

Supplementary information for

TAGS-related indium compounds and their thermoelectric properties – the solid solution series $(\text{GeTe})_x\text{AgIn}_y\text{Sb}_{1-y}\text{Te}_2$ ($x = 1 - 12$; $y = 0.5, 1$)

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Table S1 Results of the SEM-EDX analyses (averaged from 5 - 15 point analyses per sample) of $(\text{GeTe})\text{AgInTe}_2$, $(\text{GeTe})_5\text{AgInTe}_2$, $(\text{GeTe})_{5.5}\text{AgInTe}_2$, $(\text{GeTe})_7\text{AgInTe}_2$ and $(\text{GeTe})_{12}\text{AgInTe}_2$.

sample	atom-% calc.	atom-% found
$(\text{GeTe})\text{AgInTe}_2$	Ge: 16.7; Ag: 16.7; In: 16.7; Te: 50.0	Ge: 17.9(4); Ag: 16.0(4); In: 16.5(4); Te: 49.6(6)
$(\text{GeTe})_5\text{AgInTe}_2$	Ge: 35.7; Ag: 7.1; In: 7.1; Te: 50.0	Ge: 36.0(14); Ag: 7.2(4); In: 7.3(4); Te: 50(1)
$(\text{GeTe})_{5.5}\text{AgInTe}_2$	Ge: 36.7; Ag: 6.7; In: 6.7; Te: 50.0	Ge: 37.1(15); Ag: 6.5(4); In: 6.9(4); Te: 49.5(8)
$(\text{GeTe})_7\text{AgInTe}_2$	Ge: 38.9; Ag: 5.6; In: 5.6; Te: 50.0	Ge: 39.7(16); Ag: 5.5(5); In: 5.4(6); Te: 49.4(8)
$(\text{GeTe})_{12}\text{AgInTe}_2$	Ge: 42.9; Ag: 3.6; In: 3.6; Te: 50.0	Ge: 44(1); Ag: 3.2(7); In: 3.6(4); Te: 49.3(7)

Table S2 Results of the SEM-EDX analyses (averaged from 5 - 15 point analyses per sample) of $(\text{GeTe})\text{AgIn}_{0.5}\text{Sb}_{0.5}\text{Te}_2$, $(\text{GeTe})_5\text{AgIn}_{0.5}\text{Sb}_{0.5}\text{Te}_2$, $(\text{GeTe})_{5.5}\text{AgIn}_{0.5}\text{Sb}_{0.5}\text{Te}_2$, $(\text{GeTe})_7\text{AgIn}_{0.5}\text{Sb}_{0.5}\text{Te}_2$ and $(\text{GeTe})_{12}\text{AgIn}_{0.5}\text{Sb}_{0.5}\text{Te}_2$

sample	atom-% calc.	atom-% found
$(\text{GeTe})\text{AgIn}_{0.5}\text{Sb}_{0.5}\text{Te}_2$	Ge: 16.7; Ag: 16.7; Sb: 8.3; In: 8.3; Te: 50.0	Ge: 17.3(7); Ag: 16.2(5); Sb: 9.0(6); In: 8.0(5); Te: 49.6(4)
$(\text{GeTe})_5\text{AgIn}_{0.5}\text{Sb}_{0.5}\text{Te}_2$	Ge: 35.7; Ag: 7.1; Sb: 3.6; In: 3.6; Te: 50.0	Ge: 37.7(9); Ag: 6.6(1); Sb: 3.9(4); In: 3.3(3); Te: 48.5(7)
$(\text{GeTe})_{5.5}\text{AgIn}_{0.5}\text{Sb}_{0.5}\text{Te}_2$	Ge: 36.7; Ag: 6.7; Sb: 3.3; In: 3.3; Te: 50.0	Ge: 37.1(1); Ag: 6.5(5); Sb: 3.5(1); In: 3.3(1); Te: 49.6(5)
$(\text{GeTe})_7\text{AgIn}_{0.5}\text{Sb}_{0.5}\text{Te}_2$	Ge: 38.9; Ag: 5.6; Sb: 2.8; In: 2.8; Te: 50.0	Ge: 40(1); Ag: 5.2(4); Sb: 2.9(4); In: 2.7(3); Te: 48.9(9)
$(\text{GeTe})_{12}\text{AgIn}_{0.5}\text{Sb}_{0.5}\text{Te}_2$	Ge: 42.9; Ag: 3.6; In: 1.8; Sb: 1.8 Te: 50.0	Ge: 41.8(9); Ag: 3.8(3); In: 1.9(3); Sb: 2.2(5) Te: 50.3(7)

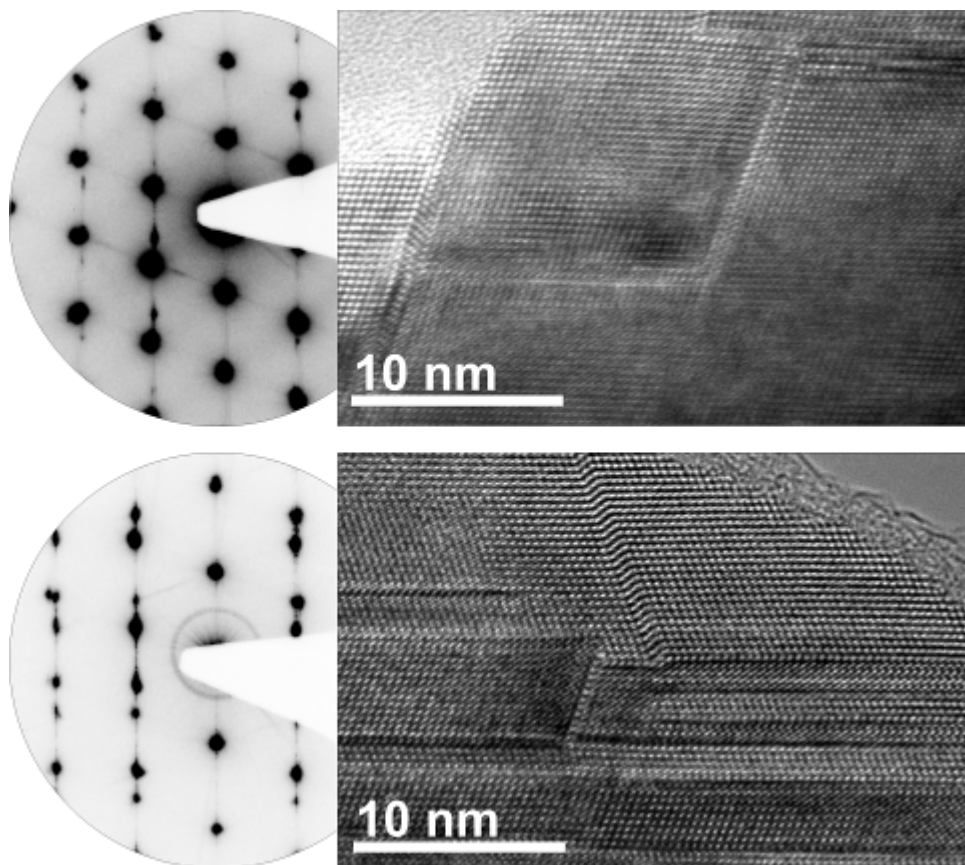


Fig. S1 HRTEM images (right) and the corresponding SAED patterns (left) of crystal areas with dislocations and twin domains: $(\text{GeTe})_{5.5}\text{AgIn}_{0.5}\text{Sb}_{0.5}\text{Te}_2$ (top) and $(\text{GeTe})_7\text{AgIn}_{0.5}\text{Sb}_{0.5}\text{Te}_2$ (bottom).