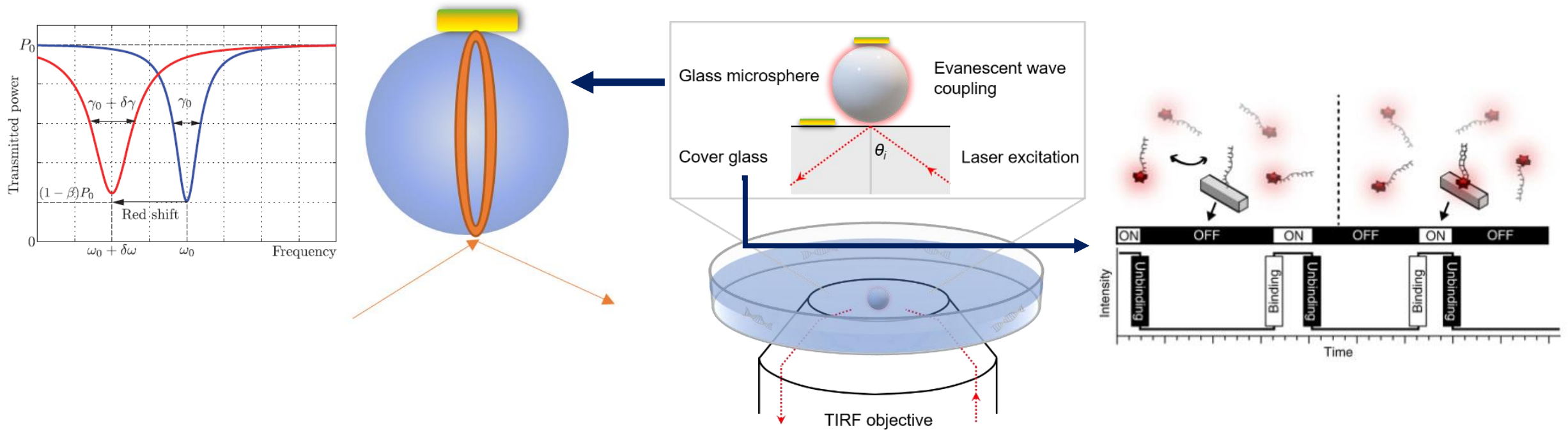


Combining Ultrasensitive Single-Molecule Sensing and Super-Resolution Imaging

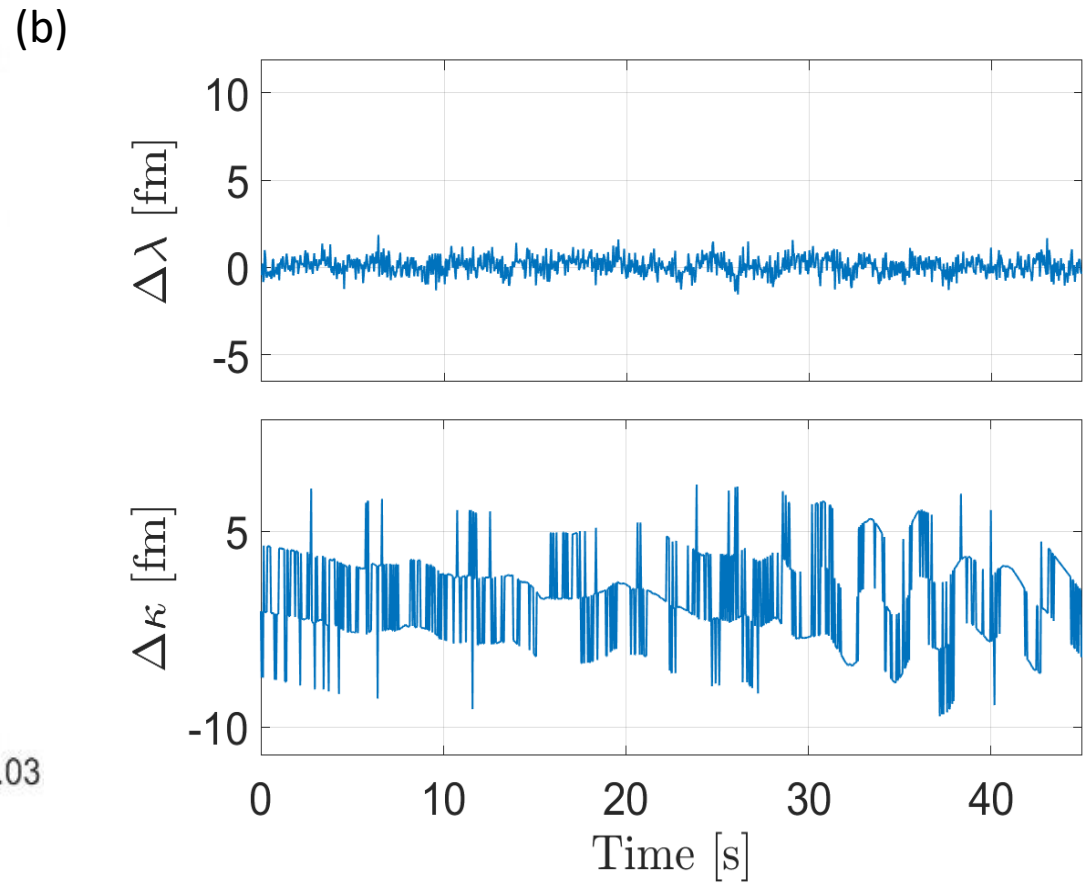
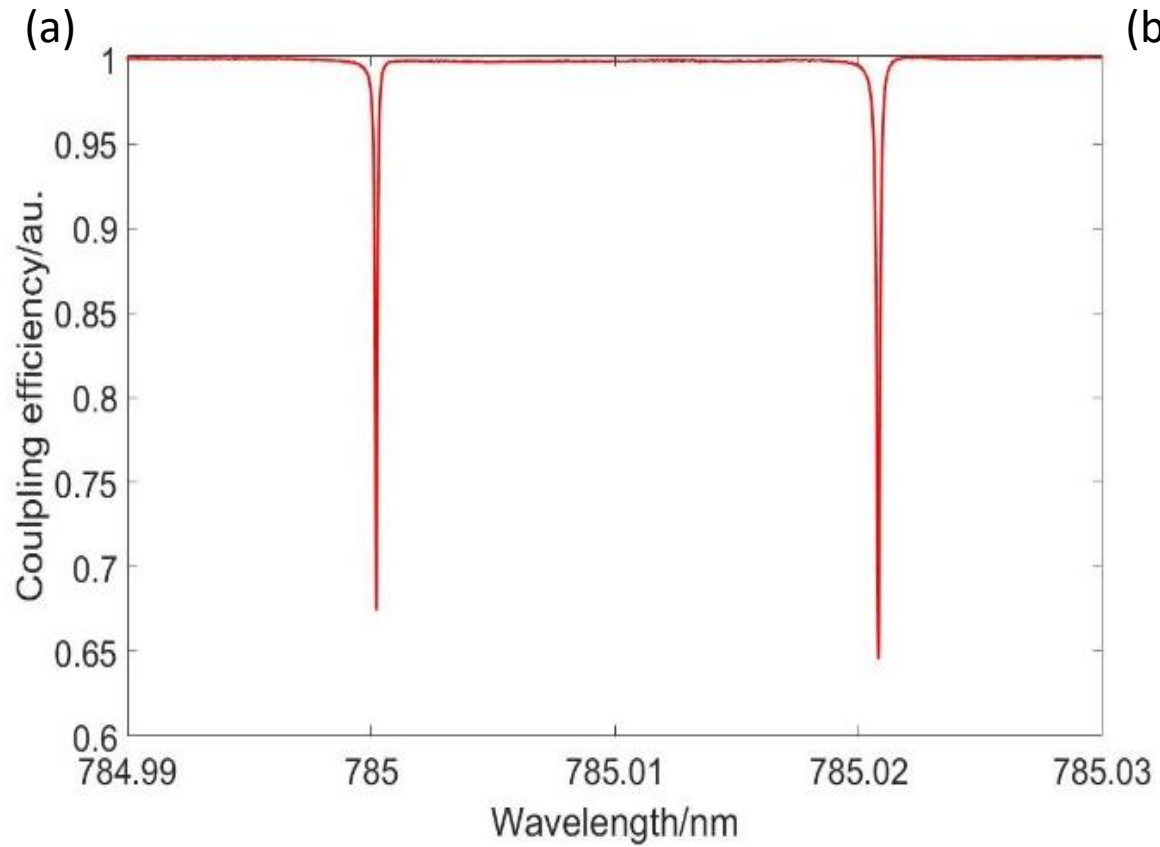
Narima Eerqing¹*, Hsin-Yu Wu¹, Subramanian Sivaraman¹, Serge Vincent¹ and Frank Vollmer¹

¹ Living Systems Institute & Department of Physics and Astronomy, University of Exeter, Exeter EX4 4QD, UK

* ne276@exeter.ac.uk



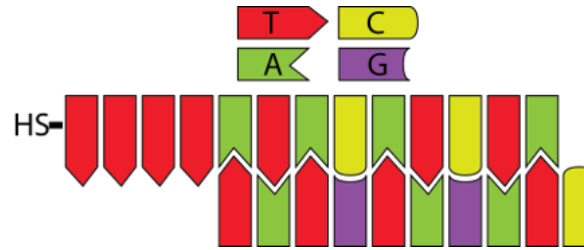
Whispering gallery mode and noise level



Signal Types and Analysis

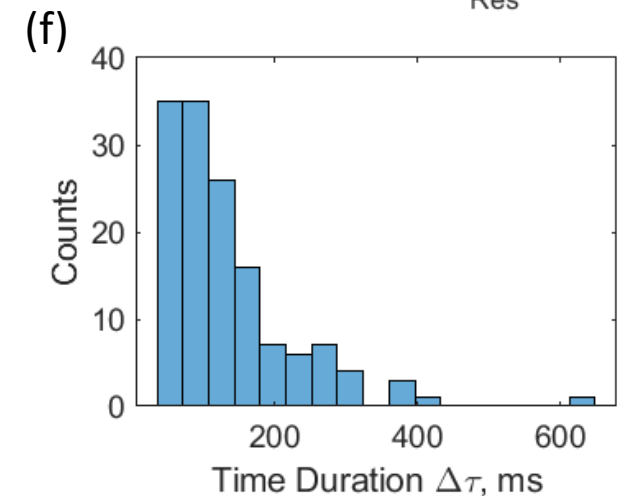
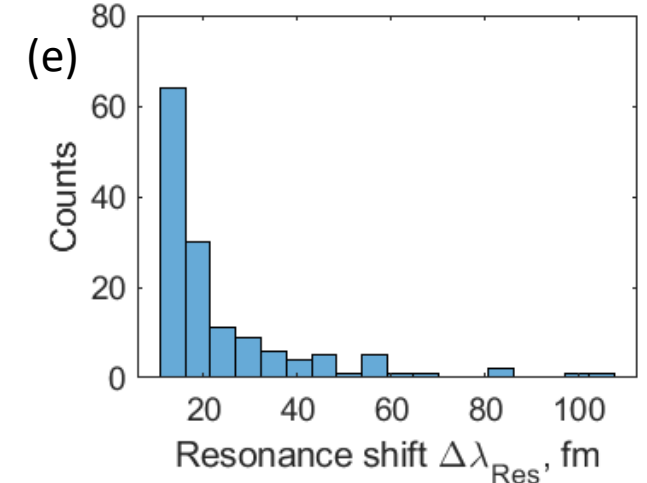
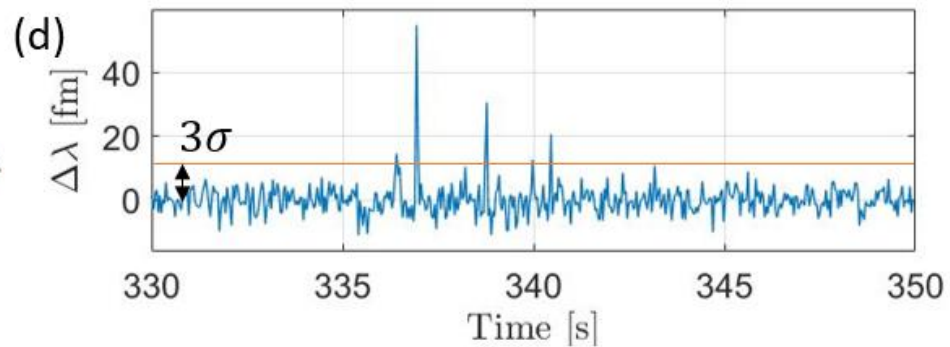
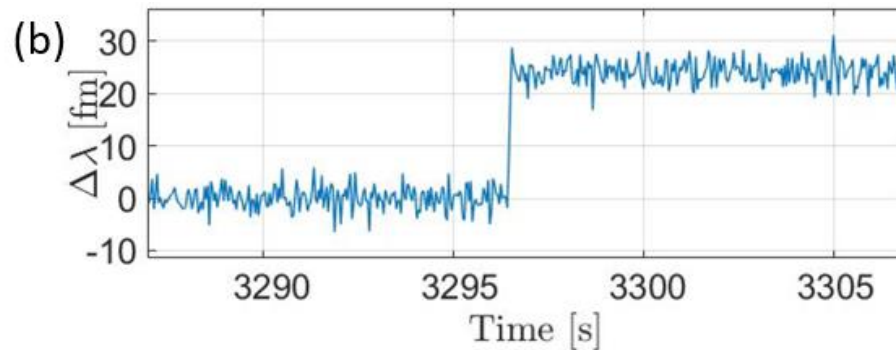
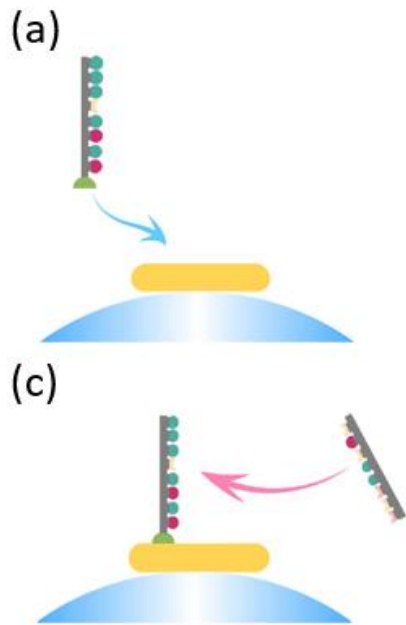
Step 1. Docking DNA binding

P1 DNA: [ThiolC6] TTT TAT ACA TCT A



Step 2. Add complementary DNA

Imager P1: 3'CTA GAT GTA T 5'



Imaging capabilities

Step 1. Gold nanorod
deposition:

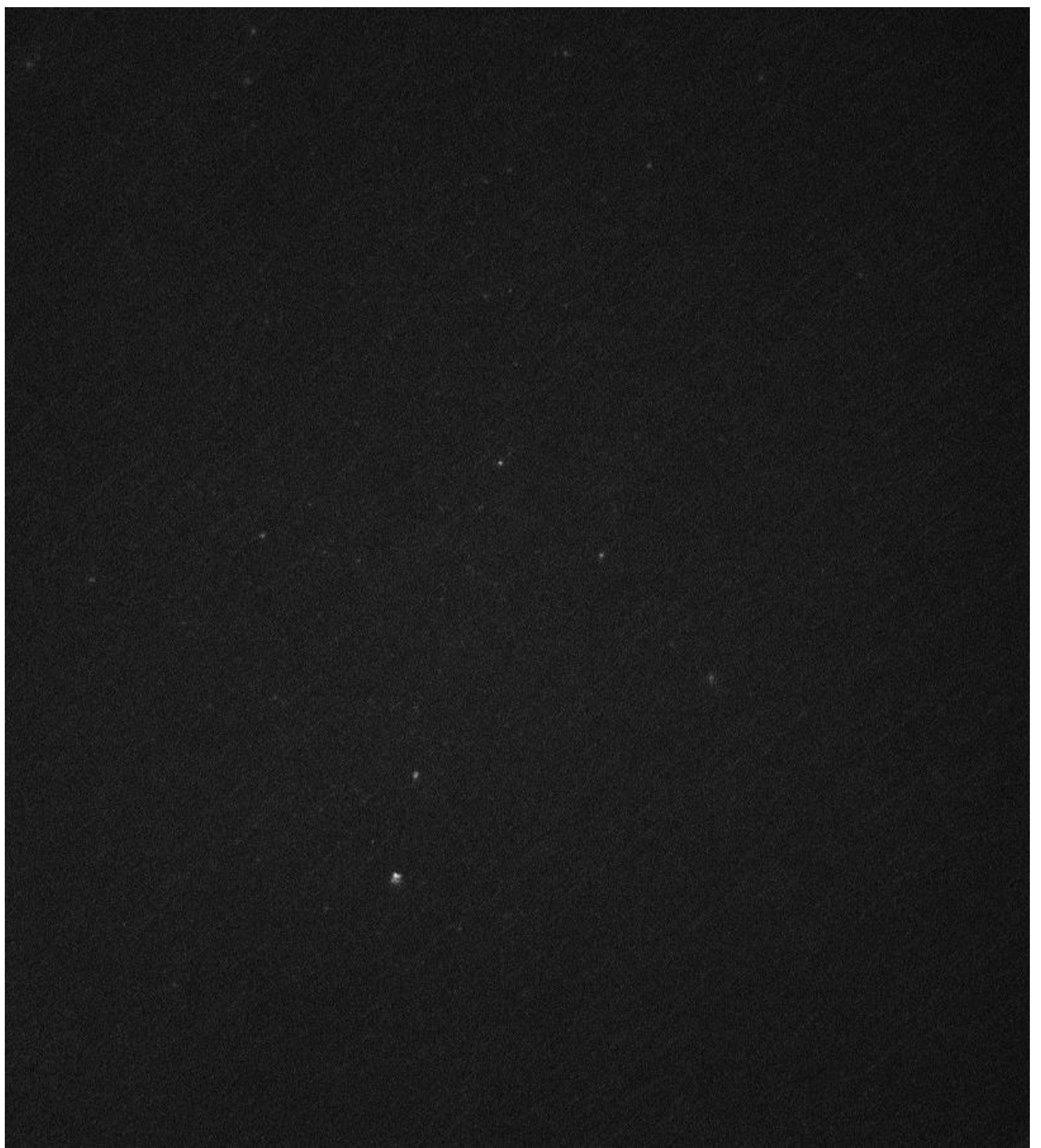
Add 1ml of GNR into PH=1.6
HCl solution

Step 2. Docking DNA binding:

P1 Docking strand 1uM
PH=3 Citrate buffer

Step 3. Add complementary
DNA:

Imager P1 2nM
20mM HEPES buffer



(a)



Background: water

(b)



2nM Imager P1 in HEPES buffer

(c)



(d)



(e)



(f)



References

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- [6] Göttfert, F., Wurm, C.A., Mueller, V., Berning, S., Cordes, V.C., Honigmann, A. and Hell, S.W., 2013. Coaligned dual-channel STED nanoscopy and molecular diffusion analysis at 20 nm resolution. *Biophysical journal*, 105(1), pp.L01-L03.

Thank you!