

SUPPORTING INFORMATION FILE

From He charged solid-gas nanocomposite to nano-porous films: Microstructure and composition evolution for different matrix elements during thermal annealing in vacuum.

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Fig. 1s: Representative X-ray diffractograms for samples **1**. Co:He-RF (left) and **2**. Si:He-DC (right).
(a) The cobalt sample show the characteristic diffraction peaks for a crystalline film.
(b) For the silicon sample the lines show the position where the diffraction of the Si [111] planes should appear. The film appears amorphous.

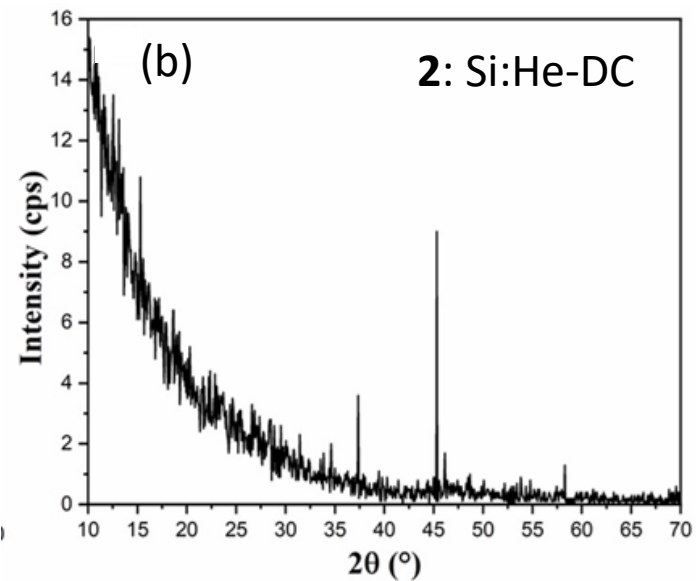
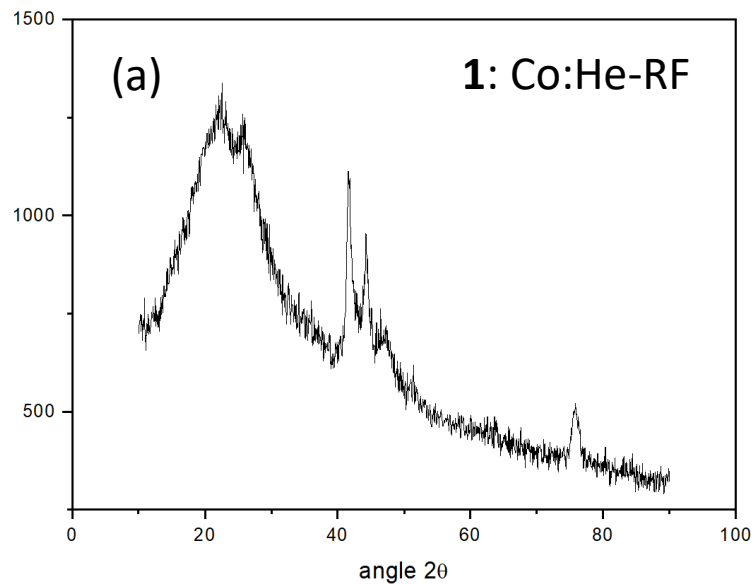


Fig. 2s: Cross section SEM images of representative areas of sample **2**: Si:He-DC after annealing. Blister formation is visualized. Blisters of different sizes were observed.

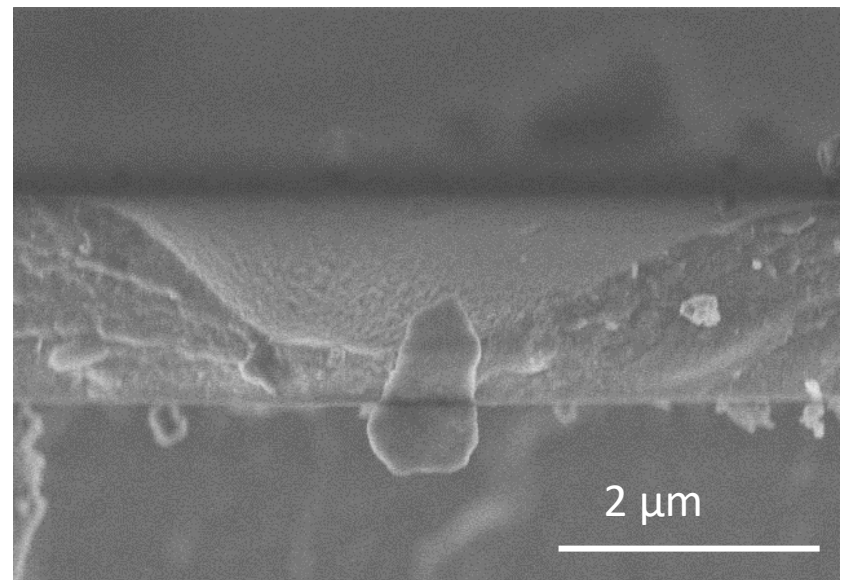
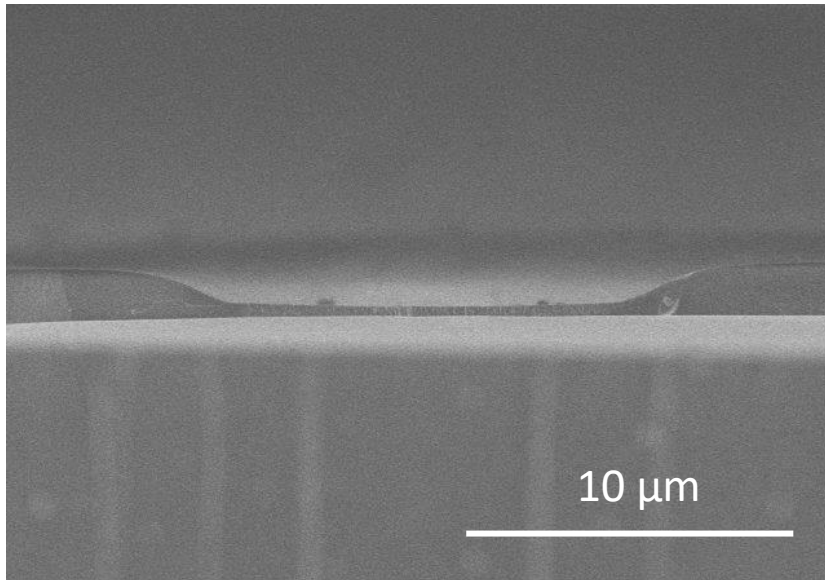


Fig. 3s: SEM-EDX analyses of sample 5. Zr:He-DC after annealing: (a) Top-view SEM image. (b) Representative EDX spectra at positions 1 and 2. (c) Zirconium and (d) Silicon EDX maps for the square area selected in (B).

