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Supporting information

Thermal Conductivity Reduction by Nanostructuration in Electrodeposited CuNi Alloys

Cristina V. Manzano[1,2*], Olga Caballero-Calero[2], Maxime Tranchant[1],

Enrico Bertero[1], Pablo Cervino-Solana[2], Marisol Martín-González[2], Laetitia Philippe[1]

[1] *Empa, Swiss Federal Laboratories for Materials Science and Technology, Laboratory for Mechanics of Materials and Nanostructures, Feuerwerkerstrasse 39, CH-3602 Thun, Switzerland*

[2] *Instituto de Micro y Nanotecnología, IMN-CNM, CSIC (CEI UAM+CSIC) Isaac Newton, 8, E-28760, Tres Cantos, Madrid, Spain*

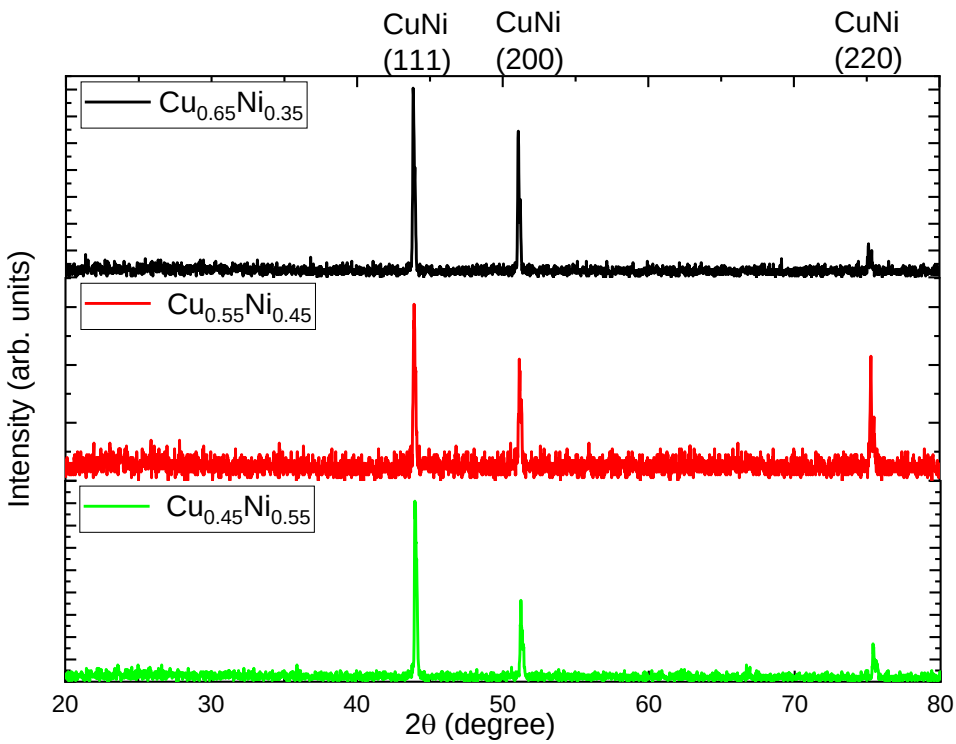

Fig. S1. X-ray diffractograms of CuNi alloy with different compositions after the thermoelectric measurements, σ and S, up to 800 ºC.

Table S1. Harris texture coefficient, standard deviation, FWHM, and crystalline size of CuNi alloys with different compositions after the thermoelectric measurements, σ and S, up to 800 ºC.

Composition	Peak (*hkl*)	Intensity XRD	Intensity JCPDS	Texture coefficient ($TC_{(hkl)}$)	Standard deviation(σ)	FWHM (111)	Crystallite size (nm)
$Cu_{0.65}Ni_{0.35}$	111	140	100	0.86	0.35	0.16	91
	200	109	45	1.48			
	220	25	23	0.66			
$Cu_{0.55}Ni_{0.45}$	111	61	100	0.54	0.47	0.21	73
	200	42	45	0.82			
	220	43	23	1.64			
$Cu_{0.45}Ni_{0.55}$	111	172	100	1.12	0.08	0.18	83
	200	64	45	0.92			
	220	34	23	0.96			

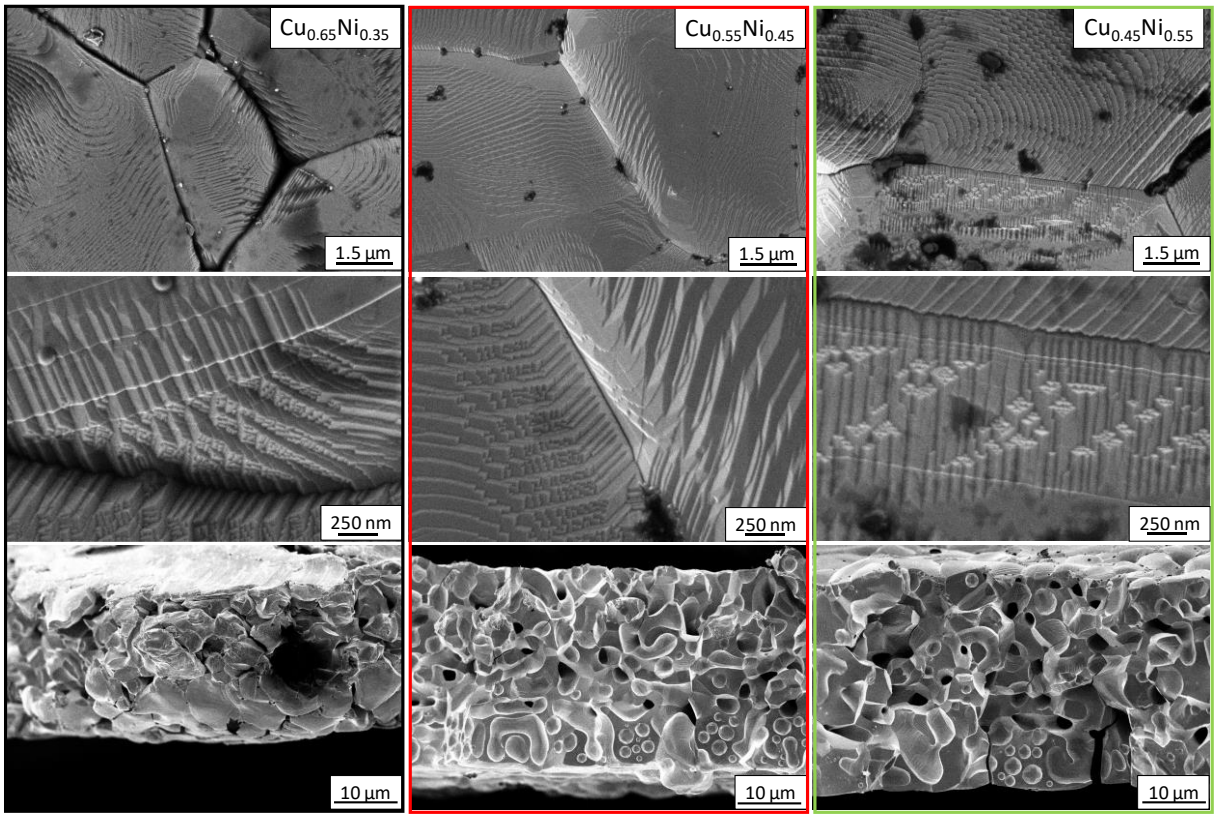

Fig. S2. FE-SEM micrographs top view of CuNi alloys with different compositions after the thermoelectric measurements, σ, and S, up to 800 ºC.

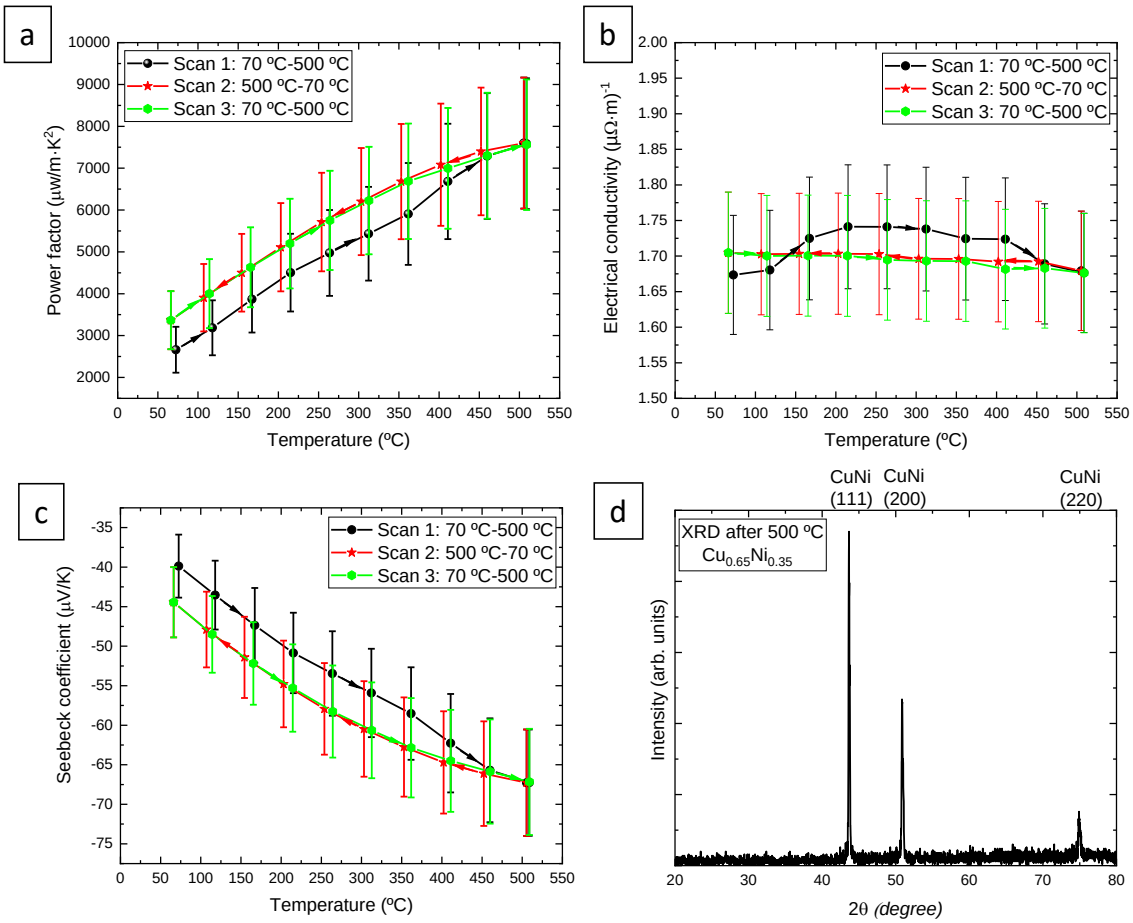

Fig. S3. Thermoelectric properties of nanocrystalline $Cu_{0.65}Ni_{0.35}$ up to 500 ºC. (a) Power factor, (b) Electrical conductivity, (c) Seebeck coefficient, and (d) X-ray diffractograms of $Cu_{0.65}Ni_{0.35}$ after the thermoelectric measurements, σ, and S, up to 500 ºC.

Table S2. Harris texture coefficient, standard deviation, FWHM, and crystalline size of $Cu_{0.65}Ni_{0.35}$ after the thermoelectric measurements, σ and S, up to 500 ºC.

Composition	Peak (*hkl*)	Intensity XRD	Intensity JCPDS	Texture coefficient ($TC_{(hkl)}$)	Standard deviation(σ)	FWHM (111)	Crystallite size (nm)
$Cu_{0.65}Ni_{0.35}$	111	235	100	1.06	0.19	0.33	53
	200	118	45	1.19			
	220	38	23	0.75			