

SUPPORTING INFORMATION

Thermomechanical stresses in silicon chips for optoelectronic devices

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Raman shift of the A_AuSn Sample at increasing and decreasing temperatures

The Raman shift has been measured in the central position [6,6] of the sample, at -50, -40, -20, 0, 20, 50, 80, 110, 140, 180°C, using two different thermal processes: heating the sample, i.e. increasing the temperature (@ raising T in Table S1), and cooling the sample, i.e. decreasing the temperature (@ lowering T in Table S1).

Table S1. Comparison between results acquired at position [6,6] of the A_AuSn sample at increasing (from -50 to 180°C) and at decreasing (from 180 to -50°C) temperature. FWHM: full width at half maximum.

Temperature [°C]	@ raising T		@ lowering T	
	Raman shift [cm ⁻¹]	FWHM [cm ⁻¹]	Raman shift [cm ⁻¹]	FWHM [cm ⁻¹]
-50	523.06 ± 0.07	8.20 ± 0.23	523.06 ± 0.07	8.20 ± 0.23
-40	522.72 ± 0.07	8.15 ± 0.22	522.76 ± 0.07	8.39 ± 0.24
-20	522.09 ± 0.07	8.41 ± 0.23	522.08 ± 0.08	8.79 ± 0.26
0	521.41 ± 0.07	8.52 ± 0.24	521.47 ± 0.07	8.66 ± 0.24
20	520.74 ± 0.07	8.48 ± 0.20	520.64 ± 0.06	8.48 ± 0.20
50	519.78 ± 0.06	8.58 ± 0.21	519.45 ± 0.05	8.98 ± 0.22
80	518.80 ± 0.06	8.71 ± 0.19	518.45 ± 0.05	9.00 ± 0.19
110	517.85 ± 0.05	8.74 ± 0.17	517.77 ± 0.04	8.51 ± 0.15
140	516.87 ± 0.04	8.67 ± 0.13	516.87 ± 0.04	8.57 ± 0.13
180	515.67 ± 0.04	8.70 ± 0.12	515.67 ± 0.04	8.57 ± 0.13