**Stress/Pressure-Stabilized Cubic Polymorph of Li$_3$Sb with Improved Thermoelectric Performance**

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**Figure S1.** Experimental XRD patterns (Cu Kα) of as synthesized (ball milled) powder (black) and hot pressed (red) Li$_3$Sb samples along with the data after Seebeck measurement (blue). Ticks mark the calculated reflection positions of the c-Li$_3$Sb.
Figure S2. DSC/TG diagrams of c-Li$_3$Sb (scanning rate 10 K min$^{-1}$) showing an endothermic peak at $T_{\text{onset}} \approx 450$ K and an exothermic peak at $T_{\text{onset}} \approx 620$ K and $T_{\text{peak}} \approx 633$ K.

Figure S3. Experimental XRD patterns (Cu Ka) of as synthesized c-Li$_3$Sb powder (black), c-Li$_3$Sb annealed at 650 K for 4d (blue), and c-Li$_3$Sb after the DSC/TG measurement. Black and red ticks mark the calculated reflection positions of the c-Li$_3$Sb and h-Li$_3$Sb, respectively.
**Figure S4.** Experimental XRD patterns (Cu Kα) of as synthesized powder (black), hot pressed (red), and SPS-ed (green) Li$_3$Sb samples. Black and red ticks mark the calculated reflection positions of the c-Li$_3$Sb and h-Li$_3$Sb, respectively.
Figure S5. Experimental XRD patterns (Cu Kα) of as synthesized powder (with Kapton foil) and air exposed Li$_3$Sb samples. Each scan corresponds to about 15 minutes of exposure (red, blue, and pink) and an overnight exposure (green). Ticks mark the calculated reflection positions of the c-Li$_3$Sb.
Figure S6. Temperature dependence of the total thermal conductivity of hot pressed (sample 1 and sample 2) and SPS treated (green) Li₃Sb samples.