





Literature report

ARTICLES

<https://doi.org/10.1038/s41557-019-0369-8>

nature
chemistry

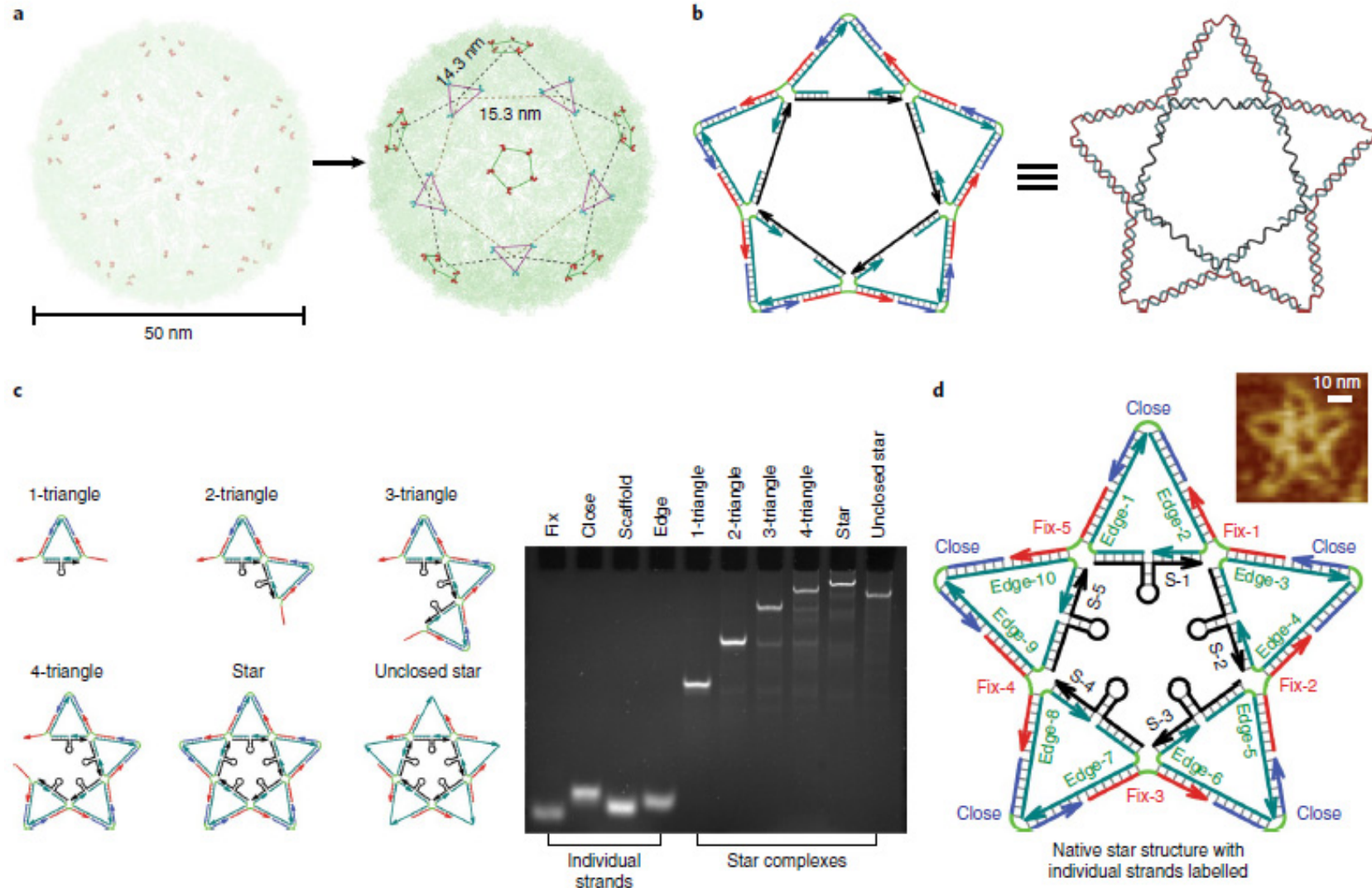
Designer DNA architecture offers precise and multivalent spatial pattern-recognition for viral sensing and inhibition

Paul S. Kwon^{1,2,3,9}, Shaokang Ren^{1,9}, Seok-Joon Kwon^{4,9}, Megan E. Kizer ^{2,9}, Lili Kuo^{5,9}, Mo Xie¹, Dan Zhu¹, Feng Zhou^{6,7}, Fuming Zhang ⁴, Domyoung Kim⁴, Keith Fraser⁴, Laura D. Kramer⁵, Nadrian C. Seeman⁶, Jonathan S. Dordick⁴, Robert J. Linhardt^{2,4}, Jie Chao ^{1*} and Xing Wang ^{2,8*}

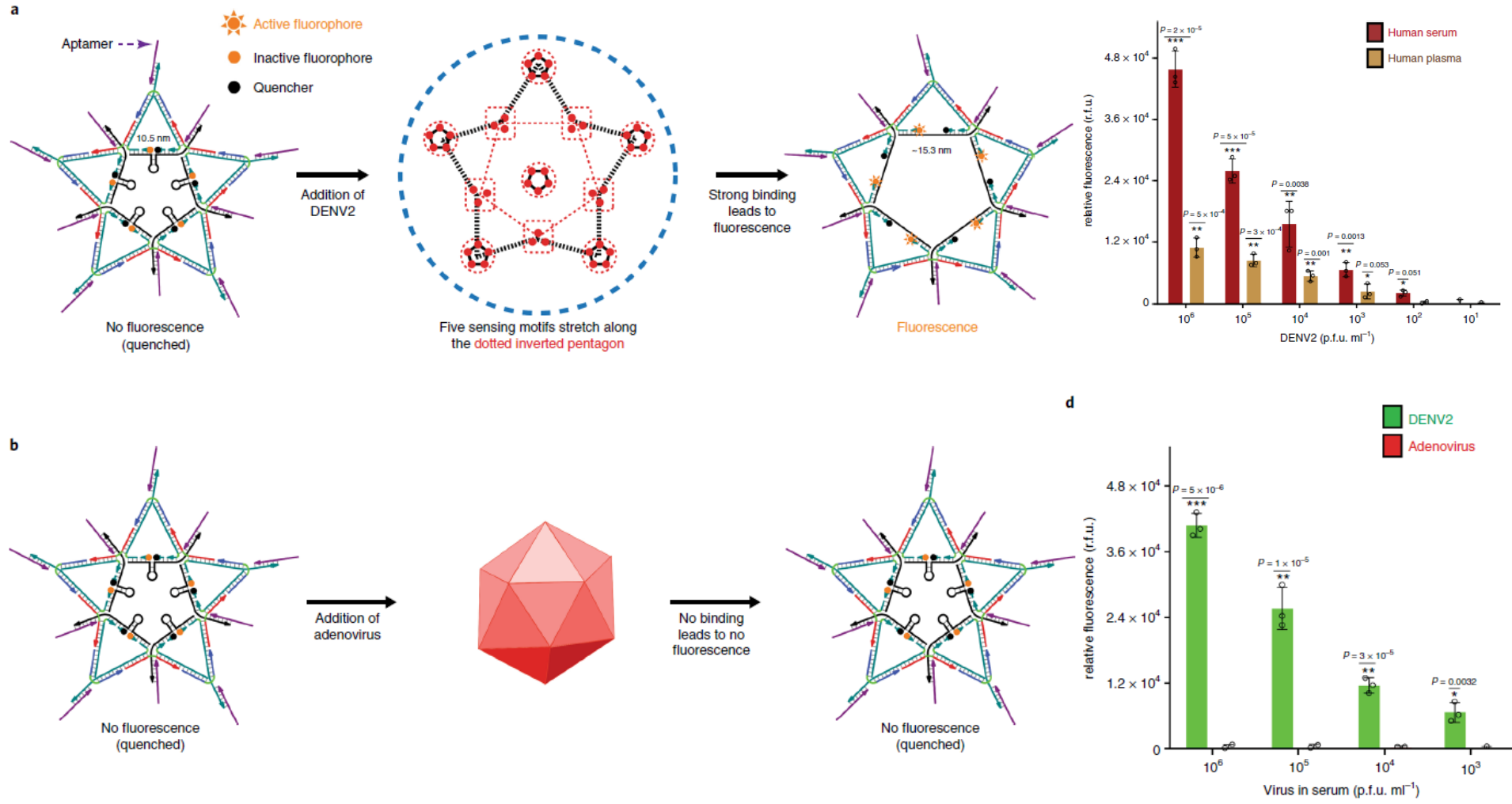
Reporter: Li Jin

Date:2020-02-11

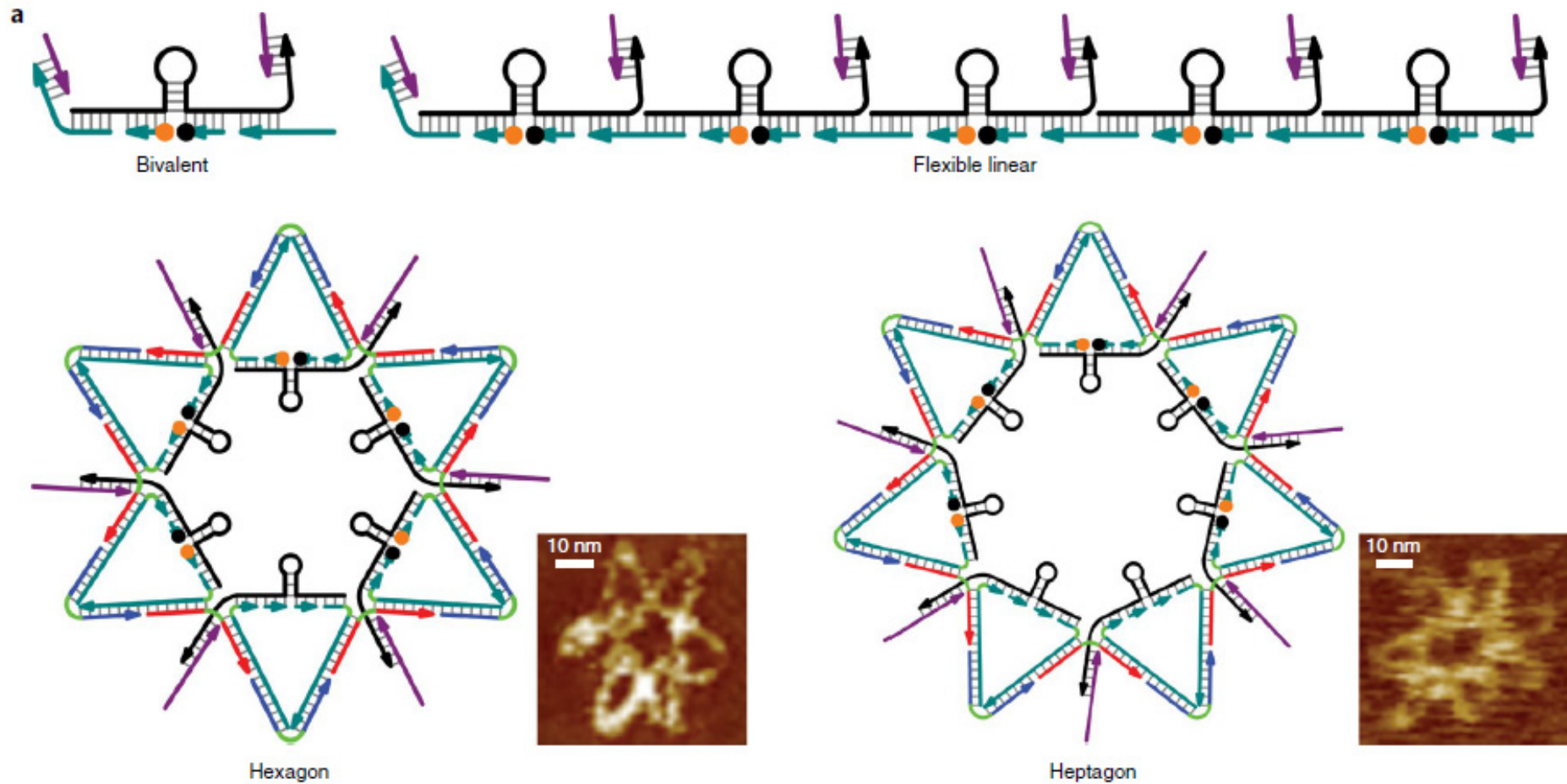
DENV and Dimensional pattern analysis and scaffold design principle of the DNA star



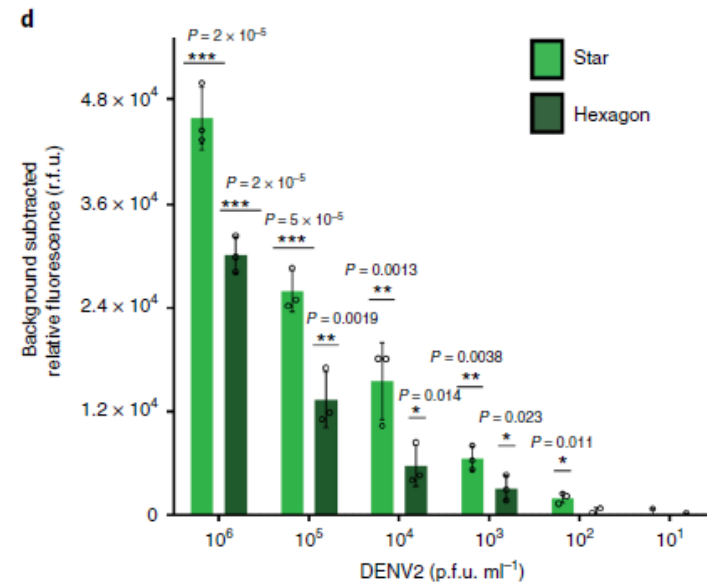
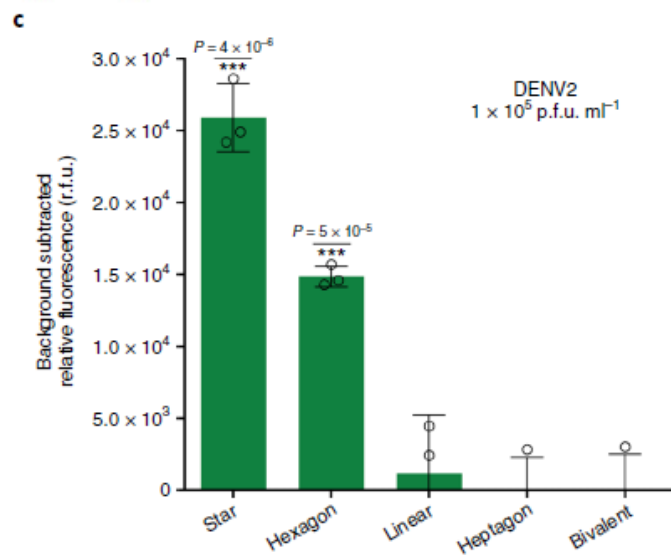
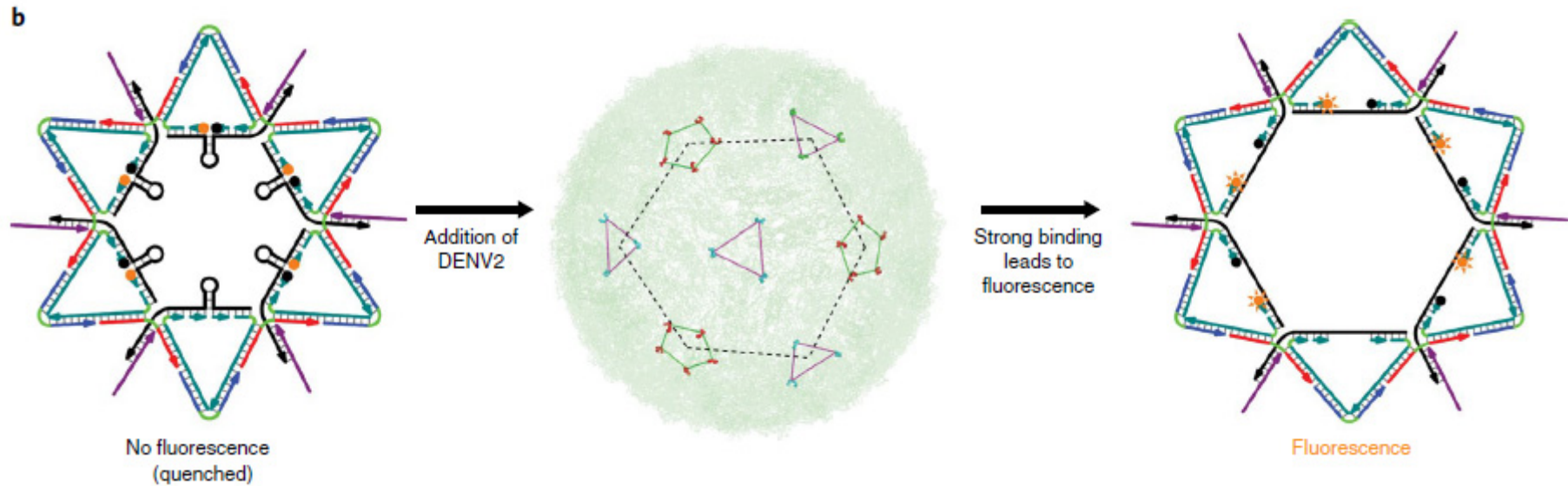
DNA star-based DENV sensing



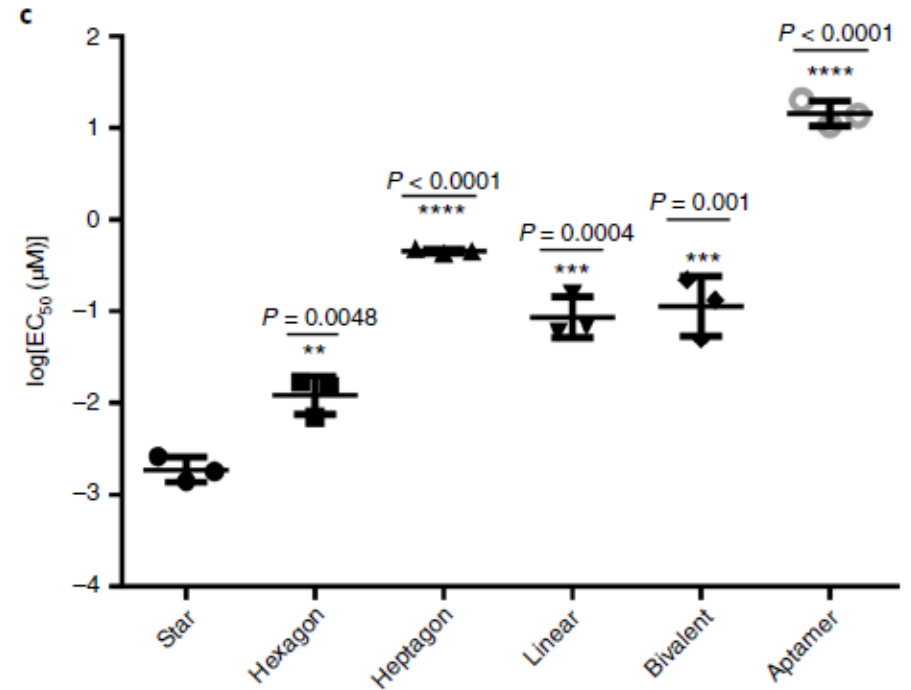
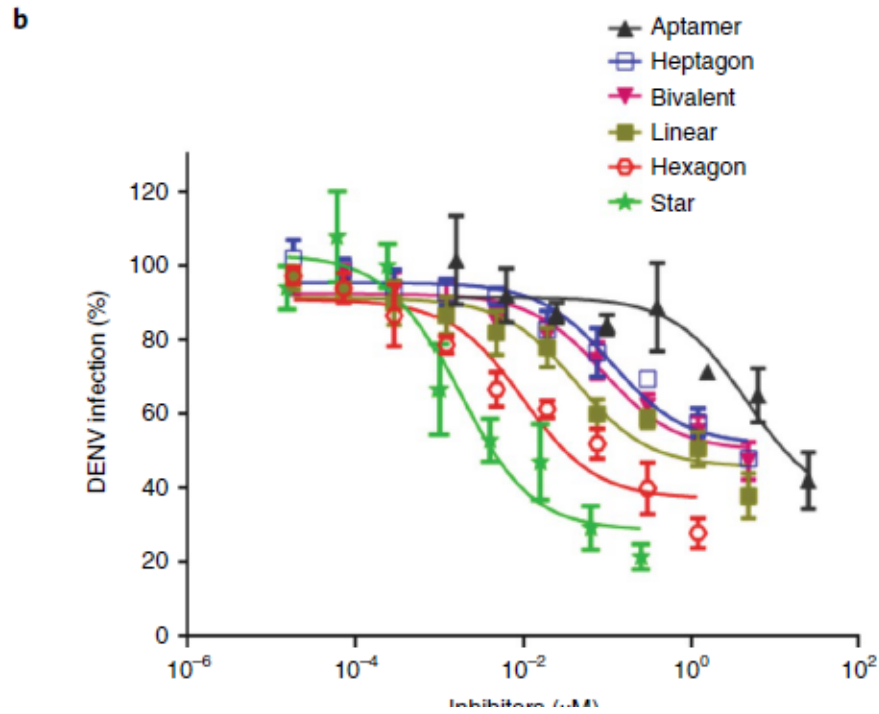
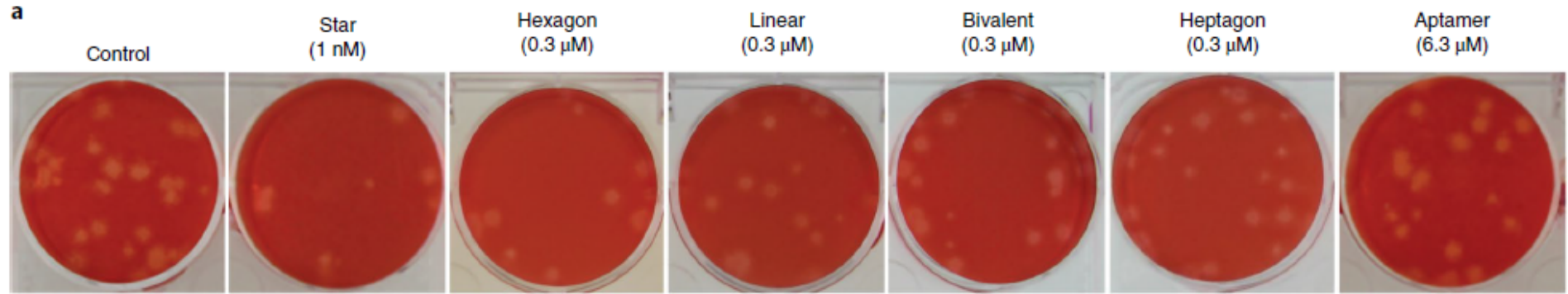
DNA star-based DENV sensing Hexagon-centred and heptagon-centred 2D sensors



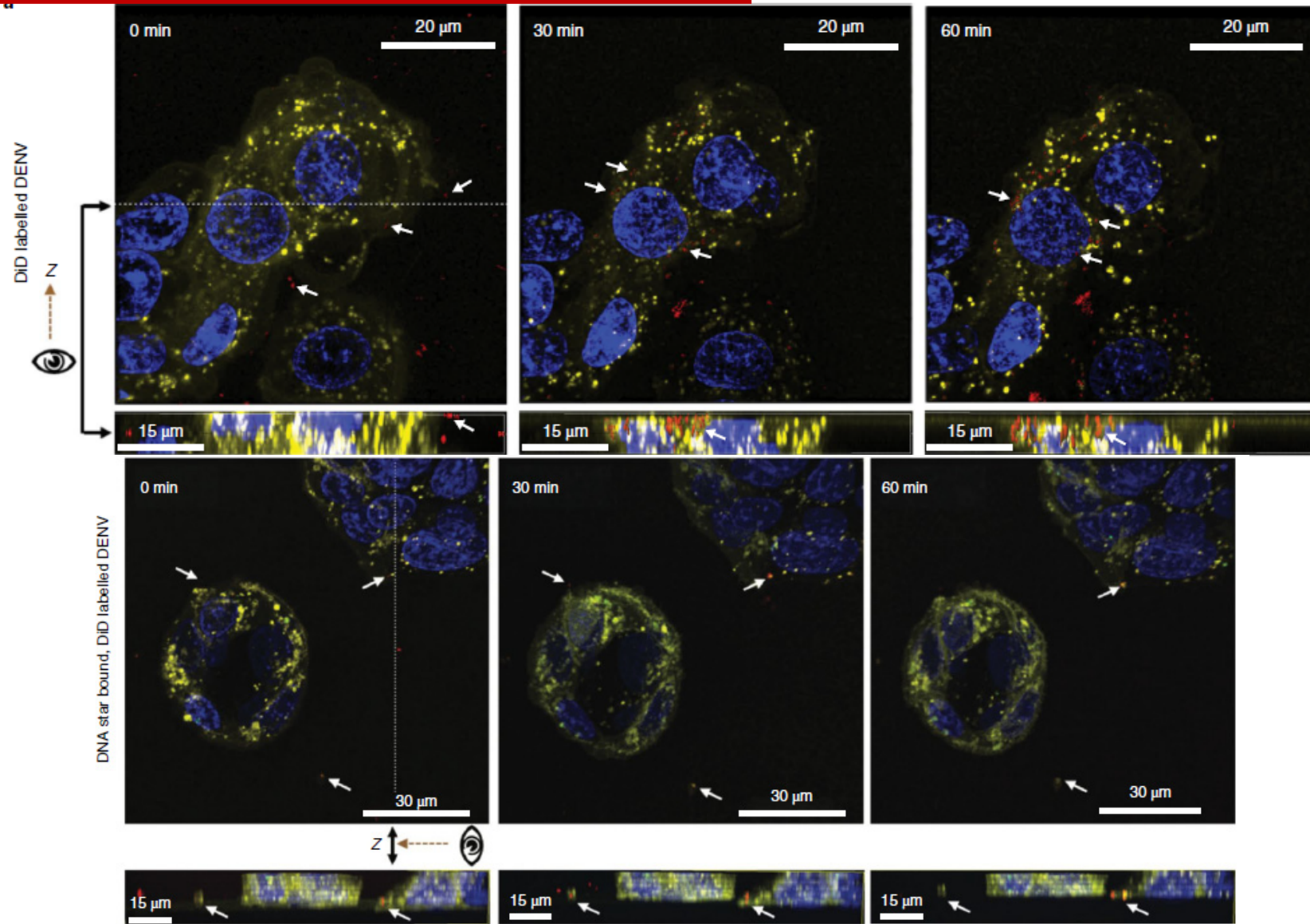
DNA star-based DENV sensing Hexagon-centred and heptagon-centred 2D sensors



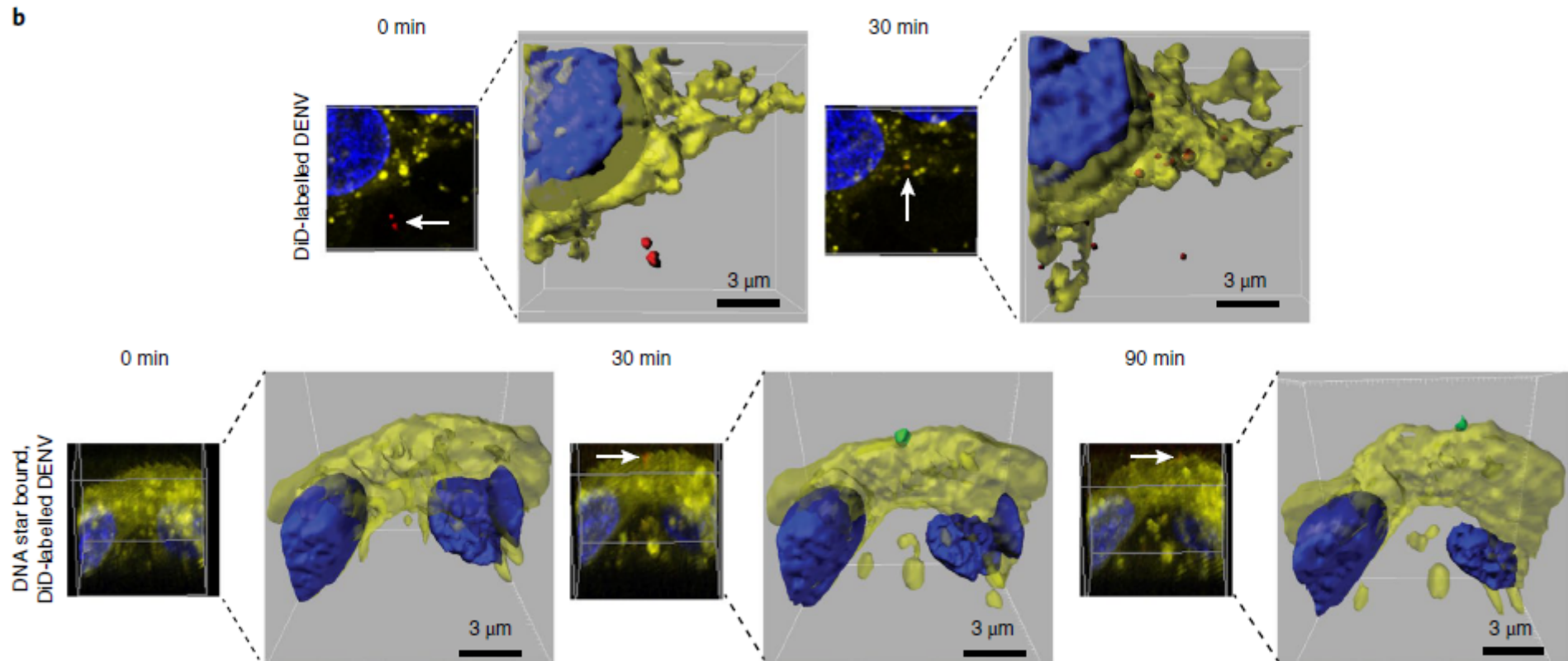
In vitro DENV inhibition



Confocal imaging



Confocal imaging



Membrane-bound structures, including the cell membrane, were stained with Dil (yellow)

Cell nuclei (blue) were stained with Hoechst

DENV virions were labelled with DiD (red)

DNA star–aptamer complex was labelled with the 6-FAM fluorophore (green), quenched in the absence of DENV

Thanks for your attention!