Supporting Information

Table S1. Details of decondensation per cell Maximal decondensation and condensation as well as corresponding mean values and the width of the decondensed area for each evaluated cell. For the maximum values the corresponding time points are also given.

Irradiation with one cross					
# cell	Maximal decondensation in % (time point)	Mean maximal decondensation in % (± SEM)	Maximal condensation in % (time point)	Mean maximal condensation in % (± SEM)	Width of decondensed area in µm (± SEM)
1_1	15.1 (180s)	12.0 (±2.0)	7.7 (300s)	5.7 (±0.7)	2.70 (±0.20)
1_2	3.8 (420s)	2.4 (±0.6)	2.7 (420s)	1.7 (±0.4)	1.40 (±0.20)
1_3	7.7 (420s)	6.6 (±0.4)	2.6 (540s)	1.4 (±0.3)	2.94 (±0.05)
1_4	8.3 (540s)	5.9 (±0.8)	7.2 (0s)	4.5 (±0.8)	1.84 (±0.10)
1_5 (cell 3 in fig. 1)	6.1 (0s)	5.4 (±0.5)	10.4 (420s)	6.9 (±1.0)	1.70 (±0.20)
1_6	11.6 (15s)	10.1 (±0.8)	5.5 (540s)	2.1 (±0.8)	3.23 (±0.21)
1_7	9.7 (540s)	8.7 (±0.4)	4.6 (540s)	1.8 (±1.6)	2.91 (±0.14)
1_8	7.3 (540s)	5.4 (±0.7)	4.6 (540s)	4.1 (±0.4)	2.03 (±0.06)
1_9	9.2 (540s)	6.6 (±1.1)	9.5 (420s)	8.3 (±0.5)	2.00 (±0.14)
1_10	6.0 (540s)	4.9 (±0.6)	10.7 (420s)	8.9 (±0.7)	2.48 (±0.13)
1_11	10.9 (540s)	9.8 (±0.4)	15.0 (540s)	11.8 (±1.1)	2.14 (±0.02)
1_12	4.5 (540s)	3.5 (±0.3)	14.0 (300s)	12.1 (±0.6)	1.3 (±0.02)
1_13	6.0 (540s)	4.9 (±0.5)	8.6 (180s)	5.4 (±1.1)	1.5 (±0.22)
1_14	15.0 (540s)	7.9 (±1.8)	9.1 (180s)	6.8 (±0.5)	2.41 (±0.21)
1_15	8.5 (540s)	5.8 (±1.0)	6.7 (540s)	5.2 (±0.4)	2.45 (±0.07)
Irradiation with two crosses					
# cell	Maximal decondensation in % (time point)	Mean maximal decondensation in % (± SEM)	Maximal condensation in % (time point)	Mean maximal condensation in % (± SEM)	Width of decondensed area in µm (± SEM)
2_1	7.0 (540s)	6.0 (±0.4)	10.2 (300s)	7.6 (±0.9)	1.72 (±0.13)
2_2	9.7 (180s)	9.1 (±0.2)	17.5 (420s)	12.8 (±1.6)	1.75 (±0.04)
2_3	10.5 (300s)	8.1 (±0.7)	4.1 (420s)	2.0 (±0.5)	2.4 (±0.05)
2_4 (cell 6 in fig. 1)	18.3 (540s)	13.7 (±1.6)	4.6 (540s)	3.8 (±0.4)	3.3 (±0.19)
2_5	4.3 (420s)	3.3 (±0.3)	9.1 (300s)	7.8 (±0.6)	1.43 (±0.08)
2_6	12.7 (180s)	11.6 (±0.5)	7.9 (15s)	6.2 (±0.5)	3.38 (±0.06)
2_7	14.2 (15s)	13.2 (±0.4)	4.3 (540s)	2.0 (±0.7)	1.9 (±0.07)
2_8	10.9 (540s)	9.8 (±0.4)	15.0 (540s)	11.8 (±1.1)	2.14 (±0.02)
2_9	8.9 (540s)	5.7 (±1.0)	11.8 (0s)	10.8 (±0.3)	2.05 (±0.10)

Irradiation with three crosses					
# cell	Maximal decondensation in % (time point)	Mean maximal decondensation in % (± SEM)	Maximal condensation in % (time point)	Mean maximal condensation in % (± SEM)	Width of decondensed area in µm (± SEM)
3_1 (cell 10 in fig. 1)	14.7 (540s)	8.0 (±2.1)	13.3 (180s)	8.4 (±1.9)	2.61 (±0.60)
3_2	13.4 (180s)	7.8 (±1.6)	11.9 (0s)	8.1 (±1.1)	3.3 (±0.13)
3_3	6.9 (300s, 420s)	6.3 (±0.3)	9.1 (180s)	7.6 (±0.8)	1.72 (±0.08)
3_4	9.7 (15s)	9.0 (±0.3)	11.2 (540s)	7.9 (±0.9)	2.39 (±0.12)

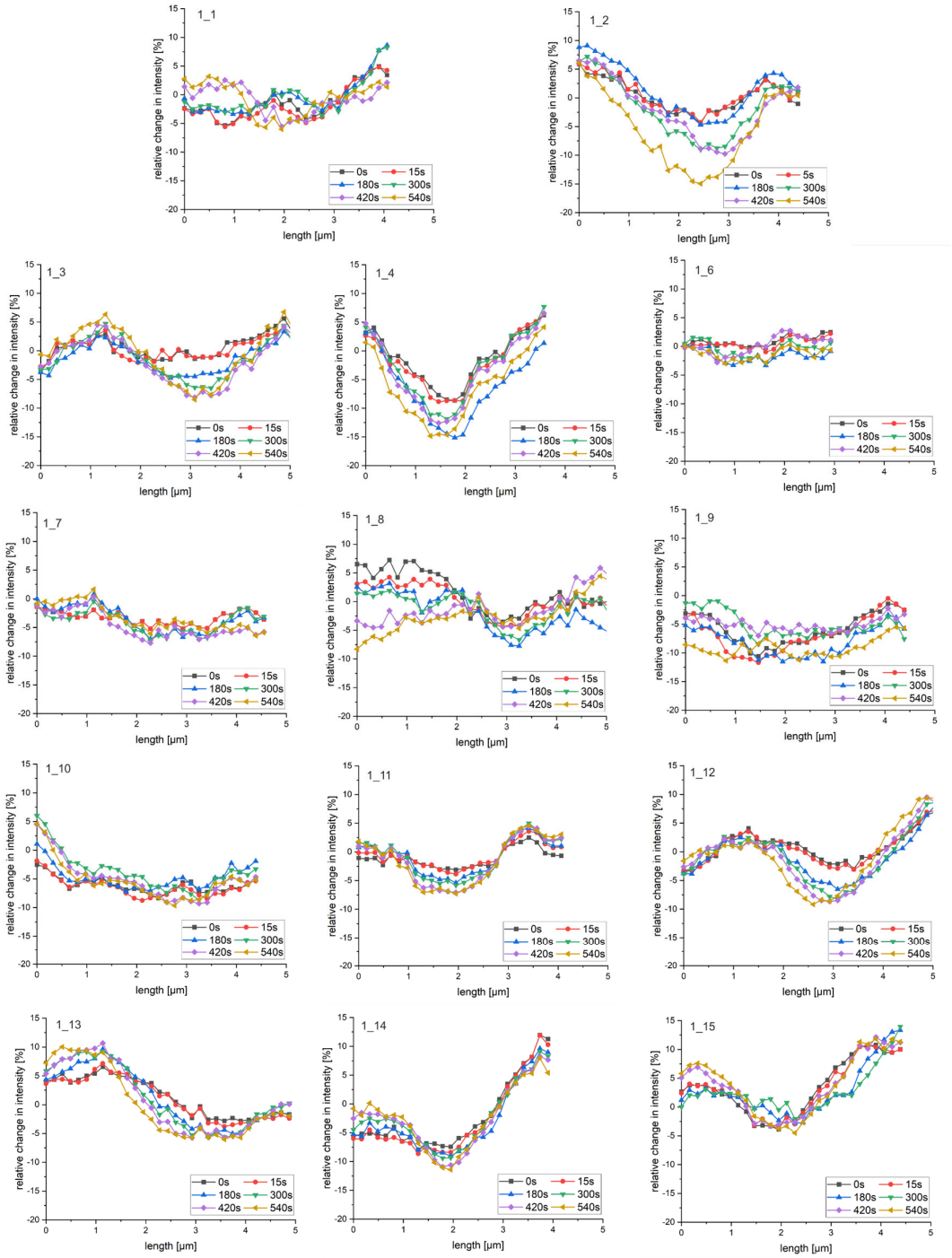

Figure S1. Intensity plots for the cells irradiated with one cross.

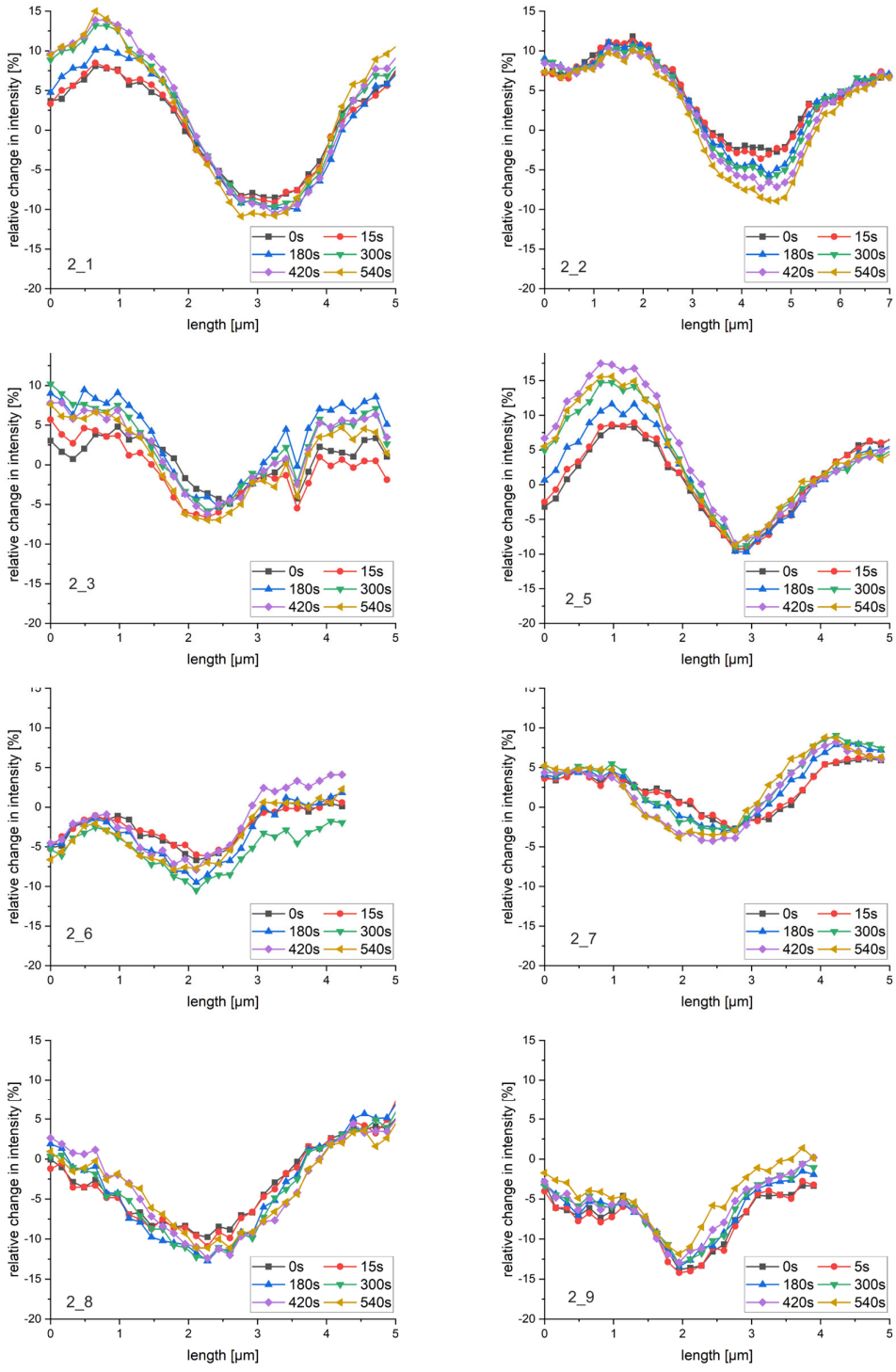

Figure S2. Intensity plots for the cells irradiated with two crosses.

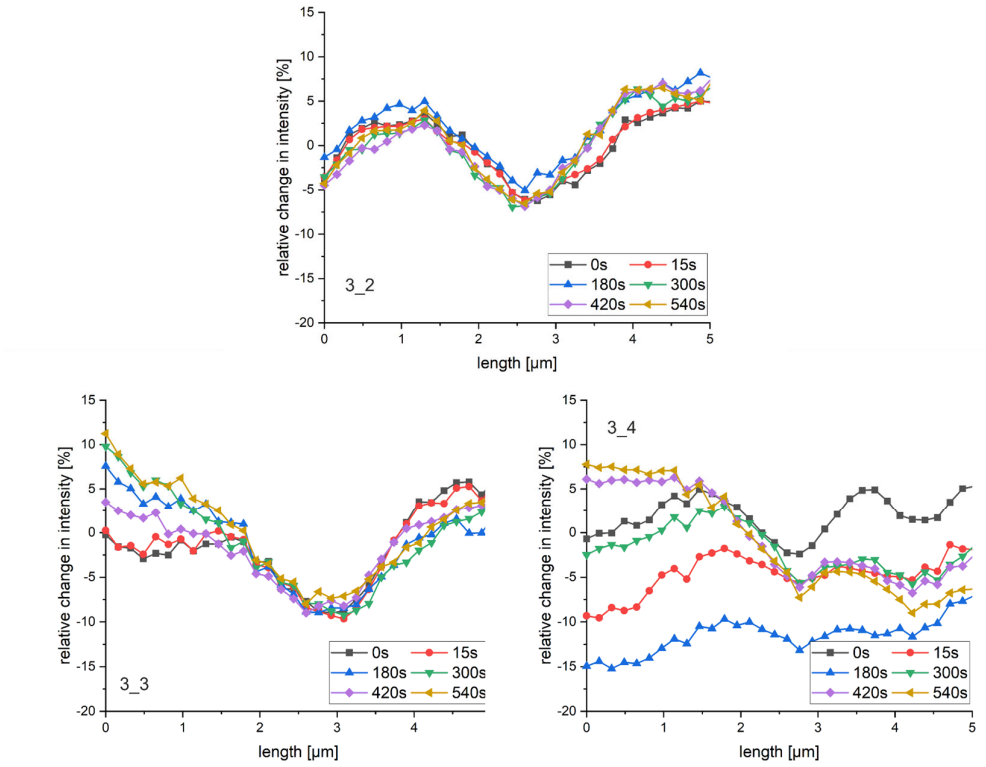

Figure S3. Intensity plots for the cells irradiated with three crosses.

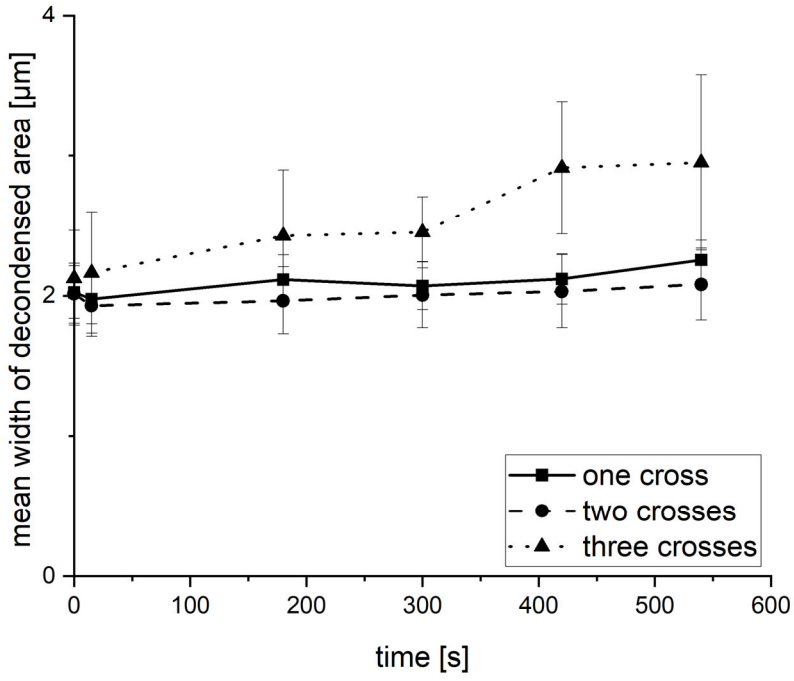

Figure S4. Time-development of the mean width of decondensed area. No significant dose dependent difference is visible. The width doesn't change with time.