Table S1: Lattice parameters of the different calculated models compared to those of experimental data (The relative energetic stabilities of these various models are presented).

Models	Stacking (Wyckoff site)	Energy (meV/f.u)	a	Δa/a %	b	Δb/b %	c	Δc/c %	β
				cell parameters					
Exp. 1			5.4502		5.7206		9.7006		123.53
O6 (P21/c) Model 1	Sn/In (2d) Sn/Sb (2a)	0.00	5.7900	6.2	5.8235	1.8	10.0500	3.6	125.3
Model 2	Sn/In (2d) Sn/Sb (2a)	4	5.7835	6.1	5.8263	1.9	10.0443	3.5	125.2
Model3	Sn/In (2d) Sn/Sb (2a)	0.3	5.7838	6.1	5.8262	1.8	10.0446	3.5	125.2
Exp. 2			17.1850		5.6955		9.9037		125.2
O9 (P21/c) Model 4	In(2a) In(2d) Sn/Sb(4e) Sn/Sb(4e)	417	17.3758	1.1	5.7719	1.3	8.1321	17.9	125.5
Model 5	In(2a) In(2d) Sn/Sb(4e) Sn/Sb(4e)	199	17.2984	0.7	5.7796	1.5	8.1318	17.9	125.5
Model 6	In/Sn(4e) Sb/Sn(4e) In(2a) Sb(2d)	95	17.2691	0.5	5.7833	1,5	9.9396	0.4	125.4
Model 7	In/Sn(4e) Sb/Sn(4e) Sb(2a) In(2d)	186	17.2984	0.7	5.7796	1,5	8.1318	17.9	125.3
Model 8	In(4e) Sb(4e) Sn(2a) Sn(2d)	94	17.2815	0.6	5.7762	1,4	9.9534	0.5	125.4

Table S2: EDX analysis showing the atomic percent of all evaluated elements of the $Sr_2(Sn_{0.33}Sb_{0.33}In_{0.33})_2O_6$ ceramic

	Sr	Sn	In	Sb	O	C
Nominal composition	20	6.666	6.666	6.666	60	
Experimental composition	16.1	8.1	8.3	8.3	54.8	4.5
Absolute error (%)	0.3	1.2	0.8	1.0	1.5	0.6

Table S3 Fitting parameters of the complex impedance plots at various temperatures for $Sr_2(Sn_{0.33}Sb_{0.33}In_{0.33})_2O_6$ ceramic

T(K)	R(Ω)	C(F)	Q(F)	α
573	$2.0733E^7$	$4.038E^{-11}$	$5.000E^{-10}$	0.63837
593	$1.0958E^7$	$4.029E^{-11}$	$5.990E^{-10}$	0.64186
613	$6.0656E^6$	$4.022E^{-11}$	$7.010E^{-10}$	0.64558
633	$3.545E^6$	$4.038E^{-11}$	$9.178E^{-10}$	0.63694
653	$2.2286E^6$	$4.030E^{-11}$	$1.160E^{-9}$	0.63232
673	$1.2354E^6$	$4.509E^{-11}$	$5.460E^{-9}$	0.502