

Enhanced features of Li_2CO_3 sputtered thin films induced by thickness and annealing time.

Lander Rojo,^{*a,b} Irene Castro-Hurtado,^{a,b} Maria C. Morant-Miñana,^b Gemma García Mandayo,^{a,b} and Enrique Castaño^{a,b}

Received Xth XXXXXXXXXXXX 20XX, Accepted Xth XXXXXXXXXXXX 20XX

First published on the web Xth XXXXXXXXXXXX 200X

DOI: 10.1039/b000000x

1 Supporting Information Available

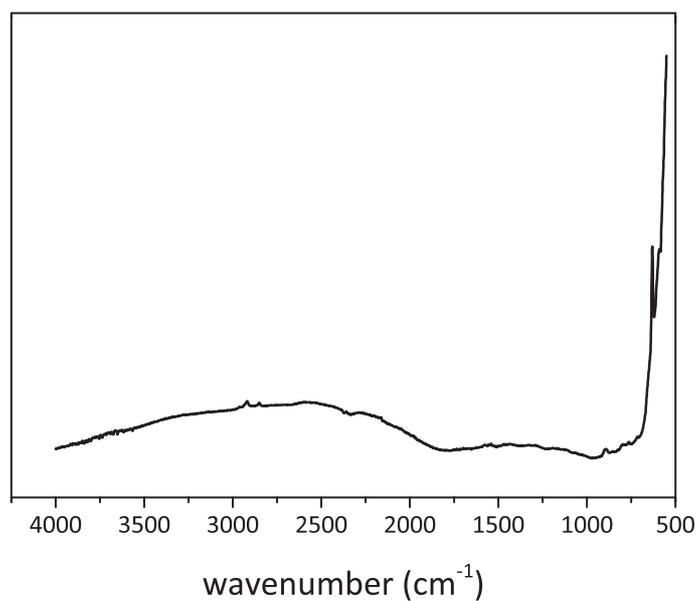


Fig. 1 IR spectra of Al_2O_3 substrate.

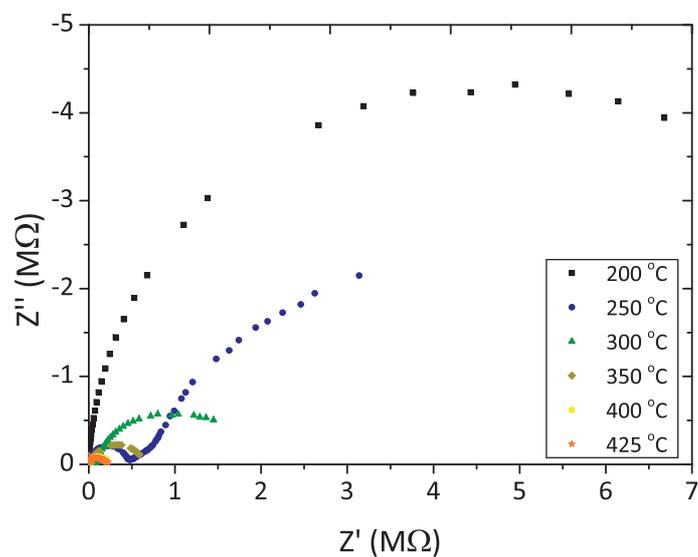


Fig. 2 The complete impedance spectra of Li_2CO_3 thin films.

Table 1 Impedance value obtained from a sample treated at $600\text{ }^\circ\text{C}$ during 2 h, 6 h, 12 h and 18 h.

Test Temperature ($^\circ\text{C}$)	C (F) 2 h	C (F) 6 h	C (F) 12 h	C (F) 18 h
200	2.88×10^{-11}	2.93×10^{-11}	2.80×10^{-11}	3.17×10^{-11}
250	2.60×10^{-11}	2.70×10^{-11}	2.59×10^{-11}	2.77×10^{-11}
300	2.47×10^{-11}	2.59×10^{-11}	2.35×10^{-11}	2.74×10^{-11}
350	2.14×10^{-11}	2.50×10^{-11}	2.92×10^{-11}	2.46×10^{-11}
400	2.32×10^{-11}	2.81×10^{-11}	2.25×10^{-11}	3.32×10^{-11}
425	2.04×10^{-11}	3.87×10^{-11}	2.75×10^{-11}	2.36×10^{-11}

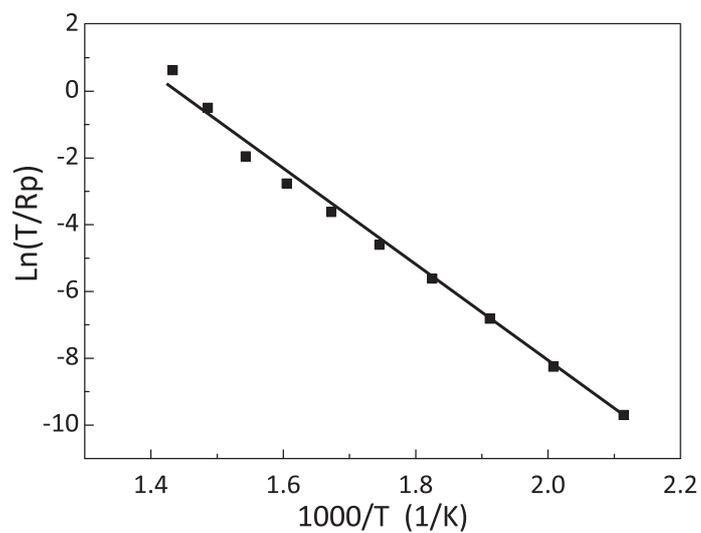


Fig. 3 Arrhenius plot of Li_2CO_3 samples annealed at $600\text{ }^\circ\text{C}$ during 18 hours. The continuous line represent the performed linear fitting to calculate the activation energy of this sample.

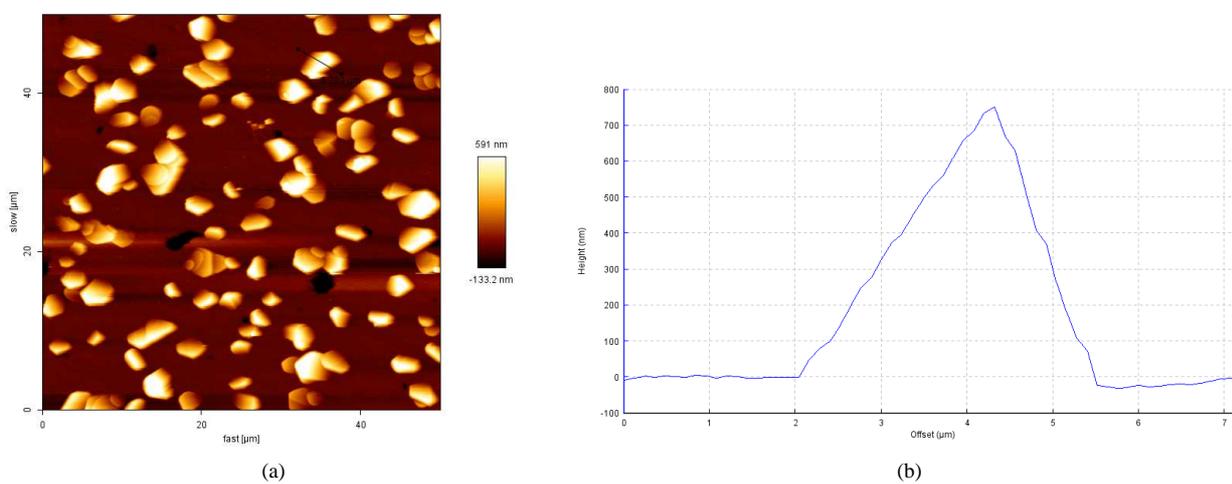


Fig. 4 (a) Height image and (b) cross section of a sample treated during 2 hours at $600\text{ }^\circ\text{C}$.

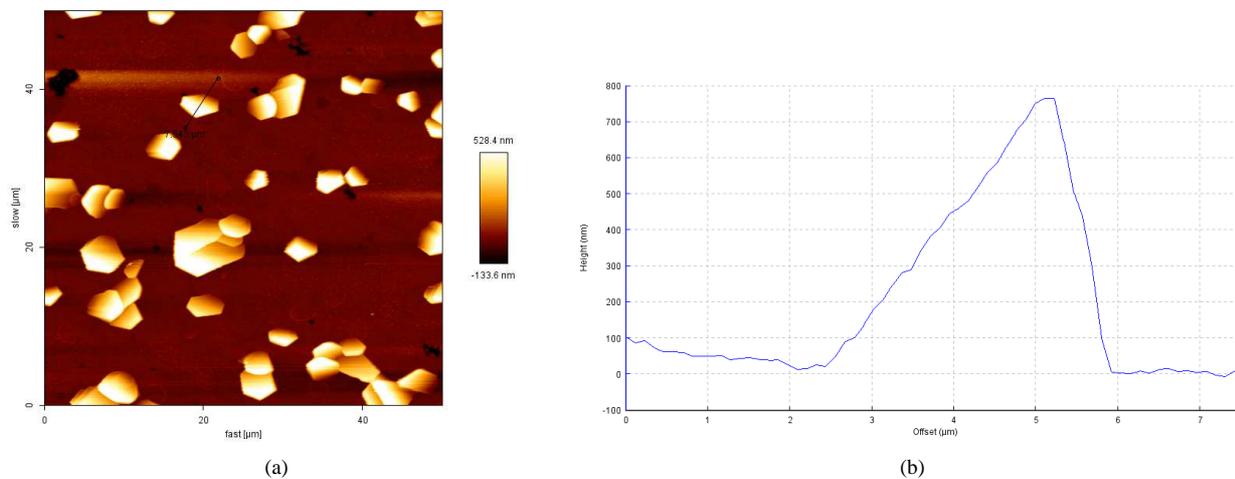


Fig. 5 (a) Height image and (b) cross section of a sample treated during 6 hours at 600 °C.

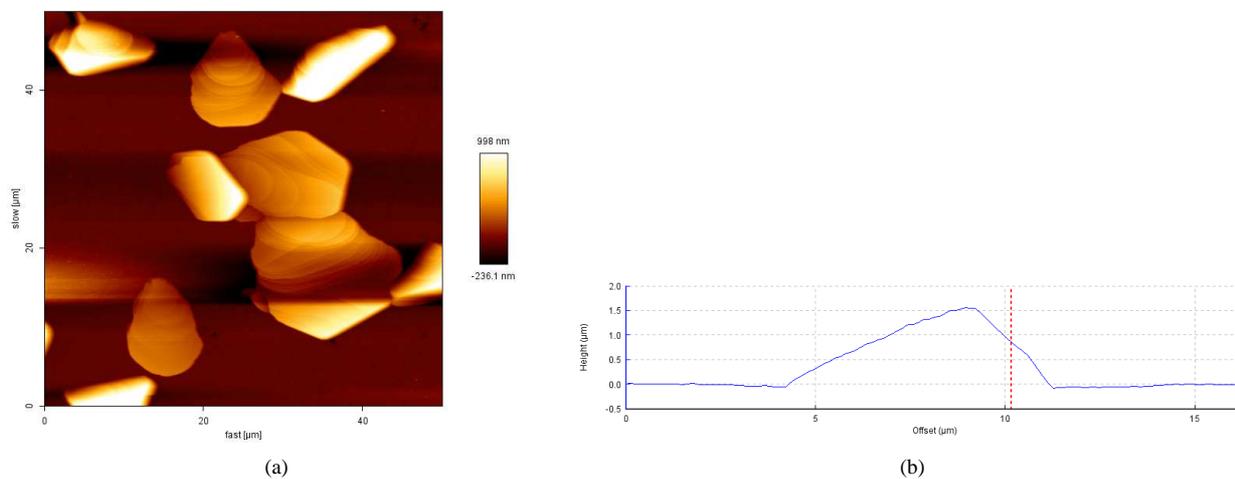


Fig. 6 (a) Height image and (b) cross section of a sample treated during 12 hours at 600 °C.

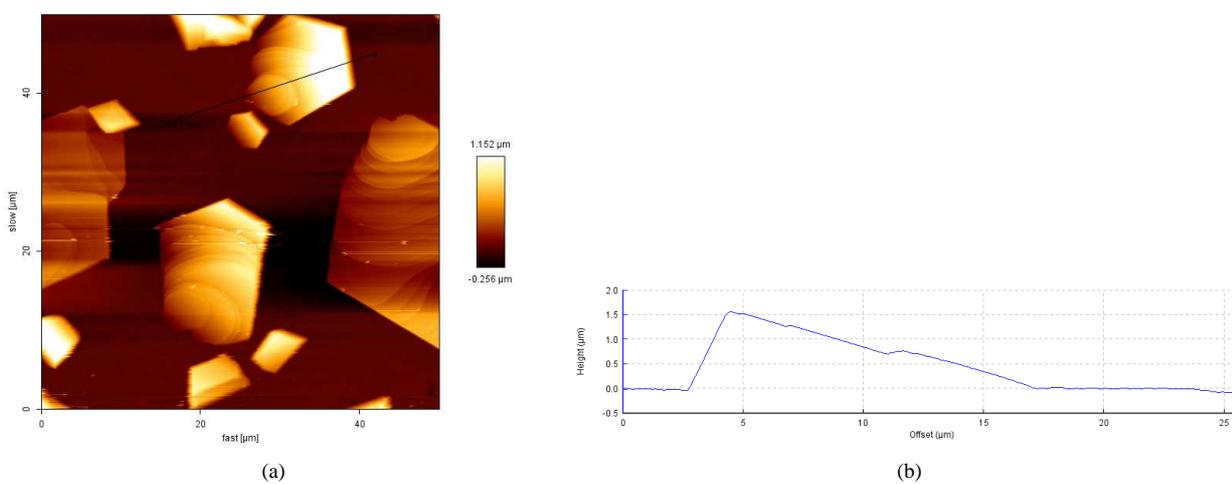


Fig. 7 (a) Height image and (b) cross section of a sample treated during 18 hours at 600 °C.