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Structural and functional modifications induced by X-ray nanopatterning in Bi-2212 single crystals

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(Article begins on next page)

SUPPLEMENTARY INFORMATION FOR
Structural and functional modifications induced by X-ray
nanopatterning in Bi-2212 single crystals

by

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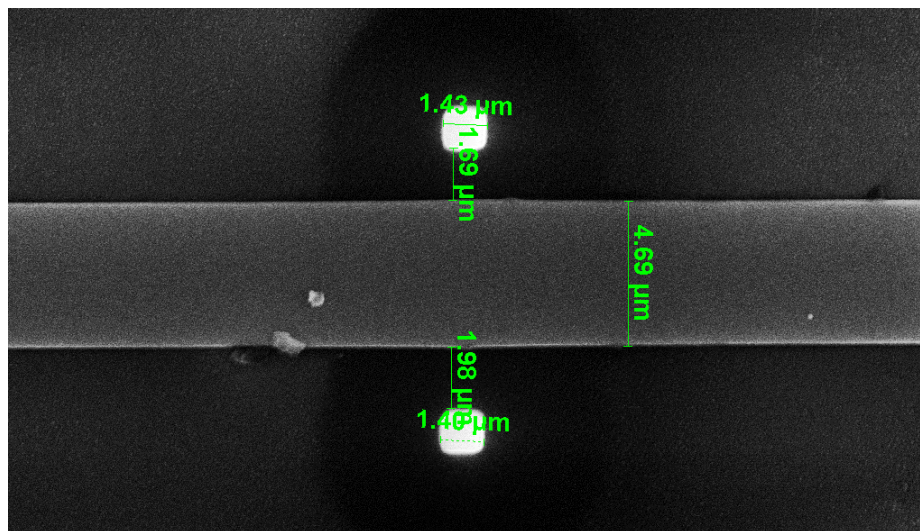


Figure S1: Central region of the mounted-on-chip Bi-2212 crystal before irradiation. The two bright squares represent the Pt markers. Relevant sizes are also reported.

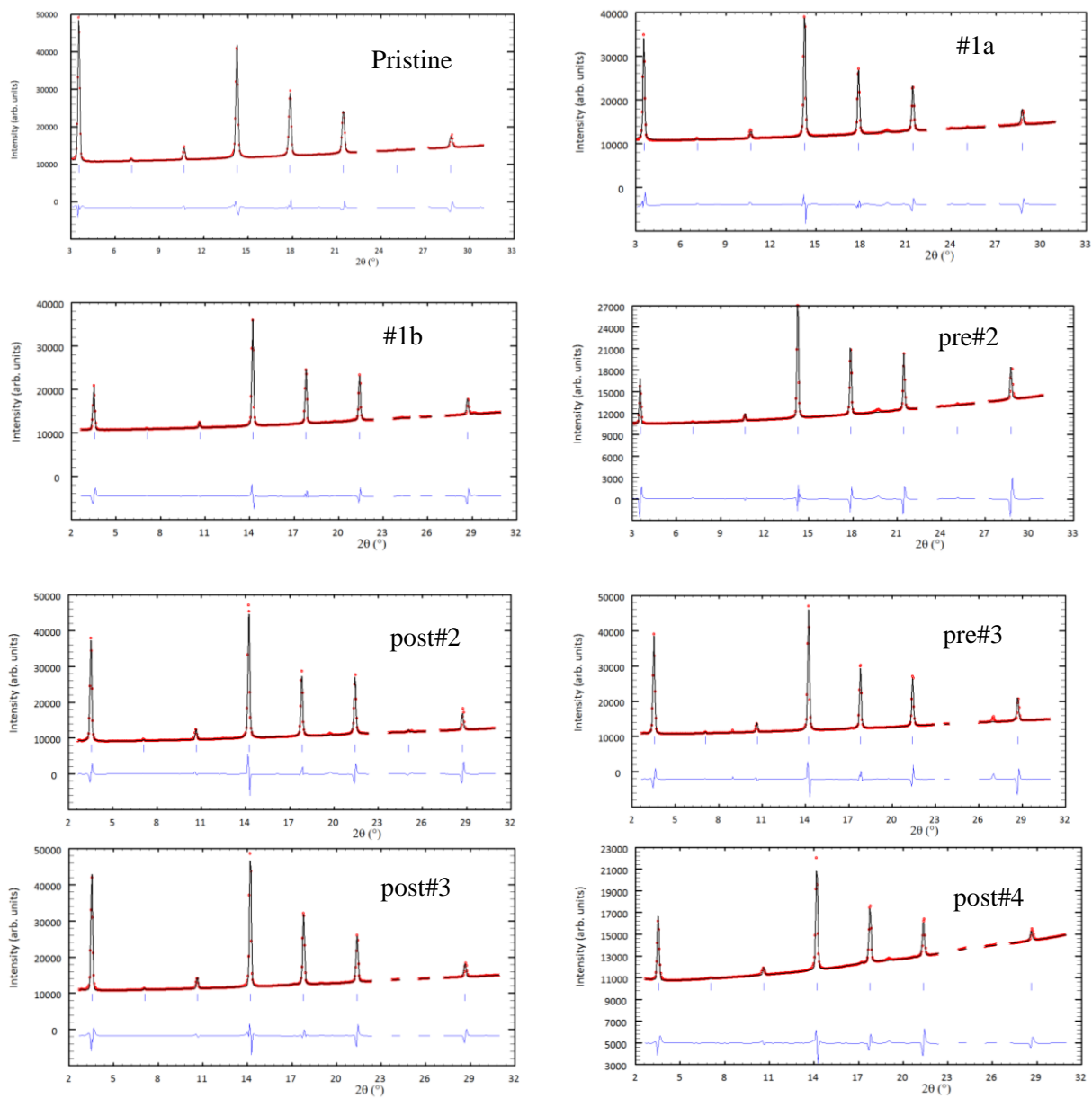


Figure S2: Graphical representation of Le Bail fit on the integrated data

	zero	W	X	SL
Pristine	-0.61E-02(+/-0.65E-03)	0.21E-01(+/-0.34E-03)	0.30 (+/-0.10E-01)	0.10E-01(+/-0.33E-04)
Post Irradiation #1a	-0.15E-01(+/-0.12E-02)	0.10E-01(+/-0.80E-03)	0.30 (+/-0.21E-01)	0.11E-01(+/-0.14E-03)
Post Irradiation #1b	-0.85E-02(+/-0.14E-02)	0.98E-02(+/-0.72E-03)	0.52E-01(+/-0.23E-01)	0.12E-01(+/-0.13E-03)
Pre Irradiation # 2	0.87E-02(+/-0.16E-02)	0.95E-02(+/-0.85E-03)	0.21 (+/-0.25E-01)	0.17E-01(+/-0.30E-03)
Post Irradiation # 2	0.31E-02(+/-0.22E-02)	0.96E-02(+/-0.74E-03)	0.25 (+/-0.31E-01)	0.21E-01(+/-0.48E-03)
Pre Irradiation # 3	0.43E-02(+/-0.19E-02)	0.99E-02(+/-0.91E-03)	0.23 (+/-0.27E-01)	0.18E-01(+/-0.42E-03)
Post Irradiation # 3	-0.19E-01(+/-0.11E-02)	0.19E-01(+/-0.55E-03)	0.14 (+/-0.18E-01)	0.99E-02(+/-0.51E-04)
Post Irradiation # 4	-0.68E-02(+/-0.22E-02)	0.22E-01(+/-0.11E-02)	0.17 (+/-0.15E-01)	0.98E-02(+/-0.74E-04)

Table ST1: profile parameters for Le Bail fit

	Rp	Rwp	Rexp	Chi2
Pristine	12.4	9.71	3.96	3.96
Post Irradiation #1a	21.3	15.9	6.67	6.67
Post Irradiation #1b	18.9	16.5	8.14	8.14
Pre Irradiation # 2	20.9	19.4	14.8	14.8
Post Irradiation # 2	22.7	19.0	5.65	5.65
Pre Irradiation # 3	22.5	20.9	15.0	15.0
Post Irradiation # 3	20.0	17.5	11.6	11.6
Post Irradiation # 4	33.2	23.0	2.40	: 2.40

Table ST2: Agreement factors for all the fits

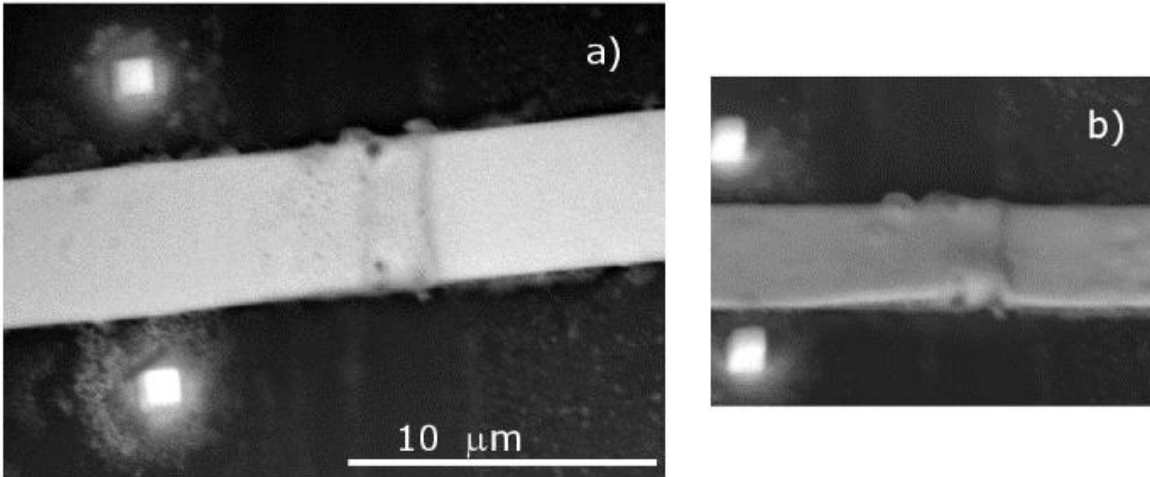


Figure S3: SEM image of the central region of the mounted-on-chip Bi-2212 crystal after irradiation #3 ($CF=23.031 \times 10^{11} \text{ J/m}^2$). a) Top view; b) 45°-tilted view. The length scale refers to both panels.