113	3.68905	1.92069
149.973	9999.700	$-3.1373 \cdot 10^{-5}$	$-7.8711 \cdot 10^{-8}$	$2.9764 \cdot 10^{-3}$	335.977	0.44638	3.57103	1.88972

T / K	H / Oe	M / emu	χ_{spec} / cm^3·g^{-1}	χ_{para} / mol^{-1}	$1/\chi_{para}$	$\chi_{para}T$	μ^2_{eff}	μ_{eff} / μ_B
144.973	9999.700	$-3.1112\cdot10^{-5}$	$-7.8056\cdot10^{-8}$	$2.9919\cdot10^{-3}$	334.233	0.43375	3.46999	1.86279
139.985	9999.700	$-3.1031\cdot10^{-5}$	$-7.7851\cdot10^{-8}$	$2.9968\cdot10^{-3}$	333.692	0.41950	3.35603	1.83195
134.928	9999.700	$-3.0746\cdot10^{-5}$	$-7.7138\cdot10^{-8}$	$3.0137\cdot10^{-3}$	331.819	0.40663	3.25305	1.80362
130.007	9999.700	$-3.0662\cdot10^{-5}$	$-7.6926\cdot10^{-8}$	$3.0187\cdot10^{-3}$	331.267	0.39246	3.13964	1.77190
124.930	9999.700	$-3.0381\cdot10^{-5}$	$-7.6222\cdot10^{-8}$	$3.0354\cdot10^{-3}$	329.443	0.37921	3.03372	1.74176
120.027	9999.700	$-3.0221\cdot10^{-5}$	$-7.5820\cdot10^{-8}$	$3.0450\cdot10^{-3}$	328.412	0.36548	2.92382	1.70992
114.929	9999.700	$-2.9837\cdot10^{-5}$	$-7.4857\cdot10^{-8}$	$3.0678\cdot10^{-3}$	325.965	0.35258	2.82065	1.67948
109.968	9999.700	$-2.9753\cdot10^{-5}$	$-7.4647\cdot10^{-8}$	$3.0728\cdot10^{-3}$	325.437	0.33791	2.70328	1.64417
105.002	9999.700	$-2.9340\cdot10^{-5}$	$-7.3610\cdot10^{-8}$	$3.0974\cdot10^{-3}$	322.851	0.32523	2.60187	1.61303
99.9942	9999.700	$-2.8970\cdot10^{-5}$	$-7.2683\cdot10^{-8}$	$3.1194\cdot10^{-3}$	320.576	0.31192	2.49536	1.57967
95.0117	9999.700	$-2.8793\cdot10^{-5}$	$-7.2239\cdot10^{-8}$	$3.1299\cdot10^{-3}$	319.497	0.29738	2.37903	1.54241
90.0324	9999.700	$-2.8230\cdot10^{-5}$	$-7.0825\cdot10^{-8}$	$3.1634\cdot10^{-3}$	316.111	0.28481	2.27850	1.50947
85.0416	9999.700	$-2.7721\cdot10^{-5}$	$-6.9548\cdot10^{-8}$	$3.1937\cdot10^{-3}$	313.112	0.27160	2.17281	1.47404
80.0382	9999.700	$-2.7367\cdot10^{-5}$	$-6.8659\cdot10^{-8}$	$3.2148\cdot10^{-3}$	311.058	0.25731	2.05848	1.43474
75.0222	9999.700	$-2.6570\cdot10^{-5}$	$-6.6660\cdot10^{-8}$	$3.2623\cdot10^{-3}$	306.536	0.24474	1.95794	1.39926
69.9969	9999.700	$-2.5569\cdot10^{-5}$	$-6.4148\cdot10^{-8}$	$3.3218\cdot10^{-3}$	301.038	0.23252	1.86015	1.36387
64.9799	9999.700	$-2.4392\cdot10^{-5}$	$-6.1195\cdot10^{-8}$	$3.3919\cdot10^{-3}$	294.821	0.22040	1.76324	1.32787
59.9723	9999.700	$-2.3087\cdot10^{-5}$	$-5.7922\cdot10^{-8}$	$3.4695\cdot10^{-3}$	288.223	0.20808	1.66461	1.29020
54.9826	9999.700	$-2.1404\cdot10^{-5}$	$-5.3699\cdot10^{-8}$	$3.5697\cdot10^{-3}$	280.135	0.19627	1.57018	1.25307
49.9806	9999.700	$-1.9638\cdot10^{-5}$	$-4.9270\cdot10^{-8}$	$3.6748\cdot10^{-3}$	272.125	0.18367	1.46934	1.21216
44.9780	9999.700	$-1.7718\cdot10^{-5}$	$-4.4451\cdot10^{-8}$	$3.7891\cdot10^{-3}$	263.915	0.17043	1.36341	1.16765
39.9771	9999.700	$-1.5596\cdot10^{-5}$	$-3.9127\cdot10^{-8}$	$3.9154\cdot10^{-3}$	255.403	0.15653	1.25221	1.11902
34.9797	9999.700	$-1.3001\cdot10^{-5}$	$-3.2617\cdot10^{-8}$	$4.0698\cdot10^{-3}$	245.710	0.14236	1.13889	1.06719
29.9881	9999.700	$-9.8551\cdot10^{-6}$	$-2.4725\cdot10^{-8}$	$4.2570\cdot10^{-3}$	234.905	0.12766	1.02128	1.01059
29.9827	9999.700	$-9.8618\cdot10^{-6}$	$-2.4742\cdot10^{-8}$	$4.2566\cdot10^{-3}$	234.927	0.12763	1.02100	1.01045
29.0001	9999.700	$-9.0604\cdot10^{-6}$	$-2.2731\cdot10^{-8}$	$4.3043\cdot10^{-3}$	232.324	0.12483	0.99861	0.99930
28.0001	9999.700	$-8.2420\cdot10^{-6}$	$-2.0678\cdot10^{-8}$	$4.3530\cdot10^{-3}$	229.724	0.12189	0.97509	0.98746
26.9999	9999.700	$-7.3706\cdot10^{-6}$	$-1.8492\cdot10^{-8}$	$4.4049\cdot10^{-3}$	227.020	0.11893	0.95146	0.97543
26.0000	9999.700	$-6.3919\cdot10^{-6}$	$-1.6036\cdot10^{-8}$	$4.4632\cdot10^{-3}$	224.057	0.11604	0.92834	0.96350
25.0000	9999.700	$-5.3245\cdot10^{-6}$	$-1.3358\cdot10^{-8}$	$4.5267\cdot10^{-3}$	220.913	0.11317	0.90534	0.95149
23.9999	9999.700	$-4.2351\cdot10^{-6}$	$-1.0625\cdot10^{-8}$	$4.5915\cdot10^{-3}$	217.793	0.11020	0.88157	0.93892
23.0000	9999.700	$-3.0720\cdot10^{-6}$	$-7.7073\cdot10^{-9}$	$4.6607\cdot10^{-3}$	214.558	0.10720	0.85758	0.92605
22.0000	9999.700	$-1.7368\cdot10^{-6}$	$-4.3575\cdot10^{-9}$	$4.7402\cdot10^{-3}$	210.962	0.10428	0.83428	0.91339
21.0001	9999.700	$-3.3749\cdot10^{-7}$	$-8.4673\cdot10^{-10}$	$4.8235\cdot10^{-3}$	207.319	0.10129	0.81035	0.90019
20.0000	9999.700	$1.2248\cdot10^{-6}$	$3.0728\cdot10^{-9}$	$4.9165\cdot10^{-3}$	203.398	0.09833	0.78663	0.88692
19.0001	9999.700	$2.8633\cdot10^{-6}$	$7.1837\cdot10^{-9}$	$5.0140\cdot10^{-3}$	199.442	0.09527	0.76213	0.87300
18.0001	9999.700	$4.6708\cdot10^{-6}$	$1.1718\cdot10^{-8}$	$5.1216\cdot10^{-3}$	195.253	0.09219	0.73751	0.85878
17.0000	9999.700	$6.8044\cdot10^{-6}$	$1.7071\cdot10^{-8}$	$5.2485\cdot10^{-3}$	190.529	0.08923	0.71380	0.84487
15.9999	9999.700	$9.0761\cdot10^{-6}$	$2.2771\cdot10^{-8}$	$5.3837\cdot10^{-3}$	185.745	0.08614	0.68912	0.83013
14.9999	9999.700	$1.1687\cdot10^{-5}$	$2.9322\cdot10^{-8}$	$5.5391\cdot10^{-3}$	180.533	0.08309	0.66470	0.81529
14.0000	9999.700	$1.4719\cdot10^{-5}$	$3.6928\cdot10^{-8}$	$5.7196\cdot10^{-3}$	174.838	0.08007	0.64059	0.80037
12.9999	9999.700	$1.8257\cdot10^{-5}$	$4.5803\cdot10^{-8}$	$5.9301\cdot10^{-3}$	168.631	0.07709	0.61673	0.78532
12.0000	9999.700	$2.2266\cdot10^{-5}$	$5.5863\cdot10^{-8}$	$6.1688\cdot10^{-3}$	162.107	0.07403	0.59220	0.76955
11.0000	9999.700	$2.7073\cdot10^{-5}$	$6.7923\cdot10^{-8}$	$6.4549\cdot10^{-3}$	154.922	0.07100	0.56803	0.75368
10.0000	9999.700	$3.2696\cdot10^{-5}$	$8.2029\cdot10^{-8}$	$6.7895\cdot10^{-3}$	147.287	0.06789	0.54316	0.73699
9.00012	9999.700	$3.9557\cdot10^{-5}$	$9.9242\cdot10^{-8}$	$7.1978\cdot10^{-3}$	138.931	0.06478	0.51825	0.71989
7.99992	9999.700	$4.8055\cdot10^{-5}$	$1.2056\cdot10^{-7}$	$7.7036\cdot10^{-3}$	129.810	0.06163	0.49302	0.70216
6.99990	9999.700	$5.8802\cdot10^{-5}$	$1.4753\cdot10^{-7}$	$8.3432\cdot10^{-3}$	119.859	0.05840	0.46721	0.68353
5.99862	9999.700	$7.2891\cdot10^{-5}$	$1.8287\cdot10^{-7}$	$9.1817\cdot10^{-3}$	108.912	0.05508	0.44062	0.66379
4.99886	9999.700	$9.2061\cdot10^{-5}$	$2.3097\cdot10^{-7}$	$1.0323\cdot10^{-2}$	96.8746	0.05160	0.41281	0.64250
3.99996	9999.700	$1.1947\cdot10^{-4}$	$2.9974\cdot10^{-7}$	$1.1954\cdot10^{-2}$	83.6538	0.04782	0.38252	0.61849
3.00008	9999.700	$1.6212\cdot10^{-4}$	$4.0673\cdot10^{-7}$	$1.4492\cdot10^{-2}$	69.0030	0.04348	0.34782	0.58976
1.99993	9999.700	$2.3821\cdot10^{-4}$	$5.9764\cdot10^{-7}$	$1.9021\cdot10^{-2}$	52.5738	0.03804	0.30432	0.55165

Scheme for calculating uncertainties at determining the sample heat capacity

1) Measurements of heat capacity for empty container and finding a polinom and absolute uncertainties (described as deviations of experimental points from fitted curve): $C_{emp}=C_{emp,av}\pm\Delta C_{emp}$.

2) Measurements of total heat capacity for container with sample and absolute uncertainties: $C_{tot}=C_{tot,av}\pm\Delta C_{tot}$.

3) Finding measured heat capacity of the sample by subtracting heat capacity of empty container from total heat capacity of the container with the sample: $C_{sam}=C_{tot}-C_{emp}$.
Corresponding uncertainty for sample heat capacity determined as:
$$\Delta C_{sam} = \sqrt{\Delta C_{tot}^{\,2} + \Delta C_{emp}^{\,2}}\,.$$

4) Finding specific heat capacity of the sample by division measured heat capacity of the sample by mass of the sample $C_{spec}=C_{sam}/m_{sam}$. Uncertainty defined via relative values:
$$\delta C_{spec} = \frac{\Delta C_{spec}}{C_{spec}} = \sqrt{\frac{\Delta C_{sam}^{\,2}}{C_{sam}} + \frac{\Delta m_{sam}^{\,2}}{m_{sam}}}\,.$$

5) Finding molar heat capacity of the individual compound by multiplying the specific heat capacity of the compound by molar mass of the compound $C_{mol}=C_{spec}\cdot M_r$.

Uncertainty: $\delta C_{mol} = \frac{\Delta C_{mol}}{C_{mol}} = \sqrt{\frac{\Delta C_{spec}^{\,2}}{C_{spec}} + \frac{\Delta M_r^{\,2}}{M_r}}\,.$

Here, $\Delta \mathrm{M_r}[\mathrm{Ba(La_{0.99}Sm_{0.01})_2WO_7}] = \sqrt{\Delta \mathrm{A_r(Ba)}^2 + 2\cdot 0.99\cdot \Delta \mathrm{A_r(La)}^2 + 2\cdot 0.01\cdot \Delta \mathrm{A_r(Sm)}^2 + \Delta \mathrm{A_r(W)}^2 + 7\cdot \Delta \mathrm{A_r(O)}^2}$, where absolute uncertainties of the atomic masses ΔA_r are taken from IUPAC tables.

6) Finding uncertainties of the thermodynamic functions:
$$\delta S_T = \frac{\Delta S_T}{S_T} = \sqrt{\frac{\Delta C_{mol}^{\,2}}{C_{mol}} + \frac{\Delta T^2}{T}}\,,$$
$$\delta \frac{H_T}{T} = \frac{\Delta H_T / T}{H_T / T} = \sqrt{\frac{\Delta H_T^{\,2}}{H_T} + \frac{\Delta T^2}{T}}\,,$$
$$\Delta Y_T = \sqrt{\Delta S_T^{\,2} + \Delta (H_T / T)^2}\,.$$