

## *Supporting Information 2 for:*

# *Automated Purification of DNA Origami with SPRI Beads*

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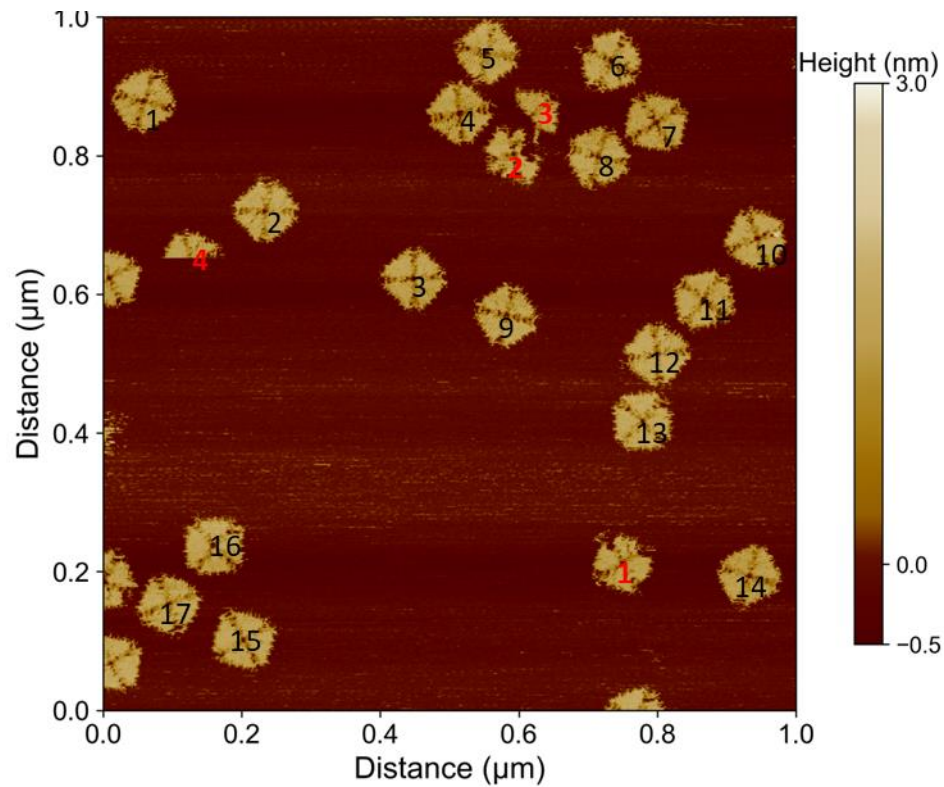
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## Intact origami counting

Throughout this section, for origamis that are counted as intact, a black number will be used.

For origamis that are counted as damaged, a red number will be used.

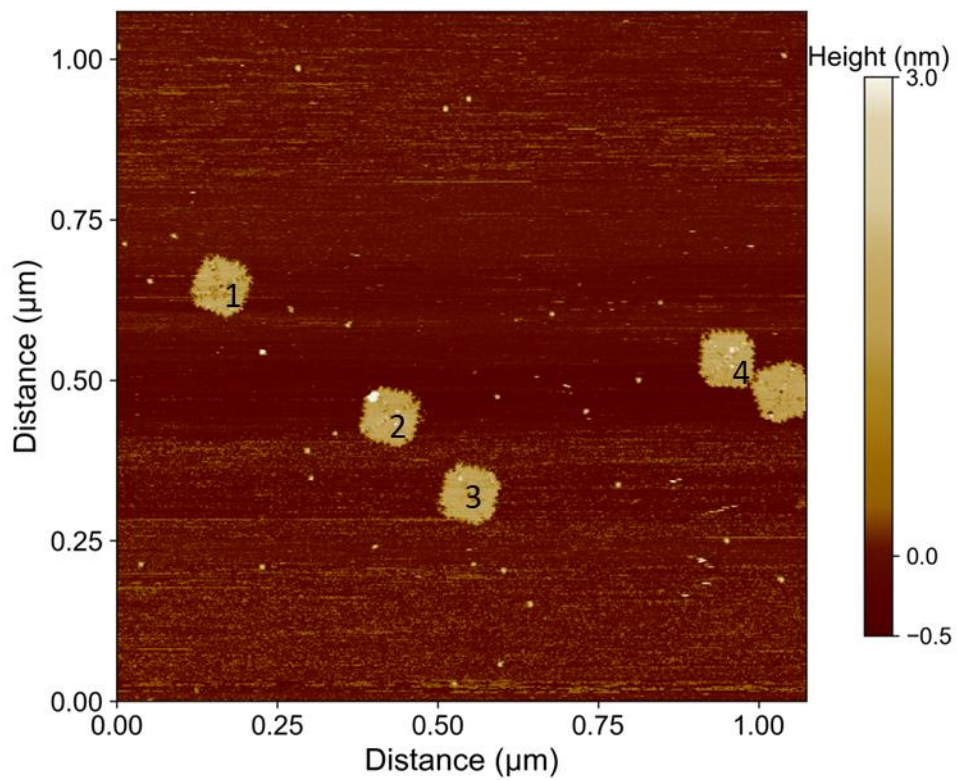
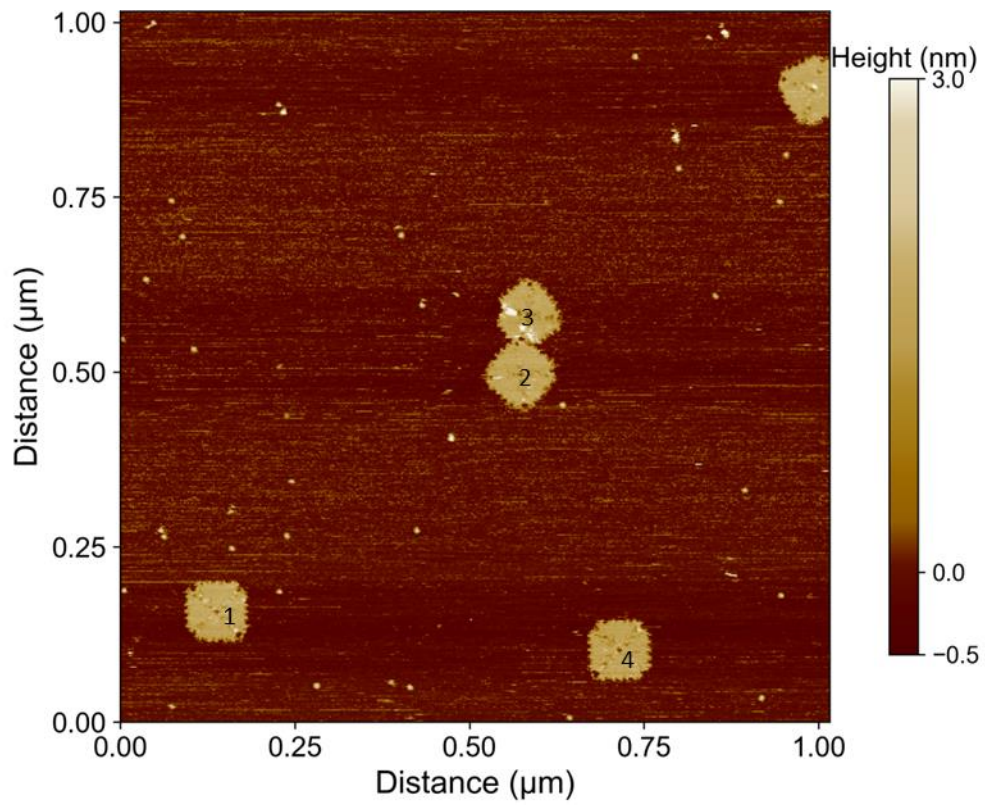
Below shows an AFM image as an example:

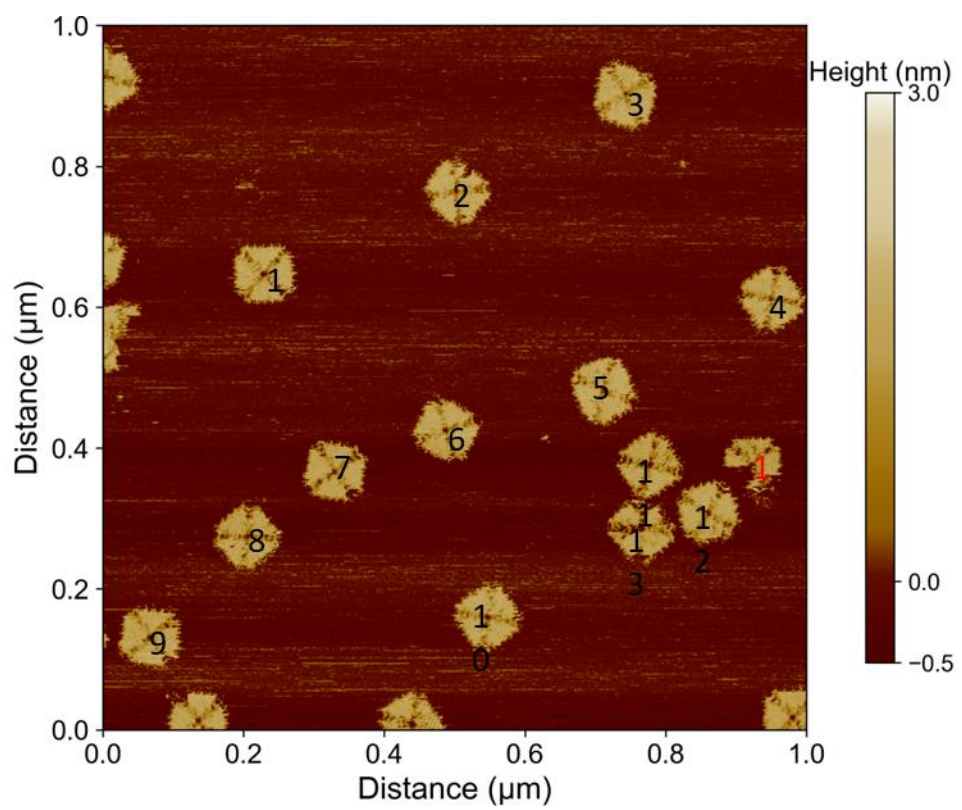
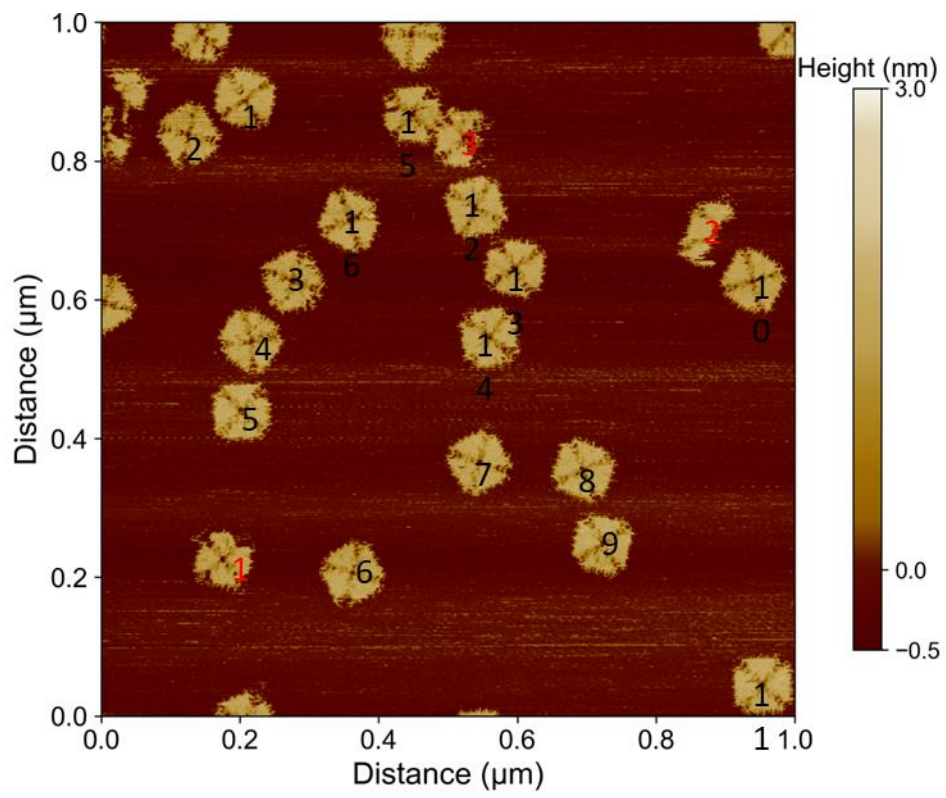


In this example, a total of 17 intact origamis and 4 damaged origamis.

## S-400 HR

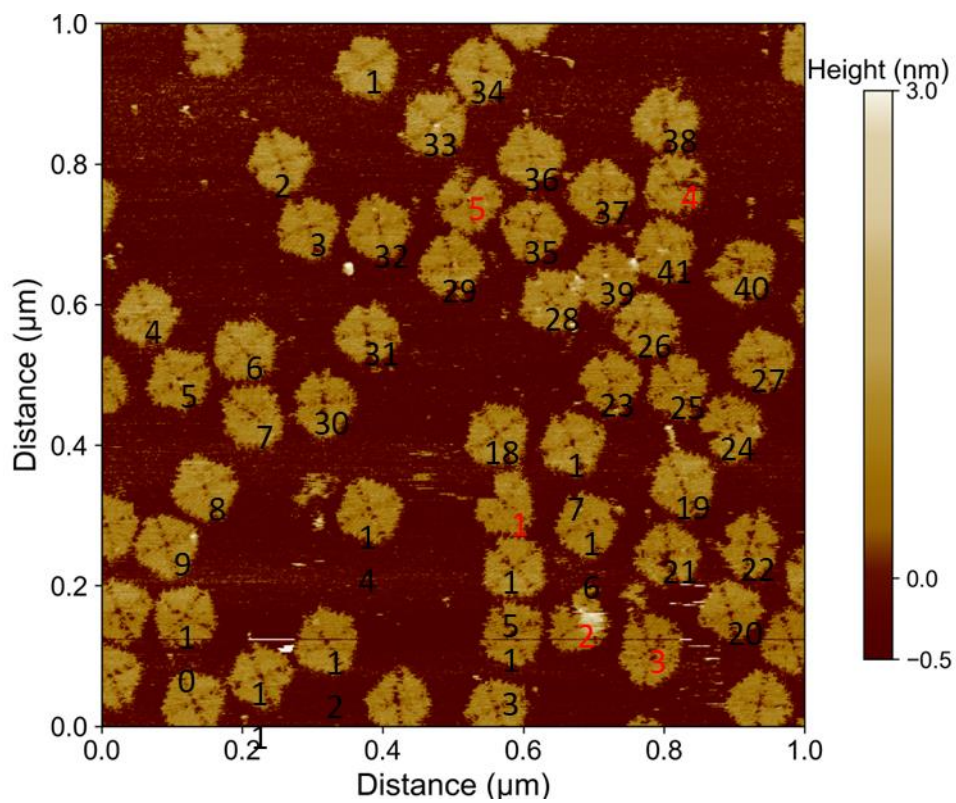
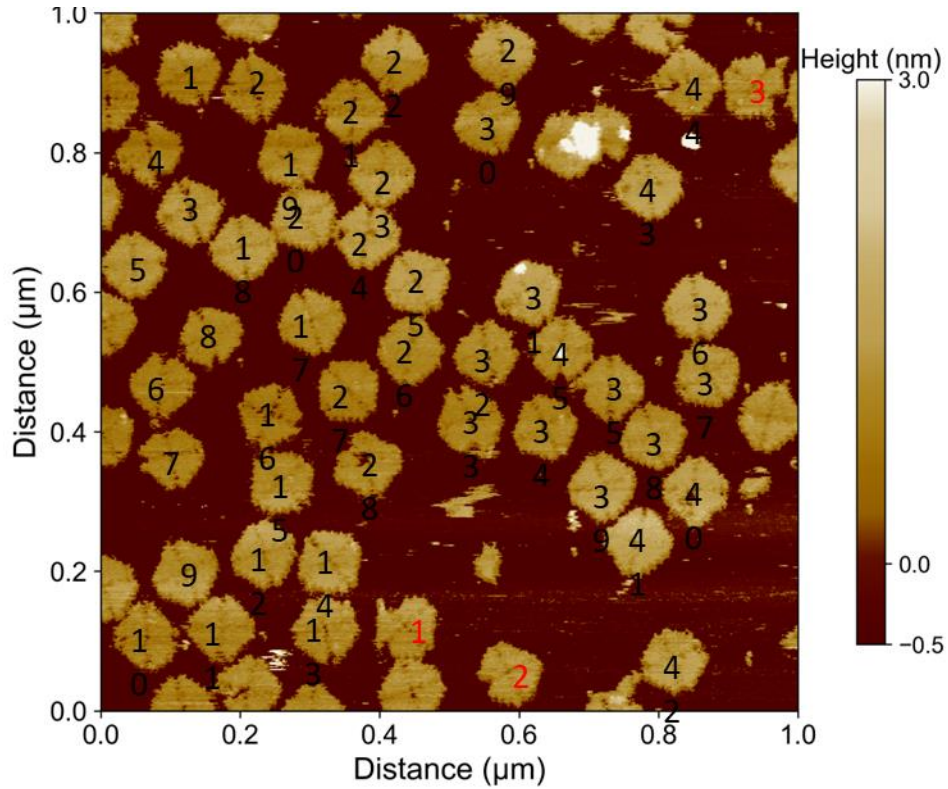
Images below were used to quantify the number of intact origamis purified using S-400 HR spin column.

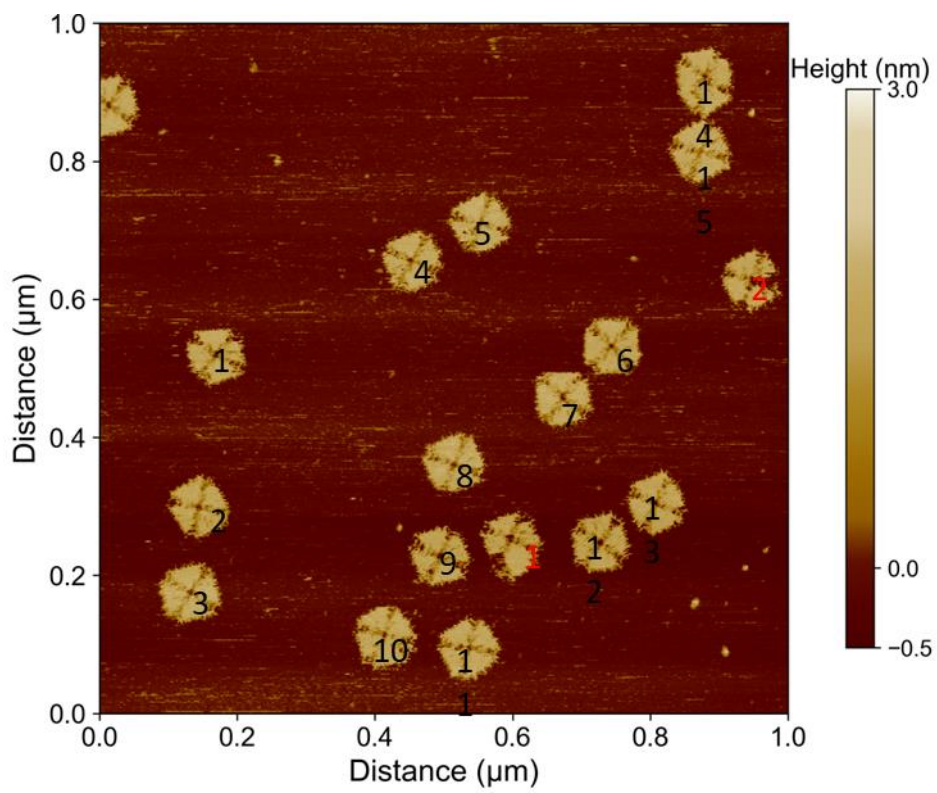
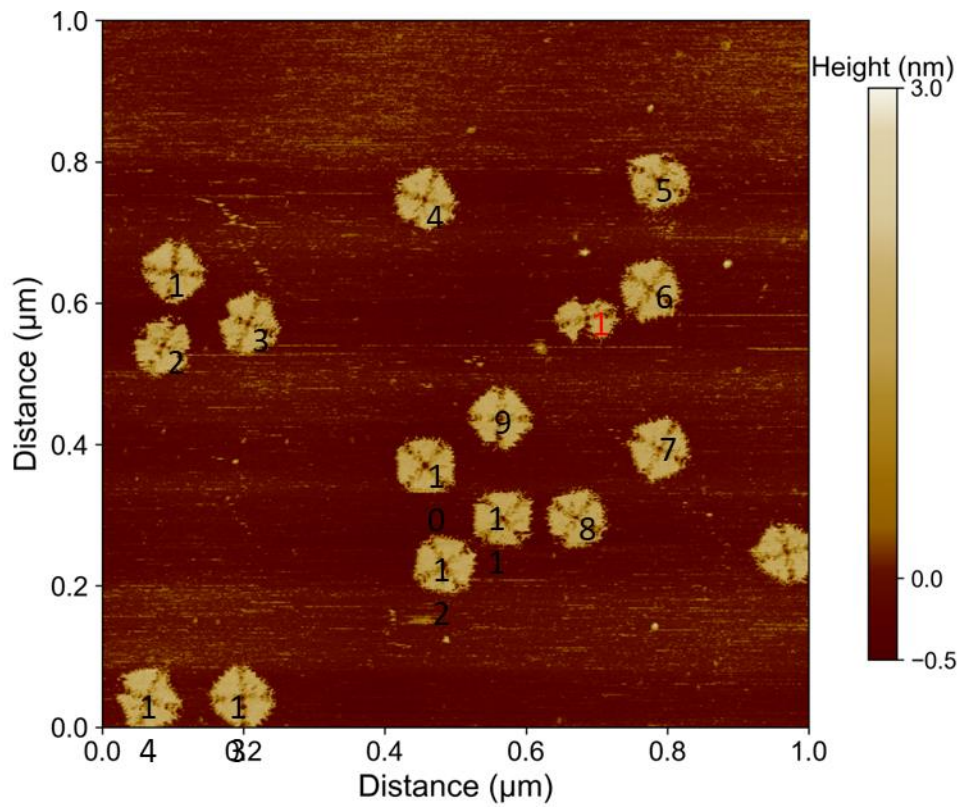


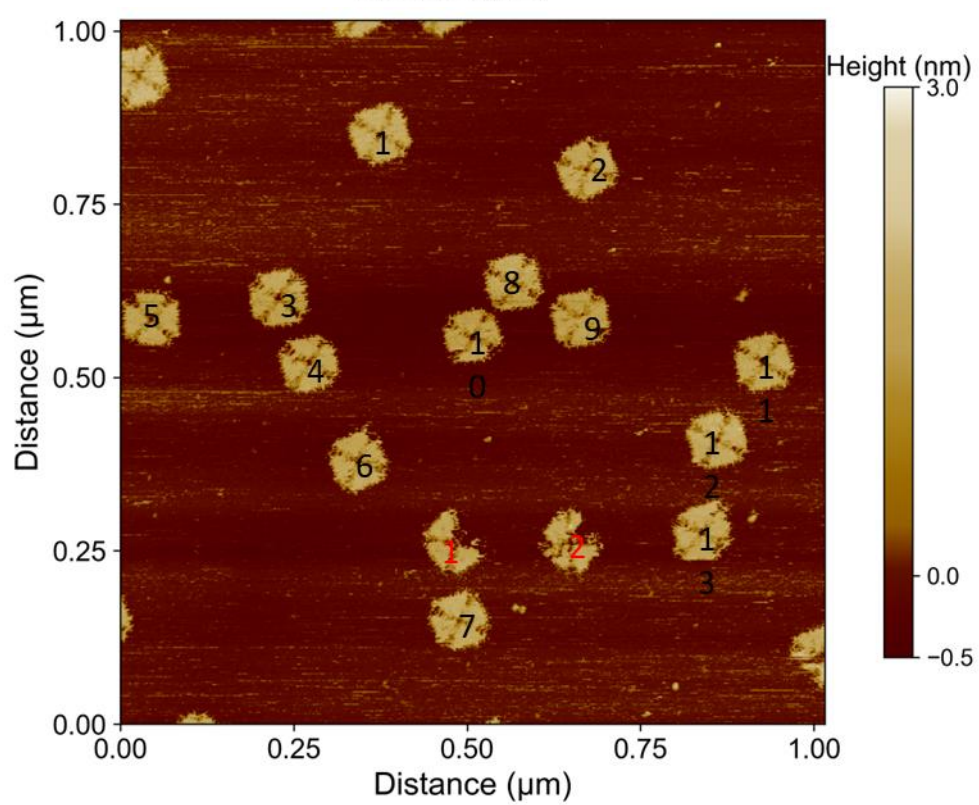
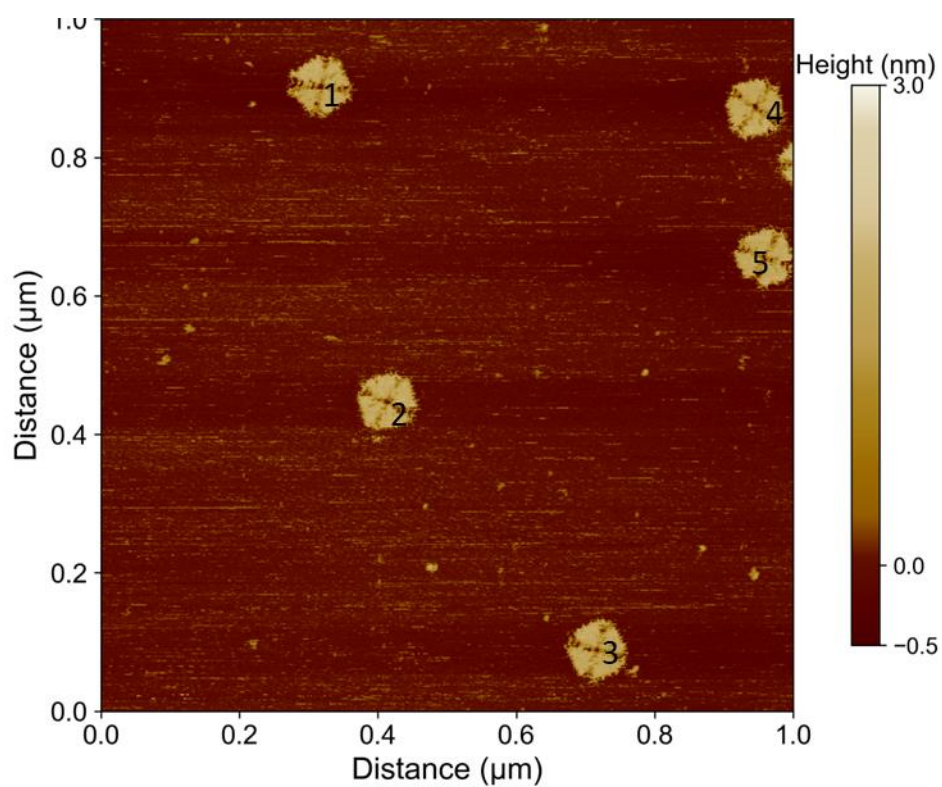


## SPRI - 0.8X ratio

Images below were used to quantify the number of intact origamis purified using SPRI at 0.8X ratio column.

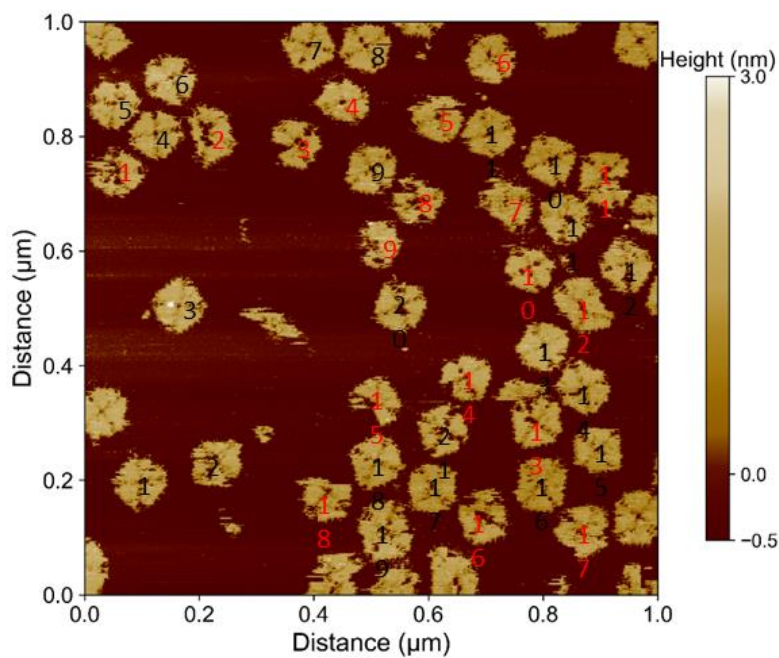
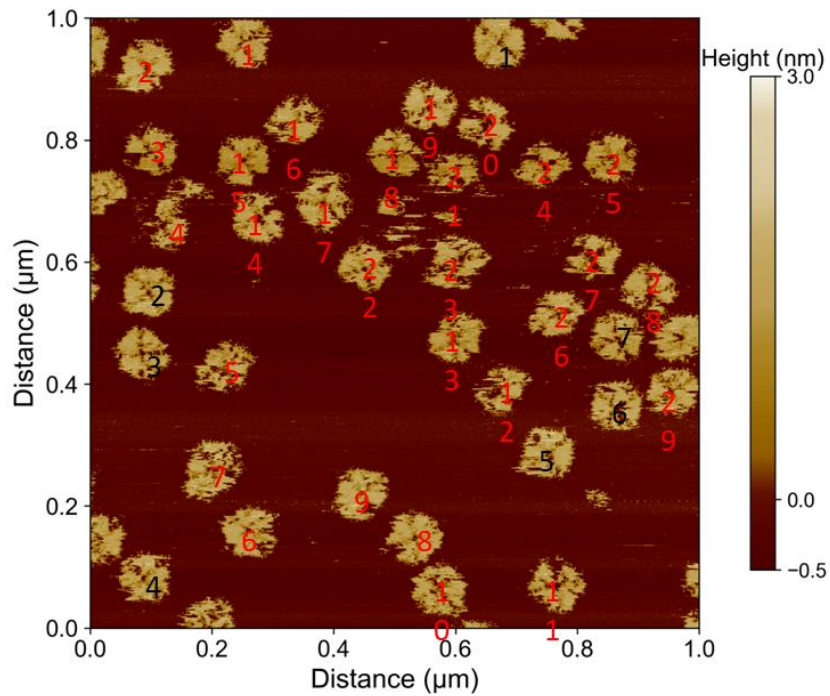




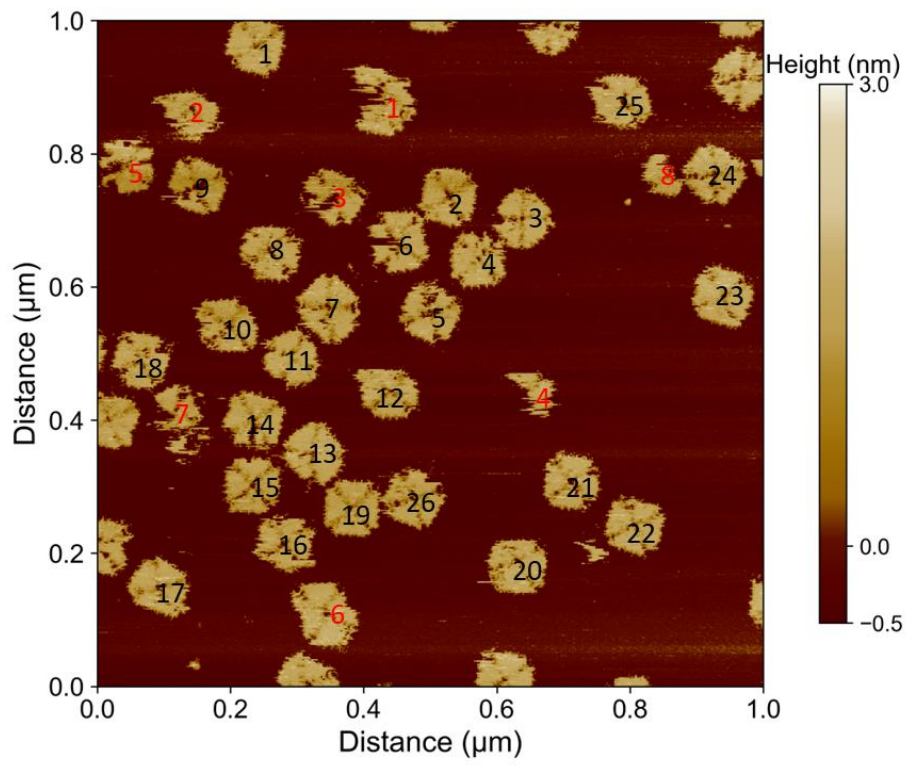


# MWCO - 1

Images below were used to quantify the number of intact origamis purified using 100 kDa MWCO - 1 concentrator.

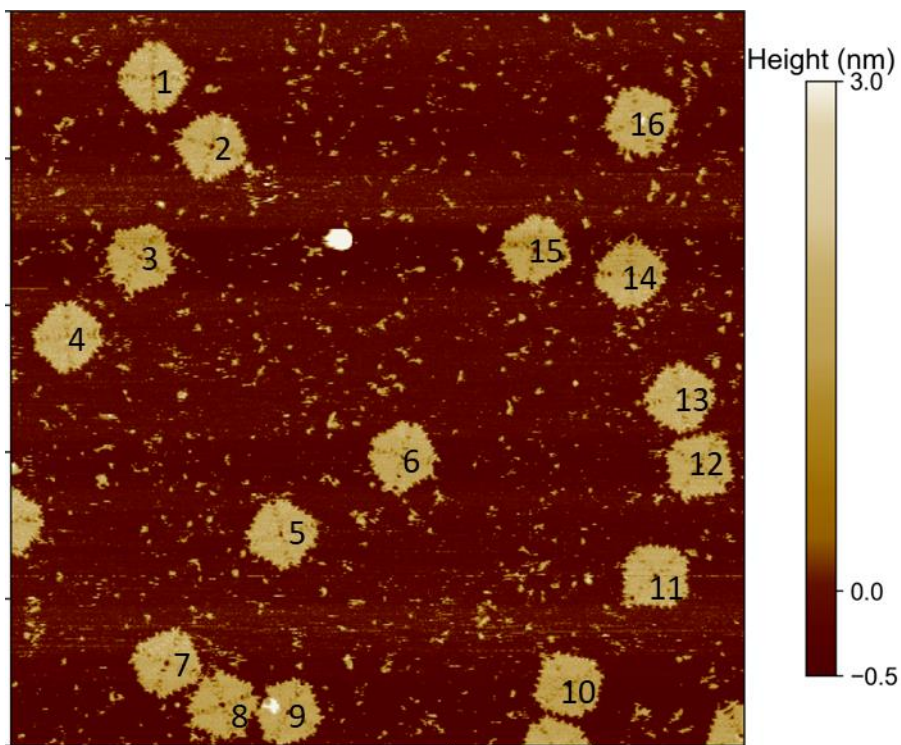
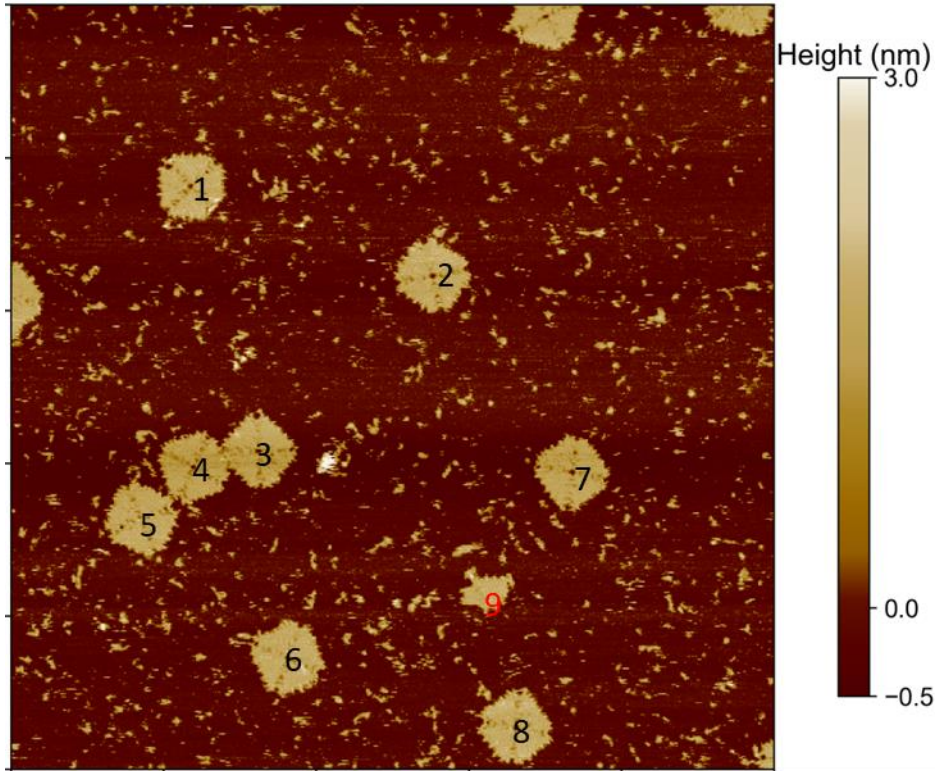






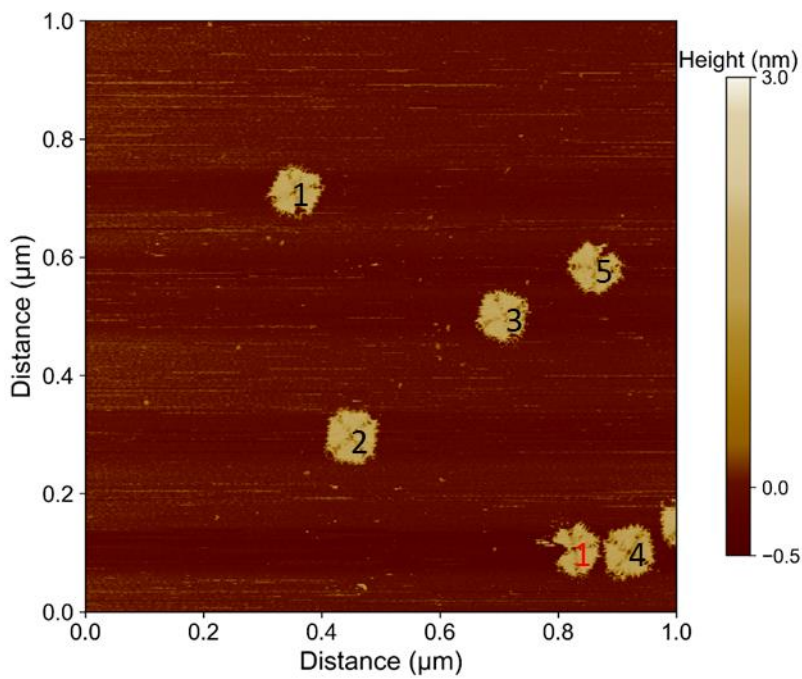
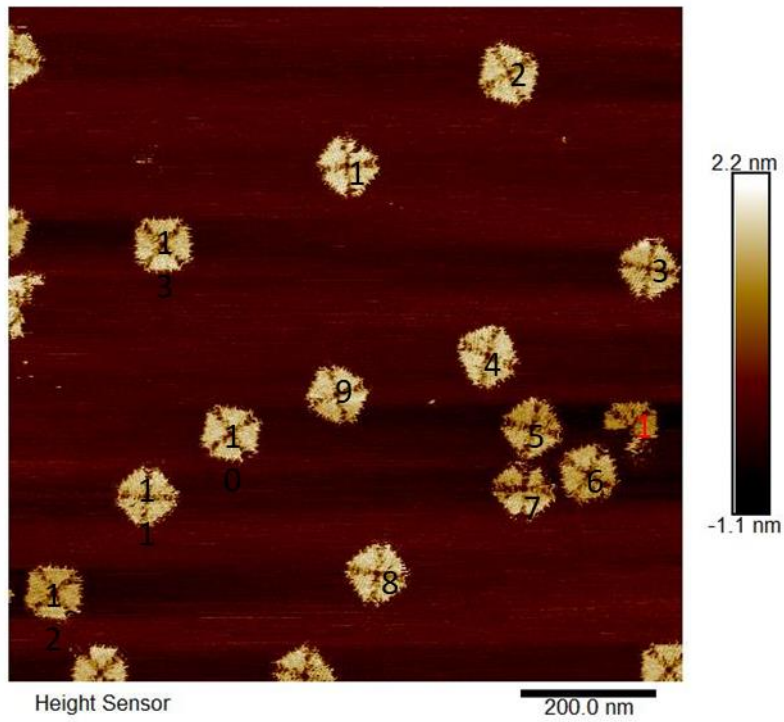
## MWCO - 2

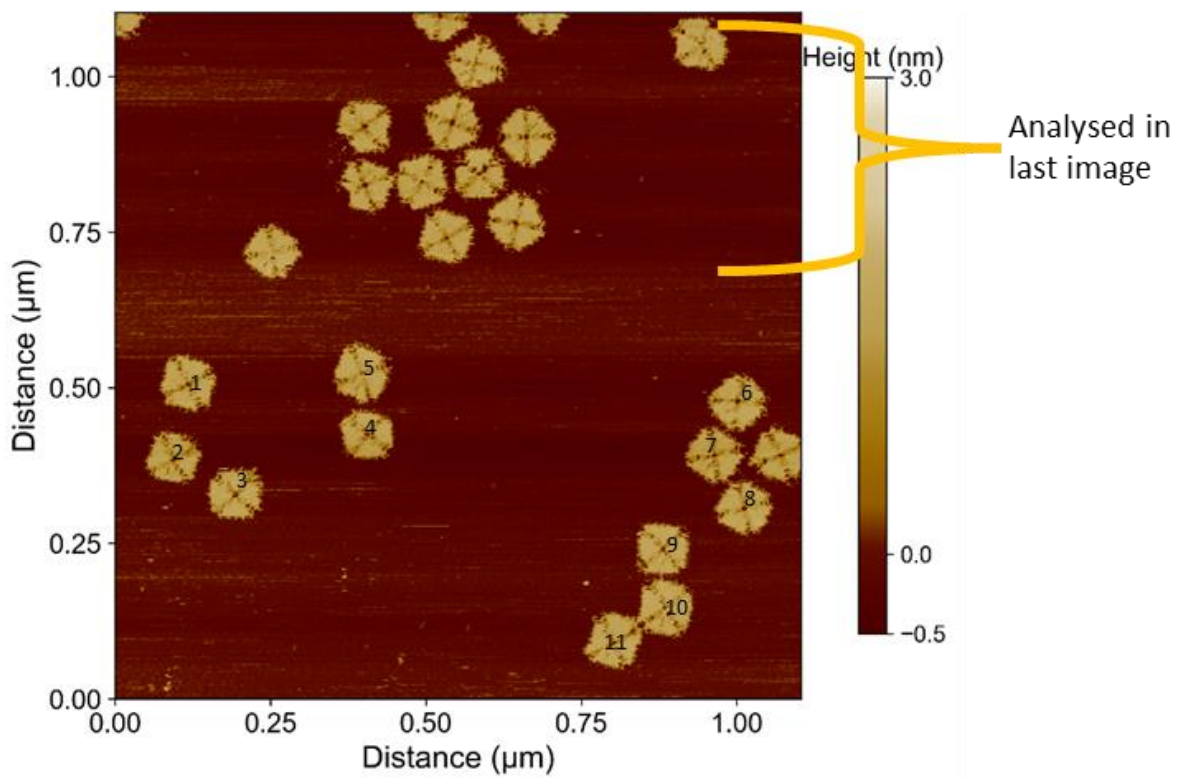
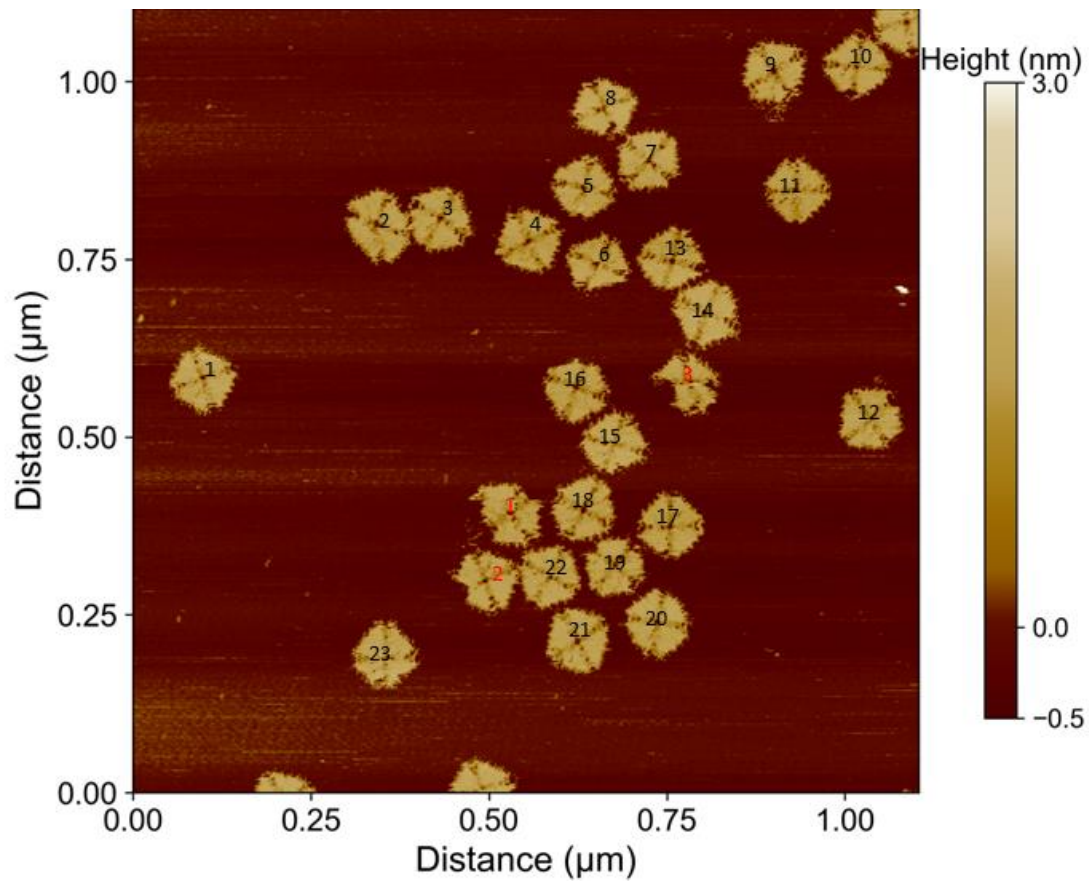
Images below were used to quantify the number of intact origamis purified using 100 kDa MWCO - 2 concentrator.

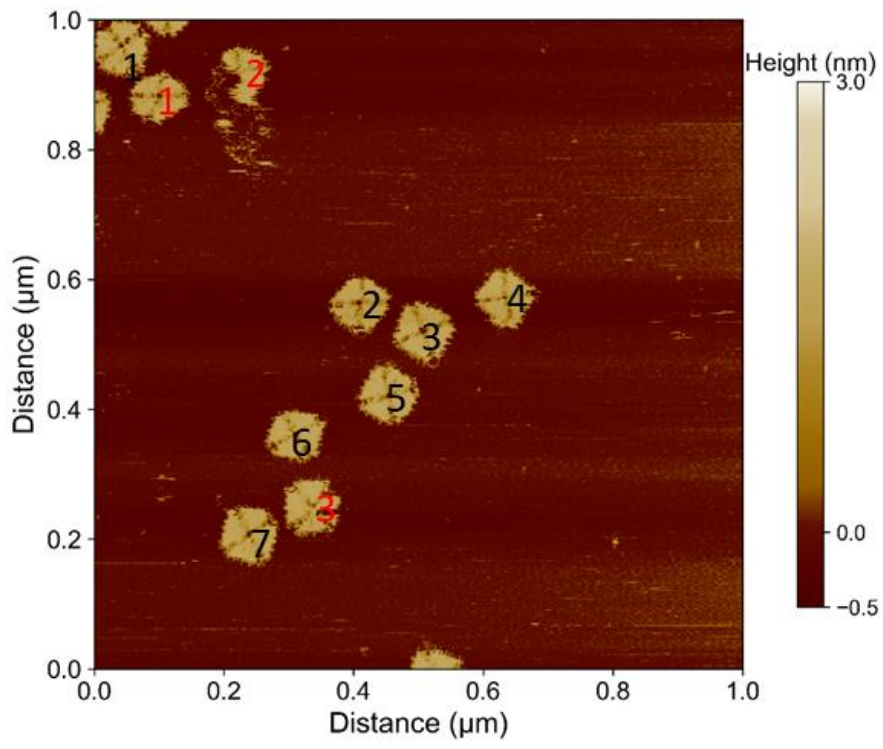


# Ethanol Precipitation

Images below were used to quantify the number of intact origamis purified using ethanol precipitation.

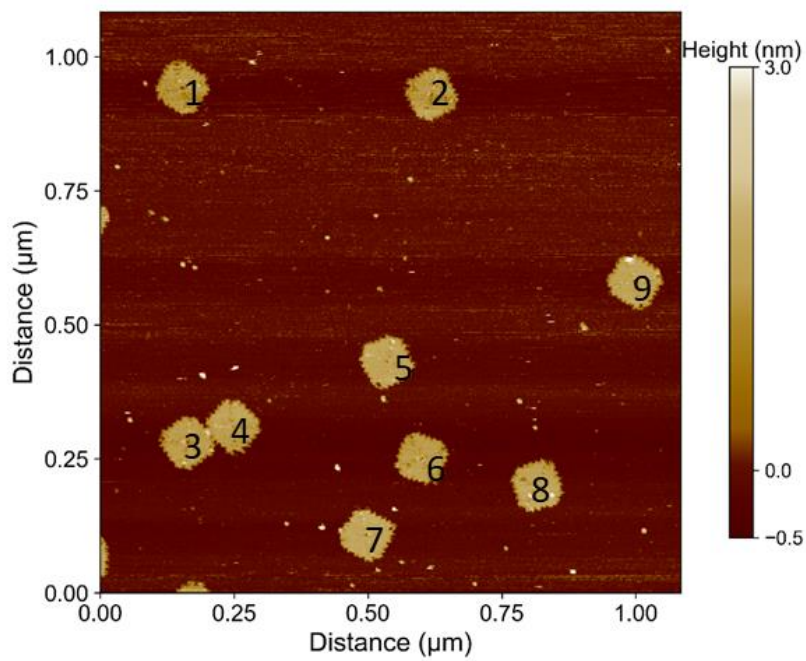
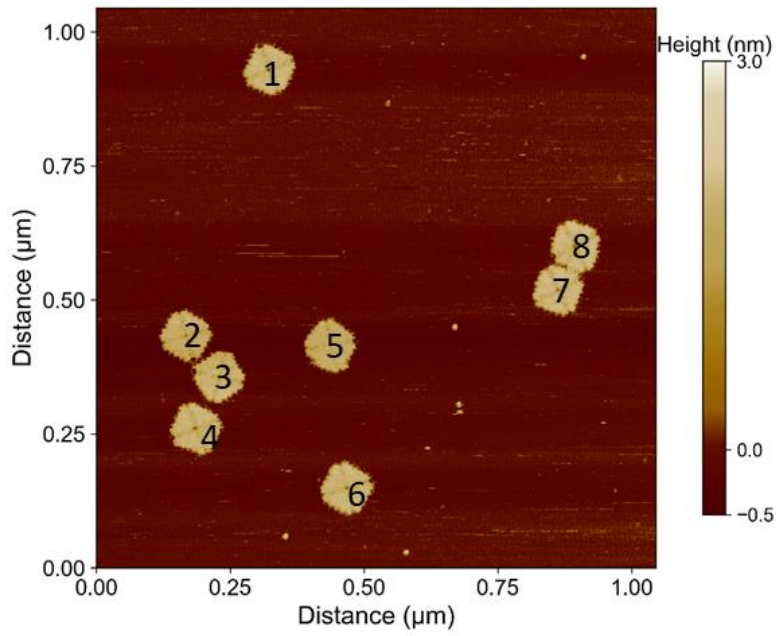


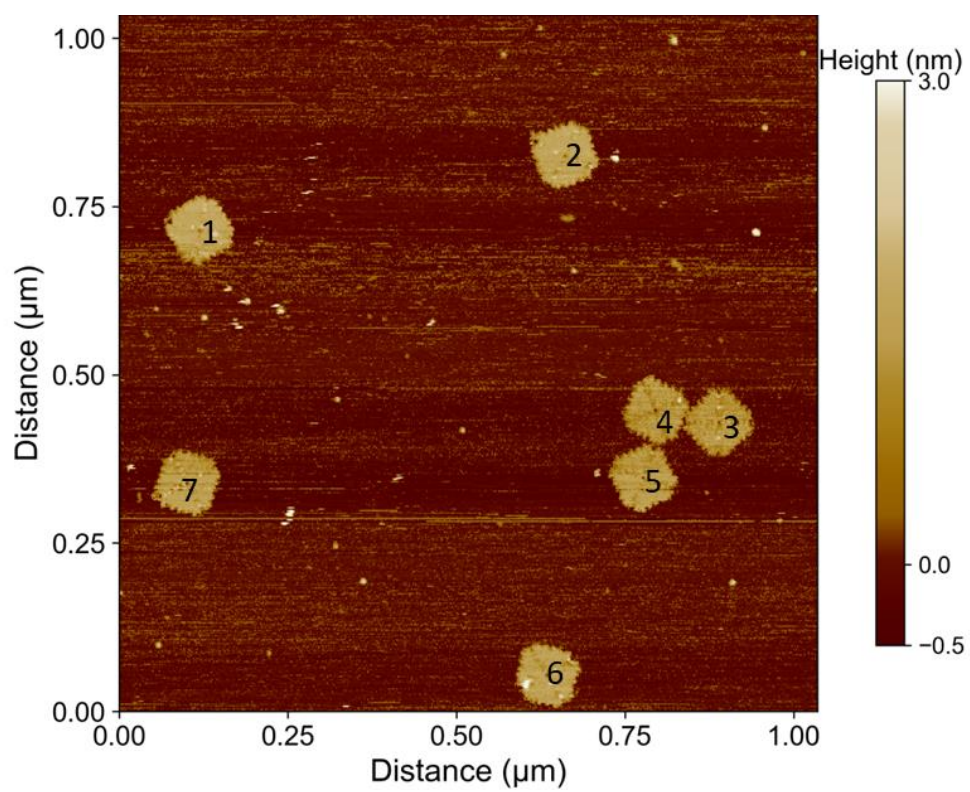
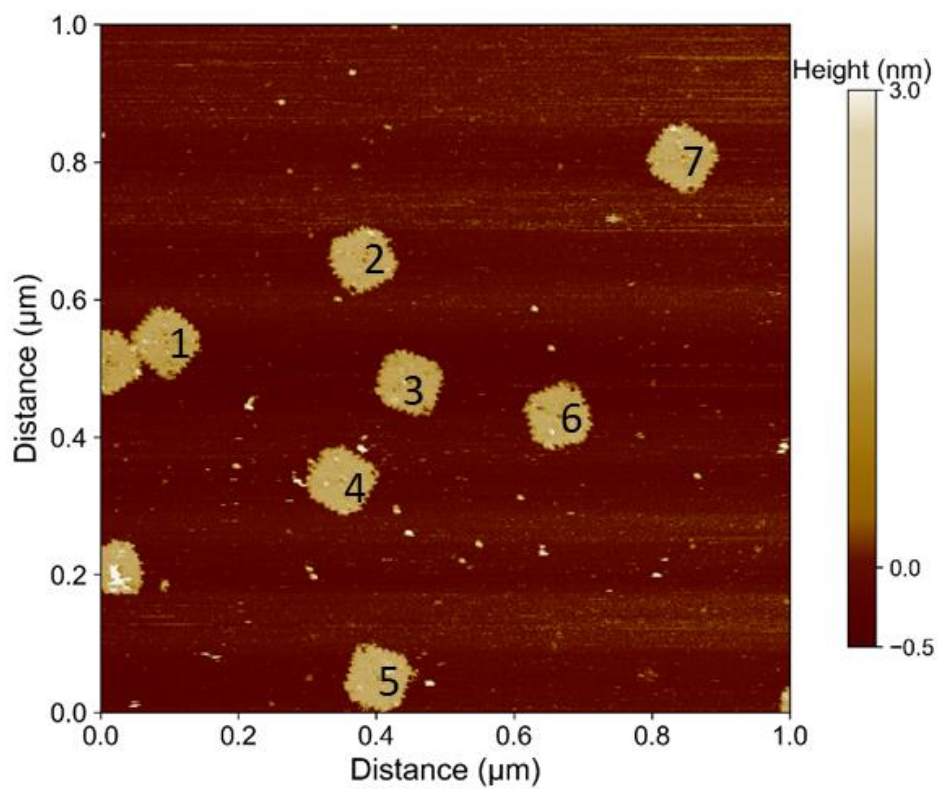


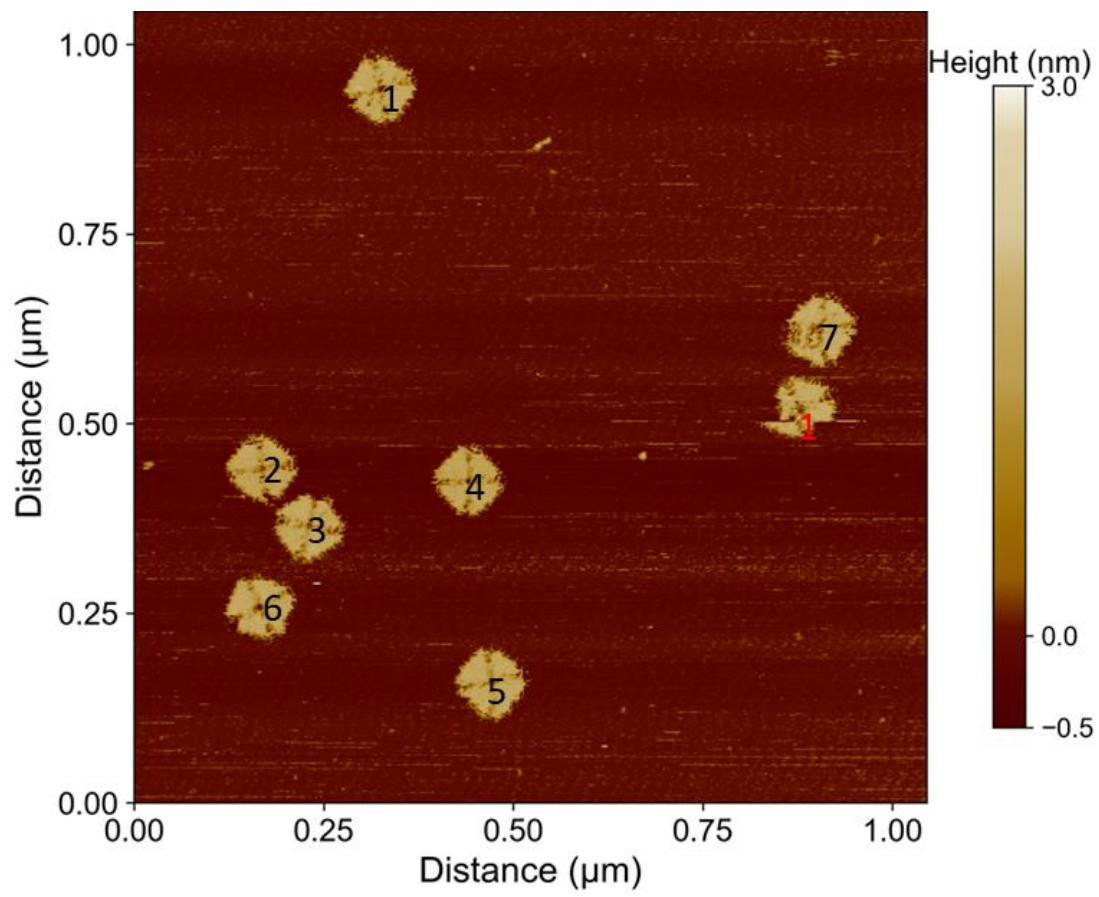


## PEG precipitation

Images below were used to quantify the number of intact origamis purified using PEG precipitation.



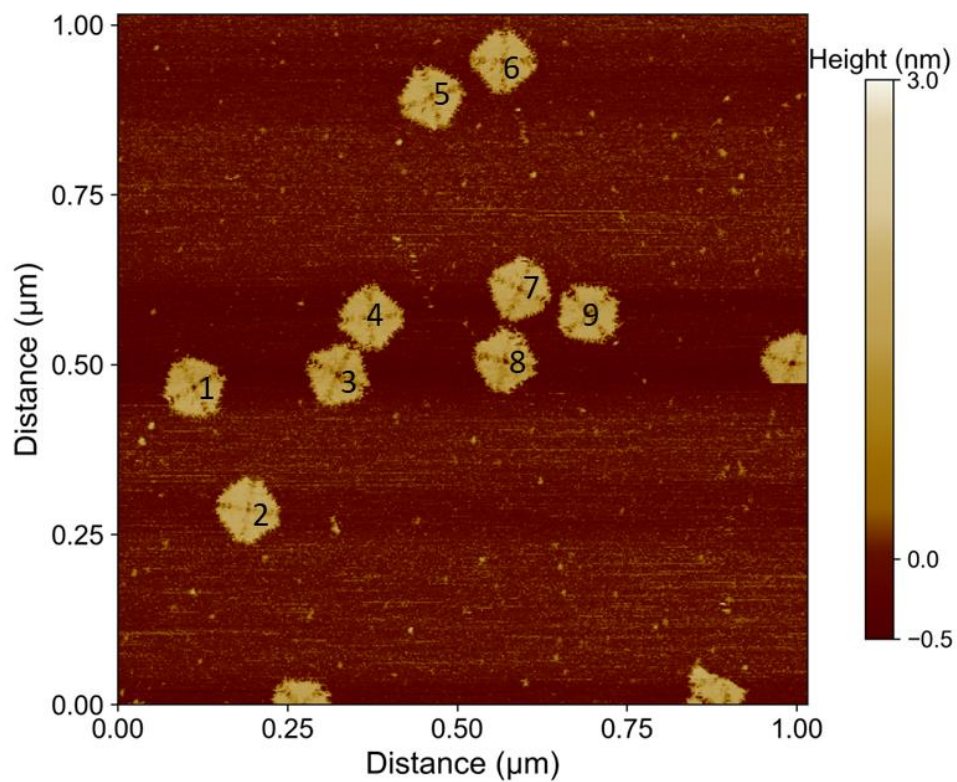
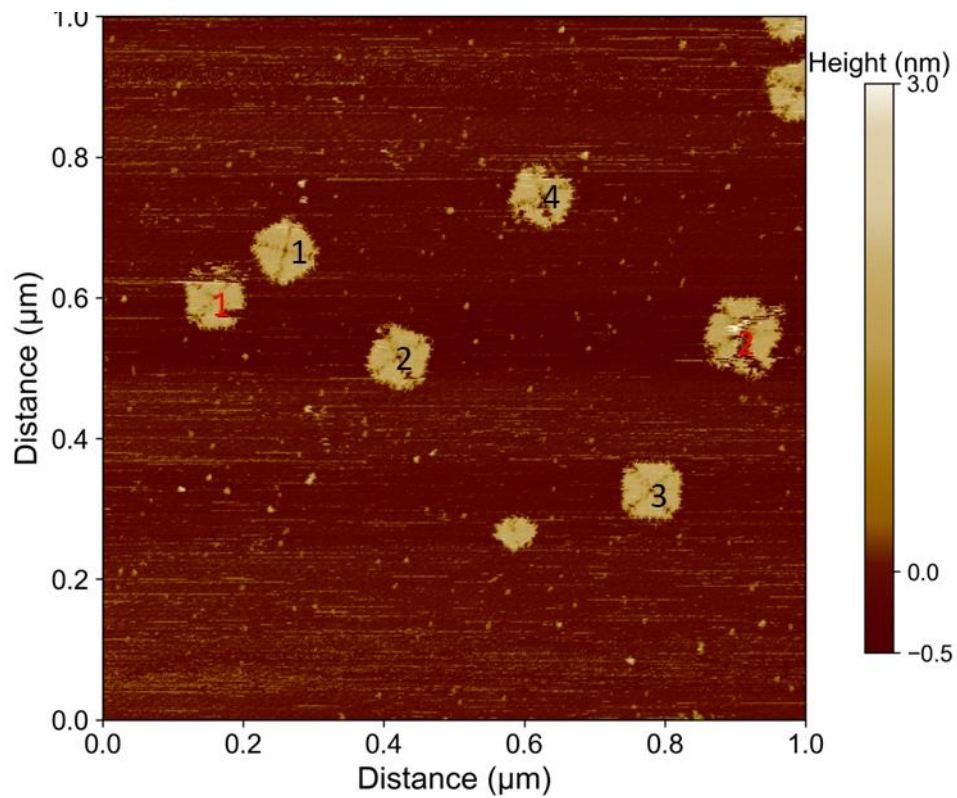


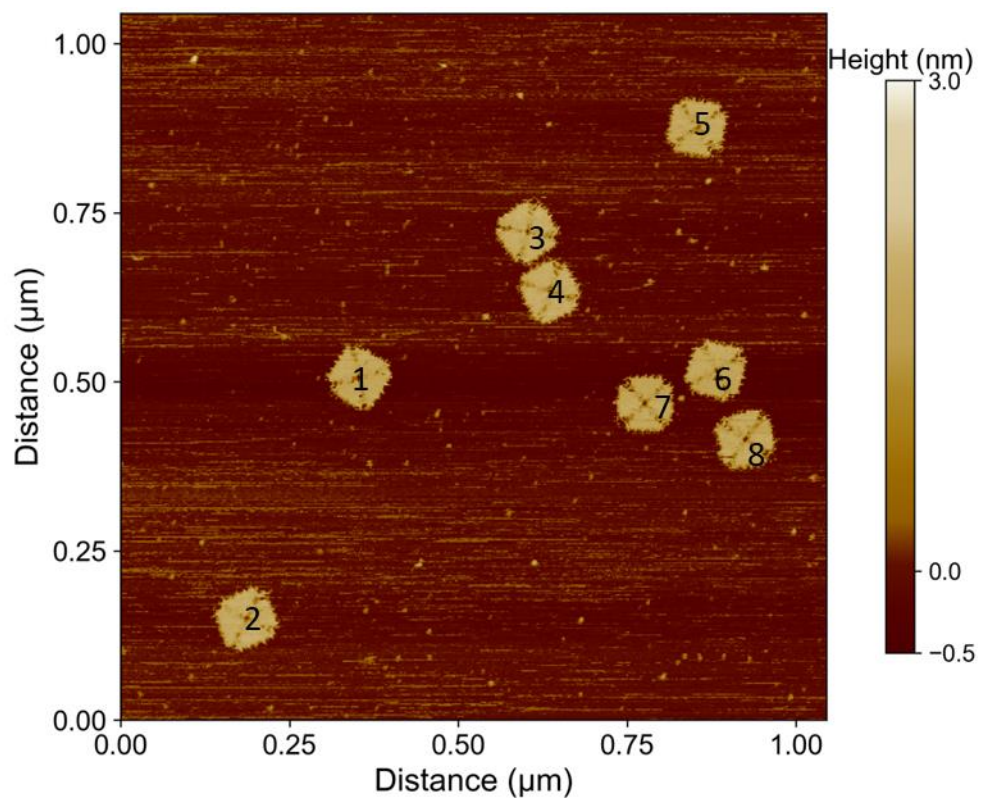




## Phase separation

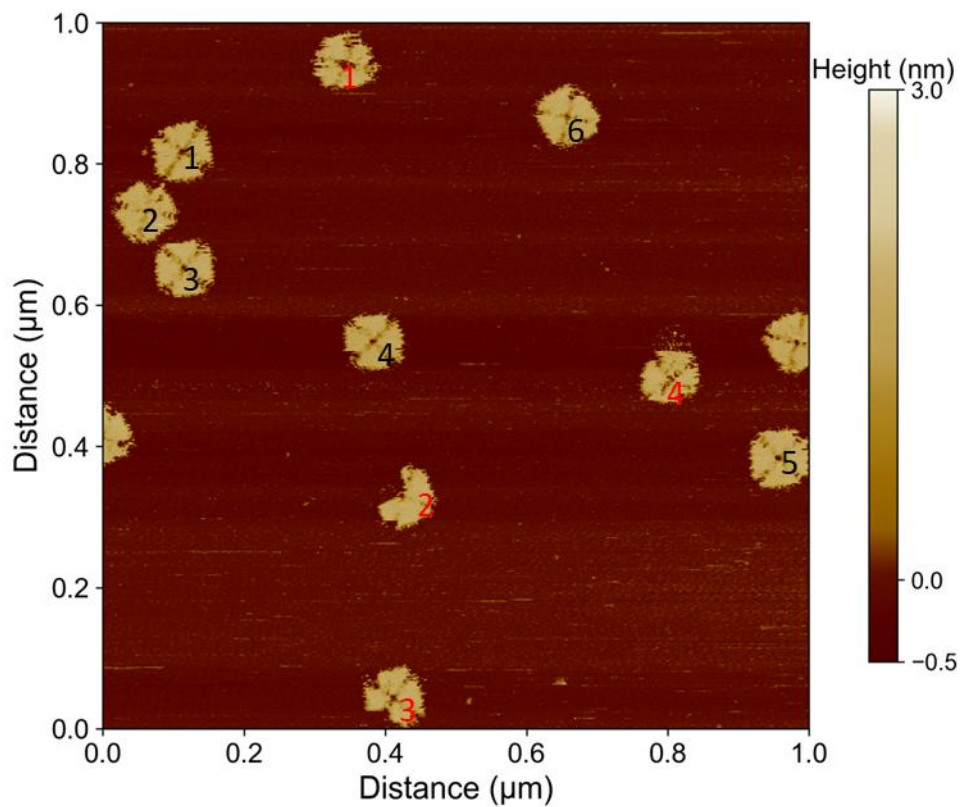
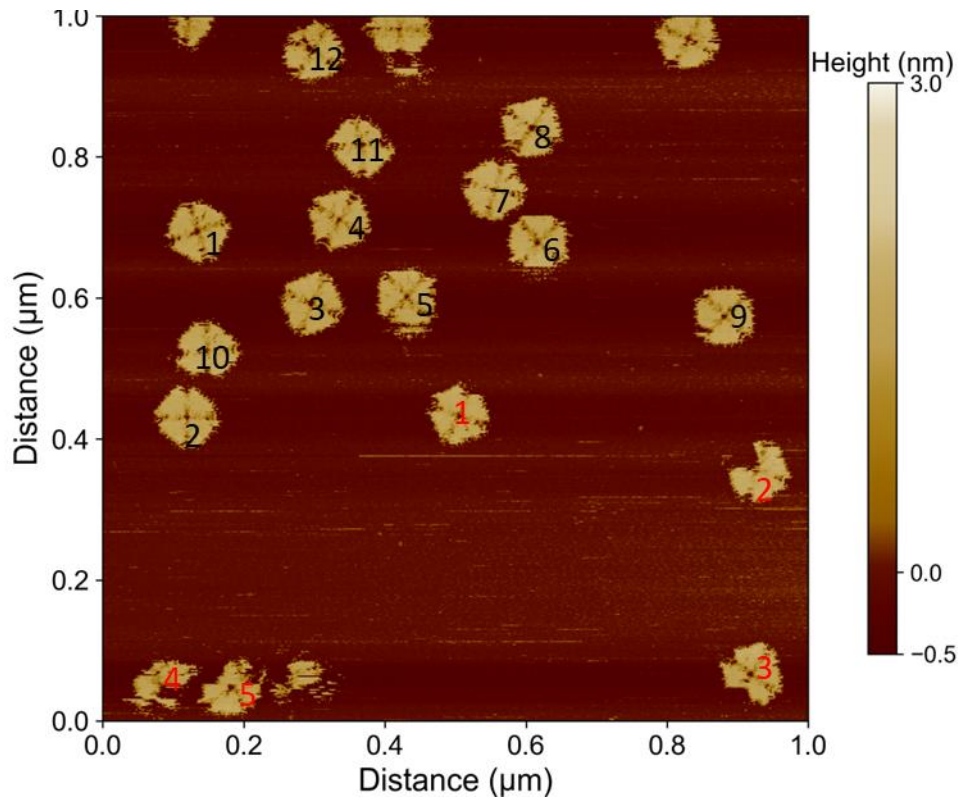
Images below were used to quantify the number of intact origamis purified using phase separation method.

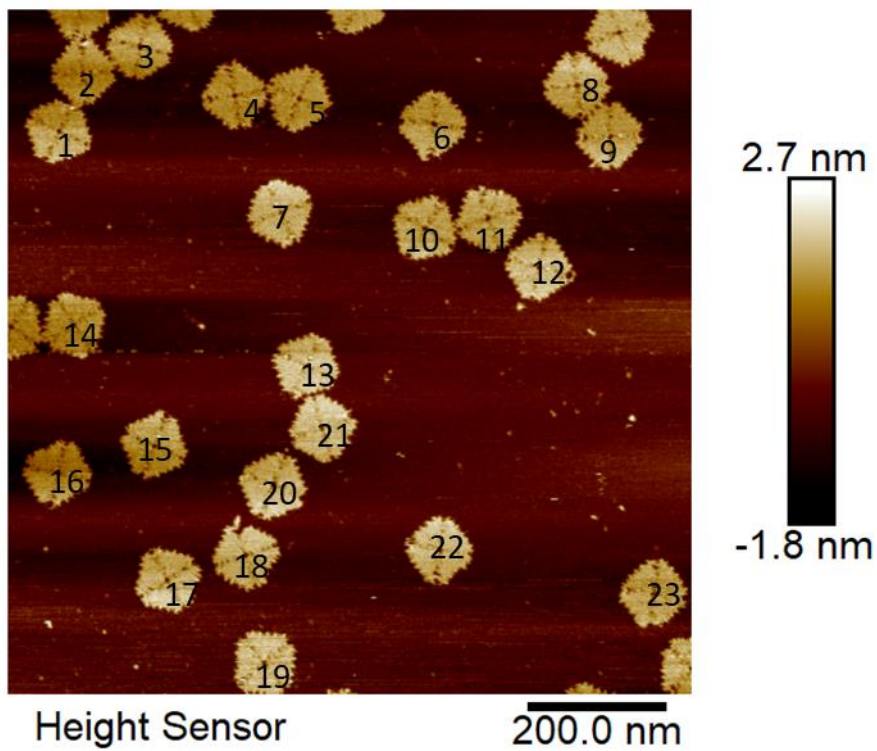
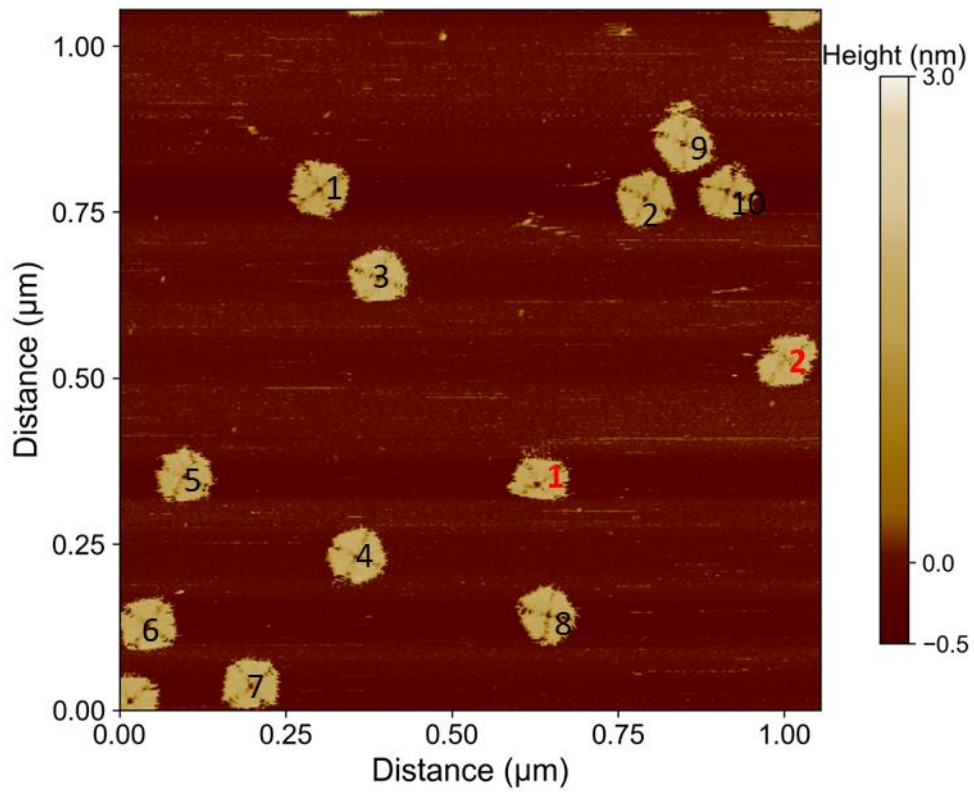


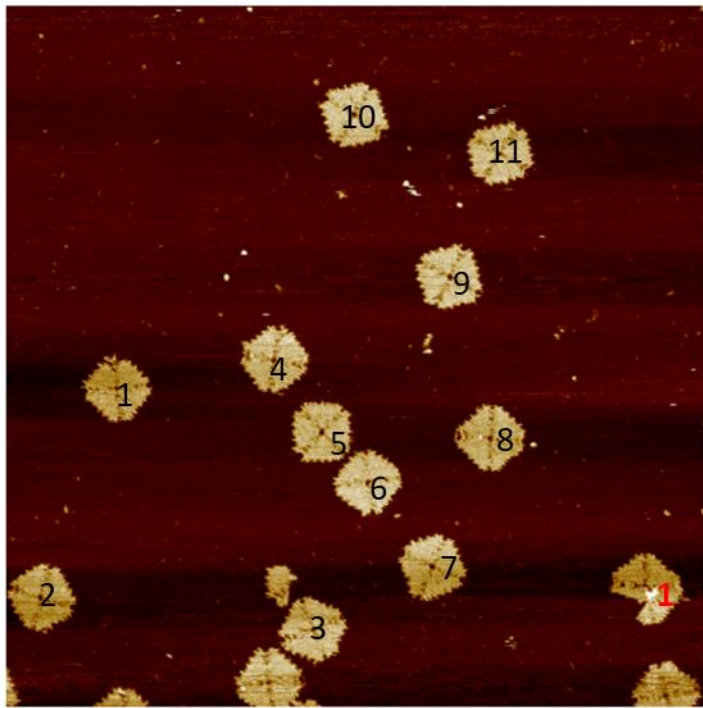


## Size Exclusion Chromatography

Images below were used to quantify the number of intact origamis purified using size exclusion chromatography.

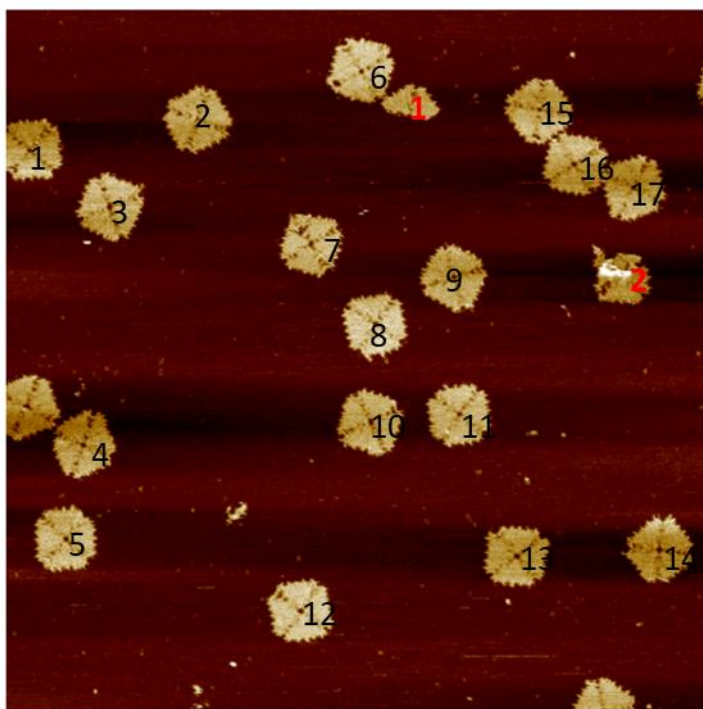
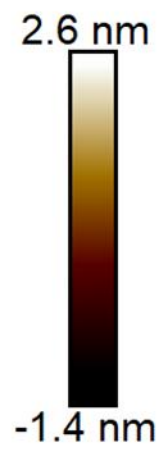






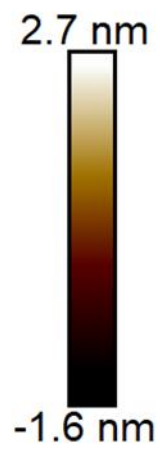
Height Sensor

200.0 nm



Height Sensor

200.0 nm



## Intact CRP functionalised DNA origami count

Throughout this document, for origamis that are counted as intact, a green circle will be used. For origamis that are counted as damaged, a red circle will be used. For origamis that are intact but no CRP, a blue circle will be used.

Below shows an AFM image as an example:

Green – CRP bound origami – 11

Blue – intact but no CRP - 9

Red – deformed (not considered in counting) - 10



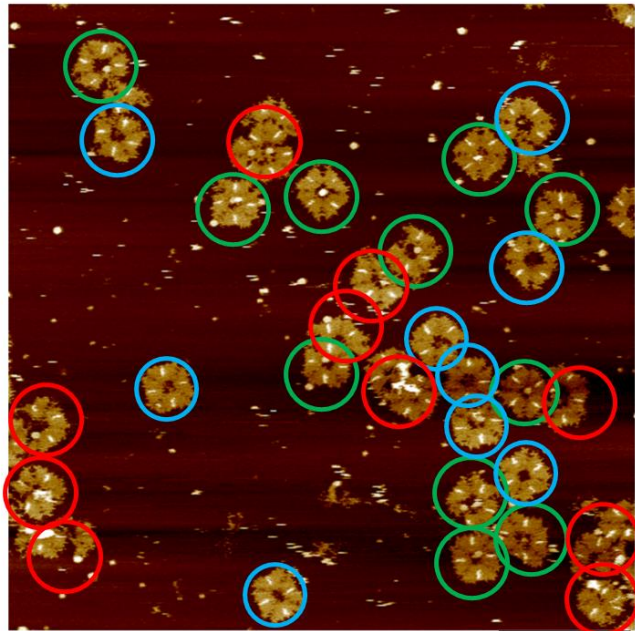
In this example, a total of 11 intact origamis with CRP, 9 intact origamis and 10 damaged origamis.

## SPRI cleaned DNA origamis

Green – CRP bound origami – 11

Blue – intact but no CRP - 9

Red – deformed (not considered in counting) - 10

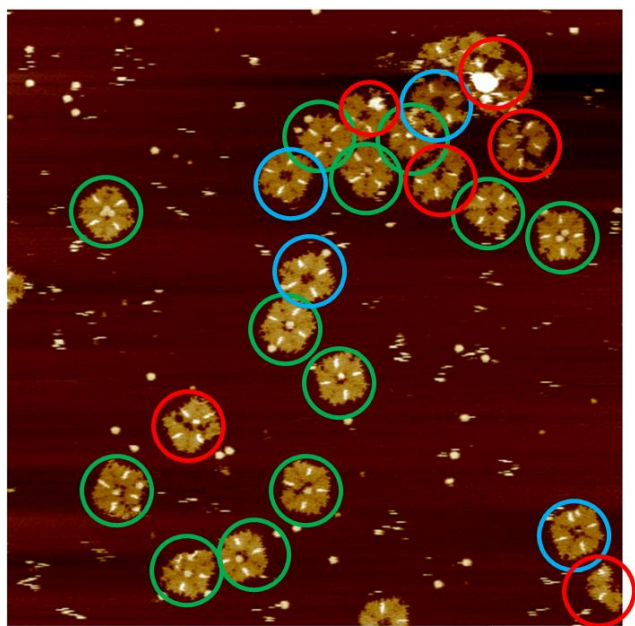


220.0 nm

Green – CRP bound origami – 12

Blue – intact but no CRP - 4

Red – deformed (not considered in counting) - 6

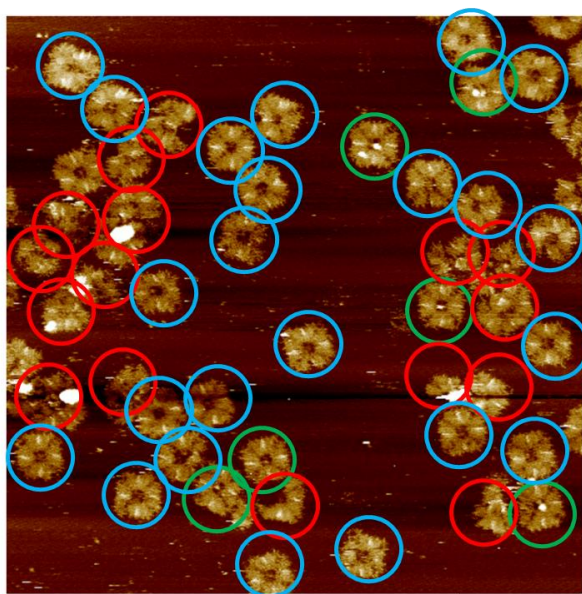


220.0 nm

Green – CRP bound origami – 6

Blue – intact but no CRP - 22

Red – deformed (not considered in counting) - 16

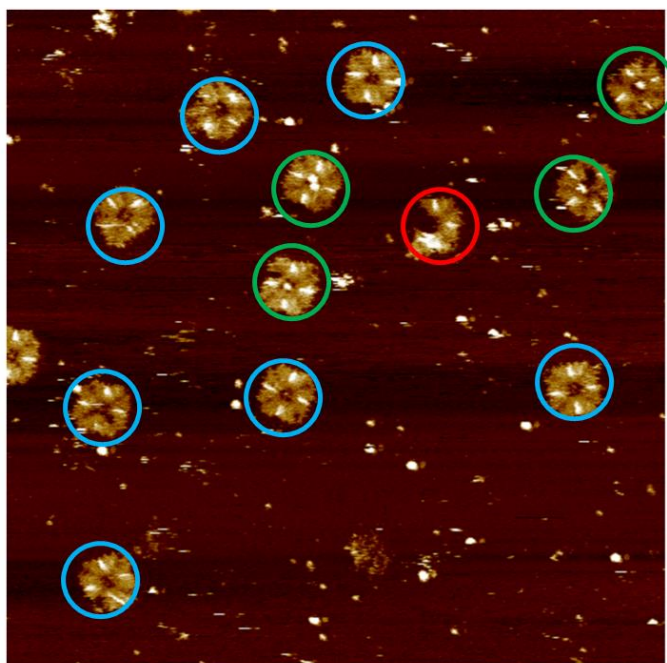


210.0 nm

Green – CRP bound origami – 4

Blue – intact but no CRP - 7

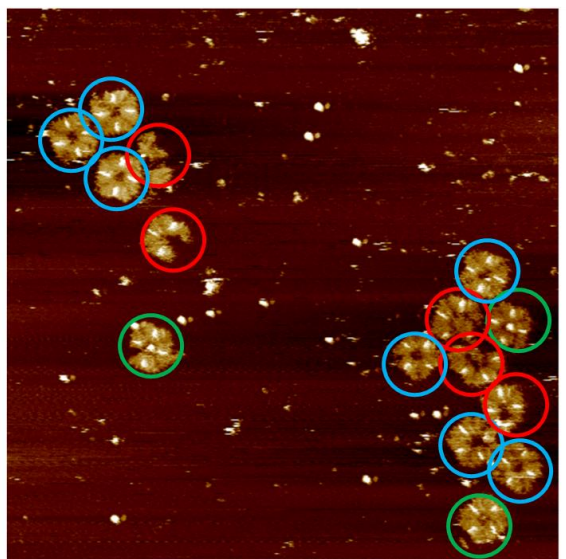
Red – deformed (not considered in counting) – 1



210.0 nm

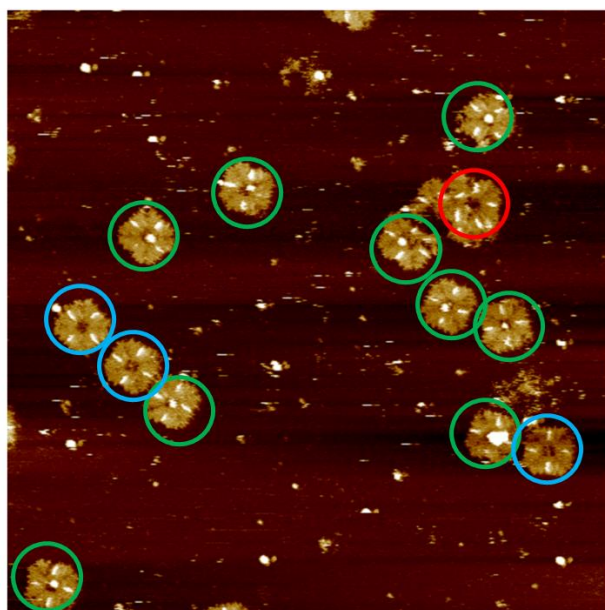


Green – CRP bound origami – 3  
Blue – intact but no CRP - 7  
Red – deformed (not considered in counting) – 5



210.0 nm

Green – CRP bound origami – 9  
Blue – intact but no CRP - 3  
Red – deformed (not considered in counting) – 1



210.0 nm