[Electronic supporting information]

**Ultra-low energy amorphization of contaminated silicon samples investigated by Molecular Dynamics**

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The manuscript was written through contributions of all authors. All authors have given approval to the final version of the manuscript.

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**Figure S5** Partial sputter yields for clusters with minimal sputter yields (O – O, H – H and O – H)

**ReaxFF Potential**

ReaxFF Potential: The force field parameters from the supporting information of J. Phys. Chem. C 2012, 116, 16111–16121 were also used in this study.

**Publication supplements**

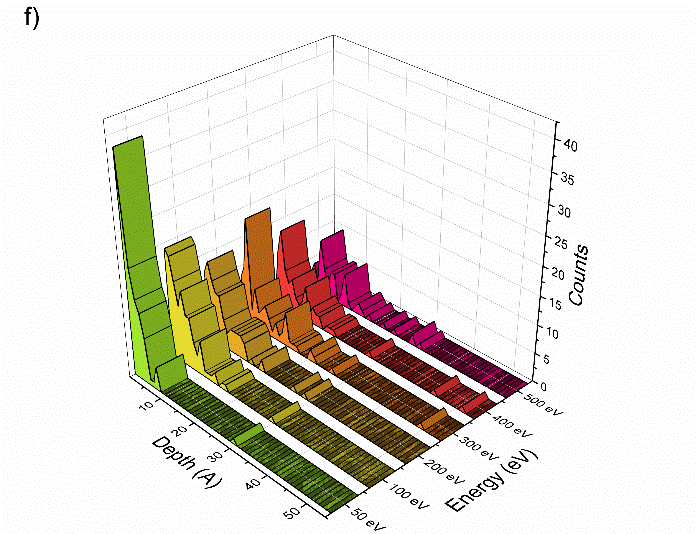
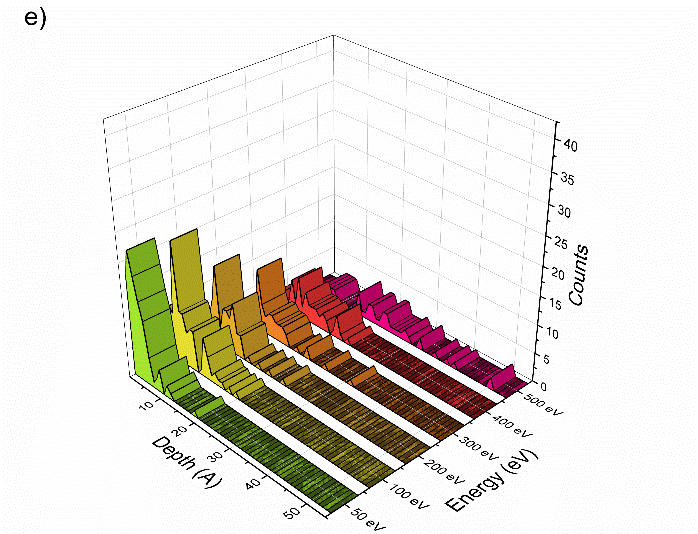
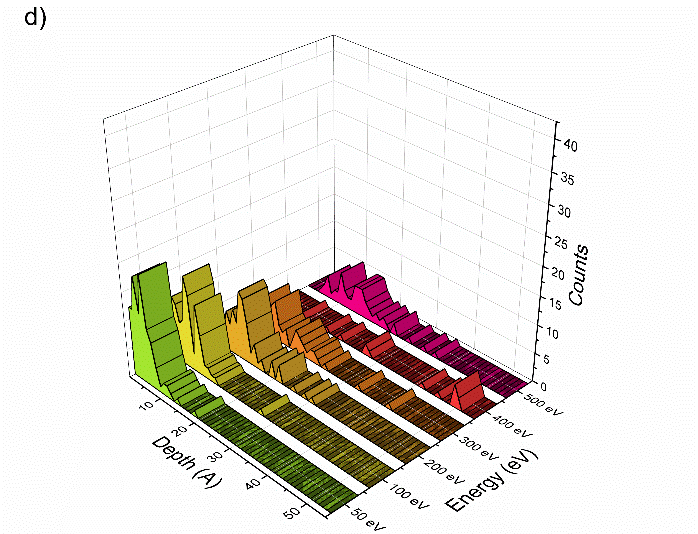
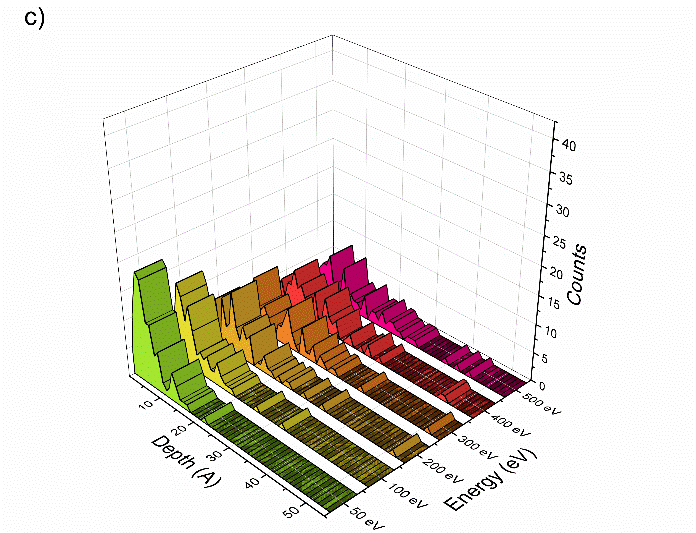
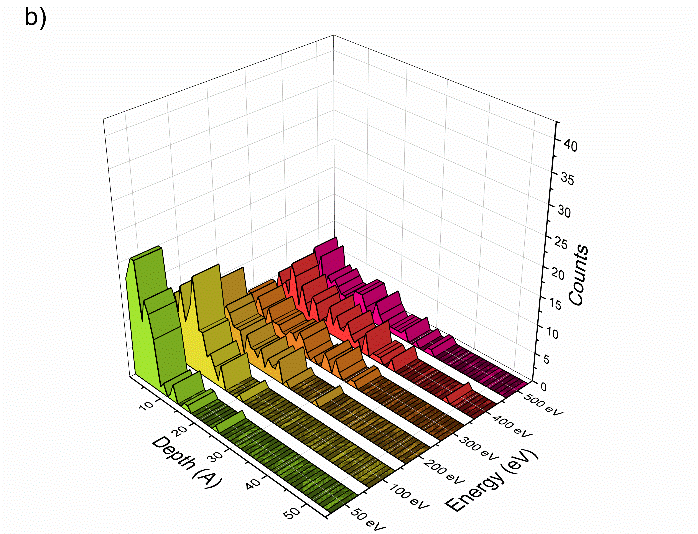
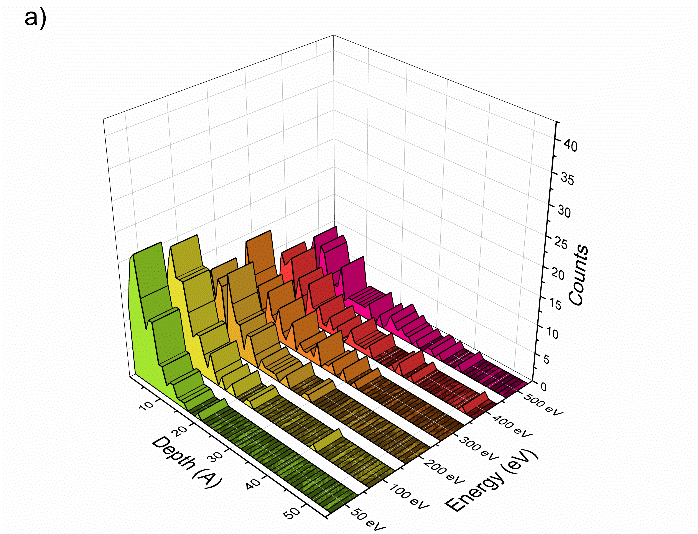




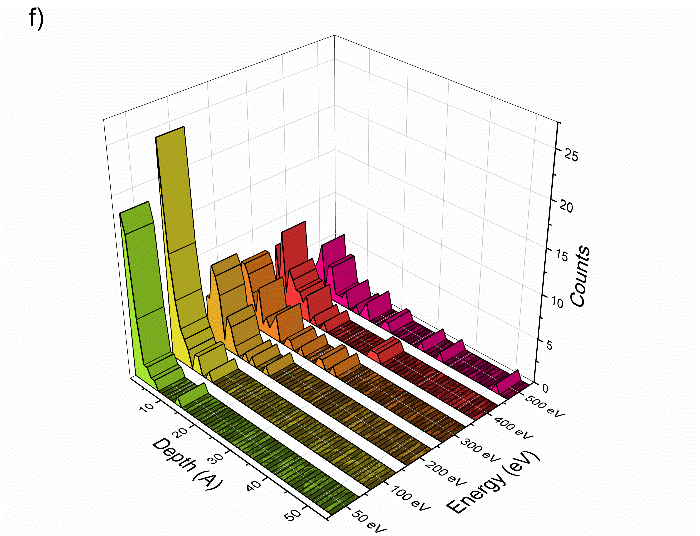
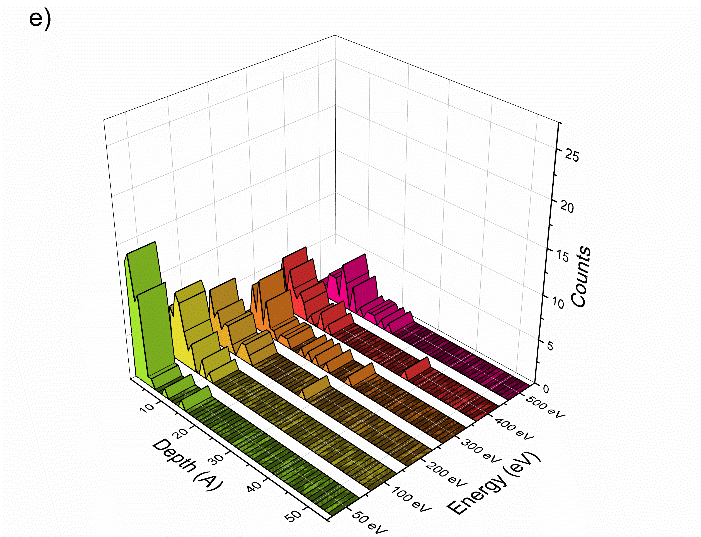
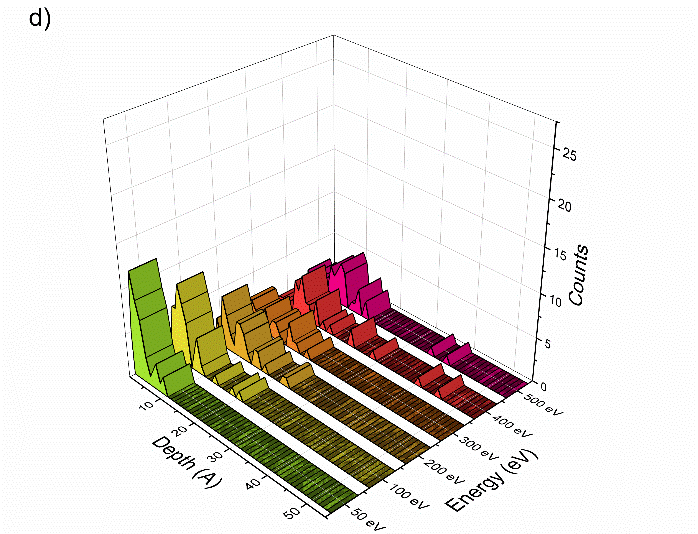
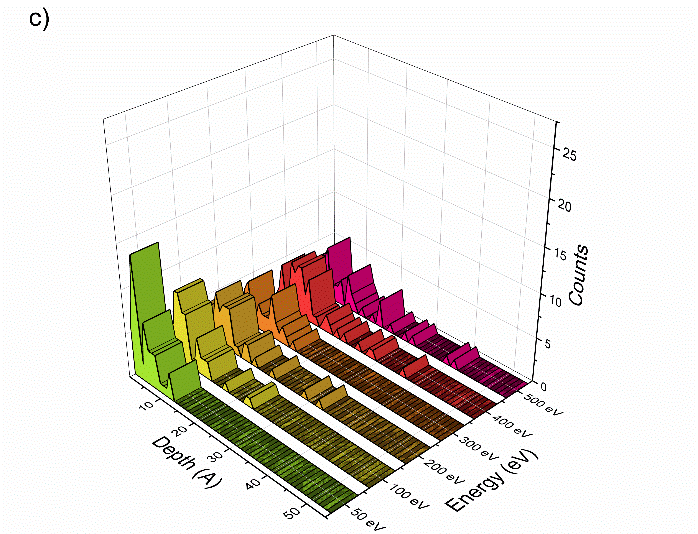
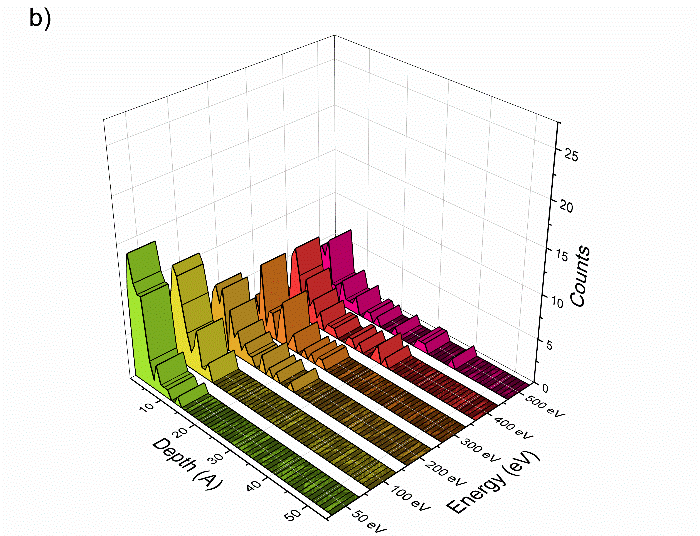
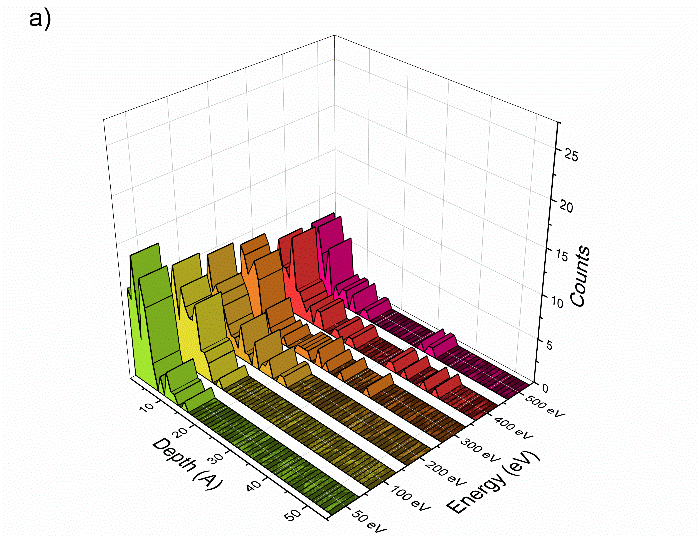
**Figure S1**: Evolution of the amorphization coefficient with respect to the incidence angle for a) 400 eV and b) 500 eV impact energies.

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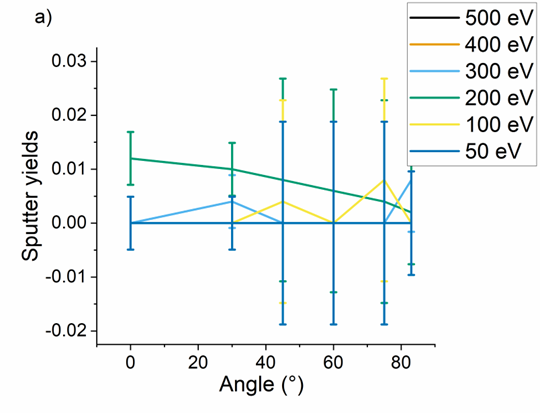
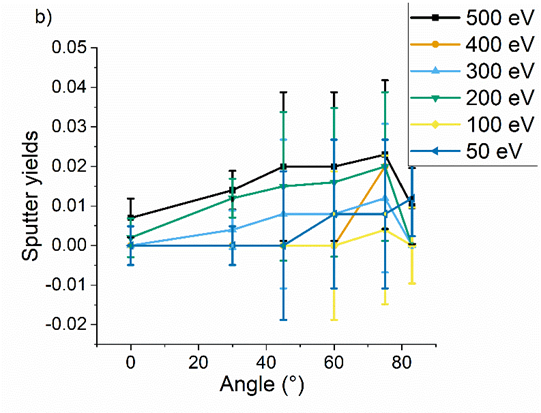
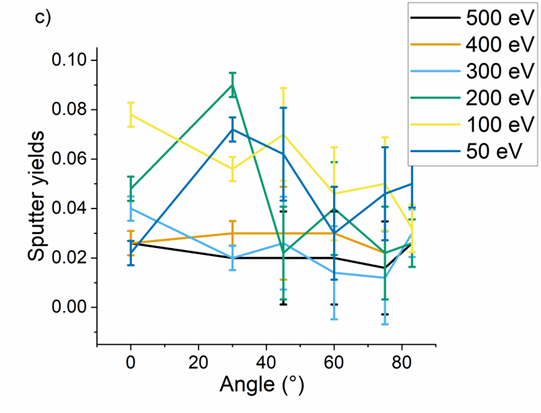
**Figure S2**: Evolution of the thickness of the crystalline slab for each energy with respect to the angle.



**Figure S3**: Implantation depths of oxygen for incidence angles of a) 0°, b) 30°, c) 45°, d) 60°, e) 75° and f) 83°. Each energy is displayed along the y axis, while the implantation depth is along the x and the number of counts is displayed along the z axis.



**Figure S4**: Implantation depths of hydrogen for incidence angles of a) 0°, b) 30°, c) 45°, d) 60°, e) 75° and f) 83°. Each energy is displayed along the y axis, while the implantation depth is along the x and the number of counts is displayed along the z axis.



**Figure S5**: Partial sputter yields particles clusters: a) oxygen - oxygen, b) hydrogen – hydrogen and c) hydrogen – oyxgen