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Supporting information for article:

Sr₂Pt_{8-x}As: a layered incommensurately modulated metal with saturated resistivity

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Table S1

Table S2 Atomic position parameters. The final coordinates, equivalent displacement parameters and Fourier amplitudes of the displacive modulation function for $\text{Sr}_2\text{Pt}_{7.285}\text{As}$. The waves are sorted by the term s for sines, c for cosines and order n.

Atom	Occupancy	Wave of modulation	x	y	z	U_{eqv}
Pt1	1.0		0.25	0.5	0.33957(13)	0.0043(2)
		s,1	0	0	0	
		c,1	0	0	0	
Pt2	1.0		0	0.5	0	0.0049(2)
		s,1	0	0.0081(6)	0	
		c,1	0	0	0	
Pt3	1.0		0.25	0.38865(3)	-0.00543(9)	0.0049(2)
		s,1	-0.01479(9)	0	0	
		c,1	0.0000(2)	0	0	
Pt4	1.0		0.25	0.25139(3)	0.25001(9)	0.0068(2)
		s,1	-0.0030(2)	0	0	
		c,1	-0.0278(1)	0	0	
Pt5†	0.642(2)		0.5000(2)	0.29822(5)	0.0128(5)	0.0052(5)
		s,1	0††	0.00564(11)	0.017(3)	
		c,1	0††	-0.0022(4)	0.0154(9)	
Sr1	1.0		0	0.87900(8)	0	0.0066(4)
		s,1	0	0.00158(9)	0	
		c,1	0.0000(4)	0	0.0284(3)	
As1	1.0		0.25	0.5	0.7485(3)	0.0024(5)
		s,1	0	0	0	
		c,1	0	0	0	

† The atom occupancy is represented by the crenel function with $x_0 = 0.9606(5)$ and $\Delta x = 0.3212(13)$.

†† s,1 and c, 1 were constrained to be 0.

Table S3 The ADP harmonic parameters of atoms in Sr₂Pt_{7.285}As.

Atom	U11	U22	U33	U12	U13	U23
Pt1	0.0052(3)	0.0049(4)	0.0028(4)	0	0	0
Pt2	0.0007(4)	0.0089(4)	0.0051(4)	0	0.0000(2)	0
Pt3	0.0071(3)	0.0020(3)	0.0057(3)	0	0	0.00006(19)
Pt4	0.0121(3)	0.0041(3)	0.0044(3)	0	0	0.0017(2)
Pt5	0.0029(4)	0.0037(5)	0.0090(12)		0.0001(3)	-0.0023(9)
				0.0001(5)		
Sr1	0.0024(6)	0.0057(8)	0.0117(7)	0	-0.0006(5)	0
As1	0.0011(8)		0.0026(9)	0	0	0
		0.0035(10)				

Table S4 Selected interatomic distances (Å) for Sr₂Pt_{7.285}As.

Atom-Atom distance	Average	Minimal	Maximal
Pt1-Pt2	2.7757(10)	2.7738(10)	2.7776(10)
Pt1-Pt2(i)	2.7757(10)	2.7738(10)	2.7776(10)
Pt1-Pt3	2.8168(7)	2.8156(7)	2.8180(7)
Pt1-Pt3(i)	2.8168(7)	2.8156(7)	2.8180(7)
Pt2-Pt3	2.8343(13)	2.8157(14)	2.8588(14)
Pt2-Pt3(i)	2.8343(13)	2.8157(14)	2.8588(14)
Pt2-Pt3(ii)	2.8343(13)	2.8157(14)	2.8588(14)
Pt2-Pt3(iii)	2.8343(13)	2.8157(14)	2.8588(14)
Pt3-Pt4	2.8818(7)	2.8798(7)	2.8838(7)
Pt3-Pt4(vi)	2.8945(7)	2.8929(7)	2.8961(7)
Pt3-Pt5	2.599(4)	2.419(5)	2.713(5)
Pt3-Pt5(vii)	2.597(4)	2.416(5)	2.717(5)
Pt3-Pt5(viii)	2.596(4)	2.416(5)	2.717(5)
Pt3-Pt5(ix)	2.600(4)	2.419(5)	2.713(5)
Pt4-Pt4(vi)	2.8550(7)	2.8490(8)	2.8608(8)
Pt4-Pt4(x)	2.8549(7)	2.8491(8)	2.8608(8)
Pt4-Pt5	2.674(5)	2.597(8)	2.792(8)
Pt4-Pt5(x)	2.619(6)	2.571(7)	2.650(7)
Pt4-Pt5(vii)	2.576(6)	2.539(7)	2.601(7)

Pt4-Pt5(xi)	2.675(5)	2.585(8)	2.820(8)
Pt4-Pt5(xii)	2.675(5)	2.585(8)	2.820(8)
Pt4-Pt5(viii)	2.576(6)	2.539(7)	2.601(7)
Pt4-Pt5(xiii)	2.620(6)	2.571(7)	2.650(7)
Pt4-Pt5(ix)	2.675(5)	2.597(8)	2.792(8)
Pt5-Sr1(xiv)	3.213(8)	2.987(12)	3.309(12)
As1-Pt1	2.330(2)	2.330(2)	2.330(2)
As1-Pt1(xv)	3.368(2)	3.368(2)	3.368(2)
As1-Pt2(xv)	2.4526(15)	2.4505(15)	2.4548(15)
As1-Pt2(xvi)	2.4526(15)	2.4505(15)	2.4548(15)
As1-Pt3(xv)	2.4570(12)	2.4556(12)	2.4584(12)
As1-Pt3(xvi)	2.4570(12)	2.4556(12)	2.4584(12)
(i)	$-x+1/2, -y+2, z+1$		
(ii)	$-x, y, -z$		
(iii)	$x-1/2, -y+2, -z+1$		
(iv)	$x, y, z-1$		
(v)	$-x, y, -z+1$		
(vi)	$-x+1/2, -y+1/2, z-1/2$		
(vii)	$-x+1, y, -z$		
(viii)	$x-1/2, y, -z$		
(ix)	$-x+1/2, y, z$		
(x)	$-x+1/2, -y+1/2, z+1/2$		
(xi)	$x-1/2, -y+1/2, -z+1/2$		
(xii)	$-x+1, -y+1/2, -z+1/2$		
(xiii)	$x, -y+1/2, z+1/2$		
(xiv)	$x+1/2, y-1/2, -z-1/2$		
(xv)	$x, y, z+1$		
(xvi)	$-x+1/2, -y+2, z+2$		

1 Reflections in the reciprocal space

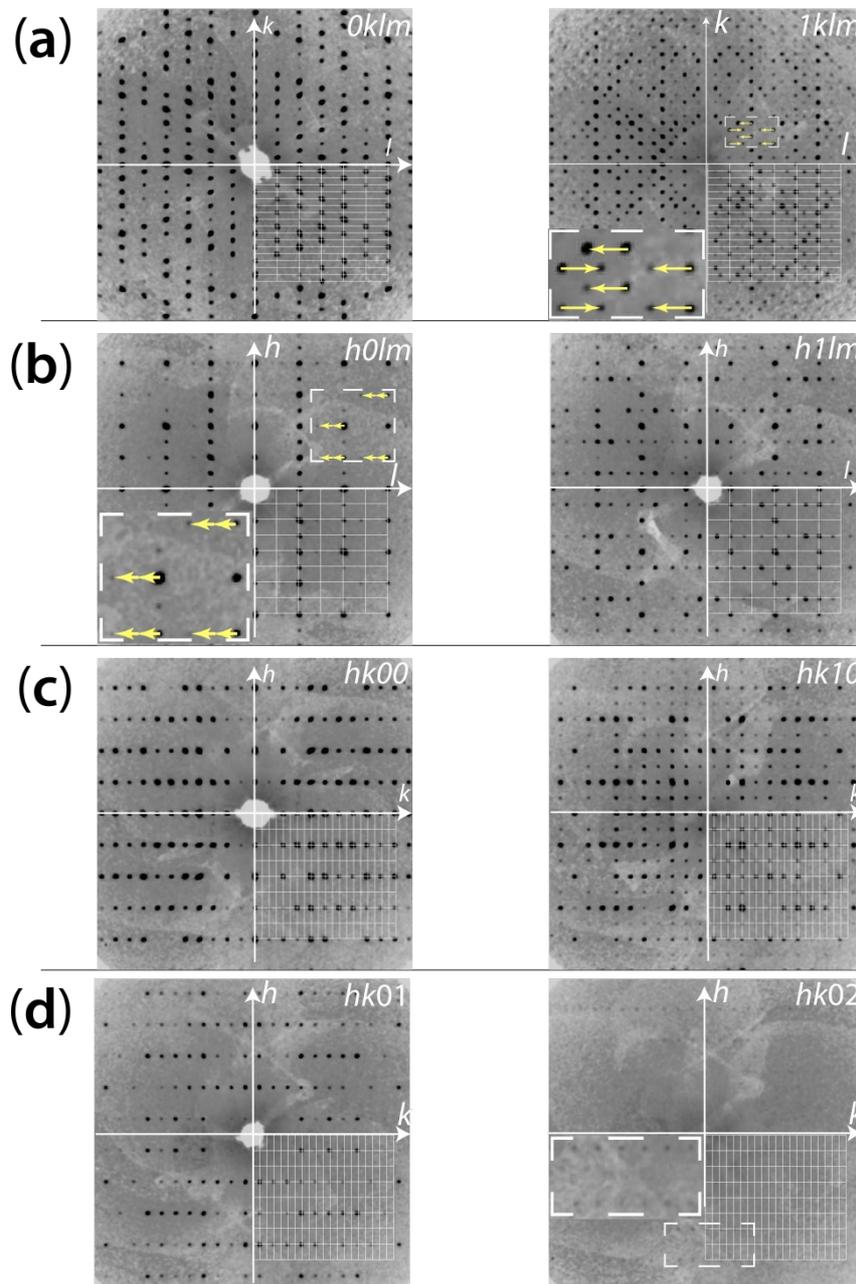
 $\text{Sr}_2\text{Pt}_{8-x}\text{As}_x$, $x = 0.715$ 

Figure S1 Sections of reciprocal space with indexation of reflections. The reflection indices correspond to the orthorhombic unit cell parameters $\mathbf{a} = 7.95$, $\mathbf{b} = 18.10$, $\mathbf{c} = 5.7 \text{ \AA}$ and the modulation wave vector $\mathbf{q} = 0.396\mathbf{c}^*$ (yellow arrows in inset). In section (a), (b), and (c): the intersections of grey lines in the right-top quarter define strong main $hk0$ reflections; strong satellites of the 1st order, $hk1$, and very weak satellites of the 2nd order, $hk2$, are out of the intersections. (d) The $hk01$ and $hk02$ satellites are shown separately in the $hk0.396$ and $hk0.792$ sections, respectively.

2 Transport measurements on ceramic samples

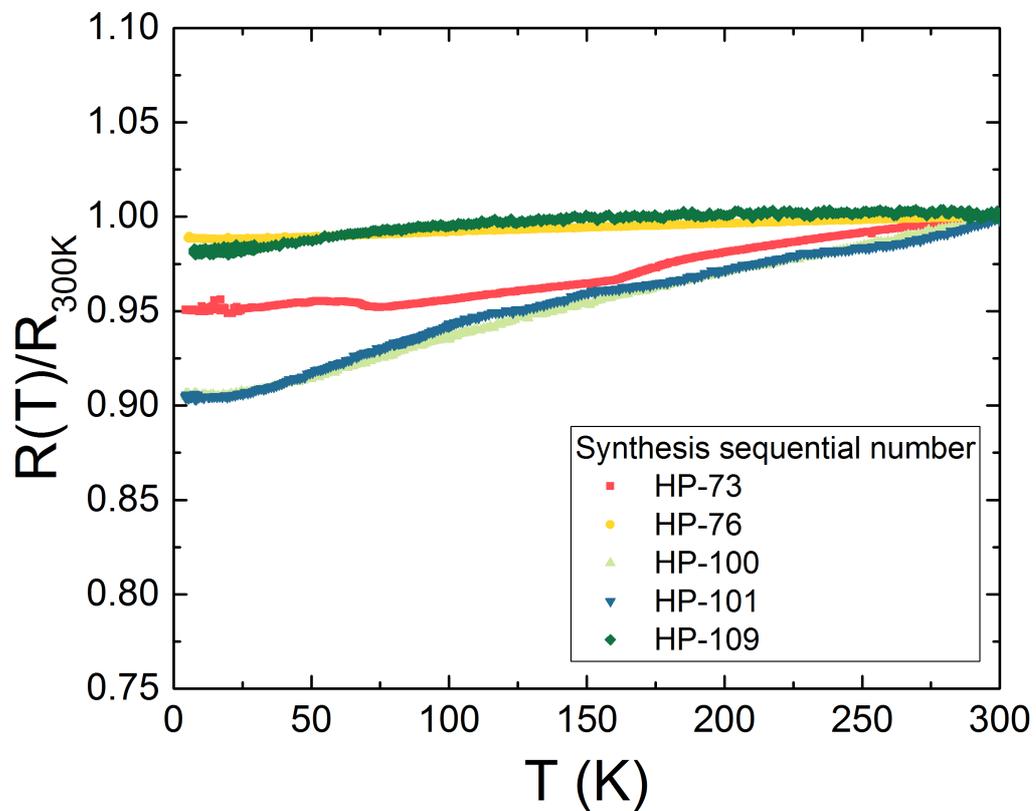


Figure S2 Electrical reactance normalized at room temperature (300 K), measured on fragments of the ceramic samples as received from high-pressure synthesis. The lack of control in the sample geometry and orientation hinders the precise evaluation of resistivity absolute value. Different batches (reported with a code name) show similar weak temperature dependence and positive $d\rho/dT$.