Electronic Supporting Information

for the manuscript

Nickel - p-block Metal Mixed Chalcogenides Based on the $AuCu_3$-type Fragments: Iodine-assisted Synthesis as a Way of Obtaining New Structures

by

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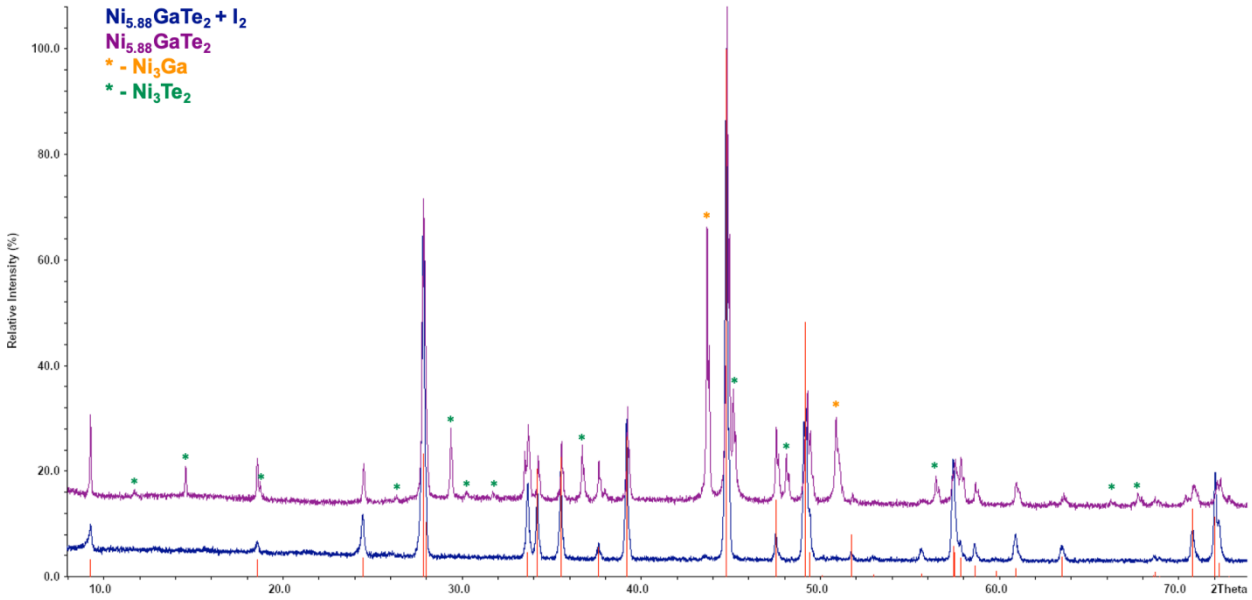

Figure S1. The effect of iodine on phase purity of $Ni_{5.80}GaTe_2$.

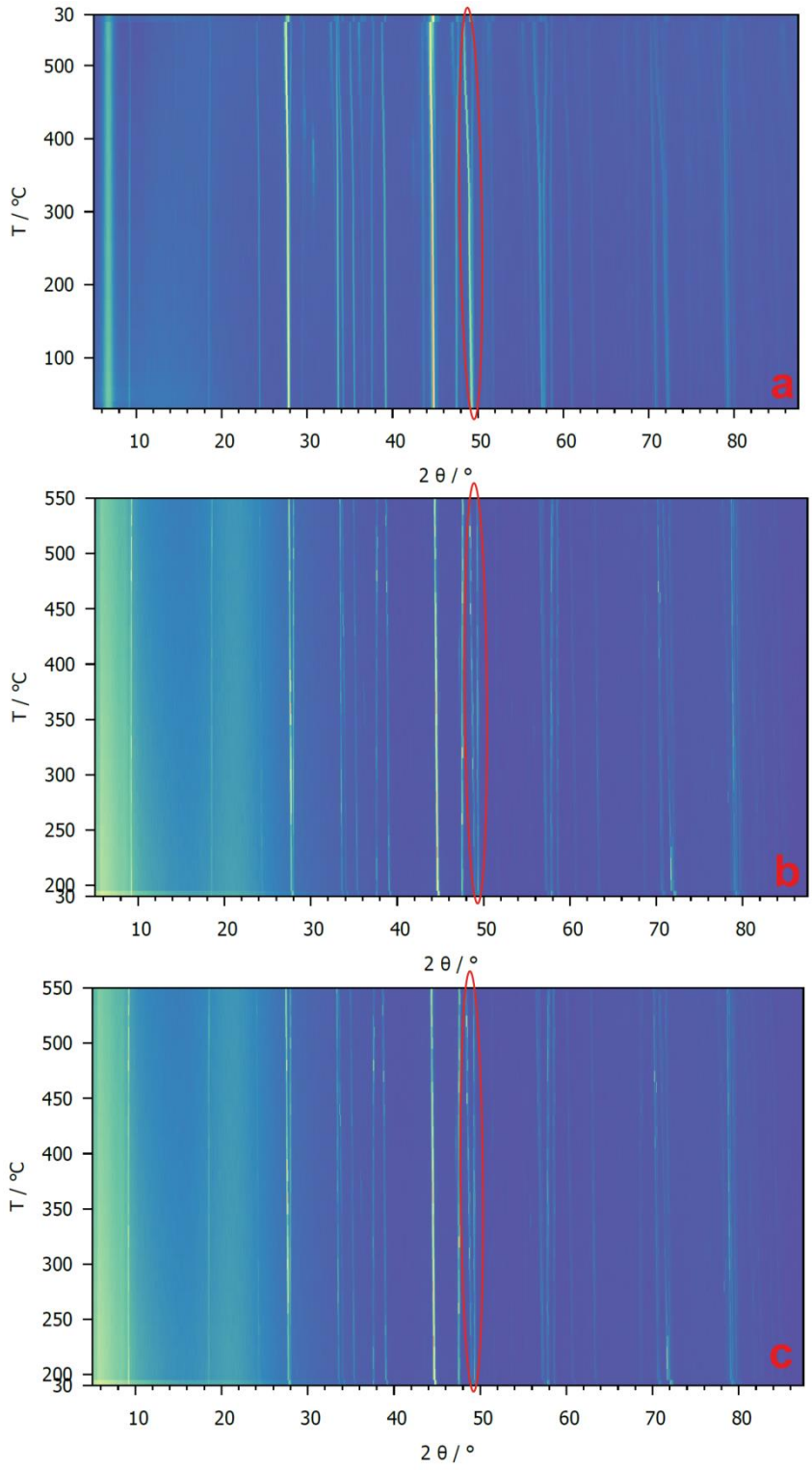

Figure S2. 2D in situ XRD patterns for $Ni_{5.80}GaTe_2$: a – flat sample under N_2 atmosphere, b – pressurized (750 Torr) capillary under N_2 atmosphere, c - pressurized capillary under ca. 53 kTorr H_2 atmosphere. Red ellipse encircles the 200 – 020 pair of reflections.

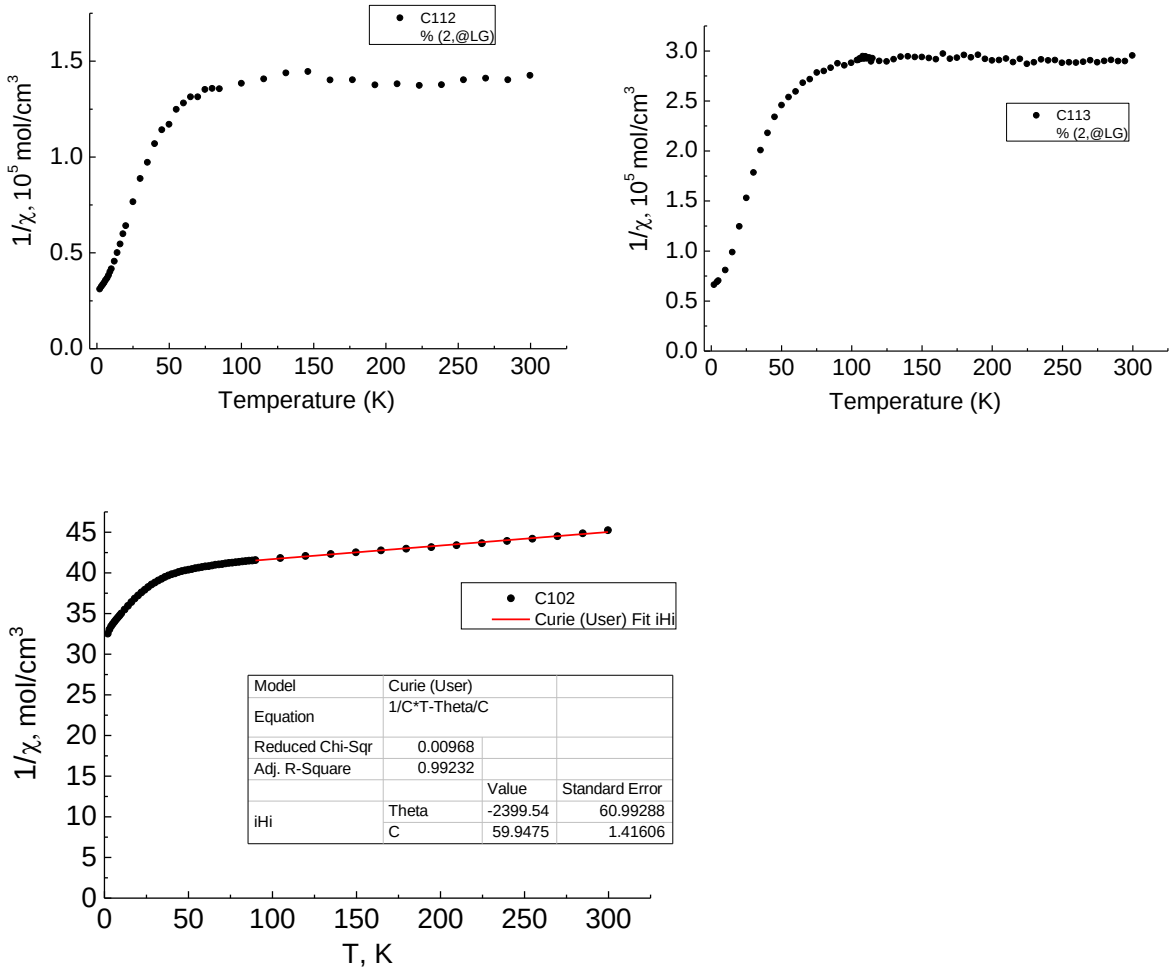

Figure S3. Temperature dependences of 1/χ for $Ni_{5.80}GaTe_2$ (top left), $Ni_{9.39}Ga_2S_2$ (top right), and $Ni_{5.78}InTe_2$.

Table S1. Atomic coordinates and ADPs for $Ni_{5.80}GaTe_2$ based on the synchrotron single-crystal data.

Atom	Wyckoff site	*x/a*	*y/b*	*z/c*	S.O.F.	U_{iso}, Å^2
Ni(1)	8*g*	1/2	1/2	0.41082(10)	1	0.0187(7)
Ni(2)	2*b*	1/2	1/2	1/2	1	0.0174(9)
Ni(3)	4*e*	1/2	1/2	0.1897(4)	0.397(16)	0.024(3)
Ga	2*a*	0	0	1/2	1	0.0184(8)
Te	4*e*	1/2	1/2	0.32036(6)	1	0.0190(6)