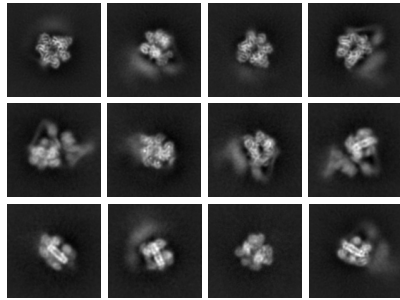
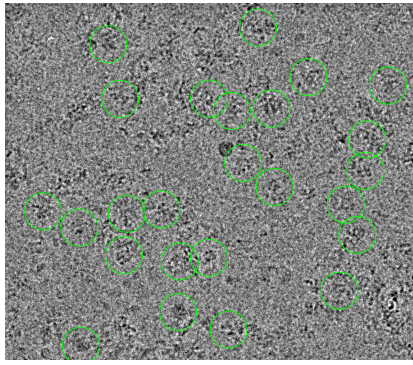
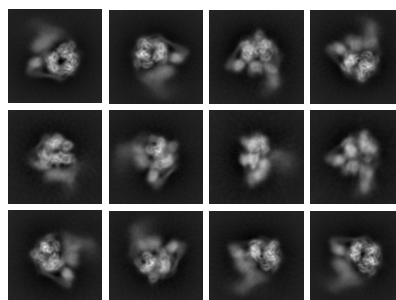
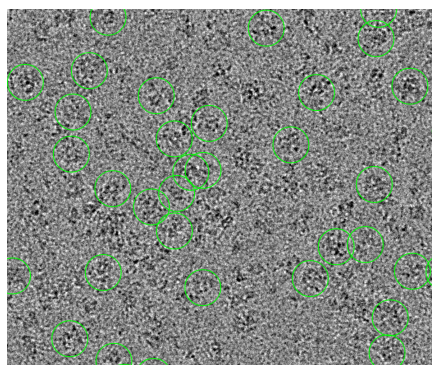


A



Native

B



Cross-linked

C

Native

5884 mics

manual curation

5748 mics

template-based

picking

867k ptcls

2D classification x4

127k ptcls

ab initio (4 class)

heterogeneous

refinement

homogeneous

refinement



51k ptcls

6.8 Å (NL)

ab initio (4 class)

heterogeneous

refinement

local motion

correction

non-uniform

refinement



17k ptcls

3.7 Å

TOPAZ

train

TOPAZ

model

TOPAZ

auto-pick

340k ptcls

2D classification

137k ptcls

heterogeneous

refinement

(4x map from initial

processing)

D

Dataset 1
Initial

20 675 mics

manual curation

19 630 mics

supervised

picking (xmipp3)

1.2 M ptcls

2D classification

308k ptcls

ab initio (6 class)

heterogeneous

refinement

homogeneous

refinement

89k ptcls

ab initio (4 class)

heterogeneous

refinement

homogeneous

refinement

25k ptcls

ab initio (2 class)

heterogeneous

refinement

homogeneous

refinement

24k ptcls

6.6 Å

TOPAZ

train

TOPAZ

model

E

Dataset 1

20 675 mics

manual curation

19 630 mics

TOPAZ

auto-pick

3.0 M ptcls

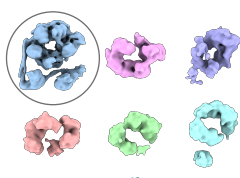
2D classification x2

872k ptcls

ab initio (6 class)

heterogeneous

refinement



non-uniform

refinement

397k ptcls

2.9 Å

non-uniform

refinement

974k ptcls

2.8 Å

ab initio (6 class, 0 iter)

heterogeneous

refinement

(6 junk classes + original map)

local

refinement

667k ptcls

2.9 Å

Dataset 2

35 094 mics

manual curation

33 867 mics

TOPAZ

auto-pick

4.7 M ptcls

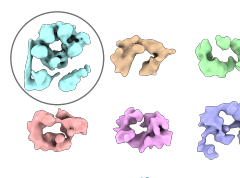
2D classification

4.5 M ptcls

ab initio (6 class)

heterogeneous

refinement



non-uniform

refinement

577k ptcls

2.9 Å

non-uniform

refinement

13k ptcls

7.5 Å

Local

refinement

F

Coils



667k ptcls

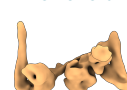
2.9 Å

Partial signal

subtraction

Local

refinement



667k ptcls

8.6 Å

ab initio (6 class, 0 iter)

heterogeneous

refinement

(6 junk classes + original map)

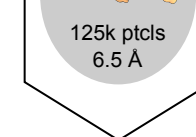
x3

local

refinement

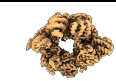
125k ptcls

6.5 Å



G

Retriever



667k ptcls

2.9 Å

Partial signal

subtraction

Local

refinement

667k ptcls

7.8 Å

ab initio (6 class, 0 iter)

heterogeneous

refinement

(6 junk classes + original map)

local

refinement

125k ptcls

7.6 Å

3D

classification

(10 classes)

