Electronic Supplementary Material (ESI) for Physical Chemistry Chemical Physics.

Supplements for manuscript CP-ART-12-2013-055308 by Schmied et-al

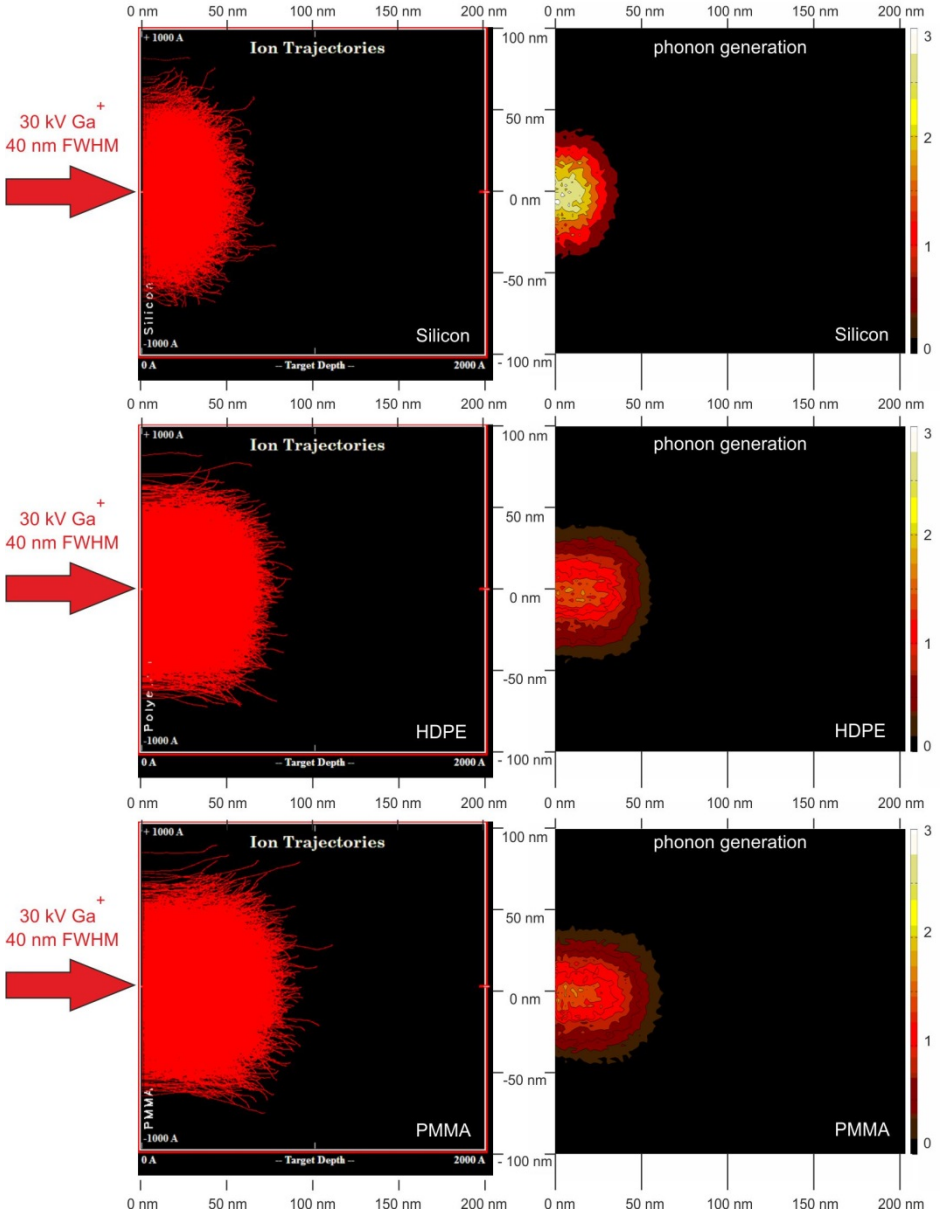

Fig. S 1: SRIM simulations of ion trajectories (left column) for Si (top row), HDPE (central row) and PMMA (bottom row) using 10000 30 kV Ga^+ ions with a Gaussian beam profile and a half max diameter of 40 nm. The right column gives the spatially resolved phonon generation as discussed in the main text and shown in Fig. 1b. All plots are given in scale to allow direct comparison.

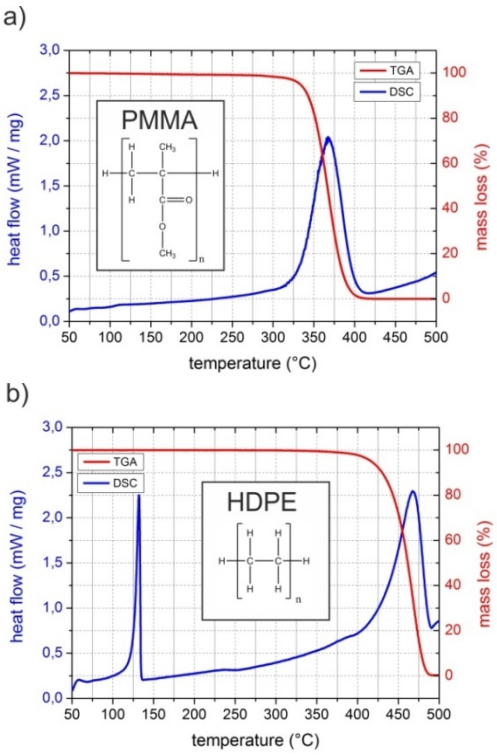

Fig. S 2: single side width around the lines which appear bright in the FIB images as a function of the used pixel dwell times, shown in Fig. 3. As can be seen the widths are widely constant and are attributed to typical redeposition around the single lines.

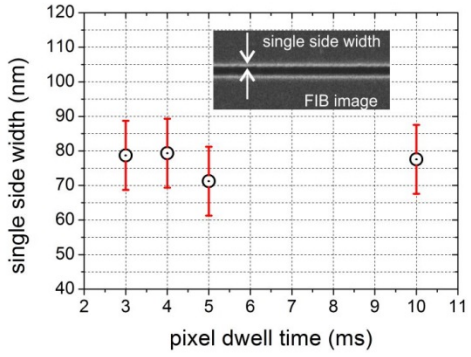

Fig. S 3: differential scanning calorimetry (blue curves, left axes) and thermogravimetric analyses (red curves, right axes) for PMMA (a) and HDPE (B) together with the chemical structures as inset.

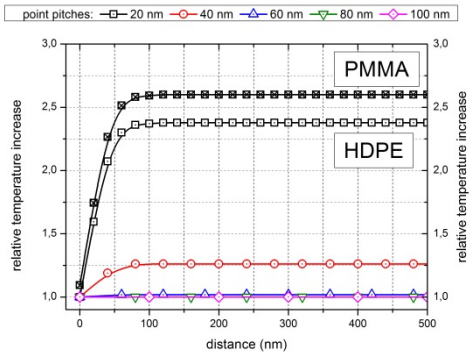

Fig. S 4: (a) temperature evolution along a HDPE single line (at the line center) during regular patterning for different point pitches. The upper black curve gives direct comparison to the PMMA results shown in Fig. 4a which reveals a very similar relative behavior although thermodynamic parameters are different (see Table 1).