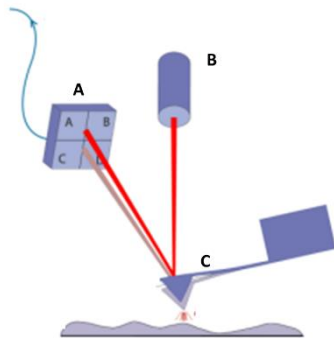


# Bio-AFM 2022-2023 Problem Set

## Lab (6 points)

- a) In the laboratory session we have discussed the typical main components of an atomic force microscope. In the following scheme identify the components A, B and C. What is the other component we also discussed and is missing in the picture?



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- b) The table below presents three technical parameters of the cantilevers that we need to consider when we are going to image a sample. In a standard AFM, please indicate the one you would choose to image a cell in liquid medium and the one you would use to image a biomolecule like DNA. Justify your answer.

	Cantilever technical data		
	Resonance Frequency (KHz)	Nominal value - Force constant (N/m)	Tip radius (nm)
<b>Cantilever 1</b>	50	0.1	~30 nm
<b>Cantilever 2</b>	320	40	8
<b>Cantilever 3</b>	50	0.1	< 8nm

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[illegible]

