

SUPPLEMENT

HEAT CAPACITY AND THERMODYNAMIC FUNCTIONS OF SOLID SOLUTION $\text{Ho}_2\text{O}_3 \cdot 2\text{HfO}_2$

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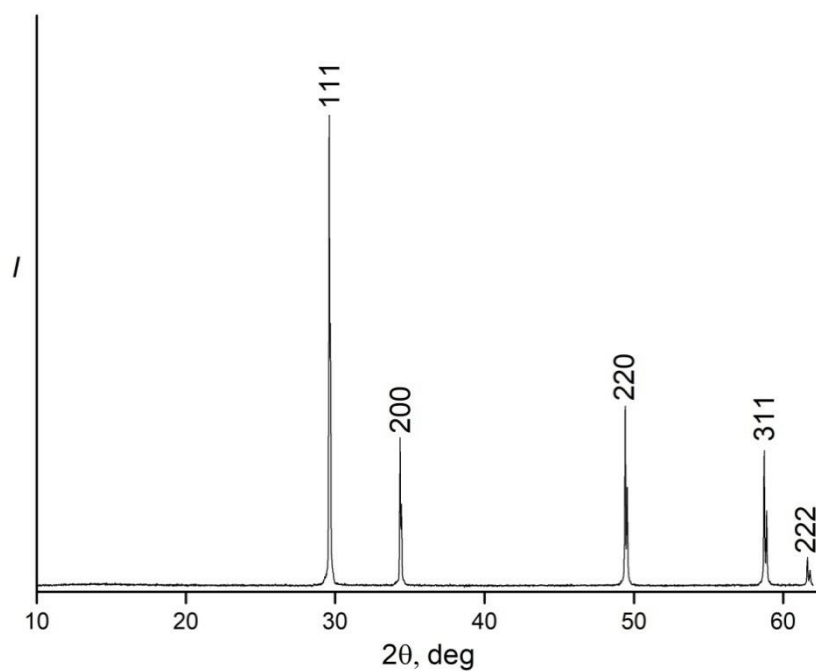


Fig.S1. X-ray diffraction pattern of solid solution $\text{Ho}_2\text{O}_3 \cdot 2\text{HfO}_2$, $Fm\bar{3}m$, $a = 5.198(7)$ Å.

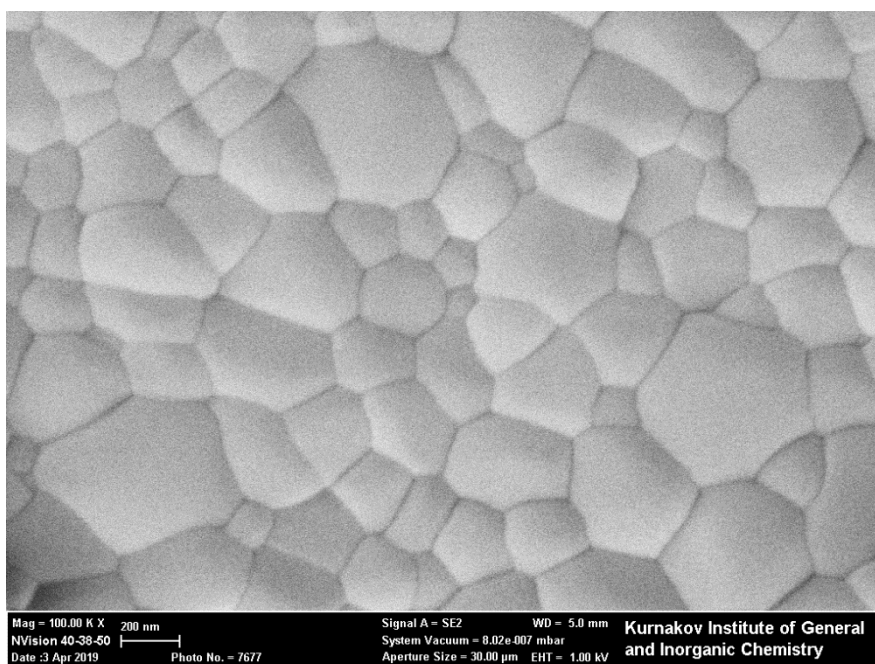


Fig.S2. Surface morphology of solid solution $\text{Ho}_2\text{O}_3 \cdot 2\text{HfO}_2$, x30000.

Table S1. Experimental heat capacity of solid solution $\text{Ho}_2\text{O}_3 \cdot 2\text{HfO}_2$. $P=101.3$ kPa.

1. Экспериментальная теплоемкость твердого раствора

T , K	C_p , J/(mol·K)	T , K	C_p , J/(mol·K)	T , K	C_p , J/(mol·K)
<i>Relaxation calorimetry.</i>					
2.383	5.147	6.020	3.118	15.25	4.742
2.621	4.853	6.614	2.991	16.72	5.567
2.874	4.657	7.252	2.916	18.33	6.656
3.153	4.483	7.954	2.885	20.09	8.055
3.458	4.236	8.727	2.907	22.04	9.763
3.794	4.037	9.592	2.940	24.13	11.44
4.163	3.800	10.56	3.102	26.45	13.99
4.565	3.588	11.56	3.308	28.99	17.24
5.007	3.406	12.69	3.637	31.91	21.17
5.489	3.255	13.90	4.132	35.00	25.56
<i>Adiabatic calorimetry.</i>					
5.63	3.41	67.18	67.39	155.8	157.9
5.91	3.39	68.84	69.41	159.4	160.8
6.34	3.27	70.50	71.35	163.0	163.6
6.95	3.20	72.36	73.63	166.6	166.4
7.72	3.16	74.42	76.11	172.2	170.6
8.65	3.12	76.49	78.73	176.4	173.6
9.57	3.18	78.55	81.38	180.0	176.2
10.55	3.301	80.62	83.86	183.6	178.6
11.44	3.471	82.69	86.05	187.1	181.0
12.32	3.723	84.77	88.02	190.7	183.3

13.19	4.001	86.84	90.69	194.4	185.7
14.07	4.281	88.91	93.45	197.9	187.9
14.94	4.620	90.99	95.64	201.5	190.1
15.80	5.027	93.07	97.86	205.5	192.4
16.65	5.471	95.15	100.1	210.0	195.0
17.50	5.972	97.23	102.3	201.0	189.7
18.35	6.566	99.31	104.6	205.0	192.1
19.19	7.186	102.0	107.6	209.4	194.7
20.04	7.860	105.4	111.2	213.9	197.1
21.37	8.955	108.7	114.8	218.3	199.5
22.97	10.49	112.0	118.2	222.7	201.8
24.57	12.13	115.4	121.6	227.1	204.0
26.17	13.89	116.4	122.4	231.7	206.1
27.77	15.74	120.0	125.9	236.1	208.1
29.37	17.69	123.5	129.3	240.6	210.2
30.98	19.78	127.1	132.7	244.9	212.2
32.59	21.92	130.7	136.0	249.3	214.1
34.22	23.95	134.2	139.3	253.6	215.9
35.84	26.13	137.7	142.5	257.9	217.6
37.47	28.50	141.3	145.6	262.2	219.2
39.10	30.74	144.9	148.7	266.4	220.8
40.73	32.93	148.6	151.9	270.7	222.3
42.37	35.13	152.2	154.9	274.9	223.8
44.01	37.31	155.8	157.9	279.0	225.2
45.65	39.54	159.4	160.8	283.1	226.5
47.31	41.80	163.0	163.6	287.2	227.8
48.95	44.02	116.4	122.4	291.2	229.1

50.60	46.22	120.0	125.9	295.2	230.3
52.26	48.42	123.5	129.3	303.5	232.6
53.91	50.58	127.1	132.7	309.8	234.4
55.57	52.64	130.7	136.0	317.1	236.3
57.22	54.77	134.2	139.3	324.4	238.0
58.88	56.89	137.7	142.5	331.6	239.7
60.54	58.97	141.3	145.6	338.6	241.3
62.19	61.14	144.9	148.7	345.7	242.8
63.85	63.30	148.6	151.9		
65.51	65.40	152.2	154.9		
<i>Differential scanning calorimetry.</i>					
317	236.1	817	275.8	1317	288.7
327	238.7	827	276.2	1327	289.1
337	241.3	837	277.2	1337	289.6
347	243.3	847	277.8	1347	290.9
357	244.9	857	278.7	1357	291.7
367	246.3	867	278.4	1367	294.0
377	247.9	877	278.6	1377	294.3
387	249.1	887	279.0	1387	293.8
397	250.5	897	279.3	1397	292.9
407	251.6	907	279.3	1407	292.6
417	252.8	917	279.5	1417	292.6
427	254.0	927	279.4	1427	292.7
437	255.0	937	279.8	1437	292.3
447	255.	947	280.5	1447	291.4
457	256.7	957	280.8	1457	291.3
467	257.6	967	280.1	1467	293.0

477	258.4	977	280.4	1477	293.2
487	259.2	987	280.9	1487	292.7
497	260.1	997	281.4	1497	293.9
507	260.7	1007	282.1	1507	294.3
517	261.2	1017	282.5	1517	295.8
527	262.0	1027	281.8	1527	296.9
537	262.9	1037	282.3	1537	298.1
547	263.4	1047	281.9	1547	298.4
557	264.0	1057	282.1	1557	298.5
567	264.7	1067	282.1	1567	299.1
577	265.2	1077	282.9	1577	297.6
587	265.5	1087	282.9	1587	296.1
597	266.2	1097	284.2	1597	296.8
607	267.2	1107	283.9	1607	298.0
617	267.6	1117	285.2	1617	298.0
627	268.3	1127	286.3	1627	297.8
637	268.6	1137	287.4	1637	297.9
647	269.3	1147	286.5	1647	297.3
657	270.2	1157	285.5	1657	297.6
667	270.6	1167	285.9	1667	298.2
677	271.3	1177	286.5	1677	297.9
687	272.2	1187	286.7	1687	297.6
697	272.4	1197	286.7	1697	298.2
707	271.7	1207	287.8	1707	298.4
717	271.2	1217	288.1	1717	300.1
727	271.6	1227	288.4	1727	299.6
737	271.9	1237	288.0	1737	299.2

747	272.4	1247	288.6	1747	303.0
757	272.9	1257	290.1	1757	303.1
767	273.1	1267	291.3	1767	303.1
777	273.6	1277	290.5	1777	301.
787	273.9	1287	289.2	1787	302.0
797	274.9	1297	289.5	1797	301.5
807	275.0	1307	288.5	1807	301.2