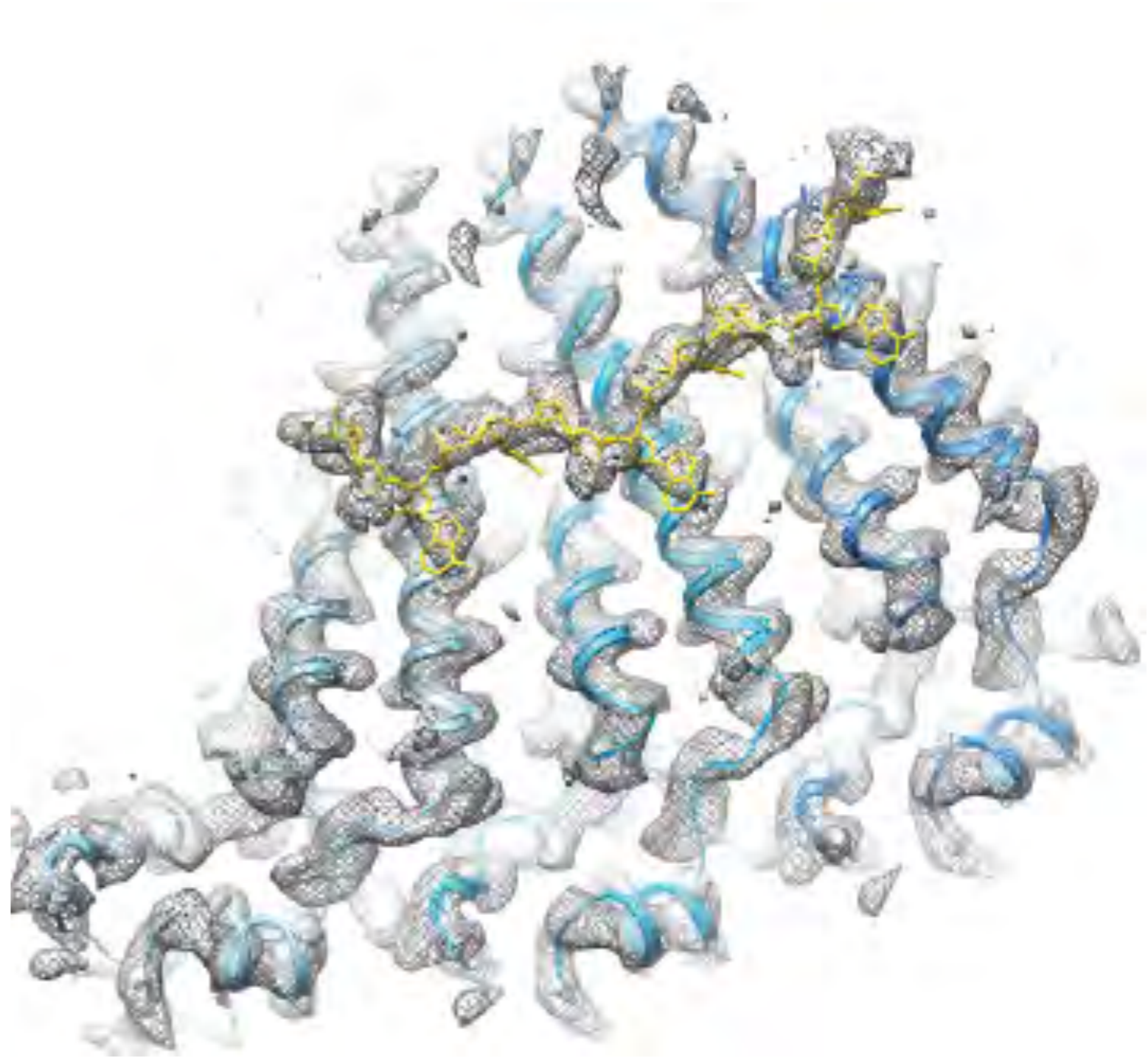
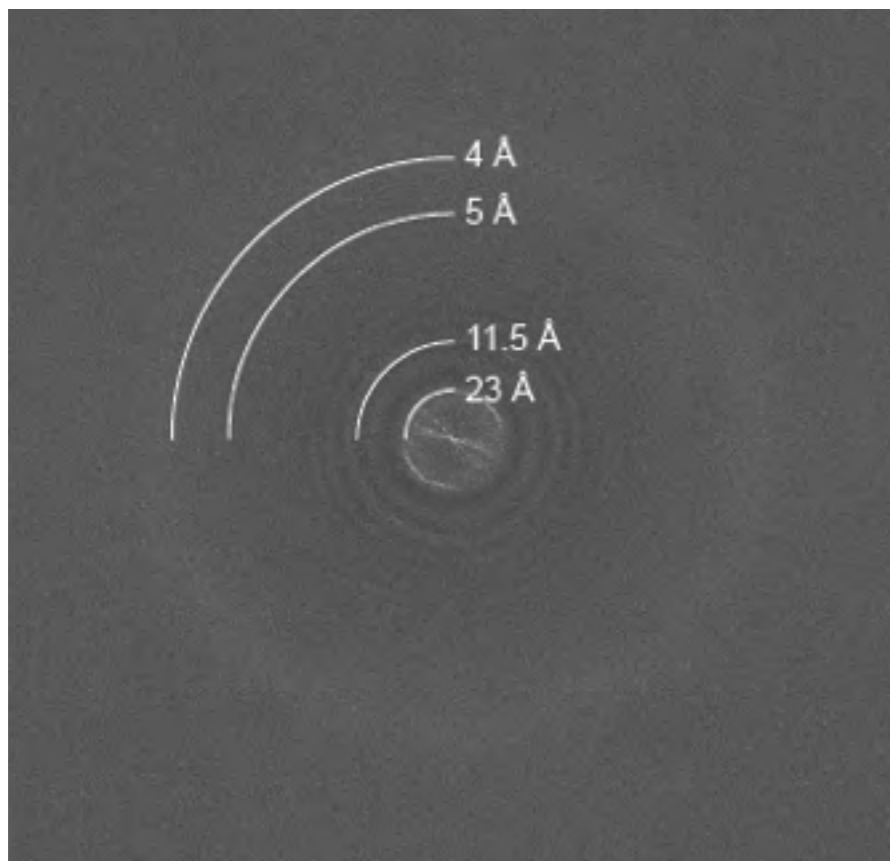
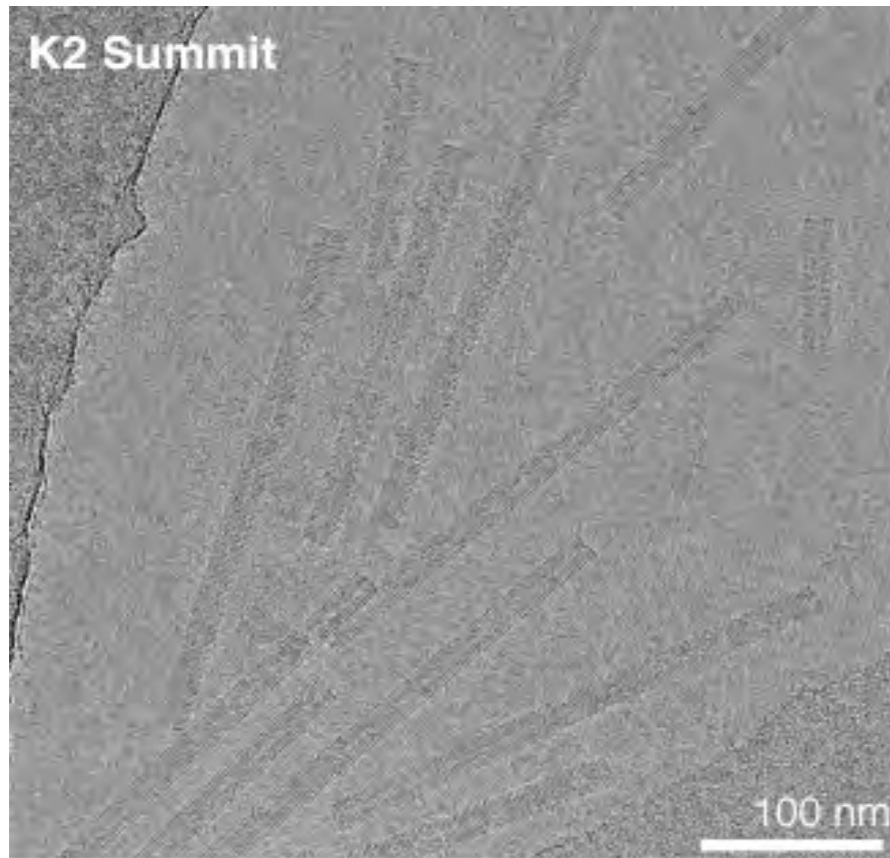


Direct Detector Forum NRAMM workshop

Carsten Sachse
Nov 11, 2014

TMV structure from a single micrograph



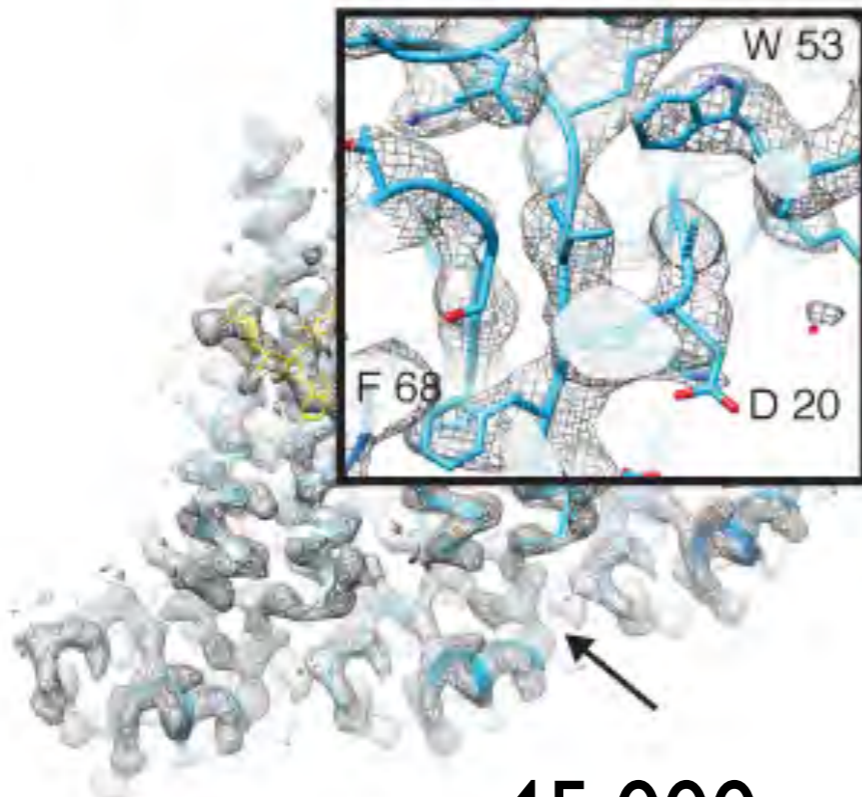
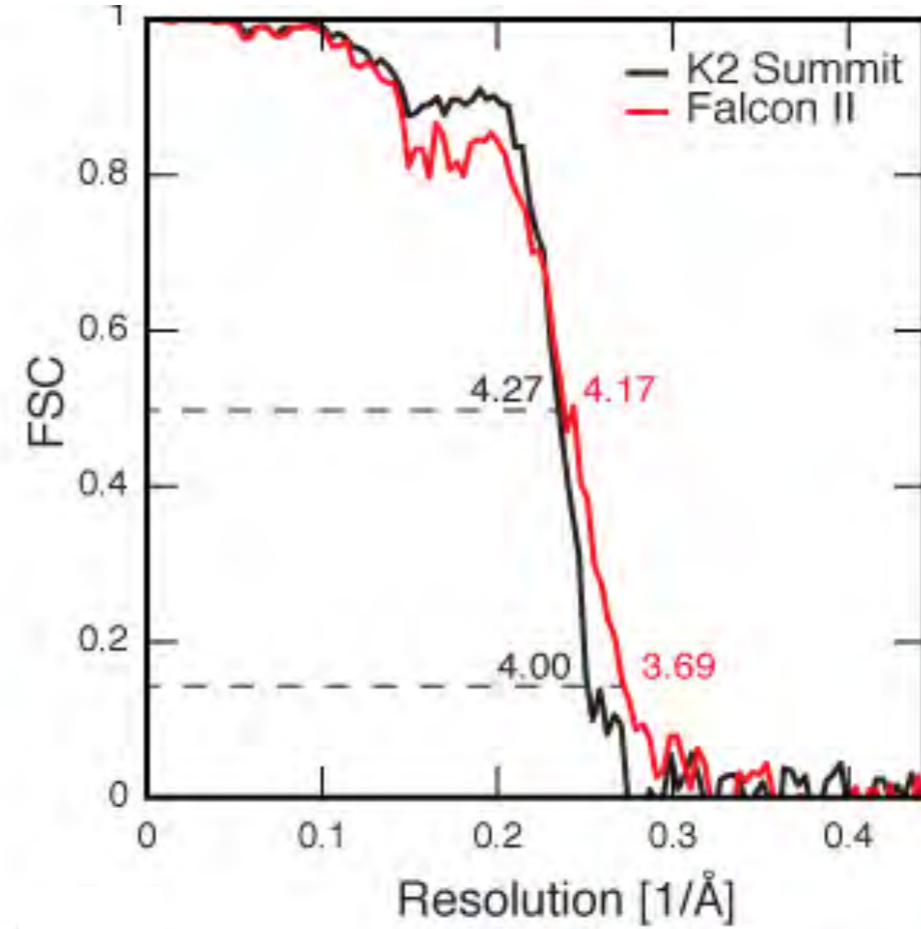
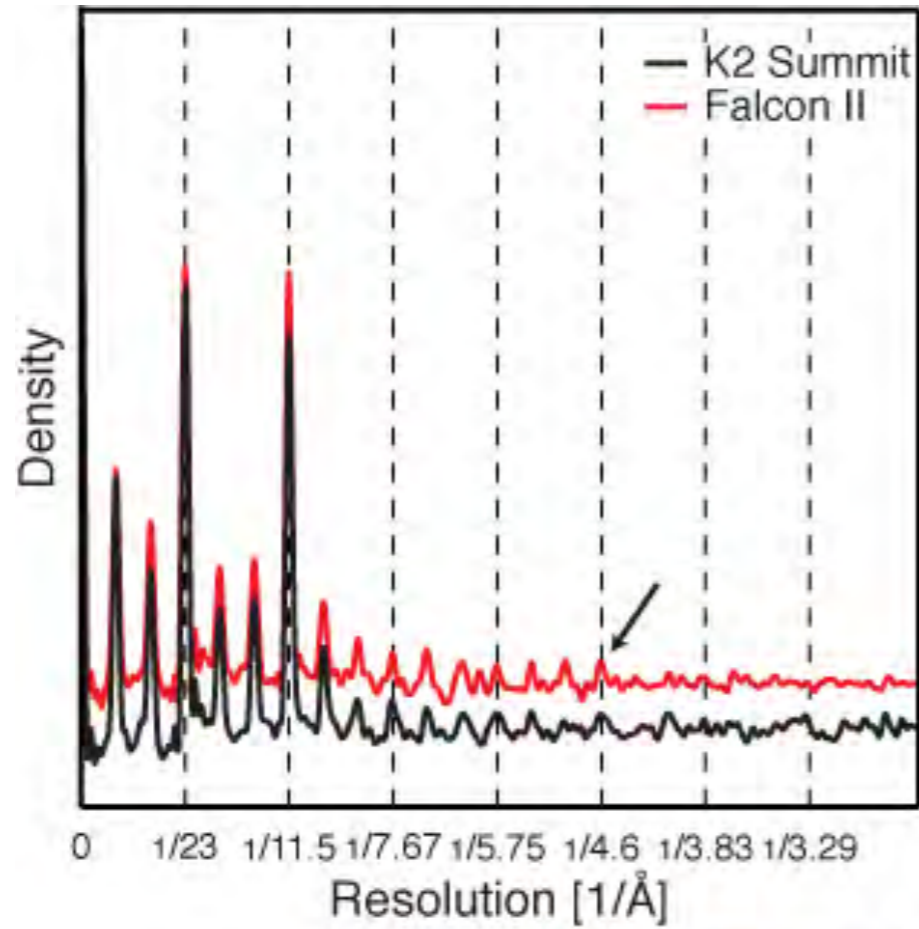
Resolution 4.2 Å

Direct comparison of K2 Summit and Falcon II at the MRC-LMB Titan Krios

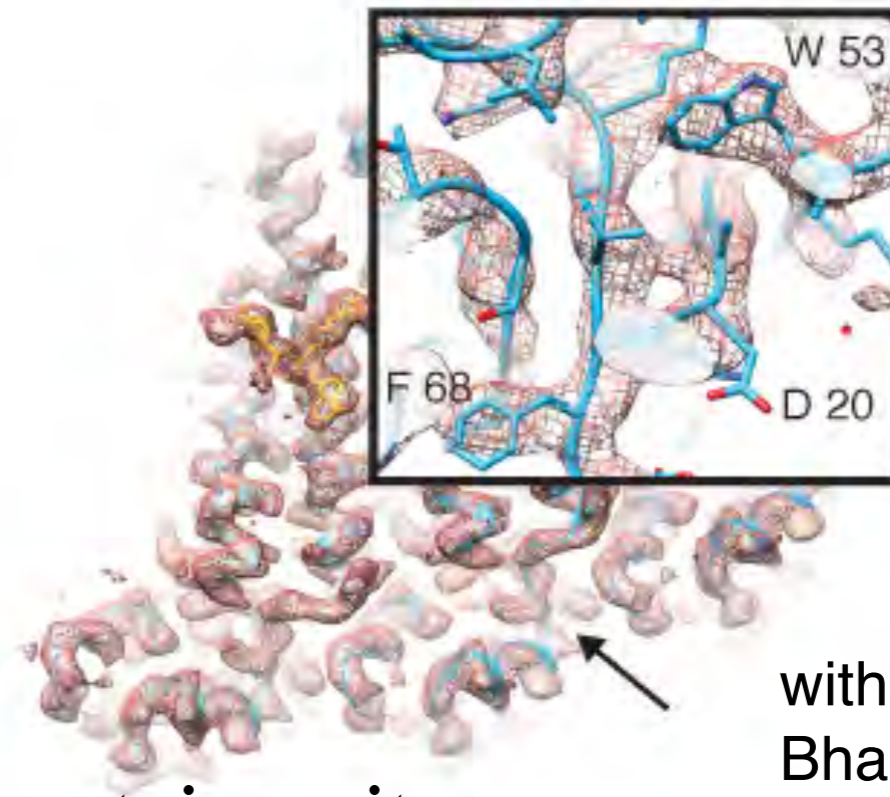
	Post-Gif K2	Falcon II
Voltage (kV)	300	300
Imaging mode	EFTEM	Nanoprobe
Pixel size (Å)	1.13	1.06
Dose rate (e	7	50
Total dose (e-/Å ²)	43	43
Exposure time (s)	4.4	1.0
Frames	22	16

with Tanmay
Bharat (MRC-LMB)
unpublished

Comparison of K2 Summit and Falcon II

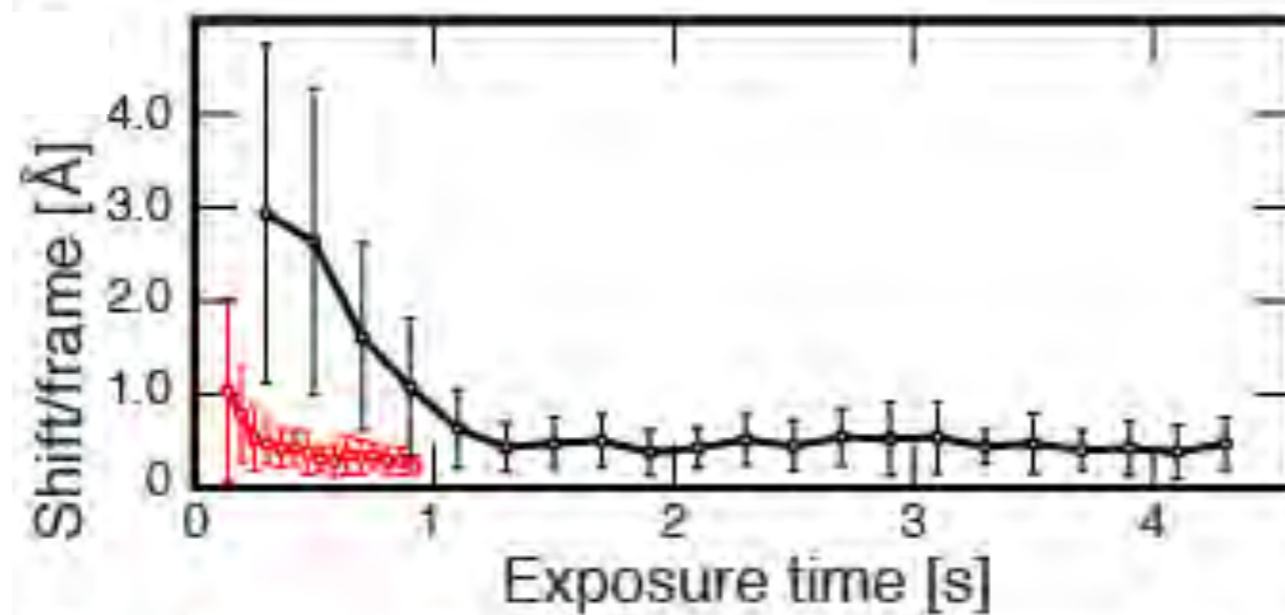
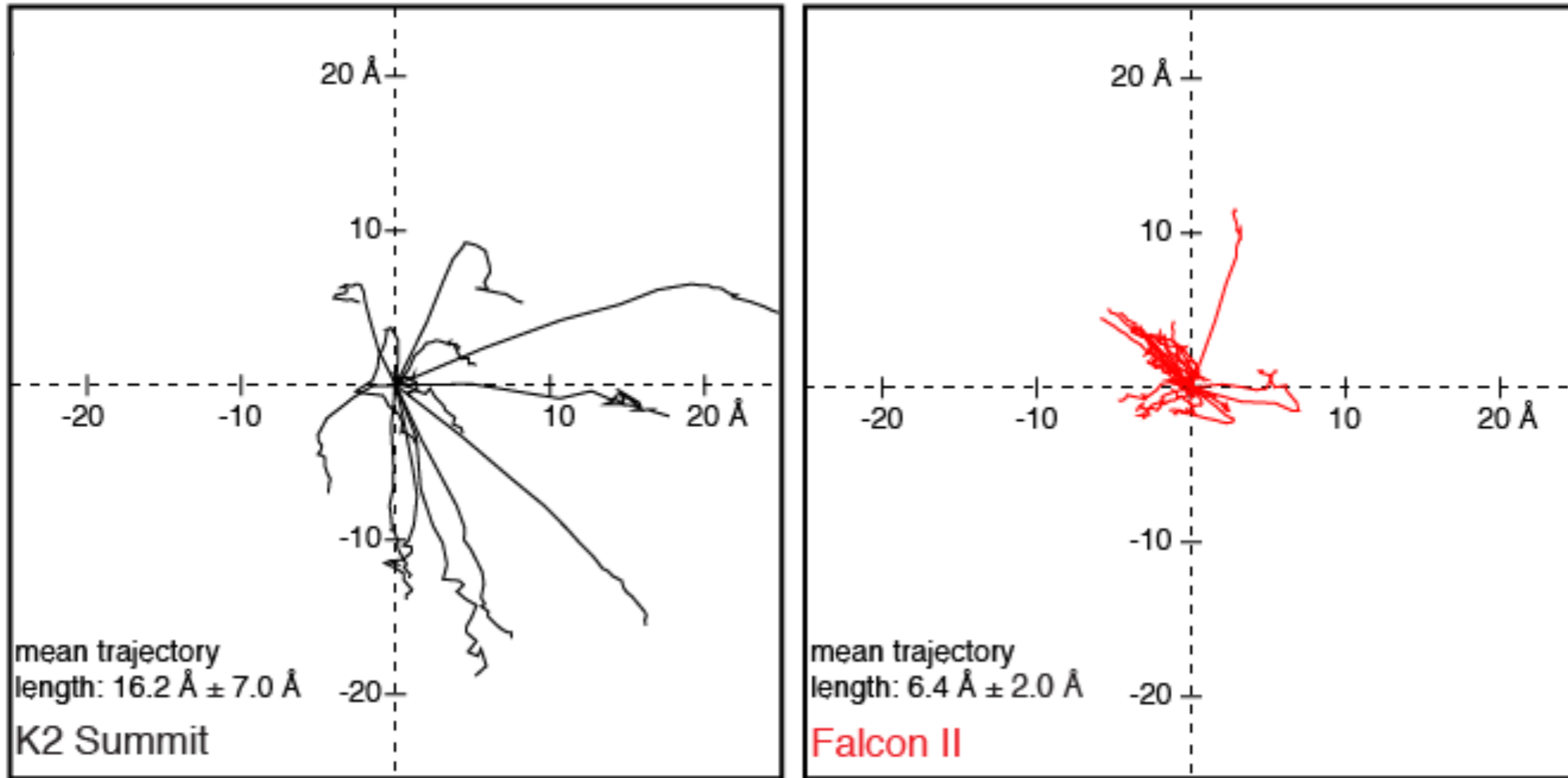


45,000 asymmetric units



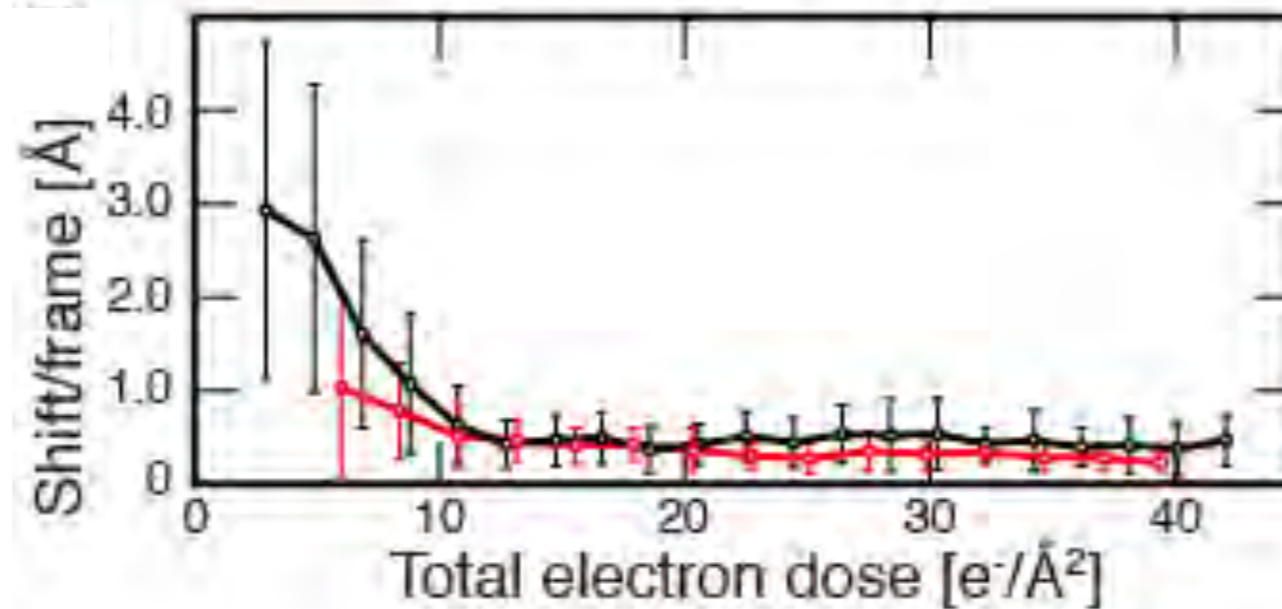
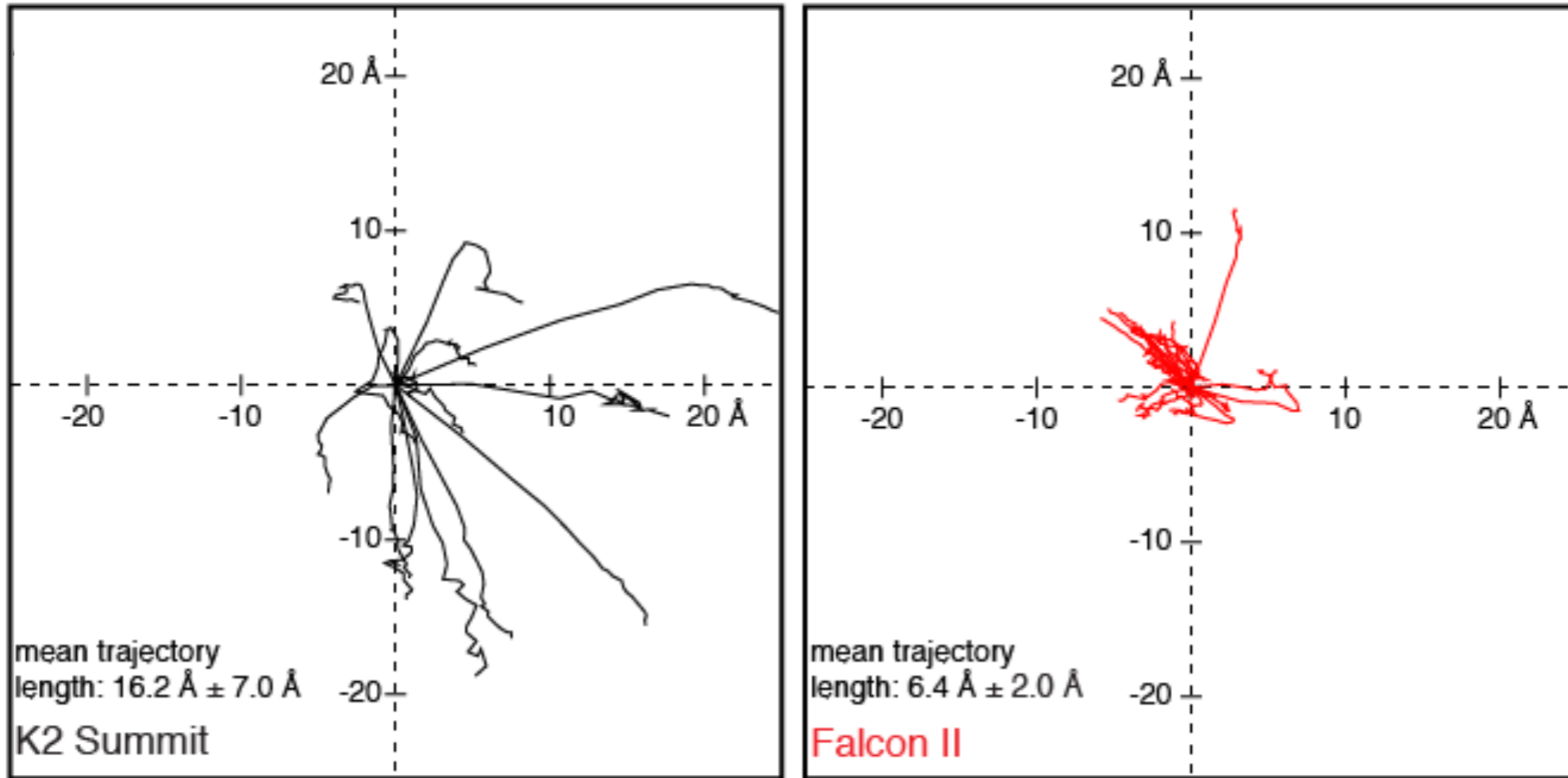
with Tanmay
Bharat (MRC-LMB)
unpublished

Sample movement of K2 and Falcon II



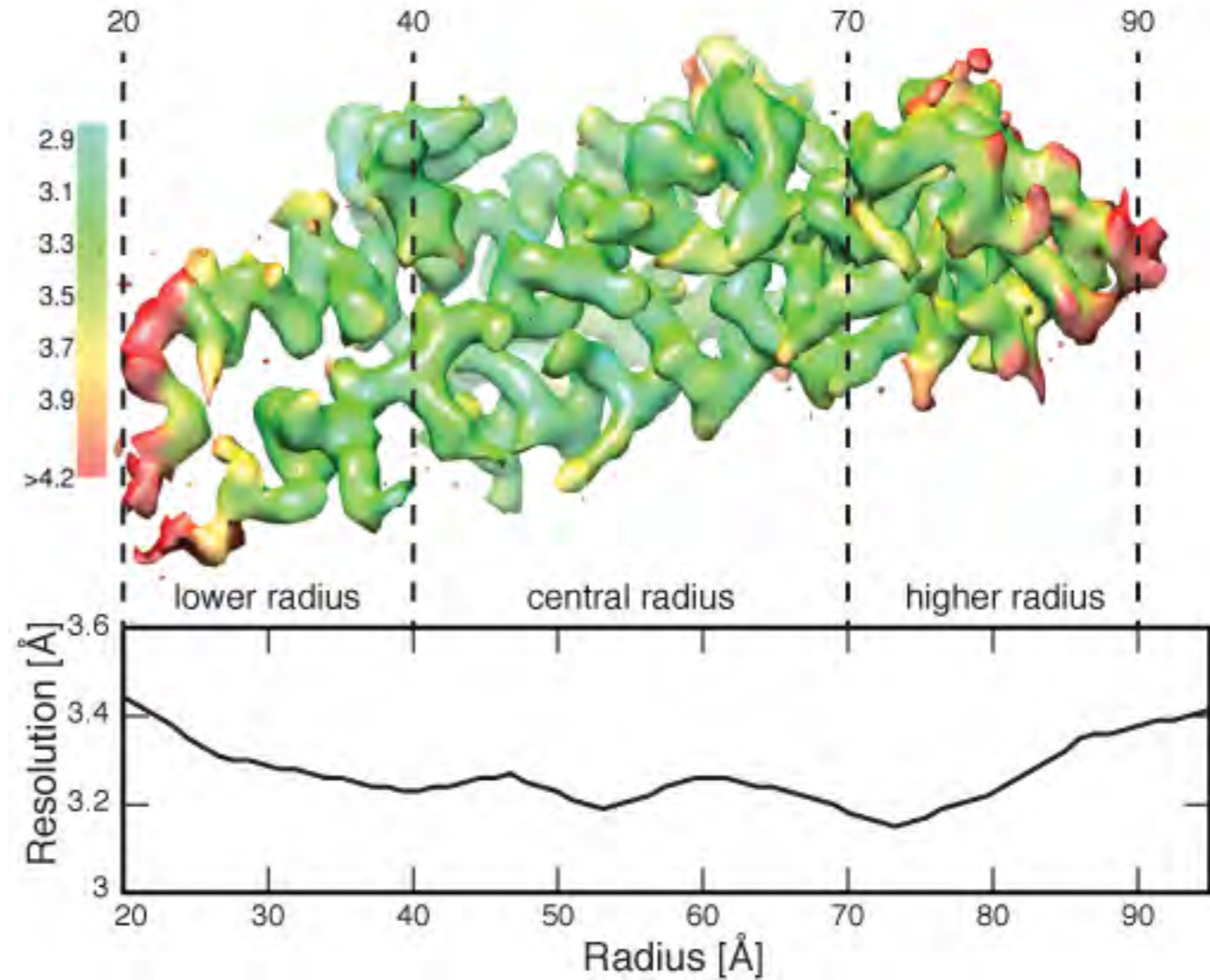
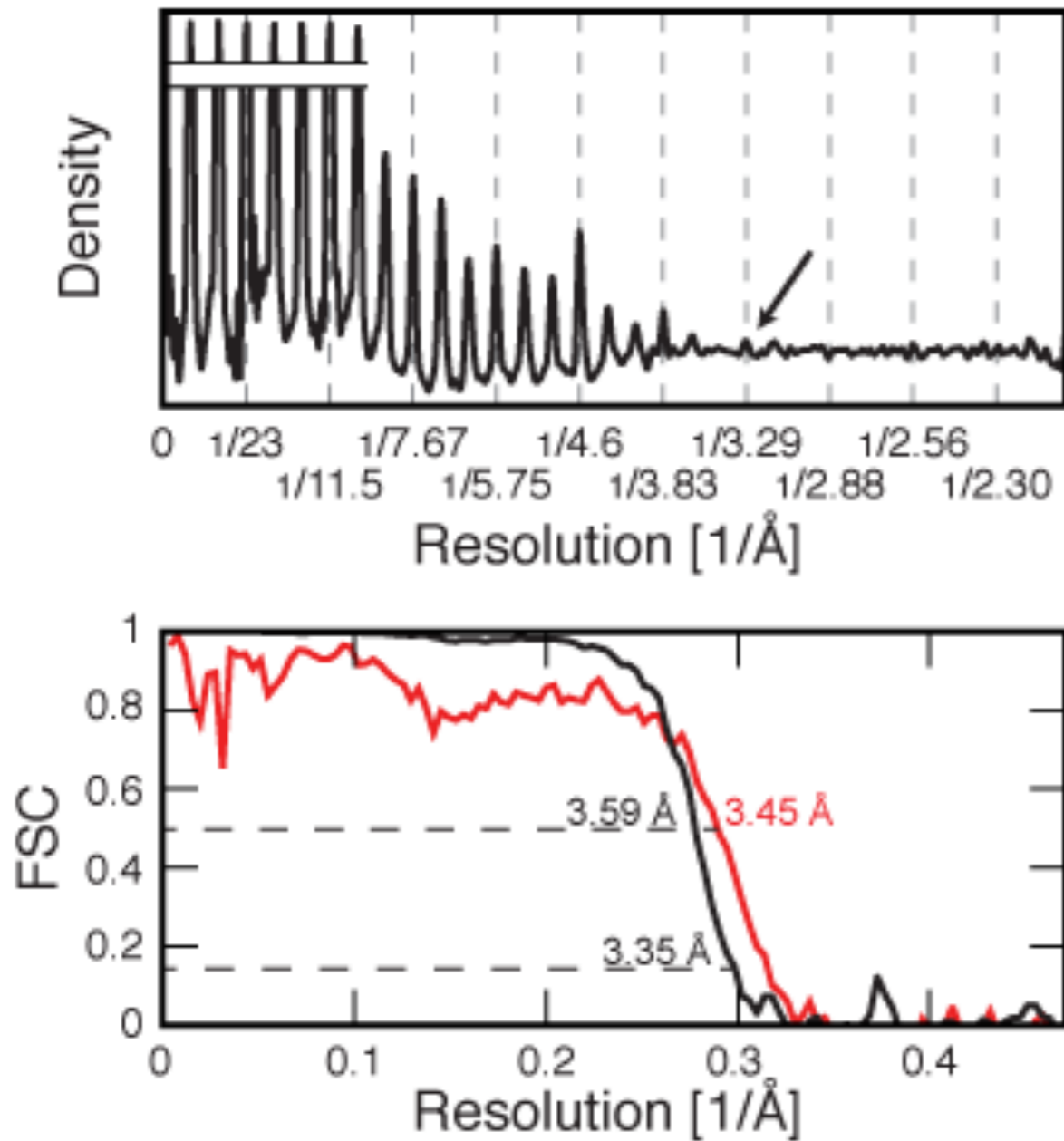
with Tanmay
Bharat (MRC-LMB)
unpublished

Sample movement of K2 and Falcon II



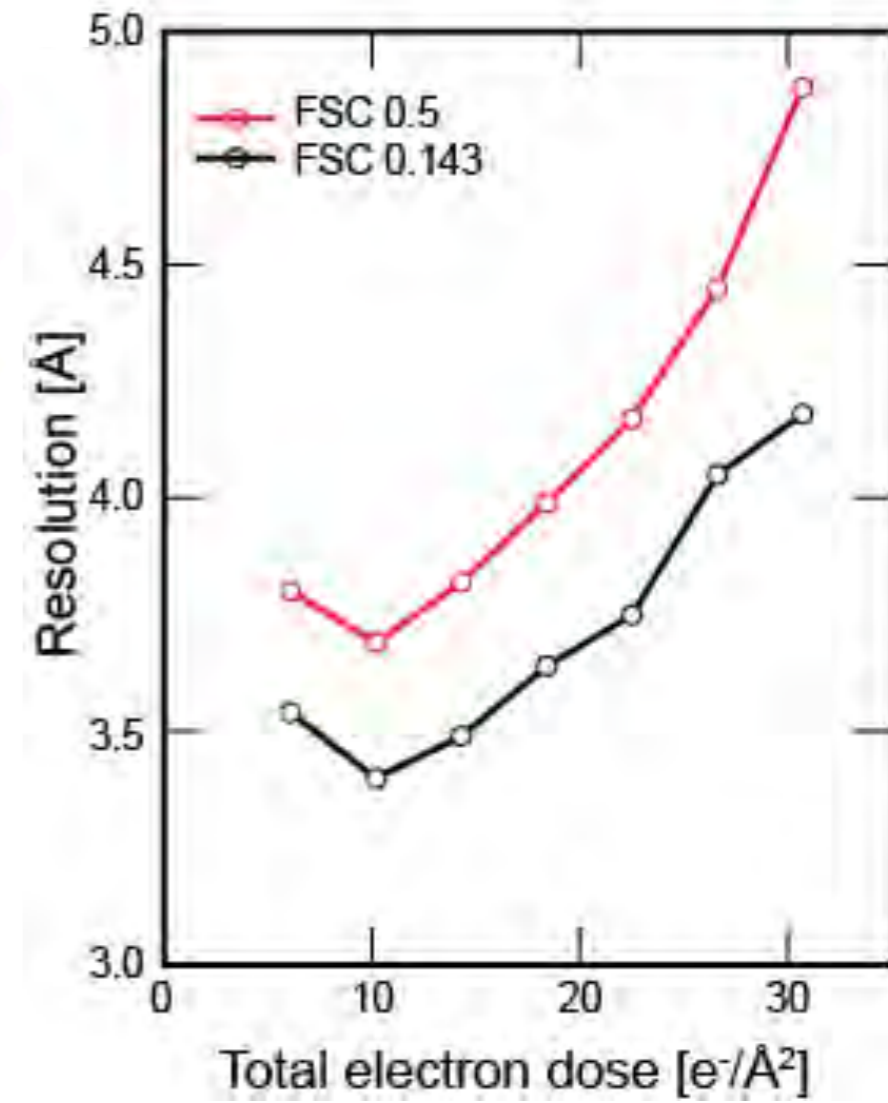
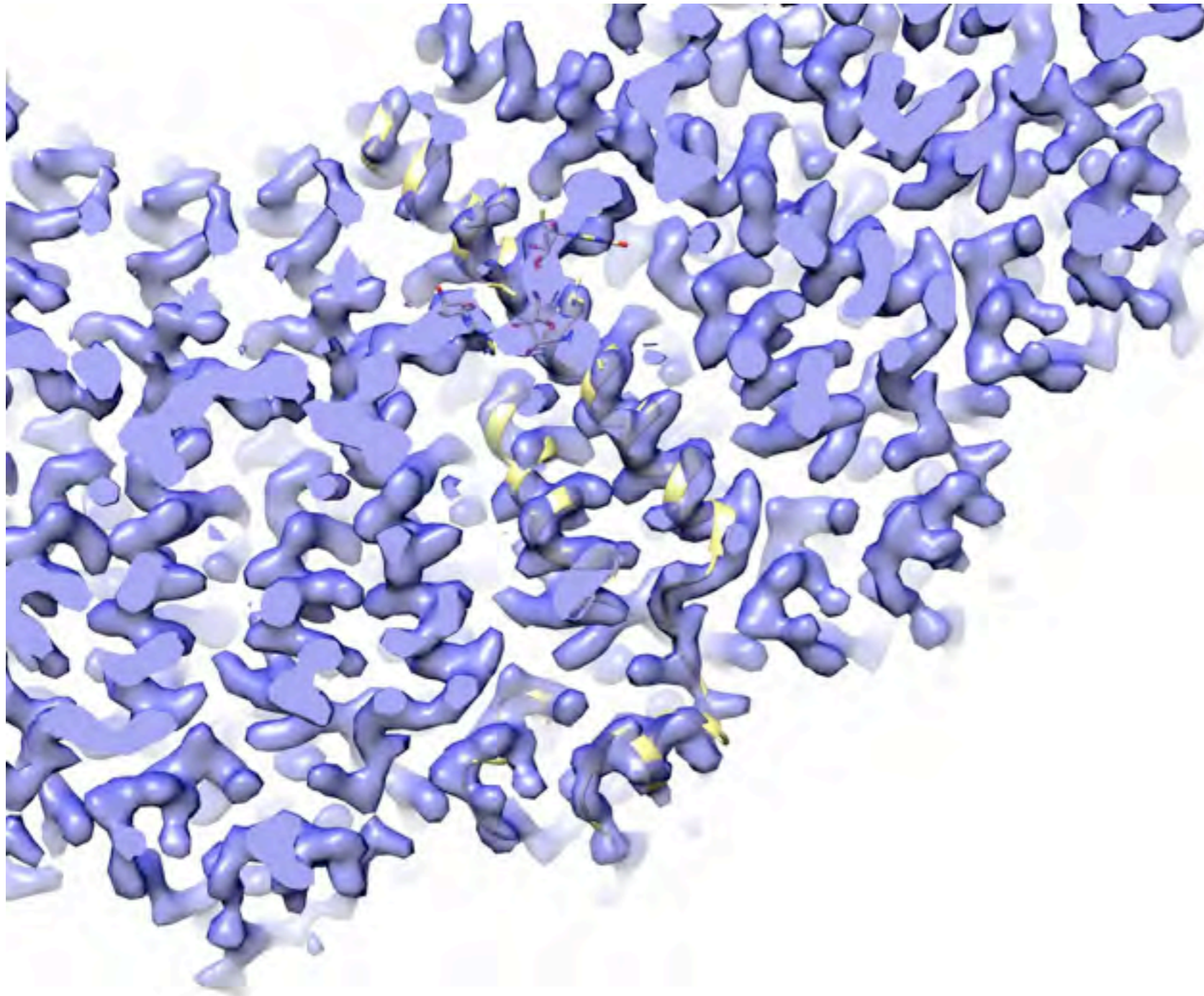
with Tanmay
Bharat (MRC-LMB)
unpublished

TMV structure at $< 3.3 \text{ \AA}$ resolution

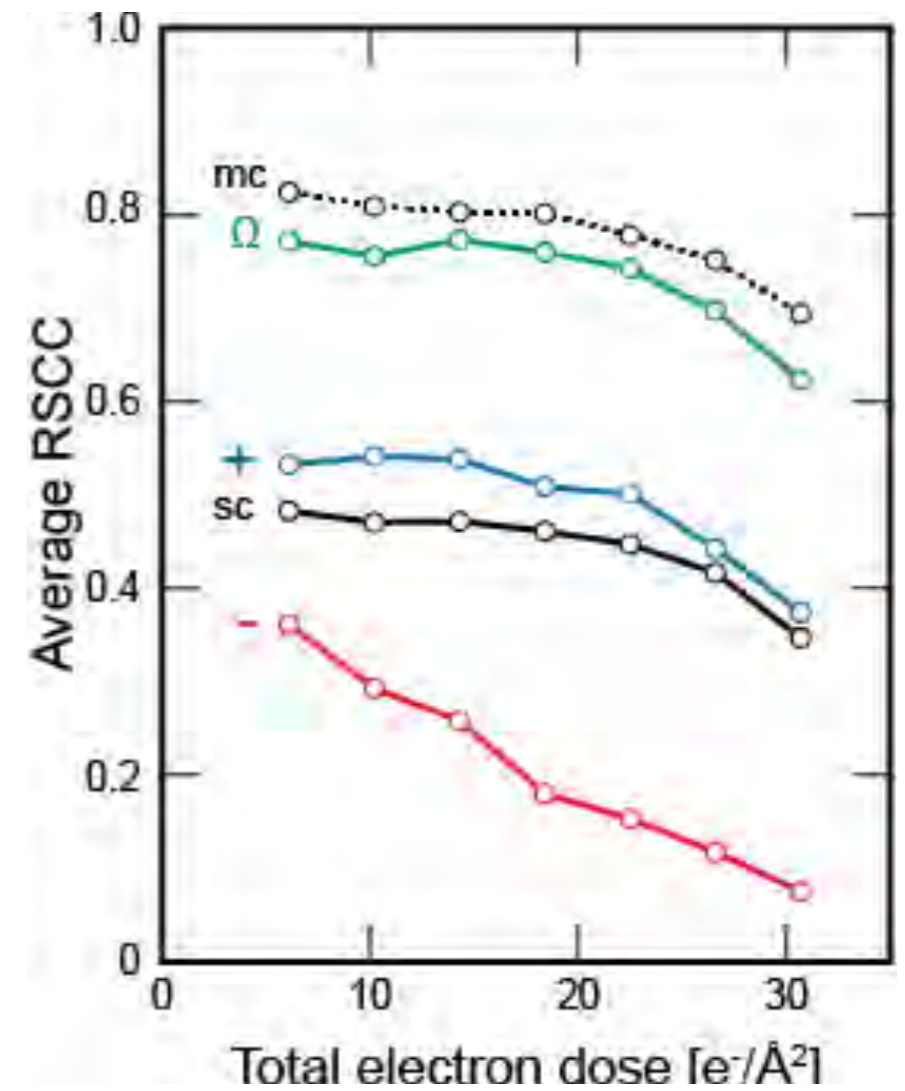
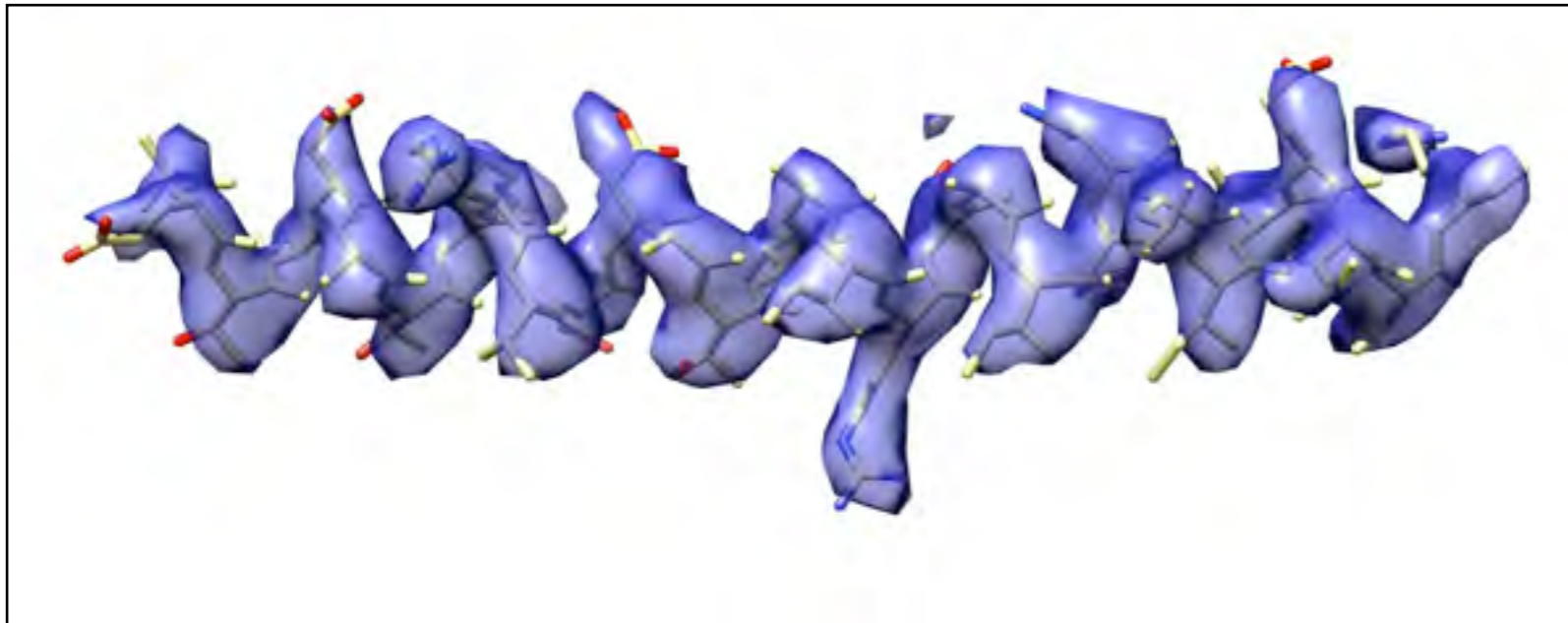


450,000 asymmetric units (109 micrographs) unpublished

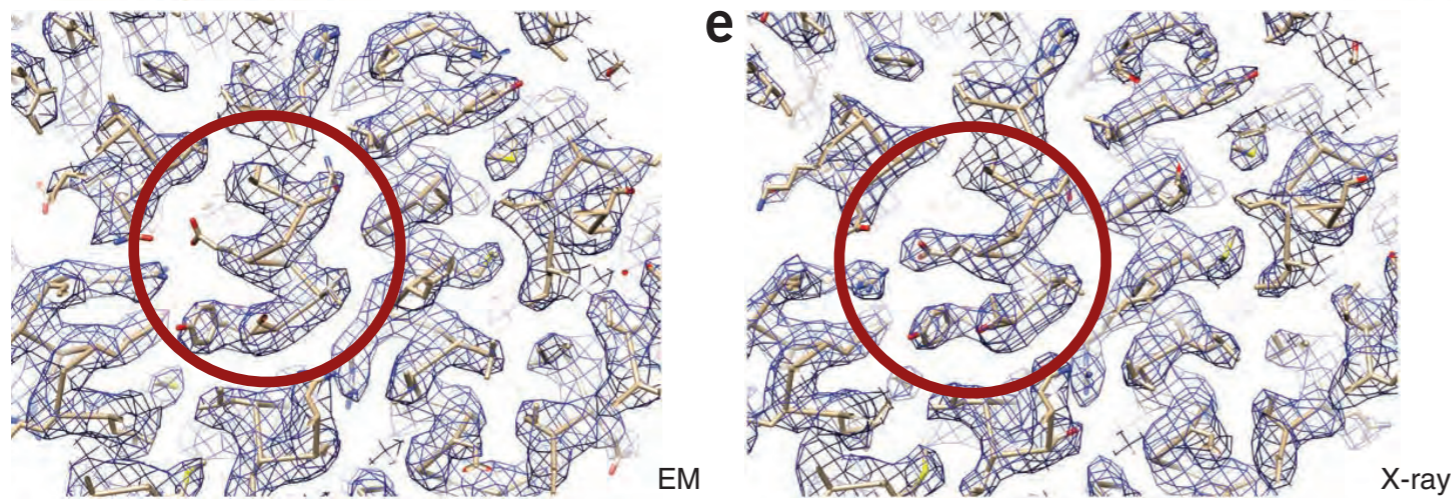
The effect of dose on TMV structure



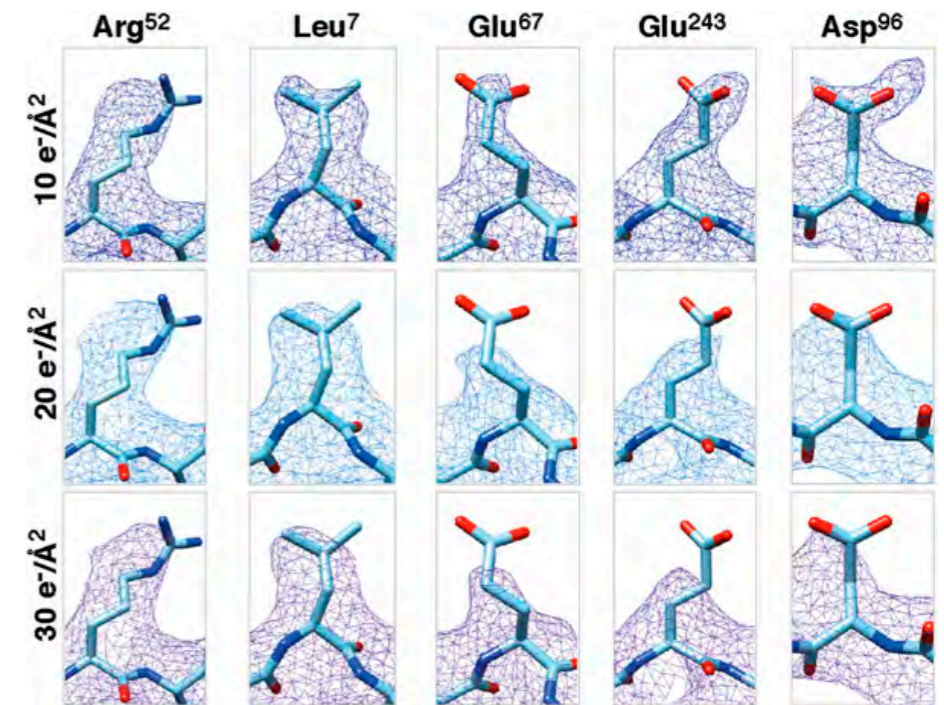
Side-chain specific radiation damage



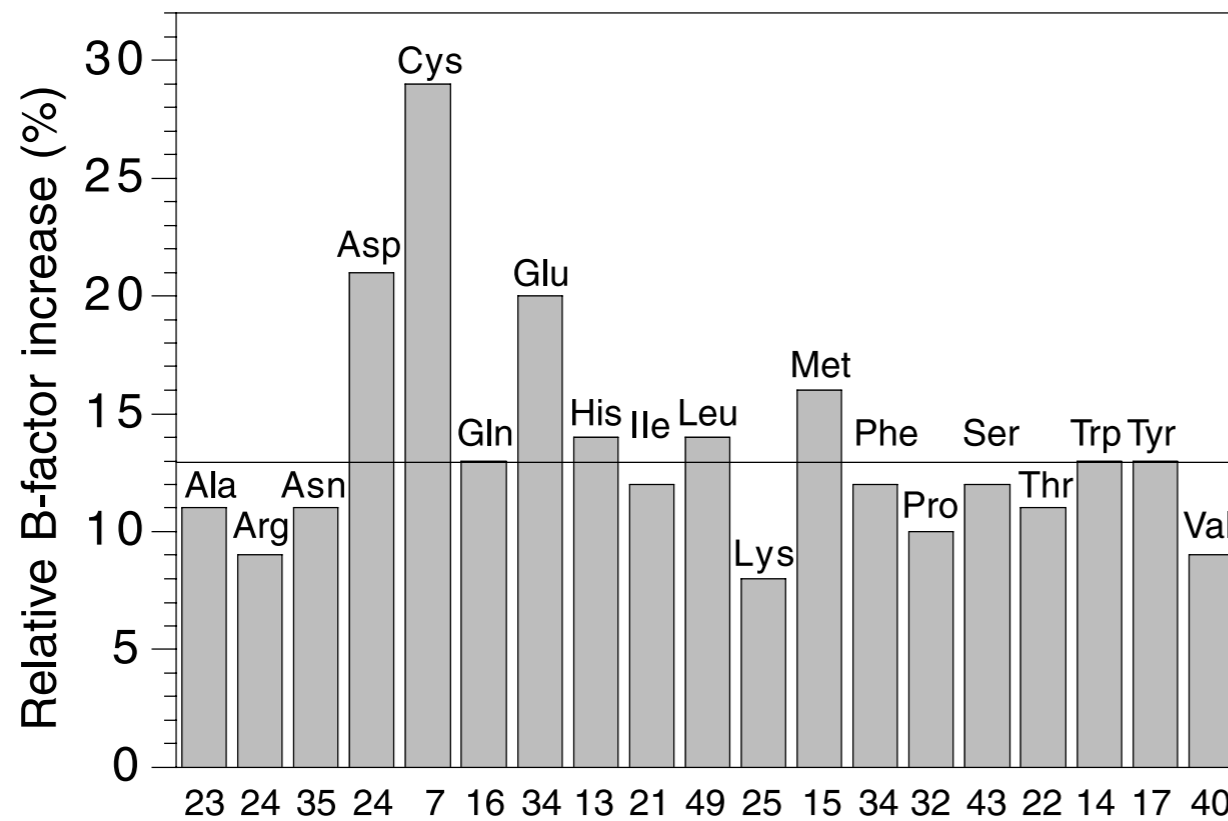
Side-chain specific radiation damage



Li, et al. (2013). Nat Methods 10, 584–590.



Bartesaghi, et al. (2014)
Proc Natl Acad Sci USA.



Weik, et al. (2000). Proc Natl Acad Sci USA 97, 623–628.

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Sachse lab



TMV



Simon Fromm

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