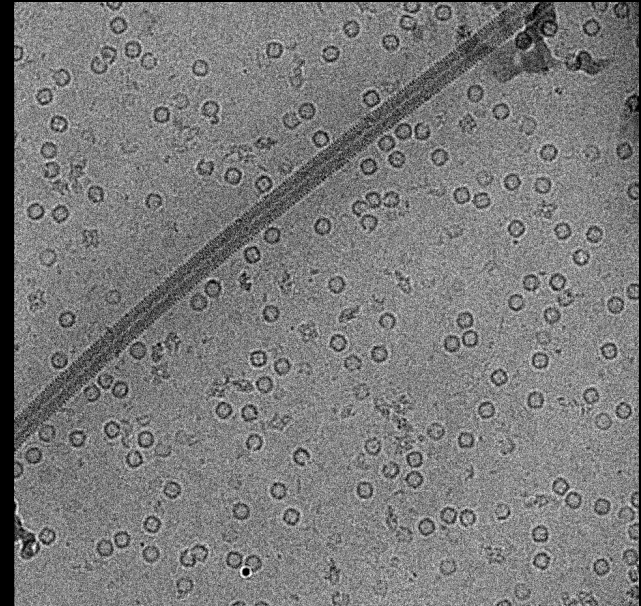
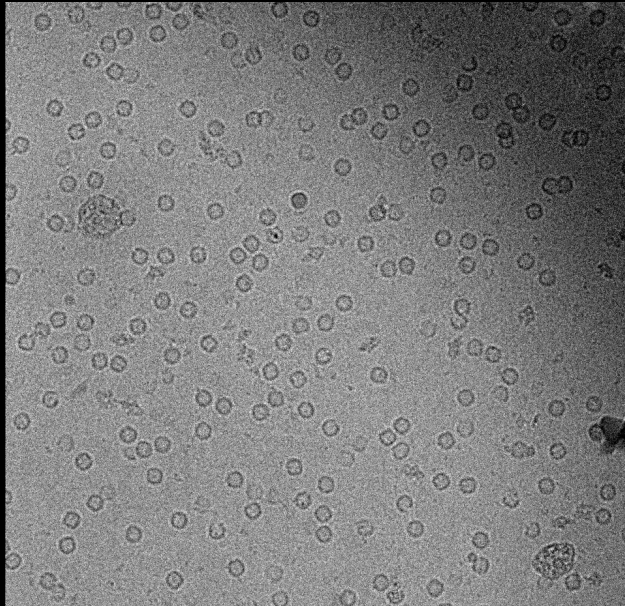
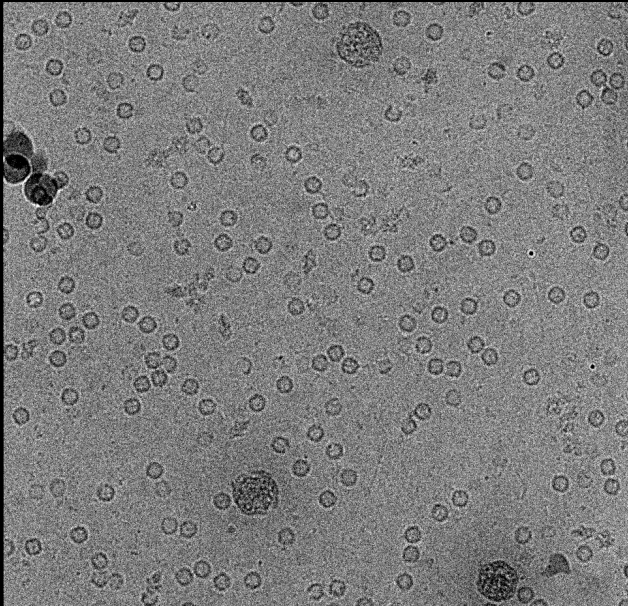




# **INTRODUCTION TO EMPIAR-11693 DATASET (EM-LADDER)**

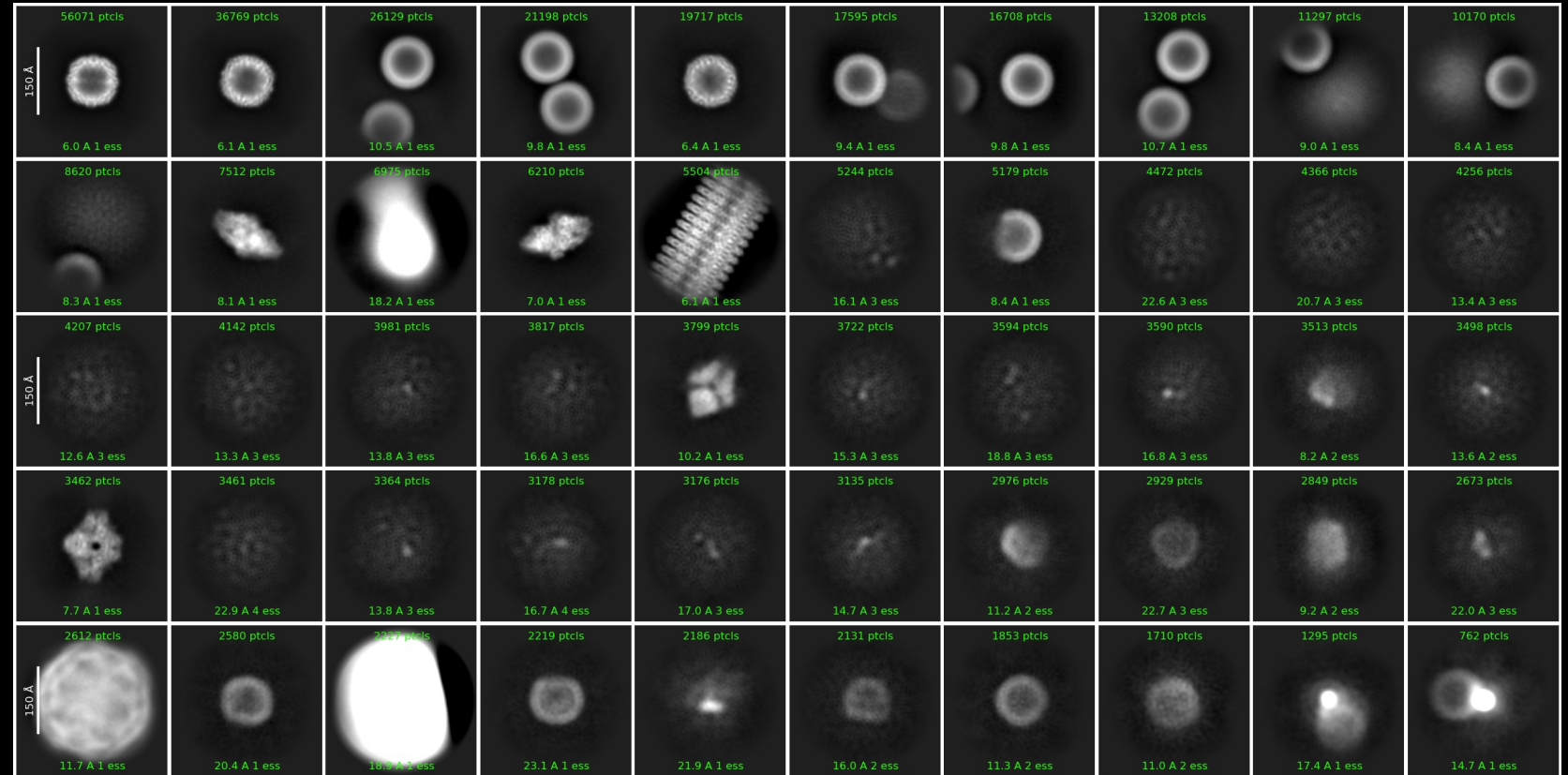
# MICROGRAPHS TELL A TALE

- What is the format of these micrographs?
- Is this negative-stained or cryo-sample?
- How many types of particles do you see?
- What are the dark spots on these micrographs?
- Do you see any contrast gradients, can they affect you reconstructions?



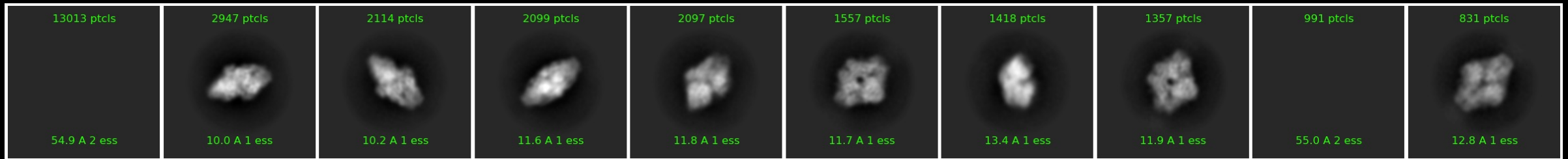
# JUNK OR GOLD?

- 2D classification often provides a first glimpse into the sample/data quality
- Which ptcls are “ours”?

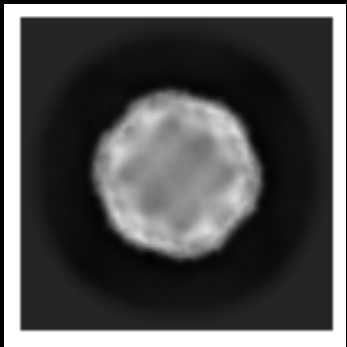


# JUNK OR GOLD?

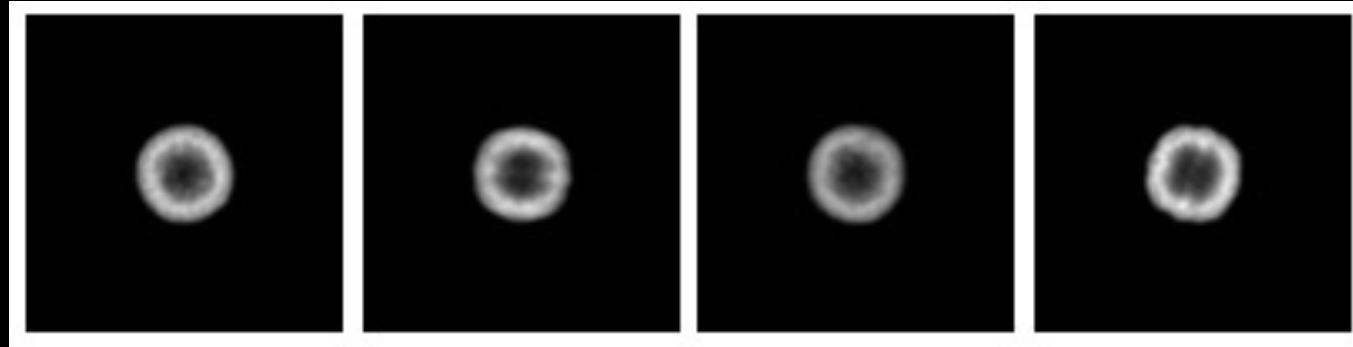
- 2D classification averages, same box size?



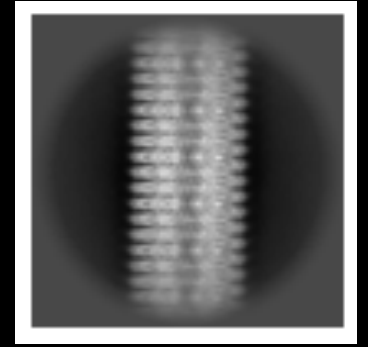
## Beta-galactosidase



PP7 VLP



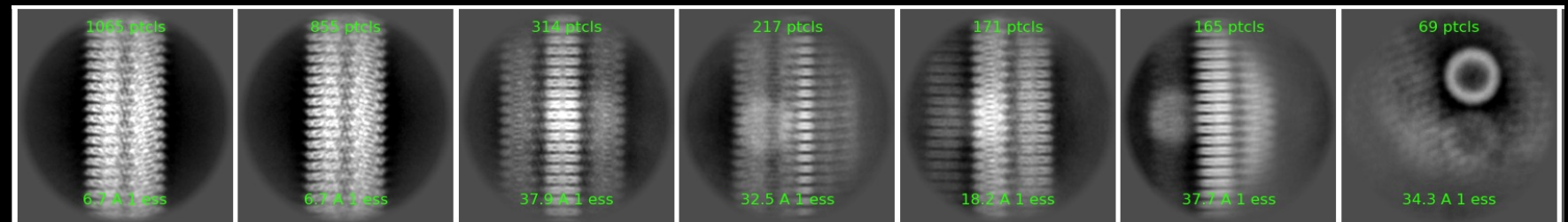
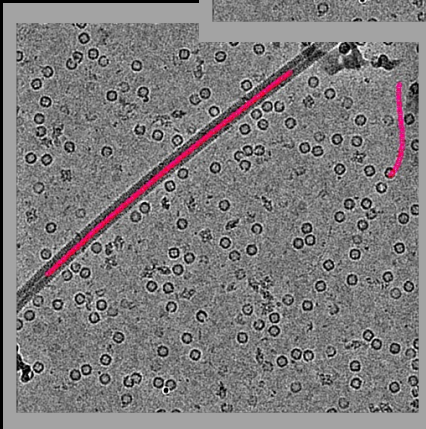
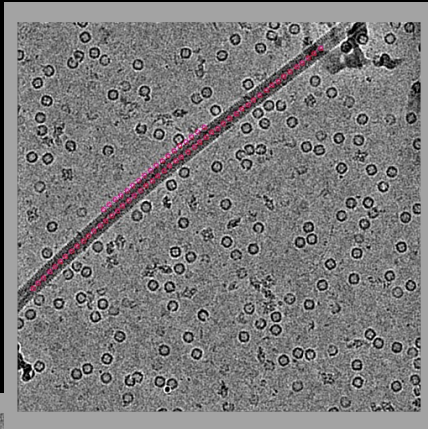
apoferritin



TMV

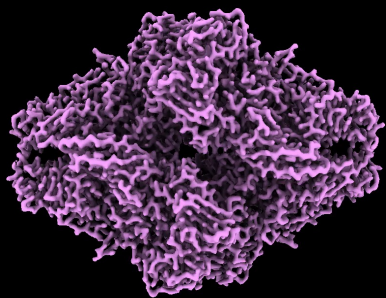
# GOOD OR "EVIL" PICKS?

- 2D classification often provides a first glimpse into the sample/data quality

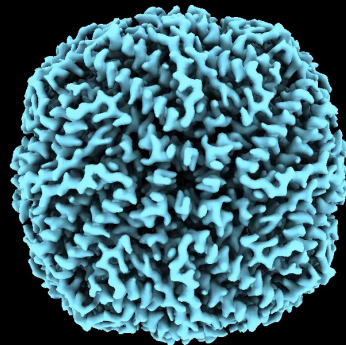


# 3D SYMPHONY

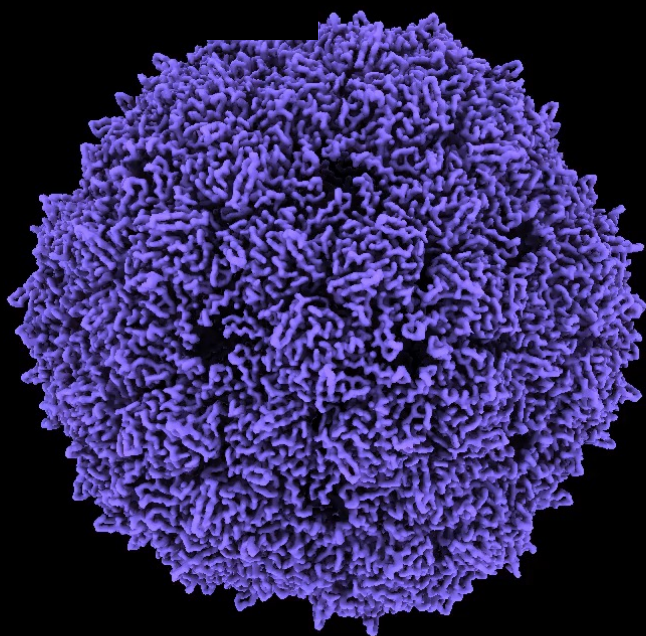
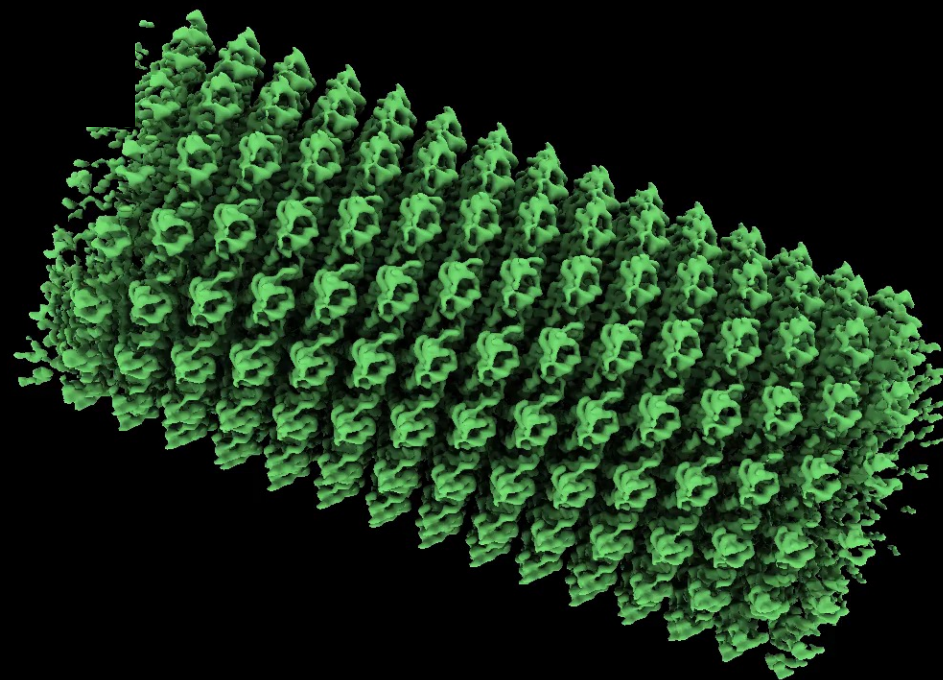
Beta-galactosidase



Apoferritin



TMV



PP7-VLP