		Microscope			Pixel size	Flux	Exp.	Fluence
Mode	Source	type	Energy (keV)	Detector	(Å/px)	$(e^{-}/Å^{2}/s)$	Time (s)	(e ⁻ /Ų)
Negative stain	W-thermal	Entry level	80–120 ^a	CCD	3.3	9	2	18
Diagnostic cryo	W-thermal	Entry level	80–120 ^a	CCD	3.3	9	2	18
Diagnostic cryo	FEG	Mid-range	200	Falcon 2	2.1	10	2	20
Medium-resolution cryo (\geq 3.5 Å)	FEG	Mid-range/ high-end	300	Falcon 2	1.7	17	3	51
High-resolution ($\leq 3.5 \text{ Å}$) $\geq 400 \text{ kDa}$	FEG	High-end	300	Falcon 2	1.3	28	2	56
High-resolution (\leq 3.5 Å) <400 kDa	FEG	High-end	300 (±5 eV)	K2	1.8	1.5	40	60
Very high-resolution (<2.8 Å)	FEG	High-end	300 (±5 eV)	K2	0.90	6.2	10	62
Cryo-tomography cellular (>30 Å)	FEG	High-end	300 (±5 eV)	K2	3.5 ^b	0.65	1.25 per tilt angle	100
Cryo-tomography high-resolution subtomogram avg. (<15 Å)	FEG	High-end	300 (±5 eV)	K2	2.2 ^b	1.5	1 per tilt angle	60

Table 4 Currently Recommended Data Collection Settings at the MRC LMB

^aDQE is maximum for a phosphor coupled CCD at approximately 80 keV but the effects of specimen charging and mean free path are lower at 120 keV. ^bPixel size is limited by flux instead of spatial resolution.

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Detective Quantum Efficiency Current detectors 300 keV



McMullan et al. 2015 & Greg McMullan, unpublished





Lysenin pore (310 kDa)



see Bokori-Brown et. al 2016

K2

- 1.43 Ang sampling
- 29329 particles
- 3.1 Ang resolution
- B factor 61

Falcon 3

- 1.07 Ang sampling
- 10395 particles
- 3.1 Ang resolution
- B factor 35





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